

Guidelines concerning a statistical definition of employment in the environmental sector

The Nineteenth International Conference of Labour Statisticians (ICLS),

Acknowledging that the Rio+20 Declaration – The Future We Want – considers green economy as one of the important tools available for achieving sustainable development (paragraph 56) and promotes access to reliable, relevant and timely data in areas related to the three dimensions (environmental, social and economic) of sustainable development (paragraph 76).

Supporting the request, which was made by the International Labour Conference in paragraph 19 (c) of the conclusions concerning sustainable development, decent work, and green Jobs adopted during its 102nd Session (2013), that the International Labour Office should assist countries and social partners to assess the impact of greening the economy on job creation, job transition and the quality of work, including through the compilation and wide dissemination of reliable statistics;

Recalling the existing conceptual framework for the measurement of environmental activities in the System for Integrated Environmental-Economic Accounting (SEEA) - Central Framework¹, adopted by the UN Statistical Commission at its 43rd session in 2012,

Recalling the existing international standards on statistics of employment contained in the resolution concerning work statistics adopted by the 19th ICLS (2013),

Acknowledging that the relevance of employment in the environmental sector and the diversity of environmentally friendly practices vary among countries and over time, and that a decision to develop statistics on them is therefore determined by national circumstances and priorities,

Recognizing further that international guidelines on the measurement of employment in the environmental sector will promote the development of these statistics and improve their international comparability;

Endorses the following guidelines, and encourages countries to test the conceptual framework on which they are based:

Objectives and uses

- 1) Countries that aim to promote employment in an environmentally sustainable economy and to make production more environmentally friendly should endeavour, where practicable, to develop a comprehensive system of statistics on employment in the environmental sector that would provide an adequate statistical base for the various users of the statistics, with account being taken of specific national needs and circumstances.
- 2) Statistics are needed for monitoring the transition towards a green economy, for planning, designing and evaluating environmental and labour market policies, and for assessing the extent to which the economy is responding to various public policies and initiatives.
- 3) The system of statistics should:
 - (i) Facilitate the assessment of the contribution of the transition towards a green economy to employment, including the number of people employed and their skill levels;

¹ System of Environmental-Economic Accounting - Central Framework available at https://unstats.un.org/unsd/envaccounting/White_cover.pdf

- (ii) Provide information on various aspects of sustainable development, especially when used together with statistics on production, value added, turnover, export and import, innovation, investments, fiscal schemes and subsidies;
 - (iii) Inform the design and monitoring of specific support policies and assistance programmes for the environmental sector as a whole or for its subsectors; and
 - (iv) Facilitate analysis of the economic and social situation of particular groups of workers in this sector such as women, rural and urban populations, youth and the elderly.
- 4) In order to fulfil the above objectives, comprehensive, detailed and reliable statistics should, as far as possible, be compiled on:
- (i) all economic units with environmental activities, classified by various characteristics to provide information on the composition of the environmental sector and its subsectors;
 - (ii) employment in such units, including information on the number of persons engaged by socio-demographic and other characteristics and on the conditions of their employment;
 - (iii) production and incomes generated through environmental activities, derived, where appropriate from data on outputs, inputs and related transactions.
- 5) In order to enhance their comparability and usefulness, statistics on employment in the environmental sector should, as far as possible, be compatible with other related economic and social statistics and with environmental accounts with respect to the definitions, classifications and reference periods used.
- 6) Statistics on employment in the environmental sector should be compiled at regular intervals so that changes in its size and characteristics over time can be monitored adequately. The frequency of data collection may vary according to user needs and capacity to produce such statistics.

Concept and domain of environmental sector

- 7) The environmental sector consists of all economic units that carry out environmental activities. These activities are defined in the Central Framework of SEEA as those economic activities whose primary purpose is to reduce or eliminate pressures on the environment or to make more efficient use of natural resources. These activities are grouped into two broad types of environmental activity: (a) environmental protection activities and (b) resource *management* activities.
- a. Environmental protection activities are those activities whose primary purpose is the prevention, reduction and elimination of pollution and other forms of degradation of the environment.
 - b. Resource management activities are those activities whose primary purpose is the preservation and maintenance of the stock of natural resources and hence safeguarding against depletion.
- 8) Environmental activities can be carried out by all economic units, as main, secondary or ancillary activities. A distinction can be drawn between:
- Specialist producers which are economic units whose main activity is the production of environmental goods and services.
 - Non-specialist producers which are economic units that produce environmental goods and services as secondary activity but have a non-environmental main activity.
 - Own-account producers which are economic units that produce environmental goods and services or processes for their own consumption within the economic unit.

