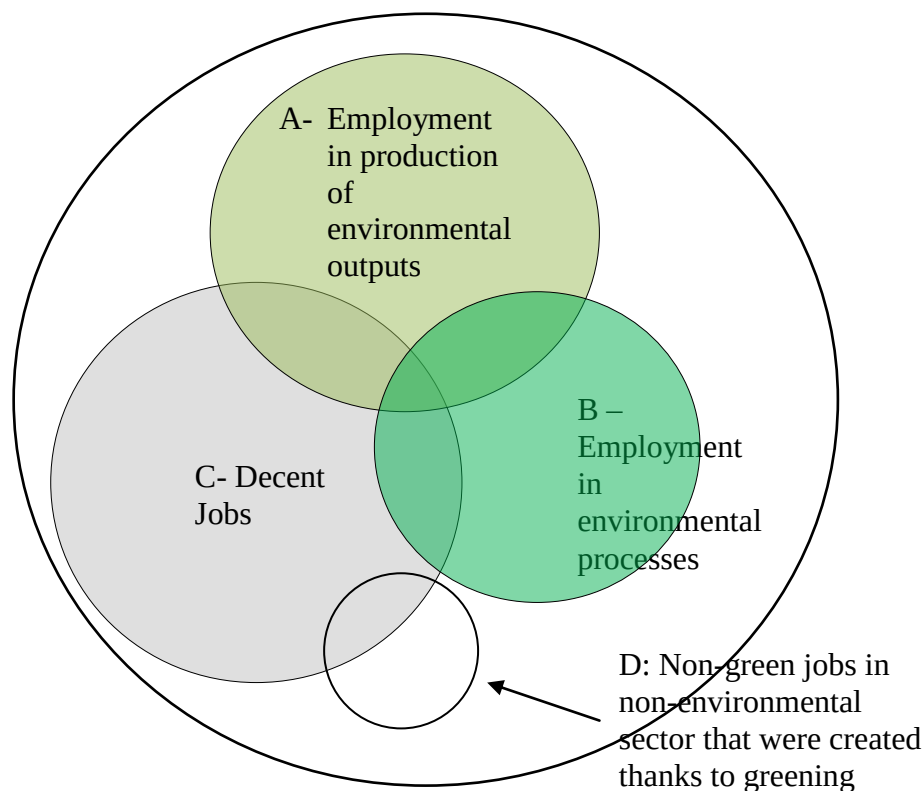


Employment in environmental activities



Employment in Environmental activities = $A \cup B$

Employment thanks to greening = $A \cup B \cup D$

Employment in Environmental activities that is decent = $(A \cup B) \cap C$



Statistics



Measurement issues and methods



Measurement issues



- Employment in the production of environmental outputs and employment in environmental processes two distinct concepts that refer
 - to different aspects of the 'greening' of employment
 - to different targets for policy-making (greening the economy-greening the enterprises).
- Employment in production of environmental outputs - linked to certain establishment-related characteristics
- Employment in environmental processes - linked to certain job-related characteristics such as skills and tasks.



Employment in production of environmental outputs Measurement



- *Environmental sector* is defined as consisting of those enterprises where all or at least some of the goods or services *produced /sold* belong to the environmental goods and services domain.

Employment
in production of
environmental output

≠

Employment
in environmental
sector



Measurement: Employment in production of environmental outputs



Problems:

- Most establishments produce both environmental and non-environmental goods and services, making distinctions between environmental and non-environmental employment difficult.
→ *Employment in the production of environmental outputs, could not be directly measured (absence of information on employment associated with the production at the product code level)*

Employment can be measured directly only in establishments whose output is 100% environmental.

Employment in establishments which produce both environmental and non-environmental output have to be estimated (by using the data on output/sales for environmental goods and services)



Indirect measurement of employment in environmental output



Assumption: the share of employment in EO corresponds to the turnover share of environmental goods and services

- Does not take into account that production of EGS might be more or less labour intensive than production of non-EGS
- Does ensure that the labour inputs of workers in areas such as administration, accounts, information technology, cleaning services are also counted



Measurement: Employment in production of environmental outputs



- ***Establishments that do not generate revenue*** (e.g. non-profit organizations, government agencies, research organizations, and new businesses that provide environmental goods and services without generating income)
 - information about the proportion of their employment involved contributing to the production of environmental goods and services
- ***Households as production units undertaking*** environmental protection and resource management activities
 - *if production for sale* (Employment in production of environmental outputs)
 - *if production for own consumption* (work in environmental processes but not employment)



Identification of industries producing environmental goods and services



Statistics

- Environmental sector- highly diverse. It includes activities carried out by a wide range of establishments in many different economic sectors, from manufacturing enterprises to consultancy firms, from public administration to educational institutions.
- Not recognised by standard statistical nomenclatures as a distinctive sector
- ISIC or similar statistical classifications could not be used to establish a complete and comprehensive list of “green” establishments



Identification of establishments producing environmental goods and services



Statistics

- Some producers could be identified by ISIC (only those classes that are entirely environmental)
- Some producers could be identified by using relevant information that may be available from other sources of information, e.g. economic censuses (CPC)
- Most of the producers are very difficult to identify separately because their main activity is not the production of environmental goods and services
- EGSS and CEA of SEEA could help with identification of producers of environmental goods and services



Measurement: Employment in production of environmental outputs



Issue

- Industries that produce components of an environmental technology or product to the main producer when these components are not to be used exclusively in environmental technologies



Outside the scope because environmental protection/resource saving is not a primary purpose.



