Series of SDG Webinars for the Arab Region:
UNEP
SDG 6.3.2, 8.4.1/12.2.1, 8.4.2/12.2.2, 12.1.1, 12.3.1(b), 12.4.2/12.5.1, 12.6.1, 12.7.1, 12.c.1, 14.1.1, 14.2.1, 17.7.1 and 17.14.1

An Interagency and Experts Collaboration to Improve the Production and Dissemination of SDG Indicators from Official National Sources

25- 27 May and 7-10 June 2021

Report of the Meeting

Contents

BACKGROUND

The need to improve the production and dissemination of reliable comparable, and timely data on SDG

In September 2015, the United Nations General Assembly adopted consensus Resolution 70/1: Transforming our world: the 2030 Agenda for Sustainable Development (the 2030 Agenda). The Resolution reaffirms the need for the strengthening of national data systems through "collaboration between national statistical systems and the relevant international and regional organizations to enhance data reporting channels and ensure the harmonization and consistency of data and statistics for the indicators used to follow up and review the Sustainable Development Goals and targets."

The resolution also urges countries, the specialized agencies, the regional commissions, and the Bretton Woods institutions, among others, "to intensify their support for strengthening data collection and statistical capacity-building, including capacity-building that strengthens coordination among national statistical offices." Moreover, the resolution "Urges international organizations to base the global review on data produced by national statistical systems and, if specific country data are not available for reliable estimation, to consult with concerned countries to produce and validate modeled estimates before publication, urges that communication and coordination among international organizations be enhanced to avoid duplicate reports, ensure consistency of data and reduce response burdens on countries, and urges international organizations to provide the methodologies used to harmonize country data for international comparability and produce estimates through transparent mechanisms."

Five years after adopting the 2030 Agenda, several countries are facing considerable challenges in monitoring targets in many policy areas. The current COVID-19 pandemic highlights the value of measuring and monitoring: no strategy can be developed, and no measure can be implemented without a proper monitoring and evaluation system.

Many countries in the Arab region are reporting on SDG indicators; however, reporting on the progress on many SDG indicators remains limited. Insufficient availability and quality of statistical information on SDG indicators hamper the capacity of policymakers to generate evidence-based and effective policy responses and implement the 2030 Agenda.

Translating these recommendations and resolutions into tangible results is imperative and will require intensive collaboration at the national, regional, and global levels. Regional Commissions' Statistical bodies "are the nexus between the Statistical Commission at the global level and the implementation at the national level of the norms endorsed by the Commission. In the context of the 2030 Agenda, the support provided by the regional commissions to assist the Member States in adapting, implementing, and measuring progress towards the implementation of national development plans is of particular significance as it influences the quality of statistics and methodologies used, as well as the use of new and innovative methodologies and sources of data, known as the transformative agenda for official statistics. The regional commissions carry out activities to strengthen the capacity of Member States to produce, use and dissemination official statistics and also provide a regional platform for sharing experiences and practices in statistics work[1]."

[1] Source: Relevance and effectiveness of the statistical work of regional commissions - thematic evaluation of regional commissions, Committee for Programme and Coordination, 57th session, April 2017 (E/AC.51/2017/8)

Interagency and Experts Collaboration- ESCWA & UNEP

In this context, the Economic and Social Commission for Western Asia (ESCWA) implemented an assessment of data disseminated through the UNSD SDG Global database and those in national SDG official sources to identify those less produced, disseminated, or less understood by national statistical offices (NSOs), and are more available in UN Agencies' and UNSD databases.

Based on the assessment results, ESCWA, in collaboration with United Nations Environment Programme (UNEP), met on 24 March 2021 to discuss the organization of a joint webinar to build capacities of Arab countries to produce and disseminate indicators 6.3.2, 8.4.1/12.2.1, 8.4.2/12.2.2, 12.1.1, 12.3.1 (b), 12.5.1,12.6.1, 12.7.1, 12.c.1, 14.1.1, 14.2.1, 17.7.1 and 17.14.1

OBJECTIVE- WHY?

ESCWA and UNEP jointly organized a series of webinars on selected SDG indicators that are less produced/disseminated in the Arab region to create a common understanding among data producers on how to collect, measure, and disseminate SDG indicators to increase data availability and enhance national data flow to national policy makers, regional users, including the custodian agency.

The main objectives of the regional training are:

- Enhancing understanding of metadata and nature of data in the UNSD SDG database.
- Improving statistical capacities to invigorate production and use of comparable SDG indicators.
- Strengthening inter-institutional coordination to invigorate production of SDG indicators and data flow.
- Sharing and discussing country challenges in measuring SDG indicators

TARGET AUDIENCE - WHO?

The meeting was attended by 70 representatives from 19 national statistical offices, namely: Bahrain, Comoros, Egypt, France, Iraq, Jordan, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Switzerland, Tunisia, United Arab of Emirates and Yemen.

SCHEDULE AND LANGUAGE– PLATFORM?

The regional training was held from 25 to 27 May and from 7 to 10 June 2021 on Zoom (Agenda attached) with simultaneous interpretation in English and Arabic.

OUTCOME- FINDINGS AND RECOMMENDATIONS

The participants from NSOs and other relevant stakeholders were familiarized with concepts, methods including data flow and dissemination channels. The webinar encouraged interactive dialogue, and participants were invited to share national experiences in data collection and dissemination, including challenges and concerns. Presentations to the meetings were made available in the Arabic and English languages. A record of the discussions is provided in Annex on Q&A of this report. The full webinar proceedings were recorded to develop training materials.

14.1.1a. Index of coastal eutrophication

Eutrophication ["التخثث" or "الاثراء الغذائي" (official Arabic translation)] is defined as the phenomena when the environment becomes enriched with nutrients, increasing the amount of plant and algae growth to estuaries and coastal waters due to human activity. Coastal eutrophication can lead to serious damage to marine ecosystems, vital sea habitats and can cause the spread of harmful algal blooms. Rivers are among the most important drivers of eutrophication, as they influence coastal ecosystem dynamics through freshwater flow and the transport of nutrients and organic matter. This chain of reactions is initiated with fertilizers that seep into the surface water, some of which may have been warmed by climate change. As a result, the proliferation of hypoxic conditions (reduced amounts of oxygen available for animals) and increases of CO2 produced, which in turn increases acidification that lowers the pH of seawater. Acidification slows the growth of fish and shellfish and can prevent shell formation in bivalve mollusks. As a result, there will be reduced catches for commercial and recreational fisheries, a smaller harvest, and more expensive seafood.

There are four main types of indicators for coastal eutrophication: Indicators of the cause of eutrophication (nutrient input and concentrations), indicators of the direct effects of eutrophication (e.g., Chlorophyll-a concentrations, biomass growth, water clarity/turbidity), indicators of the indirect effects of eutrophication (e.g., dissolved oxygen levels), and modeled indicators of the potential for coastal eutrophication (the Index of Coastal Eutrophication Potential (ICEP)), based on analyzing nutrient load ratios and expected influence on eutrophication due to land-based activities.

SDG14.1.1a Index of coastal eutrophication is important to establish appropriate measures to maintain (or recover) the good environmental status (GES) of freshwater and marine area. This indicator assumes that excess nitrogen or phosphorus relative to silica will increase the growth of potentially harmful algae (ICEP>0 measured in Kg of carbon per square kilometer per day). The indicator can be further developed by incorporating in situ monitoring to evaluate the dispersion of nitrogen, phosphorous, and silica concentrations to ground-truth the index.

The process for this indicator is managed through Regional Seas Programme, NOAA, GEO Blue Planet, Global Nutrient Management System (GNMS) at two levels:

- Level 1: Globally available data from earth observations and modeling through ICEP model or Chlorophyll-A deviation modeling**.**
- Level 2: National data in situ collected from countries monitoring of nutrients or National ICEP modeling through the relevant Regional Seas Programme, where applicable (i.e., for Regional Seas Programme member countries).

Monitoring parameters	Level 1	Level 2	Level 3	Reporting Frequency
Indicator for Coastal Eutrophication Potential (N and P loading)	X			Five years
Chlorophyll-a deviations (remote sensing)	X			Annual
Chlorophyll-a concentration (*remote sensing and in situ*)		X		
National modelling of indicator for Coastal Eutrophication Potential (ICEP)		X		4 years (aligned with Regional Seas)
Total Nitrogen of DIN (dissolved inorganic nitrogen)		X		
Total Phosphorus or DIP (dissolved inorganic phosphorus)		X		
Total silica		X		
Dissolved oxygen			X	NA
Biological/chemical oxygen demand (BOD/COD)			X	NA
Total organic carbon (TOC)			X	NA
Turbidity (remote sensing)			X	NA
River parameters from SDG 6.3.2			X	NA
Other water parameters (O_2 % saturation, Secchi depth, river discharge, salinity, temperature, pH, alkalinity, organic carbon, toxic metals, persistent organic pollutants)			X	NA
Microalgal growth, harmful algal blooms, submerged aquatic vegetation coverage, biodiversity and hypoxia			X	NA

** Level 3 is related to supplementary data.*

Global coverage is conducted monthly and reported annually by the agencies based on available satellite imagery. For the Chlorophyll A deviation and anomalies, a monthly mean product is used, so the daily measurements are aggregated into monthly averages using remote sensing data, which is aggregated yearly.

Level 1 data is estimated from global remote sensing or global modeling, which requires validation from countries. Countries may implement ground-truthing through field measurements to check if it agrees with their understanding of the situation. Level 2 data on the index of eutrophication are provided directly from countries through UNEP Regional Seas Programme.

The main sources of data are Satellite data, Global models, and national government. However, because this is a new indicator, none of the 22 countries have submitted any data yet. Therefore the agency made estimates for 21 countries as shown in the SDG Global database. Countries may want to use estimated data in their SDG reports and dashboards.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in a national platform
14.1.1 (a) Index of coastal eutrophication	0	21 (E): Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Somalia, State of Palestine, Sudan, Syrian Arab Republic, Tunisia, UAE, Yemen	

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available

UAE experience:

1) There are different kinds of terms used to Coastal eutrophication in the Arabian Gulf, one of them is "المد الأحمر". The time of its occurrence cannot be determined; it does not have a specific season. In addition, the Arabian Gulf is a closed sea, and therefore has limited access to freshwater and the potential of carrying any nutrient into the basin unlike the Gulf of Mexico. Eutrophication could take place in shallow lakes that are not controlled, not natural bodies and not connected to the sea.
2) In UAE there are several agencies responsible for monitoring the quality of marine waters: local agencies and the Ministry of Climate Change and Environment work together with the marine research department and the fisheries department.
3) There are challenges in UAE since it's a federal government, local governments are independent and therefore are not working together and sharing information.

Recommendations for Countries:

- Countries with some experience in data collection and have some coordination with ministries are invited to pilot UNEP data validation and satellite imagery.
- NSOs are to collaborate with GIS departments to identify focal points to provide available satellite imageries and remote sensing maps
- NSOs are encouraged to engage in ground truthing process and in integrating population and urbanizations data from population and housing census whether GIS based or not to have insights on the sources of eutrophication in relation to activities of people or industries.
- Countries to report on the spatial boundaries of their ICZM plans and the implementation stage as core parameters.

Recommendations for ESCWA/UNEP:

- UNEP to provide training on data science to enable countries on how use maps and satellites imagery and to use the model provided for this indicator.
- ESCWA to follow up with countries to nominate focal points from recommended sources of data.

14.1.1b. Plastic debris density

Plastic pollution is the most widespread problem affecting marine environment. It also threatens ocean health, food safety and quality, human health, coastal tourism, and contributes to climate change. It is estimated that 1.15 to 2.41 million tonnes of plastic are entering the ocean each year from rivers.

According to UNESCO's Intergovernmental Oceanographic Commission (IOC-UNESCO) there are also four main types of indicators for marine litter:

1. Plastic debris washed/deposited on beaches or shorelines (beach litter),
2. Plastic debris in the water column,
3. Plastic debris on the seafloor/seabed,
4. Plastic ingested by biota (e.g. sea birds).

The data collection process is managed through the Regional Seas Programme, NOAA, GEO Blue Planet, Global Nutrient Management System (GNMS) at two levels:

- Level 1: Globally available data from earth observations and modelling.

  It includes plastic patches greater than 10 meters for which satellite-based global data products are available as one source of statistical data (NASA and ESA). It also includes beach litter originating from national land-based sources. Data are collected using beach surveys following standardized monitoring protocols and guidelines (see Resources section).

  It is important to consider the timing for implementing those surveys in order to have effective surveys. There are two main types of beach surveys beaches: the rapid assessment surveys (best conducted in response to natural disasters, to build a baseline for future surveys and/or to identify beach litter hotspots), and routine shoreline monitoring. For the latter, the average count of plastic items can be computed for each area sampled and a geospatial model is recommended in order to estimate the density across the coastline and establish a national average.

- Level 2: National data will be collected from countries (through the relevant Regional Seas Programme, where applicable (i.e. for countries that are a member of a Regional Seas Programme). Data on plastic in the sea, floating plastic, and plastic on the sea floor (average count of plastic items per km2) is done through *in situ* monitoring.

Monitoring parameters (and methods)	Level 1	Level 2	Level 3	Reporting Frequency
Plastic patches greater than 10 meters*	X			Annual
Beach litter originating from national land-based sources	X			Two years
Beach litter (beach surveys)		X		4 years (aligned with Regional Seas)
Floating plastics (visual observation, manta trawls)		X		
Water column plastics (demersal trawls)		X		
Seafloor litter (benthic trawls (e.g. fish survey trawls), divers, video/camera tows, submersibles, remotely operated vehicles)		X		
Beach litter microplastics (beach samples)			X	
Floating microplastics (manta trawls, e.g. Continuous Plankton Recorder)			X	
Water column microplastics (demersal plankton trawls)			X	
Seafloor litter microplastics (sediment samples)			X	
Plastic ingestion by biota (e.g. birds, turtles, fish)			X	
Plastic litter in nests			X	
Entanglement (e.g. marine mammals, birds)			X	
Plastic pollution potential (based on the use and landfilling of plastics)			X	
River litter			X	
Other parameters related to plastic consumption and recycling			X	
Health indicators (human health and ecosystem health)			X	

**Level 3 is supplementary data*

To report on this indicator, countries must first identify the national authority responsible for gathering data and reporting on marine pollution and the agency/ organization responsible for implementing beach litter surveys. The GESAMP Guidelines explain two main types of surveying beaches including rapid assessment surveys and routine shoreline monitoring. Rapid assessment surveys are best conducted in response to natural disasters, to build a baseline for future surveys and/or to identify beach litter hotspots. Routine shoreline monitoring is also important because it provides insight to beach litter accumulation in a particular location. It is best to identify national needs and then define the approach to accommodate those needs (GESAMP 2019). Beach litter monitoring programmes should address the following monitoring parameters and key questions as shown in box.

Monitoring questions	Monitoring parameters
Are litter management/mitigation strategies effective?	Litter quantity (counts/weight) and change through time
What are the sources and activities leading to production of marine litter?	Litter categories (indicator items of certain types of uses), disaggregated by gender where possible
Is there a threat to marine biota and ecosystems?	Litter categories (indicator items that may present specific risks to wildlife)

The main sources of data are Satellite data through Global models and from national governments. UNEP has made estimation for only nine countries out of the 22 Arab countries. Beach litter data from Citizen Science were reported in February 2021**.** In situ data will be collected directly from countries later this year.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in national platform
14.1.1 (b) plastic debris density	0	9 (E): Algeria, Egypt, Kuwait, Lebanon, Morocco, Oman, Qatar Tunisia, UAE,	

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available

Algeria experience:

1) The Algerian coastal strip extends over 16,000 km and in which marine and coastal litter is a big problem because of the population concentration on one hand and industrial and economic activities on the other hand. This pressure has direct repercussions on the marine environment through the flow of rivers, coastal washing, and the disposal of all types of waste towards the sea, which poses environmental, social, and economic problems.
2) Waste management in coastal municipalities is the responsibility of local authorities, however, the Ministry of Environment has established a subsidiary supervisory body to develop a forward-looking vision regarding the state of the environment and anticipate solutions. Therefore, the National Waste Agency was mandated to locate and eliminate illegal dumps as well as support local communities to improve waste management in their lands. Also, the Ministry, through this agency, has developed two tools; a “green number”, and a mobile application, in order to transmit citizens' complaints from the field of waste improvement in all places. There is also the National Coastal Governorate, whose mission is to implement the national strategy for the protection, preservation, and enhancement of coastal areas.
3) The National Waste Agency launched a seasonal campaign to monitor coastal waste and followed it in three pilot areas in the Middle, East and West as a complement to the classification campaigns launched by the custodian ministry. This campaign highlighted the following indicators: the composition of marine litter, the most common sources of marine litter and waste on beaches, and the share of single-use plastics. In 2008, Algeria signed the Protocol on Integrated Management in Coastal Areas in the Mediterranean, which was implemented in 2011. The responsible agency is the Environmental Ministry.

14.2.1 Number of countries using ecosystem-based approaches to managing marine areas

The indicator refers to the management of exclusive economic zones using ecosystem-based approaches. From an ecological perspective, ecosystem approaches consider the connections between the living organisms, habitats, physical and chemical conditions within an ecosystem, focusing on the importance of ecological integrity, biodiversity and overall ecosystem health. For this approach, OSPAR (Northeast Atlantic) and UNEP-MAP (Mediterranean Sea) are using ecological indicators to monitor and assess the implementation of the ecosystem approach. The OSPAR indicators are in line with the descriptors of ‘good environmental status’ which are used to assess ecosystem-based marine management under the EU Marine Directive.

From a management perspective, ecosystem-based approaches refer to integrated management strategies for socio-ecological systems that consider ecological, social and economic factors and apply principles of sustainable development. It includes the implementation status of marine area-based, integrated planning and management approaches, such as Marine/Maritime Spatial Planning (MSP) or Integrated Coastal Zone Management (ICZM).

Regional Seas Programme/Organisation	**Indicator/assessment criteria**
OSPAR	Ecological indicators that are in line with MSDF Descriptors of good environmental status
HELCOM	HELCOM indicator for maritime spatial planning: Number of countries having maritime spatial plans coherent across borders and applying the ecosystem approach
UNEP-MAP	Common Indicators (ecological indicators)
NOWPAP	Mid-Term Strategy 2018-2023 Objective: NOWPAP countries increasingly apply ecosystem-based approach to planning and management as a basis to achieve healthy and productive coastal and marine ecosystems. Outcomes/ Expected Accomplishments for this priority area: • NOWPAP member states are developing and applying ecosystem-based management policies, tools and practices to support sustainable development of coastal zones and the marine environment. • Planning and decision-making processes for ICZM and MSP by NOWPAP member states recognize inter-connectedness between the land and the sea and promote cross-sectoral cooperation. • Planning mechanisms, including integrated water resources management, ICZM and MSP in NOWPAP member states contribute to reduced pressures on the coastal and marine environment.
EU MSFD (Marine Directive)	Descriptor of good environmental standard (ecological indicators)

The methodology only measures the policy formulation and not policy implementation and consists of three steps:

- **Step One** – Identify national authorities/ agencies/organizations responsible for coastal and marine/maritime planning and management.
- **Step Two -** Identify and spatially map the boundaries of ICZM plans or other plans at national, sub-national and local level. Coordinate with the national authorities/ agencies/organizations responsible for coastal and marine/maritime planning and management to complete a questionnaire on the ICZM plans (Shipman and Petit 2014).
- **Step three -** Determine the status of implementation of each plan, and categorize the spatial map according to implementation stages:

    1. Initial plan preparation
    2. Plan development
    3. Plan adoption/designation
    4. Implementation and adaptive management

Regional Seas Programme requires countries to complete a questionnaire every five years. For those countries that are not members in the Reginal Seas Programme will be contacted directly by UNEP to complete a questionnaire. The spatial maps developed in step two are used to calculate the proportion of national waters or national exclusive economic zone, covered by relevant plans. The first cycle of data collection will be initiated in 2021, so far, no country has reported on this indicator.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in national platform
14.2.1 Number of countries using ecosystem-based approaches to managing marine areas	0	0	

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available

Recommendations for Countries:

- NSOs to be included in the data flow processes between national and global levels.
- Countries will be requested to nominate a technical focal point officer for data collection.
- Countries to establish communication channels between the NSOs and focal points.
- Countries to use the ocean manual as a guideline for data collection.

