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Regional Meeting on Reporting of Releases to Marine and Coastal Environment from Land Based Sources Activities and related Indicators

Tirana, Albania, 19-20 March 2019

Agenda item 6: Information Documents

Report of the 1st ENI SEIS II South Support Mechanism Regional Workshop on Data and Infrastructure (Rome, Italy, 4-5 October 2018)

The meeting has been organized in collaboration with the European Union funded Project ENI SEIS II South Implementation of the Shared Environmental Information System (SEIS) principles and practices in the ENP South region – SEIS Support Mechanism

UNEP/MAP
Athens, 2019

1st Workshop on Data Management and Infrastructure

Rome (Italy), 4-5 October 2018

Meeting Report

This project is funded by the European Union

Table of contents

Report of the meeting

Introduction

1. The 1st ENI SEIS South Supporting Mechanism Regional Workshop on Infrastructure and Data Management was held on 4-5 October 2018 in Rome, Italy, at the hotel H10 Roma Città .

2. The regional workshop aimed to provide technical solutions to the countries developing the Regional Infrastructure based on SEIS principles. The objectives of this workshop were (a) to propose training activities to national experts to collect and share data through the SDI as a reporting infrastructure developed by UN Environment/MAP-INFO/RAC in the framework of ENI SEIS II Project; including existing information system such as NBB/PRTR of MED POL relevant to H2020 Indicators and (b) discuss and agree on the data dictionaries developed for H2020 indicators. The workshop also agreed on the way forward with regard to data and data dictionaries and organizing capacity-building activities to support the establishment of the network for the exchange of data protocols in order to populate the indicators.

Participation

3. The meeting was attended by ENIS SEIS representatives from Egypt; Israel; Jordan; Libya; Morocco; Palestine; and Tunisia; the MED POL National Focal Points from Albania; Bosnia and Herzegovina; Montenegro, the INFO/RAC National Focal Points from Albania; Algeria; Bosnia and Herzegovina; Cyprus; France; Greece; Israel and Slovenia; the thematic experts, UN environment/MAP, the European Environment Agency (EEA), European Topic Center (ETC); Austrian Environment Agency (UBA) and Eau de Web.

4. The UN Environment/MAP Secretariat was represented by the MED POL Programme, RAC/Blue Plan and INFO/RAC. INFO/RAC co-chaired the meeting with the European Environment Agency (EEA).

5. The meeting elected Mrs. Enas Alarabyat representative from Jordan to chair the plenary session. The chair welcomed all participants attending the meeting and invited them to shortly introduce themselves.

6. The full list of participants is attached as Annex I to the present report.

Opening of the meeting

7. Mrs Cecile Roddier-Quefelec, representative of the EEA, opened the meeting, thanked the UN Environment/MAP-INFO/RAC team for the organisation of this workshop and welcomed all participants. She stressed the importance of the long-standing cooperation between the European Environment Agency (EEA) and UN Environment/MAP and more specifically with UN Environment/MAP-INFO/RAC in supporting the regional efforts in providing a regional environmental information infrastructure enabling effective data and information exchange. She underlined the importance of this workshop, and the opportunity to link-up with the newly established network of INFO/RAC national focal points allowing the strengthening of the information dimension both at the national and regional level. She pointed out the key milestones reached so far with the support of the ENI SEIS II South Project, namely the

preparation of the H2020 data flow and corresponding technical material, e.g. data dictionaries, and reminding participants of the ambitious H2020 timetable with the H2020 indicator-based report expected for the next Euro-Mediterranean Ministerial conference on Environment and Climate Change planned to take place early 2020. She concluded her remarks by emphasizing the importance of giving more visibility to this infrastructure development and increasing capacities as regards data management and information flow, wishing the participants a successful meeting, and reiterating the importance of timely delivery of H2020 data flow.

8. A welcome speech has been also delivered by Mr. Carlo Cipolloni, representative of UN Environment/MAP-INFO/RAC informing participants about the modalities and flow of the agenda.

Session 1: Theoretical session - ID card of UN Environment/MAP-INFO/RAC, overview of the Regional Information System (InfoMAP System) and tools of the InfoMAP System (Data Center & Spatial Data Infrastructure-SDI)

9. UN Environment/MAP-INFO/RAC presented its mandate, structure, and relevant activities pertaining to its mandate, and explained the Regional Information System (InfoMAP System) for the data flow reporting which is composed by BCRS, MED POL Information System and IMAP Information System, and the relative tools such as the Data Centre and the Spatial Data Infrastructure (SDI) platform namely InfoMAPNode. UN Environment/MAP- INFO/RAC pointed out the Data Service, organized on several interoperable layers, allowing an interconnectivity between the different components of the system, and the Security Service, allowing access to all applications with a unique account.

10. Regarding the collection and the sharing of data in the ENI SEIS II project, UN Environment/MAP-INFO/RAC proposed three different models to the countries as below.

11. In case a country does not possess an SDI and is not willing to replicate the proposed system at the national level, or for security reasons is not willing to federate its own system with the central InfoMAPNode, Model A was proposed to be used.

12. In the case that a country has an SDI, however it is not sufficiently developed/improved to be interoperable with the central InfoMAPNode, and is willing to improve its technological components or is willing to build a new one, Model B was proposed. In Model B the country can replicate one or more software parts of the InfoMAPNode, and following a configuration procedure, it can federate its SDI with the central InfoMAPNode.

13. In Model C in which a country has an SDI that is well-organized and interoperable in accordance with the international standard; it can federate directly with the central node of UN Environment/MAP-INFO/RAC.

14. All countries commented on the three different models proposed and the majority pointed out that Model A is most acceptable. Some countries such as Morocco pointed out that Model B is more applicable to their national situation.

15. The roles of administrators, reporters, and reviewers were explained to the participants with a live demo of functionalities of InfoMapNode. The meeting discussed the accessibility of data and the different roles with different profiles that would be defined to access and manage the data. The discussion went on to the need of a data policy document for data management. UN Environment/MAP-INFO/RAC informed the meeting that they will prepare a data policy

document pertaining to the project-related issue and support countries to submit their data during the submission.

Session 2: Demo / Training session on the management data flow of NBB/PRTR Information System of MED POL

16. UN Environment/MAP-INFO/RAC presented the NBB/PRTR Info System for MED POL linked with relevant H2020 indicators after a short introduction of the National Baseline Budget (NBB) and the MED POL Info System. The different user levels with relative domain access were illustrated, in particular the four kinds of users: anonymous users or public users; national users; MED POL National Focal Point users and MED POL officers. It was explained that the public user could access different sections and searching tools, with the possibility to visualize the public data uploaded by each country, whereas an authenticated user could access to the restricted section with the creation and submission of NBB reports, interoperability with PRTR and storage and analysis of the NBB data. Moreover, as authenticated users, the Contracting Party and MED POL professional staff have additional functionalities such as the possibility of creating new reports, management of users roles and supporting the national reporting process. For the moment, the public access is not yet in place. Only MED POL National Focal Point and MED POL officers can access to the NBB/PRTR Info System.

17. Furthermore, the list of available pollutants and their linkages with Horizon 2020 indicators were illustrated.

18. On behalf of UN Environment/MAP-INFO/RAC, Eau de Web explained through a demo the logic of the new NBB system for the data flow implementation, starting from the acquisition data through the web form for reporting to the validation data through the quality check and the quality assessment. It was underlined that the new NBB would be able to retrieve the data from the previous NBB info System as well.

Session 3. Introduction to the Horizon 2020 indicators: Final review; mapping of databases; and Data Dictionaries

19. The representative of EEA introduced the session with a brief overview of the current status of development of the Horizon 2020 indicators and outcomes of the 2nd Regional SEIS Workshop on Indicators (Athens/Greece) underlining the urgent need of having data to populate the H2020 indicators. She pointed out that the corresponding data flows for H2020 indicators rely on a structured reporting process using commonly agreed data dictionaries that will be presented and further discussed under this session. UN Environment/MAP-INFO/RAC underlined the importance to prepare a data policy in order to ensure sound progress and management of the data.

20. UN Environment/MAP-INFO/RAC presented a short review of linkages among H2020 indicators, IMAP and MED POL, based on data dictionaries and parameters defined. This analysis aims to identify resources, data and available information in order to create synergies and complementarities among different actions. In particular it was highlighted the linkage among H2020 indicators (industrial emission and water) and the National Budget Baseline (NBB) for MED POL. The analysis was focused on indicators IND 6.1 and IND 6.2 for industrial emissions, and indicator IND 5 for water.

21. The Water expert presented the Data Dictionaries for Water, by explaining the definitions of each indicator with its requirement of data for calculating the H2020 Indicators. The expert explained all parameters and code lists needed to structure the data flow and provided a brief on the way forward for the Final Data Dictionaries and data collection process. The expert introduced also the spatial dimension of the data requirements, introducing to the meeting the coastal map and the relative shape file and the coastal hydrologic basins. The meeting discussed how to aggregate the administrative regional map with the coastal hydrologic basins. UN Environment/MAP-INFO/RAC together with EEA illustrated the hydrological basin map, and the discussion embarked on the need of preparing a hydrological basin shape file and sharing it with countries for their final approval. UN Environment/MAP-INFO/RAC will built some common vocabularies related to common terminology of hydrological basins, administrative regions, methodology and so on, in order to standardize the data contents.

22. Some countries pointed out that the hydrological basins and administrative regions may not in all cases overlap and requested further elaboration on the matter. It was discussed by the meeting participants that a layer of hydrological basins could be added before the administrative regions and therefore the meeting requested UN Environment/MAP-Info/-RAC and EEA to prepare and propose the mentioned layer. Further to that, the meeting noted that most of the countries operate at the regional administrative level which requires some statistical work to overlay the related information according to the expected sub-national spatial unit (such as the hydrological basin) for which overlapping work needs to be completed as a precondition.

23. The UN Environment/MAP consultant presented the implementation of the PRTR guidelines by underlining the purpose and the scope, as well as the role of the operators and the authorities in charge to collect the data and elaborate the report under each sector of activities. He illustrated an example on the best practices of reporting pollutants and the releases to water, and underlined the difference and complementarities between PRTR and NBB.

24. The Representative of MEDPOL presented two data dictionaries (i.e., data dictionaries on Industrial Emissions and Waste). MEDPOL illustrated the logical steps of reporting to the NBB Update according to the NBB Update Guidelines, analyzing the Industrial Emissions indicators and the logical design for the elaboration of Data Dictionaries. He explained the data production, giving detailed information on what is expected from the countries, as well as the level of disaggregation of the needed data. Additionally, MEDPOL illustrated the main prevailing industries in the region by economic sector aiming at giving the opportunity to the countries to start with those industrial sectors and break them down to subsectors in the preparatory phase of reporting. The discussion continued on the geographical scale of the data. Some countries informed that most of the data related to industrial emissions are available at the administrative region level. Countries underlined the willingness to report at the hydrological basin level; however, the meeting stressed the need for additional support from UN Environment/MAP-INFO/RAC/EEA to make this spatial disaggregation. Some of the countries brought attention to the issue of a 100 km buffer zone for waste indicator IND 1. For instance, Egypt explained that the buffer zone depth was 30 km in their national level. The discussion embarked on how the coastal area should be defined bearing in mind that the 100 km buffer zone is also used by SDG indicator definitions, theretofore it should be compiled as much as possible by the support of the project for the benefit of the countries.

25. The meeting discussed the data gaps which are mainly due to the lack of real measurements at the national level. The MED POL consultant presented in detail what is expected from the countries to prepare their emission factors at the national level. It was explained to the meeting that the emission factors would be used by data reporters when reporting the data for indicators, especially with the indicators 6.1 and 6.2.

26. The EEA presented the issue related to the roles and setup of data reporters, explaining the roles and mandates of data reporters and data reviewers. The EEA stressed that data reporters would compile and edit data and the reviewers would have the role of reviewing the data and ensuring quality assurance and the final submission. Regarding the indicators using NBB data, namely Indicator 6.1 and Indicator 6.2, the meeting agreed that MEDPOL FPs would handle the data management process, since there is already an established data flow and it has been already initiated by MEDPOL.

27. As regards the designation of the roles for data reporting, countries expressed some concerns to identify them during the meeting indicating that more consultation within their authorities will be needed. In order to better support this process, the meeting requested UN Environment/MAP-INFO/RAC and EEA to prepare and provide a detailed description of the roles of the data reporters and data reviewers. A nomination form (Excel) for data reporters and data reviewers will be sent to countries. The agreed deadline to submit the identified roles is 15 of October.

28. UN Environment/MAP-INFO/RAC informed the meeting that spreadsheets would be distributed on 18th of October, aiming to collecting the data by the end of December 2018. However, most of the countries noted that within such short notice it would be not possible to fill in the spreadsheets. Since the various components of the regional infrastructure of the data reporting are still under development, in particular the digital data collection through webforms and the spatial data collection through SDI, UN Environment/MAP-INFO/RAC and EEA agreed to use spreadsheets as a temporary solution to collect the first numerical data relating to the different indicators. However, countries will be informed as soon as the webforms and SDI will be made available.

Session 4. Discussion and next steps

29. As regard SDI, most of the countries (except Morocco and Jordan) agreed to use Model A, where Morocco and Jordan opted for Model B. On the other hand, Algeria pointed out the need for further additional consultation at the national level.

30. Egypt noted that they have a GIS Institution established at a very advanced level and offered to support other countries.

31. Jordan underlined the need to establish GIS capacities at the Ministry of Environment especially for the waste management.

32. Morocco, informed that they have the data at the regional administrative level. They have metadata as well. However, the need for further support from UN Environment/MAP-INFO/RAC was requested to improve the national information system and to make it compatible with the InfoMAPNode.

33. In terms of SDI, the meeting agreed to start with implementing Model A and eventually to move towards Model C, which requires capacity building and further interaction with each country, provided that they have the required infrastructure in place.

34. The meeting agreed that UN Environment/MAP-INFO/RAC with EEA would prepare a shapefile on the hydrological basin level, as well as the list of hydrological basins with administrative regions and share with the countries for their final approval.

35. Further on that, the meeting agreed to report on the administrative region level, however the data would be aggregated at the hydrological level as soon as they agree on the shapefile.

36. The meeting emphasized the need to know the location of major cities (high population) to decide the modality of the non-overlapping administrative regions; therefore, it was requested to develop criteria to decide which administrative regions in dispute would be included/excluded to/from which hydrological basin within the same national level.

37. The meeting agreed that the major cities within the 100 km buffer zone will be added to data dictionaries as an additional layer (keeping the administrative regions) for waste indicator requirement; countries would decide on and report the major cities within administrative coastal regions, also bearing in mind the upper layer of hydrological basins.

38. The meeting agreed to change the name of the waste IND 3 to IND Q to avoid confusion; since there is already IND 3 labeled in water indicators.

39. The meeting agreed to calculate IND 6.3.1 at national level (not sub regional level) and requested MEDPOL to make correction in the methodology.

40. The meeting agreed that the spreadsheets for data collection would be prepared and distributed to SEIS FPs by 18th of October and would be filled in and submitted till end of December 2018. Official letter to ENI SEIS II FPs will be send out to kickoff of the H2020 data call and request data reporters to start populating the spreadsheets through the end of December 2018.

41. The meeting requested UN Environment/MAP-INFO/RAC and EEA to prepare a brochure explaining the roles of the data reporters and data reviewers and send out to countries in a week time to designate the data reporters.

42. UN Environment/MAP-INFO/RAC introduced the roadmap relative to the future activities for ENI SEIS II Project regarding data and infrastructure (as annexed to the present report), pointing out the planned technical assistance support to country during the first semester 2019 and the preparation of a draft proposal on data policy.

43. After a final round of questions/answers, the representative of UN Environment/MAP-INFO/RAC thanked all the participants for their active contribution and closed the meeting.

Annex I

List of participants

REPRESENTATIVES OF THE CONTRACTING PARTIES

ALBANIA	**Mrs Enkeleda Shkuria (Substitute of MED POL NFP Mrs Klodiana Marika)** **Mrs Silvamina Alshabani (Substitute of INFO/RAC NFP Mr Zamir Dedej)** Përgjegjëse e Sektorit të Silvikulturës Drejtoria e Pyjeve Agjencia Kombëtare e Mjedisit Silvamina.Alshabani@akm.gov.al silvaminas@gmail.com Mob: +355 67 20 47 923 +355 69 24 90 833
ALGERIA	**Mrs Fatma Zohra Abbad - INFO/RAC NFP** Directrice Générale du Conservatoire Nationale de l'Environnement au Ministère de l'Environnement et des Energies Renouvelables. abbadfz@yahoo.fr Tel/Fax: +213 21 96 31 24 Mob: +213 0561 826 265
BOSNIA and HERZEGOVINA	**Mrs Erna Zildzovic** Hydro-Engineering Institute Sarajevo erna.zildzovic@heis.ba tel: +38762818483 **Mrs Sabina HADŽIAHMETOVIC** Leading researcher/engineer Hydro-Engineering Institute Sarajevo Stjepana Tomica 1, 71000 Sarajevo Bosnia and Herzegovina sabina.hadziahmetovic@heis.ba Tel/fax: +387 33 212 466 Mob: + 387 62 737 583
CROATIA	No representatives
CYPRUS	**Mr.Giorgos Payiatas -INFO/RAC NFP Alternate** Fisheries ans Marine Research Officer A' Dipartment of Fisheries and Marine Research (DFMR), Mnistry of Agriculture, Rural Development and Environment gpayiatas@dfmr.moa.gov.cy Tel: +357 25 82 72 81 Fax: +357 25 30 55 43 Mobile: +357 96 74 38 63

EGYPT	**Mr Mohamed Eissawi** Ministry of Environment, Egyptian Environmental Affairs Agency (EEAA) mohamed.moatamed@gmail.com Tel: +01060006544 **Mr Mostafa Salah** Central Agency for Public Mobilization and Statistics (CAPMAS) mostafasalah775@gmail.com Tel:002 01007794270 / 002 01120561152
FRANCE	**Mr. Benoit RODRIGUES – INFO/RAC NFP** Policy Advisor on Marine Environment Protection Ministry of Ecological and Solidarity Transition benoit.rodrigues@developpement-durable.gouv.fr Tel: +33 1 40 81 76 77
GREECE	**Mrs Evmorfia ALEXOPOULOU – INFO/RAC NFP Alternate** Hellenic Ministry of Environment and Energy Directorate of International and European Affairs Department of European and International Environmental Affairs 119, Mesogeion Str. GR-101 92 Athens e.alexopoulou@prv.ypeka.gr Tel.: +30 213 1513540 Fax: +30 213 1513569
ISRAEL	**Mr Moshe Yanai** Central Bureau of Statistics Head of agriculture, environment and energy statistics sector yanaim@cbs.gov.il Tel:+972-2-6592162 **Mrs Orna Matzner** Ministry of Environmental Protection Chief Scientist orna@sviva.gov.il Tel:+972-2-6495845, 972-50-6233140 **Mrs Gitit Pinkas – INFO/RAC NFP** Ministry of Environmental Protection Ministry Spokesperson, Head of Media Relations gitit@sviva.gov.il Tel: 972-2-**6553716** Mobile: 972-52-5454661
ITALY	No representatives
JORDAN	**Mrs Enas Alarabyat** Department of statistics enasjo@dos.gov.jo Tel:+962 79 5115433 **Mr Ali Almashni** Head of Environmental Monitoring Section Ministry of Environment King Fisal Bin AbdelAziz Street/Em Uthena Amman 11941

	mashniali73@gmail.com Tel:+96265560113
LIBYA	**Mr Mohamed MOHAMED SALEM HAMOUDA** Technical Adviser Environment General Authority, Ganzor Tripoli mshamouda@yahoo.com Tel:+218214871590
MALTA	No representatives
MONACO	No representatives
MONTENEGRO	**Mrs Ivana BULATOVIC** Environmental Protection Agency Advisor in EPA Montenegro - Monitoring, analyses and reporting IV Proleterske 19 – 81000 Podgorica ivana.bulatovic@epa.org.me Tel:+38220446514
MOROCCO	**Mrs Aamal Moufarreh** Secretariat Général chargé du Développement Durable moufamal2000@yahoo.fr Tel:+2120664149882
PALESTINE	**Mr Zahran KHALEEF** Director of Environmental statistics Palestinian Central Bureau of Statistics Tokyo Street Ramallah zahran@pcbs.gov.ps Tel:+97022982700 **Mr Khaled SALEM** Information systems Department Director Environment Quality Authority P.O.Box 3841 Al Bireh khaledsal@hotmail.com Tel:+97222403495
SLOVENIA	**Mrs KLARA JARNI** Institute for Water of the Republic of Slovenia Dunajska c. 156, SI-1000 Ljubljana, Slovenija klara.jarni@izvrs.si Tel:+386 (0) 1 477 53 50
SPAIN	No representatives
SYRIA	No representatives
TUNISIA	**Mr Karim Salah** National Institute of Statistics salah.karim.06@gmail.com Tel:+216 55 264 882
TURKEY	No representatives

