12 RESPONSIBLE CONSUMPTION AND PRODUCTION

The Sustainable Development Goals Extended Report 2022

Note: The Statistics Division of the United Nations Department of Economic and Social Affairs (UNSD) prepares the annual The Sustainable Development Goals Report, also known as the glossy report, based on storyline inputs submitted by UN international agencies in their capacity as mandated custodian agencies for the SDG indicators. However, due to space constraints, not all information received from custodian agencies is able to be included in the final glossy report. Therefore, in order to provide the general public with all information regarding the indicators, this 'Extended Report' has been prepared by UNSD. It includes all storyline contents for each indicator as provided by the custodian agencies and is unedited. For instances where the custodian agency has not submitted a storyline for an indicator, please see the custodian agency focal point information linked for further information.

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Target 12.1: Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries

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

Countries adopting SCP and circular approaches are reaping multiple socio-economic and environmental benefits and boosting COVID-19 recovery efforts

Green pandemic recovery strategies, including Sustainable Consumption and Production (SCP), have been shown to not only boost output and employment but can also deliver long term wellbeing and economic benefits as compared to traditional business-as-usual approaches to the pandemic recovery.

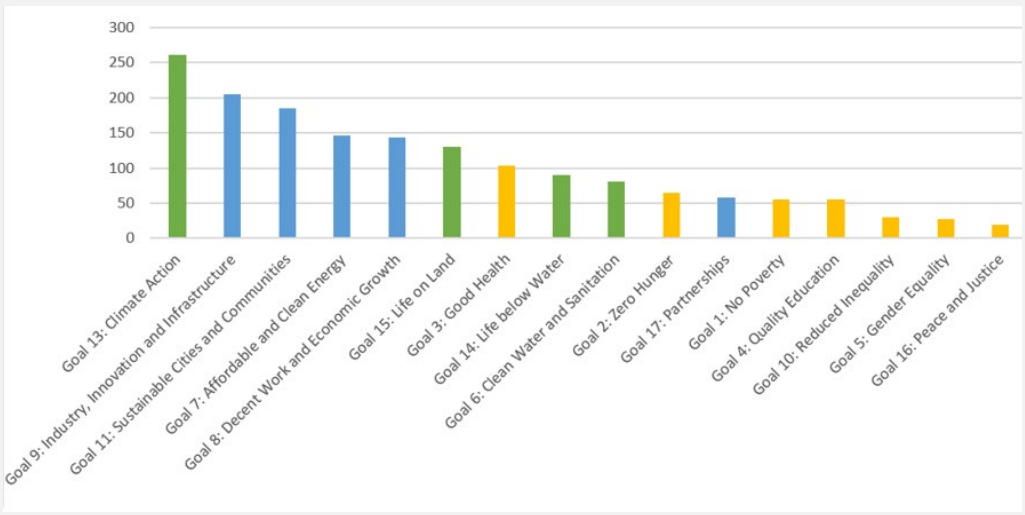
Impacted by the COVID-19 pandemic, and with limited resources, developing nations can reap multiple-benefits by shifting to SCP as a driver for green recovery. The environmental benefits of SCP are well recognized, with about 77 per cent of policies indicating linkages to climate (SDG 13), ocean (SDG 14), land (SDG 15) and water (SDG 6) related SDGs (see chart 1). However, the linkages to well-being outcomes including poverty (SDG 1), inequality (SDG 10), peace and justice (SDG 16), hunger (SDG 2), health (SDG 3), education (SDG 4) and gender (SDG 5) are not well recognized, with only 44 per cent noting their relevance. Of these, social SDGs closely linked to the thematic work of the 10YFP Programmes on Food Systems, Consumer Information and Sustainable Lifestyles and Education (SDG 2, 3 and 4 respectively) account for 37 per cent, which could indicate a positive correlation between 10YFP efforts and the closing of the SCP 'social gap'. Only 32 per cent of policies noted relevance to decent work and economic growth (SDG 8).

Despite these benefits, adoption has been uneven of the 438 SCP policies from 59 countries and the European Union reported from 2019-2021 (see chart 2). Policy submissions from Europe and Central Asia dominate the portfolio at 53 per cent (see chart 3). When compared to the previous reporting cycle (2020), the number of absolute reported policies in 2021 increased by 50 per cent in Africa (from 24 to 40), by 20.5 per cent in Asia and the Pacific (from 70 to 86) and by 66 per cent in the Middle East (from 2 to 4); yet only 0.5 per cent of overall policies are reported by low-income countries, and only 7.7 per cent from LDCs, LLDCs and SIDS.

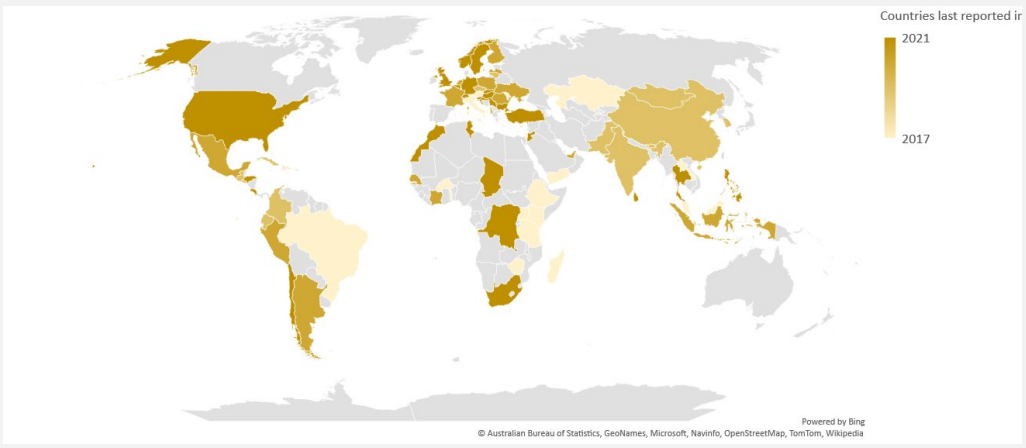
The inequality in SCP policy implementation exacerbates the impacts of industrialization and the outsourcing of resource intensive production processes to developing countries that have seen global material footprints consistently and rapidly rise. These countries are often where the impact of production accrues, while the benefits do not – as demonstrated by the challenges of under rather than over consumption that many developing countries face.

The extension of the mandate of the 10YFP up to 2030 is an opportunity to mobilize a global partnership and adequate financial resources for this chronically underfunded SDG to ensure that no country is left behind in the adoption of high-impact responsible consumption and production policies that can drive a resilient pandemic recovery to the benefit of people and planet.

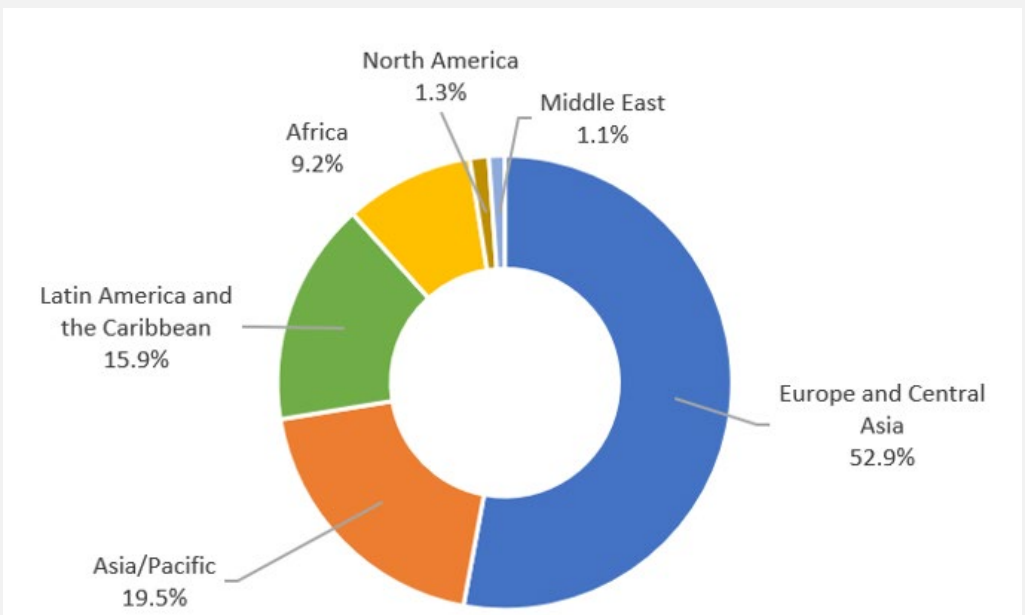
SDG 12.1.1 Policy instruments by relevance to other SDGs



SDG 12.1.1 Policies reported in 2017-2021



SDG 12.1.1 Policy instruments by region



Additional resources, press releases, etc. with links:

- One Planet network knowledge platform: https://www.oneplanetnetwork.org/
- One Planet network Country Profiles of SCP Action: https://www.oneplanetnetwork.org/country-profiles -
- UN official SDG 12 Hub: https://sdg12hub.org/
- Resolution to extend 10YFP mandate: https://undocs.org/pdf?symbol=en/A/76/533/ADD.1

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Custodian agency(ies): UNEP

Target 12.2: By 2030, achieve the sustainable management and efficient use of natural resources

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

The worlds reliance on natural resources continues to growth

It has to be clearly stated that indicators of direct material flows, such as the domestic material consumption, do not account for all global material flows related to final consumption in a country or region, as indirect (or embodied) materials of imported and exported products are not considered. Hence, indicators of direct material flows cannot account for the actual environmental consequences generated by the consumption of certain products, as material flows can be located in other world regions. Assessing global material use related to final consumption requires other MFA-based indicators, such as material footprints. Thus, domestic material consumption reports the actual amount of material in an economy, while material footprint – the virtual amount required across the whole supply chain to service final demand.

