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Monitoring the Shift to Sustainable Consumption and Production Patterns in the context of the SDGs

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Preface

Sustainable Consumption and Production (SCP) is an integral part of the 2030 Agenda for Sustainable Development. Monitoring SCP will require a set of indicators that measures the shift in consumption and production patterns. It will also require institutional capacity to apply these measurements effectively. However, both identifying appropriate SCP indicators and effectively producing and reporting them poses important challenges for governments. This report constitutes an initial proposal to support the monitoring of SCP-related targets of the SDGs, using the SEEA framework which facilitates the connection of data across the environment and the economy that can effectively inform policy-making and other actions. The report also proposes the development of a strategy for capacity building in the context of responding to the need for harmonised and quality assured indicators.

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Executive Summary

Achieving Sustainable Consumption and Production (SCP) patterns has been recognized as an integral part of the 2030 Agenda for Sustainable Development. It is identified as a stand-alone Sustainable Development Goal (SDG 12) and as a central component of many of the 17 goals and 169 targets agreed in the agenda.

Monitoring SCP targets will require a set of agreed upon and comparable indicators, as well as - at the national level - the institutional capacity to produce and apply them. However, many countries face major difficulties in constructing and producing indicators. These include: limited data and resources, limited technical capacity, and fragmented institutional systems. These constraints make it difficult to effectively monitor changes in consumption and production patterns, suggesting the need for substantive efforts in institutional and technical capacity development as well as financial resources.

Furthermore, increased global reporting requirements are not only generating a significant burden on countries, but also increasing the number of reporting systems, this suggests the need to converge towards common statistical standards that can relate and interconnect with one another. In this context, the United Nations Statistical Commission identified the System of Environmental-Economic Accounting (SEEA) as an important statistical framework for the 2030 Agenda for Sustainable Development and the Sustainable Development Goals' indicators. This statistical framework builds on and extends the System of National Accounts (SNA), integrating available data on the economy and the environment, as well as environmentally related economic instruments such as e.g. taxes and subsidies on fossil fuels.

This report constitutes an initial proposal to support the monitoring of SCP-related targets of the SDGs, using the SEEA framework. The report also proposes the development of a strategy for capacity building in the context of responding to the need for harmonised and quality assured indicators. Based on this approach and the analysis undertaken for this paper, we will also discuss more general indicators than those developed by the IAEG-SDGs process. Experience with earlier sustainable development indicators have shown the usefulness of having some underlying analytical possibilities that can help in interpreting the trends of the indicators.

SCP indicators in support of SDG related goals and targets

In this report a set of statistics and accounts that present a link between the environment and the economy, are explored. These provide a deeper understanding of the relation between driving forces, environmental pressures, and policy responses critical in

determining the attainment of the SDGs. These are all key data sources in the discussion on using an integrated statistical framework for monitoring SCP.

The current list of proposed indicators from the Inter-agency Expert Group on SDG Indicators (IAEG-SDGs) will be presented in March, 2016, to the United Nations Statistical Commission. Presently the work of the IAEG has focused on identifying appropriate indicators for the SDG targets. As the process continues, and as data is published, it is likely that there will be new indicators proposed.

Regardless of the specific indicators agreed upon, capacity building efforts will be required at country level to produce these indicators. It is important that these efforts are directed toward the necessary data production and not at creating new and separate indicators. Therefore, the starting point of this report is the current list of IAEG-SDGs indicators. The report explores SEEA compliant data for SCP-related targets in the SDGs 2-3, 6-9 and 11-15.

Table 1 presents the suggested data sets to monitor SCP-related targets including which specific targets the data sets have the potential to respond to. It is a preliminary list which enables tracking changes in production patterns, changes of environmental technologies, consumption patterns related to environmental impacts and natural resource use, and the monitoring of environmental economic instruments. All of them are covered by the SEEA Central Framework. The indicators are exemplified by showing some country cases based on international databases e.g. those of UNEP, the OECD, Eurostat and national data sets. These are presented in Annex 3 of this report.