Recommendations for ESCWA/UNEP:

- UNEP to share with ESCWA the list of national focal points reporting on regional seas.
- ESCWA/UNEP in collaboration with NSOs will work together to establish a data flow structure and focal points.
- UNEP to provide capacity training to officially nominated national focal points.
- UNEP will provide a link to a new dashboard on methodology for calculating the indicators .

6.3.2 Proportion of bodies of water with good ambient water quality

There are benefits in establishing a national water quality monitoring network, including collecting data and analyzing it for the sustainable management of water resources at the national and local level. Effective water management needs reliable water quality information. No information, or inaccurate information, could lead to incorrect management actions, such as:

- Lack of appropriate controls on discharges to waterbodies
- Inadequate treatment to waters used for drinking water supplies
- Delayed or inadequate conservation or remediation of water bodies and wetlands.

The rationale is that good water quality does not damage ecosystem function, nor does it present a risk to human health when the water is used for drinking, cooking, or recreational activities. Water that is not affected by human activity, supports a balanced ecosystem including fisheries, requires minimum treatment before domestic, agricultural, or industrial use, and is safe for recreation, such as water contact

activities. Many activities can lead to unsatisfactory water quality such as discharge wastewater from domestic, industrial, and agricultural activities.

Indicator 6.3.2 provides information on the status of freshwater bodies, and how water quality changes over time. It also requires a network of monitoring locations in designated water bodies, in-situ measurements, sample collection, and data management capabilities. It is the proportion of bodies of water with good ambient water quality. To calculate the indicator, countries need to define their waterbodies, which may include sections of rivers, lakes, and groundwater.

The traditional monitoring of water quality relies on physical and chemical measurements with target values for each of the five parameter groups: oxygen, salinity, nitrogen, phosphorus, and acidity. For groundwater, only three parameter groups are used: salinity, acidification, and nitrogen. Good water quality represents at least 80% compliance of measurements with target values.

Parameter group	Parameter	River	Lake	Ground-water	Reason for Inclusion / Pressure
Oxygen	Dissolved oxygen	•	•		Measure of oxygen depletion
	Biological oxygen demand, Chemical oxygen demand	•			Measure of organic pollution
Salinity	Electrical conductivity *Salinity, Total dissolved solids*	•	•	•	Measure of salinisation and helps to characterises the water body
Nitrogen*	Total oxidised nitrogen *Total nitrogen, Nitrite, Ammoniacal nitrogen*	•	•		Measure of nutrient pollution
	Nitrate**			•	Health concern for human consumption
Phosphorous*	Orthophosphate *Total phosphorous*	•	•		Measure of nutrient pollution
Acidification	pH	•	•	•	Measure of acidification and helps to characterises the water body
* Countries should include the fractions of N and P which are most relevant in the national context					
** Nitrate is suggested for groundwater due to associated human health risks					

Country sets parameter group and target values to compare to measured values against them and know, for example, which is a "good ambient water quality". One of the biggest challenges to ensure methodology used is both globally comparable and is nationally relevant. Country reporting is done initially at Level 1, in addition, countries have the option to report at Level 2 as well on national parameters of concern. The calculation workflow is divided in three main components:

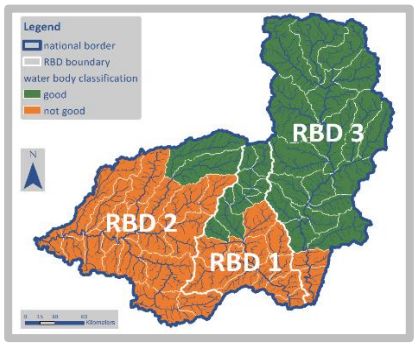
1. compile input data on reporting basin districts, water bodies, information on monitoring locations and data, and define the target values.

UNEP has provided some optional target values to help countries calculate this indicator:

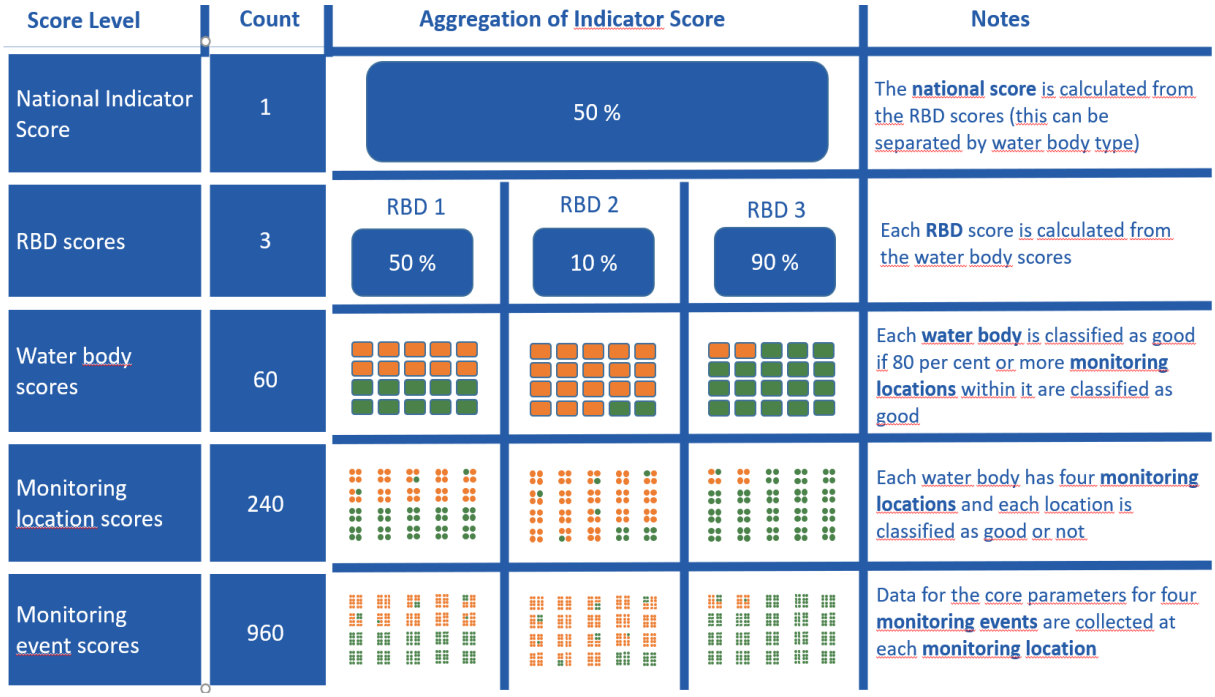
Parameter Group	Parameter	Target type	Rivers	Lakes	Groundwaters
Acidification	pH	range	6 – 9	6 – 9	6 – 9
Salinity	Electrical conductivity*	upper	500 µS cm^{-1}	500 µS cm^{-1}	500 µS cm^{-1}
Oxygenation	Dissolved oxygen	range	80 – 120 (% sat)	80 – 120 (% sat)	-
Nitrogen	Total Nitrogen	upper	700 µg N l^{-1}	500 µg N l^{-1}	-
	Oxidised nitrogen	upper	250 µg N l^{-1}	250 µg N l^{-1}	250 µg N l^{-1}
Phosphorus	Total phosphorus	upper	20 µg P l^{-1}	10 µg P l^{-1}	-
	Orthophosphate	upper	10 µg P l^{-1}	5 µg P l^{-1}	-

2. classify water quality: Good quality if 80% or more of monitoring values comply with their targets.

3. aggregate classification results. The indicator score is calculated as the ratio of "good" quality water bodies to all assessed water bodies in reporting basin district/country.



All water bodies are then grouped into Reporting Basin Districts (RBD). The example below shows a country with three RBDs.



The choice of the sample location type will influence reliability and representativity. Samples of groundwater can be taken from existing wells supplying water for domestic, municipal, irrigation, or industrial uses, or from springs, or purpose-built monitoring wells.

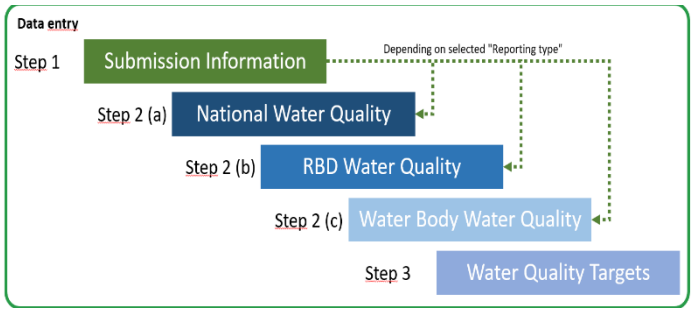
Groundwater sampling should be done minimum once per year. Higher frequencies of at least twice per year are needed for shallow groundwaters due to sensitivity to seasonal influences from rainfall, recharge, pumping, irrigation, or susceptible to urban impacts. Samples should be taken before and after the rainy season and/or at times of high and low groundwater levels. Higher frequencies of at least four times per year are needed for karstic limestones.

The calculation of the indicator using existing data can be a challenge because groundwater monitoring is fundamentally different from that for surface waters. Groundwaters are usually affected by many factors that can distort the broader picture for the aquifer and needs to be understood and considered. Most groundwaters have much longer residence times than surface waters. This means that groundwaters need to be sampled less frequently than surface waters but obtaining a representative picture of groundwater quality may require a greater density of sampling.

The depth and subsurface complexity of aquifers have a major bearing on the choice of the sampling point. Samples taken from wells nearby can produce very different results, especially if they draw water from different depths in the aquifer or even from different aquifers.

As for the reporting workflow, it must start with establishing the national focal points. UNEP will then send the data requests to those focal points to compile and report the data. After receiving this data, a validation process is done for the data to be included in the global database. Countries are requested to report every three years.

Data collection is done through an excel spreadsheet that consists of 16 tables. Only three or four tables require data entry data depending on the level of reporting as selected by each country. The other tables in the reporting template are used to collect information and references.



The first three tables provide general information: the overview table describes the structure of the reporting template, the concept table describes the general concepts used throughout the reporting template, and the data description table describes the format of the data entry required.

Data entry is under the submission information spreadsheet and contains spreadsheets subdivided into three steps:

1. The national focal point is required to provide background information about the country organization and individuals submitting the reporting data. At this level, it is also important to specify the spatial level of reporting chosen.
2. Countries report either on the water body level and providing all the information of the water body classification or a more aggregate level at the reporting of basin district level or only the aggregated national water body assessment result.
3. Countries are asked to provide background information about the targets used to classify the water quality for the respective water bodies.

In addition to these spreadsheets, there are a couple of spreadsheets that contain reference code lists for countries, transboundary river basins, waterbody types, parameters, and units of measurement. The reporting templates have some functionality for data validation to help construct the data and ensure the integrity of the inserted data, it also helps to identify mistakes during data entered.

Only six countries out of the 22 Arab countries have reported on this indicator. Morocco reported a different value from the data disseminated on the UNSD SDG database.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in national reports
6.3.2 Proportion of bodies of water with good ambient water quality	6 (C): Jordan, Lebanon, Morocco, Sudan, Tunisia, UAE	0	≠ Morocco

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available, NA: data nature not available as presented in UNSD SDG database, = : National data same as Country data, ≈: National data nearly same as Country data, ≠: National data is not equal to Country data

Recommendations for Countries:

- Countries to establish an institutional setup for data flow and appoint appropriate focal points, if not available and share it with ESCWA and UNEP
- Countries to request UNEP support and capacity building on measuring and reporting and calculating national score
- Countries to align the process of data reporting with State of the Water Report for the Arab Region organized by Arab Water Council and CEDARE to reduce duplication of efforts.

Recommendations for ESCWA/UNEP:

- UNEP to provide assistance to countries in defining national targets and calculating the indicator, upon request.
- UNEP to look at Oman and Bahrain data collection experience and share it with other countries.
- UNEP and ESCWA to contact countries to share good practices.
- ESCWA/UNEP in collaboration with NSOs will work together to establish a data flow structure and focal points.

Tunisia Experience:

Tunisia is semi-arid on the border of the Mediterranean with a growing population and economy. The country will face a challenge of water scarcity in the next years due to the overexploitation of underground resources. The per capita endowment is at about 450 cm per capita per year. This ratio will reach 315 cm per capita per year in 2030, (<1000 cm). Until now the policy in water resources in Tunisia was based on the demand for a policy to ensure sufficient water quantities to all consumers especially for the sectors of agriculture, tourism, and industry. Tunisia has an important regulatory framework for the water sector. However, there is no legislation regarding ambient water quality.

Many stakeholders are involved in water resources management in this country. The main one is the Ministry of Agriculture which defines the general policy for the water sector, and which involves many water quality monitoring networks are available including dams water quality monitoring and drinking water monitoring. The Ministry of Public Health involves a water quality monitoring network as well. As for the Ministry of Environment, it involves a treated wastewater monitoring network. For the ambient water quality monitoring network – Copeau network, more than 400 monitoring points are distributed around the country. These points are based on:

- Water vulnerability, rivers which flow in dam or wetland are considered more vulnerable
- Existent monitoring points (cooperation and complementarity between stakeholders is considered)
- Inventory and classification of pollution sources.

Administrative units were taken into consideration, and not water masses, same thing for underground waters, aquifers were not taken into consideration. The monitoring programs were implemented to determine the water quality status at a certain time and location, analyze water quality based on spatial and temporal trends, and to help to establish cause/effect relation in other term, impacts of pollution on water quality degradation in short and long terms, and impacts and effectiveness of measurements taken by the authority to fight water quality pollution.

Copeau network operates since 2004 for the monitoring of the following parameters:

- Physicochemical analysis
- In situ measurements: pH, Temperature, Conductivity, Turbidity, Dissolved Oxygen (intermittent measuring), Total Dissolved Solids, salinity,
- Lab measurements
- Nitrates and Ortho Phosphates (frequent measurements)
- Sulfates
- COD (frequent but not for all MP) and BOD (intermittent)
- Hardness (intermittent)
- Heavy metals: Cr IV, Zn, Fe, Pb, Ni, …
- Additional parameters
- Bacteriological: E.Coli, TC, FC
- Hydrocarbons, Only In some special cases

The sampling is done twice a year. For the heavy metals, the sampling is done near the industrial zones.

This monitoring is done to estimate the pressure of humans and anthropic on water bodies, to identify the water bodies that undergo high pollution pressures, and to implement actions, plans, and projects on those identified water bodies.

At first, experts in Tunisia didn't have a national water quality index, but when they started to publish reports with histograms that showed the temporal variation of some parameters, they noticed that the results may not be well understood by all nonprofessional national water communities. Therefore, in 2017 the national expert group started to work on a system developed by the UNU Institute for Water, Environment, and Health to establish an SDG policy support system to help the countries use their available data that fits for policy evidence framework on the enabling environment for the SDG 6.

Based on the data available that follows the methodology detailed in the UN guidelines, Tunisia started calculating the index of water quality. The country has faced some challenges such as the absence of water quality legislation regarding ambient water quality which was substituted by the WHO legislations or the European standards.

After many meetings with the help desk at UNEP, the country managed to use existing targets from other jurisdictions: for surface water bodies, they refer to the European standards (16 alterations), and to evaluate the groundwater bodies, they refer to national standards for drinking water to compute the indicator 6.3.2 using the database from 2017 to 2019. For the calculation:

- 12 surface water masses among 27 were considered to compute surface indicator score: 83
- 22 groundwater masses among 37 (that are monitored by Copeau Network) were considered to compute ground indicator score: 86
- 1030 monitoring values were used to generate a national water quality index: (600 in rivers and 430 in aquifers)

17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development

The United Nations informally define policy coherence for sustainable development as the state in which policies work together effectively to achieve national development goals while minimizing negative impacts that policies in one area has on another area. This definition has connections with a variety of work undertaken to assess SDG interlinkages including by the International Science Council. However, according to the OCED, policy coherence requires collaboration and coordination across policy sectors and between different levels of the government while balancing short term priorities with long term sustainable objectives. It is important to note that policy coherence for development is not the same as the one for sustainable development which refers to policy coherence of official development assistance with other policies particularly in the context of SDGs.

Indicator 17.14.1 attempts to measure the progress towards target 17.14 which aims to enhance policy coherence. There is no reference for policy coherence in progress reports which requires more understanding and work to be done at the UN system level.

The methodology of this indicator includes eight domains. It interprets similar concepts such as the whole of government approach or the integrated approach in the same spirit of the concept of policy coherence. Each domain has a maximum of ten points allocated for scoring. Therefore, in a perfect scenario, a country should achieve a total of 80 points in coherence.

The first domain is institutionalization of political commitment. This domain refers to the fact that a country has institutionalized its commitments to the whole of government or used an integrated approach (PCSD) at the highest political level. This is likely to promote PCSD by installing a culture of policy coherence and guiding actions towards all the levels of government. The first major element of each domain has a maximum value of five points followed by additional specific elements with one point allocated to each. All of these points will be added to the total score.

1. Institutionalization of political commitment	**2. Long-term considerations in decision-making**	**3. Inter-ministerial and cross-sectoral coordination**	**4. Participatory processes**
5. Policy linkages	**6. Alignment across government levels**	**7. Monitoring and reporting for policy coherence**	**8. Financing for policy coherence**
PCSD = whole of government or integrated approach **PCSD ≠ policy coherence for development**			

The second domain refers to long-term considerations in decision-making. The country must have mechanisms in place to ensure that long-term considerations are integrated into national legislations, policies plans, programs, and projects. For the purpose of this indicator, long-term is considered to be more than ten years. The aim of this domain is to ensure that decisions and policy making, and their implementation are informed by considering long-term effects rather than focusing only on short-term problems. Bangladesh, for example, scores at least five points because the government has integrated the SDG targets into the Annual Performance Appraisal system so that the long-term objectives can be translated into the annual work plan of the Ministries/Divisions.

The third domain is the inter-ministerial and cross-sectoral coordination. The country must have a central mechanism in place that brings together different government entities to enhance coordination which in turn fosters coherence across all the three dimensions of sustainable development and in all policy making and planning processes. According to Austria's VNR, the implementation measures are coordinated and prioritised at the federal level within the framework of the existing Inter-Ministerial Working Group on the 2030 Agenda. Providing a good example of inter-ministerial and cross-sectoral coordination, it should be underpinned by the whole of government approach.

The fourth domain, the participatory process, requires that countries have a mechanism in place to ensure that laws, policies, plans and major development projects at different levels of the government are developed in a participatory process that involves relevant stakeholders. The participatory processes provide an opportunity to promote buy-in and support from effected communities and partners which are likely to enhance implementation, compliance and buy-in including foster better coherence and synergies.

The fifth domain relates to establishing mechanisms for government entities that would facilitate assessment of policies' impact and cross-sectoral linkages throughout the policy and planning processes in the context of sustainable development. This domain aims to ensure that sustainable development is pursued in a balanced way so that tradeoffs are understood, and potentially negative impacts are identified and mitigated while positive linkages are optimized.

Domain six requires countries to have mechanisms in place to align priorities, policies and plans adopted at various levels of government at national to sub-national levels. In the absence of such alignment, key aspects of national strategies or plans may not reflect realities on the ground and lead to an ineffective implementation at sub-national level.