Analyzing the last 20 years, the global material footprint continues to grow. Overall, it increased from 57.1 billion tonnes in 2000 to 95.9 billion tonnes in 2019. At the same time, its growth slows down. Thus, the average annual growth rate of the global material footprint for 2015–2019 was 1.1 per cent, while for 2000–2019 it was 2.8 per cent. This indicates a slowdown in the growth of pressure of the economy on the environment.

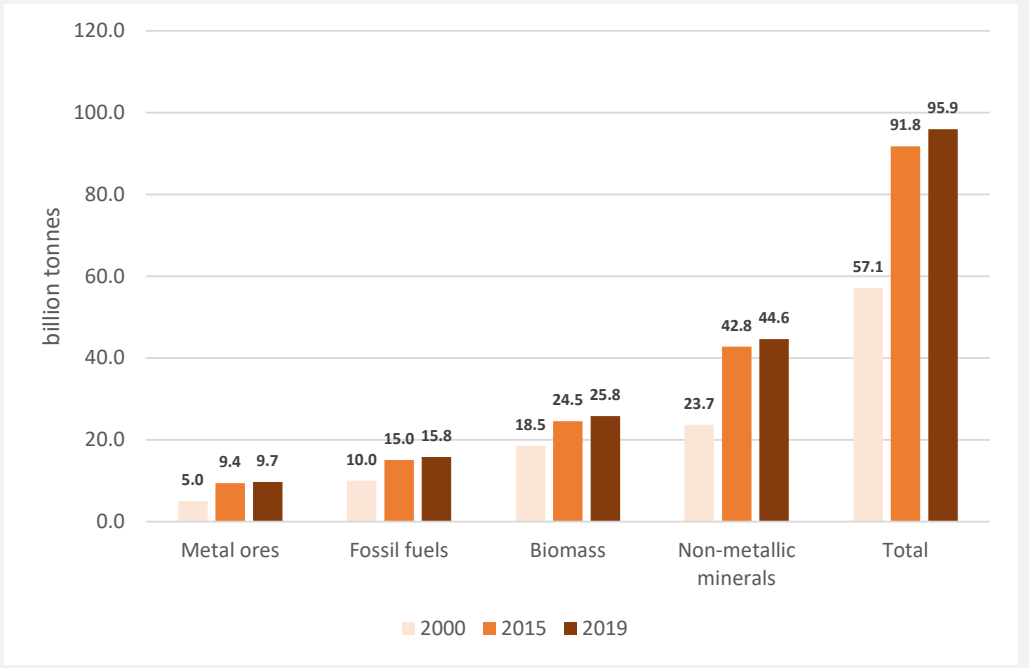
The material footprint reflects the amount of primary materials, including biomass, fossil fuels, metal ores and non-metallic minerals, required to meet humans basic needs. The global material footprint has increased for all types of materials (see chart 1).

At the same time, some changes took place in the structure of the material footprint. In 2019, compared to 2000, the share of biomass and fossil fuels decreased, while metal ores and non-metallic minerals increased (see chart 2).

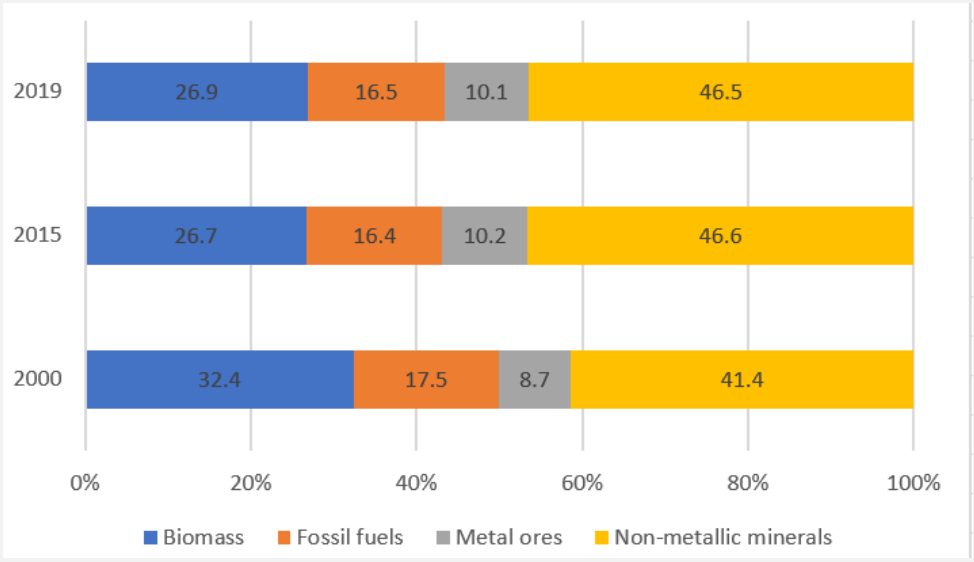
Traditionally, the material footprint is also analyzed per capita and per GDP. Given the growth trends in global GDP and world population, growth in the material footprint is smoothing out relative to these variables (see chart 3). However, the per capita footprint is on an upward trend.

Natural resources continue to be an essential input for the production processes that stimulate economic growth. But, economic outputs from the depletion of non-renewable and renewable resources is limited. Continued dependence on natural resources exacerbates pressure on sensitive ecosystems and ultimately affects human health and the economy.

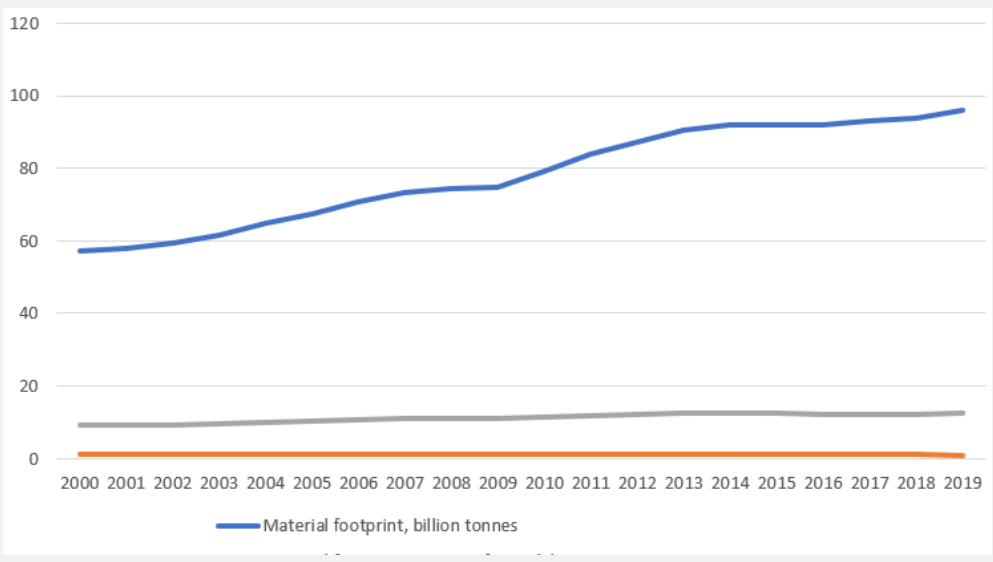
Material footprint by type of material, billion tonnes



Structure of material footprint, per cent



Dynamics of the material footprint, material footprint per capita, and material footprint per GDP



Additional resources, press releases, etc. with links:

- https://www.resourcepanel.org/global-material-flows-database;
- UNEP (2021). The use of natural resources in the economy: A Global Manual on Economy Wide Material Flow Accounting. Nairobi, Kenya: https://wedocs.unep.org/bitstream/handle/20.500.11822/36253/UNRE.pdf?sequence=3&isAllowed=y

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Custodian agency(ies): UNEP

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

The domestic material consumption increased over the past 20 years and in 2019 amounted to 95.1 gigatons or 12.3 tons per capita

The domestic material consumption (DMC) indicator is currently the most widely used MFA-based indicators in policy processes. DMC measures the total amount of material directly used in an economy and based on accounts of direct material flows, i.e. domestic material extraction and physical imports and exports.

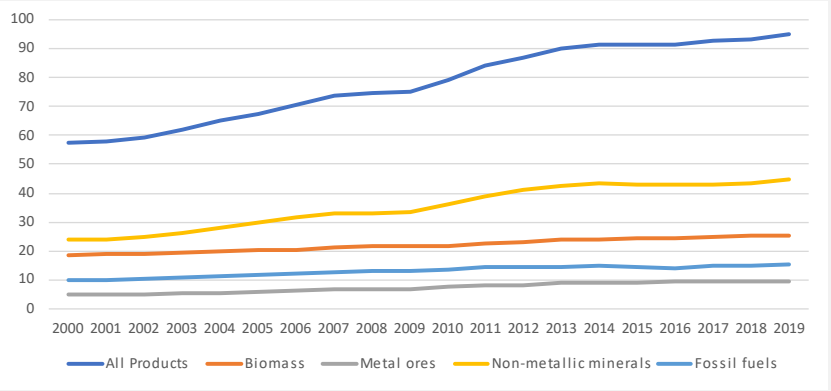
DMC has high environmental relevance as an indicator of potential environmental pressure on a domestic territory. Because of this, this indicator is highly important for the development of environment policy. DMC increased throughout the analyzed period from 2000 and in 2019 amounted to 95.1 gigatons or 12.3 tons per capita. This trend was typical for all DMC components such as biomass, metal ores, non-metallic minerals and fossil fuels (see chart 1).