Employment in environmental processes Measurement issues



- Employment in production of environmental output excludes green-related jobs at traditional firms.
- There are establishment that do not produce environmental output but do make their production process greener.
- Establishment asked to provide information on the number of workers employed in activities leading to the production of environmental goods and services for consumption ***within*** the establishment.
- Requires collection of data on job-related characteristics



Employment in environmental processes Measurement issues



- Occupation –not sufficient (only for entirely environmental occupations)
 - Majority of workers in occupations that involve both environmental and non-environmental activities
- Many workers involved in production of environmental goods and services for consumption outside and within the establishment
- Measurement requires splitting the hours worked
- Alternative - measure the employment in environmental processes regardless of the intended consumption



Possibly green occupation groups identified in ISCO-08



Statistics

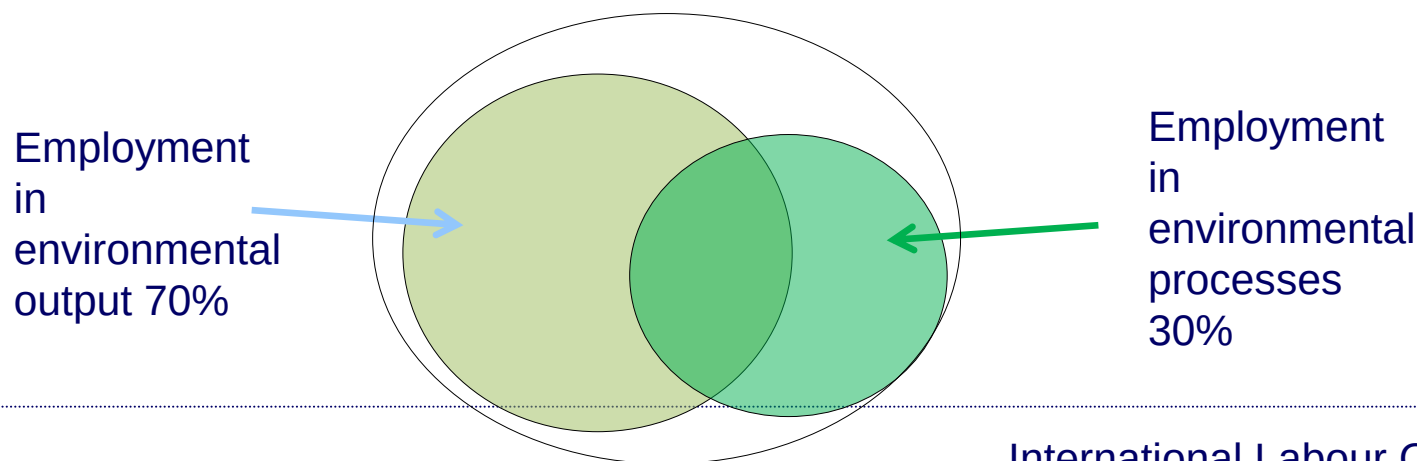
- 2133 Environmental protection professionals
- 2143 Environmental engineers
- 2263 Environmental and occupational health and hygiene professionals
- 3132 Incinerator and water treatment plant operators
- 3257 Environmental and occupational health inspectors and associates
- 6320 Subsistence livestock farmers
- 6340 Subsistence fishers, hunters, trappers and gatherers
- 7544 Fumigators and other pest and weed controllers
- 961 Refuse workers
 - 9611 Garbage and recycling collectors
 - 9612 Refuse sorters
 - 9613 Sweepers and related labourers



Employment in (a) environmental output and (b) environmental processes



- Measurement requires different methods
→ separate statistics should be produced for each component
- The two components cannot be aggregated - double counting
- Aggregation possible only when the necessary information is available for the same establishment





CEA - Overview of groups and classes



Statistics

I: Environmental Protection (EP)

- 1 Protection of ambient air and climate
- 2 Waste water management
- 3 Waste management
- 4 Protection and remediation of soil, groundwater and surface water
- 5 Noise and vibration abatement (excluding workplace protection)
- 6 Protection of biodiversity and landscapes
- 7 Protection against radiation (excluding external safety)
- 8 Research and development for environmental protection
- 9 Other environmental protection activities

II: Resource Management (RM)

- 10 Management of mineral and energy resources
- 11 Management of timber resources
- 12 Management of aquatic resources
- 13 Management of other biological resources (excl. timber and aquatic resources)
- 14 Management of water resources
- 15 Research and development activities for resource management
- 16 Other resource management activities



Industries that belong to EGSS



Enterprises that /design and manufacture at least one product/service for the purposes of environmental protection and resource management

In EGSS green products are grouped by function and characteristics:

- environmental specific services,
- environmental sole-purpose products,
- adapted goods,
- environmental technologies.

Problems:

- What is considered as “green” today may not be “the greenest” in the future.
- What is considered as “green” in one country may not be “green” in another one.