The seventh domain refers to monitoring and reporting of policy coherence. Countries are required to have mechanisms in place to systematically monitor and evaluate the effects of policies on various dimensions of sustainable development including and reporting on findings to take adaptive actions. The source for mean of verification is a law or other government endorsed official document establishing requirement to monitor, evaluate and report on policy coherence aspects.

Finally, the financing of policy coherence domain requires countries have mechanisms in place to promote the alignment of finance to policy coherence objectives and to track related expenditures. The aim of this domain is to track allocations and expenditures that promote policy coherence. Such contributions to initiatives that consider cross-sectoral impacts and alignment across the government levels.

This indicator was reclassified to Tier II in February 2020. Data drive letters for the first reporting cycle were sent to national focal points by UNEP along with the questionnaire in September 2020 to be completed by January 2021. The reporting periodicity is biennially. National focal points also have access to the Indicator Reporting Information System (IRIS) to report directly on the online government survey.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in national reports
17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development	4 (C): Libya, Oman, Qatar, State of Palestine	0	= State of Palestine

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available, NA: data nature not available as presented in UNSD SDG database, = : National data same as Country data, ≈: National data nearly same as Country data, ≠: National data is not equal to Country data

Only four Arab countries have reported on this indicator, namely: Libya, Oman, Qatar and State of Palestine as witnessed on the UNSD SDG database. However, only State of Palestine has made this data available to national policy analysis through their SDG report.

Jordan Experience:

In Jordan, more than one entity collects and disseminates data on the sustainable development goals. Usually, the national statistics office is the entity contacted. Regarding the SDG related to water, The Ministry of water is to be contacted as well. One of the main challenges we face at the country level is the data availability and sources of data. No collaboration took place between the different stakeholders to calculate the indicator.

Recommendations for Countries:

- Countries to nominate national focal points if not available.
- Countries to request UNEP capacity development and support to complete reporting, if needed.

Recommendations for ESCWA/UNEP:

- ESCWA in collaboration with UNEP will share the lists of national focal points with the NSOs in order to update them
- UNEP to organize national workshops on policy coherence and to stimulate national dialogue between different stakeholders, upon request .

17.7.1 Total amount of funding for developing countries to promote the development, transfer, dissemination, and diffusion of environmentally sound technologies

To grow financial flows to ESTs in developing countries, it is first necessary to understand the current status of finance, which requires knowledge of financial transfers in terms of amount, type, geography, recipient and donor, independently, and in combination with each other to understand how finance can further leverage investment. This indicator represents a step in effectively managing the development of a particular sector and the transition of economic activity to a more environmentally sound basis.

The purpose of this indicator is to develop a methodology for tracking the total amount of approved funding for EST. Access to investment in the ESTs data is difficult to access. It is also hard to judge one technology in isolation because it does not relate to a single environmental impact and there is a potential for tradeoff between different environment objectives. This indicator provides a proxy of funding for these technologies due to all these challenges and the challenge determine the EST within a particular context.

The indicator will also provide a good understanding of the intersecting elements within the larger frame of development and lead to the adoption and use of alternative, environmentally sound development strategies and related technologies. One of the available data sets for financial flows into ESTs lies in trade data. Increasing trade in Environmentally Sound Technologies (ESTs) is important because it can promote

economic development, industrialization, job creation and innovation while enabling countries to more efficient access to technologies and to improve overall environmental performance.

To facilitate the understanding and calculation of this indicator, the interagency group agreed on the following definition for ESTs as the technologies that have the potential for significantly improved environmental performance relative to other technologies. ESTs are not just individual technologies. They can also be defined as total systems that include know-how, procedures, goods and services, and equipment, as well as organizational and managerial procedures for promoting environmental sustainability. This means that attempts to provide an assessment of investment into ESTs on either global or national level must incorporate ways to track funding flow into both hard and soft technologies.
Research has shown that the following sectors are deemed to be ESTs;

- Air pollution control (APC)
- Wastewater management (WWM),
- Solid and Hazardous waste management (SHWM),
- Renewable Energy (RE),
- Environmentally Preferable Products (EPPs)
- Water Supply & Sanitation (relating to indicators for #6 and #11)
- Energy Storage & Distribution (relating to indicators for #7 and #13)
- Land & Water Protection & Remediation (relating to indicators for #14 and #15)

Given the lack of transparent data on financial flows into ESTS overall, a two-pronged approach is suggested which consists on using globally available data to create a proxy of funding flows to developing countries for environmentally sound technologies, or of trade in EST (level 1) and on collecting national data on investment in these technologies (level 2).

At the first level, the indicator is divided into two sub-indicators, global and domestic and the source of data is ComTrade database. The methodology to collect the level 1 data includes the following steps:

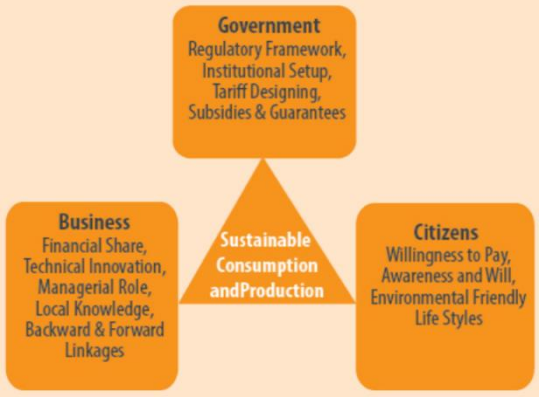
- The most detailed level HS data is used - 08 digits for exports and 10 digits for imports.
- The next step is assessing for each detailed HS its ECT (Environmental and Clean Technology) component, since not the entire HS is used for ECT purposes (where possible).
- It is important to use and explain and document the assumptions made in this phase, as it is difficult to always know the use of the goods (e.g. chlorine could treat wastewater but serves for multiples other non-EST activities).
- Indeed the 04-digit level HS would rarely be solely EST and even so at the 06 level. Trade proxies will therefore assess the EST at the most detailed level possible, and sum EST components into HS 04 to get the percentage of EST at that level.
- The next step is to link this HS 04 level to a sector/activity. That last concordance should be the same (or similar) for all counties.
- The sum of EST components will be calculated in monetary terms, in US dollars.

Criteria selected by UNEP for the initial identification of ESTs at a national level are:

- Compliance with national priorities
- Compliance with local environmental law
- Evidence of improved performance through implementation of technology or process
- Life cycle impact analysis
- Modeling of temporal and spatial dimension, alongside impact /trade-offs with regard to water, air and land
- Independent technology assessments
- Others to be identified by the Expert Group

At the second level, the data comes from the national statistical office and other members of the national statistics system. For this data set, it is better to define ESTs at the national level, considering the national context and mainstream appropriate technologies nationally. Assessment should be done with performance and operational data (with reference to the environmental objective) and whether the technology has any negative environmental impact (cross-media effects). This level will be assessed in terms of monetary value, expressed in US dollars. At this level, some environmental considerations (performance of the technology and operational data, cross media effect) and local considerations (economics impacts, market considerations and suitability for the local natural conditions) must be noted.

If the criteria measures are qualitative and can only be measured by the extent to which the trade-off is considered negative, they should be converted to a numerical form on a scale, e.g. from 0 to 100 where "0" means the least preferred option and "100" means the most preferred option.



Multi-stakeholder partnerships are supported to accelerate and consolidate the change in consumption and production patterns. This includes governments, non-profit organizations and the private sector.

Data collection is expected to be carried out in the second half of 2021 and biannually thereafter. First reporting cycle will be in February 2022. No Arab Country has reported on this indicator yet.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in national reports
17.7.1 Total amount of funding for developing countries to promote the development, transfer, dissemination, and diffusion of environmentally sound technologies	0	0	

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available, NA: data nature not available as presented in UNSD SDG database

Jordan Experience:

There is cooperation between the Department of Environment Statistics and Foreign Trade within the General Statistics Award. The indicator has been calculated for the electric mobility and electric figures from 2015. For this purpose, the number of licensed electric vehicles has been counted however, the HS code was missing for type of vehicles. In 2019, collaboration between stakeholder succeeded to include the customs service as well HS code in the records.

Recommendations for Countries:

- Countries to nominate the national focal points if not available.
- Countries to build their national definitions and map them to global criteria.
- Focal points who are facing issues to coordinate with their counterparts at the national level to hold meetings and collect the data.
- Countries to establish communication channels between all different stakeholders to disseminate the data.

Recommendations for ESCWA/UNEP:

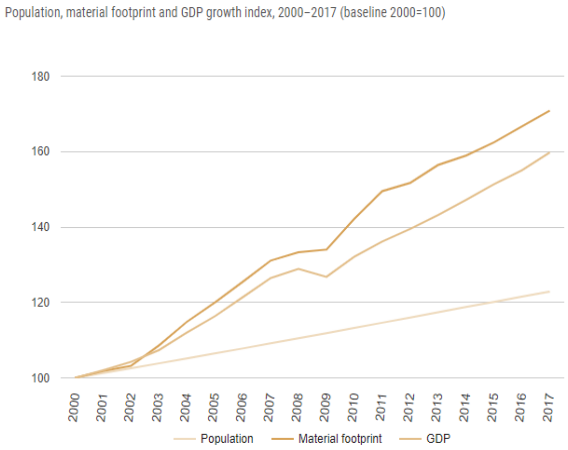
- UNEP to share with countries the list of HS codes for level 1 data.
- UNEP to collaborate with the UNSD on the classification of products and services regarding CPC and HS
- UNEP to check with the new manual of System of Environmental-Economic Accounting (SEEA) and inform participants on latest developments.
- ESCWA in collaboration with UNEP will share the lists of national focal points with the NSOs in order to update them

8.4.1/12.2.1 Material footprint, material footprint per capita, and material footprint per GDP

This indicator falls under two goals 8 and 12. From the perspective of Goal 8, the indicator provides information on the global resource efficiency in consumption and production specially to decouple the economic growth from environmental degradation. While from the perspective of goal 12, this indicator falls under achieving the sustainable consumption and production and efficient use of natural resources.

The material footprint refers to the total amount of raw materials extracted by countries to meet final consumption demands of the economy and of the society. It indicates the pressures placed on the environment and its natural resources to support economic growth and to satisfy the material needs of people including extracted material for export to other countries for their own consumption.

The production and consumption of natural resources are following an upward trend which means that the world is producing more to meet increasing demand. The global material footprint rose from 43 billion metric tons in 1990 to 54 billion in 2000, and 92 billion in 2017—an increase of 70 per cent since 2000, and 113 per cent since 1990. The rate of natural resource extraction has accelerated since 2000. Without concerted political action, it is projected to grow to 190 billion metric tons by 2060. As of 2010, the material footprint per person in the developed countries is calculated as 23.6 Kg per year compared to 14.5 Kg for the developing countries.



The global material footprint is increasing at a faster rate than both population and economic output. In other words, at the global level, there has been no decoupling of material footprint growth from either population growth or GDP growth. There is an intertwined relationship between material footprint and population growth and GDP growth, and the aim is to reach a decoupling of material footprint from population growth and from GDP growth. Therefore, it is important for countries to start reversing this trend.

This indicator is important for understanding the resource efficiency and decoupling of resource use and economic growth and to reach sustainable development by 2030. The global material flows database is based on country material flow accounts from the European Union and Japan and estimated data for the rest of the world.

The methodology used to calculate this indicator is based on an economic multi-regional input-output (MRIO) model which is based on supply-chain database that consists of a multiregional input-output table. This model provides a timeseries of a high-resolution I-O tables. It Identifies the final consumer of a specific amount of materials extracted domestically or anywhere in the world and estimates the distribution across countries of raw materials embodied in final demand.

UNEP uses the MRIO model developed by the University of Sydney, Australia for the estimations. Estimations use data on material extraction obtained from national or international datasets (agriculture, forestry, fisheries, mining, and energy statistics) such as the IEA, USGS, FAO and COMTRADE databases. UNEP, OECD and Eurostat have agreed to harmonize the data by using the MRIO model. Other calculation methods exist such as coefficient based calculated per natural resource and per country; hybrid (e.g. Eurostat) that combines the I-O method and the coefficient-based method. For the international work, the input-output approach is used.

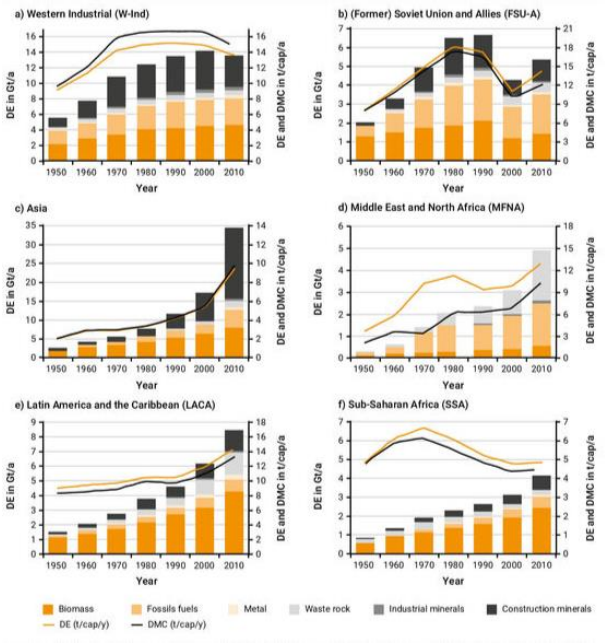
This indicator is calculated as follows:

Material footprint = raw material equivalent of imports RME_{IM}+ domestic extraction (DE) – raw material equivalent of exports RME_{EX}

Total material footprint is the sum of the material footprint for biomass, fossil fuels, metal ores and non-metal ores.

As shown below, the developed countries have a higher material footprint per capita as they are heavily dependent on resources extracted from poorer countries.

For the Western industrial countries, the data shows that domestic extraction and domestic material consumption per capita have been decreasing since 2000. For the Middle East and North Africa region, the domestic extraction follows a slower trend and in comparison, with the Western industrial countries, the values are lower for both. However, after 2000, the values have been increasing.



This indicator was reclassified recently to tier II and process of data collection is still under discussion. The agencies responsible for data collection are UNEP, OECD and EUROSTAT. Data are available only at the global level. However, national estimated data are available but not published yet. This is because the data are still not approved by the Interagency and Expert Group (IAEG) members states.

Indicators	UNSD SDG Database (C-CA)	UNSD SDG Database (E-M-N-NA-G)	SDG in national reports
8.4.1 Material footprint, material footprint per capita, and material footprint per GDP/12.2.1	0	0	

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available as presented in UNSD SDG database

8.4.2/12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP

This indicator falls under both Goals 8 and 12. It measures the Domestic Material Consumption (DMC) under target 8.4, to improve the resource efficiency in consumption and production and as well to decouple the economic growth from environmental degradation in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production. Under goal 12 and target 12.2, this indicator measures domestic material consumption to achieve the sustainable management and efficient use of natural resources.

Resources extracted from a country and are not fully exploited are exported to other countries that either have no natural resources, or their domestic extraction is not sufficient for own use. To meet this consumption level, the worldwide extraction of biotic and abiotic natural resources increased by 65 billion

tonnes since 1970 reaching a raw material extraction of more than 92 billion tonnes by 2017. Extracted natural resources, either processed or unprocessed, as well as (intermediate) goods are intensively traded around the globe.

DMC is currently the most widely used and accepted consumption indicator. This indicator is defined as the total amount of direct material input (DMI) in national economy subtracting from it the exports. DMI is the material resources originating from natural resources of the economy such as: metals (ferrous, non-ferrous) non-metallic minerals (construction minerals, industrial minerals), biomass (wood, food) and fossil energy carriers. DMI is the domestic extraction (DE) added to it the imports.

Domestic material consumption = Direct imports (IM) of material + Domestic extraction (DE) – Direct exports (EX) of materials (metric tonnes)

The 'per capita' calculation is based on the average population (the arithmetic mean of the population on 1st January of two consecutive years). It reports on the apparent consumption of material in a national economy. It does not include unused domestic extraction and indirect flows of imports and exports; thus, it is only a proxy for the actual total material consumption. Per-capita DMC describes the average level of material use in an economy – an environmental pressure indicator – and is also referred to as metabolic profile.

The material productivity is the ratio between GDP and DMC and is used to assess the decoupling between the use of natural resources and the growth of the economy. DMC reports the amount of materials that are used in a national economy. DMC is a territorial (production side) indicator. It also presents the amount of material that needs to be handled within an economy, which is either added to material stocks of buildings and transport infrastructure or used to fuel the economy as material throughput. DMC describes the physical dimension of economic processes and interactions. It can also be interpreted as long-term waste equivalent.

DMC is based on the Economy-wide Material Flow Accounts (EW-MFA) which is directly linked to the system of environmental economic accounts. The theory of Economy-wide material flow accounts includes compilations of the overall material inputs into national economy, the changes of material stock within the economy and the material outputs to other economies or to the environment. These accounts cover all solid, gaseous, and liquid materials, except water and air. Water in products is included. Material Flows Accounting is a well-established methodology with a strong conceptual basis in Physical accounting and economics.

UNEP proposes a two-pronged approach to capacity building, which is:

- enhancing the accounting capabilities for DMC and Material footprint (MF) within countries,
- At the same time supporting the UN Environment Programme International resource panel (IRP), in continuing to update the global database and encouraging countries to verify and adopt the dataset made available by UN Environment Programme to fill the gap until capacity is available in countries.

The data sources are IEA, USGS, FAO and COMTRADE databases and the data collection process is still under consideration. This is why data is being estimated for 21 Arab Countries. Estimated data is produced on the basis of available data from different national or international datasets in the domain of agriculture, forestry, fisheries, mining and energy statistics.

Indicators	UNSD SDG Database (C-CA)	UNSD SDG Database (E-M-N-NA-G)	SDG in national reports
8.4.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP/12.2.2	0	21 (E): Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, UAE, Yemen	

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available as presented in UNSD SDG database, = : National data same as Country data, ≈: National data nearly same as Country data, ≠National data is not equal to Country data

Recommendations for Countries:

- Countries to nominate the national focal points if not available.
- Countries to take the online course on environmental SDG indicators and to go through the Material Flow Accounting manual to calculate the indicators prior to requesting bilateral consultation with UNEP to complete reporting.
- Countries to establish communication channels between all different stakeholders to disseminate data.

Recommendations for ESCWA/UNEP:

- UNEP to send to NSOs data drive letters and request them to nominate focal points.
- UNEP to send the nominated Focal Points a prefilled questionnaire with estimated data for both indicators to approve it or replace it with the country data.
- UNEP to provide national workshops on the method of calculation, upon request.

12.1.1 Number of countries developing, adopting or implementing policy instruments aimed at supporting the shift to sustainable consumption and production

Reporting on the implementation of the 10-Year Framework of Programmes on Sustainable Consumption and Production (10YFP) is very important. Reporting helps promoting the shift to a sustainable economy (changing rules & institutions, processes, technologies, behaviors), addressing unsustainable consumption & production patterns, focusing on economic / industrial sectors of high interest to the country (where most of the impacts and opportunities are) and giving more attention on economic /

financial instruments, and regulatory instruments, including in relation to the MEAs (climate change, biodiversity, chemicals and waste). It helps as well establishing significant policy instruments for the country (new national strategy, innovative or cutting-edge approach, quantified / demonstrated impacts, etc.).