At the same time, in the structure of DMC, there is a decrease in the shares of biomass and fossil fuels and an increase in the share of metal ores and non-metallic minerals (see chart 2). Thus, the share of biomass decreased by 5.7 percentage points from 2000 to 2019, while the share of non-metallic minerals increased by 5.3 percentage points over the same time period.

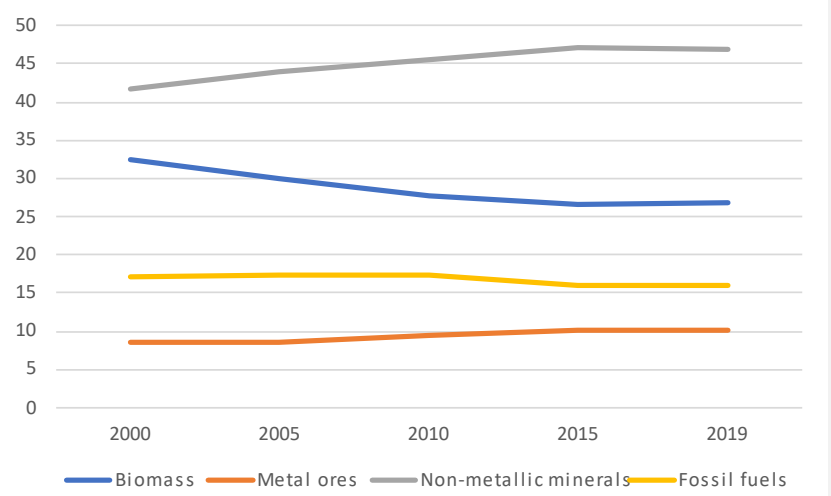
The environmental pressure is unevenly distributed around the world. Over the past 20 years, about 70% of global DMC have been in Eastern Asia and South-eastern Asia, as well as Northern America and Europe. At the same time, when analyzing the regional structure of global DMC, one should note a decrease in the shares of DMC in Northern America and Europe from 36% in 2000 to 22% in 2019 and an increase in Eastern Asia and South-eastern Asia from 31% to 43% over the same time period (see chart 3).

DMC has high environmental relevance as an indicator of potential environmental pressure on a domestic territory. DMC covers all materials used on the input side, which actually flow through the domestic economy and which are either emitted back to the environment as waste and emissions or contribute to the increase of the national physical stock with potential flows of waste and emissions in the future (Marra Campanale and Femia 2013). Current DMC trends by type of raw material and territory reflect the clear hotspots for resource management measures related to domestic material consumption at global, regional and national levels.

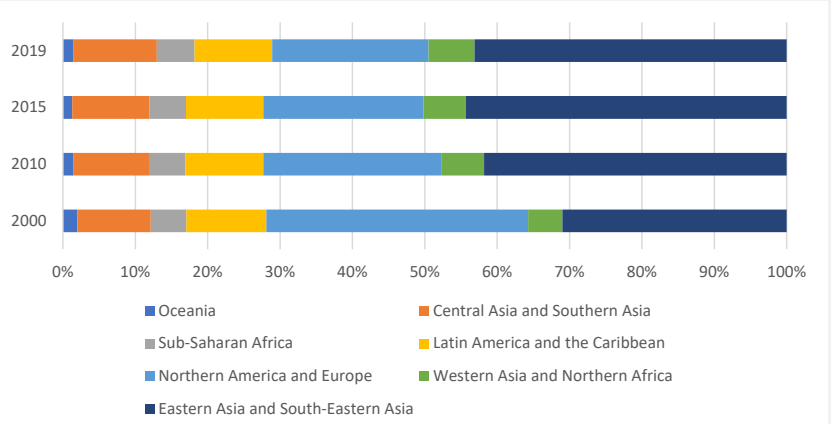
Domestic material consumption, by type of raw material in 2000-2019 (gigatons)



Structure of domestic material consumption by type of raw material in 2000-2019 (percentage)



Structure of domestic material consumption by territory in 2000-2019 (percentage)



Additional resources, press releases, etc. with links:

- UNEP (2021). The use of natural resources in the economy: A Global Manual on Economy Wide Material Flow Accounting. Nairobi, Kenya: https://wedocs.unep.org/bitstream/handle/20.500.11822/36253/UNRE.pdf?sequence=3&isAllowed=y

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Custodian agency(ies): UNEP

Target 12.3: By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

Indicator 12.3.1: (a) Food loss index and (b) food waste index

Globally, food loss estimates remain steady between 2016 and 2020, with substantial variations across regions and sub-regions

The percentage of food lost globally after harvest on farm, transport, storage, wholesale, and processing levels, is estimated at 13.3 percent in 2020 and 13 percent in 2016. These percentages correspond, in terms of the Food Loss Index (FLI), to 98.7 in 2016 and 101.2 in 2020. These changes should be interpreted as oscillations and do not identify any clear structural patterns or change.

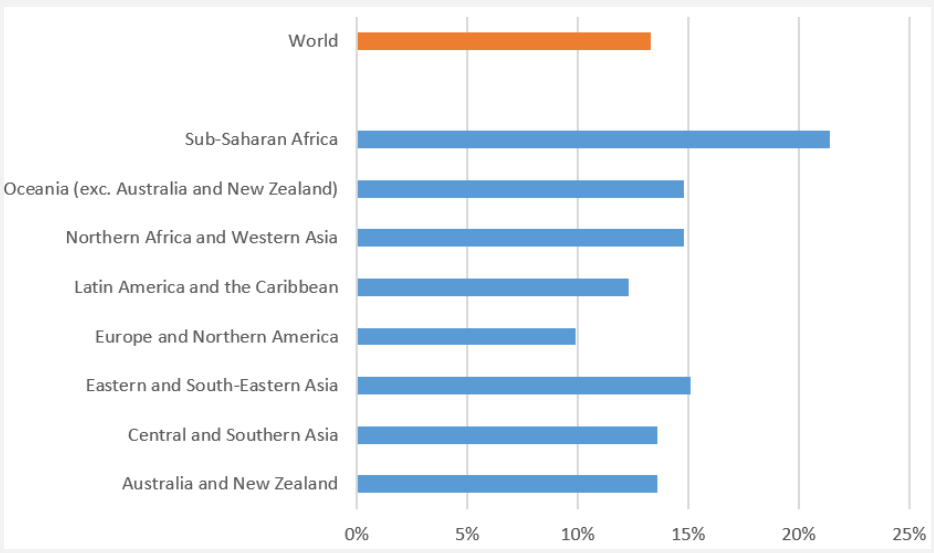
At the regional level, sub-Saharan Africa has the highest losses at 21.4 percent, followed by Least Developed Countries (LDCs) and Small Island Developing States (SIDS) with 18.9 percent and 17.3 percent respectively. structural inadequacies in these two regions have resulted in food being lost in large quantities between the farm and retail levels. Eastern and South-Eastern Asia also register high food loss figures, at 15.1 percent, driven by high losses in the fruits and vegetable value chains. The lowest losses occur in Latin America and the Caribbean and Europe and Northern America at 12.3 percent and 9.9 percent respectively. All the regions except Central and Southern Asia have exhibited an increase in estimated losses in 2020 when compared to the estimates of 2016, with the highest increase being from Small Island Developing States (SIDS), Oceania and North Africa and Western Asia with increases on 1 percent, 1.2 percent and 1.7 percent respectively.

At the subregional level, Western Africa has the highest loss percentage of 24.8 percent followed by Southern Africa at 21.8 percent. The higher income countries usually show lower food loss estimates, with Europe having 6.3 percent. Further sub-division shows Eastern Europe having the least food losses at 4.6 percent followed by Western Europe and Southern Europe at 6.5 percent and 7.1 percent respectively.

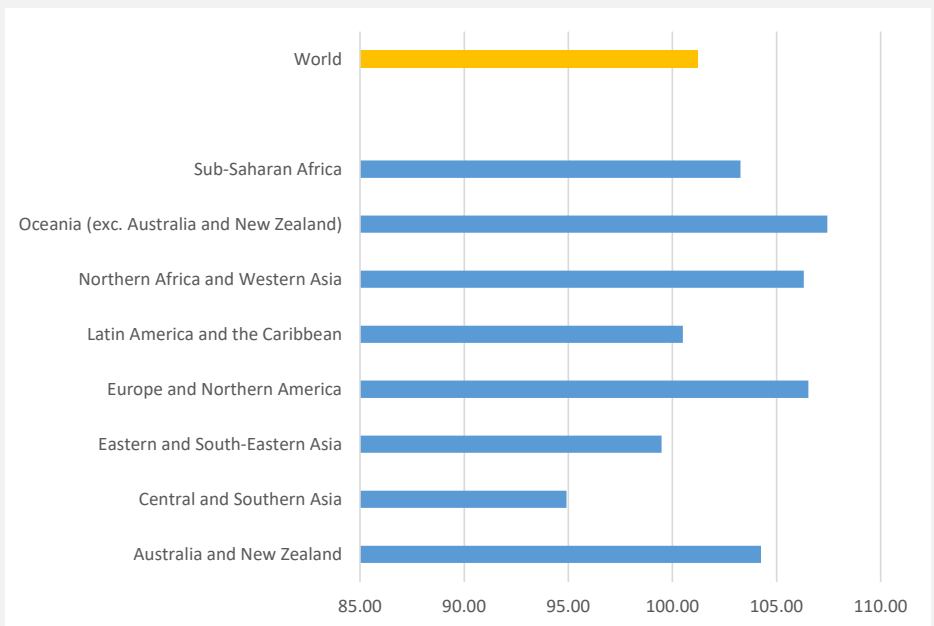
Some sub-regions showed no change in loss percentages between 2016 and 2020. However, a majority of the subregions showed upward or downward changes. This is consistent with the changes that were observed at the global and regional level and correspond to the changes in the FLI. These changes can be attributed to model trend and oscillations that are not necessarily an indication of any structural changes happening in the regions.