- 9) These units produce, design, and manufacture at least some goods and services for purposes of environmental protection and resource management. The types of environmental goods and services include: environmental specific services, environmental sole-purpose products, adapted goods, and environmental technologies (end-of-pipe and integrated technologies). Environmental goods and services could be produced by economic units for consumption by others or for own use.
- 10) Activities in agriculture, fisheries and forestry can be considered as environmental if environmentally sustainable technologies and practices are used.

Employment in the environmental sector

- 11) Persons employed in the environmental sector comprise all persons who, during a set reference period, were employed (as defined in the resolution on the topic adopted by the Nineteenth International Conference of Labour Statisticians) in the production of environmental goods and services (as defined above). In addition to persons involved in the production of environmental goods and services, this includes workers whose duties involve making their economic unit's production processes more environmentally friendly or make more efficient use of natural resources.
- 12) A distinction may be made between employment in the production of environmental goods and services for consumption by other economic units (employment in production of environmental outputs) and for consumption by the economic unit in which the activity is performed (employment in environmental processes).
 - A- *Employment in production of environmental outputs* is defined as employment in the production of environmental goods and services for consumption outside the producing unit. It may exist in specialist or in non-specialist economic units. Employment in production of environmental output in non-specialist economic units or specialist units that have non-environmental secondary activities cannot be measured directly unless the jobs are linked with type of products produced. Linkage of this type would be costly and difficult to implement in data collection. In the absence of such information this type of employment can be approximated, using, for example, the data on the value of environmental goods and services produced as a proportion of the value of the total production. For non-market producers (e.g. government units), the proportion of their employment contributing to the production of environmental goods and services can be estimated by using other relevant variables such as the share of wages and salaries or of working time spent on production of environmental output.
 - B- *Employment in environmental processes* is defined as employment in the production of environmental goods and services for consumption within the producing unit. It may exist in specialist economic units and in economic units that are not environmental in nature (i.e. non-specialist or own-account producers). These are jobs in which workers' duties include production of environmental goods and services for use within the economic unit, but also the use of methods, procedures, practices, or technologies that make their economic unit's production processes more environmentally sustainable². Where possible a distinction

² This includes methods, procedures, practices, or technologies that, for example reduce or eliminate pollution, reduce consumption of water and energy, minimize waste, or protect and restore ecosystems. This type of employment also includes jobs in which workers are employed to research, develop, maintain, or use technologies and practices to reduce the environmental impact of their economic unit, or to train the unit's workers or contractors in these technologies and practices.

should be made between those workers that spend less than 50% and those that spend more than 50% of their working time on environmental processes.

- 13) The term 'green jobs' refers to a subset of employment in the environmental sector that meets the requirements of decent work (i.e. adequate wages, safe conditions, workers' rights, social dialogue and social protection). The decent work dimension of jobs in the environmental sector may be measured according to relevant indicators selected from the ILO manual on Decent Work Indicators³.
- 14) Schematic relationships between total employment, employment in the environmental sector and decent work are shown in the annex.
- 15) Related concepts include the following:
 - Employment in the non-environmental sector created thanks to greening: This refers to employment in economic units that supply goods and services to the environmental sector. Such employment may be estimated using input-output tables and environmental expenditure data.
 - Employment in low carbon economic units and energy efficient enterprises: This refers to employment in units that have low carbon emissions (e.g. employment in green buildings) and to employment in enterprises that are more energy efficient than most of the enterprises within the same economic activity.
 - 'Green work': This refers to all work involved in production of environmental goods and services. It includes employment, voluntary work and own-use production work⁴ to produce environmental goods and services.Further methodological work may be needed in these areas.

Data collection programme and methods

- 16) The collection of data on employment in the environmental sector should be integrated into the regular national statistical programmes. The data collection programme should provide both for the current monitoring, if possible once a year, of the evolution of employment in at least some environmental activities and the comprehensive examination of employment in all environmental activities, if possible every five years. The latter may include not only data with respect to the number of persons employed but also their characteristics, in particular, the skill levels, training received, and wages. Detailed information may also be collected about the functioning, technologies used, investments, production and exports of the economic units.
- 17) The comprehensive data collection programme should preferably be based on existing economic and agricultural censuses. For current monitoring and in areas of specific interest, the census data could be supplemented with data derived from establishment surveys and/or household surveys as well as national accounts data. The coverage of the sample surveys may depend on the measurement objectives, the intended uses of the data, and the availability of sampling frames and resources.
- 18) The information on employment in specialist environmental establishments could be collected through existing surveys and censuses by using standard industrial classifications like ISIC that identify activities such as waste management and wastewater treatment, government activities

³ *Decent Work Indicators: Guidelines for Producers and Users of Statistical and Legal Framework Indicators ILO Manual*, second version available at http://www.ilo.org/stat/Publications/WCMS_223121/lang-en/index.htm

⁴ Refers to production where the output is intended mainly for consumption or use by the person producing it, or by members of that person's household or family members living in other households.