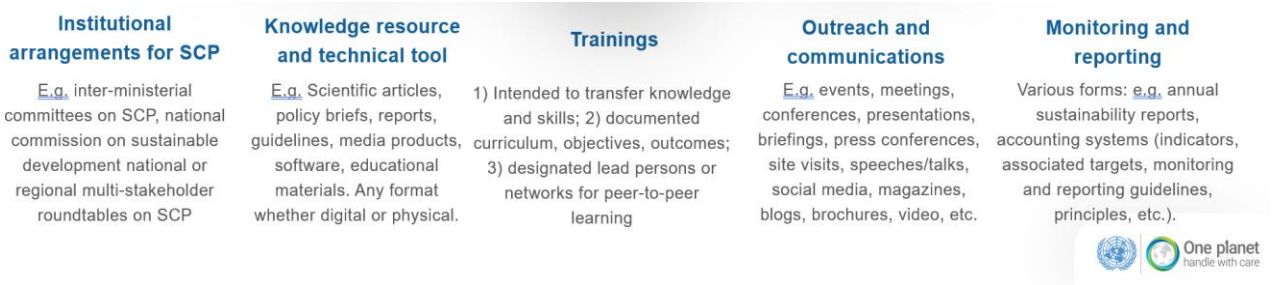
The main three categories of policy instruments are:

- Legal or regulatory instruments: governed by a legal structure and a system of sanctions (legally binding), this category includes laws, regulations, standards, prescriptions or prohibitions, where the highest level of compliance is expected.
- Economic or financial instruments include economic incentives and disincentives which aim at bringing about an intended behavior or outcome (potentially legally binding): grants, subsidies, taxes, deposit-refund system, tradable pollution permits, etc.
- Information-based instrument: Measures or initiatives aimed at influencing individuals and organizations indirectly by means of information, awareness raising, setting of moral standards or codes of conducts: Voluntary agreement, product labeling, award schemes, etc.

The first category addresses activities with serious risks of impacts for the environment and society, provides clarity on the rules and requirements, stable and standardized conditions of operations and prevent excessive / unfair competition, protect consumers, maintain quality and other standards (ethical). It may be the only option where there is no scope for self-regulatory actions or when they have failed. However, it presents some challenges including enforcement (requires capacity, resources and knowledge), standardization and lack of flexibility.

The second category, aims to mobilize the financial resources required to develop the infrastructures, human capital and institutional capacities needed to advance SCP (financial), to align decisions and behaviors (individual, institutional, business, etc.) with sustainable consumption and production policy objectives (economic), to correct policy and/or market failures, reinstate pricing that takes account of environmental and social costs (fiscal) and to prevent excessive or unfair competition, protect consumers, maintain quality and other ethical standards (economic). Same as the first category, this category presents some challenges. These main challenges include monitoring short-term & long-term effects on behaviors and markets, anticipating on potential “rebound effects” / unexpected responses.

Five categories of implementing activities exist:



Data collection and reporting process are done at the national level by 10YFP National Focal Points with an account on "One Planet" platform during July 2021 – January 2022. Focal points can also delegate others to complete the questionnaire. High-level political forum (HLPF) implements data reviews of the SDG data reported by national focal points. Seven countries have succeeded in disseminating their country data in the UNSD SDG Database namely Bahrain, Comoros, Jordan, State of Palestine, Tunisia, UAE and Yemen, however, none of them reported national data in their national SDG dashboards/VNRs.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in national reports
12.1.1 Number of countries developing, adopting or implementing policy instruments aimed at supporting the shift to sustainable consumption and production	7 (C): Bahrain, Comoros, Jordan, State of Palestine, Tunisia, UAE, Yemen	0	

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available as presented in UNSD SDG database.

Jordan Experience:

In 2020 Jordan has launched in collaboration with the Ministry of Digital economy , leader in establishing business incubators and business accelerators in all governorates of the Kingdom ,the green growth action plans for (6) sectors as follow: energy, agriculture, waste, water, tourism and transportation that contribute to reduce energy consumption and increase production.

These action plans contain (86 interventions and projects) should be implemented to transfer toward green economy, Jordan national strategy and action plan for sustainable consumption and production (2016 – 2025) was one of the main pillars of these action plan. They included trainings provided by "Switch Med" for startup enterprises on green entrepreneurship as well as establishing dedicated departments within the banks to provide credits with zero interests for green projects.

The total required budget to implement these action plans is (1.8) billion $ and now we are working with donors and the implementing agencies to seek a multisource for funding.

In addition to that, in 2020 the cabinet adopted the waste management framework law no.(16) 2020

The law aims to regulate the process of waste management, reducing its production, recycling, treatment, safe disposal, and utilization, in addition to defining the tasks of the authorities concerned with waste management.

According to the law, the Department of General statistics in coordination with the Ministry of Environment, and relevant authorities, undertakes the role of: managing waste-related data such as e-waste data (per capita share of e-waste, amount of reused e-waste, amount of processed electronic waste, recycling rate at the national level, generated green waste and the percentage of electronic and electrical waste from the total amount of waste) and keeping records, issuing the necessary environmental approvals for waste management facilities, providing data and information necessary for waste management, as well as training personnel, and monitoring the transport of hazardous waste and waste treatment facilities.

The law obliges the waste owner, operator, or producer who has any amount of hazardous waste "one thousand tons or more of waste annually" to take appropriate measures for recovering or disposing of their waste, segregating the waste, and storing it in an environmentally sound way before recovery or disposal.

The law also restricts any person who collects, handles, stores, transfers, or disposes of waste without a license and dumping of hazardous, explosive, flammable, toxic, or infectious wastes without obtaining the necessary licenses and permits, the violation of these two acts will result in huge penalties or even imprisonment.

Recommendations for Countries:

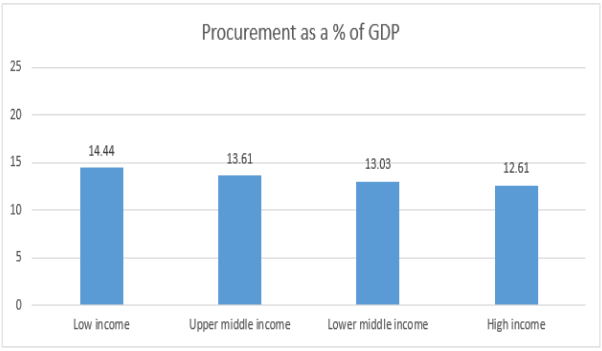
- Countries to establish an institutional setup to follow up with the national focal points for national and international reporting and nominate national focal points if missing

Recommendations for ESCWA/UNEP:

- UNEP to organize a series of training to the national focal points to provide guidance while doing the report.
- ESCWA, in collaboration with UNEP, will share the lists of national focal points with the NSOs in order to update them

12.7.1 Degree of sustainable public procurement policies and action plan implementation

The indicator assesses the degree of implementing Sustainable Public Procurement action plans or policies. Sustainable procurement is defined as the process by which organizations meet their needs for goods, services, works, and utilities in a way that achieves “value for money on a whole life basis” in terms of generating benefits not only at the organizational level but also at the societal and economic levels, whilst minimizing, and if possible avoiding, damage to the environment.



The indicator addresses social justice issues such as fair working conditions, fair pay, and integration of the disabled. It elaborates a progressive extension to other fields like the promotion/protection of disadvantaged groups and anti-discrimination and Progressive concern for environmental degradation and its effect on social health and development.
Public procurement wields enormous purchasing power, accounting for an average of 13 percent of gross domestic product (GDP) in OECD countries and up to 16 percent of GDP in EU countries.

Every single purchase has hidden human health, environmental, and social impacts throughout the entire supply chain. For example, consuming two cups of coffee per day can cause clear-cutting of forests to grow even more coffee and using 5.5 kilograms of fertilizer and few grams of highly toxic pesticides.
Leveraging this purchasing power by buying more sustainable goods (Products that have a reduced environmental or social impact along their lifecycle, such as Green products) and services can help drive markets in the direction of sustainability, reduce the negative impacts of an organization, and also produce positive benefits for the environment and society. SPLC has identified over 60 impacts and opportunities that can (and should) be addressed via institutional purchasing.

Environmental	Social	Economic
Environmental factors affect the natural systems on which **life** depends, now and in the future.	Social factors affect the social systems on which **communities** depend, now and in the future.	Economic factors affect the health of the markets on which **commerce** depends, now and in the future.
+ biodiversity preservation + climate adaptation + resource optimization + soil health stewardship - acidification - desertification - eutrophication - freshwater pollution - greenhouse gas emissions - habitat depletion - human health impacts - land-use change - marine pollution - ozone depletion - radiation pollution - resource depletion - smog - waste - water consumption	+ anti-discrimination + community engagement + diversity/equal opportunity + employee engagement + equal remuneration + fair trade + freedom of association + grievance & remedy processes + human rights + indigenous rights + occupational health & safety + right to collective bargaining + sustainable compensation + training and education + worker rights - child labor - forced/compulsory labor - human trafficking - sourcing from conflict zones	+ fair dealings + innovation research / investment + open competition + transparency of information + use of diverse suppliers + use of HUB zones + use of local suppliers - conflicts of interest - corruption (bribery, extortion…) - dividing territories - dumping - exclusive dealing - misleading market claims - monopoly (seller collusion) - monopsony (buyer collusion) - patent misuse - price fixing - product tying - refusal to deal

Most national governments have SPP commitments that cover both environmental and socio-economic issues. Some governments, particularly in Asia, focus exclusively on environmental issues and not yet on the socio-economic dimension. This is also the case in certain European countries. However, others, such as Belgium, prioritize an impressive range of socio-economic and ethical issues in addition to focusing on the environment. Consumers, NGOs, investors, and governments have begun to recognize that companies can influence these things and are increasingly expecting organizations to manage their supply chain impacts proactively. However, some barriers exist to SPP like the perception that sustainable products and/or services are more expensive, lack of expertise on SP implementation, lack of policy commitments/goals/action plans, and lack of strong political and organizational leadership on SP.

To measure this indicator, considering its nature and name, it is necessary to evaluate:

a) Whether SPP policies and action plans have been developed and adopted;
b) Whether those policies are implemented, or;
c) Whether SPP might be implemented through other means.

A detailed methodology assessing the level of SPP implementation in each country was developed between 2018 and 2020 under the leadership of UNEP, with the contribution of experts and voluntary governments. This methodology focuses on policy and practical implementation aspects of SPP via three main aspects:

1) What are the measures taken at political and legal levels to mandate/facilitate the implementation of SPP?
   - A: SPP policies, action plans, and/or SPP regulatory requirements
   - B: Public procurement legal framework
2) What are the practical outputs of SPP policy implementation and the support given to public procurement practitioners?
   - C: Practical support and guidance
   - D: Environmental criteria and social considerations in public procurement
3) Are the actual results and outcomes of SPP implementation monitored?
   - E: Monitoring system
   - F: Percentage of sustainable public procurement

Evaluation of SPP implementation at the government level is based on the score obtained in each section of the evaluation system represented by each letter and is calculated as follows:

$$\text{Score} = A \times (B + C + D + E + F)$$

One point per section (for each sub-indicator A, B, C, D, E, F). Participation in the reporting is possible, even when not all sections are filled (except for A).

The level of implementation of SPP is assessed based on the total score:

- Insufficient data or implementation if the score is below 1
- Low level of SPP implementation if the score is between 1 and 2
- Medium-low level of SPP implementation if the score is between 2 and 3
- Medium-high level of SPP implementation if the score is between 3 and 4
- High level of SPP implementation if the score is higher than 4
-

Data collection exercise is done through an Excel-based calculator/questionnaire with pre-set answers and automatic score calculation facilitating data collection. The main reporting entities are national focal points from the Ministry of Environment, Ministry of Finance/Treasury Board, or Public Procurement Agency. In a few cases, they may also be external institutions mandated by the national government to support the development of greener products and services (e.g., environmental institutes).

Governments must provide evidence to support each claim (policy document, procurement guidelines inclusive of sustainability criteria, green contracts, monitoring reports, etc.).

The first data collection exercise took place from October 2020 untill February 2021. The next exercise will start on September-October 2021. None of the 22 countries have submitted any data. Lebanon is the only country that has participated in the 2017 UNEP SPP Country Factsheets.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in national reports
12.7.1 Degree of sustainable public procurement policies and action plan implementation	0	0	

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available as presented in UNSD SDG database

Recommendations for Countries:

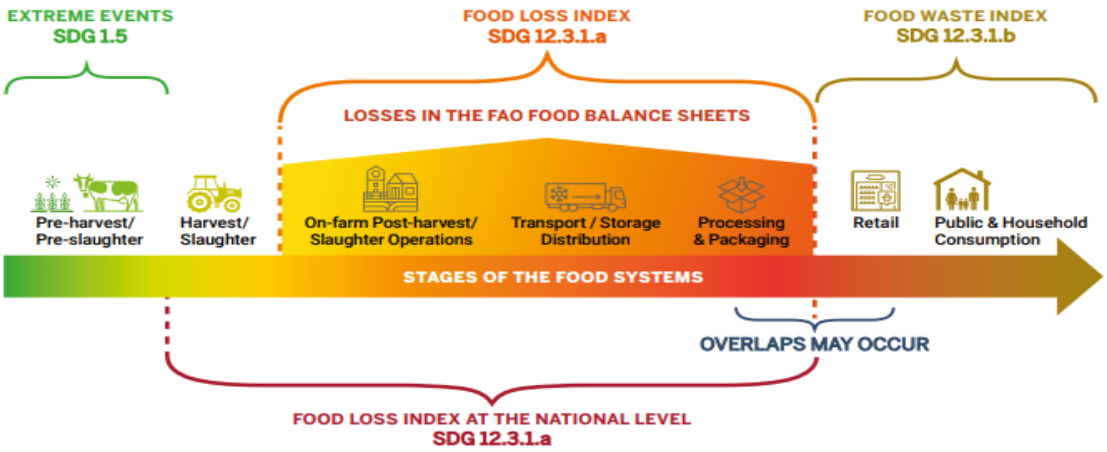
- Countries to establish an institutional setup to follow up with the national focal points for national and international reporting and nominate national focal points if missing

Recommendations for ESCWA/UNEP:

- UNEP to provide Excel-based calculator/questionnaire to ESCWA
- UNEP to organize series of trainings to the national focal points to provide guidance on the methodology
- ESCWA will facilitate the organization and management of national focal points at the regional level

12.3.1 Food waste and food loss

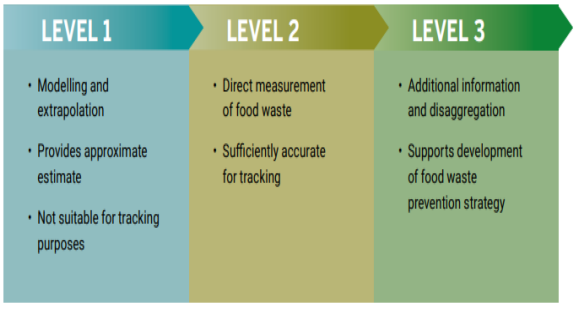
Curbing food loss and waste can help deliver multiple SDGs, including zero hunger, life underwater, life on land, sustainable cities, and the climate action agenda can help countries raise ambition in NDC revisions. Food loss and food waste generate around 8% of global greenhouse gas (GHG) and have an important role to play in national and business climate strategies. The Enhancing Nationally Determined Contributions (NDCs) for Food Systems, a report published by WWF, the UN Environment Programme (UNEP), EAT, and Climate Focus in 2020, provides guidance on integrating food loss and waste in climate strategies.



There are two components to target 12.3.1 the supply in indicator 12.3.1(a) Food loss index such as on-farms, post-harvest/slaughter and operations, transport/storage distribution and processing and packaging level, and the demand in indicators 12.3.1(b) Food waste index at retail food services and consumer levels at the household level.

12.3.1(b) Food waste index

UNEP's Food Waste Index report provides updated information on food waste data at country and global levels. It also provides a common approach for countries to follow in quantifying and reporting food waste in UN Sustainable Development Goal 12.3 to halve food waste by 2030. Food waste is a global problem not limited to only rich countries; 17% at the global level of all food available at consumer levels is wasted. In the context of COVID 19, hunger is rising sharply where it is estimated that three billion people are unable to afford a healthy diet.



The food waste index may be compiled at three levels. The first level collects the best available country food waste data and extrapolates by sector on a regional and global basis using a modeling approach. It indicates the scale of food waste around the world. However, it is not suitable for tracking the evolution of food waste at a country level across time. For this reason, countries are encouraged to use the level 2 approach to apply the direct measurement of food waste and a common approach on how to carry out this quantification. Level 3 provides information on methodology to collect more granular data at the country level to track the effective and specific policies interventions.

Level 1 covered 152 food waste data points identified in 54 countries in the household sector of middle-income countries. The results show an average household food waste of 54 kg per capita greater than the average person weight, and 61% is household food waste. Household food waste is comparable across

country income groups and thus requires greater attention in middle-income countries that have previously assumed that this problem did not apply to them.

The scope of the level 2 food waste index approach includes food waste in retail food services and households, including food loss in manufacturing where multiple commodities are processed. Proposed measurement methods include direct measurement, waste composition analysis, volumetric assessment, mass balance, counting/scanning, and household diaries to capture more qualitative data, including food waste that goes down the drain and is fed to animals.

SDG 12.3 food waste data is collected using the United Nations Statistics Division (UNSD) / UNEP Questionnaire on Environment Statistics (Waste Section) sent to National Statistical Offices and Ministries of Environment every two years. A national focal point on food waste is nominated to coordinate data collection and reporting.

Data are made publicly available in SDG Global Database and UNEP's Food Waste Index Report and published at regular intervals up to 2030. The next questionnaire will be sent to the Member States in September 2022, and results will be reported to the SDG Global Database by February 2023. Countries do not need to conduct new measurements every two years or to measure every sector simultaneously. Measuring each sector at least once every four years is recommended.

To support countries in their efforts to measure the baselines, UNEP is launching a regional Food Waste Working Groups in Africa, Asia Pacific, Latin America, and West Asia. Please refer to UNEP new report on the State of Food Waste in West Asia for mor information on the following link: https://www.unep.org/resources/report/state-food-waste-west-asia.

UNEP seeks to address the data gap in the middle- and low-income countries and catalyze action, supporting Member States in:

- Developing Food Waste Baselines (Household, Food Service, Retail)
- Using Food Waste Index approach for SDG 12.3 Reporting in 2022
- Designing National Food Waste Prevention Strategies
- Leveraging international finance to deliver strategies.

UNEP and WRAP (Waste and Resources Action Programme), as part of the GO4SDGs initiative, will facilitate quarterly online workshops to promote South-South Collaboration on measurement challenges and policy approaches.

Arab countries have unique features from their culture, religion, and history, generating significant amounts of food waste over short periods, especially in Ramadan, as 25% to 50% of the food prepared is wasted. In the coming weeks, UNEP will release the State of Food Waste in West Asia report, which is timely coming after the publication of the Food Waste Index 2021 report and dives into the challenges of the West Asia region.

As reported in the UNEP Food Waste Index 2021 report, in the household sector, in West Asia, nationwide studies have been undertaken in Saudi Arabia and Bahrain, respectively classified as high and medium level confidence. Sub-national studies on household food waste were identified in Iraq and Lebanon.
The following is estimated food waste in selected Arab countries:

Country name	Study area	Household food waste estimate (kg/capita)	Reference
Bahrain	Nationwide	132	Alayam 2018
Iraq	Baghdad	75	Al-Maliky and ElKhayat 2012
	Mosul	85	Al-Rawi and Al-Tayyar 2013
	Karbala	142	Al-Mas'udi and Al-Haydari 2015
	Al-Kut City	138	Sulaymon, Ibraheem and Graimed 2010
	Nassiriya	163	Yasir and Abudi 2009
Lebanon	Beirut	105	Chalak *et al.* 2019
Saudi Arabia	Nationwide	105	SAGO 2019

Source: UNEP 2021, pp. 43-44.