While data at country level continue to be scarce, the estimates at global, regional and subregional level are indicative of the magnitude of the problem and, therefore, of the need for countries to start formulating policies specifically geared towards reducing food losses.

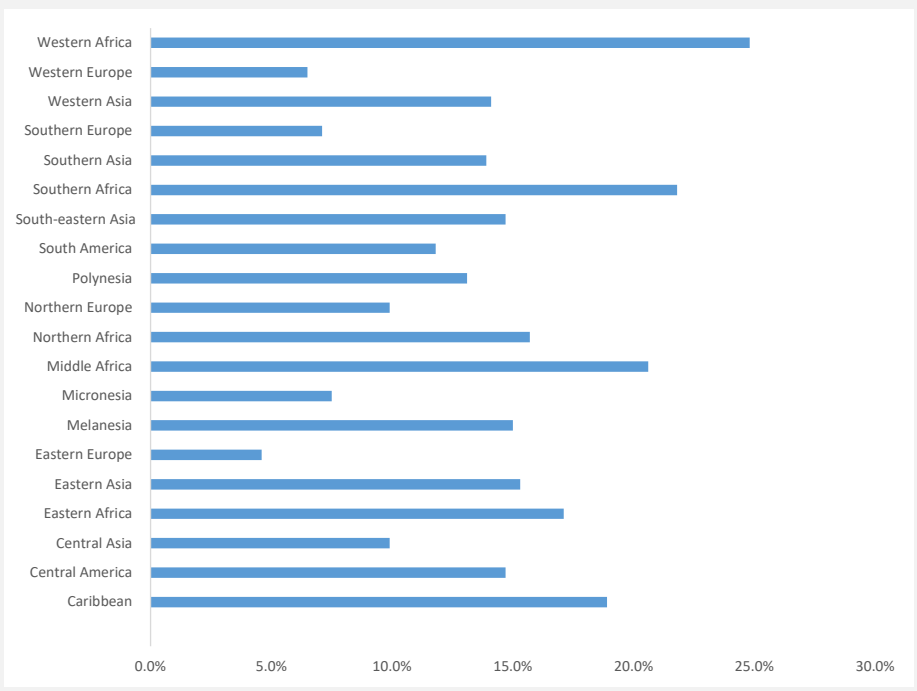
Food loss globally and by region, percentage



Food loss globally and by region, index



Food loss by sub-region, percentage



Food loss by sub-region, index

Additional resources, press releases, etc. with links:

- The Food Loss and Waste Database https://www.fao.org/platform-food-loss-waste/flw-data/en/
- The Technical Platform on Measurement and Reduction of Food Loss https://www.fao.org/platform-food-loss-waste/en/
- Methodology For Monitoring SDG Target 12.3 https://www.fao.org/3/CA2640EN/ca2640en.pdf
- The FAO SDG Webpage https://www.fao.org/sustainable-development-goals/indicators/1231/en/

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Custodian agency(ies): FAO, UNEP

New data shows consumer food waste is a global challenge, not limited to developed countries

An estimated 931 million tonnes of food, or 17% of total food available to consumers in 2019, went into the waste bins of households, retailers, restaurants and other food services, according to the UNEP Food Waste Index Report.

Previous assumptions that consumer food waste was a rich country problem are not borne out by the data. 152 food waste data points were identified in 54 countries, and in nearly every country that has measured food waste, it is substantial, regardless of country income level (see table 1). This demonstrates the urgent need for measurement and action to halve food waste and deliver Sustainable Development Goal 12.3 around the world. Most of this waste comes from households, which discard 11% of the total food available at the consumption stage of the supply chain. Food services and retail outlets waste 5% and 2% respectively. On a global per capita-level, 121 kilograms of consumer level food is wasted each year, with 74 kilograms of this happening in households.

Food waste has substantial environmental, social and economic impacts. For example, at a time when climate action is lagging, food loss and waste is generating 8%-10% of global greenhouse gas emissions. As a major emitter of methane at landfill, food waste reduction is also a key lever for countries to deliver on the Global Methane Pledge.

With 690 million people affected by hunger in 2019, a number that rose sharply with COVID-19, and three billion people unable to afford a healthy diet, consumers need help to reduce food waste at home.

Countries can raise climate ambition by including food waste in Nationally Determined Contributions to the Paris Agreement, while strengthening food security and cutting costs to households.

With less than eight years to go, many countries have yet to measure food waste for the first time. The Food Waste Index Report provides a clear, common methodology for countries to measure and report on food waste under SDG 12.3, and countries are warmly encouraged to submit available data via first reporting period from September to December this year. Measuring food waste enables countries to understand the scale of the problem, target hotspots, assess the efficacy of interventions, and track their progress to 2030.

After the publication of the Food Waste Index Report, UNEP launched Regional Food Waste Working Groups, in Africa, Asia Pacific, Latin America and West Asia, through which it is working with 25 member states on baseline development, national food waste prevention strategies and integration of food waste prevention in NDCs. Together we must accelerate action and finance to help countries step up to deliver SDG 12.3 and halve food waste by 2030.

Average food waste (kg/capita/year) derived from studies, by income group

Income group	Household	Food Service	Retail
High income countries	79	26	13
Upper middle income countries	76	Insufficient data	Insufficient data
Lower middle income countries	91	Insufficient data	Insufficient data
Low income countries	Insufficient data		

Additional resources, press releases, etc. with links:

- Press Release and link to download full report: https://www.unep.org/resources/report/unep-food-waste-index-report-2021

Storyline author(s)/contributor(s): Clementine O'Connor, UNEP

Custodian agency(ies): FAO, UNEP

Target 12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

Indicator 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

The COVID-19 pandemic aggravated the global crisis on plastic pollution and, overall, chemicals and waste management and their trade

The COVID-19 pandemic aggravated the global crisis on plastic pollution and, overall, chemicals and waste management and their trade.

First of all, COVID-19 has led to rapid changes in the amounts and types of waste being generated. A significant increase in the volume of clinical waste being generated in hospitals and other health care facilities, including highly infectious waste, other infection and pathological waste, sharps waste, pharmaceutical and cytotoxic waste, face masks, chemical waste, and general healthcare waste arising both from patients and from healthcare workers treating them and wearing personal protective equipment. Vaccination generated an enormous number of single-use plastic syringes. Furthermore, the use of facemasks by the public, often containing plastics, often used only once and possibly contaminated is widespread and put pressure on wastes management systems.

Parties to the Basel Convention benefit from support, guidance, policy recommendations and agreed standards for the environmentally sound management of hazardous and other wastes and their transboundary movements. The year of 2021 was marked by a significant development for plastic wastes as the new control regime is now applicable to such wastes as triggered by the Plastic Wastes Amendments to the Basel Convention adopted in 2019. These amendments expanded and clarified entries relating to plastic waste, bringing many types of plastic waste (both hazardous and non-hazardous) under the Basel Convention control procedure, thereby ensuring a more transparent, traceable, and enforceable set of measures concerning imports/exports of plastic waste between countries, and promoting the prevention and minimization of the generation of plastic waste and achieving their environmentally sound management.

Second, COVID-19 impacted agricultural sector, including use of pesticides addressed by the Rotterdam Convention and global plant health and crop protection with the resulting effect on global food security and safety. This includes various factors such as the disruption or limited supply and/or availability of plant protection products and related personal protective equipment, lack of timely crop protection interventions due to shortage of labor and spray operators and lack of timely crop protection interventions due to equipment shortage.

Thirdly, the COVID-19 pandemic significantly increased demand for personal protective equipment, disinfectants and hand gels. This brought new producers into the market and opened up new supply chains. Some regulators moved swiftly to facilitate supplies however at a times, many front-line workers in health and adult social care reported not having access to the PPE they needed during the height of the shortages. Unauthorized and potentially unsafe products were put onto the market, for example some hand-sanitizers were found to contain potentially toxic chemicals such as methanol and, in some cases, contained insufficient alcohol to be effective [Technical paper "Environmental and health emergencies – the role of the Basel, Rotterdam and Stockholm conventions in supporting Parties in prevention, preparedness, response, and recovery"].

Finally, despite these challenges, the efforts of Parties focusing on the implementation of the Basel, Rotterdam and Stockholm Conventions continued at full speed. For example, updating of the 2002 technical guidelines for the identification and environmentally sound management of plastic wastes and for their disposal is under way, technical assistance to Parties to strengthen capacities for the control of transboundary movements, environmentally sound management, and prevention and minimization of the generation of plastic waste is ongoing. Projects are being implemented in Ghana, Sri Lanka, Malawi and Zimbabwe as well as at the global level. Moreover, 16 national and regional projects on plastic waste are being undertaken under the Basel and Stockholm Convention.

Information transmitted by Parties to meet their commitments as required by multilateral environmental agreements in the chemicals and waste cluster continues to play an important role, together with other factors in the extent to which the SDG target 12.4 is being met.

Additional resources, press releases, etc. with links:

- Technical paper "Environmental and health emergencies – the role of the Basel, Rotterdam and Stockholm conventions in supporting Parties in prevention, preparedness, response, and recovery", will be shortly available in document UNEP/CHW.15/INF/31–UNEP/FAO/RC/COP.10/INF/19–UNEP/POPS/COP.10/INF/68.
- The Montreal Protocol on Substances that Deplete the Ozone Layer (1987).
- The Basel Convention on the Control of Transboundary Movement of hazardous Wastes and their Disposal (1989).
- The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (1998).
- The Stockholm Convention on Persistent Organic Pollutants (2001).
- The Minamata Convention on Mercury (2013).