The information in Table 1 includes, *inter alia*, data sets measuring greenhouse gases emissions which touches upon target 8.4 on decoupling economic growth from environmental degradation; target 9.4 on the adoption of clean and environmentally sound technologies; target 12.2 on achieving sustainable management and efficient use of natural resources; and target 13.1 on strengthening the resilience and adaptive capacity to climate-related hazards and natural disasters.

The advantage of the SEEA is to integrate several areas into one data set as demonstrated in table 1. It is also apparent that only a few data sets analysed in this report are not part of the current IAEG list. The reason for this is that the SEEA covers data that measures drivers, pressures and responses from economic activities, population and the government. With this information it is possible to monitor elements of sustainable production or consumption of interest. This includes the environmental impact of specific economics sectors, as well as their 'environmental' efficiency, by examining the emissions levels as they relate to Gross Domestic Product (GDP).

The current indicators proposed by the IAEG are geared towards measuring the goals and targets by using statistical information, such as government expenditures, GDP, and population statistics. The SEEA contemplates this and other data. Other indicators include institutional data such as monitoring the number of conventions signed, whether or not legal frameworks are in place, or the number of countries with action plans for specific policies. These indicators are not necessarily captured by the statistical community, but are relevant to measuring progress towards some of the established SDG targets.

Table 1: Suggestions of SEEA related datasets to monitor SCP

Data sets	*Detail possible within SEEA*	*Additional detail*	*Targets measured**	*Current target in IAEG-SDGs* **	*Potential Data Source for compilation*
Tracking changes in production patterns - pollution and economy					
GHG-emissions from the economy	Industries, government, households	Divide by value added/GDP, per capita	*8.4, 9.4, 12.2, 13.1*	*9.4, 12.2*	*GHG Inventory, energy statistics*
Emissions to air (PM2,5)	Industries, government, households	Divide by value added/GDP, per capita or focus on cities	*11.2, 11.5, 11.6, 12.2,*	*11.6 to a certain extent*	*PRTR or emissions inventories*
Emissions to water, e.g. N, P, zinc, lead	Emitted by industry. To recipient (wastewater treatment plant or back to the water system (i.e. surface or groundwater, sea, non-point sources)	Divide by value added/GDP, per capita, type of treatment plants	*2.4, 6.3,12.2, 14.1*	*Not included*	*PRTR or emissions inventories*
Use of chemical products	By industry and households	By toxicity classes	*3.9, 12.2, 12.4*	*Not included*	*PRTR*
Tracking changes in production patterns - natural resources and economy					
Amount of waste generated	By generating industry, by receiving industry	Divide by value added or GDP, Type of treatment plants	*3.9, 11.6, 12.2, 12.5,*	*Part of 11.6, 12.4*	*PRTR, waste statistics*
Material use	By material category, by industry, households	Divide by GDP or per capta, linking it to hazardous materials	*8.4, 12.2*	*8.4, 12.2*	*Sectoral data and statistics*
Energy use	By industry, household, government, by energy source (including renewable sources)	Divide by per capita, value added/GDP or GHG	*7.2, 7.3, 8.4, 12.2,*	*7.2 to a certain extent, 7.3, 7b*	*Energy statistics, Energy Balances*
Water use	Industry and households, government, by source	Divide by per capita or value added/GDP	*6.4, 12.2, 13.1*	*6.4*	*Water statistics*
Tracking changes of environmental technologies					
Environmental protection expenditure	By industry, households and government by type of env. area and type of investment	Divide by GDP, value added	*3.9, 6.3, 9.4, 12.2, 13.1, 15.1*	*Not included*	*Sectoral data and statistics, surveys and administrative data*
Value added in environmental goods and services sector	By industry and government, or by env. area	Divide by GDP, value added	*3.9, 6.3, 6.4, 7.2, 7.3, 9.4, 12.2, 12.b, 13.1, 15.2, 15.1*	*Not included*	*Sectoral data and statistics, surveys and administrative data*
Tracking changes in consumption patterns – environmental and natural resource pressures					
Environmental pressure from consumption – materials	Products	Trade partners	*12.2, 8.4*	*12.2*	*Input-output tables, trade statistics, material flow statistics*
Environmental pressure from consumption – GHG emissions	Products	Trade partners	*12.2, 8.4, 13.1*	*Not included*	*Input-output tables, trade statistics, GHG emission accounts*
Tracking changes of environmental economic instruments					
Environmentally related subsidies	By industry, households, by type, GDP or per capita	details of related subsidies to RoW	*6.a, 7.2, 7.3, 7a, 9.4, 12.2, 12.a, 13.1, 14.7, 14.a, 15.a, 15.1*	*6.a, 7a, 15.a*	*Financial statistics*
Environmentally related taxes	By industry, households, by type	Divide by per capita or GDP	*12.2, 13.1*	*Not included*	*Financial statistics*