Earlier data were not, however, disseminated through the UNSD SDG database because methodology was being developed for the new food waste index.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in national reports
12.3.1 (b) food waste index	0	1 (E): Saudi Arabia Data for Bahrain, Iraq and Lebanon and other countries are now being disseminated through UNSD SDG Global Database with a footnote on the reliability of the data.	

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available as presented in UNSD SDG database.

The UN food summit 2021 has developed a global Initiative to halve food loss and waste by 2030 in which at least 50 countries will commit to prioritizing food loss and waste reduction from farm to fork, setting national targets aligned with SDG 12.3, measure baselines, and report progress, develop national strategies and act via policies and practices to halve food loss and waste by 2030.
UNEP has as well launched Food waste initiatives in the region to:

- Raise awareness and education
- Capacity building and knowledge exchange for helping them mobilize funds
- Influence policy initiatives and trigger actions

Lebanon Experience:

A research group at the American University of Beirut has been working on measuring food waste and understanding consumer behavior associated with the generation of food waste since 2012 through the implementation of household surveys and restaurant surveys. Published papers on household food waste and restaurant food waste links are available in footnote[2] To establish a baseline on household food waste, the research group at AUB implemented a random sample survey in Greater Beirut, which employed a diary data collection tool for a week on 60% of typical food items. The survey for restaurant food waste was implemented on 945 restaurants in Greater Beirut. The restaurant surveys were divided into two parts; the first part was directed to restaurant managers concerning food waste, and the second part measured actual post-consumer waste generated. The data collected were differentiated based on the types of restaurants and the food served. The data was collected in 2019 before the economic crisis and covid-19 pandemic.

Recommendations for Countries:

- Countries to measure baselines and report progress on SDG 12.3
- Countries to assign national focal points

Recommendations for ESCWA/UNEP:

- UNEP to provide the waste manual once launched
- UNEP to provide a capacity-building after launching the manual and sharing good practices from Saudi Arabia and other regions

12.5.1 National recycling rate, tons of material recycled

One of the sub-indicators of SDG 12.5.1 is e-waste or electronic waste. It refers to all electrical and electronic equipment (EEE) and its parts that the consumer has discarded as waste without the intent of re-use. Reporting on e-waste is important due to the hazardous materials in e-waste, such as heavy metals

[2] Studies on Lebanon food waste:

1. Myra Zeineddine, Samer Kharroubi, Ali Chalak, Hussein Hassan, and Mohamad G. Abiad. Post-Consumer Food Waste Generation while Dining Out: A Close-up View. PLoS ONE (2021). 16(6): e0251947. doi.org/10.1371/journal.pone.0251947
2. Ali Chalak, Hussein F. Hassan, Pamela Aoun, and Mohamad G. Abiad. Drivers and Determinants of Food Waste Generation in Restaurants Serving Mediterranean Mezze-Type Cuisine. Sustainability (2021). 13(11), 6358; https://doi.org/10.3390/su13116358
3. A. Chalak, M.G. Abiad, M. Diab, and L. Nasreddine. The Determinants of Household Food Waste Generation and its Associated Caloric and Nutrient Losses: The Case of Lebanon. PLOS ONE. (2019) 14(12): e0225789 doi.org/10.1371/journal.pone.0225789
4. 13. L. Mattar, M.G. Abiad, A. Chalak, M. Diab, and H. Hassan. Attitudes and Practices Shaping Household Food Waste Generation: Lessons from a Developing Country. Journal of Cleaner Production. (2018) 198: 1219-1223. doi:10.1016/j.jclepro.2018.07.085
5. M.G. Abiad and L. Meho. An Overview on Food Loss and Food Waste research in the Arab World. A Glance at the World / Waste Management. (2018) 76: I-III. doi:10.1016/j.wasman.2017.04.040
6. M.G. Abiad and L. Meho. Food Loss and Food Waste Research in the Arab World: A Systematic Review. Food Security. (2018) 10 (2): 311-322. doi:10.1007/s12571-018-0782-7

and chemicals, and their impact on health. E-waste that is not well managed can pose considerable environmental and health risks such as global warming. E-waste recycling can as well create opportunities as there are at least 57 elements in e-waste.

Therefore, countries must start measuring e-waste because it is a fast-growing problem, and there is very little data on e-waste. There is as well too much discrepancy between official/governmental data and academic data. Therefore, a harmonized framework to measure e-waste has been developed to support the compilation of reliable data on e-waste as a basis for political decision making and the environmentally sound management of used and end of life electric and electronic equipment. E-waste is regrouped into six main categories: temperature exchange, screens, lamps, large equipment, small equipment and small IT. To get an overview of the e-waste, statistics for all the six categories must be available as defined by EU list of waste codes:

Hazardous	
09 01 11*	Single-use cameras containing batteries included in 16 06 01, 16 06 02 or 16 06 03
16 02 09*	Transformers and capacitors containing PCBs
16 02 10*	Discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09
16 02 11*	Discarded equipment containing chlorofluorocarbons, HCFC, HFC
16 02 12*	Discarded equipment containing free asbestos
16 02 13*	Discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12
20 01 21*	Fluorescent tubes and other mercury-containing waste
20 01 23*	Discarded equipment containing chlorofluorocarbons
20 01 35*	Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components
Non-hazardous	
09 01 10	Single-use cameras without batteries
09 01 12	Single-use cameras containing batteries other than those mentioned in 09 01 11
16 02 14	Discarded equipment other than those mentioned in 16 02 09 to 16 02 13
20 01 36	Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23, and 20 01 35

E-waste in Basel convention is more problematic because it is only reporting on the hazardous components unless it can be shown that it does not contain such components. It does not provide a full overview if looking at the codes. However, some codes can be relevant such as A1180 (Waste electrical and electronic assemblies or scrap) and B1110 (Electrical and electronic assemblies).

Measuring e-waste requires good classification using the UNU product categorization of 54 electronic and electrical products. Each of these products have a similar function and comparable average weight and comparable material composition with homogenous life-time distribution. Countries with data on the 54

products can link them to the six categories of e-waste. It can be as well linked to the official statistics and more specifically to the domestic production statistics and to the trade statistics. The following a link between the UNU codes and the HS codes as follows:

UNU-KEY	UNU KEY DESCRIPTION	HS	HS DESCRIPTION
0001	Central Heating (household installed)	840310	Boilers; central heating boilers (excluding those of heading no. 8402)
0001	Central Heating (household installed)	854140	Electrical apparatus; photosensitive, including photovoltaic cells, whether or not assembled in modules or made up into panels, light emitting diodes
0101	Professional Heating & Ventilation (excl. cooling equipment)	845110	Dry-cleaning machines
0101	Professional Heating & Ventilation (excl. cooling equipment)	845130	Ironing machines and presses (including fusing presses)
0102	Dish washers	842211	Dish washing machines; of the household type
0102	Dish washers	842219	Dish washing machines; of other than household type
0103	Kitchen equipment (e.g. large furnaces, ovens, cooking equipment)	851660	Ovens, cookers, cooking plates, boiling rings, grillers and roasters; of a kind used for domestic purposes (excluding microwaves)
0104	Washing Machines (incl. combined dryers)	845011	Washing machines; household or laundry-type, fully-automatic, (of a dry linen capacity not exceeding 10kg)
0104	Washing Machines (incl. combined dryers)	845012	Washing machines; household or laundry-type, with built-in centrifugal drier, (not fully-automatic), of a dry linen capacity not exceeding 10kg
0104	Washing Machines (incl. combined dryers)	845019	Washing machines; household or laundry-type, not fully-automatic, without built-in centrifugal drier, of a dry linen capacity not exceeding 10kg
0104	Washing Machines (incl. combined dryers)	845020	Washing machines; household or laundry-type, of a dry linen capacity exceeding 10kg
0105	Dryers (wash dryers, centrifuges)	842112	Centrifuges; clothes-dryers
0105	Dryers (wash dryers, centrifuges)	845121	Drying machines; of a dry linen capacity not exceeding 10kg
0105	Dryers (wash dryers, centrifuges)	845129	Drying machines; of a dry linen capacity exceeding 10kg
0106	Household Heating & Ventilation (e.g. hoods, ventilators, space heaters)	841460	Hoods; ventilating or recycling hoods incorporating a fan, whether or not fitted with filters, having a maximum horizontal side not exceeding 120cm
0106	Household Heating & Ventilation (e.g. hoods, ventilators, space heaters)	851621	Heating apparatus; electric storage heating radiators
0106	Household Heating & Ventilation (e.g. hoods, ventilators, space heaters)	851629	Heating apparatus; electric soil heating apparatus and space heating apparatus (excluding storage heating radiators)
0108	Fridges (incl. combi-fridges)	841810	Refrigerators and freezers; combined refrigerator-freezers, fitted with separate external doors, electric or other
0108	Fridges (incl. combi-fridges)	841821	Refrigerators; for household use, compression-type, electric or other

To get statistics on e-waste, data must be collected first at the production and trade levels and follow their lifecycle from time products entered the market, sold and consumed, and when the waste was generated. Data collected depend on waste generation and management.
The first step is to collect data on consumption from Trade statistics and domestic production statistics to calculate the EEE placed in the market:
EEE Placed on Market = Domestic Production + Imports - Exports

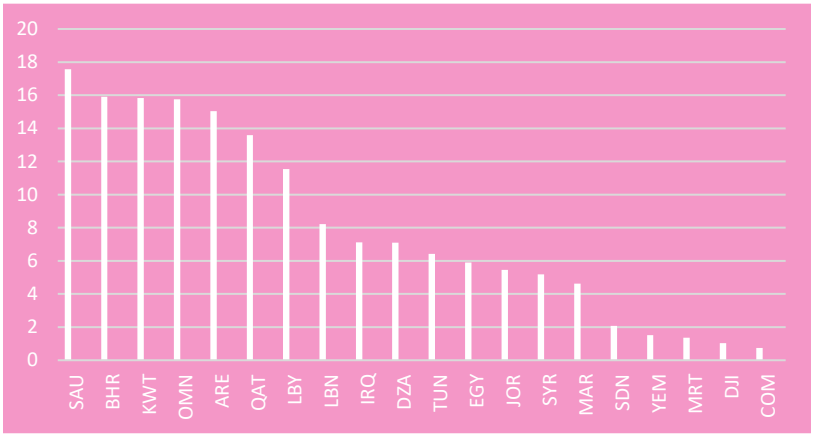
To track the EEE placed on the market, there should be a long time series for 30 years or 20 years with an extrapolation for the missing years and all 54 UNU Keys products. The data is originated from Data collected and published by specific registers or custom organizations and/or national statistical institutes. The second step is to collect data on lifespans using the Weibull function for all 54 UNU keys products. A new project to collect lifespans will be conducted in Lebanon and can be used as a good practice. Lifespans are defined as the Time spent in a household, business, or public sector. It includes the exchange of second-hand equipment. Data can be collected using household or business surveys or modeling by working with universities every 5 or 10 years.

Finally, the amount of e-waste generated can be calculated

$$E\ waste\ generated\ (n) = \sum_{t=t_0}^{n} POM\ (t) * L^{(p)}(t,n)$$

It refers to the E-waste amounts prior to collection/treatment and excludes imports of e-waste.

As part of SDG 12.5.1, the sub-indicator on e-waste is calculated as the ratio between total e-waste recycled and total e-waste generated. The Excel File E-waste is generated by UNEP for countries to replace by national data. An accompanying manual for lifespans and Products entering market will also be provided (where link? Have they shared both?). E-waste generated in the Arab region is highlighted in graph.



The indicator is collected using variables from the UNSD/UNEP Questionnaire on Environment Statistics (waste section - e.g. total amount of municipal waste generated; total amount of municipal waste recycled; municipal waste [imported/exported]). The methodology and selection of data sources are the result of extensive peer reviews at expert group meetings at the international level, such as the UN Statistics Division's Expert Group on Environment Statistics, and SDG Waste Indicators Expert Group Meetings hosted by UNEP and UN HABITAT.

It is calculated as follows:

$$\frac{\text{Material recycled} + \text{Material exported intended for recycling} - \text{material imported intended for recycling}}{\text{Total waste generated}}$$

The data collected on this indicator is done biennially through a Questionnaire that prioritizes official data reported by countries' National Statistical Offices usually or Ministries of Environment. This Questionnaire has, over time, proven to maintain relevance and to be flexible and open to adding new variables in light of changing demands and mandates (it was used in the Millennium Development Goal era (2000-2015), and has been modified since to reflect SDG demand.

This Questionnaire's content is not static. Recent modifications include:

- In 2018, there was the addition of a table collecting data on Electronic waste (e-waste) which followed a pilot exercise in collaboration with some 42 UN member states (including some ESCWA member states). This table included just two variables in 2018, but a further 12 (breakdowns of types of e-waste) were added in 2020.

- In 2018, there was the addition of other variables per SDG demand (e.g. “municipal waste generated”).

SDG-related and other demands continue. Future considerations may include closer analysis of food waste and waste treatment methods.

The questionnaire is composed of six tables, however only two tables are relevant for calculating this indicator:

- R1: Generation of Waste by Source to calculate the denominator (Total waste generated)
- R3: Management of Municipal Waste to calculate the numerator (Municipal waste recycled + Municipal waste exported for treatment/disposal - Municipal waste imported for treatment/disposal)

UNEP and UNSD collaborate with countries whenever there may be limitation in data availability to address challenges and difficulty to collect such data. The 10th round of Questionnaires was sent in Nov 2020 with a deadline of 31 January 2021. UNSD validates countries’ data only and does no imputation nor estimation. For the 2020 UNSD/UNEP Questionnaire, UNSD received data from nine countries namely Bahrain, Egypt, Iraq, Jordan, Oman, Qatar, Saudi Arabia, State of Palestine, the United Arab Emirates. Only six countries, however, provided data for only four variables of the SDG 12.5.1 that appear in the UNSD/UNEP Questionnaire on Environment Statistics. 11 Countries have succeeded in disseminating their country data in the UNSD SDG Database, however none of them reported on them in their national SDG dashboards/VNRs.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in national reports
12.5.1 National recycling rate, tons of material recycled	11 (C): Algeria, Bahrain, Egypt, Kuwait, Lebanon, Morocco, Qatar, State of Palestine, Syrian Arab Republic, Tunisia, UAE		

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available as presented in UNSD SDG database.

Recommendations for Countries:

- Countries to nominate national focal points and set up the data flow with the Ministry of Environment and Waste authority
- Countries can provide source names of their national data via footnotes; e.g., the source is the Ministry of Climate Change and Environment.
- Countries to participate in the Expert Group on Environment Statistics led by UNSD in (i) standardization of methods; (ii) data collection, between 11 and 22 October 2021

Recommendations for ESCWA/UNEP:

- UNEP to share the list of HS codes.
- UNEP to organize a workshop for capacity development on the method of collection and calculation.

- ESCWA will facilitate the organization and management of national focal points at the regional level

12.6.1 Number of companies publishing sustainability reports

The indicator is under target 12.6 that encourages companies, especially large and transnational companies, to adopt sustainable practices and integrate sustainability information into their reporting cycle. It creates an opportunity to advance reporting on the environmental and social performance of companies in member States. The co-custodians for the indicator UNEP and UNCTAD are currently piloting, in collaboration with some member States, the new data collection tool and are updating the methodology accordingly.

SDG 12.6.1 defines a common subset of different key reporting frameworks and standards such as the standards of the Global Reporting Initiative (GRI), the International Integrated Reporting Framework the UN Global Compact to reduce reporting burden.

Sustainability reports are corporate reporting on environmental, social, and governance (ESG) issues (non-financial reporting). The methodology for 12.6.1 introduces minimum requirements in order to avoid that reports that are purely for branding and communication are not counted towards the indicator. Other reports that include sustainability information will also be considered such as: annual reports, integrated reports and climate related reports that contain relevant data.

Some examples of the minimum requirements are listed in the table below:

Institutional and governance: • Sustainability strategy (priority issues, key impacts...) • Governance structure • Measures of anti-fraud/corruption	Economic: • Basic information on the direct (profit and revenue of the company) and indirect (investment, infrastructure and R&D expenditures) measures of economic performance
Environmental: • Energy consumption • Water consumption • GHG emissions • Other emissions and effluents • Waste generation / minimisation and recycling practices	Social: • Occupational health and safety • Number of employees • Employee training • Unfair/illegal labour practices • Human rights • Diversity

To encourage high quality reporting, the methodology also introduces advanced level requirements to reflect the most advanced sustainability reporting practices. The inclusion of an 'advanced level' allows for tracking of the increase in quality of sustainability reporting at the national level over time.

Examples of the 'advanced level' requirements include:

- Stakeholder engagement
- Supplier sustainability engagement
- Sustainable procurement and sourcing
- Environmental performance information in terms of intensity values (e.g. consumption of energy, and water per unit of production)

Reporting on the indicator is done at the global level (by the co-custodians for the indicator UNEP and UNCTAD) and should with time also be conducted by member states. The global level data collection (currently in pilot phase) follows four key steps:

1. Collecting data from relevant public databases for corporate sustainability reports such as the databases of the GRI and the UN Global Compact.
2. Analyzing reports in terms of minimum and advanced level requirements using AI technology.
3. Generating country statistics (data is aggregated at sub-regional, regional and global levels).
4. UNEP and UNCTAD report to the UNSD SDG Global Database by country, by company size, and by sector.

Countries can use and disseminate this data when the global data gathering has been further established. In parallel to the further development of the global data gathering for 12.6.1 the co-custodians will be working on guiding and building capacity for member states to report on the indicator (using data from the global data gathering when relevant). So far none of the countries have yet reported on this indicator as information is sustainability reporting (or annual reporting) is generally not organized at the national level.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in national reports
12.6.1 Number of companies publishing sustainability reports	0	22 (G)	

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available as presented in UNSD SDG database.

Additional sources are needed to capture more reports and to develop a global database of reports in collaboration with member States. This can be achieved through bilateral discussions with national partners on how to better capture data and how can governments assist in the advancement of the reporting processes on this indicator.

Recommendations for Countries:

- Countries are invited to investigate potential data providers to automatically collect sustainability (and annual) reports
- Assist UNEP and ESCWA efforts in establishing national focal points through Chamber of Commerce
- Countries can use and disseminate the data collected by UNEP as country data.

Recommendations for ESCWA/UNEP:

- UNEP to provide countries with the final version of the methodology once completed.

- UNEP to organize bilateral meetings with countries' focal points to verify data and identify new sources of reports.
- UNEP and ESCWA will collaborate to organize a training workshop for nominated focal points.

12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption)

Fossil-fuel subsidies are defined based on the IEA statistical manual and the agreement on subsidies and controlling measures (ASCM) as **Subsidy = (Reference price - End-user price) × Units consumed.**
The classification of energy products should follow the standardized descriptions of UNSD central product classification (CPC) . The reform of fossil-fuel subsidies is crucial for the achievement of SDGs. While fuel subsidies are often advocated as a measure to fight poverty (SDG1), studies showed that many subsidies do not reach the poorest households. According to IMF research, the richest 20% of households capture more than 6 times the benefit of fossil-fuel subsidies as compared to the poorest 20%. This phenomenon is most pronounced for gasoline but can even be observed for others like kerosene. Untargeted fossil-fuel subsidies are therefore an extremely costly approach to protect the welfare of poor households which can be better supported with targeted social programs.

The methodology for measuring fossil-fuel subsidies in the context of the SDGs was prepared in consultation with international experts on fossil-fuel subsidies of formal international experts' group on fossil-fuel. The methodology includes measuring three sub-indicators at the national, regional and global level: direct transfer of government funds, induced transfers (price support) and as an optional sub-indicator, tax expenditure, other revenue foregone and underpricing of goods and services.