REPRESENTATIVES OF UNITED NATIONS SPECIALIZED AGENCIES, OTHER INTERGOVERNMENTAL ORGANIZATIONS AND EU FUNDED PROJECTS AND PROGRAMMES

EUROPEAN ENVIRONMENTAL AGENCY (EEA)	**Mrs Cécile RODDIER-QUEFELEC** Project coordinator - ENI SEIS Support Mechanism South European neighborhood policy activities – Mediterranean area cooperation European Environment Agency Kongens Nytorv 8 – 1050 Copenhagen cecile.roddier-quefelec@eea.europa.eu Tel:+45 3343 5940 **Mr Michael Assouline** Project officer - ENI SEIS Support Mechanism South European Environment Agency Kongens Nytorv 8 – 1050 Copenhagen Michael.Assouline@eea.europa.eu Tel:+45 3343 5960 **Mr Seifeddine JOMAA** European Topic Center Inland, Coastal and Marine Water Helmholtz Centre for Environmental Research - UFZ Department of Aquatic Ecosystem Analysis and Management Brueckstrasse 3a – 39114 Magdeburg seifeddine.jomaa@ufz.de Tel: +493918109135 **Mrs Sabah NAIT** Senior expert, in charge of cooperation MENA region Environment Agency Austria - ENI SEIS II South Framework Contractor spittelauer Lände 5 – 1090 Vienna sabah.nait@umweltbundesamt.at Tel:+431313043245

SECRETARIAT TO THE BARCELONA CONVENTION
AND COMPONENTS OF THE MEDITERRANEAN ACTION PLAN

UN ENVIRONMENT MAP- MED POL	**Mr Erol CAVUS** Programme Officer - Mediterranean Pollution Assessment and Control Programme (MED POL) erol.cavus@un.org Tel:+30 210 7273123
REGIONAL ACTIVITY CENTRE FOR INFORMATION AND COMMUNICATION (INFO/RAC)	**Mrs Giuseppina Monacelli** Director of INFO/RAC giuseppina.monacelli@isprambiente.it Tel:+39 0650074471 **Mr Carlo Cipolloni** InfoMap Programme Senior officer (Deputy Director) carlo.cipolloni@info-rac.org / carlo.cipolloni@isprambiente.it Tel:+39 0650074262 **Mrs Céline NDONG** Communication, Education and Dissemination Officer (CE&D Officer) - Project officer - ENI SEIS Support Mechanism South celine.ndong@info-rac.org Tel:+39.06.50.07.21.72 **Mr Arthur Pasquale** Communication, Education and Dissemination Senior Officer Arthur.pasquale@info-rac.org Tel:+39 0650072227 **Mr Cristian Di Stefano** InfoMap Programme officer Cristian.distefano@info-rac.org Tel:+39 0650074040 **Mr Alessandro Lotti** Project officer - ENI SEIS Support Mechanism South Alessandro.lotti@isprambiente.it
PLAN BLEU REGIONAL ACTIVITY CENTRE (BP/RAC)	**Mr Jean-Pierre GIRAUD** Deputy Secretary General Sophia Antipolis 06560 Valbonne jpgiraud@planbleu.org Tel:+33786380936

Invited Experts

Mrs Claudia Ifrim Eau de Web +40 745940499
Mr Dimitri Tsotsos MEDPOL Expert

Annex II

Agenda

Introduction

The European Environment Agency (EEA) and UN Environment/MAP are working together to progressively implement the Shared Environmental Information System (SEIS) principles and to strive for closer cooperation with other key environmental institutions and international bodies working on environmental data and information management.

Within that perspective, UN Environment/MAP-Barcelona Convention is working to establish and further develop information systems that are managed through data exchange protocols, online reporting tools, etc., to support reporting obligations under the Barcelona Convention and its Protocols.

UN Environment/MAP- INFO/RAC is in charge of developing this regional platform (InfoMAP) with aims to provide the infrastructure technologies to Contracting Parties to the Barcelona Convention to provide and share, information services and knowledge for the Mediterranean region. The development and maintenance of such infrastructure will allow improving the efficiency of existing data flows, enhancing synergies with existing information system (e.g. MED POL information system) as part of the InfoMAP platform and support the creation of new data flows (IMAP, H2020) and quality control procedures.

Organised in the framework of the ENI SEIS II South Support mechanism, this workshop is taking place back to back with the meeting of the InfoRAC National Focal Points to ensure synergies and complementarities.

The workshop aims to provide technical solutions to the countries developing the Regional Infrastructure based on SEIS principles. The objectives of this workshop are (a) to propose to national experts training activities to collect and share data through the SDI as reporting infrastructure developed by UN Environment/MAP-INFO/RAC in the framework of ENI SEIS Project; including existing information system such as NBB/PRTR of MED POL relevant to H2020 Indicators and (b) discuss and agree the data dictionaries developed for H2020 indicators

The workshop will gather experts in Water, Waste and Industrial Emissions from countries members of the project (Algeria, Egypt, Palestine, Morocco, Tunisia, Israel, Jordan, Lebanon, and Libya.

The expected outcomes are to understand the state of play at infrastructure level in particular which SDI the countries have in place or which share model they want implement as SDI, and to find a solution relative to the issues on Data policy

Opening of the meeting

The meeting will be opened at 09.30 on October 4, 2018 by the UN Environment/MAP representative.

The welcome speech will be delivered by the director of UN Environment/MAP-INFO/RAC and by the EEA representative.

Session 1: Theoretical session - ID card of INFO/RAC, overview of the Regional Information System (InfoMAP System) and tools of InfoMAP System (Data Center & Spatial Data Infrastructure-SDI)

The purpose of this session is to present INFO/RAC as component of UN Environment/MAP, the Regional Information System named InfoMAP System and its relative tools in particular the Data

Centre and the Spatial Data Infrastructure platform (SDI) and explain its architecture, components and r function. This session will be subdivided in 3 steps:

1. INFO/RAC will present itself as component of UN Environment/MAP the overall regional infrastructure including introduction on the development of data models schema as well as Quality Assurance/Quality Check developed from the factsheets;
2. INFO/RAC will present the overall InfoMAP in particular the Data Centre as a tool to manage the data flows and to control the quality of the data (QA/QC) and the Spatial Data Infrastructure (SDI) as tool to share the data.
3. INFO/RAC with the support of Eau de Web will do a Live demo on the use of InfoMAPNode geoportal (SDI) by a registered user to show how to carry out a data search, how to upload data and documents; how create a geographic layer and maps and how manage permission and/or restriction in view.

After the presentations, the participants (countries, EEA, UN Environment/MAP and UN Environment/MAP-INFO/RAC) are invited to identify/prioritise the most suitable SDI share models to be used to support regional requirements for regional reporting and to streamline efforts and contribute to an effective implementation of SEIS.

Session 2. Demo / Training session on the management data flow of NBB/PRTR Information System of MED POL

The purpose of this session is to make a demo/training on the reporting exercise through the NBB/PRTR Information System of MED POL

UN Environment/MAP-INFO/RAC with the collaboration of Eau de Web, will make a demo/training on the data management process, in particular on the data acquisition, regarding submission of national data through the revisited NBB/PRTR InfoSystem of MED POL.

Session 3. Introduction to the ENI SEIS indicators: Final review; mapping of databases; and Data Dictionaries

In this session a mapping of databases relative to the ENI SEIS indicators in the 3 thematic areas (Water, Waste and Industrial Emissions) will be present. The scope of this mapping will be to ask the countries to indicate national databases where they can obtain information for the implementation of indicators. The Data Dictionaries will be present also in order for the countries to understand the importance of them in the implementation of the data flow. The participants will be invited to discuss all topics covered during the workshop, for example the possibility to replicate some technologies as SDI or Data Centre in their countries; the possibility to create interoperability between reporting systems having different technologies; etc.

Session 4. Discussion and next steps

In this session they will be presented the next steps and way forward based on the different issues or gaps highlighted during the workshop, and the upcoming activities through the presentation of the roadmap. These activities will be the collection of data via spreadsheets; the implementation of Data Dictionaries in the Data Centre; the presentation of the H2020 indicator data flow system; the collection of data through the InfoMAPNode (see SDI) and the collect of data flow through the Data Centre.

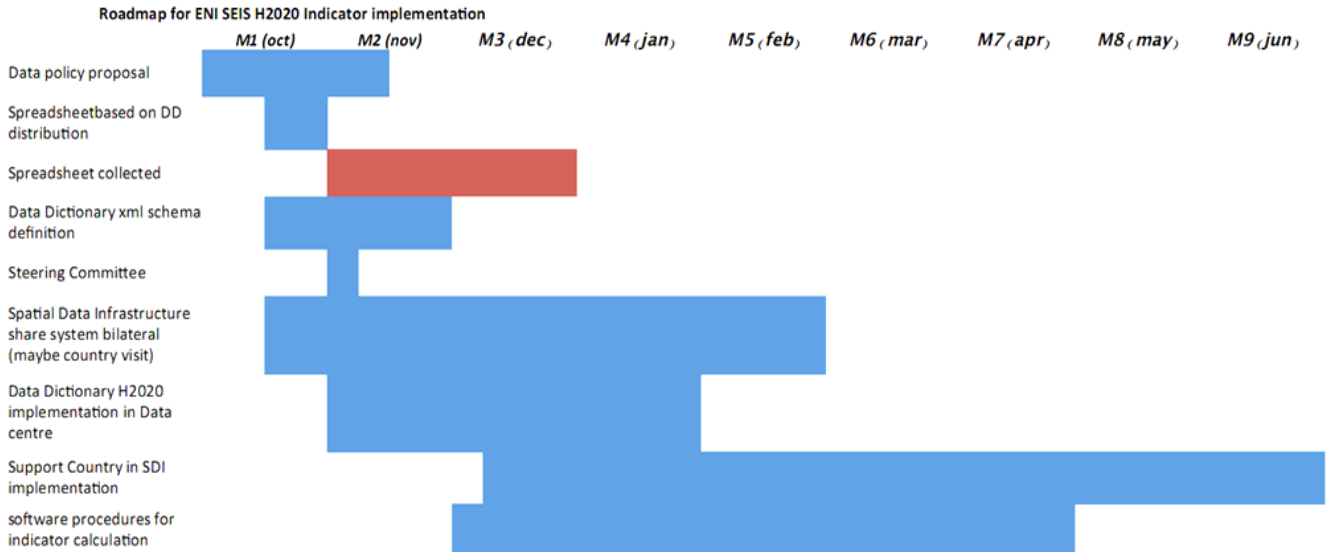
Day 1: 4 October 2018		Interventions
09:00-09:30	Registration	
09:30-10:00	Welcoming remarks and tour de table Presentation of INFO/RAC NFP: their role and mandate, and outcomes from the NFP meeting	UN Environnent/MAP EEA, UN Environment /MAP INFO/RAC,
Session 1. Theoretical session: ID card of INFO/RAC; Overview of the Regional Information System (InfoMAP System) and tools of InfoMAP System (Data Center & Spatial Data Infrastructure-SDI)		
10:00-11:00	Presentation of INFO/RAC as component of UN Environment/MAP : its mandate and its tools and services Presentation of the overall Regional Information System (InfoMAP System) Presentation of the Data Center: how are data flows prepared from data dictionaries to XML schema and setting-up of Quality check Presentation of the SDI platform (InfoMAPNode): Developing a framework for data sharing and use : and its links with the overall regional infrastructure	UN Environment/MAP INFO/RAC
11:00-11:20	*Coffee break*	
11:20-12:30	Example of countries with an SDI to present their own practices and experiences Discussion session and round table interview to understand what SDI the countries have in place and which share model that they want implement as SDI (each participant will be also supported or supervised by INFO/RAC Focal Point), and to introduce the issues on Data policy.	Countries Countries ; UN Environment/MAP INFO/RAC; UN Environnent/MAP ; EEA
12:30-13:00	Live demo on the use of InfoMAPNode geoportal by a register user: how carry out a search data, how upload data and documents; how create geographic layer and maps and how manage permission and/or restriction in view	UN Environment/MAP INFO/RAC
13:00-14:30	*Lunch*	
Session 2. Demo / Training session on the management data flow of NBB/PRTR Info System of MED POL		
14:30-15:00 15:00-15:45	Presentation of NBB/PRTR Infosystem of MED POL and links with the relevant H2020 Indicators Training on the data acquisition through the Data Centre: example on NBB/PRTR Info System	UN Environment/Map INFO/RAC UN Environment/MAP INFO/RAC with the support of Eau de Web

15:45-16:00	*Coffee break*	
16:00-16:45	Training on the data acquisition through the Data Centre: example on NBB/PRTR Info System (continued)	UN Environment/MAP INFO/RAC with the support of Eau de Web
16:45-17:15	Summary of the session 1: output analysis and first mapping of state of play regarding the infrastructure in order to facilitate the support and collaboration of INFO/RAC with the countries.	UN Environment/MAP INFO/RAC; EEA,
17:15	End of Day 1	

Day 2: 5 October 2018		**Interventions**
Session 3. Introduction to the ENI SEIS indicators: Final review; mapping of databases; and Data Dictionaries		
09:30-10:45	Presentation of the final list of indicators following the workshop on indicators and the existing data flows from another initiatives useful for the elaboration of indicators Comparison between NBB / PRTR and ENI SEIS and between IMAP and ENI SEIS Discussion with the countries in order to complete the mapping of databases at national level	EEA UN Environment/MAP INFO/RAC Countries, EEA, UN Environment MAP, UN Environment/MAP INFO/RAC
10:45-11:00	*Coffee break*	
11:00-13:00	Presentations of data dictionaries relative to Water, Waste and Industrial Emissions Indicators Definition of user roles for data reporting: organisation within the national team and nomination of data reporters Discussion on the different presentations and on the related key issues or gap Discussion on all topics covered during the workshop (sessions 1, 2 and 3)	Water Thematic Expert and MED POL EEA Countries; UN Environment /MAP; EEA; UN Environment/MAP INFO/RAC
13:00-14:30	*Lunch break*	
Session 4. Discussion and next steps		
14:30-16:00	– Next steps and way forward based on the different issues or gaps highlighted during the workshop – Upcoming activities: presentation of the roadmap – Conclusions and closure of the meeting	Countries, EEA, UN Environment/MAP, INFO/RAC
16:00	End of the workshop	

Annex III - Next steps and Data Dictionaries

Appendix 1: Next steps



Appendix 2: Data Dictionaries

2.a Industrial Emission Data Dictionaries

Description of Indicators
IND 6.1: Release of nutrients from industrial sectors
Dataset definition

Sub-indicators	6.1.1) Total BOD load discharged from industrial installations to the Mediterranean marine environment. 6.1.2) Total Nitrogen load discharged from industrial installations to the Mediterranean marine environment. 6.1.3) Total Phosphorus load discharged from industrial installations to the Mediterranean marine environment.
Key words	Nutrients, BOD, total nitrogen (TN), total phosphorus (TP)
Spatial coverage	Administrative regions of the whole Mediterranean sea watershed as defined in section 3.1 of the "Updated guidelines to assess national budget of pollutants (NBB)" [UNEP(DEPI)/MED WG. 404/4].
Dataset relevance	This indicator is referenced by a number of pollution reduction programmes and environmental initiatives including H2020 and NAPs. The indicator complements IMAP indicator 13 (eutrophication) and is in line with the requirements of the Regional plan on the reduction of BOD5 in the food sector. It also provides data and information regarding the operational target identified by the Mediterranean countries with regards to reduction of BOD discharges to the Mediterranean Sea.
Parameters	Estimated or calculated pollution loads for BOD, total nitrogen (TN), total phosphorus (TP).
Methodology for obtaining data	Delivered by country
Planned update frequency	Every 2 years

Overview of data tables

Data table	Name	Definition	Short description
6.1.1	Total BOD load discharged from industrial installations to the Mediterranean marine environment	Biological Oxygen Demand (BOD) is the amount of dissolved oxygen needed (i.e. demanded) by aerobic biological organisms to break down organic material present in a given water sample at certain temperature over a specific time period. This indicator presents information on the BOD estimate of industrial wastewater effluents discharged from food sector industries listed in Appendix I of Decision IG.20/8.2 and other industries within the hydrological basin discharging directly or indirectly into the Mediterranean Sea.	BOD load. (tonnes/year)

6.1.2	Total Nitrogen load discharged from industrial installations to the Mediterranean marine environment	Total Nitrogen (TN) comprises the ions nitrate, nitrite and ammonium in the dissolved phase (DIN) and the organic forms of nitrogen (mostly proteins and other N-containing substances) existing in biota and other particulate materials and in dissolved organic matter.	Total nitrogen load. (tonnes/year)
6.1.3	Total Phosphorus load discharged from industrial installations to the Mediterranean marine environment	Total Phosphorus (TP) comprises the dissolved ion phosphate and the organic forms of phosphorus existing in biota and other particulate materials (POP) and in dissolved organic matter (DOP).	Total phosphorus load (tonnes/year)

Data table 6.1.1: Total BOD load discharged from industrial installations to the Mediterranean marine environment

	Column name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-I-alpha-3, Codes elements as defined in codelist	Type of element: common Datatype: integer Size: 3	
2	Administrative_ Region	Administrative regions located in drainage basins that outflow into the Mediterranean. Administrative regions as defined in the codelist	List of regions from NBB info system	Type of element: common Datatype:-integer Min. size: 3 Max. size: 4	
3	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: current year	
4.	BOD	Quantity of released Biological Oxygen Demand (tonnes/year)	Total BOD load as of the reference year (Year_H2020)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: metric tonnes per year Min. size: 1 Max. size: 8 Min. value: 1 Max. value: 10,000,000	
5	ID_of_Sectors	Industrial Sector ID	Sectors according to LBS Protocol 30 categories; Code list		
6	ID_of_Subsector	Subsectors Sector ID	Subsectors: 97 categories Code list		

7	Data_Collection_Method	Method of data collection	Codes elements as defined in codelist : "*Field measurement"* and *"Emission factor"*	Type of element: common Datatype: integer ~~Min. size: 4~~ Size: 3	
8	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Min. size: 0 Max. size: 4096	

Data table 6.1.2: Total Nitrogen load discharged from industrial installations to the Mediterranean marine environment

	Column name	Column definition	Methodology	Data specifications	Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-l-alpha-3, Codes elements as defined in codelist	Type of element: common Datatype: integer Size: 3	
2.	Administrative_Region	Administrative regions located in drainage basins that outflow into the Mediterranean. Administrative regions as defined in the codelist	List of regions from NBB info system	Type of element: common Datatype:-integer Min. size: 3 Max. size: 4	
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Today() function	
4.	TN	Quantity of released total nitrogen	Total nitrogen load as of the reference year (Year_H2020)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: metric tonnes per year Min. size: 3 Max. size: 10 Min. value: 1 Max. value: 10,000,000	
5	ID_of_Sectors	Industrial Sector ID	Sectors according to LBS Protocol 30 categories; Code list	Type of element: common Datatype: integer Size: 2	
6	ID_of_Subsector	Subsectors Sector ID	Subsectors: 97 categories Code list	Type of element: common Datatype: integer Size: 2	
7	Data_Collection	Method of data	Codes elements as	Type of element:	