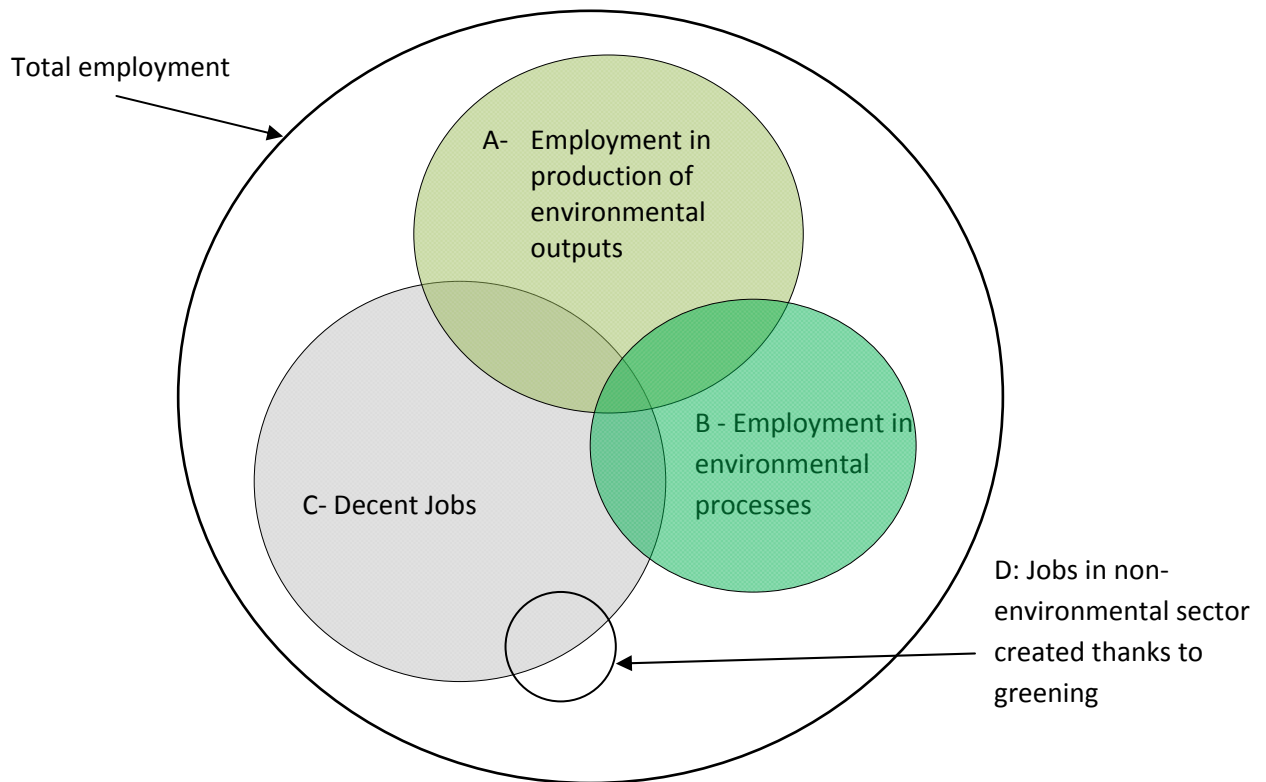
aimed at environmental protection and resource management. For employment in non-specialized and own-account producers, the gathering of information could be undertaken through specialized surveys or expanding existing surveys. Indirect methods could also be employed. Indirect methods use existing data sources to estimate employment data, for example from environmental expenditures or data on installed capacities. For non-profit institutions, data on the number and activities of volunteers should also be collected.

- 19) Employment in environmental processes may be difficult and costly to measure. Therefore, countries which have limited capacity and restricted resources may limit the measurement of employment in the environmental sector to some of its components (e.g. employment in production of environmental outputs, employment in specialist environmental producers, employment in environmental protection activities, employment in production of environmentally specific services and/or environmental sole-purpose products, employment in key economic activities and/or the most significant enterprises, etc.). Where only aggregate data are required, modelling exercises e.g. based on input-output tables may be an efficient alternative to surveys.
- 20) When implementing the concepts and definitions and methodology for estimating employment in the environmental sector and green jobs, the agency responsible for the estimates should consult representatives of employers' and workers' organisations as well as other users and experts.

Future work

- 21) The ILO, in cooperation with interested countries and organizations, should:
 - arrange for testing the concepts and definitions presented in the guidelines;
 - continue work on the development and refining of the concepts and the methodology for generating reliable estimates of employment in the environmental sector and green jobs.

ANNEX: Schematic relationships between total employment, employment in the environmental sector and decent work



- Employment in environmental sector = $A \cup B$
- Employment created thanks to greening = $A \cup B \cup D$
- Green jobs (Employment in Environmental Sector that is decent) = $(A \cup B) \cap C$