Custodian agency(ies): UNEP

Montreal Protocol reporting commitments remain on track despite ongoing coronavirus pandemic

The coronavirus disease (COVID-19) pandemic disrupted the normal flow of work under the ozone treaties in 2020 and 2021. For instance, low and middle-income countries experienced delays in the implementation of projects supported by the Multilateral Fund of the Montreal Protocol for the phase-out/phase-down of controlled substances.

Nevertheless, the parties have remained resolute in their annual reporting of statistical data and related information on production and consumption of controlled substances.

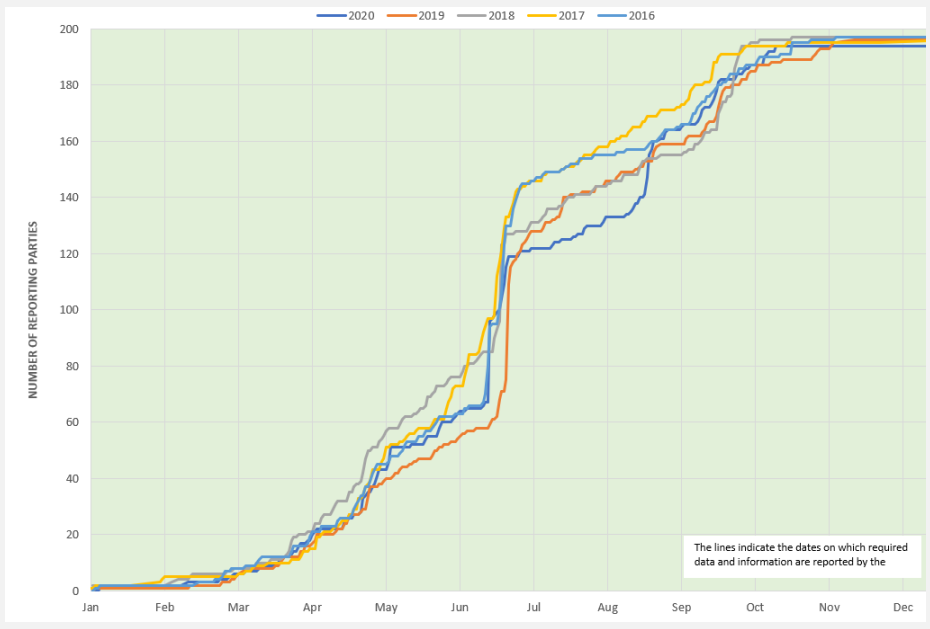
The reporting of the data and information allows for compliance with control measures to be assessed. Historically, all parties have ultimately achieved 100 per cent compliance with their annual reporting obligations.

The chart below shows how parties' commitments have remained unwavering, despite COVID disruptions to global economies and life in general (see chart).

Parties continue to lead the way in addressing environmental challenges. Since 2020, 38 parties ratified the Kigali Amendment to the Montreal Protocol committing to a phase down of hydrofluorocarbons (HFCs) – potent greenhouse gases –, raising the total number of parties that have done so to 129.

By controlling HFCs, the Amendment is expected to avoid up to 0.4°C of global warming by 2100, an important contribution in the context of the Paris Agreement, which aims to keep global temperature rise this century to well below 2o C above pre-industrial levels.

Annual patterns of reporting by the parties to the Montreal Protocol for 2016-2020



Additional resources, press releases, etc. with links:

- Ozone Secretariat website: https://ozone.unep.org
- Country profiles: https://ozone.unep.org/countries
- Data centre: https://ozone.unep.org/countries/data-table
- 2018 Scientific Assessment: https://ozone.unep.org/sites/default/files/2019-04/SAP-2018-Assessment-report-ES-rev%20%281%29.pdf
- Twenty Questions and Answers About the Ozone Layer: 2018 Update: https://ozone.unep.org/20-questions-and-answers; and https://ozone.unep.org/sites/default/files/2019-11/twentyquestions.pdf.
- Environmental Effects and Interactions of Stratospheric Ozone Depletion, UV Radiation, and Climate Change: 2018 Assessment Report https://ozone.unep.org/sites/default/files/2019-04/EEAP_assessment-report-2018%20%282%29.pdf,
- Technology and Economic Assessment Panel (TEAP): 2018 Assessment Report https://ozone.unep.org/system/files/documents/TEAP_2018_Assessment_Report.pdf

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Custodian agency(ies): UNEP

Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

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

Indicator 12.5.1: National recycling rate, tons of material recycled

Vast majority of e-waste is unmanaged contributing emissions of greenhouse gasses, release of toxic chemicals and lost resources

The use and subsequent disposal of electronic and electrical equipment significantly contributes to large stockpiles of waste. The waste of electronic and electronic equipment (e-waste) becomes part of a fast-growing waste stream that contains both valuable and hazardous materials. The rapid growth of global e-waste is driven by growing consumption, short product life cycles, and little repair.

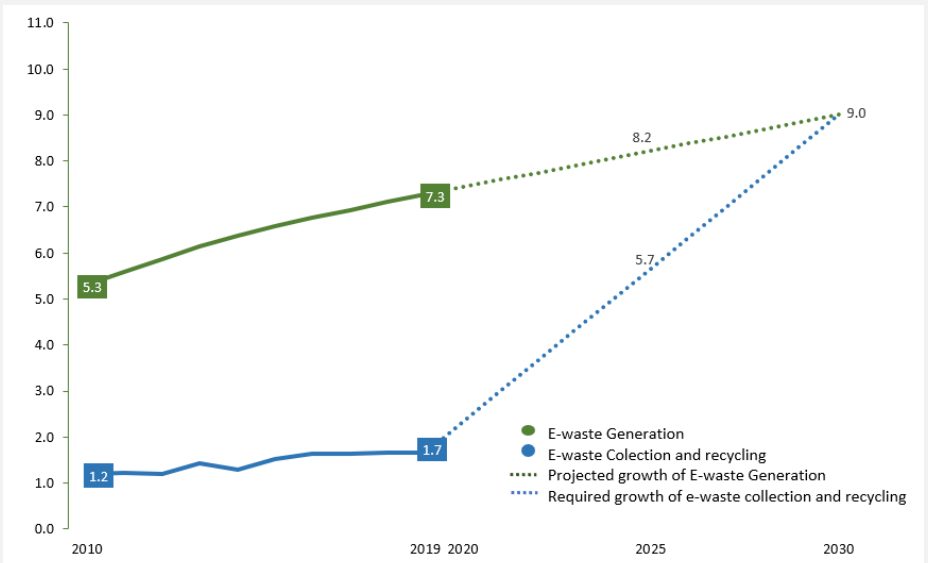
In 2019, the amount of e-waste generated was 7.3 kg per capita (chart 1). The amount of e-waste generated is expected to grow to 9.0 kg per capita in 2030. The growth is particularly driven by a growing consumption of electronics and disposal of e-waste of in low- and middle-income countries where environmentally sound e-waste management is urgently needed, and by new products such as wide usage of photovoltaic panels that are entering the global market rapidly, and the first generation is already becoming e-waste these days.

Out of the 7.3 kg e-waste generated in 2019, only 1.7 kg per capita is documented to be managed in an environmentally sound manner which means that all hazardous substances are dismantled, treated adequately, and recyclable materials are reclaimed. It is essential that the minimum depollution and recycling requirements are legislated in national legislation on e-waste. This has an indirect impact to global warming as recycling brings raw materials or components back into the production, thus lowering the demand for primary raw materials. Mining and refining of raw materials are energy intensive, thus bringing along substantive emissions or carbon dioxide. Improper management of e-waste also directly contributes to global warming as e-waste contains e.g., refrigerants that are greenhouse gasses. A total of 98 Mt of CO2-equivalents were released into the atmosphere from discarded cooling equipment such as refrigerators, air-conditioners and freezers that were not managed in an environmentally sound manner. This equals approximately the emissions of 20 million passenger cars per year, or 0.3% of global energy related emissions.

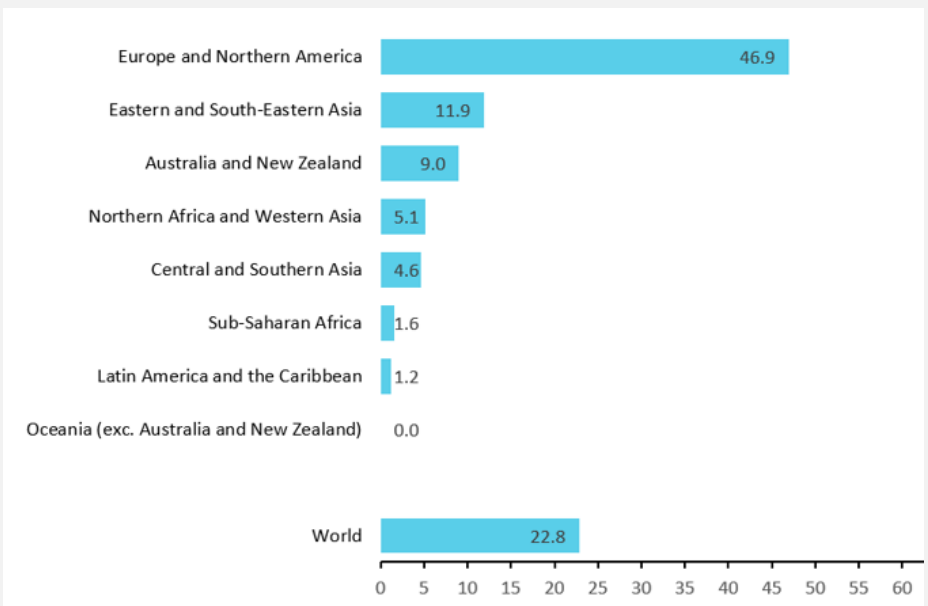
In high income countries, the e-waste collection environmental treatment is generally advanced, which is illustrated by the high collection rates Europe and Northern Americas (46.9 per cent), and Eastern and South- Eastern Asia (11.9 per cent) (chart 2). Still, most of the e-waste is not adequately recycled and often mixed with other recyclable waste streams or parts are scavenged of, without selective proper removal of hazardous substances, such as the refrigerants. Next to that, e-waste, often regarded as a re-usable good, is also exported to other lower income countries.