	_Method	collection	defined in codelist : "*Field measurement"* and *"Emission factor"*	common Datatype: integer Size: 3	
8.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: Blob Max. size: 4096	

Data table 6.1.3: Total phosphorus load discharged from industrial installations to the Mediterranean marine environment

	Column name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-I-alpha-3, Codes elements as defined in codelist	Type of element: common Datatype: integer Size: 3	
2.	Administrative_ Region	Administrative regions located in drainage basins that outflow into the Mediterranean. Administrative regions as defined in the codelist	List of regions from NBB info system	Type of element: common Datatype:-integer Min. size: 3 Max. size: 4	
3	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Today() function	
4	TP	Quantity of released total phosphorus	Total phosphorus load as of the reference year (Year_H2020)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: metric tonnes per year Min. size: 3 Max. size: 10 Min. value: 1 Max. value: 10,000,000	
5	ID_of_Sectors	Industrial Sector ID	Sectors according to LBS Protocol 30 categories; Code list	Type of element: common Datatype: integer	

				Size: 2	
6	ID_of_Subsector	Subsectors Sector ID	Subsectors: 97 categories Code list	Type of element: common Datatype: integer Size: 2	
7	Data_Collection _Method	Method of data collection	Codes elements as defined in codelist : "*Field measurement"* and *"Emission factor"*	Type of element: common Datatype: integer Size: 3	
8	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: Blob Max. size: 4096	

IND 6.2: Release of toxic substances from industrial sectors
Dataset definition

Sub-indicators	6.2.1) Total heavy metals load released from industrial installations to the Mediterranean marine environment. 6.2.2) Furans and dioxins load released from industrial installations to the Mediterranean marine environment. 6.2.3) Polycyclic aromatic hydrocarbons (PAH) load released from industrial installations to the Mediterranean marine environment. 6.2.4) Volatile organic compounds (VOC) load released from industrial installations to the Mediterranean marine environment.
Key words	Heavy metals, halogenated hydrocarbons, furans, dioxins, PAH, VOC
Spatial coverage	Administrative regions of the whole Mediterranean sea watershed as defined in section 3.1 of the "Updated guidelines to assess national budget of pollutants (NBB)" [UNEP(DEPI)/MED WG. 404/4].
Dataset relevance	This indicator is referenced by a number of pollution reduction programmes and environmental initiatives including H2020 and NAPs. The indicator complements IMAP indicator 13 (eutrophication) and is in line with the requirements of the Regional plan on the reduction of BOD5 in the food sector. It also provides data and information regarding the operational target identified by the Mediterranean countries with regards to reduction of BOD discharges to the Mediterranean Sea.
Parameters	Estimated or calculated pollution loads for heavy metals, furans and dioxins, Polycyclic aromatic hydrocarbons (PAH), and Volatile organic compounds (VOC).
Methodology for obtaining data	Delivered by country
Planned update frequency	Every 2 years

Overview of data tables

Data table	Name	Definition	Short description

Data table	Name	Definition	Short description
6.2.1	Total heavy metals load released from industrial installations to the Mediterranean marine environment	Six heavy metals have been identified in SAP-MED. These include: i. Mercury. The most important industrial sources of mercury are combustion of coal in power plants; chlor-alkali production; manufacture and disposal of batteries; waste incineration and roasting and smelting in non-ferrous metal smelters. ii. Cadmium. The most important industrial sources of cadmium are zinc and lead metal processing; electroplating; the production of cadmium compounds; pigment production; the manufacture and disposal of batteries; the production of stabilizers for plastics and phosphate fertilizers. iii. Lead. The most important industrial sources of lead are lead metallurgy; the manufacture and disposal of batteries; additives for petrol; enamels and ceramic glazes and glass manufacture. iv. Zinc is a commonly occurring trace-metal and is essential to living organisms for enzymatic functions. High levels of zinc are found in coastal areas and biota. Dispersion and diffusion can rapidly remove zinc. v. Copper: The most important industrial sources of copper are metallurgy, covering of metallic surfaces; electric cables and pesticides. vi. Chromium: The most important industrial sources of chrome are: chrome metallurgy; covering of metals; tanneries; textile and wool dyeing; corrosion inhibitors in closed cycle cooling systems.	Heavy metals load (kg/years)
6.2.2	Furans and dioxins load released from industrial installations to the Mediterranean marine environment	Furans and dioxins are halogenated hydrocarbons known chemically identified as polychlorinated dibenzo-furans (PCDF) and polychlorinated dibenzo-dioxins (PCDD). They can be found as contaminants in some products and can be produced in combustion processes	Furans and dioxins load (grams/year)

Data table	Name	Definition	Short description
6.2.3	Polycyclic aromatic hydrocarbons (PAH) load released from industrial installations to the Mediterranean marine environment	Polycyclic aromatic hydrocarbons (PAH) contain hundreds of substances occurring naturally in oil in ppm levels. PAHs are formed from the incomplete combustion of organic matter and this process is the main source of PAHs in air	PAH load (kg/year)
6.2.4	Volatile organic compounds (VOC) load released from industrial installations to the Mediterranean marine environment	Volatile Organic Compounds (VOC) are organic compounds that easily become vapour or gas. VOCs are emitted from a variety of sources including motor vehicles, chemical manufacturing facilities, refineries, factories, etc.	VOC load (kg/year)

Data table 6.2.1: Total heavy metals load released from industrial installations to the Mediterranean marine environment

	Column name	Column definition	Methodology	Data specifications	Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-l-alpha-3, Codes elements as defined in codelist	Type of element: common Datatype: integer Size: 3	
2.	Administrative_Region	Administrative regions located in drainage basins that outflow into the Mediterranean. Administrative regions as defined in the codelist	List of regions from NBB info system	Type of element: common Datatype:-integer Min. size: 3 Max. size: 4	
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Today() function	
4.	Heavy metals_ID	Total quantity of released heavy metals	Total heavy metals (including mercury, cadmium, lead, zinc, copper and chromium) load as of the reference year (tonnes/year) (Year_H2020) Codelist vi	Type of element: common Datatype: decimal Decimal precision: 2 Unit: kg per year Min. size: 3 Max. size: 9	

				Min. value: 1 Max. value: 1,000,000	
5	ID_of_Sectors	Industrial Sector ID	Sectors according to LBS Protocol 30 categories; Code list	Type of element: common Datatype: integer Size: 2	
6.	ID_of_Subsector	Subsectors Sector ID	Subsectors: 97 categories Code list	Type of element: common Datatype: integer Size: 2	
7.	Data_Collection_Method	Method of data collection	Codes elements as defined in codelist : "*Field measurement"* and *"Emission factor"*	Type of element: common Datatype: integer Size: 3	
8.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: Blob Max. size: 4096	

Data table 6.2.2: Furans and dioxins load released from industrial installations to the Mediterranean marine environment

	Column name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-I-alpha-3, Codes elements as defined in codelist	Type of element: common Datatype: integer Size: 3	
2.	Administrative_Region	Administrative regions located in drainage basins that outflow into the Mediterranean. Administrative regions as defined in the codelist	List of regions from NBB info system	Type of element: common Datatype:-integer Min. size: 3 Max. size: 4	
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: today() function	
4.	PCDF, PCDD	Total quantity of released furans and dioxins	Total furans and dioxins load as of the reference year (Year_H2020)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: grams per year Min. size: 3 Max. size: 9 Min. value: 1	

				Max. value: 1,000,000	
5.	ID_of_Sectors	Industrial Sector ID	Sectors according to LBS Protocol 30 categories; Code list	Type of element: common Datatype: integer Size: 2	
6.	ID_of_Subsector	Subsectors Sector ID	Subsectors: 97 categories Code list	Type of element: common Datatype: integer Size: 2	
7.	Data_Collection_Method	Method of data collection	Codes elements as defined in codelist : "*Field measurement"* and *"Emission factor"*	Type of element: common Datatype: integer Size: 3	
8.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: Blob Max. size: 4096	

Data table 6.2.3: Polycyclic aromatic hydrocarbons (PAH) load released from industrial installations to the Mediterranean marine environment

	Column name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-l-alpha-3, Codes elements as defined in codelist	Type of element: common Datatype: integer Size: 3	
2.	Administrative_Region	Administrative regions located in drainage basins that outflow into the Mediterranean. Administrative regions as defined in the codelist	List of regions from NBB info system	Type of element: common Datatype:-integer Min. size: 3 Max. size: 4	
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Today() function	
4.	PAH	Total quantity of released polycyclic aromatic hydrocarbons	Total PAH load as of the reference year (Year_H2020)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: kg per year Min. size: 3 Max. size: 9 Min. value: 1 Max. value: 1,000,000	

5.	ID_of_Sectors	Industrial Sector ID	Sectors according to LBS Protocol 30 categories; Code list	Type of element: common Datatype: integer Size: 2	
6.	ID_of_Subsector	Subsectors Sector ID	Subsectors: 97 categories Code list	Type of element: common Datatype: integer Size: 2	
7.	Data_Collection_Method	Method of data collection	Codes elements as defined in codelist : "*Field measurement"* and *"Emission factor"*	Type of element: common Datatype: integer Size: 3	
8.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: Blob Max. size: 4096	

Data table 6.2.4: Volatile organic compounds (VOC) load released from industrial installations to the Mediterranean marine environment

	Column name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-l-alpha-3, Codes elements as defined in codelist	Type of element: common Datatype: integer Size: 3	
2.	Administrative_Region	Administrative regions located in drainage basins that outflow into the Mediterranean. Administrative regions as defined in the codelist	List of regions from NBB info system	Type of element: common Datatype:-integer Min. size: 3 Max. size: 4	
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Today() function	
4.	VOC	Total quantity of released Volatile Organic Compounds	Total VOC load as of the reference year (Year_H2020)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: kg per year Min. size: 3 Max. size: 9 Min. value: 1 Max. value: 1,000,000	
5	ID_of_Sectors	Industrial Sector ID	Sectors according to LBS	Type of element:	

.			Protocol 30 categories; Code list	common Datatype: integer Size: 2	
6.	ID_of_Subsector	Subsectors Sector ID	Subsectors: 97 categories Code list	Type of element: common Datatype: integer Size: 2	
7.	Data_Collection_Method	Method of data collection	Codes elements as defined in codelist : "*Field measurement"* and *"Emission factor"*	Type of element: common Datatype: integer Size: 3	
8.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: Blob Max. size: 4096	

IND 6.3: Industrial hazardous waste disposed in environmentally sound manner
Dataset definition

Sub-indicators	6.3.1) Total quantity of generated hazardous waste from industrial installations. 6.3.2) Quantity of industrial hazardous waste disposed in environmentally sound manner relative to total quantity of generated hazardous waste from industrial installations.
Key words	Hazardous waste, industrial installations, environmentally sound manner
Spatial coverage	Administrative regions of the whole Mediterranean sea watershed as defined in section 3.1 of the "Updated guidelines to assess national budget of pollutants (NBB)" [UNEP(DEPI)/MED WG. 404/4].
Dataset relevance	This indicator reflects the provisions of the Strategic Action Programme (SAP-MED) and the legally binding requirements in relevant regional plans which call for proper handling, storage and sound disposal of hazardous industrial waste. It also addresses the legal obligations of the Basel and Stockholm Conventions with regards to reduction of transboundary movement of hazardous waste and chemicals; the minimization and prevention of hazardous waste generation; and the availability of disposal facilities for the environmentally sound management of stock piles of chemicals and hazardous waste. This indicator is referenced by the IMAP, NAPs, MSSD and SDG.
Parameters	Total quantity of generated industrial hazardous waste, quantity of industrial hazardous waste disposed in environmentally sound manner, imported hazardous waste, exported hazardous waste, stockpiled hazardous waste.
Methodology for obtaining data	Delivered by country
Planned update frequency	Every 2 years

Overview of data tables

Data table	Name	Definition	Short description
6.3.1	Total quantity of generated hazardous waste from industrial installations	Hazardous waste consists of the categories featuring on the list included in Decisions IG. 19/8 and IG. 20/8.3, Annex I of the Hazardous Waste Protocol, and in Annex I of the Basel Convention which are generated from industrial installations or facilities Industrial installations are facilities intended for use in the manufacture or processing of products involving systematic labor or habitual employment. It	Quantity of generated hazardous waste (tonnes/year)

Data table	Name	Definition	Short description
		consists of a fixed or semi-fixed location of a complete system or a self-contained unit, with its accompanying assemblies, accessories and parts.	
6.3.2	Quantity of industrial hazardous waste disposed in environmentally sound manner relative to total quantity of generated hazardous waste from industrial installations	Disposal of waste means operations which do not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative uses of hazardous waste as defined in Annex IV(A) of the Basel Convention. Environmentally sound manner means taking all practical steps to ensure that wastes are collected, transported, and disposed of (including after-care of disposal sites) in a manner which will protect human health and the environment against the adverse effects which may result from such wastes [UNEP(DEPI)/MED IG. 20/8 and Basel Convention (Article 2:8)]. For POPs, this means disposed of in such a way that the persistent organic pollutant content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of persistent organic pollutants, or otherwise disposed of in an environmentally sound manner when destruction or irreversible transformation does not represent the environmentally preferable option, or the persistent organic pollutant content is low, taking into account international rules, standards, and guidelines and relevant global and regional regimes governing the management of hazardous waste and the Basel Convention. Industrial hazardous waste disposed in environmentally sound manner is computed based on the following equation: $D = Q + I - E - S$ where: D = disposed quantity of industrial hazardous waste in environmentally sound manner. Q = total generated quantity of industrial hazardous waste. I = imported quantity of hazardous waste for environmentally sound disposal. E = exported quantity of hazardous waste for environmentally sound disposal. S = stockpiled quantity of hazardous stored on site under controlled or uncontrolled conditions.	Quantity of industrial hazardous waste disposed in environmentally sound manner (tonnes/year)

Data table 6.3.1: Total quantity of generated hazardous waste from industrial installations

	Column name	Column definition	Methodology	Data specifications	Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-I-alpha-3,Codes elements as defined in codelist	Type of element: common Datatype: integer	

				Size: 3	
2.	Administrative_Region	Administrative regions located in drainage basins that outflow into the Mediterranean. Administrative regions as defined in the codelist.	List of admin regions from NBB info system	Type of element: common Datatype:-integer Min. size: 3 Max. size: 4	
2i	National Level (all Admin regions)	The quantities for this indicator will be calculated at national level.	Report at national level, or alternatively select all regions.	Type of element: common Datatype:-integer Min. size: 3 Max. size: 4	
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Today() function	
4.	Generated hazardous waste	Generated industrial hazardous waste at national level	Total quantity of generated hazardous waste from individual industrial installations as of the reference year (Year_H2020)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: metric tonnes per year Min. size: 3 Max. size: 10 Min. value: 1 Max. value: 10,000,000	
5.	ID_of_Sectors	Industrial Sector ID	Sectors according to LBS Protocol 30 categories; Code list	Type of element: common Datatype: integer Size: 2	
6.	ID_of_Subsector	Subsectors Sector ID	Subsectors: 97 categories Code list	Type of element: common Datatype: integer Size: 2	
7.	Data_Collection_Method	Method of data collection	Codes elements as defined in codelist : "*National inventories"* and *"Compiled official reports"*	Type of element: common Datatype: Integer Size: 3	
8.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: Blob Max. size: 4096	

Data table 6.3.2: Quantity of industrial hazardous waste disposed in environmentally sound manner relative to total quantity of generated hazardous waste from industrial installations

	Column name	Column	Methodology	Data specifications	Equivalent in

		definition			WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-I-alpha-3, Codes elements as defined in codelist	Type of element: common Datatype: integer Size: 3	
2.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Today() function	
3.	Generated hazardous waste	Total quantity of generated industrial hazardous waste	Total reported quantity of generated hazardous waste from individual industrial installations as of the reference year (Year_H2020)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: metric tonnes per year Min. size: 3 Max. size: 10 Min. value: 1 Max. value: 10,000,000	
4.	Imported hazardous waste (Importned_HW)	Total imported quantity of hazardous waste for environmentally sound disposal	Total reported quantity of imported industrial hazardous waste into the country as of the reference year (Year_H2020)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: metric tonnes per year Min. size: 3 Max. size: 10 Min. value: 1 Max. value: 10,000,000	
5.	Exported hazardous waste (Exported_HW)	Total exported quantity of hazardous waste for environmentally sound disposal	Total reported quantity of exported industrial hazardous waste out of the country as of the reference year (Year_H2020)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: metric tonnes per year Min. size: 3 Max. size: 10 Min. value: 1 Max. value: 10,000,000	
6.	Stockpiled hazardous waste (Stokpiled_HW)	Total stockpiled quantity of hazardous stored on site under controlled or uncontrolled	Total reported quantity of stockpiled industrial hazardous waste from individual industrial installations as of the reference year	Type of element: common Datatype: decimal Decimal precision: 2 Unit: metric tonnes	

		conditions	(Year_H2020)	per year Min. size: 3 Max. size: 10 Min. value: 1 Max. value: 10,000,000	
7.	Disposed hazardous waste (Deposited_HW)	Total disposed quantity of industrial hazardous waste in environmentally sound manner	The disposed quantity of hazardous industrial waste in environmentally sound manner as of the reference year (Year_H2020) is computed based on the following equation: D = Q + I – E – S where: D = disposed quantity of industrial hazardous waste in environmentally sound manner. Q = total generated quantity of industrial hazardous waste. I = imported quantity of hazardous waste for environmentally sound disposal. E = exported quantity of hazardous waste for environmentally sound disposal. S = stockpiled quantity of hazardous stored on site under controlled or uncontrolled conditions.	Type of element: common Datatype: decimal Decimal precision: 2 Unit: metric tonnes per year Min. size: 3 Max. size: 10 Min. value: 1 Max. value: 10,000,000	
8.	Data_Collection_Method	Method of data collection	Codes elements as defined in codelist : "*National inventories"* and *"Compiled official reports"*	Type of element: common Datatype: integer Size: 3	
9.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: Blob Max. size: 4096	

IND 6.4: Compliance measures aiming at the reduction and/or elimination of pollutants generated by industrial sectors

Dataset definition

Sub-indicators	6.4.1) Number of industrial installations reporting periodically loads of pollutants discharged to the marine and coastal environments relative to the total number of industrial installations. 6.4.2) Number of environmental inspections carried out by enforcement authorities in which industrial installations were found to be in breach of laws and regulations relative to the total number of executed inspections. 6.4.3) Number of eliminated hotspots identified in the updated NAPs relative to the 2001 and

	2015 baselines.
Key words	Reporting loads of pollutants, environmental inspections, hotspots
Spatial coverage	Administrative regions of the whole Mediterranean sea watershed as defined in section 3.1 of the "Updated guidelines to assess national budget of pollutants (NBB)" [UNEP(DEPI)/MED WG. 404/4].
Dataset relevance	This indicator is referenced in the Countries' updated NAPs. It is in line with the compliance requirements of the Regional plans on the reduction of BOD, elimination and phasing out of POPs and mercury. This indicator also suggests whether the Country in question possesses the institutional structures necessary to enforce its adopted legal requirements. It reflects presence of trained and competent personnel in its institutions to carry out inspections; apply sanctions and enforce decisions.
Parameters	Number of industrial installations reporting periodically loads of pollutants, Number of environmental inspections carried out by enforcement authorities, and Number of eliminated hotspots.
Methodology for obtaining data	Delivered by country
Planned update frequency	Every 2 years

Overview of data tables

Data table	Name	Definition	Short description
6.4.1	Number of industrial installations reporting periodically loads of pollutants discharged to the marine and coastal environments relative to the total number of industrial installations	Industrial installations are facilities intended for use in the manufacture or processing of products involving systematic labor or habitual employment. It consists of a fixed or semi-fixed location of a complete system or a self-contained unit, with its accompanying assemblies, accessories and parts	Number of reporting industrial installations
6.4.2	Number of environmental inspections carried out by enforcement authorities in which industrial installations were found to be in breach of laws and regulations relative to the total number of executed inspections	Environmental inspection refers to a proactive (planned and routine) process that involves collecting information to make an assessment of a duty holder's current level of compliance, by comparing their activities to the legal requirements and benchmark standards relevant to the activities in question.	Number of environmental inspections
6.4.3	Number of eliminated hotspots identified in the updated NAPs relative to the 2001 and 2015 baselines	Hotspots are defined as: a) Point sources on the coast of the Mediterranean Sea which potentially affect human health, ecosystems, biodiversity, sustainability or economy in a significant manner. They are the main points where high levels of pollution loads originating from domestic or industrial sources are being discharged; b) Coastal areas where the coastal marine environment is subject to pollution from one or more point or diffused sources on the coast of the Mediterranean which potentially affect human health in a	Number of eliminated hotspots

Data table	Name	Definition	Short description
		significant manner, ecosystems, biodiversity, sustainability or economy.	