Subsidy category	Data availability	Complexity	Acceptance	Recommendation for SGDs	
				National	Global
Direct transfer of funds	++	++	++	Yes	Yes
Introduced transfers (price support)	+	+	++	Yes	Yes
Tax expenditure, other revenue foregone, and under-pricing of goods and services	+	0	+	Yes, but optional*	Yes, but optional*
Transfer of risk	-	-	0	No	No

++ (green) means "excellent" or "low degree of complexity"
+ (yellow) means "good" or "moderate degree of complexity"
0 (orange) means "neutral"
- (red) means "poor" or "difficult"

* Countries are invited to report existing information and build up information on this category progressively. In 2025 it should be considered whether this indicator can be fully included.

a. Direct transfer of funds refers to payments that are made by governments or bodies acting on behalf of governments to individual recipients. It includes direct spending for specific support programs and government ownership fully, or through equity shares, of energy related companies. In the system of national accounts, capital transfers are subdivided into three components: capital taxes, investment

grants and other capital transfers. Those are one form of direct payments which are defined as unrequited transfers where either the party making the transfer realizes the funds involved by disposing of an asset or by relinquishing a financial claim or the party receiving the transfer is obliged to acquire an asset or both conditions. It is recommended, for the purpose of this indicator, that direct transfers of funds are reported by governments with the exception of equity infusions into fossil-fuel electricity producing firms and government procurement except where such public procurement accounts for the majority of the volume of fuel or electricity sold in a country. Not clear on sentence in one para!

b. Induced transfers arise as a consequence of government intervention. It affects producers and consumer prices through direct price regulation, pricing formulas, border controller taxes and domestic purchases.

c. Tax expenditures are defined as the monetary value of tax breaks, government revenue foregone is targeted reductions for specific industries of import or other duties and underpricing of goods and services including risk access to government services and goods for free or at reduced prices.

Self-reports that list tax expenditures and underpricing of other goods and services like the ones prepared by G20 countries for the purpose of their peer review of inefficient fossil-fuel subsidies, can be used to collect data on this indicator. It is important to note that all subsidies should be included to have a comprehensive assessment of this indicator. Given intensity of data to assess tax treatment of fossil-fuel production and some categories of underpricing of other goods and services, this category should be included in national and international monitoring as a separate sub-indicator. Countries should, however, have the option to report on this at national level since information or the resources are not yet available.

The process of reporting on this indicator is done through Indicator Reporting Information System (IRIS) platform. The value reported will be zero when countries that do not provide any subsidies to both consumers and producers of fossil fuel subsidies – Whenever data are not reported by countries, the agency, in agreement with national officials, will either use official or non-official databases.

None of the 22 Arab countries have disseminated country data in the UNSD SDG Global Database. International estimates have been produced for 18 countries by the OECD, IMF, IASD and IEA. Mauritania is the only country that has used and disseminated the estimates in their VNR.

Indicators	UNSD Database (C-CA)	UNSD Database (E-M-N-NA-G)	SDG in national reports
12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption)	0	18 (E): Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Tunisia, UAE, Yemen	E = Mauritania

C: country data, CA: country adjusted data, E: estimated data, G: global monitoring data, M: modeled data, N: non-relevant data, NA: data nature not available as presented in UNSD SDG database. = National data is same as Estimated data

Recommendations for Countries:

- Countries should ensure effective coordination between the various government agencies involved in the production of the requisite data for the indicator and build capacity for national reporting of the indicator. During this process, countries may use international estimates prepared by various international agencies (e.g. OECD, IMF, IEA etc.) to report to the UNSD.
- Countries to identify and nominate national focal points best placed to coordinate national data generation, collection, and reporting for the indicator

Recommendations for ESCWA/UNEP:

- UNEP to organize workshops for focal points and other relevant stakeholders to familiarize them with the SDG 12c1 methodology on the what and how of national data collection, and the reporting format and usage of IRIS platform for the indicator.

ATTENDANCE AND EVALUATION

The electronic evaluation results for the seven-days ESCWA/UNEP SDG Series came as follow:

Q1: How do you rate the overall quality of this Webinar?
Q2: How successful was the webinar in reaching its intended objectives?
Q3: How would you evaluate the inputs provided by the presenters in reaching the intended outcome of the webinar?
Q4: How would you evaluate the overall organization and logistics of the webinar?

Indicator	Date	# of Submitted Evaluations	Excellent	Good	Fair	Excellent %	Good %	Fair %
	25-May-21							
Q1		14	6	7	1	43%	50%	7%
Q2		14	4	9	1	29%	64%	7%
Q3		14	6	8	0	43%	57%	0%
Q4		14	7	7	0	50%	50%	0%
	26-May-21							
Q1		11	3	8	0	27%	73%	0%
Q2		11	4	7	0	36%	64%	0%
Q3		11	5	6	0	45%	55%	0%
Q4		11	7	4	0	64%	36%	0%
	27-May-21							
Q1		18	12	5	1	67%	28%	6%
Q2		18	10	6	2	56%	33%	11%
Q3		18	11	6	1	61%	33%	6%
Q4		18	11	6	1	61%	33%	6%
	07-Jun-21							
Q1		13	8	5	0	62%	38%	0%
Q2		13	5	6	2	38%	46%	15%
Q3		13	5	6	2	38%	46%	15%
Q4		13	10	3	0	77%	23%	0%
	08-Jun-21							
Q1		15	8	7	0	53%	47%	0%
Q2		15	7	7	1	47%	47%	7%
Q3		15	7	8	0	47%	53%	0%
Q4		15	7	8	0	47%	53%	0%

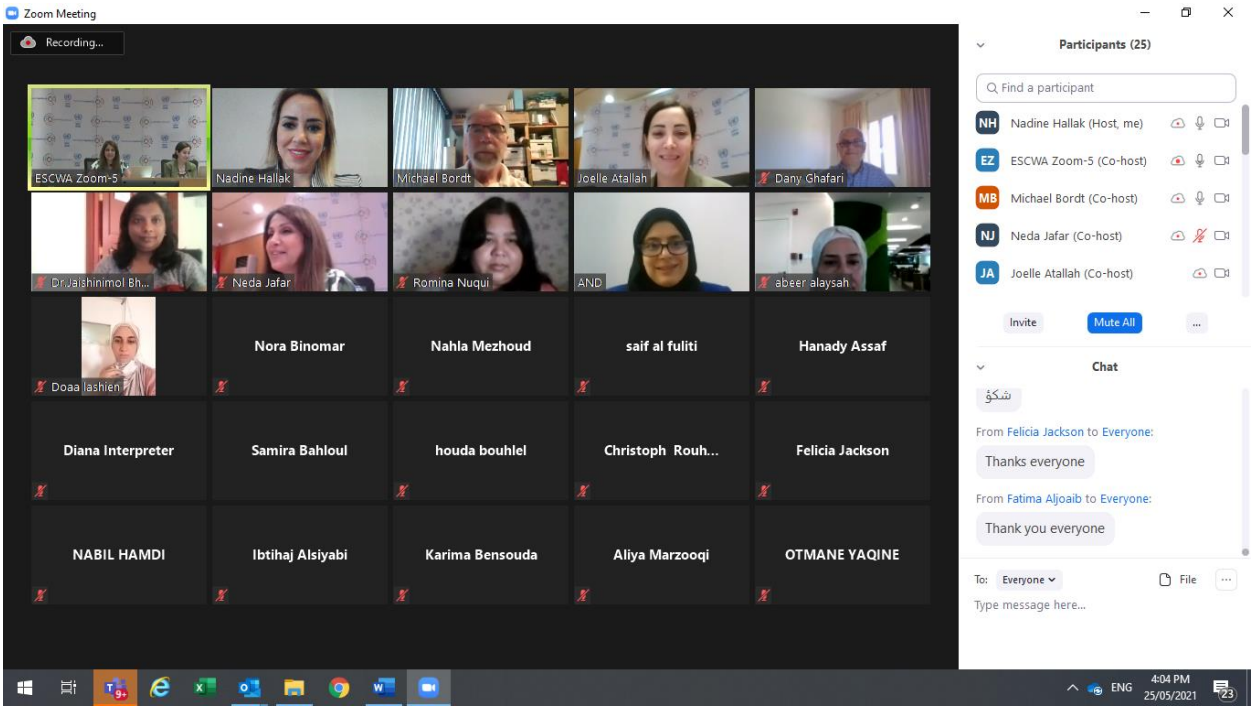
	09-Jun-21							
Q1		15	9	6	0	60%	40%	0%
Q2		15	7	8	0	47%	53%	0%
Q3		15	7	8	0	47%	53%	0%
Q4		15	10	5	0	67%	33%	0%
	10-Jun-21							
Q1		17	11	6	0	65%	35%	0%
Q2		17	10	7	0	59%	41%	0%
Q3		17	10	7	0	59%	41%	0%
Q4		17	10	7	0	59%	41%	0%

TRAINING CERTIFICATION

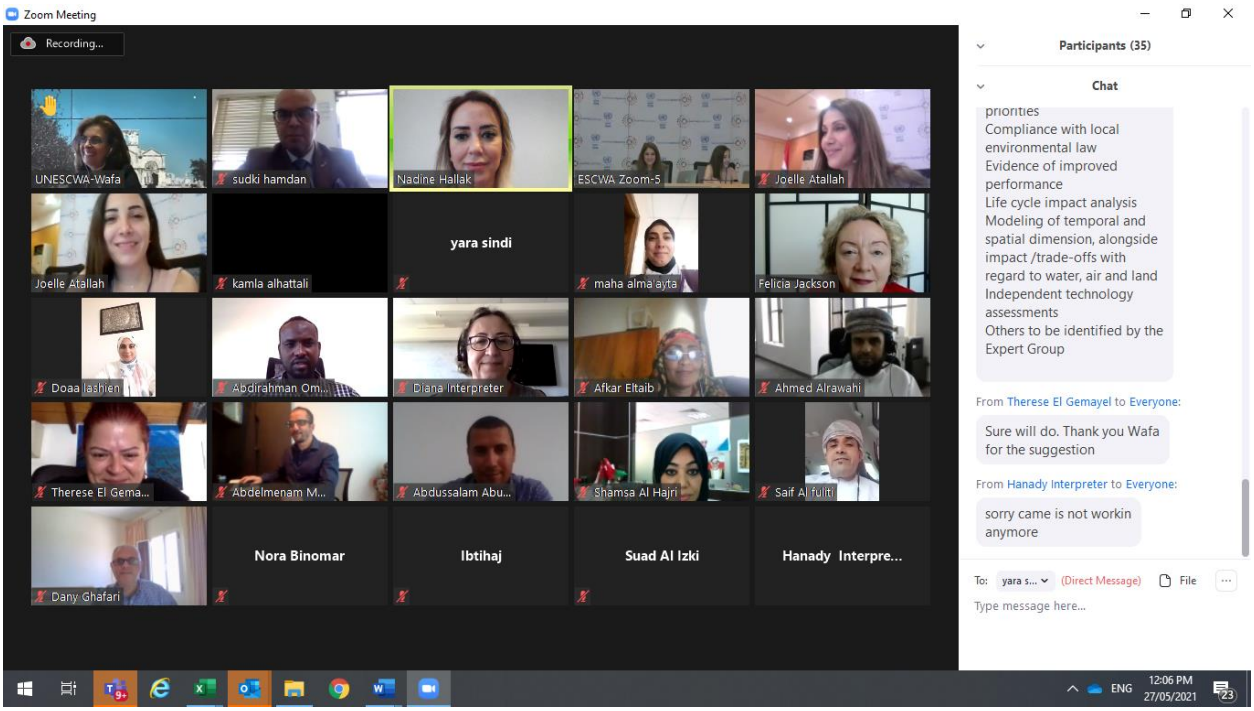
Participants who successfully attended the ESCWA SDG webinar were awarded a training certificate by the organizers.

GROUP PHOTOS

25 May 2021



27 May 2021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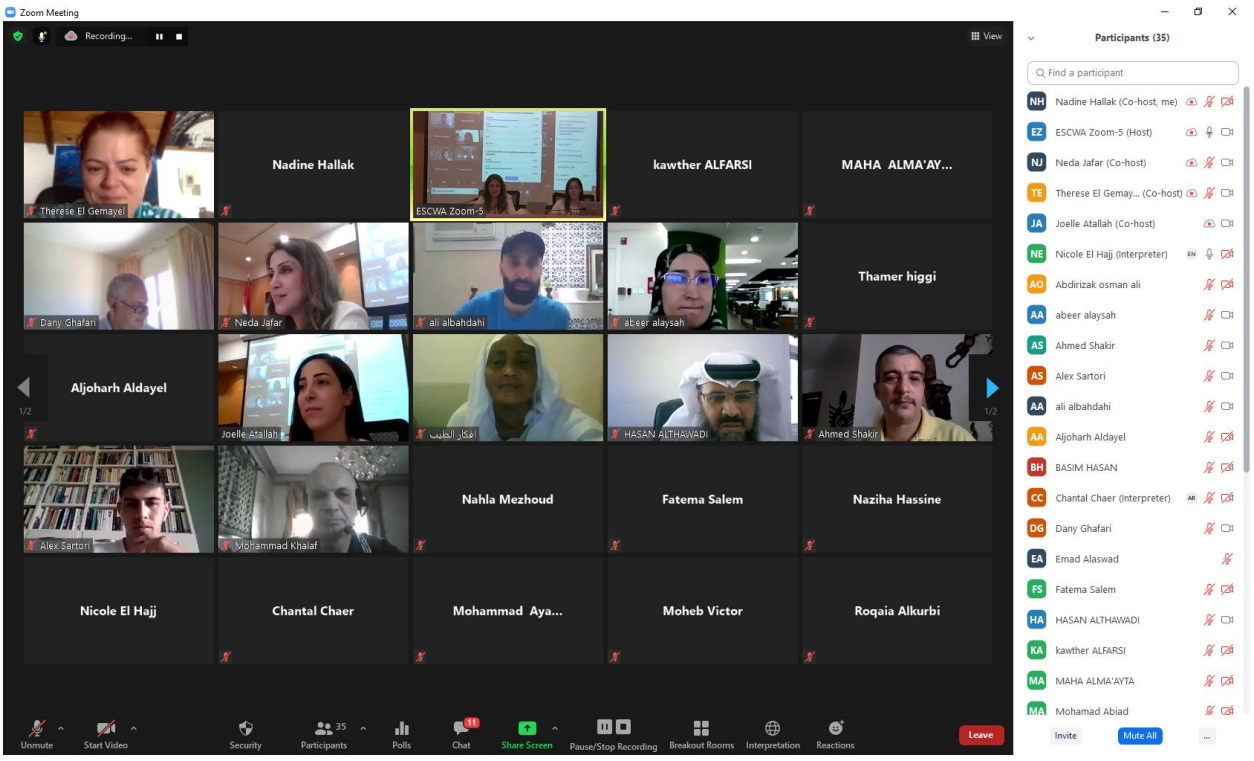
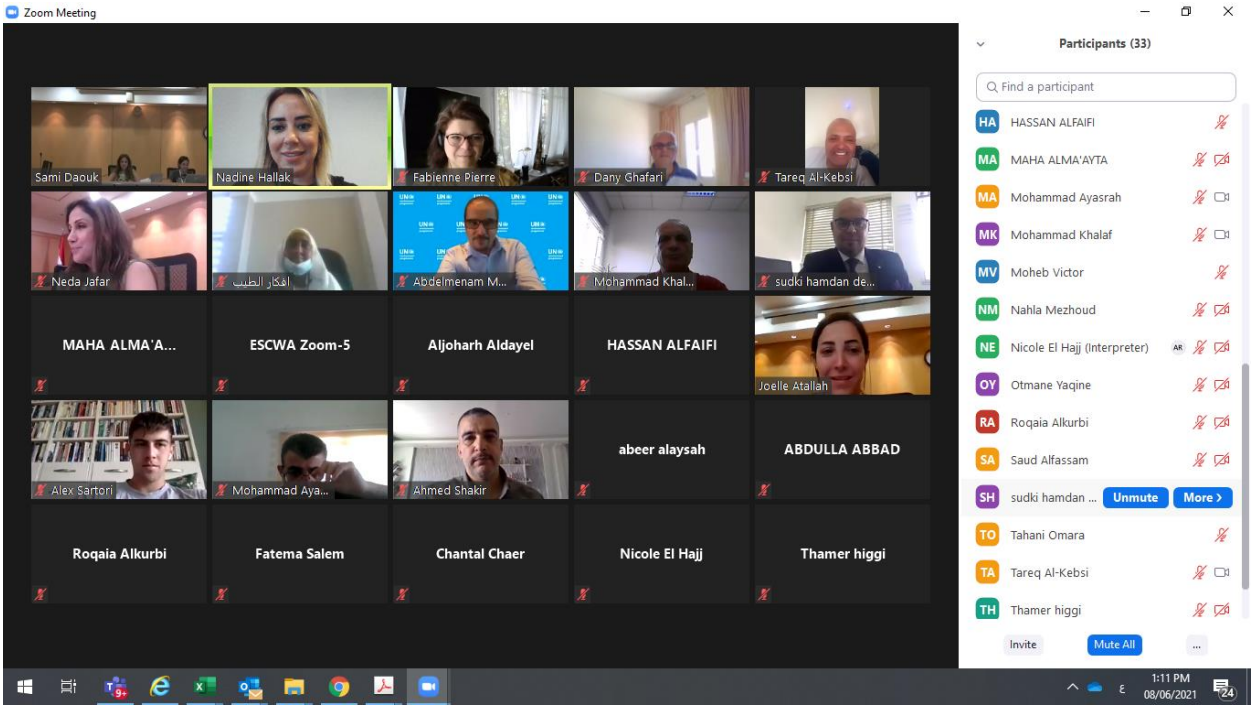
UNESCWA-Wafa
sudki hamdan
Nadine Hallak
ESCWA Zoom-5
Joelle Atallah
Joelle Atallah
kamla alhattali
yara sindi
maha alma'ayta
Felicia Jackson
Doaa Jashen
Abdirahman Om...
Diana Interpreter
Afkar Eltaib
Ahmed Alrawahi
Therese El Gema...
Abdelmenam M...
Abdussalam Abu...
Shamsa Al Hajri
Saif Al Fuiti
Dany Ghafari
Nora Binomar
Ibtihaj
Suad Al Izki
Hanady Interpre...
Participants (35)
Chat
priorities
Compliance with local environmental law
Evidence of improved performance
Life cycle impact analysis
Modeling of temporal and spatial dimension, alongside impact /trade-offs with regard to water, air and land
Independent technology assessments
Others to be identified by the Expert Group
From Therese El Gemayel to Everyone:
Sure will do. Thank you Wafa for the suggestion
From Hanady Interpreter to Everyone:
sorry came is not workin anymore
To: yara s... (Direct Message)
File
Type message here...
ENG
12:06 PM
27/05/2021