In middle- and low-income countries, e-waste management infrastructure is not yet developed, or is totally absent and inadequate to manage the e-waste that is locally generated and illegally imported. The e-waste collection rates are for instance 1.6 per cent in Sub Sahara Africa or 1.2 per cent in Latin America and the Caribbean. Thus, it is mostly managed inappropriately by the informal sector so the refrigerants are emitted in the open air, valuable components are selectively dismantled, or extracted by open burning and acid baths which are polluting the environment and cause a loss of valuable resources. Moreover, this causes severe health effects to workers, but also to children who often also live, work, and play on the sites.

E-waste generation (2010-2019),and projected e-waste generation (2020-2030) e-waste recycling (2010-2019) and required growth (2020-2030) to ensure environmenytally sound management of all generated e-waste (kg per capita)



E-waste collection rate (E-waste collected and environmentally sound managed / e-waste generated) per annum (%)



Additional resources, press releases, etc. with links:

- Forti V., Baldé C.P., Kuehr R., Bel G. The Global E-waste Monitor 2020: Quantities, flows and the circular economy potential. United Nations University (UNU)/United Nations Institute for Training and Research (UNITAR) – co-hosted SCYCLE Programme, International Telecommunication Union (ITU) International Solid Waste Association (ISWA), Bonn/Geneva/Rotterdam

Storyline author(s)/contributor(s): Kees Baldé, SCYCLE Programme - UNITAR; Ruediger Kuehr, SCYCLE Programme - UNITAR

Custodian agency(ies): UNSD, UNEP

Target 12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

Indicator 12.6.1: Number of companies publishing sustainability reports

Developments in international standards, increased reporting requirements in financial markets, and significant investor attention drive rapid growth in sustainability reporting by companies, but at unequal rates across regions

Developments in recent years have underlined the role of sustainability reporting not only as a tool to measure the contribution of companies to sustainable development, but also to show resilience against global risks. COVID-19 has even further increased the need of companies to attract investors, and capital providers today require higher transparency and stronger commitments to sustainability. COP26 and the launch of the International Sustainability Standards Board (ISSB) which aims to develop a global set of sustainability-related reporting standards, have paved the way to an ESG reporting disclosures baseline. Governments and regulators now embrace environmental and social sustainability standardization. Large and listed companies are moving faster following new requirements of stock exchanges, while MSMEs need more guidance and capacity building.

A preliminary analysis* that more than 60% of companies publish a sustainability report. This number has more than doubled since 2016. Third-party assurance of sustainability information has also increased, exceeding 50% for the largest companies in the world**.

The results show significant differences between regions. In North America, the number of reports almost tripled from 2016 to 2020. Europe and Asia experienced a twofold increase. At the same time, the data shows considerably slower growth rates in Africa, Latin America and Oceania.

Considering sectoral distribution, the manufacturing, finance and insurance industries feature the highest numbers of companies publishing sustainability reports, while the utility sector maintains the largest share of companies consistently publishing sustainability reports throughout the period. Overall, almost all sectors have seen a twofold increase in the number of sustainability reports published in the reporting period.

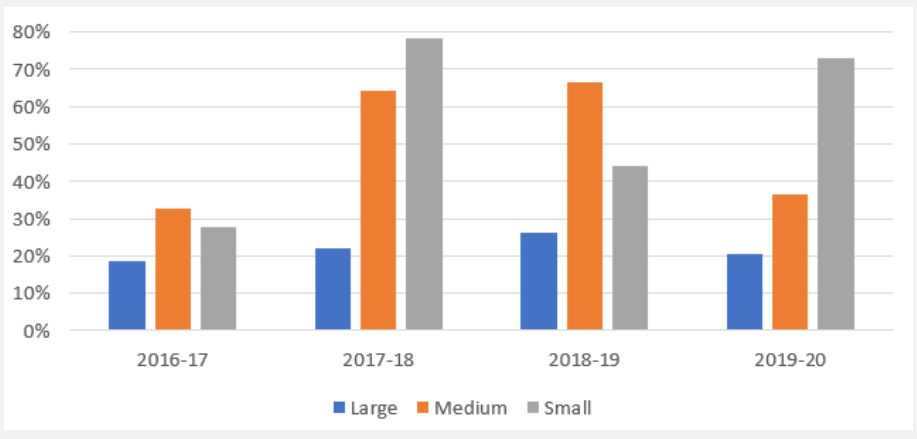
Due to higher data availability for listed companies, the sample represents mostly relatively large companies, which also have a higher number of sustainability reports. In fact, 96% of the top 250 companies worldwide, and 80% of the top 100 companies in 52 countries now report on sustainability**. Considering the small sample, the number of small and medium companies publishing sustainability reports have experienced a sharp increase in the reported period.

Regarding the quality of the sustainability reports analyzed, among the scope monitored, the environmental indicators that are most disclosed are CO2 direct emissions, energy consumption, and water withdrawal, while less attention is paid to water recycled, ozone-depleting substances, and hazardous waste produced. In the social dimension, more than half of companies disclose information on the health and safety training of employees, while few reports on the gender pay gap. In the corporate governance area, most companies disclose on board gender diversity, many indicate the number of board and audit committee meetings, and half of them present a sustainability strategy in the report, while information on bribery and fraud controversies is the least disclosed. Furthermore, around 70% of major companies now connect their business activities with the SDGs. However, the research demonstrates that reporting on the SDGs focuses mostly on positive contributions and lacks transparency on negative impacts**.

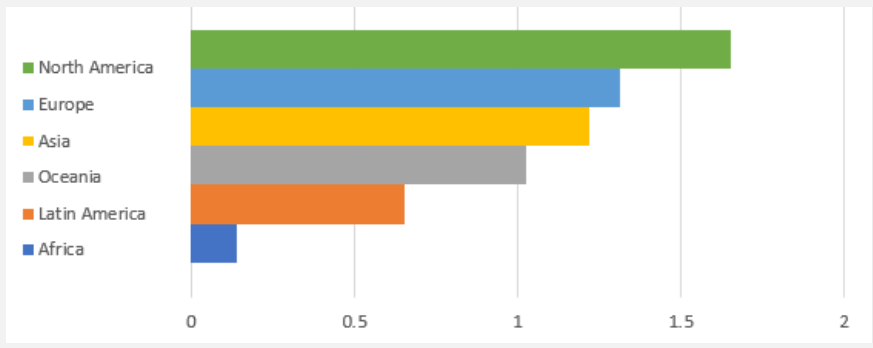
*UNCTAD and UNEP, co-custodians of SDG indicator 12.6.1 used a sample of over 10,000 public companies around the world provided by the Refinitiv database, complemented by other data sources which will continue to be explored for more comprehensive reporting on the indicator.

** "The time has come. The KPMG Survey of Sustainability Reporting 2020"; December 2020; Available at: https://assets.kpmg/content/dam/kpmg/uk/pdf/2020/12/the-time-has-come-kpmg-survey-of-sustainability-reporting-2020.pdf

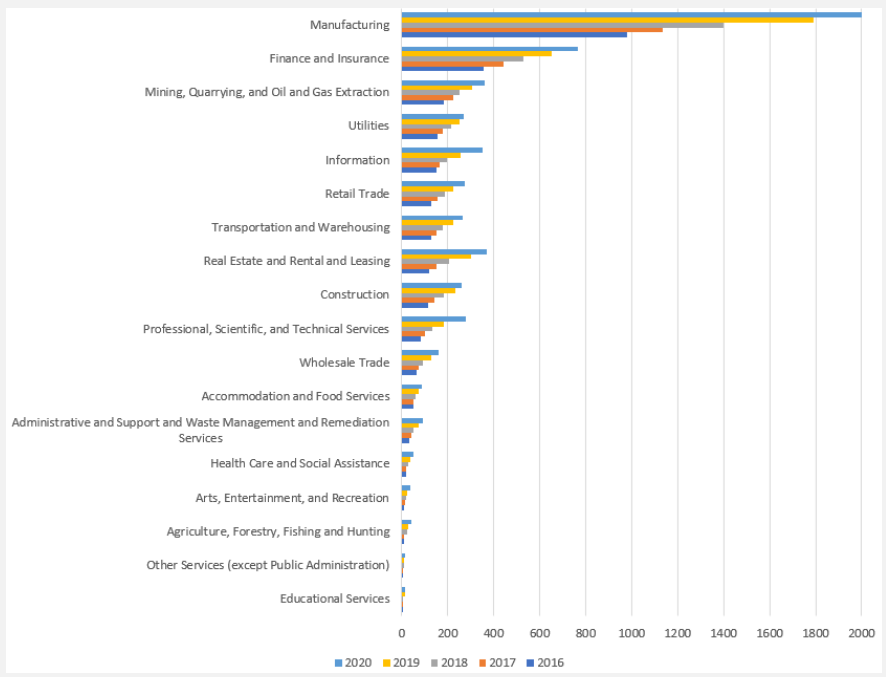
Increase in the number of companies publishing a sustainability report, by company size



Percentage change in the number of sustainability reports, by region (2016-2020)



Number of companies publishing sustainability reporting, by sector (2016-2020) / Percentage of companies publishing sustainability reporting within the sector (2020)



Additional resources, press releases, etc. with links:

- https://assets.kpmg/content/dam/kpmg/uk/pdf/2020/12/the-time-has-come-kpmg-survey-of-sustainability-reporting-2020.pdf

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Custodian agency(ies): UNEP, UNCTAD

Target 12.7: Promote public procurement practices that are sustainable, in accordance with national policies and priorities

Indicator 12.7.1: Degree of sustainable public procurement policies and action plan implementation

Custodian agency(ies): UNEP

Target 12.8: By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

Indicator 4.7.1/12.8.1/13.3.1: Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment

More efforts needed to fully mainstream ESD and GCED in national education systems

In primary and secondary education, around 90 per cent of countries report that Education for Sustainable Development (ESD) and Global Citizenship Education (GCED) are at least partially mainstreamed in national education laws and policies, curricula, teacher education or student assessment, but only 15 per cent report high levels of integration in all four areas. Much lower rates of mainstreaming are reported in technical and vocational education (57 per cent) and in adult education (51 per cent).