Data table 6.4.1: Number of industrial installations reporting periodically loads of pollutants discharged to the marine and coastal environments relative to the total number of industrial installations

	Column name	Column definition	Methodology	Data specifications	Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-I-alpha-3, Codes elements as defined in codelist	Type of element: common Datatype: integer Size: 3	
2.	Administrative_Region	Administrative regions located in drainage basins that outflow into the Mediterranean. Administrative regions as defined in the codelist	List of admin regions from NBB info system	Type of element: common Datatype:-integer Min. size: 3 Max. size: 4	
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Today() function	
4.	Number of reporting industrial installations	Number of records of industries providing data on discharges and emissions released by their industrial processes	Total number of industrial installations which reported pollution loads as of the reference year (Year_H2020)	Type of element: common Datatype: integer Unit: number of units Min. size: 1 Max. size: 7 Min. value: 1 Max. value: 1,000,000	
5.	Total number of industrial installations required to report	Total number of industrial installations required to provide data on discharges and emissions released by their industrial processes	Total number of industrial installations required to report pollution loads as of the reference year (Year_H2020)	Type of element: common Datatype: integer Unit: number of units Min. size: 1 Max. size: 7 Min. value: 1 Max. value: 1,000,000	
6.	ID_of_Sectors	Industrial Sector	Sectors according to LBS	Type of element:	

		ID	Protocol 30 categories; Code list	common Datatype: integer Size: 2	
7.	ID_of_Subsector	Subsectors Sector ID	Subsectors: 97 categories Code list	Type of element: common Datatype: integer Size: 2	
8.	Data_Collection_Method	Method of data collection	Codes elements as defined in codelist: "*Compiled official records"*	Type of element: common Datatype: integer Size: 3	
9.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: Blob Max. size: 4096	

Data table 6.4.2: Number of environmental inspections carried out by enforcement authorities in which industrial installations were found to be in breach of laws and regulations relative to the total number of executed inspections

	Column name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-I-alpha-3, Codes elements as defined in codelist)	Type of element: common Datatype: integer Size: 3	
2.	Administrative_Region	Administrative regions located in drainage basins that outflow into the Mediterranean. Administrative regions as defined in the codelist	List of admin regions from NBB info system	Type of element: common Datatype:-integer Min. size: 3 Max. size: 4	
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Today() function	
4.	Number of environmental inspections in breach of laws and regulations	Number of records of environmental inspections carried out by enforcement authorities in which industrial installations were found to be in breach of laws and regulations in a single year	Total number of environmental inspections in breach of laws and regulations as of the reference year (Year_H2020)	Type of element: common Datatype: integer Unit: number of units Min. size: 1 Max. size: 7 Min. value: 1 Max. value: 1,000,000	
5	Total number of	Total number of	Total number of carried	Type of element:	

.	environmental inspections	executed inspections carried out by enforcement authorities in a single year	out environmental inspections as of the reference year (Year_H2020)	common Datatype: integer Unit: number of units Min. size: 1 Max. size: 7 Min. value: 1 Max. value: 1,000,000	
6.	ID_of_Sectors	Industrial Sector ID	Sectors according to LBS Protocol 30 categories; Code list	Type of element: common Datatype: integer Size: 2	
7.	ID_of_Subsector	Subsectors Sector ID	Subsectors: 97 categories Code list	Type of element: common Datatype: integer Size: 2	
8.	Data_Collection_Method	Method of data collection	Codes elements as defined in codelist : "*Compiled official records"*	Type of element: common Datatype: integer Size: 3	
9.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: Blob Max. size: 4096	

Data table 6.4.3: Number of eliminated hotspots identified in the updated NAPs relative to the 2001 and 2015 baselines

	Column name	Column definition	Methodology	Data specifications	Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-I-alpha-3, Codes elements as defined in codelist	Type of element: common Datatype: integer Size: 3	
2.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Today() function	
3.	Number of eliminated hotspots	Number of eliminated hotspots from the list identified in the updated NAP of 2015	Number of eliminated hotspots to date as of the reference year (Year_H2020)	Type of element: common Datatype: integer Unit: number of hotspots Min. size: 1 Max. size: 3 Min. value: 0 Max. value: 1,000	
4.	Total number of identified hotspots in 2001	Total number of hotspots identified in 2001	Total number of hotspots as reported in 2001	Type of element: common Datatype: integer Unit: number of hotspots Min. size: 1	

				Max. size: 3 Min. value: 0 Max. value: 1,000	
5.	Total number of identified hotspots in 2015	Total number of hotspots identified in the 2015	Number of hotspots as reported in the updated NAPs of 2015	Type of element: common Datatype: integer Unit: number of hotspots Min. size: 1 Max. size: 3 Min. value: 0 Max. value: 1,000	
6.	Data_Collection_Method	Method of data collection	Codes elements as defined in codelist : "*Compiled official records"*	Type of element: common Datatype: integer Size: 3	
7.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: Blob Max. size: 4096	

CODE LISTS

LIST OF COUNTRY CODES

ISO 3166-1-alpha-2 code
http://www.iso.org/iso/home/standards/country_codes/country_names_and_code_elements.htm

Value	name	Short name
8	Albania	ALB
12	Algeria	DZA
70	Bosnia and Herzegovina	BIH
818	Egypt	EGY
376	Israel	ISR
400	Jordan	JOR
422	Lebanon	LBN
434	Libya	LBY
499	Montenegro	MNE
504	Morocco	MAR
275	Palestine, State of	PSE
788	Tunisia	TUN
792	Turkey	TUR

METHOD OF DATA COLLECTION CODE LIST

Value	Definition	Short description
100	Field measurement method	Field measurement
200	Emission factor methods	Emission factor
300	National inventories for management of hazardous waste compiled by official	National

	public agencies	inventories
400	Official reports compiled by environmental authorities in compliance with the obligations of the Basel and Stockholm conventions	Compiled official reports
500	Records compiled by environmental agencies	Compiled official records

CODE LIST OF SECTOR

sector_id	sector_name
1	Manufacture of cement
2	Treatment of urban wastewater
3	Transport
4	Farming of animals
5	Food packing
6	Port services
7	Manufacture of other organic chemicals
8	Agriculture
9	Manufacture of metals
10	Manufacture of refined petroleum products
11	Production of energy
12	Tanning and dressing of leather
13	Aquaculture
14	Management of urban solid waste
15	Manufacture of pharmaceuticals
16	Manufacture of paper
17	Manufacture of fertilizers
18	Manufacture of other inorganic chemicals
19	Manufacture of textiles
20	Tourism
21	Building and repairing of ships and boats
23	Other
24	Treatment and storage of hazardous wastes
25	Waste incineration and management of its residues
26	Waste management activities
27	Manufacture and formulation of biocides
28	Mining and quarrying
29	Recycling activities
30	Manufacture of electronics products
31	Treatment of sewage sludge
32	Factories that cause physical changes to the environment

CODE LIST OF SUBSECTORS

subsector_id	subsector_name	sector_sector_id
1	Growing of cereals (wheat, rice, maize, soyabeans, other)	8

2	Growing of fruit and vegetables	8
3	Horticultural specialities, nurseries	8
4	Industrial crops (cotton, tobacco, sugar cane, sugar beet, potatoes, other)	8
5	Manufacture of wines	8
6	Fish breeding	13
7	Fish processing	13
8	Drydocks	21
9	Shipyards	21
10	Seawater desalination plants	32
11	Farming of animals (cattle, sheep, swine, poultry) and slaughterhouses	4
12	Farming of special animals (rabbits, goats, horses, asses, mules and hinnies, other)	4
13	Animal feeds	5
14	Animal raw materials,Vegetable raw materials	5
15	Dairy industry	5
16	Manufacture of beer	5
17	Manufacture of non-alcoholic beverages	5
18	Manufacture of olive oil	5
19	Manufacture of other vegetable oils (other than olive oil)	5
20	Manufacture of sugar beet	5
21	Manufacture of wines and spirits	5
22	Other prepared foods	5
23	Preserving fruit and vegetables	5
24	Waste dumps	14
25	Formulation of pesticides	27
26	Synthesis of phytosanitary products	27
27	Manufacture of cement	1
28	Manufacture of lime and plaster	1
29	Manufacture of electric machines and appliances (condensers, transformers)	30
30	Manufacture of integrated circuits	30
31	Manufacture of radio, television and communications equipment	30
32	Nitrogenous fertilizers	17
33	Phosphate fertilizers and phosphoric acid	17
34	Casting of grey iron	9
35	Casting of other non-ferrous metals	9
36	Casting of steel	9
37	Electroplating	9
38	First-stage aluminium smelting	9
39	First-stage copper smelting	9
40	Manufacture of accumulators	9
41	Manufacture of basic iron and steel	9
42	Manufacture of lead oxides and lead-based colouring matter	9

43	Manufacture of other non-ferrous metals	9
44	Manufacture of zinc or tin	9
45	Second-stage aluminium smelting	9
46	Second-stage copper smelting	9
47	Second-stage lead smelting	9
48	Industrial gases	18
49	Manufacture of ceramic products	18
50	Manufacture of glass and glass products	18
51	Other (activated carbon, composed of Al, Ba, Ca, Ni, â€¦)	18
52	Synthesis of pigments	18
53	Manufacture of explosives, glues, gelatine, essential oils	7
54	Other chemicals	7
55	Paints and varnishes	7
56	Plastics, rubber, synthetic resins	7
57	Polyethylene tetraphtalate	7
58	Polyvinyl chloride	7
59	Synthesis of pigments	7
60	Manufacture of articles of paper or paperboard	16
61	Manufacture of paper and pulp	16
62	Printing activities	16
63	Cosmetics and perfumes	15
64	Pharmaceuticals	15
65	Soaps, detergents and sanitary preparations	15
66	Manufacture of petrochemicals	10
67	Manufacture of refined petroleum products	10
68	Transport and marketing of petroleum products	10
69	Manufacture and dyeing of textiles	19
70	Manufacture of clothing and other finished products made of fabric	19
71	Extraction of petroleum and gas	28
72	Metal mining	28
73	Installations for melting mineral substances	23
74	Manufacture of Wood	23
75	Other	23
76	Gasoline Loading	6
77	Port handling (cargo)	6
78	Combustion of heating oil	11
79	Combustion of lignite	11
80	Gaz production	11
81	Recycling of lubrifying oils	29
82	Recycling of metal waste and scrap	29
83	Recycling of non-metal waste and scrap (paper, glass)	29
84	Tanning and dressing of leather	12
85	Hotel, food and beverage services	20
86	Recreational activities	20
87	Manufacture of aircraft and spacecraft	3

88	Manufacture of motor vehicles	3
89	Manufacture of other transport equipment	3
90	Rail transport	3
91	Urban road transport (automobiles and buses)	3
92	Water transport (freight, passengers)	3
93	Technical centres for landfill and storage	24
94	Compost production	31
95	Industrial wastewater treatment plant	2
96	Treatment plants	2
97	Urban waste incineration plants	25
98	Refuse collection, depollution and similar activities	26
99	Lead Alkyl	7

HEAVY METAL CODE LIST

ID	Name of the heavy metal
Hg	Mercury
Cd	Cadmium
Pb	Lead
Zn	Zinc
Cu	Copper
Cr	Chromium

MEDITERRANEAN REGIONS

Country	Region
Albania	Peqini
Albania	Vlora
Albania	Saranda
Albania	Delvina
Albania	Kavaja
Albania	Fieri
Albania	Kruja
Albania	Durres
Albania	Kurbini
Albania	Lushnja
Albania	Mallakastra
Albania	Elbasan
Albania	Shkodra
Albania	Lezha
Albania	Tirana
Algeria	El Tarf

Algeria	Tlemcen
Algeria	Ain Temouchent
Algeria	Oran
Algeria	Mostaganem
Algeria	Chlef
Algeria	Tipaza
Algeria	Alger
Algeria	Boumerdes
Algeria	Tizi Ouzou
Algeria	Bejaia
Algeria	Jijel
Algeria	Skikda
Algeria	Annaba
Bosnia Herzegovina	Coastal Area - Neum
Bosnia Herzegovina	Trebisnjica
Bosnia Herzegovina	Cetina
Bosnia Herzegovina	Neretva
Croatia	Primorsko-Goranska
Croatia	Zadarska
Croatia	Licko-Senjska
Croatia	Sibensko-Kninska
Croatia	Istarska
Croatia	Dubrovacko-Neretvanska
Croatia	Splitsko-Dalmatinska
Cyprus	Cyprus
Egypt	Alexandria
France	Champagne-Ardenne
France	Franche-Comte
France	Herault
France	Alpes maritimes
France	Pyrenees orientales
France	Aude
France	Bourgogne
France	Provence-Alpes-Cote d'Azur
France	Gard
France	Corse
France	Bouches du Rhone
France	Rhone-Alpes
Greece	Aegean Islands
Greece	West Macedonia
Greece	West Continental Greece
Greece	West Peloponnes
Greece	North Peloponnes

Greece	Attica
Greece	East Peloponnes
Greece	Epirus
Greece	Thrace
Greece	East Macedonia
Greece	East Continental Greece
Greece	Crete
Greece	Central Macedonia
Greece	Thessalia
Israel	Israel
Italy	Puglia
Italy	Umbria
Italy	Veneto
Italy	Toscana
Italy	Lombardia
Italy	Valle d Aosta
Italy	Liguria
Italy	Friuli
Italy	Molise
Italy	Marche
Italy	Sardegna
Italy	Trentino
Italy	Emilia Romagna
Italy	Abruzzo
Italy	Calabria
Italy	Piemonte
Italy	Basilicata
Italy	Lazio
Italy	Sicilia
Italy	Campania
Lebanon	Lebanon
Libya	Alnigat Alkhams
Libya	Sirt
Libya	Ajdabiya
Libya	Tripoli
Libya	Dernah
Libya	Azzawiya
Libya	Al jifarah
Libya	Al batnan
Libya	Misratah
Libya	Al Khums
Libya	Benghazi

Libya	Alnigat ilkamse
Malta	Malta
Montenegro	Budva
Montenegro	Ulcinj
Montenegro	Tivat
Montenegro	Kotor
Montenegro	Herceg Novi
Montenegro	Bar
Morocco	Nador
Morocco	Tanger
Morocco	Tetouan
Palestine	Wadi Gaza
Slovenia	Slovenia
Spain	Barcelona
Spain	Alava
Spain	Cuenca
Spain	Huesca
Spain	Alicante
Spain	Albacete
Spain	Burgos
Spain	Granada
Spain	Valencia
Spain	Lleida
Spain	Girona
Spain	Malaga
Spain	Tarragona
Spain	Baleares
Spain	Navarra
Spain	Murcia
Spain	Zaragoza
Spain	Melilla
Spain	Rioja
Spain	Teruel
Spain	Soria
Spain	Cantabria
Spain	Cadiz
Spain	Almeria
Spain	Castellon
Syria	Tartous
Syria	Lattakia
Tunisia	Gabes
Tunisia	Sfax
Tunisia	Bizerte

Tunisia	Mahdia
Tunisia	Sousse
Tunisia	Ariana-M
Tunisia	Nabeul
Tunisia	Ben Arous
Tunisia	Monastir
Tunisia	Medenine
Tunisia	Tunis
Turkey	Denizli
Turkey	Hatay
Turkey	Antalya
Turkey	Kahramanma
Turkey	Isparta
Turkey	Manisa
Turkey	Mugla
Turkey	Usak
Turkey	Icel
Turkey	Kutahya
Turkey	Osmaniye
Turkey	Afyon
Turkey	Izmir
Turkey	Balikesir
Turkey	Canakkale
Turkey	Aydin
Turkey	Adana

2.b Waste Data Dictionaries

Description of Indicators

IND 1: Municipal Waste Generation
Dataset definition

Sub-indicators	IND 1.A Municipal waste composition; IND 1.B Plastic waste generation per capita; IND 1.B Plastic waste generation per capita; IND 1.C % of population living in Coastal Areas; IND 1.C % of population living in Coastal Areas; IND 1.C % of population living in Coastal Areas;
Key words	Solid waste, municipal solid waste, plastic waste,
Spatial coverage	National level and coastal administrative regions of Mediterranean Sea

	watershed as defined in section 3.1 of the "Updated guidelines to assess national budget of pollutants (NBB)" [UNEP(DEPI)/MED WG. 404/4].
Dataset relevance	This indicator and its sub-indicators are describing the pressure and the drivers for ML. The indicator was already in use in H2020, as well as in several other relevant documents. More specifically, the waste quantity on a national level is somehow representative of the pressure on a national level.
Parameters	Tons per year (on the geographical scale defined) Kg/cap/year (on the geographical scale defined
Methodology for obtaining data	Delivered by country
Planned update frequency	Every 1 years

Overview of data tables

Data table	Name	Definition	Short description
1.	Municipal Waste Generation	Municipal Solid Waste (MSW) generated per year. MSW is generated by households, and wastes of a similar nature generated by commercial and industrial premises, by institutions such as schools, hospitals, care homes and prisons, and from public spaces such as streets, markets, slaughter houses, public toilets, bus stops, parks, and gardens' (see UN-Habitat1)	Tons/year Kg/cap/year Country level Total population Total MSW
1.A	Municipal Solid Waste Composition	Summary w/w% composition of MSW as generated. Data points used for 5 key fractions – all as % wt. of total MSW generated as follows: Organic, Plastic, Paper, Metal, Rest	w/w % on wet basis Country-level Organic % Plastic % Paper % Metal % Rest %
1.B	Plastic waste generation per capita	Average annual plastic waste generation per capita. The plastic waste fraction includes mostly packaging wastes, such as PET, PVC, polypropylene, high and low density polyethylene (HDPE/LDPE) and polystyrene.	Kg/cap/year Country level Total population Total MSW (IND 1) Plastic % (IND 1.A)
1.C	% of population in Coastal Areas / Total Population	Percentage of population living in coastal areas to total population	% of population Country level Total Population Population in Coastal Area
1.D	% of Tourists in Coastal Areas / Population in Coastal Areas	Percentage of Tourists in Coastal Areas to Population in Coastal Areas	% of population in Coastal Area; Population in coastal area; Tourists in Coastal Area.

[1] http://www.waste.nl/sites/waste.nl/files/product/files/swm_in_world_cities_2010.pdf. (page 6).