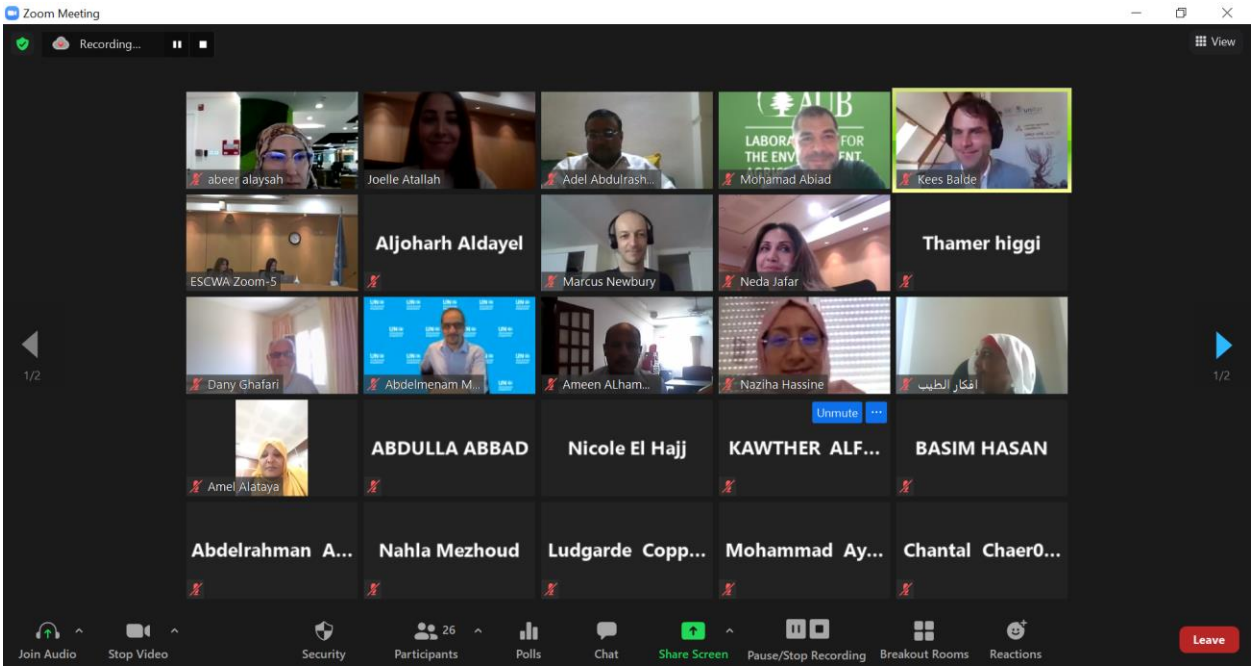
07 June 2021


Zoom Meeting
Recording...
View
Therese El Gemayel
Nadine Hallak
ESCWA Zoom-5
kawther ALFARSI
MAHA ALMA'AY...
Dany Ghafari
Neda Jafar
ali albahdahi
abeer alaysah
Thamer higgi
Aljoharh Aldayel
Joelle Atallah
HASAN ALTHAWADI
Ahmed Shakir
Alex Sartori
Mohammad Khalaf
Nahla Mezhoud
Fatema Salem
Naziha Hassine
Nicole El Hajj
Chantal Chaer
Mohammad Aya...
Moheb Victor
Roqaia Alkurbi
Unmute
Start Video
Security
Participants
Polls
Chat
Share Screen
Pause/Stop Recording
Breakout Rooms
Interpretation
Reactions
Leave
Participants (35)
Find a participant
Nadine Hallak (Co-host, me)
ESCWA Zoom-5 (Host)
Neda Jafar (Co-host)
Therese El Gemay... (Co-host)
Joelle Atallah (Co-host)
Nicole El Hajj (Interpreter)
Abdirizak osman ali
abeer alaysah
Ahmed Shakir
Alex Sartori
ali albahdahi
Aljoharh Aldayel
BASIM HASAN
Chantal Chaer (Interpreter)
Dany Ghafari
Emad Alaswad
Fatema Salem
HASAN ALTHAWADI
kawther ALFARSI
MAHA ALMA'AYTA
Mohamad Abiad
Invite
Mute All

08 June 2021



09 June 2021



LIST OF ANNEXES

Annex 1: AGENDA

Day: 25 May		Speakers
1:00 P.M. – 4:00 P.M.	Introduction to the Webinar (objective, speakers, and content)	ESCWA – Neda Jafar
	Welcome Note	UNEP - Abdelmenam Mohamed
	14.1.1 (a) Index of coastal eutrophication; and (b) plastic debris density	UNEP – Michael Bordt
	14.2.1 Number of countries using ecosystem-based approaches to managing marine areas	UNEP – Michael Bordt
	Algeria Experience Discussion – Q&A	Halima Cherifi
Day: 26 May		
10:00 A.M. – 10:45 A.M.	6.3.2 Proportion of bodies of water with good ambient water quality	UNEP – Stuart Warner, Kilian Christ, Philipp Saile
	Welcome, participants introduction	UNEP – Stuart Warner, Kilian Christ, Philipp Saile
10:45 A.M. – 11:30 A.M.	Overview of methodology, data requirements, Tunisia – country perspective	Olfa Sebai
11:30 A.M. – 12:45 P.M.	Discussions on methodology, implementation challenges, outlook and future	UNEP – Stuart Warner, Kilian Christ, Philipp Saile
Day: 27 May		
10:00 A.M. – 12:15 P.M.	17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development	UNEP – Diane Klaimi
	Jordan Experience Discussion – Q&A	Maha Alma'ayta
	17.7.1 Total amount of funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies	UNEP – Felicia Jackson
	Jordan Experience Discussion – Q&A	Maha Alma'ayta
Day: 7 June		
1:00 – 2:15 P.M.	8.4.1 Material footprint, material footprint per capita, and material footprint per GDP/12.2.1	UNEP – Dany Ghafari
	8.4.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP/12.2.2	UNEP – Therese Gemayel
	Discussion – Q&A	
Day: 8 June		
1:00 – 4:00 P.M.	12.1.1 Number of countries developing, adopting or implementing policy instruments aimed at supporting the shift to sustainable consumption and production	UNEP – Fabienne Pierre

	12.7.1 Degree of sustainable public procurement policies and action plan implementation	UNEP – Farid Yaker
	Jordan experience Discussion – Q&A	Maha Alma'ayta
Day: 9 June		
1:00 – 3:30 P.M.	12.3.1 (b) Food waste index	UNEP – Clementine O'Connor UNEP – Paolo Marengo
	12.5.1 National recycling rate, tons of material recycled	UNSD – Marcus Newbury UNU – Kees Balde
	Lebanon Experience Discussion – Q&A	Dr. Mohamad Abiad
Day: 10 June		
1:00 – 3:00 P.M.	12.6.1 Number of companies publishing sustainability reports	UNEP - Hanna Thorsteinsdottir
	12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption)	UNEP – Himanshu Sharma
	Discussion – Q&A	
	Way forward and conclusion	ESCWA – Neda Jafar UNEP – Therese El Gemayel

Annex 2: LIST OF ORGANIZERS & PARTICIPANTS

LIST OF ORGANIZERS

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Annex 3: RESOURCES

SDG 14.1.1a:

- http://www.cearac-project.org/wg3/publications/HAB_Booklet.pdf
- Understanding the State of the Ocean: A Global Manual on Measuring SDG 14.1.1, SDG 14.2.1 and SDG 14.5.1, United Nations Environment Programme (2021) URI: https://wedocs.unep.org/20.500.11822/35086

SDG 14.1.1b:

- Understanding the State of the Ocean: A Global Manual on Measuring SDG 14.1.1, SDG 14.2.1 and SDG 14.5.1, United Nations Environment Programme (2021) URI: https://wedocs.unep.org/20.500.11822/35086
- Guidelines for the Monitoring and Assessment of Plastic Litter in the Ocean: http://www.gesamp.org/publications/guidelines-for-the-monitoring-and-assessment-of-plastic-litter-in-the-ocean
- https://www.unescwa.org/escwa_glossary

SDG 6.3.2:

- Progress on ambient water quality: Piloting the monitoring methodology and initial findings for SDG 6.3.2: https://www.unwater.org/app/uploads/2018/12/SDG6_Indicator_Report_632_Progress-on-Ambient-Water-Quality_ENGLISH_2018-1.pdf
- Sustainable Development Goal Indicator 6.3.2 Technical Feedback Process Report: https://www.ucc.ie/en/media/research/watercapacitydevelopmentcentre/CDC_SDGTechnicalFeedbackProcessReport_20191008.pdf
- Documents and Material at the SDG 6 support portal https://communities.unep.org/display/sdg632/Documents+and+Materials
- 3rd State of the water report for the Arab Region: http://www.arabwatercouncil.org/images/Arab-Water-Report/3rd-Arab-SOW-Report-E.pdf
- Indicator 632 Support Platform: https://communities.unep.org/display/sdg632/Documents+and+Materials

SDG 17.14.1:

- IRIS Dashboard: https://wesr.unep.org/iris-sdg/login

SDG 17.7.1:

- https://app.powerbi.com/view?r=eyJrIjoiZmJhNTNmZGItZTk5MS00NGYzLWJkNTMtN2FmMWUwZDg4YTBhIiwidCI6IjBmOWUzNWRiLTU0NGYtNGY2MC1iZGNjLTVlYTQxNmU2ZGM3MCIsImMiOjh9&pageName=ReportSectiona1113a1a41524870ce1

SDG 8.4.1/12.2.1 - 8.4.2/12.2.2

- The use of natural resources in the economy - A Global Manual on Economy Wide Material Flow Accounting: https://wedocs.unep.org/bitstream/handle/20.500.11822/36253/UNRE.pdf

- Environmental SDG Indicators Online Course: https://www.unitar.org/event/full-catalog/environmental-sdg-indicators

SDG 12.1.1:

- One Planet Network platform: www.oneplanetnetwork.org
- Five years in: The One Planet Network 2012-2017: https://www.oneplanetnetwork.org/sites/default/files/one_planet_network_mid-term_magazine.pdf

SDG 12.7.1:

- 2013 Global SPP review: http://www.scpclearinghouse.org/resource/sustainable-public-procurement-global-review-2013
- 2017 Global SPP review: http://www.scpclearinghouse.org/resource/2017-global-review-sustainable-public-procurement

SDG 12.3.1(b):

- Enhancing NDCs for food systems, Recommendations for decision-makers: https://www.ndcs.undp.org/content/ndc-support-programme/en/home/impact-and-learning/library/wwf-unep-enhancing-ndcs-for-food-systems---recommendations-for-d.html
- Food waste index report 2021: https://www.unep.org/resources/report/unep-food-waste-index-report-2021

SDG 12.5.1:

- https://unstats.un.org/sdgs/metadata/files/Metadata-12-05-01.pdf
- https://unstats.un.org/unsd/envstats/country_files
- https://unstats.un.org/unsd/envstats/index.cshtml
- https://unstats.un.org/unsd/envstats/questionnaire
- https://unstats.un.org/unsd/envstats/fdes/fdes_eges.cshtml
- https://unstats.un.org/unsd/envstats/fdes.cshtml
- https://unstats.un.org/unsd/envstats/ClimateChange_StatAndInd_global.cshtml
- http://collections.unu.edu/eserv/UNU:6477/RZ_EWaste_Guidelines_LoRes.pdf
- https://unstats.un.org/unsd/envstats/Questionnaires/2018/q2018Waste_English.pdf
- Capacity building page at: www.globalewaste.org

SDG 12.6.1 – 12.c.1

- Environmental SDG Indicators Online Course: https://www.unitar.org/event/full-catalog/environmental-sdg-indicators

Methodology for SDG 12.6.1 (under revision): https://uneplive.unep.org/media/docs/projects/draft_proposal_methodology_12_6_1_may_2019.pdf

Annex 4: Q & A

Country /Name	Questions	Answers
Indicator 14.1.1a		
UAE – Abeer Alaysah	What is the periodicity of the data taken from satellite images and the analysis done for the percentage silica, nitrogen, and phosphorus in the water? How the monitoring cycle is established for Chlorophyll A? The data is extracted or taken from countries?	There is a global coverage every month but what the agencies try to do is to build up a picture by the year. But if the experts try to predict an algal bloom, this is a kind of a different process from simply reporting an annual indicator. The priority for this indicator is to report on the status annually which can be done easily from available satellite imagery. The modelling and the case studies are now done more frequently but now directly related to the indicator. There are activities that use satellite imagery to predict the algal bloom. For the Chlorophyll A deviation and anomalies, a monthly mean product is used, so the measurements are done daily and are aggregated into monthly averages using remote sensing data which is aggregated yearly. But data downloaded from satellites are monthly averages. The level 1 data is estimated from global remote sensing or global modelling which require ground proofing from countries. The level 2 data regarding the index of eutrophication, it comes directly from countries through UNEP regional seas programme.
ESCWA	Does UNEP have established focal points from ministries to whom they send the letters for data collection? Or the letters are sent to NSOs?	The letters are usually sent for the first time to the NSOs to nominate focal points. Some environment related indicators have already established reporting focal points nominated either by the Ministry of Planning, the Ministry of Finance, or the Ministry of Environment. Usually the process goes through the NSOs for data production and validation before UNEP disseminates the data.
Algeria - Cherifi Naima	Are there any comparison between this indicator and plastic pollution?	Not yet because it is a new indicator.
UAE – Abeer Alaysah	To what extent you make consultation with countries about the data extracted from satellite imagery?	The methodology for this indicator has been approved by IAEG-SDG, whose members have representatives from NSOs in the region which automatically makes level 1 data approved. For other indicators, UNEP produces estimates and undergoes validation process with countries, if they have the means. UNEP requests countries' approval to publish the data before dissemination.

Indicator 14.1.1b		
UAE – Aliya Marzooqi	Are the data coming from organization recognizing blue beaches to be included?	UNEP are not aware of this kind of organizations. But we are currently working with citizen science data such as Ocean Conservancy whom they collect data from different countries through their scientists. It is a combined data from European environment agency, from NOA and from the International Coastal Cleanup. This data on beach cleanup is collected and is used for the first time. We are currently working with Ocean Conservancy on the development of guidelines for the methodology to build up a beach cleanup survey. A mobile application is going to be used as well for citizen science to report beach cleanup data.
Algeria - Cherifi Naima	How to know the sources of plastic if it comes from somewhere far? Are there any guidelines and best practices published online that can be used for data collection?	There are two ways to distinguish between the sources of plastics, one is the ocean current modelling to know what the trends of the currents which is probabilistic and can help distinguish from which countries these plastics are coming from but some countries are doing some analysis of the materials themselves so if it is fairly recent or labelled it helps know the source. These methods give some basic information of the sources of plastic. Another source is the academic research. UNEP is currently working on Global Partnership Platform on Marine Litter (GPML). It is still under development and it is going to host most of the plastic pollution related data. There is also a new developed website by IDM to be hosted as well on the platform. We have currently the SDG data for 14.1.1b and we started reporting the citizen science data and will start collecting data from countries on the remaining part of this indicator.
ESCWA	What do the countries need to do to collect this data? Will the manual already published help the countries collect the data ana publish it?	The ocean manual is the first step to collect the data. It is a detailed guideline on how to collect data for the 3 indicators 14.1.1, 14.2.1 and 14.5.1 for the technical people responsible on collecting the data and publishing it. Regarding the best practices, it differs from one country to another. Some countries use the administrative data as source of data, and some other countries do calculations. Therefore, internal coordination between different stakeholders, NSOs and line ministries is a must.
Indicator 14.2.1		

ESCWA	Why there is no reporting on the website of Ocean seas program since four years?	The reporting on this indicator in done every five years. Now UNEP is working with the Regional seas to collect the data they already have and for the countries that do not have data, we will be addressing them by sending letters to initiate the communication and to identify the focal points for this indicator.
UAE – Abeer Alaysah	If the country did not sign the convention of the seas, does it have to declare the management system?	Not all countries have recognized the convention and did not report on the management. UNEP does not force countries to report on the SDG indicators. If any country wants to report and it is not a member of any regional seas, UNEP will send the country the questionnaire directly.
Indicator 6.3.2		
ESCWA	Does the ministry collaborate with the NSO to provide the data?	Yes of course, this process must be done to share the data with the NSO and the national ministry of cooperation. The data as well as a report will be shared on the website of the ministry.
UAE – Abeer Alaysah	Is it a monthly reporting and aggregated for the year? Which standards are used to compare countries; is it based on WHO standards or UNEP standards?	The frequency of the data collection depends on the hydrogeological environment for ground water. If it is a very deep aquifer with very little changes, that would require a lower frequency of monitoring than a shallower aquifer which has a greater connectivity with the surface. The reporting is done on a three years cycle now. The first data drive was on 2017 and the second one on 2020. UNEP asks for data that covers three years period; data collected in the preceding 3 years are aggregated for the following year reporting. For example, for the 2020 data drive, the data should have been collected in 2017, 2018 and 2019 which will be aggregated to create the indicator score for 2020. This is to ensure that if there is an annual variation of the data, this can be smoothed out. The score for each year is an average of the data. The recommendation in the core methodology is based on the individual sampling or monitoring data values. The idea is to have a longer time spent such as three years where all the monitoring data are taken into account, for example three years of monitoring at the same point, 10 monitoring values for a specific parameter like the electric connectivity and those ones are compared with the specific target value already the country has which could be the national value for example from the WHO drinking guidelines. Out of these 10 monitoring values, if 8 or more are below drinking water guidelines then this would be assessed as good and vice-versa.

		So, the country doesn't aggregate necessarily the actual monitoring data to averages. There is also the option if only monthly or annual averages are available, this data can be used but by averaging the monitoring data, the extremes will be lost which means different target values must be used. In the absence of target values, for ground waters, for nitrate for example the WHO target is 15mg/l which is often used by countries which make sense for the countries who have little connection with the surface waters especially if that water is used mainly for drinking and human use. For countries who have missing targets for ambient water quality they can use human use target value which is encouraged especially for groundwater, but it is better to set target values which are based on the characteristics that water body providing the water. The target values should take the historic information of these bodies as well.
Indicator 17.7.1		
ESCWA	Is the proxy limited for the funding?	The indicator is about the funding that goes to developing countries which mean private sector investment, donors investment, aid,… The challenge is that for EST this data does not exist or is easy to identify. The trade proxy is to understand the dynamics of how money is flowing in the sectors in these countries and trade is the best way to do that. The idea is to know where the money generated from export is used to fund. Once the non-perspective list is identified and the national offices have decided on their ow definitions in their own context, national capacities to collect the data and report will then be built.
Jordan – Sudki	My question is how to calculate the indicator for the licensed electric cars already existing in Jordan and the one imported?	There will be difficulties with data with different baselines, years and definitions. Regarding your question, there is a difference between what is imported and exported for the benefit of that sector and individual license granted to enable those vehicles. A lot of this complexity is about unpicking what it is tracked.
Indicator 17.14.1		
ESCWA	Did UNEP conduct any briefing with any country regarding this indicator?	UNEP held an informative session for West Asia which was an introductory session. A bilateral meeting was also held with the State of Palestine where the agency assists the country to do the reporting process.