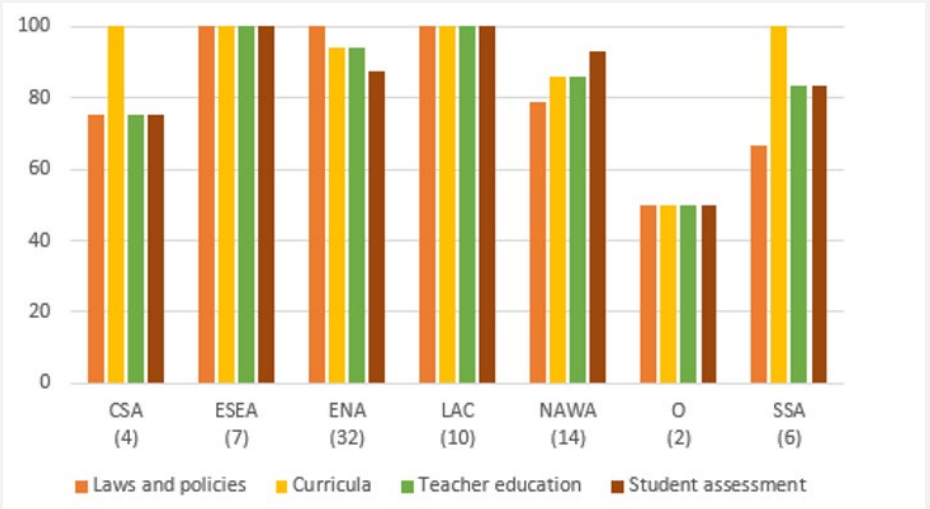
There are regional differences with particularly high rates reported in Eastern and South-Eastern Asia and in Latin America and the Caribbean (Figure 1).

Countries are more likely to have fully mainstreamed ESD and GCED in education laws and policies and in student assessment (40 per cent of countries) than in curricula (2 per cent) or teacher education (10 per cent).

A recent global survey of primary and secondary teachers found that one in four teachers do not feel ready to teach themes related to sustainable development, global citizenship and peace. Despite this a majority (80 per cent) are keen to learn more but while training in ESD and GCED is available, it is not always sufficient to meet teachers' needs.

Overall, more efforts are needed to ensure that ESD and GCED are mainstreamed throughout national education systems so that learners can acquire the skills necessary to take action on sustainable development, global citizenship and peace and contribute positively to the well-being of their communities.

Figure 1: Mainstreaming of ESD and GCED in national education systems by SDG regions in the period 2017-2020 (percentage of responding countries)



Note 1: CSA = Central and Southern Asia; ESEA = Eastern and South-Eastern Asia; ENA = Europe and Northern America; LAC = Latin America and the Caribbean; NAWA = Northern Africa and Western Asia; O = Oceania and SSA = sub-Saharan Africa.

Note 2: The numbers in brackets indicate the number of countries responding in each region.

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Custodian agency(ies): UNESCO

Target 12.a: Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production

Indicator 7.b.1/12.a.1: Installed renewable energy-generating capacity in developing countries (in watts per capita)

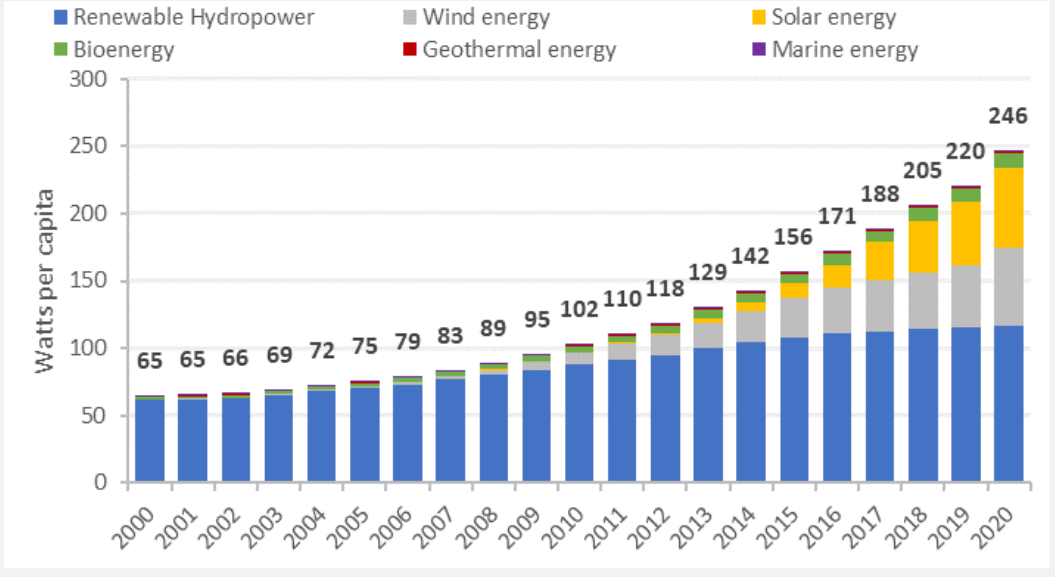
Renewables are covering a larger share of capacity, reaching a record 245.7 Watts per capita of renewable capacity in 2020. Yet, developing countries still cover less than half their total capacity with renewables and continued efforts are needed, especially for LDCs, LLDCs and SIDS

Developing countries reached a record-high of 245.7 Watts per capita of renewable capacity in 2020, also accomplishing the largest share of renewables to date at 36.1% of total capacity, close to the world average of 36.5% and the 37% of developed countries. This share of renewables contracted from 27.2% in 2000 to a low of 24.8% in 2007, during which non-renewables dominated capacity additions.

Positively, renewable capacity per capita is increasing faster for developing countries and outpacing population growth. In fact, the first decade of the century saw a compound annual growth rate (CAGR) of 4.7%, which was surpassed by an 8.9% CAGR during 2010-15. Most recently, in the 2015-20 period, the CAGR of renewable capacity per capita stood at 9.5% and just in 2020, the annual growth rate jumped to 11.6%, despite the world going through the COVID-19 pandemic.

The impact of COVID-19 has been negligible for 2020 and it might be reflected in the coming years due to lengthy processes to commission new capacity. Green recovery efforts and resilient investment in energy infrastructure could also dampen the impact of COVID-19 in developing countries.

Installed renewable energy-generating capacity in developing countries (in Watts per capita), by technology between 2000 and 2020



Most of the renewable capacity per capita in 2020 corresponds to renewable hydropower (around 40%) and the rest is equally divided between wind and solar power. In fact, wind and solar power accounted for most of the 2020 increase of renewable capacity per capita, where wind broke a downward trend, increasing by 26% from 46.3 to 58.2 Watts per capita; and solar by 25% from 47.4 to 59.0 Watts per capita.

Eastern and South-Eastern Asia grew from 134 to 460 Watts per capita at a CAGR of 13.2% from 2010 to 2020. Latin America & the Caribbean, at a CAGR of 4.1% did not grow as rapidly yet increased 49% from 285 to 425 Watts per capita. Western Asia & North Africa and Central & Southern Asia almost doubled their capacity per capita, at 99% and 92% overall growth in 2010-2020. During the same period, these regions grew at 7.1% and 6.7% CAGR, respectively. Countries in Oceania and Sub-Saharan Africa are lagging, having grown 25% and 56% at CAGR of 2.3% and 4.5%, respectively.

Global and regional numbers mask that the countries most in need are being left behind even within the group of developing countries. While developing countries grew their renewable capacity per capita by 9.5% annually in the last five years, SIDS, LDCs and LLDCs had lower CAGRs of 8.3%, 5.2% and 2.4% respectively. At current annual growth rates, it would take LDCs and LLDCs almost 40 years and SIDS almost 15 years to reach the same progress as the developing countries reached on average in 2020.

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Custodian agency(ies): IRENA

Target 12.b: Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products

Indicator 12.b.1: Implementation of standard accounting tools to monitor the economic and environmental aspects of tourism sustainability

National efforts to implement standard accounting tools like TSA and SEEA are more important than ever to monitor and guide the transition to a more sustainable tourism

As tourism recovers from its greatest crisis on record due to the Covid-19 pandemic, stakeholders worldwide are calling for more, better and more timely data to guide the transition to a more sustainable tourism future. The implementation of tools to monitor sustainable development impacts for sustainable tourism is more important than ever. However, data indicates that the implementation in countries of the most relevant standard accounting tools to monitor sustainable tourism may be on the decline.