Data table 1: Total municipal solid waste (MSW) generation on a specific geographical level

	Column name	Column definition	Methodology	Data specifications	Remark/ Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-alpha-2, Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 2	
2	Administrative _Region	Administrative regions located in drainage basins that outflow into the Mediterranean	List of regions from NBB info system given in Codelist	Type of element: common Datatype: string Min. size: 3 Max. size: 4	**Optional**, it is advised to calculate in national level
3	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: current year	
4.	MSW_Gen	Quantity of municipal solid waste generated (tonnes/year)	Calculated by aggregating the waste generated in Administrative _Region Calculated in national level	Type of element: common Datatype: decimal Decimal precision: 2 Unit: metric tonnes per year Min. size: 3 Max. size: 10 Min. value: 0.01 Max. value: 10,000,000.00	Optional: Option 1
		Quantity of municipal solid waste generated (tonnes/year)	Estimated by kg per capita per reference Year_H2020 optionally per reference Administrative _Region	Type of element: common Datatype: decimal Decimal precision: 2 Unit: metric tonnes per year Min. size: 3 Max. size: 10 Min. value: 0.01 Max. value: 10,000,000.00	Optional: Option 2
5.	Data_Collection _Method	Method of data collection	Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 1	Assessments from the waste collection system in regional or and national level; Records from the local/national waste

					transfers, treatment and disposal facilities; (landfills) Assessments based on the population using **proper waste generation rates**
6.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Min. size: 0 Max. size: 4096	

Data table 1A: Municipal Solid Waste Composition

	Column name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-alpha-2, Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 2	
2.	Administrative_Region	Administrative regions located in drainage basins that outflow into the Mediterranean	List of regions from NBB info system given in Codelist	Type of element: common Datatype: string Min. size: 3 Max. size: 4	**Optional**, it is advised to calculate in national level
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: current year	
4.	Frc_ID_MSW	Summery composition of MSW	Municipal waste composition fractions in percentage according to Codelist Calculated in national level	Type of element: common Datatype: decimal Decimal precision: 2 Unit: percentage of ratio metric tonnes per year Min. size: 3 Max. size: 5 Min. value: 0.01 Max. value: 100.00	
5.	Data_Collection_Method	Method of data collection	Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 1	Assessments from the waste collection system in regional or and national level;

					Records from the local/national waste transfers, treatment and disposal facilities; (landfills) Country ; for calculation, Option 1 or for estimation Option 2
6.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Max. size: 4096	

Data table 1B: Plastic waste generation per capita

	Column name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-alpha-2, Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 2	
2.	Administrative_ Region	Administrative regions located in drainage basins that outflow into the Mediterranean. Administrative regions as defined in the codelist	List of regions from NBB info system given in the Codelist v	Type of element: common Datatype: string Min. size: 3 Max. size: 4	**Optional**, it is advised to calculate in national level
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: current year	
4.	Frc_ID_MSW	Summery composition of MSW	Municipal waste composition fractions in percentage according to Codelist Calculated in national level	Type of element: common Datatype: decimal Decimal precision: 2 Unit: percentage of ratio metric tonnes per year Min. size: 3 Max. size: 5 Min. value: 0.01 Max. value: 100.00	
5.	Data_Collection_Method	Method of data collection	Codes elements as defined in Codelist	Type of element: common Datatype: string	

				Size: 1	
6.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Max. size: 4096	

Data table 1.C: % of population in Coastal Areas / Total Population

	Column name	Column definition	Methodology	Data specifications	Remark/ Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-alpha-2, Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 2	
2.	Administrative_ Region	Administrative regions located in drainage basins that outflow into the Mediterranean	List of regions from NBB info system given in Codelist Select the administrative regions, which are within 100 km buffer zone.	Type of element: common Datatype: string Min. size: 3 Max. size: 4	
3.	Total_Pop_Coast_Buffer_Zone	Aggregation of Total Population (including urban and rural) in the cities (the minimum requirement should be all cities within the buffer zone)	Select the urban and rural populations, which are within 100 km buffer zone in the coastal region in Codelist.	See Table D	The minimum requirement should be all cities within the buffer zone (100 km). This needs to be indicated in the remarks (Row 7)
4.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: current year	
5.	Pops_Costal_Area	Population in coastal areas, according the recent UN work on SDGs, is the population living within 100 km of the coastline[2].	Latest census UNSD methodology	Type of element: common Datatype: decimal Decimal precision: 2 Unit: percentage of people per square kilometer Min. size: 3 Max. size: 5 Min. value: 0.01 Max. value: 100.00	
6.	Data_Collection_Method	Method of data collection	Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 1	UNSD or national data

[2] http://www.un.org/esa/sustdev/natlinfo/indicators/methodology_sheets/oceans_seas_coasts/pop_coastal_areas.pdf

7.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Max. size: 4096	

Data table 1.D: % of Tourists in Coastal Areas / Population in Coastal Areas

	Column name	Column definition	Methodology	Data specifications	Remark/ Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-alpha-2, Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 2	
2.	Administrative_ Region	Administrative regions located in drainage basins that outflow into the Mediterranean.	List of regions from NBB info system given in Codelist	Type of element: common Datatype: string Min. size: 3 Max. size: 4	
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: current year	
4.	Tourist_Costal area	Number of tourist visiting the administrative regions per Year_H2020	Tourists and visitors are defined according the UN World Tourism Organization[3] "Tourism comprises the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited." Equivalent of a single permanent resident: The residential population has been thought to stay the whole year within the area, 365 days (the number of days taken for holiday by the residential population assumes covers up the seasonal population who is not included in the overnight stays statistics).	Type of element: common Datatype: integer Unit: person per year Min. size: 1 Max. size: 8 Min. value: 1 Max. value: 99,999,999	

[3] SeeUN, Department of Economic and Social Affairs Statistics Division International Recommendations for Tourism Statistics 2008, https://unstats.un.org/unsd/publication/Seriesm/SeriesM_83rev1e.pdf#page=21

			Thus, the equivalent of one permanent resident is equal with 365 overnight stays[4]		
5.	Data_Collection_Method	Method of data collection	Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 1	National statistical data. The visiting tourist number can be obtained by ministry of tourism, local municipalities, hotels and statistical offices
6.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Max. size: 4096	

IND 2: "HARDWARE" OF WASTE MANAGEMENT
Dataset definition

Sub-indicators	IND 2.A Waste Collection IND 2.A.1 Waste Collection Coverage IND 2.A.2 Waste Captured by the formal waste sector IND 2.B Environmental Control IND 2.B.1 % of waste to uncontrolled dumpsites IND 2.B.2 Uncontrolled dumpsites in Coastal Areas IND 2.B.3 Waste going to dumpsites in Coastal Areas IND 2.C Resource Recovery IND 2.C.1 % of plastic waste generated that is recycled
Key words	Municipal Solid waste, waste collection, landfills, recycling
Spatial coverage	National level and coastal administrative regions of Mediterranean Sea watershed as defined in section 3.1 of the "Updated guidelines to assess national budget of pollutants (NBB)" [UNEP(DEPI)/MED WG. 404/4].
Dataset relevance	This indicator and its sub-indicators are describing the pressure and the drivers for ML. The indicator was already in use in H2020, as well as in several other relevant documents. More specifically, the waste quantity on a national level is somehow representative of the pressure on a national level.
Parameters	Tons per year (on the geographical scale defined) Kg/cap/year (on the geographical scale defined)
Methodology for obtaining data	Delivered by country
Planned update frequency	Every 2 years

Overview of data tables

Data table	Name	Definition	Short description

[4] EU, EUROSTAT, Methodological work of measuring the sustainable development of tourism, Part 2: Manual of sustainable development indicators of tourism, 2006. https://ec.europa.eu/eurostat/documents/3888793/5834249/KS-DE-06-002-EN.PDF/178f8c9a-4a03-409c-b020-70ff7ef6803a

Data table	Name	Definition	Short description
IND 2.A.	**Waste Collection**	A 'collection service' may be 'door to door' or by deposit into a community container. 'Collection' includes collection for recycling as well as for treatment and disposal (so includes e.g. collection of recyclables by itinerant waste buyers). 'Reliable' means regular - frequency will depend on local conditions and on any preparation of the waste. For example, both mixed waste and organic waste are often collected daily in tropical climates for public health reasons, and generally at least weekly; source-separated dry recyclables may be collected less frequently. **2.A.1: Waste Collection Coverage:** Percentage of the population of the country that is covered by a regular collection service organized either by public authorities or private companies. The indicator includes both formal municipal and informal sector services. **2.A.2: Waste captured by the system:** Percentage of waste generated that is actually handled completely by the formal waste management and recycling system, thus the waste that is not lost through illegal burning, burying or dumping in unofficial areas.	Population Population covered by regular collection services (Wcc) Wf = Waste captured by the formal waste sector W = Total waste generated (IND1)
IND 2. B.	**Environmental Control**	Percentage of the total municipal solid waste destined for treatment or disposal in either a state- of-the-art, engineered facility or a 'controlled' treatment or disposal site. **2.B.1: Waste that goes to dumpsites** Percentage of waste that goes to dumpsites. **2.B.2: Dumpsites in Coastal Areas** Number of dumpsites in Coastal Areas **2.B.3: Waste that goes to dumpsites in Coastal Areas.** Percentage of waste that goes to dumpsites in Coastal Areas	Wf = Waste captured by the formal waste sectors (Wf=Wr+Wu). W = Total waste generated Wr = Recycled and reused waste Wu = Waste delivered to dumpsites.
IND 2.C	**Resource Recovery**	Percentage of total municipal solid waste generated that is recycled. It includes both materials recycling and organics valorisation/recycling (composting, animal feed, anaerobic digestion). **2.C.1: Plastic waste that is recycled** Percentage of total plastic municipal solid waste generated that is recycled. It includes materials recycling only.	Wf = Waste captured by the formal waste sector W = Total waste generated (IND1)

Data table 2A: Waste Collection

	Column name	Column definition	Methodology	Data specifications	Remark/ Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-alpha-2, Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 2	
2.	Administrative_Region	Administrative regions located in drainage basins that outflow into the Mediterranean	List of regions from NBB info system given in Codelist	Type of element: common Datatype: string Min. size: 3 Max. size: 4	
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: current year	
4.	Waste_Captured_Wf	The amount of waste captured by formal system, including landfills, recycling and compost	Formal Waste Sector: Solid waste system, solid waste authorities, government, materials recovery facility; Solid waste management activities planned, sponsored, financed, carried out or, regulated and/or recognized by the formal local authorities or their agents, usually through contracts, licenses or concessions.	Type of element: common Datatype: integer Decimal precision: 2 Unit: kg per year Min. size: 3 Max. size: 7 Min. value: 1 Max. value: 1,000,000	
5.	Data_Collection_Method	Method of data collection	Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 1	
6.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Max. size: 4096	

Data table 2B: Environmental Control

	Column name	Column definition	Methodology	Data specifications	Remark/ Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-alpha-2, Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 2	
2.	Administrative_Region	Administrative regions located in drainage basins	List of regions from NBB info system given in Codelist	Type of element: common Datatype:-integer	

		that outflow into the Mediterranean. Administrative regions as defined in the codelist		Min. size: 3 Max. size: 4	
3.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: current year	
4.	Number_of_Dumpsites_Coastal Administrative_Regions	Administrative regions located in coastal administrative regions	Number of dumpsites which are Administrative regions within 100 km zone of the coast.	Type of element: common Datatype: decimal Decimal precision: 0 Unit: number Min. size: 1 Max. size: 100 Min. value: 1 Max. value: 100	
5.	Waste_recycled_and_reused_Wr	The amount of waste which is recycled, reused (incl.compost)	The quantity of waste which is recycled, sent for compost and are incinerated (if any)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: kg per year Min. size: 3 Max. size: 7 Min. value: 1 Max. value: 1,000,000	
6.	Waste_Dumpsite_Wu	The amount of waste which is send to landfills	National, local records, of landfills, dumpsites and transfer stations	Type of element: common Datatype: decimal Decimal precision: 2 Unit: kg per year Min. size: 3 Max. size: 9 Min. value: 1 Max. value: 1,000,000	
7.	Data_Collection_Method	Method of data collection	Codes elements as defined in Codelist	Type of element: common Datatype: string Size: 1	
8.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Max. size: 4096	

Data table 2C: Resource Recovery

	Column name	**Column definition**	**Methodology**	**Data specifications**	**Remark/ Equivalent in**

					WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-alpha-2, Codes elements as defined in Codelist i	Type of element: common Datatype: string Size: 2	
2.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: current year	
3.	Amount _ Recycled _Plastics	The amount of plastics which is recycled, reused	The quantity of waste which is recycled and reused (compost)(if any)	Type of element: common Datatype: decimal Decimal precision: 2 Unit: kg per year Min. size: 3 Max. size: 7 Min. value: 1 Max. value: 1,000,000	
4.	Data_ Collection_ Method	Method of data collection		Type of element: common Datatype: integer Size: 3	For this calculation, since IND1 has been already calculated, it is necessary to recover data from both the formal and the informal sector. The recyclables from the formal sector are always registered and usually there are invoices or other receipts for their quantities.
5.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Max. size: 4096	

IND Q: "SOFTWARE" OF WASTE MANAGEMENT
IND Q.A Marine Litter & waste management framework

Column name	Column name	Geographical Coverage	Indicator parameters	Indicator units	Remarks
Q.A.1 Is there a National Assessment for ML and its impacts?	The answer "yes" is given either if the relevant documents are officially approved or if they are under elaboration and they are going to be completed before the end of 2019.	National	YES or NO	Each "yes" counts 6.66%	
Q.A.2 Is there a National Plan or Strategy for ML?	The answer "yes" is given either if the relevant documents are officially approved or if they are under elaboration and they are going to be completed before the end of 2019.	National	YES or NO	Each "yes" counts 6.66%	
Q.A.3 Is there a National Plan or Strategy for Waste Management?	The answer "yes" is given only if the relevant documents are officially approved.	National	YES or NO	Each "yes" counts 6.66%	
Q.A.4 Is there a National Law on Waste?	The answer "yes" is given only if the relevant documents are officially approved.	National	YES or NO	Each "yes" counts 6.66%	
Q.A.5 Is there a specific plan or a specific target to close the dumpsites before 2030?	The answer "yes" is given only if there is such a specific target in the National Plan or Strategy or if there is a specific plan for the closure of dumpsites.	National	YES or NO	Each "yes" counts 6.66%	
Q.A.6 Is there a National Information System for waste management in place?	The answer "yes" is given only if there is an existing, operational National Information System for waste management or if waste management consists a sub-system of a broader Environmental Information System.	National	YES or NO	Each "yes" counts 6.66%	

Codelist of country

ISO 3166-1-alpha-2 code
http://www.iso.org/iso/home/standards/country_codes/country_names_and_code_elements.htm

Name	ISO 2 Code
Albania	AL
Algeria	DZ
Bosnia and Herzegovina	BA
Egypt	EG
Israel	IL
Jordan	JO
Lebanon	LB

Libya	LY
Montenegro	ME
Morocco	MA
Palestine, State of	PS
Tunisia	TN
Turkey	TR

Codelist of data collection method

Value	Definition	Short description
M	Field measurement method	Measurement
E	Waste generation rates estimation	Estimation
I	National inventories for management of municipal solid waste compiled by official public agencies	Inventory
R	Official reports compiled by sanitary landfills	Report W

Codelist of MSW Fractions

Frc_ID	Name	
1	Organic fraction % w/w	The 'organic' fraction is defined primarily as kitchen and food waste from households and restaurants; market wastes; green, garden or yard waste, including wood from pruning trees in public parks and/or along roads; and similar. It excludes paper, cardboard, textiles, leather, and wood from packaging or furniture. Please note whether some organic waste is likely to have been reported as part of another fraction – e.g. if MSW is routinely mixed with sand or soil during collection (so that the 'fine fraction' is likely to include a portion of the organics), and/or if the 'other' fraction is high.
2	Plastic fraction %	The plastic fraction includes mostly packaging wastes, such as PET, PVC, polypropylene, high and low density polyethylene (HDPE/LDPE) and polystyrene.
3	Paper fraction %	The paper fraction includes cardboard, but excludes laminated materials such as drink cartons.
4	Metal fraction %	The metal fraction includes ferrous (iron and steel) and non-ferrous (e.g. aluminium, copper, lead, zinc, tin) metals and alloys.
5	Rest %	100% - [4] - [3] - [2] - [1]

Codelist of Administrative Mediterranean Regions

Country	Region
Albania	Peqini
Albania	Vlora
Albania	Saranda
Albania	Delvina
Albania	Kavaja

Albania	Fieri
Albania	Kruja
Albania	Durres
Albania	Kurbini
Albania	Lushnja
Albania	Mallakastra
Albania	Elbasan
Albania	Shkodra
Albania	Lezha
Albania	Tirana
Algeria	El Tarf
Algeria	Tlemcen
Algeria	Ain Temouchent
Algeria	Oran
Algeria	Mostaganem
Algeria	Chlef
Algeria	Tipaza
Algeria	Alger
Algeria	Boumerdes
Algeria	Tizi Ouzou
Algeria	Bejaia
Algeria	Jijel
Algeria	Skikda
Algeria	Annaba
Bosnia Herzegovina	Costal Area - Neum
Bosnia Herzegovina	Trebisnjica
Bosnia Herzegovina	Cetina
Bosnia Herzegovina	Neretva
Croatia	Primorsko-Goranska
Croatia	Zadarska
Croatia	Licko-Senjska
Croatia	Sibensko-Kninska
Croatia	Istarska
Croatia	Dubrovacko-Neretvanska
Croatia	Splitsko-Dalmatinska
Cyprus	Cyprus
Egypt	Alexandria
France	Champagne-Ardenne
France	Franche-Comte
France	Herault
France	Alpes maritimes
France	Pyrenees orientales
France	Aude

France	Bourgogne
France	Provence-Alpes-Cote d'Azur
France	Gard
France	Corse
France	Bouches du Rhone
France	Rhone-Alpes
Greece	Aegean Islands
Greece	West Macedonia
Greece	West Continental Greece
Greece	West Peloponnes
Greece	North Peloponnes
Greece	Attica
Greece	East Peloponnes
Greece	Epirus
Greece	Thrace
Greece	East Macedonia
Greece	East Continental Greece
Greece	Crete
Greece	Central Macedonia
Greece	Thessalia
Israel	Israel
Italy	Puglia
Italy	Umbria
Italy	Veneto
Italy	Toscana
Italy	Lombardia
Italy	Valle d Aosta
Italy	Liguria
Italy	Friuli
Italy	Molise
Italy	Marche
Italy	Sardegna
Italy	Trentino
Italy	Emilia Romagna
Italy	Abruzzo
Italy	Calabria
Italy	Piemonte
Italy	Basilicata
Italy	Lazio
Italy	Sicilia
Italy	Campania
Lebanon	Lebanon

Libya	Alnigat Alkhams
Libya	Sirt
Libya	Ajdabiya
Libya	Tripoli
Libya	Dernah
Libya	Azzawiya
Libya	Al jifarah
Libya	Al batnan
Libya	Misratah
Libya	Al Khums
Libya	Benghazi
Libya	Alnigat ilkamse
Malta	Malta
Montenegro	Budva
Montenegro	Ulcinj
Montenegro	Tivat
Montenegro	Kotor
Montenegro	Herceg Novi
Montenegro	Bar
Morocco	Nador
Morocco	Tanger
Morocco	Tetouan
Palestine	Wadi Gaza
Slovenia	Slovenia
Spain	Barcelona
Spain	Alava
Spain	Cuenca
Spain	Huesca
Spain	Alicante
Spain	Albacete
Spain	Burgos
Spain	Granada
Spain	Valencia
Spain	Lleida
Spain	Girona
Spain	Malaga
Spain	Tarragona
Spain	Baleares
Spain	Navarra
Spain	Murcia
Spain	Zaragoza
Spain	Melilla
Spain	Rioja

Spain	Teruel
Spain	Soria
Spain	Cantabria
Spain	Cadiz
Spain	Almeria
Spain	Castellon
Syria	Tartous
Syria	Lattakia
Tunisia	Gabes
Tunisia	Sfax
Tunisia	Bizerte
Tunisia	Mahdia
Tunisia	Sousse
Tunisia	Ariana
Tunisia	Nabeul
Tunisia	Ben Arous
Tunisia	Monastir
Tunisia	Medenine
Tunisia	Tunis
Turkey	Denizli
Turkey	Hatay
Turkey	Antalya
Turkey	Kahramanma
Turkey	Isparta
Turkey	Manisa
Turkey	Mugla
Turkey	Usak
Turkey	Icel
Turkey	Kutahya
Turkey	Osmaniye
Turkey	Afyon
Turkey	Izmir
Turkey	Balikesir
Turkey	Canakkale
Turkey	Aydin
Turkey	Adana

Table D

Methodology	**Data specifications**	**Equivalent in WISE if exist**
The population as of the reference year (Year_H2020)	Type of element: non-common Datatype: integer Unit: inhabitants	

	Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	

2.c Water Data Dictionaries

Description of Indicators

IND3. Dataset: Access to sanitation

Dataset definition

Policy theme	Access to sanitation
Short name	Improved Sanitation
Indicators	3.1 and 3.2
Key words	Improved Sanitation System (ISS) and Safely Managed Sanitation Services (SMSS)
Spatial coverage	National and catchment/ hydrological basin at the coastal area
Dataset relevance	This dataset is relevant for populating H2020 Water Indicators 3.1 and 3.2 (see Annex 1) and for reporting to SDG Indicator 6.2.1
Parameters	Total population, Urban population, Rural population, Total population with access to an ISS, Urban population with access to an ISS, Rural population with access to an ISS.
Methodology for obtaining data	Delivered by country
Planned update frequency	Every 1 year

Overview of data tables

Data table	Name	Definition	Short description
3.1.	Share of total, urban and rural population with access to an improved (ISS) sanitation system	Percentage of the population (%) having access to improved sanitation systems. "Share of population with access to improved sanitation" refers to the percentage of the population with access to facilities which hygienically separate human excreta from human, animal and insect contact.	This indicator was developed by the Joint Monitoring Programme for Water Supply and Sanitation of the United Nations Children's Fund and the World Health Organization (WHO) to help monitor progress towards one of the Millennium Development Goals.