ESCWA	To which entity the letter was sent? To the NSOs or to the SDG focal points at the Ministry of Planning?	In the case of Jordan, the letter was sent to the NSO which reverted with the name of the focal point. For the new indicators which do not have focal points, the letters were sent to the NSO SDG focal points.
Indicator 8.4.1/12.2.1 – 8.4.2/12.2.2		
UAE – Abeer Alayasah	How countries do calculate the indicators? Is there any model to adjust the data?	The economy wide global material flow account manual will be shared to facilitate the calculation and the reporting of the data. For the national statistics, when it comes to domestic extraction, these data should be taken from the administrative records or surveys. For the imports and exports, the data should be available in the trade register or if not available, taken from the comtrade database. For the biomass, countries are for example reporting to FAO.
UAE – Abeer Alayasah	With whom in UAE was the consultation process done for SDG 8.4.1?	UNEP did an estimation based on Eurostat data and did not proceed with any consultation yet. But the countries participating in the interagency and experts' group for SDG agreed to share the estimated data. The consultation will be done once the data collection process starts at the end of this year.
Indicator 12.3.1b		
ESCWA	Will the countries be able to disseminate country data after they participate in the working group?	The food waste index report identifies about 15 countries worldwide that have robust estimates on one or more factors. These data are expected to be included in the UNSD global database by September 2022 and indeed the purpose of these working groups is to provide the technical capacity to countries to support their measurement of the baselines. In February, UNEP have reported the first 14 countries with high reliable estimates and by the end of June all the other countries will be included. The data is an estimation of the food waste index based on modelling and will be associated with a footnote for the quality of the data if it is very law reliable data, law reliable data or medium reliable data. 38 countries with medium reliable data will be also included as well. All the remaining countries will be included with estimation with a footnote and once the country data is available in 2022, the estimated data will be replaced. So, the baseline will be 2019 food waste report published this year by UNEP and starting from next year the level 2 data will be collected.
ESCWA	Were the focal points of the 15 countries from NSOs or were	The good data UNEP has published in the report for most countries came from the Ministries of the Environment and for some countries from the Ministries of Agriculture.

	they from the Ministry of the Environment?	
UAE – Abeer Alaysah	Is the questionnaire of waste sent annually to countries? Or a new questionnaire will be sent?	UNEP is working on amending the questionnaire complementing to focus on more sections of the food value chain. Questionnaire sent out every two years to National Statistical Offices and Ministries of Environment, which will nominate a single food waste focal point in the country to coordinate data collection and reporting.
State of Palestine – Zaghloul Samhan	Does the study on Western Asia Region includes disaggregated data for each country or an aggregated data for the region?	The study complied report with some initiatives that have been implemented in the region and includes some figures disaggregated by country, but the main purpose was not to monitor at the country level. The focus was to distinguish the countries trying to establish the baselines to help them.
Yemen – Dr. Adel Abdul Rasheed	Can we follow Saudi Arabia's experience as a good practice?	UNEP organized with FAO a webinar to dialogue with Saudi Arabia and to understand their methodology and extract the lessons learned to replicate this exercise and adapt it to the context of other countries.
UAE – Abeer Alaysah	Which country has the least food loss knowing that European countries are now putting restrictions on food waste in restaurants are these restrictions reflected in their data?	Some countries in Europe are putting in their target the reduction of total waste. In terms of the results I recommend checking the report, and with regard impact of a policy measuring progress would need time.
Indicator 12.5.1		
UAE – Abeer Alaysah	Is the indicator calculated using the generated waste or the collected waste?	For the purpose of SDG 12.5.1, waste generated is preferred. Even in other waste streams that UNSD works on either municipal waste or electronic waste, it is often the case that collected waste may not be the total of all waste generated. Wherever possible, waste generated is preferred is the denominator for the SDG indicator. However, it is known to be harder to get than the waste generated, and it is easier to get data for waste collected via municipal waste

		treatment facility. For the purpose to encompass all waste that there is, waste generated is the preference.
State of Palestine – Zaghloul Samhan	Can you provide us with the names of the countries that disseminated this indicator?	Nine countries namely Bahrain, Egypt, Iraq, Jordan, Oman, Qatar, Saudi Arabia, State of Palestine, the United Arab Emirates
Lebanon – Dr. Mohamad Abiad	With whom UNEP and UNU are collaborating in Lebanon? What kind of data was collected and how?	UNU worked with the Ministry of Environment from Lebanon as well as UNIDO since they have established some surveys in the country that were helpful to understand the Lebanese situation of e-waste. In the upcoming project, UNU will work with the UNDP, UNEP, and the Ministry of Environment to define what the current statistics in Lebanon and the data sources are coming from trade statistics and domestic production statistics. UNU downloaded the data and used its tools to compute the demand of the products placed on the market and the amount of e-waste generated. The data are coming from the public registers, and the new data will be derived from the new study.
Yemen – Adel Abdel Rasheed	Regarding Yemen, and as per the graph, the amount e-waste generated is considerably low. Can we please note the source of the data?	In Yemen, the data was not collected from the authorities directly. However, the data was downloaded from the UN comtrade statistics database and modelling was performed by UNU.
UAE – Abeer Alaysah	Will the UNU calculate the SDG indicator from the model or from the actual collected e-waste data by the country? To what extent the model reflects the actual situation in countries?	In all countries, there is a significant gap between the e-waste generated and the e-waste collected and the reason for that is that the most e-waste is not being collected for recycling yet and not being properly documented. This gap actually provides information on where we need to invest more on to solve the problem because from the mass balance we know that the e-waste is out there and it has been traded and it has been placed on the market. Therefore, countries need to start to manage this. Ideally, UNU is using country data which has been validated. However, if countries have not produced their own data yet, UNU have developed a methodology to gap fill the e-waste generated. For the amounts of e-waste collected and recycled, a gap filling methodology is not yet developed.

		At a global level in the SDG databases, country data that has been estimated to gap fill is not being published at the national level but to calculate the SDG at the regional and global level.
Indicator 12.6.1		
ESCWA	Who provides data to the GRI and the UN global compact?	The GRI is only for reporters using the GRI standards. It is the most used framework at the global level. Regarding the UN Global compact, some member States from the region are submitting their reports, however, most of the data are not being captured.
Yemen – Adel Abdul Rasheed	Are reports following the companies' methodology instead of the GRI and others framework counted for this indicator?	The methodologies are not meant for companies to report and these frameworks are not standard for reporting. These frameworks help having some minimum requirements of what is a proper sustainability report and what is not. UNEP will be accepting reports that are not even complying with all the mentioned areas because no sectorial approach is taken into consideration but taking areas that applies to all sector. For example, a financial company won't be reporting on their waste because they don't consider it to be very material. If a company reports on 75% of the areas, their reports will be accepted which allows a bit of flexibility. Therefore, if a company adopts a comprehensive methodology, then the report will be accepted.
UAE – Abeer Alaysah	Why don't UNEP use the web scraping to collect data? To what extent do you validate the report? And do you consider the ISO standards?	From the pilot phase, 85% of the reports were meeting these requirements. Regarding the methodology, it represents a number of areas that are expected to be included in the sustainability reports but as different sectors have different focuses and priorities and since companies are all different, they go through their materiality and figure out what they should be reporting on. Therefore, UNEP does not want to ignore this and could not be strict on all the areas or want to indicate the most common areas to report on. Therefore, a threshold of 75% was indicated. The main purpose is to filter out the reports that are not sustainable instead of discouraging companies. The areas mentioned in the methodology can be a reference for companies to report. UNEP also see the needs to collect as well annual reports and not only sustainable reports. Regarding data scrapping, UNEP is considering this technique but web scrapping of all the companies existing takes a lot of time and resources. It is a way to collect data, but it is not prioritized at this moment. In terms of the ISO labelling, UNEP is not able to judge companies in this way, only public reports are taken into consideration. It is a good starting point to capture their sustainability reports.

UAE – Abeer Alaysah	Do you have a datahub for these reports or a study case how developed countries have gathered such reports for their companies?	Even the most technological advanced countries are not systematically gathering this data. It is a global issue and it concerns all corporate relevant data.
ESCWA	Have UNEP try to approach associations at the country level to collect these reports?	It will depend on what makes sense for countries. Indeed, industries associations and even in some cases UN Global Compact networks or to collaborate with different organizations to collect reports like creating a platform to put all the reports. It will depend on the country basis and who the main organization at the government level would be and academia level.
Indicator 12.c.1		
ESCWA	Amount of fossil-fuel subsidies given by the governments is not yet collected by the countries? Is there any country at the global level reporting on this indicator as country data?	OECD, IMF and IEA publish the data which are estimates done by themselves. For example, in the OECD case, they verify the data with governments, but it is not nationally reported. In the EU, there is no systematic national reporting. In the G20 and A-pack, there are peer reviews that are done by the countries themselves like the US and China who were doing the peer reviews for each other's fossil-fuel subsidies.
ESCWA	Who are the counterparts of the NSOs?	It depends on the country itself. It could be Ministry of Energy, Ministry of Finance...
UNEP – Abdelmenam Mohamad	How do you advise us to start the dialogue about this indicator with oil producing countries? What would be the best approach?	Given the work done with fossil-fuel subsidies reform in other countries and the experiences, there are some key factors that need to be implemented before doing the fossil-fuel subsidies reform. The objective must be communicated of the reform that will be done; the compensatory mechanism should be in place ahead of the reform because the poorer households will be the most affected. In the region, it can be attached to the discussion on diversifying economies, because thinking of fossil-fuel subsidies reform, one must not tell countries about this reform but about the mechanisms to be used to reach the objective. This will help countries understand that fossil-fuel subsidies won't be a source of revenue for a long period of time.

		It is better to integrate this discussion with a wider one, like helping them create a sovereign wealth funds for managing revenues smartly or create regional pools where commodity exporters can pool resources like a percentage of the revenues they get. So, if one commodity is affected, there is a smoothening of consumption at the regional level.
Jordan – Sudki Hamdan	Does the COP 21 agreement obligate countries to disclose this indicator?	SDG reporting on national fossil-fuel subsidies is not mandatory. It should be a bottom-up approach, civil society asking for these changes within the government and to transit to a greener economy, more awareness about the importance of fossil-fuel subsidies and their contribution to not only climate change but air pollution and mortality.
UAE – Abeer Alaysah	What's the best scenario to have subsidies or not? Regarding the reform, how UNEP will compensate the negative social side of this reform in poorer countries?	It is not good to have subsidies. The objective is to remove fossil-fuel subsidies. From UNEP side or the side of any agency working on the economic policy side, subsidies should be even removed for renewable energy. The market should work on itself and the governments should provide incentives other than subsidies which will distort the prices. Of course, it will be sensitive in poorer countries, even though all the countries and policy makers know that fossil-fuel subsidies are bad, no concrete and real action has taken place. It is a hard thing to be done. But now all of this is changing because the cost of renewable energy is cheaper than fossil-fuel subsidies. So, countries must have first an enabling environment policy in place before doing the reform.

Annex 5: METADATA

Indicators	Data Source	Metadata
6.3.2 Proportion of bodies of water with good ambient water quality	Administrative records (water authorities)	The indicator is defined as the proportion of water bodies in the country that have good ambient water quality. Ambient water quality refers to natural, untreated water in rivers, lakes and groundwaters and represents a combination of natural influences together with the impacts of all anthropogenic activities. The indicator relies on water quality data derived from in situ measurements and the analysis of samples collected from surface and groundwaters. Water quality is assessed by means of core physical and chemical parameters that reflect natural water quality related to climatological and geological factors, together with major impacts on water quality Computation method: The indicator is computed by first classifying all assessed water bodies based on the compliance of the monitoring data collected for selected parameters at monitoring locations within the water body with parameter-specific target values: Cwq=nc/nm * 100 Cwq is the percentage compliance [%]; nc is the number of monitoring values in compliance with the target values; nm is the total number of monitoring values.
8.4.1 Material footprint, material footprint per capita, and material footprint per GDP / 12.2.1	Administrative records	The material footprint refers to the total amount of raw materials extracted by countries to meet final consumption demands of the economy and of the society. It indicates the pressures placed on the environment and its natural resources to support economic growth and to satisfy the material needs of people including extracted material for export to other countries for their own consumption. Computation method: Material footprint = raw material equivalent of imports 〖RME〗_IM+ domestic extraction (DE) – raw material equivalent of exports 〖RME〗_EX
8.4.2 Domestic material consumption, domestic material consumption per capita, and domestic	Administrative records	This indicator is defined as the total amount of direct material input (DMI) in national economy subtracting from it the exports. DMI is the material resources originating from natural resources of the economy such as: metals (ferrous, non-ferrous) non-metallic minerals (construction minerals, industrial minerals), biomass (wood, food) and fossil energy carriers. DMI is the domestic extraction (DE) added to it the imports.

material consumption per GDP/12.2.2		Computation method: Domestic material consumption = Direct imports (IM) of material + Domestic extraction (DE) – Direct exports (EX) of materials (metric tonnes)
12.1.1 Number of countries developing, adopting or implementing policy instruments aimed at supporting the shift to sustainable consumption and production	Administrative records	This indicator allows for the quantification (#) and monitoring of countries making progress along the policy cycle of binding and non-binding policy instruments aimed at supporting Sustainable Consumption and Production. • Sustainable Consumption and Production: the working definition of Sustainable Consumption and Production (SCP) used in the context of this framework is: "The use of services and related products, which respond to basic needs and bring a better quality of life while minimising the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardise the needs of future generation." • Policy: although quite flexible and contexts specific, a policy is usually defined as a course of action that has been officially agreed by an entity or an organization (governmental or non-governmental) and is effectively implemented to achieve specific objectives. • Policy instruments for sustainable consumption and production: policy instruments refer to the means – methodologies, measures or interventions – that are used to achieve those objectives. In the case of SCP, such instruments are designed and implemented to reduce the environmental impacts of consumption and production patterns, with a view of generating economic and/or social benefits. Making progress along the policy cycle refers to the development, adoption, implementation or evaluation of such policy instruments. Computation method: To be reported under this indicator, a government should have moved through one or more new stage(s) of the "Policy cycle" on one or more policy instrument(s) during the reporting period. This indicator is calculated at relevant aggregation levels based on the information collected from the National Focal Points and other government officials; users of the data should be mindful of double counting one same policy, when aggregating data across reporting years.
12.3.1 (b) food waste index	Administrative records (Ministry of Agriculture and	The indicator is computed as a ratio of Food Loss Percentages in the current year and the Food Loss Percentages in the base year according to a standard fixed-base index formula.

	ministry of environment)	
12.5.1 National recycling rate, tons of material recycled	Administrative records (NSO and ministries of environment)	Municipal Solid Waste (MSW) includes waste originating from households, commerce and trade, small businesses, office buildings and institutions (schools, hospitals, government buildings). It also includes bulky waste (e.g., old furniture, mattresses) and waste from selected municipal services, e.g., waste from park and garden maintenance, waste from street cleaning services (street sweepings, the content of litter containers, market cleansing waste), if managed as waste. Recycling is defined as "Any reprocessing of waste material […] that diverts it from the waste stream, except reuse as fuel. Both reprocessing as the same type of product, and for different purposes should be included. Recycling within industrial plants i.e., at the place of generation should be excluded." Total waste generated is the total amount of waste (both hazardous and non-hazardous) generated in the country during the year. Total waste generated (excluding construction, mining and agriculture) is the total amount of waste (both hazardous and non-hazardous) generated in the country during the year Computation method: Recycling rate = (material recycled + material exported intended for recycling – material imported intended for recycling) * 100 / total waste generated
12.6.1 Number of companies publishing sustainability reports	Administrative records	Sustainability Reports: For the purposes of this indicator, 'sustainability reports' will not be limited to stand-alone sustainability reports produced by companies, but will be considered as 'reporting sustainability information' and expanded to other forms of reporting sustainability information, such as publishing sustainability information as part of the company's annual reports or reporting sustainability information to the national government. This is to ensure that the focus of the indicator is on tracking the publishing of sustainability information, rather than on the practice of publishing stand-alone sustainability reports. Computation method: Companies will be counted towards the indicator if they publish sustainability information covering the minimum sustainability disclosures
12.7.1 Degree of sustainable public	Administrative records	The indicator measures the number of countries implementing Sustainable Public Procurement (SPP) policies and action plans, by assessing the degree of implementation

procurement policies and action plan implementation		through an index. To produce the index, countries self-assess the following main elements: - Public procurement legal and regulatory framework - Practical support delivered for the implementation of SPP - SPP priority products and corresponding sustainable procurement criteria - Existence of SPP monitoring system - Measurement of actual SPP outcome. More details are provided in the attached "SPP Index Methodology". Computation method: The methodology focuses on policy and practical implementation aspects of SPP, via 3 main aspects: 1) What are the measures taken at political and legal levels to mandate/facilitate the implementation of SPP? • A: SPP policies, action plans and/or SPP regulatory requirements • B: Public procurement legal framework 2) What are the practical outputs of SPP policy implementation, and the support given to public procurement practitioners? • C: Practical support and guidance • D: Environmental criteria and social considerations in public procurement 3) Are the actual results and outcomes of SPP implementation monitored? • E: Monitoring system • F: Percentage of sustainable public procurement Evaluation of SPP implementation at government level is based on the score obtained in each section of the evaluation system represented by each letter and is calculated as follows: Score = A * (B+C+D+E+F)
12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption)	Administrative records (ministries of Finance)	In order to measure fossil fuel subsidies at the national, regional and global level, three sub-indicators are recommended for reporting on this indicator: 1) direct transfer of government funds; 2) induced transfers (price support); and as an optional sub-indicator 3) tax expenditure, other revenue foregone, and underpricing of goods and services.
14.1.1 (a) Index of coastal eutrophication; and (b) plastic debris density	Administrative records	The indicator includes 14.1.1a Index of coastal eutrophication (ICEP) and 14.1.1b Plastic debris density. SDG 14.1.1a and SDG 14.1.1b will described as two indicators. Across the 14.1.1a and 14.1.1b, two levels are proposed: Level 1: Globally available data from earth observations and modelling Level 2: National data which will be collected from countries (through the relevant Regional Seas Programme, where applicable (i.e. for countries that are

		a member of a Regional Seas Programme) Level 3: Additional indicators which are suggested that countries might consider collecting.
14.2.1 Number of countries using ecosystem-based approaches to managing marine areas	Administrative records	Regional Seas Coordinated Indicator 22 'Integrated Coastal Zone Management (ICZM) is proposed as the primary indicator. For countries with Marine/Maritime Spatial Planning (MSP) in place, these plans can be helpful to assess ICZM. For other countries, it is important to identify ways to measure existing plans and to build capacity for integrated planning. All data for this indicator will be based on country submissions to the Regional Seas Programme. ICZM – An Integrated Coastal Zone Management (ICZM) plan covers the entire coastal zone. Marine and terrestrial areas are managed together. Plans are developed through coordination across different marine and terrestrial institutions and agencies. Marine Spatial Planning (MSP) – Marine Spatial Planning is focused on the EEZ. It the integrates the needs and policies of multiple marine sectors in one coherent planning framework. EEZ - national Exclusive Economic Zone (EEZ) (200 nautical miles from the coast) as outlined by the United Nations Convention on the Law of the Sea.
17.7.1 Total amount of funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies	Administrative records	The methodology for tracking the total amount of approved funding to promote the development, transfer, dissemination and diffusion of environmentally sound technologies has a two-pronged approach: Level 1. Use globally available data to create a proxy of funding flowing to developing countries for environmentally sound technologies, or of trade in environmentally sound technologies. Level 2. Collect national data on investment in environmentally sound technologies.
17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development	Administrative records	For the purpose of this methodology 'policy coherence of sustainable development' has been interpreted as the coherence between policies in general that cover the dimensions of sustainable development. This indicator is a composite indicator which covers mechanisms related to 1. Institutionalization of Political Commitment 2. Long-term considerations in decision-making 3. Inter-ministerial and cross-sectoral coordination 4. Participatory processes 5. Policy linkages 6. Alignment across government levels 7. Monitoring and reporting for policy coherence 8. Financing for policy coherence Computation method: UNEP has developed a composite indicator framework for SDG 17.14.1 based on initial research on existing work, literature, partners and existing indicators on similar issues. This

		indicator includes 8 domains. Each is scored on a 0-10 point scale. The percentage of points out of the total 80 points is then computed for each country. It is recommended that Governments convene a stakeholder group for self-scoring.

Other indicators:

6.5.1 Degree of integrated water resources management

6.6.1 Change in the extent of water-related ecosystems over time

12.4.1 Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement

12.4.2 (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment

14.5.1 Coverage of protected areas in relation to marine areas

15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type

15.4.1 Coverage by protected areas of important sites for mountain biodiversity

15.9.1 (a) Number of countries that have established national targets in accordance with or similar to Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011–2020 in their national biodiversity strategy and action plans and the progress reported towards these targets; and (b) integration of biodiversity into national accounting and reporting systems, defined as implementation of the System of Environmental-Economic Accounting