Globally, the number of countries that report having at least one accounting table—from the Tourism Satellite Account (TSA) and System of Environmental Economic Accounts (SEEA)—steadily increased between 2008 and 2016, a year for which 92 countries report having at least one table. Since then, global data availability shows a downward trend with 75 countries reporting tables for 2019, and only 41 countries reporting tables for 2020 (-45%). While it is normal for accounting tables to become available with a delay, the pandemic has also put immense pressure on (tourism) statistical operations.

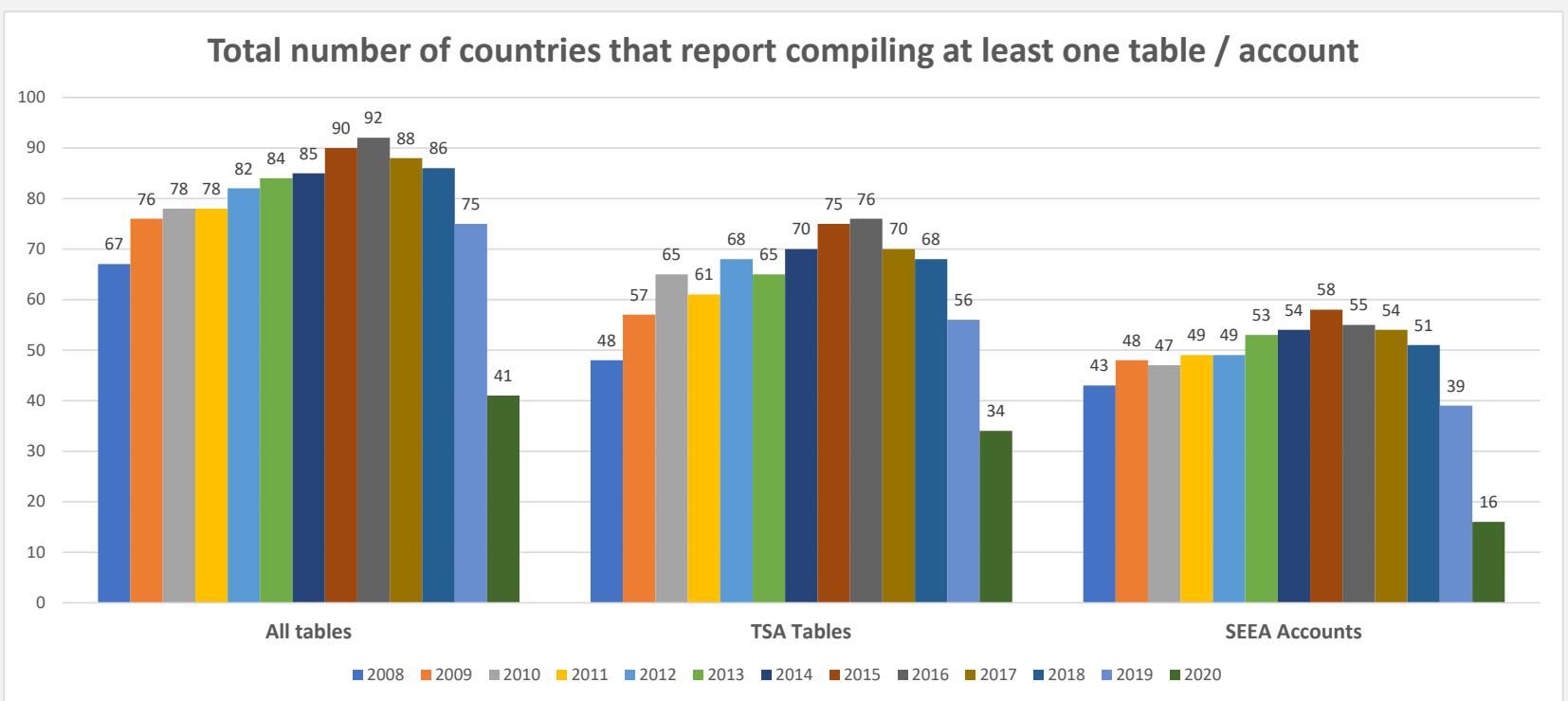
Data indicates that this pressure has unevenly affected the availability of data to monitor the sustainability of tourism across countries and regions. The region where data shows the sharpest drop is Central Asia and Southern Asia, where 40% of the countries reported having a TSA or SEEA table for 2019 but none reported having 2020 tables. Western Asia and Northern Africa follows with a 71% drop between 2019 and 2020. Northern America and Europe, which boasts the top tourism destinations worldwide in terms of inbound arrivals, continues to be the region with most countries compiling at least one TSA or SEEA table, with 15 countries in 2020, half of the countries compared to 2019.

The data for Eastern Asia and South-eastern Asia as well as Latin America and the Caribbean show a much less significant decline (where data lags may still explain an important part of the decline), with one third less of countries with 2020 data compared to 2019. Implementation of TSA and SEEA remains stable in Oceania.

The availability of tables from the Tourism Satellite Accounts (TSA) and the System of Environmental-Economic Accounting (SEEA) provides a good indication of a country's statistical capacity to measure the economic and environmental sustainability of tourism. The TSA and SEEA also constitute a good basis for the implementation of the Statistical Framework for Measuring the Sustainability of Tourism (MST), an accounting-based framework that looks at the social, economic and environmental impacts and dependencies of tourism—at national and sub-national levels.

As countries build back a better, more sustainable and resilient tourism, various policy frameworks have recognized the need for these tools to guide their efforts. Examples at international and regional level are the AIUla Framework for Inclusive Community Development Through Tourism endorsed by the G20, the European Parliament resolution on establishing a strategy for sustainable tourism, the Pacific Sustainable Tourism Policy Framework, UNWTO General Assembly resolutions and UN Statistical Commission decisions.

Global implementation of TSA and SEEA



Additional resources, press releases, etc. with links:

- SDG data for targets 8.9 and 12.b: https://www.unwto.org/tourism-statistics/economic-contribution-SDG
- Measuring the Sustainability of Tourism: https://www.unwto.org/standards/measuring-sustainability-tourism
- Pilot experiences on MST: https://webunwto.s3.eu-west-1.amazonaws.com/s3fs-public/2020-09/Experiences-from-pilot-studies-in-Measuring-the-Sustainability-of-Tourism.pdf
- Tourism data: https://www.unwto.org/tourism-statistics-database

Storyline author(s)/contributor(s): Clara van der Pol, UNWTO; Leandry Moreno, UNWTO; Eric Hernandez, UNWTO

Custodian agency(ies): UNWTO

Target 12.c: Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities

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

The encouraging drop in fossil fuel subsidies in 2020 was, unfortunately, an exception to the trend

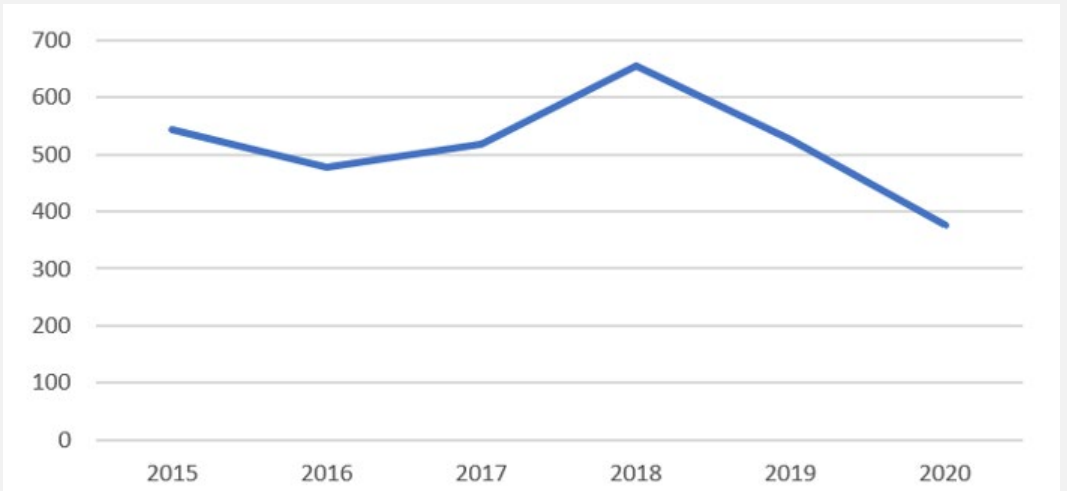
Global estimates on fossil fuel subsidies are not yet available for 2021 - but it is safe to say that the encouraging drop in fossil fuel subsidies seen in 2020 as international prices cratered due to a variety of factors was, unfortunately, an exception to the trend (see chart 1).

The latest global data shows that in 2020, governments spent USD 375 billion on subsidies and other support for fossil fuels. While consumer subsidies decreased compared to 2019, this is largely due to low oil prices and decreased demand during the pandemic rather than structural reforms.

Commodity and energy prices have rebounded sharply over the course of 2021, and continuing supply-side constraints could further exacerbate this steep increase - and we are likely to see a jump in both consumption and production subsidies for fossil fuels. Countries that did not take the opportunity offered by low international fuel prices in 2020 to reform might be forced to maintain or increase subsidies to offset the real pain felt by consumers across the world.

However, such a strategy will have fiscal consequences and reduce resources to invest in greener recoveries and sustainable growth foundations. The answer to high fossil fuel prices is a quicker and scaled up transition to renewable energy sources.

Fossil-fuel subsidies for 2015-2020, billion USD nominal



Additional resources, press releases, etc. with links:

- https://fossilfuelsubsidytracker.org/

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Custodian agency(ies): UNEP