3.2.	Proportion of population using safely managed sanitation services (SMSS).	Percentage of population (%) with access to safely managed sanitation systems, which are defined as an improved sanitation facility that is both: a) Not shared with other households, b) and where excreta is safely disposed of in situ or treated off site.	This indicator is based on the new definition of the Sustainable Development Goal (SDG) Indicator 6.2.1, which builds upon the MDG Indicator above. It addresses public health beyond the household level, including containment and treatment of the faecal waste, which is not included in the MDG definition.

Data table 1: Share of national population with access to an improved sanitation system (ISS)

	Column name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist.	ISO 3166-alpha-2, Codes elements as defined in codelist: 0	Type of element: common Datatype: string Size: 2	
2.	Year_H2020	Year for which data is available	Use the format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Current year	
3.	Total_Population	Total population	See Table D		
4.	Urban_Population	Urban population	See Table D		
5.	Rural_Population	Rural population	See Table D		
6.	Total_Population_ISS	Total national population with access to Improved Sanitation Systems (ISS)	Total population with access to improved sanitation system refers to the population with access to facilities which hygienically separate human excreta from human, animal and insect contact.	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
7.	Urban_Population_ISS	National population living in urban areas with access to Improved Sanitation Systems (ISS)	Urban population with access to improved sanitation system refers to the population with access to facilities which hygienically separate human excreta from human, animal and insect contact.	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
8	Rural_Population_ISS	National	Rural population with	Type of element:	

.		population living in rural areas with access to Improved Sanitation Systems (ISS)	access to improved sanitation refers to the population with access to facilities which hygienically separate human excreta from human, animal and insect contact.	non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
9.	Data_Collection_Method	Method of data collection.	Codes elements as defined in codelist vi.	Type of element: common Datatype: string Size: 1	
10.	Remarks	Remarks, comments or explanatory notes (free text).		Type of element: common Datatype: string Min. size: 0 Max. size: 4096	

Data table 2: Share of population in the catchment/hydrological basin at the coastal area with access to an improved sanitation system (ISS)

	Column Name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-alpha-2, Codes elements as defined in codelist: 0	Type of element: common Datatype: string Size: 2	
2.	Hydrological_Basin	Name of catchment/ hydrological basin at the coastal area	Name of catchment/ hydrological basin at the coastal area according to codelist: 0	Type of element: common Datatype: string Size: 3	
3.	Year_H2020	Year for which data is available	Use format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Current year	
4	Total_Pop_Coast_Hydro_Basin	Total population living in the coastal area and in the hydrological basins (catchment) of coastal areas	See Table D		
5	Urban_Pop_Coast_Hydro_Basin	Urban population living in the coastal area and in the hydrological basins (catchment) of coastal areas	See Table D		
6	Rural_Pop_Coast_Hy	Rural population	See Table D		

	dro_Basin	living in the coastal area and in the hydrological basins (catchment) of coastal areas			
7.	Total_Pop_Coast_ISS	Population in coastal areas and catchment/ hydrological basin at the coastal area with access to Improved Sanitation Systems (ISS).	Total population with access to improved sanitation system refers to the population with access to facilities which hygienically separate human excreta from human, animal and insect contact.	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
8.	Urban_Pop_Coast_ISS	Population living in urban coastal areas and hydrological basin at coastal areas with access to Improved Sanitation Systems (ISS).	Urban population with access to improved sanitation system refers to the population with access to facilities which hygienically separate human excreta from human, animal and insect contact.	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
9.	Rural_Pop_Coast_ISS	Population living in rural coastal areas and hydrological basin at coastal areas with access to Improved Sanitation Systems (ISS).	Rural population with access to improved sanitation system refers to the population with access to facilities which hygienically separate human excreta from human, animal and insect contact.	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
10.	Data_Collection_Method	Method of data collection.	Codes elements as defined in codelist vi.	Type of element: common Datatype: string Max. Size: 1	
11.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Min. size: 0 Max. size: 4096	

Data table 3: Proportion of national population using safely managed sanitation services (SMSS)

	Column name	Column definition	Methodology	Data specifications	Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist	ISO 3166-alpha-2, Codes elements as defined in codelist: 0	Type of element: common Datatype: string Size: 2	
2.	Year_H2020	Year for which data is available	Use format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Current year	
3.	Total_Population	Total population	See Table D		
4.	Urban_Population	Urban population	See Table D		
5.	Rural_Population	Rural population	See Table D		
6.	Total_Population_SMSS	Total national population with access to Safely Managed Sanitation Systems (SMSS)	**"Safely managed sanitation services" is defined as an improved sanitation facility considering:** **c) that is not shared with other households,** **d) and where excreta is safely disposed of in situ or treated off site.**	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
7.	Urban_Population_SMSS	National population living in urban areas with access to Safely Managed Sanitation Systems (SMSS)	**"Safely managed sanitation services" is defined as an improved sanitation facility considering:** **a) that is not shared with other households,** **b) and where excreta is safely disposed of in situ or treated off site.**	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
8.	Rural_Population_SMSS	National population living in rural areas with access to safely managed sanitation systems (SMSS)	**"Safely managed sanitation services" is defined as an improved sanitation facility considering:** **a) that is not shared with other households,** **b) and where excreta is safely disposed of in situ or treated off site.**	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
9.	Data_Collection_Method	Method of data collection.	Codes elements as defined in codelist vi.	Type of element: common	

				Datatype: string Max. size: 1	
10.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Min. size: 0 Max. size: 4096	

Data table 4: Proportion of population in the catchment/ hydrological basin at the coastal area using safely managed sanitation services (SMSS)

	Column Name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist.	ISO 3166-alpha-2, Codes elements as defined in codelist: 0	Type of element: common Datatype: string Size: 2	
2.	Hydrological_Basin	Name of catchment/ hydrological basin at the coastal area	Name of catchment/ hydrological basin at the coastal area according to codelist: 0	Type of element: common Datatype: string Max. size: 3	
3.	Year_H2020	Year for which data is available	Use format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Current year	
4.	Total_Pop_Coast_Hydro_Basin	Total population living in the coastal area and in the hydrological basins (catchment) of coastal areas	See Table D		
5.	Urban_Pop. Coast_Hydro_Basin	Urban population living in the coastal area and in the hydrological basins (catchment) of coastal areas	See Table D		
6.	Rural_Pop_Coast_Hydro_Basin	Rural population living in the coastal area	See Table D		

		and in the hydrological basins (catchment) of coastal areas			
7.	Total_Pop_Coast_SMSS	Population in coastal areas and catchment/ hydrological basin at the coastal area with access to Safely Managed Sanitation Systems (SMSS)	The total population as of the reference year (Year_H2020) Data are collected at catchment/ hydrological basin at the coastal area or, if data not available, major coastal cities, in order to quantify the extent of land-based pressures that could potentially have a downstream effect on the state/impact of the sea.	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
8.	Urban_Pop_Coast_SMSS	Population living in urban coastal areas and hydrological basin at coastal areas with access Safely Managed Sanitation Systems (SMSS)	The urban population as of the reference year (Year_H2020) Data are collected at catchment/ hydrological basin at the coastal area or, if data not available, major coastal cities, in order to quantify the extent of land-based pressures that could potentially have a downstream effect on the state/impact of the sea.	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
9.	Rural_Pop_Coast_SMSS	Population living in rural coastal areas and hydrological basin at coastal areas with access to Safely Managed Sanitation Systems (SMSS)	The rural population as of the reference year (Year_H2020) Data are collected at catchment/ hydrological basin at the coastal area or, if data not available, major coastal cities, in order to quantify the extent of land-based pressures that could potentially have a downstream effect on the state/impact of the sea.	Type of element: non-common Datatype: integer Unit: 1000 inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
10.	Data_Collection_Method	Method of	Codes elements as	Type of element:	

		data collection	defined in codelist vi.	common Datatype: string Size: 1	
11.	Remarks	Remarks, comments or explanatory notes (free text)		Type of element: common Datatype: string Min. size: 0 Max. size: 4096	

IND4. Dataset: Municipal Wastewater Management

Dataset definition

Policy theme	Municipal wastewater management
Short name	Municipal wastewater collected, treated and used
Indicators	4.1, 4.2 and 4.3
Key words	Wastewater, collection, treatment, management, use
Spatial coverage	National and catchment/ hydrological basin at the coastal area
Dataset relevance	This dataset is relevant for populating H2020 Water indicators 4.1, 4.2 and 4.3 – see Annex 1. Indicator 4.1 is also relevant for SDG 6.3.1. Indicator 4.2 can be linked to SDG Target 6.3. Indicator 4.3 is relevant to monitor the implementation of the Regional Plan on reduction of BOD_5 and both 4.1 and 4.3 can be linked to Ecological Objective 5 – Eutrophication.
Parameters	Volume of municipal wastewater collected, volume of municipal wastewater treated, volume of wastewater subject to which treatment level (primary, secondary and tertiary), total volume of direct reuse of municipal wastewater, volume of direct reuse of municipal wastewater per type of activity, volume of direct reuse of municipal wastewater per level of treatment.
Methodology for obtaining data	Delivered by country
Planned update frequency	Every 1 year

Overview of data tables

Data table	Name	Definition	Short description
4.1.	Municipal wastewater collected and wastewater treated *Additional information that supplements this Indicator* • Percentage of the treated wastewater according to the type of treatment (primary, secondary, tertiary). • Total annual design capacity of functional facilities. • Total number of functional	Volume of collected and treated municipal wastewater per year per country, including type of treatment, at the national and catchment/ hydrological basin at the coastal area. Wastewater treatment is defined as the process of removing contaminants from wastewater according to the established national standards on effluent quality, to allow for its discharge to the environment without adverse impact on public health and the ecosystem.	This indicator provides information on the collection and treatment level of wastewater in the region and can be considered as a "response" indicator. It helps identifying communities where wastewater treatment action is required, while helping to assess where progress has been made.

	municipal wastewater treatment facilities.		
4.2.	Direct use of treated municipal wastewater	Volume of treated and used municipal wastewater per year and per country at the national level, including type of treatment. Volume of direct treated wastewater intended for reuse, with no or little prior dilution with freshwater during most of the year. "Direct use" refers to the introduction of treated wastewater via pipelines and other necessary infrastructure directly from a water treatment plant to a distribution system. An example would be the distribution of treated wastewater to be used directly in agricultural irrigation.	Wastewater use is a widespread practice in the Mediterranean and is an important non-conventional source of water in a context of water scarcity and increased water demands. However, the management and standards of wastewater use vary greatly across countries and in many cases raw or insufficiently treated wastewater can pose health hazards and environmental risks. This indicator encompasses the use of water which is generated from municipal wastewater or any other urban marginal water and treated to a standard that is appropriate for its intended use.
4.3.	Release of nutrients from municipal effluents	Release of key nutrients (BOD, N and P) from municipal wastewater originating from urban agglomerations of more than 2000 inhabitants.[5]	This indicator is a "pressure" indicator, providing insight into the quality of discharged municipal effluents and the degree to which nutrients from urban wastewater may contribute to the increased concentration of nutrients in certain areas of the Mediterranean Sea.

Data table 1: Municipal wastewater collected and wastewater treated at the national level

	Column Name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist.	ISO 3166-alpha-2, Codes elements as defined in codelist: 0	Type of element: common Datatype: string Sze: 2	
2.	Year_H2020	Year for which data is available	Use format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Current year	
3.	Volume_Collected_MWW	Volume of municipal wastewater collected by public sewage networks and from storage tanks per year	Volume in million m^3 (Mm^3) of municipal wastewater collected, which is estimated based on the volume of wastewater entering	Type of element: non-common Datatype: float Unit: Mm^3/yr Min. size: 1 Max. size: 10	uwwWasteWaterTreated *The value should be reported for*

[5] As per requirements of regional plan on the reduction of BOD from urban wastewater in the framework of the implementation of Article 15 of the LBS Protocol

			the WWTPs, per year	Min. value: 0 Max. value: 1000 000 000	*an UWWTP that has a design capacity more than 100 000 p.e. (link to E-PRTR facility).*
4.	Volume_Treated_MWW	Volume of municipal wastewater treated in wastewater treatment plants per year	Volume in million m^3 of municipal wastewater treated, which is estimated on wastewater leaving the WWTPs per year	Type of element: non-common Datatype: float Unit: Mm^3/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
5.	Fraction_Primary_Treatment	Fraction of municipal wastewater subject to primary treatment per year. "Primary treatment" refers to physical and/or chemical process involving settlement of suspended solids, or other processes in which the BOD5 of the incoming waste water is reduced by at least 20% before discharge and the total suspended solids of the incoming waste water are reduced by at least 50%.	Percentage of municipal wastewater discharged after primary treatment expressed as a fraction of volume [%] of treated municipal wastewater per year	Type of element: non-common Datatype: decimal Decimal precision: 2 Unit: % v/v Min. Size:3 Max. size: 5 Min. value: 0 Max. value: 100	uwwPrimaryTreatment
6.	Fraction_Secondary_Treatment	Fraction of municipal wastewater subject to secondary treatment per year. "Secondary (biological) treatment" uses biological process to decompose most of the organic matter, resulting in the reduction of 70-90% of BOD5, and remove about 20 -	Percentage of municipal wastewater discharged after secondary treatment expressed as a fraction of volume [%] of treated municipal wastewater per year	Type of element: non-common Datatype: decimal Decimal precision: 2 Unit: % v/v Min. Size:3 Max. size: 5 Min. value: 0 Max. value: 100	uwwSecondaryTreatment

		30% of the nutrients. Primary treatment alone does not remove ammonium, whereas the removal rate of ammonium by secondary (biological) treatment is around 75%.			
7.	Fraction_Tertiary_Treatment	Fraction of municipal wastewater subject to tertiary treatment per year. "Tertiary (advanced or more stringent) treatment" further removes nutrients (nitrogen and/or phosphorus) and/or any other pollutant affecting the quality or a specific use of water: microbiological pollution, colour, etc.	Percentage of municipal wastewater discharged after tertiary treatment expressed as a fraction of volume [%] of treated municipal wastewater per year The sum of % of MWW receiving primary, secondary and tertiary must equal 100%.	Type of element: non-common Datatype: decimal Decimal precision: 2 Unit: % v/v Min. Size:3 Max. size: 5 Min. value: 0 Max. value: 100	
8.	Design_Capacity1	Total annual design capacity of functional facilities (Million m^3/year)	Volume in million m^3 per year	Type of element: non-common Datatype: float Unit: Mm^3/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
9.	Design_Capacity2	Total annual design capacity of functional facilities in p.e. (if volume not available)	Population Equivalent (p.e.)	Type of element: non-common Unit: p. e. Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	rcaPlantsCapacity54
10.	Number_MWWTPs	Total number of functional Municipal Wastewater Treatment Plants	Number	Type of element: common Datatype: integer Min. size: 1 Max. size: 6 Min. value: 0 Max. value: 100 000	rcaPlants54
11.	Data_Collection_Method	Method of data collection.	Codes elements as defined in codelist vi.	Type of element: common Datatype: string Size: 1	
12.	Remarks	Remarks, comments or explanatory notes		Type of element: common	

		(free text).		Datatype: string Min. size: 0 Max. size: 4096	

Data table 2: Municipal wastewater collected and wastewater treated per catchment/ hydrological basin at the coastal area

	Column Name	Column definition	Methodology	Data specifications	Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist.	ISO 3166-alpha-2, Codes elements as defined in codelist: 0	Type of element: common Datatype: string Size: 2	
2.	Hydrological_Basin	Name of catchment/ hydrological basin at the coastal area	Name of catchment/ hydrological basin at the coastal area according to codelist: 0	Type of element: common Datatype: string Size: 3	
3.	Year_H2020	Year for which data is available	Use format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Current year	
4.	Volume_MWW_Collected_Hydro_Coast	Volume of municipal wastewater collected by public sewage networks and from storage tanks in both the coastal hydrological basin and in the costal agglomerations	Volume in million m^3 of municipal wastewater collected per year	Type of element: non-common Datatype: float Unit: Mm^3/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
5.	Volume_MWW_Collected_Coast	Volume of municipal wastewater collected by public sewage networks and from storage tanks in costal agglomerations	Volume in million m^3 of municipal wastewater collected per year	Type of element: non-common Datatype: float Unit: Mm^3/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
6.	Volume_Treated_MWW_Hydro_Coast	Volume of of wastewater treated in wastewater treatment plants treated in both the coastal hydrological basin and in costal agglomerations	Volume in million m^3 of municipal wastewater treated per year	Type of element: non-common Datatype: float Unit: Mm^3/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
7.	Volume_Treated_MWW_Coast	Volume of of wastewater treated	Volume in million m^3 of municipal wastewater	Type of element: non-common	

		in wastewater treatment plants treated in the costal agglomerations	treated per year	Datatype: float Unit: Mm^3/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
8.	Fraction_Primary_Treatment	Fraction of municipal wastewater subject to primary treatment per year. “Primary treatment” refers to physical and/or chemical process involving settlement of suspended solids, or other processes in which the BOD5 of the incoming waste water is reduced by at least 20% before discharge and the total suspended solids of the incoming waste water are reduced by at least 50%.	Fraction of municipal wastewater discharge after primary treatment expressed as a fraction of volume [%] of treated municipal wastewater per year The sum of % of treated MWW receiving primary, secondary and tertiary must equal 100%.	Type of element: non-common Datatype: decimal Decimal precision: 2 Unit: % v/v Min. size: 3 Max. size: 5 Min. value: 0 Max. value: 100	aggPercPrimTreatment But it is generated based on p.e. and not measured
9.	Fraction_Secondary_Treatment	Fraction of municipal wastewater subject to secondary treatment per year. “Secondary (biological) treatment” uses biological process to decompose most of the organic matter, resulting in the reduction of 70-90% of BOD5, and remove about 20 - 30% of the nutrients. Primary treatment alone does not remove ammonium, whereas the removal rate of ammonium by secondary (biological) treatment is around 75%.	Fraction of municipal wastewater discharged after secondary treatment expressed as a fraction of volume [%] of treated municipal wastewater per year The sum of % of treated MWW receiving primary, secondary and tertiary must equal 100%.	Type of element: non-common Datatype: decimal Decimal precision: 2 Unit: % v/v Min. size: 3 Max. size: 5 Min. value: 0 Max. value: 100	
10.	Volume_Tertiary_Treatment	Volume of municipal wastewater subject to tertiary treatment	Volume of municipal wastewater discharged after tertiary treatment	Type of element: non-common Datatype: decimal	

		per year. "Tertiary (advanced or more stringent) treatment" further removes nutrients (nitrogen and/or phosphorus) and/or any other pollutant affecting the quality or a specific use of water: microbiological pollution, colour, etc.	expressed as a fraction of volume [%] of treated municipal wastewater per year The sum of % of treated MWW receiving primary, secondary and tertiary must equal 100%.	Decimal precision: 2 Unit: % v/v Min. size: 3 Max. size: 5 Min. value: 0 Max. value: 100	
11.	Design_Capacity_Coast1	Total annual design capacity of functional facilities in the coastal areas (Million m^3/year)	Volume in million m^3 per year	Type of element: non-common Datatype: float Unit: Mm^3/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	rcaPlantsCapacity54
	Design_Capacity_Coast2	Total annual design capacity of functional facilities in P.E in the coastal (if volume not available)	Population Equivalent (p.e.)	Type of element: non-common Unit: p. e. Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
12.	Number_Coast_MWWTPs	Total number of functional Municipal Wastewater Treatment Plants that discharge directly in the Mediterranean Sea or in hydrological basins that flow into the Mediterranean.	Number	Type of element: common Datatype: integer Min. size: 1 Max. size: 6 Min. value: 0 Max. value: 100 000	
13.	Data_Collection_Method	Method of data collection.	Codes elements as defined in codelist vi.	Type of element: common Datatype: string Size: 1	
14.	Remarks	Remarks, comments or explanatory notes (free text).		Type of element: common Datatype: string Min. size: 0 Max. size: 4096	