*Targets measured as evaluated by this project
**As of 18 February 2016

National datasets have also been examined to explore how indicators can be used to monitor for SCP (see details in annex 3). A preliminary assessment suggests that there is data available for many countries, but there is room for improvement in the level of detail and breakdown for certain indicators, and to better align them with the SEEA concepts and classifications. More specifically, this is the case for monitoring changes of environmental technologies, and

water emissions data from industries and households. These are important factors and sectors for constructing indicators, for example that monitor targets in goals 3, 6, 7, 12, and 13. It is also observed that in the case of energy statistics where energy balances still prevail and industry breakdowns, following SEEA convention, are still generally missing.

Capacity Building

Many countries are currently in the process of adopting and implementing the SEEA. For some, it is fairly common to use a standards based approach (e.g. using ISIC as classification of economic activities) in the collection and compilation of environmental statistics. This is a prerequisite for moving towards integrated environmental and economic accounts. In other types of environmental data, other sectoral breakdowns are used such as differentiating between the most polluting industries or the most polluted areas, or breakdown by policy relevant sectors that are not directly linked to economic statistics. Therefore, while the SDG indicators are still being developed and reviewed, it is also useful to begin to define the capacity requirements at the country level to monitor and report the progress towards achieving SCP-related SDGs. This early identification of capacity requirements will help strengthen the readiness for measuring the ultimately agreed upon SDG indicators.

One such step is to look at the existing statistical classifications available with the objective in the longer term to develop an integrated statistical system with common classifications and definitions. This is necessary even in countries with good statistical information, so as to inform the necessary integrated and coherent policies for sustainable development in years to come. While an initial investment is needed in such a system, there are important efficiency gains associated with integrated information for policy making and international reporting. Furthermore, the formulation of policy without adequate evidence based information can generate significant costs.

On the basis of the new challenges facing countries in developing statistics to be able to produce appropriate indicators for the SDGs, the present report suggests using existing data and proposes a capacity building strategy for SCP indicators.

Conclusions

This paper summarizes proposals that will be put forward in the discussion on indicators being developed to monitor the progress towards the Sustainable Development Goals.

1) **Identifying available key data sources** that serve to measure progress towards multiple objectives and targets is an important step in facilitating the monitoring of progress towards the SDGs. This report focuses on the link between the environment and the economy in defining those data sources and the indicators they can generate and their multipurpose effect.

The issues discussed in this report are focused on monitoring changes in consumption and production patterns and related initiatives. The key statistical areas include air and water emissions, energy and chemical use, waste generation and material flows, environmental protection, environmental goods and services and finally environmental transfers, such as taxes and subsidies. The area of economic statistics is already available for use where appropriate.

2) **Connecting these statistics**, including using data that is available now or could be made available without the need for additional investment in data gathering. This means a focus on the linkage of the economy to physical flows like air and waste emissions as well as through environmental-economic instruments. This aspect is important when looking at, for example, changes in production patterns through measures of resource use intensity or of productivity.

3) **Strengthening capacity building related to data collection** and application, and to provide an initial assessment of what is required in that respect.

4) **Use as much as possible existing work on statistics and accounts** nationally and internationally. By collecting data from sovereign nations, international agencies can support the work on the SDGs and become facilitators to create synergies and added value. Also it is important to support existing national work, for example the infrequent publishing of input-output tables affects the quality of calculating environmental footprint based indicators which in turn is