Employment in the environmental sector and green jobs
ICLS guidelines and their implementation

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Why statistics on green jobs?

A growing demand for both statistical data and for conceptual guidelines on the measurement of green jobs (in terms of the size, composition and contribution of the specific groups of workers and economic units to the green economy’s size and rate of growth)

a) To gain a better understanding of the impact of “greening the economy” on the labour market,

b) To ensure that effective policy measures and tools are formulated to respond to this shift to a greener economy, and measure the economic and social impact of various policy interventions, especially with respect to employment

c) As a general measure of progress towards a “green economy”
Policy questions

• Job creation and loss:
What is the net employment creation effect arising from a particular type of investment, climate change policy, or environmentally motivated economic stimulus? What is or will be the employment shifts across and within sectors? ...

• Changes in occupational and skills needs
What is or will be the employment shifts across occupation? What new skills need to be developed, and what are the consequences for education and training systems? How many people need to be trained in what skills in a green economy? ...

• Organizational restructuring
How many enterprises restructure their organization and production processes to use less energy, reduce emissions use cleaner technologies and/or produce green products and services?...

• Decent work
Are newly created green jobs good and decent? Is transition to the low carbon green economy socially just? Which groups are affected in a positive way, and which groups may be disadvantaged? Are newly created green jobs accessible to all?...
Policies needed

Active labour market policies to facilitate expected and unexpected structural change

- Support jobseekers
- Exist strategies for environmentally harmful sectors
- Support strategy for infant industries
- Skill development education and training
What are green jobs?

**ILO definition of green jobs for policy purposes**

Jobs are green when they help reduce negative environmental impact ultimately leading to environmentally, economically and socially sustainable enterprises and economies. More precisely green jobs are **decent jobs** that:

- Reduce consumption of energy and raw materials
- Limit greenhouse gas emissions
- Minimize waste and pollution
- Protect and restore ecosystems
Statistical operational definition of employment in environmental sector and green jobs

1 Guidelines for the statistical definition and measurement of employment in environmental sector and green jobs
adopted by the 19th International Conference of Labour Statisticians, Oct. 2013

- Separate definitions pertaining to employment in environmental sector and to decent work
- To facilitate the production of datasets that include separate statistics on both ‘employment in environmental sector’ and decent work.
Main concepts

Employment in the environmental sector
• Green jobs
• Other environmentally related employment

Environmental sector
Environmental goods and services
Environmental activities
Environmental sector - concepts
Based on System of Environmental and Economic Accounting (SEEA)

- **Environmental sector** consists of all economic units that carry out environmental activities.

- **Environmental activities** - activities whose primary purpose is to reduce or eliminate pressures on the environment or to make more efficient use of natural resources. This includes activities that improve the establishment’s processes and thus reduce or eliminate pressures on the environment or make more efficient use of natural resources.

- **Two broad types of environmental activities**
  - *Environmental protection* activities
    - primary purpose is the prevention, reduction and elimination of pollution and other forms of degradation of the environment
  - *Resource management* activities
    - primary purpose is preserving and maintaining the stock of natural resources and hence safeguarding against depletion.
Classification of Environmental Activities
Overview of groups and classes

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
Environmental sector - concepts and domain based on System of Environmental and Economic Accounting (SEEA)

- **Environmental activities can be carried out by all economic units**, as main, secondary or ancillary activities
- Distinction between specialist producers, non-specialist producers, own-account producers.
  - These units produce, design, and manufacture at least some goods and services for purposes of environmental protection and resource management
  - Environmental goods and services could be produced by economic units for consumption by others or for own-use.
Environmental sector - concepts and domain based on System of Environmental and Economic Accounting (SEEA)

- Type of environmental goods and services:
  - environmental specific services
  - environmental sole-purpose products
  - adapted goods
  - environmental technologies
Employment in the environmental sector

... all persons who, during a set reference period, were employed in the production of environmental goods and services (for consumption by other economic units or for consumption by the establishment in which the activity is performed).

- persons involved in the production of environmental goods and services,
- workers whose duties involve making their establishment’s production processes more environmentally friendly or make more efficient use of natural resources.
Employment in the environmental sector

A - Employment in production of environmental output
• Jobs that require skills for the production of environmental goods and services

B - Employment in environmental processes
• Jobs that require skills in using green technologies

C - Decent Jobs

D: Jobs in the non-environmental sector created thanks to greening

Total employment

Employment in environmental sector = A \cup B
Employment created thanks to greening = A \cup B \cup D
Green jobs (Sub-component of employment in the environmental sector that is decent) = (A \cup B) \cap C
Employment in environmental sector

Two components refer to different aspects of the ‘greening’:

(A) Employment in production of environmental outputs - employment in the production of environmental goods and services for consumption outside the producing unit.
  - exist in specialist environmental establishments or in non-specialist establishments (economic units with environmental output)

(B) Employment in environmental processes - employment in the production of environmental goods and services for consumption by the producing unit.
  - exist in economic units with and without environmental output
Employment in
(A) production of environmental output
(B) environmental processes

• Two distinct concepts that refer
  ❖ to different aspects of the ‘greening’ of employment
  ❖ to different targets for policy-making

(A) related to the *outputs* of establishments – focus on relevant characteristics of the outputs produced
(B) related to the *functioning* of establishments - focus on particular types of technology and methods of production

• Measurement requires different methods
• Separate statistics should be produced for each component
Other related concepts

D-Jobs (employment) in non-environmental sector created thanks to greening

Employment in non-environmental economic units that supply goods and services to the environmental sector.

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

Indirect may be estimated using input-output tables and environmental expenditure data.
Other related concepts

Green jobs (Employment in environmental sector that is decent) = (A∪B)∩C

- A subset of employment in the environmental sector that meets the requirements of decent work – adequate wages, safe working conditions, workers’ rights, social dialogue and social protection (no thresholds).
- Decent work dimension of green jobs may be measured according to relevant indicators selected from the ILO manual on Decent Work Indicators.
Other related concepts

• **Employment in low carbon economic units and energy efficient enterprises** - employment in units that have low carbon emissions and to employment in enterprises that are more energy efficient than most of the enterprises within the same economic activity.

• **‘Green work’** - all work involved in production of environmental goods and services. It includes employment, voluntary work and own-use production work to produce environmental goods and services.
PILOT SURVEY in ALBANIA, 2013: Results
## Summary results: Albania

<table>
<thead>
<tr>
<th>Description</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total empl. in non-agriculture</td>
<td>100.0</td>
</tr>
<tr>
<td>Empl. in establishments that produce environmental goods and services</td>
<td>42.0</td>
</tr>
<tr>
<td><strong>Empl. involved in the production of environmental goods and services</strong></td>
<td>11.7</td>
</tr>
<tr>
<td>Empl. in establishments that use environmental processes in production process</td>
<td>13.2</td>
</tr>
<tr>
<td><strong>Empl. that spend more than half time in environmental processes</strong></td>
<td>4.4</td>
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</tbody>
</table>
### Summary results

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<th>Description</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total empl.</td>
<td>100.0</td>
</tr>
<tr>
<td>Empl. involved in the production of environmental goods and services</td>
<td>50.7</td>
</tr>
<tr>
<td>Empl. involved in the production of environmental goods and services and spend spent more than half of their working time</td>
<td>21.9</td>
</tr>
<tr>
<td>Empl. in environmental processes</td>
<td>64.8</td>
</tr>
<tr>
<td>Empl. in environmental processes - full time equivalent</td>
<td>18.8</td>
</tr>
</tbody>
</table>
Establishments engaged in the production of environmental output and environmental processes, by type of environmental activity in non-agriculture, % of responding establishments
Pilot Establishment Survey, 2013

Expectations

- Employers face shortage of trained personnel for jobs in environmental...
- The level of environmental sensitivity of workers is satisfactory
- Demand for environmental goods and services will increase
- Enlargement of investments in green technologies would ensure profitability...

[Bar chart showing responses to the questions with categories: yes, no, no response, no info]
PILOT SURVEY in MONGOLIA, 2014: Preliminary results
## EMPLOYMENT IN THE ENVIRONMENTAL SECTOR (LFS), 2015

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
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<tbody>
<tr>
<td><strong>Total employed</strong></td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Employed person involved in the production of environmental output</strong></td>
<td>21.6</td>
</tr>
<tr>
<td>Employed person involved in the production of environmental output and spent more than half of their working time</td>
<td>5.4</td>
</tr>
<tr>
<td><strong>Employed person in environmental processes</strong></td>
<td>22.7</td>
</tr>
<tr>
<td>Employed person that spent more than half of their working time using environmental processes and technologies</td>
<td>3.4</td>
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</table>
# EMPLOYMENT IN THE ENVIRONMENTAL SECTOR (Establ. survey), 2015

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total employed person</td>
<td>100.0</td>
</tr>
<tr>
<td>Employed person in establishments that produce environmental output</td>
<td>27.5</td>
</tr>
<tr>
<td>Employed person involved in the production of environmental output</td>
<td>9.7</td>
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<tr>
<td>Employed person in establishments that use environmental technologies in production process</td>
<td>37.5</td>
</tr>
<tr>
<td>Employed persons that spent more than half of their work-time in environmental processes</td>
<td>0.4</td>
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</tbody>
</table>
Thank you!

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