Data table 3: Direct use of treated municipal wastewater at the National level

	Column Name	Column definition	Methodology	Data specifications	Equivalent in WISE if exist
1.	Country_Code	Country codes as defined in the codelist.	ISO 3166-alpha-2, Codes elements as defined in codelist: 0	Type of element: common Datatype: string Size: 2	
2.	Year_H2020	Year for which data is available	Use format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Current year	
3.	Total_Volume_Direct_Reuse	Total volume of direct reuse of municipal wastewater	Real measurement of treated wastewater intended to be reused	Type of element: common Datatype: float Unit: Mm^3/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
4.	Fraction_Primary_Treatment_Reuse	Fraction of used municipal wastewater subject to primary treatment per year. "Primary treatment" refers to physical and/or chemical process involving settlement of suspended solids, or other processes in which the BOD5 of the incoming waste water is reduced by at least 20% before discharge and the total suspended solids of the incoming waste water are reduced by at least 50%.	Fraction of used municipal wastewater after primary treatment expressed as a fraction of volume [%] of treated municipal wastewater per year	Type of element: non-common Datatype: decimal Decimal precision: 2 Unit: % v/v Min.size: 3 Max. size: 5 Min. value: 0 Max. value: 100	
5.	Fraction_Secondary_Treatment_Reuse	Fraction of used municipal wastewater subject to secondary treatment per year. "Secondary (biological) treatment" uses biological process to decompose most of the organic matter,	Fraction of used municipal wastewater after secondary treatment expressed as a fraction of volume [%] of treated municipal wastewater per year	Type of element: non-common Datatype: decimal Decimal precision: 2 Unit: % v/v Min. size: 3 Max. size: 5 Min. value: 0 Max. value: 100	

		resulting in the reduction of 70-90% of BOD5, and remove about 20 - 30% of the nutrients. Primary treatment alone does not remove ammonium, whereas the removal rate of ammonium by secondary (biological) treatment is around 75%			
6.	Fraction_Tertiary_ Treatment_Reuse	Fraction of used municipal wastewater subject to tertiary treatment per year. "Tertiary (advanced or more stringent) treatment" further removes nutrients (nitrogen and/or phosphorus) and/or any other pollutant affecting the quality or a specific use of water: microbiological pollution, colour, etc.	Fraction of used municipal wastewater after tertiary treatment expressed as a fraction of volume [%] of treated municipal wastewater per year	Type of element: non-common Datatype: decimal Decimal precision: 2 Unit: % v/v Min. size: 3 Max. size: 5 Min. value: 0 Max. value: 100	
7.	Total_Volume_Direct_ Reuse_Activity	Volume of direct reuse of municipal wastewater per type of activity	Codes elements as defined in codelist vii	Type of element: common Unit: Mm^3/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	dcpIrrigation *This value should be reported if part or all the treated waste water is reused. Report "R" in case of irrigation use of treated waste water outside the treatment plant site, "INF" in case reuse for groundwater recharge and other in case of other reuse outside the treatment*

					plant site.
8.	Data_Collection_ Method	Method of data collection.	Codes elements as defined in codelist vi	Type of element: common Datatype: string Size: 1	
9.	Remarks	Remarks, comments or explanatory notes (free text).		Type of element: common Datatype: string Min. size: 0 Max. size: 4096	

Data table 4: Release of nutrients from municipal effluents per catchment/ hydrological basin at the coastal area

	Column name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist.	ISO 3166-alpha-2, Codes elements as defined in codelist: 0	Type of element: common Datatype: string Size: 2	
2.	Hydrological_Basin	Name of catchment/ hydrological basin at the coastal area	Name of catchment/ hydrological basin at the coastal area	String codelist: 0 Type of element: common Datatype: string Size: 3	
3.	Year_H2020	Year for which data is available	Use format YYYY	Type of element: common Datatype: date Min. size: 4 Max. size: 4 Min. value: 2003 Max. value: Current year	
4.	Total_Pop_Coast_Hydro_Basin	Total population living in the coastal area and in the hydrological basins (catchment) of coastal areas	See Table D		
4.	Total_Population_≥2000 Inhabitants_Hydro_Coast	Total population in agglomerations ≥ 2000 inhabitants located within the hydrological basin of coastal areas and within coastal areas that discharge directly in the Mediterranean (in case total population in coastal areas and coastal hydrological basins is not available)	See Table D		
5.	Total_Population_≥2000 Inhabitants_Coa	Total population living in coastal agglomerations ≥	See Table D		

	st	2000 inhabitants			
6.	Total_UWW_Generated_Hydro_Coast	Estimated urban wastewater generated annually in both the coastal hydrological basin and in the costal agglomerations in p. e.	Sum of generated urban wastewater (in population equivalent) in the hydrological basins (catchments) of coastal areas and in the coastal agglomerations directly discharging into the coastal areas	Type of element: common Unit: p. e. Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
7.	Total_UWW_Generated_Coast	Estimated urban wastewater generated annually in the costal agglomerations in p. e.	Generated urban wastewater (in population equivalent) in the coastal agglomerations directly discharging into the coastal areas	Type of element: common Unit: p. e. Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
8.	Total_Volume_Discharged_MWWTP_Hydro_Coast	Total volume of urban wastewater discharged annually by WWTPs in the hydrological basin (catchment) of coastal area and directly in the coastal areas	Total treated and discharged volume of urban wastewater from existing Municipal WWTPs in the hydrological basin (catchments) of coastal areas and in the costal agglomerations	Type of element: non-common Datatype: decimal Unit: Mm^3/yr Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
9.	Total_Volume_Discharged_MWWTP_Coast	Total volume of urban wastewater discharged annually by WWTPs directly in the coastal areas	Total treated and discharged volume of urban wastewater from existing Municipal WWTPs in the costal agglomerations	Type of element: non-common Datatype: decimal Unit: Mm^3/yr Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	
10.	Estimated_BOD_Load_Treat	Estimated BOD load discharged annually from Municipal WWTPs	BOD loads from treated WWTP after primary, secondary and tertiary treatment	Type of element: common Datatype: decimal Unit: Ton/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	uwwBODDischargeMeasured *The value (either measured, calculated or estimated) should be reported for an UWWTP that has a design capacity*

					more than 100 000 p.e. (link to E-PRTR facility).
11.	Estimated_TN_Load_Treat	Estimated Total Nitrogen load discharged annually from Municipal WWTPs	TN loads from treated WWTP after primary, secondary and tertiary treatment	Type of element: common Datatype: decimal Unit: Ton/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	uwwNIncomingMeasured
12	Estimated_TP_Load_Treat	Estimated Total Phosphorus load discharged annually from Municipal WWTPs	TP loads from treated WWTP after primary, secondary and tertiary treatment	Type of element: common Datatype: decimal Unit: Ton/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	uwwPIncomingMeasured
13	BOD_Load_MWW_Untreated_Hydro_Coast	Estimated BOD load discharged annually from untreated MWW	Estimated BOD loads for wastewater discharged without treatment in the hydrological basin (catchments) of coastal areas and in the costal agglomeration. **Person load** BOD, g/person/d (15-80); COD, g/person/d (25-200)	Type of element: common Datatype: decimal Unit: Ton/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
14	TN_Load_MWW_Untreated_Hydro_Coast	Estimated TN load discharged annually from untreated MWW	Estimated TN loads for wastewater discharged without treatment in the hydrological basin (catchments) of coastal areas and in the costal agglomeration. **Person load** Nitrogen g/person/d (2-15)	Type of element: common Datatype: decimal Unit: Ton/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	rcaNDischarged54
15	TP_Load_MWW Untreated_Hydro_Coast	Estimated TP load discharged annually from MWW collected without treatment	Estimated TP loads for wastewater discharged without treatment in the hydrological basin (catchments) of coastal areas and in the costal agglomeration. **Person load**	Type of element: common Datatype: decimal Unit: Ton/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	rcaPDischarged54

			Phosphorus, g/person/d (1-3)		
16	Total_BOD_Load_Hydro_Coast	Total BOD load discharged annually from treated and untreated MWW	Total discharged BOD loads from treated and untreated wastewater originating in agglomerations (of size ≥2000) located in the hydrological basin of coastal areas and those directly discharging into the Mediterranean, as defined by the LBS Protocol	Type of element: common Datatype: decimal Unit: Ton/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
17	TN_Load_Hydro_Coast	Total Nitrogen load discharged annually from treated and untreated MWW	Total discharged Nitrogen loads from treated and untreated wastewater originating in agglomerations (of size ≥2000) located in the hydrological basin of coastal areas and those directly discharging into the Mediterranean, as defined by the LBS Protocol	Type of element: common Datatype: decimal Unit: Ton/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
18	TP_Load_Hydro_Coast	Total Phosphorus load discharged annually from treated and untreated MWW	Total discharged Phosphorus loads from treated and untreated wastewater originating in agglomerations (of size ≥2000) located in the hydrological basin of coastal areas and those directly discharging into the Mediterranean, as defined by the LBS Protocol	Type of element: common Datatype: decimal Unit: Ton/yr Min. size: 1 Max. size: 10 Min. value: 0 Max. value: 1000 000 000	
19	Data_Collection_Method	Method of data collection.	Codes elements as defined in codelist vi.	Type of element: common Datatype: string Size: 1	
20	Remarks	Remarks, comments or explanatory notes (free text).		Type of element: common Datatype: string	

				Min. size: 0 Max. size: 4096	

IND5. Dataset: Coastal and Marine Water Quality
Dataset definition

Policy theme	Nutrient concentrations
Short name	Nutrients
Indicators	**5.1 and 5.2**
Key words	Nutrient concentrations, bathing water quality
Spatial coverage	***Transitional waters***, ***Coastal waters*** and ***Marine waters***
Dataset relevance	This dataset is relevant for populating H2020 Water Indicators– see Annex 1. These indicators are directly linked to the Ecological Objectives 5 – Eutrophication and 9 – Contaminants, as they correspond to IMAP's common indicators 13 and 21, respectively.
Parameters	Mean TN and TP summer and winter, Seasonal aggregated (Winter and Summer) TN and TP, Spatial aggregated TN and TP, Station, Depth, Mean Orthophosphate (o-PO_4) concentration, mean Nitrate (NO_3) concentration, mean Ammonium (NH_4) concentration, mean Nitrate (NO_3) concentration, Number of bathing water sites in the Mediterranean and on Intestinal Enterococci (IE) concentrations at the coastal monitoring sites.
Methodology for obtaining data	Delivered by country
Planned update frequency	Every 1 year

Overview of data tables

Data table	Name	Definition	Short description
5.1.	Nutrient concentrations in transitional, coastal and marine waters	**Main indicator:** The levels and trends in total nitrogen (TN) and total phosphorus (TP) concentration in the transitional, coastal and marine waters of the Mediterranean Sea. **Sub-indicator:** These sub indicators (NO3, NO2, NH4, o-PO4) refer to the levels and trends in: nitrate, nitrite, ammonia and ortho-phosphate concentration in transitional, coastal and marine waters of the Mediterranean Sea. ***Transitional waters*** are surface waters in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by fresh waters ***Coastal waters*** are surface waters at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where	The Mediterranean Sea is one of the most oligotrophic (poor in nutrients) oceanic systems. However, some coastal hotspots receive excessive loads of nutrients from sewage effluents, river fluxes, aquaculture farms, fertilizers, and industrial facilities, resulting into intense eutrophic phenomena. This indicator reflects the concentration of key nutrients in the water column and provides information relative to eutrophication. It is a «state» indicator and can relate more directly to land-based sources of nutrients, in particular when assessed in combination with indicators 4.2.

		appropriate up to the outer limit of transitional waters. ***Marine waters*** are the part of the ocean that extends further to the coastal waters to the open seas	
5.2.	Bathing water quality	Percentage of intestinal enterococci concentration measurements in bathing water sites within established standards Limit values are (in CFU/100 mL)[6]: - <100 (excellent) - 101-200 (good) - 185 (sufficient) >185 (poor)	Tourism is an important component of socio-economic development in the Mediterranean region and therefore it is crucial to monitor the water quality of bathing sites to ensure the safety of public and visitors. Enterococci sp. has been demonstrated to be an appropriate indicator for faecal bacteria in brackish and marine waters and is known to be a good indicator for human pathogens in wastewater discharges.

Data table 1: Nutrient concentrations in transitional, coastal and marine waters (Station)

	Column Name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist.	ISO 3166-alpha-2, Codes elements as defined in codelist: 0	Type of element: common Datatype: string Size: 2	
2.	National_Station_ID	Station code	Use the former sampling guidelines provided by UNEP-MAP	Type of element: non-common Datatype: string Min. size: 0 Max. size: 255	
3.	National_Station_Name	Name of the station	Use the former sampling guidelines provided by UNEP-MAP	Type of element: non-common Datatype: string Min. size: 0 Max. size: 255	
4.	Longitude	Longitude in the reference system WGS84 decimal degrees	This is a required, not null field. Use the common geodetic datum WGS84. The bathing water must be located within country border.	Type of element: non-common Datatype: decimal Unit: decimal degrees Datatype: decimal Minimum size:7 Maximum size: 9 Minimum value: -180 Maximum value:	

[6] Methods on how to determine this are in the Annex I and II of the EC directive on Bathing Water (2006) http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32006L0007 and the Criteria and Standards for Microbial Water Quality (Decision IG.20/9) in the frame of the implementation of Article 7 of the LBS Protocol from the Barcelona Convention

				180 Decimal precision: 6	
5.	Latitude	Latitude in the reference system WGS84 decimal degrees	This is a required, not null field. Use the common geodetic datum WGS84. The bathing water must be located within country border.	Type of element: non-common Datatype: decimal Unit: decimal degrees Minimum size:7 Maximum size: 8 Minimum value: -90 Maximum value: 90 Decimal precision: 6	
6.	Closest_Coast	Distance from the station to the Coast (km)	Measured distance between the station point and closest coast	Type of element: non-common Datatype: decimal Unit: km Min. value: 0 Max. value: 1000	
7.	Sea_Depth	Depth of the Sea bed (m)	Measured distance between the Sea depth and the station point location	Type of element: non-common Datatype: decimal Unit: m Min. value: 0 Max. value: 1000	
8.	Mixing	Mixing characteristics of the water column in the station point, enter one of the values in the list (FM = Fully mixed, PM = Partially mixed, VS = Vertically stratified)	Degree of mixing of water column	Type of element: common Datatype: string Min. size: 2 Max. size: 2	
9.	Area_Type	Type of monitored area, enter one of the values in the list (HS = Hot spot, PSA = Protected Sea Area, LTER = Long Term Ecological Research Network, O = Other)	Type of station point	Type of element: common Datatype: string Min. size: 1 Max. size: 4	
10.	Remarks	Remarks, comments or explanatory notes (free text).		Type of element: common Datatype: string Min. size: 0 Max. size: 4096	

Data table 2: Nutrient concentrations in transitional, coastal and marine waters (Parameters)

	Column Name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist.	ISO 3166-alpha-2, Codes elements as defined in codelist: 0	Type of element: common Datatype: string	

				Size: 2	
2.	National_Station_ID	Station code	Use the former sampling guidelines provided by UNEP-MAP	Type of element: non-common Datatype: string Min. size: 0 Max. size: 255	
3.	Sampling_Time	Date and time of sampling	Use the format YYYY-MM-DD HH:MM	Type of element: common Datatype: date Min. size: 8 Max. size: 8 Min. value: 2003-01-01 Max. value: Current date	
4.	Sample_ID	Sample code in case multiple replicas are made with the same value of Year, Month, Day and Time	Use the former sampling guidelines provided by UNEP-MAP	Type of element: non-common Datatype: string Min. size: 0 Max. size: 255	
5.	Determinant_Nutrients	Name of the chemical-physical or nutrient parameter, enter one of the values in the codelist: v	Codelist v	Type of element: non-common Datatype: string Min. size: 0 Max. size: 10	
6.	Unit_Nutrients_Seawater	Unit of parameters according to codelist v	Codelist v	Type of element: common Datatype: string Min. size: 2 Max. size: 5	
7.	Concentration_Flag	Enter the value '<' if the concentration value is lower than the limit of quantification or the value '[' if the concentration value is lower than the limit of detection. In other cases leave the field empty.	Concentration status	Type of element: common Datatype: string Min. size: 2 Max. size: 5	
8.	Concentration	Concentration value	Codelist v	Type of element: non-common Datatype: decimal Unit: depends on the parameter (codelist v) Min. value: 0 Max. value: 1000	
9.	Sample_Depth	Depth of Sample collection (m)	Measured distance between the Sea depth and the station point location	Type of element: non-common Datatype: decimal Unit: m Min. value: 0 Max. value: 1000	
10.	Data_Collection_Method	Method of data collection.	Codes elements as defined in codelist vi.	Type of element: common	

				Datatype: string Size: 1	
11.	Remarks	Remarks, comments or explanatory notes (free text).		Type of element: common Datatype: string Min. size: 0 Max. size: 4096	

Data table 3: Bathing Water Quality

	Column Name	**Column definition**	**Methodology**	**Data specifications**	**Equivalent in WISE if exist**
1.	Country_Code	Country codes as defined in the codelist.	ISO 3166-alpha-2, Codes elements as defined in codelist: 0	Type of element: common Datatype: string Size: 2	
2.	Bathing_Water_Name	Name of bathing water.	Use the former sampling guidelines provided by UNEP-MAP	Datatype: string Minimum size: 1 Maximum size: 100	
3.	Short_Bathing_Water_Name	Short name of bathing water.	Must be ≤ 20 characters. If Bathing Water Name ≤ 20 characters it can be used for ShortBathingWaterName as well.	Datatype: string Minimum size: 1 Maximum size: 20	
4.	Bathing_Water_ID	Unique identification code of bathing water	This is a required, not null field. Must be unique according to each country guidance	Datatype: string Minimum size: 3 Maximum size: 24	
5.	Longitude	Longitude in the reference system WGS84 decimal degrees	This is a required, not null field. Use the common geodetic datum WGS84. The bathing water must be located within country border.	Datatype: decimal Maximum size: 9 Minimum value: -180 Maximum value: 180 Decimal precision: 4 Unit: decimal degrees	*Same coordinate system used in WISE*
6.	Latitude	Latitude in the reference system WGS84 decimal degrees	This is a required, not null field. Use the common geodetic datum WGS84. The bathing water must be located within country border.	Datatype: decimal Maximum size: 8 Minimum value: -90 Maximum value: 90 Decimal precision: 4 Unit: decimal degrees	*Same coordinate system used in WISE*
7.	Start_Date	Start date of the bathing season	This is a required, not null field. Format: YYYY-MM-DD (year-month -day); YYYY must be the same as attribute of Bathing_Sampling_Year (YYYY) Must be < End_Date	Datatype: date	
8.	End_Date	End date of the	This is a required, not null	Datatype: date	

		bathing season	field. Format: YYYY-MM-DD (year-month -day); YYYY must be the same as attribute of Bathing_Sampling_Year (YYYY) Must be > Start_Date		
9.	Bathing_Sampling_Time	Date and time of sampling	This is a required, not null field. Format: YYYY-MM-DD (year-month -day).	Datatype: date	
10.	Bathing_Classification_UNEP-MAP_Criteria_Standards	Classification of the bathing site according to the criteria and standards agreed for the Mediterranean[7]	% of samples < 100 CFU : Excellent water 101 – 200 CFU[8]: Good 185[9] CFU: Sufficient > 185[10]: Poor	Datatype: string Minimum size: 4 Maximum size: 100	Class
11.	Other_Bathing_Classification_Used	Classification of the bathing site when it differs from UNEP-MAP classification	Provide the used Criteria and Standards (please provide the reference document)	Datatype: string Minimum size: 4 Maximum size: 100	
12.	Concentration_IE	Measured concentration of intestinal enterococci per sample in "colony forming unit" per 100 ml (cfu/100ml).	This is a required, not null field. Minimum value is minimal detection limit. Zero value is replaced by minimal detection limit. Upper detection limit: 35000 with 2 dilutions for all methods.	Datatype: decimal Maximum size: 10 Maximum value: 35000 Unit: cfu / 100 ml	ConcIE *Same parameter, unit and protocol are used in WISE under the Directive 2006/7/EC*
13.	Concentration_EC	Measured concentration of *Escherichia coli* per sample in "colony forming unit" per 100 ml (cfu/100ml).	This is a required, not null field. Minimum value is minimal detection limit. Zero value is replaced by minimal detection limit. Upper detection limit: 35.000 with 2 dilutions for all methods.	Datatype: decimal Maximum size: 10 Maximum value: 35000 Unit: cfu / 100 ml	ConcEC *Same parameter, unit and protocol are used in WISE under the Directive 2006/7/EC*
14.	Remarks	Remarks, comments or explanatory notes		Datatype: string Type of element:	

[7] UNEP/MED, 2012. Decision IG.20/9 - Criteria and Standards for bathing waters quality in the framework of the implementation of Article 7 of the LBS Protocol. https://wedocs.unep.org/rest/bitstreams/8498/retrieve

[8] 95th percentile intestinal enterococci/100 mL (applying the formula 95th Percentile = antilog (μ + 1,65 σ)

[9] 90th percentile intestinal enterococci/100 mL (90th Percentile=antilog (μ + 1,282 σ), μ=calculated arithmetic mean of the log10 values; σ= calculated standard deviation of the log10 values

[10] 90th percentile intestinal enterococci/100 mL (90th Percentile=antilog (μ + 1,282 σ), μ=calculated arithmetic mean of the log10 values; σ= calculated standard deviation of the log10 values

		(free text).		common Min. size: 0 Max. size: 4096	

List of Country Code

Value	Definition
DZ	Algeria
EG	Egypt
IL	Israel
JO	Jordan
LB	Lebanon
LY	Libya
MA	Morocco
PS	Palestine
TN	Tunisia

ISO 3166-1-alpha-2 code
http://www.iso.org/iso/home/standards/country_codes/country_names_and_code_elements.htm

Codelist of Administrative Mediterranean Regions

Country	Region
Albania	Peqini
Albania	Vlora
Albania	Saranda
Albania	Delvina
Albania	Kavaja
Albania	Fieri
Albania	Kruja
Albania	Durres
Albania	Kurbini
Albania	Lushnja
Albania	Mallakastra
Albania	Elbasan
Albania	Shkodra
Albania	Lezha
Albania	Tirana
Algeria	El Tarf
Algeria	Tlemcen
Algeria	Ain Temouchent
Algeria	Oran
Algeria	Mostaganem
Algeria	Chlef
Algeria	Tipaza
Algeria	Alger
Algeria	Boumerdes
Algeria	Tizi Ouzou
Algeria	Bejaia
Algeria	Jijel

Algeria	Skikda
Algeria	Annaba
Bosnia Herzegovina	Costal Area - Neum
Bosnia Herzegovina	Trebisnjica
Bosnia Herzegovina	Cetina
Bosnia Herzegovina	Neretva
Croatia	Primorsko-Goranska
Croatia	Zadarska
Croatia	Licko-Senjska
Croatia	Sibensko-Kninska
Croatia	Istarska
Croatia	Dubrovacko-Neretvanska
Croatia	Splitsko-Dalmatinska
Cyprus	Cyprus
Egypt	Alexandria
France	Champagne-Ardenne
France	Franche-Comte
France	Herault
France	Alpes maritimes
France	Pyrenees orientales
France	Aude
France	Bourgogne
France	Provence-Alpes-Cote d'Azur
France	Gard
France	Corse
France	Bouches du Rhone
France	Rhone-Alpes
Greece	Aegean Islands
Greece	West Macedonia
Greece	West Continental Greece
Greece	West Peloponnes
Greece	North Peloponnes
Greece	Attica
Greece	East Peloponnes
Greece	Epirus
Greece	Thrace
Greece	East Macedonia
Greece	East Continental Greece
Greece	Crete
Greece	Central Macedonia
Greece	Thessalia
Israel	Israel
Italy	Puglia

Italy	Umbria
Italy	Veneto
Italy	Toscana
Italy	Lombardia
Italy	Valle d Aosta
Italy	Liguria
Italy	Friuli
Italy	Molise
Italy	Marche
Italy	Sardegna
Italy	Trentino
Italy	Emilia Romagna
Italy	Abruzzo
Italy	Calabria
Italy	Piemonte
Italy	Basilicata
Italy	Lazio
Italy	Sicilia
Italy	Campania
Lebanon	Lebanon
Libya	Alnigat Alkhams
Libya	Sirt
Libya	Ajdabiya
Libya	Tripoli
Libya	Dernah
Libya	Azzawiya
Libya	Al jifarah
Libya	Al batnan
Libya	Misratah
Libya	Al Khums
Libya	Benghazi
Libya	Alnigat ilkamse
Malta	Malta
Montenegro	Budva
Montenegro	Ulcinj
Montenegro	Tivat
Montenegro	Kotor
Montenegro	Herceg Novi
Montenegro	Bar
Morocco	Nador
Morocco	Tanger
Morocco	Tetouan

Palestine	Wadi Gaza
Slovenia	Slovenia
Spain	Barcelona
Spain	Alava
Spain	Cuenca
Spain	Huesca
Spain	Alicante
Spain	Albacete
Spain	Burgos
Spain	Granada
Spain	Valencia
Spain	Lleida
Spain	Girona
Spain	Malaga
Spain	Tarragona
Spain	Baleares
Spain	Navarra
Spain	Murcia
Spain	Zaragoza
Spain	Melilla
Spain	Rioja
Spain	Teruel
Spain	Soria
Spain	Cantabria
Spain	Cadiz
Spain	Almeria
Spain	Castellon
Syria	Tartous
Syria	Lattakia
Tunisia	Gabes
Tunisia	Sfax
Tunisia	Bizerte
Tunisia	Mahdia
Tunisia	Sousse
Tunisia	Ariana
Tunisia	Nabeul
Tunisia	Ben Arous
Tunisia	Monastir
Tunisia	Medenine
Tunisia	Tunis
Turkey	Denizli
Turkey	Hatay
Turkey	Antalya

Turkey	Kahramanma
Turkey	Isparta
Turkey	Manisa
Turkey	Mugla
Turkey	Usak
Turkey	Icel
Turkey	Kutahya
Turkey	Osmaniye
Turkey	Afyon
Turkey	Izmir
Turkey	Balikesir
Turkey	Canakkale
Turkey	Aydin
Turkey	Adana

Hydrological basins per country codelist

Type: Suggested

Catchment/ hydrological basin at the coastal area	**Country code**
	DZ
	EG
	IL
	JO
	LB
	LY
	MA
	PS
	TN

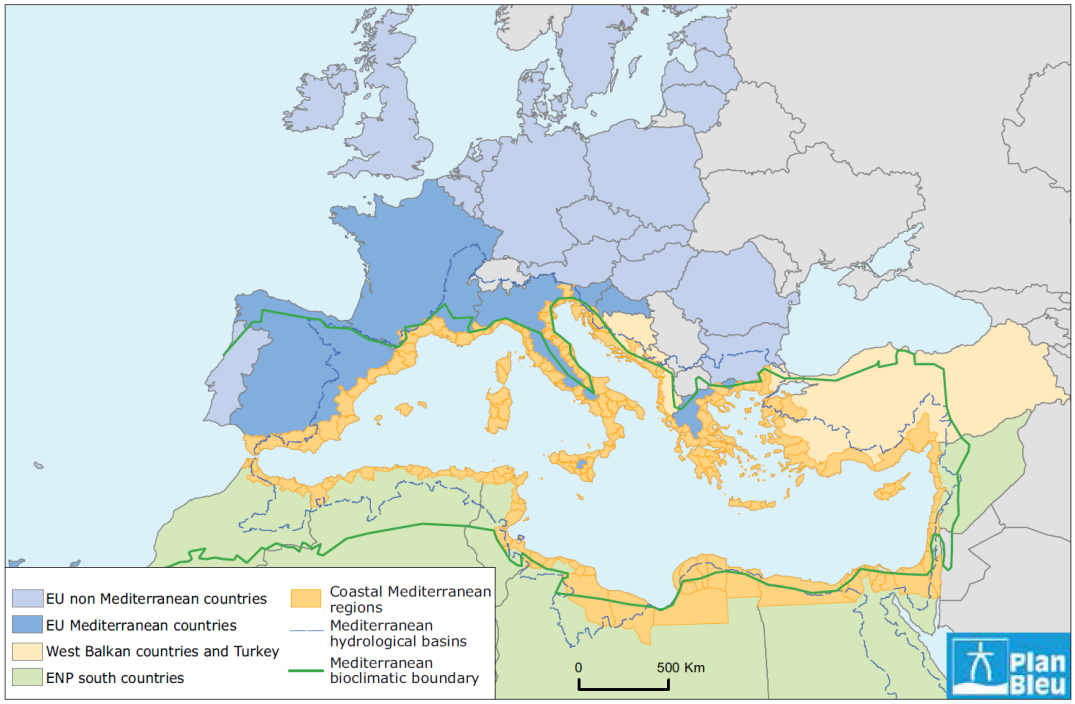


Figure 1. Coastal hydrological basins draining into the Mediterranean Sea

Unit of measurement codelist and abbreviations

Type: Suggested

Value	Definition
Mm^3/yr	Volume in million m^3 per year of collected municipal wastewater
Mm^3/yr	Volume in million m^3 per year of municipal wastewater treated
% v/v	volume of municipal wastewater treated by primary, secondary or tertiary treatment divided by treated municipal wastewater
p. e.	Population Equivalent
MWW	Municipal Waste Water
cfu	Colony-forming Unit

List_parameters_Chemical-Physics

Value	Description
Temperature (water)	Water temperature expressed in degree Celsius (Cel)
Salinity	Practical Salinity Unit (psu)
Electrical conductivity	Electrical conductivity in Siemens per meter (S/m)
Dissolved oxygen	Dissolved oxygen (µmol O2/l)
Oxygen saturation	Oxygen saturation expressed in percentage of saturation (%)
pH	pH
Chlorophyll a	Chlorophyll a (µg/l)
Secchi depth	Secchi depth (m)
Nitrate	Milligram of Nitrate per litre (mg{NO3}/L)
Nitrite	Expressed in mass of Nitrite per volume (mg{NO2}/L). Conversion factor: 1

	mg{N}/L = 3.2845 mg{NO2}/L
Ammonium	Expressed in mass of Ammonium per volume (mg{NH4}/L). Conversion factor: 1 mg{N}/L = 1.2888 mg{NH4}/L
Total phosphorus	Total phosphorus Expressed in mass of Phosphorus per volume (mg{P}/L).
Orthophosphates	Expressed in mass of Phosphate per volume mg{PO4}/L. Conversion factor: 1 mg{P}/L = 3.0662 mg{PO4}/L
Total nitrogen	Expressed in mass of Nitrogen per volume (mg{N}/L).
Silicate	Silicate expressed in mass of Silicate per volume mg{SiO3}/L. Conversion factor: 1 mg{Si}/L (Silicon) = 2.7090 mg{SiO3}/L

Method of data collection codelist

Type: Suggested

Value	Definition	Short description
C	Calculated	
E	Estimated	
M	Measured	

Volume of direct reuse of municipal wastewater per type of activity codelist

Type: Suggested

Value	Definition	Short description
Agri	Agriculture irrigation (e.g. food crops)	
Aqua	Aquaculture and fish ponds	
Dual	**Dual water supply systems for urban non-potable use (toilet flushing, garden use)**	
Indu	Industrial processes, water for manufacturing and construction industry (cooling and process water)	
Recr	**Recreation (e.g. recreational water bodies, irrigation of areas for sports, etc.)**	
Rech	Aquifer recharge (e.g. through injection wells for saline intrusion control)	
Rest	**Water restoration and recreation of existing or creating new aquatic ecosystems**	
Urba	**Irrigation of public gardens and landscape, firefighting, street washing, dust suppression, etc.**	
Other	Other purposes	

Table D

Methodology	Data specifications	Equivalent in WISE if exist
The population as of the reference year (Year_H2020)	Type of element: non-common Datatype: integer Unit: inhabitants Min. size: 1 Max. size: 10 Min. value: 1 Max. value: 1000 000 000	

Report/1st ENI SEIS II South Support Mechanism Regional Meeting on Data management and Infrastructure

Annex IV

List of H2020 Indicators

1. Industrial Emission Indicators

No.	Title of indicator	Sub-indicators
IND 6.1	Release of nutrients from industrial sectors	6.1.1) Total BOD load discharged from industrial installations to the Mediterranean marine environment. 6.1.2) Total Nitrogen load discharged from industrial installations to the Mediterranean marine environment. 6.1.3) Total Phosphorus load discharged from industrial installations to the Mediterranean marine environment.
IND 6.2	Release of toxic substances from industrial sectors	6.2.1) Total heavy metals load discharged from industrial installations to the Mediterranean marine environment. 6.2.2) Furans and dioxins load discharged from industrial installations to the Mediterranean marine environment. 6.2.3) Polycyclic aromatic hydrocarbons (PAH) load discharged from industrial installations to the Mediterranean marine environment. 6.2.4) Volatile organic compounds (VOC) load discharged from industrial installations to the Mediterranean marine environment.
IND 6.3	Industrial hazardous waste disposed in environmentally sound manner	6.3.1) Total quantity of generated hazardous waste from industrial installations. 6.3.2) Quantity of industrial hazardous waste disposed in environmentally sound manner relative to total quantity of generated hazardous waste from industrial installations.
IND 6.4	Compliance measures aiming at the reduction and/or elimination of pollutants generated by industrial sectors	6.4.1) Number of industrial installations reporting periodically loads of pollutants discharged to the marine and coastal environments relative to the total number of industrial installations. 6.4.2) Number of environmental inspections carried out by enforcement authorities in which industrial installations were found to be in breach of laws and regulations relative to the total number of executed inspections. 6.4.3) Number of eliminated hotspots identified in the updated NAPs relative to the 2001 and 2015 baselines

2. Waste Indicators

No.	Title of indicator	Sub-indicators
IND 1	Municipal Waste Generation	IND 1.A Municipal waste composition; IND 1.B Plastic waste generation per capita; IND 1.C % of population living in Coastal Areas; IND 1.D % of Tourists in Coastal Areas / Population in Coastal Areas
IND 2	"Hardware" of waste management	IND 2.A Waste Collection IND 2.A.1 Waste Collection Coverage IND 2.A.2 Waste Captured by the formal waste sector. IND 2.B Environmental Control IND 2.B.1 % of waste to uncontrolled dumpsites IND 2.B.2 Uncontrolled dumpsites in Coastal Areas IND 2.B.3 Waste going to dumpsites in Coastal Areas IND 2.C Resource Recovery IND 2.C.1 % of plastic waste generated that is recycled.
IND Q[11]	"Software" of waste management	3.Q.A MARINE LITTER & WASTE MANAGEMENT FRAMEWORK IND Q.A.1 Is there a National Assessment for ML and its impacts? IND Q.A.2 Is there a National Plan or Strategy for ML? IND Q.A.3 Is there a National Plan or Strategy for Waste Management? IND Q.A.4 Is there a National Law on Waste? IND Q.A.5 Is there a national plan or target to close the dumpsites before 2030? IND Q.A.6 Is there a National Information system for waste management in place? Q.B RESOURCE RECOVERY IND Q.B.1 Is there a National Plan or Strategy for Waste Prevention? IND Q.B.2 Are there mandatory targets for recycling - recovery of packaging waste? IND Q.B.3 Are there EPR or Deposit- Return schemes for packaging waste? IND Q.B.4 Are there national policies to eliminate or reduce single-use plastics? IND Q.B.5 Are there financial incentives for reuse – resource recovery activities? Q.C SUSTAINABLE CONSUMPTION AND PRODUCTION

[11] The meeting decided to change the name of this indictor as IND Q(uestion) due to identical name with Indicator 3 (Assess to Sanitation). For further details please refer to the Report of the Meeting (1st Workshop on Data and Infrastructure, 04-05 October 2018, Rome)

		IND Q.C.1 Are there Sustainable Consumption and Production plans or strategies? IND Q.C.2 Are there green procurement rules for the public sector in place? IND Q.C.3 Are there policies to support sustainable tourism? IND Q.C.4 Are there policies to support eco-labelling and eco-design?

3. Water Indicators

No.	Title of indicator	Sub-indicators
IND3	Access to sanitation	3.1 Share of total, urban and rural population with access to an Improved Sanitation System (ISS) 3.2 Proportion of population using Safely Managed Sanitation Services (SMSS)
IND4	Municipal Wastewater Management	4.1 Municipal wastewater collected and wastewater treated 4.2 Direct use of treated municipal wastewater 4.3 Release of nutrients from municipal wastewater
IND5	Coastal and Marine Water Quality	5.1 Nutrient concentrations in transitional, coastal and marine waters 5.2 Bathing water quality

Annex V
Plan of the country visits/technical assistance

Supporting Countries in SDI implementation: from mid January 2019 to June 2019:

- SDI Users Model A: training via Webinar on the use of SDI

- SDI Users Model B: Country visits in order to check the compatibility of the SDIs. Proposed date by INFO/RAC:

  - Morocco: 28 January 2019
  - Jordan: 11 February 2019
  - Algeria: Beginning of March 2019

Each Country needs to communicate to INFO/RAC their availability for the support, in order to better organize the training and the country visits