

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**

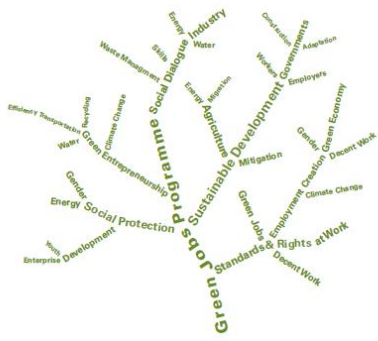
What is or will be the employment shifts across occupation? What new skills need to be developed, and what are the consequences for education and training systems? How many people need to be trained in what skills in a green economy? ...

- **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

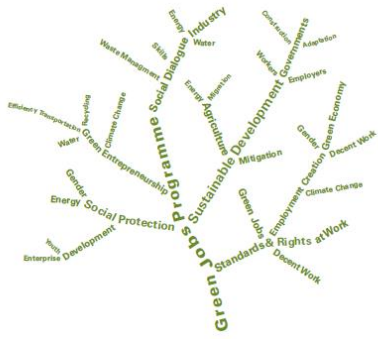
- Support jobseekers
- Exist strategies for environmentally harmful sectors
- Support strategy for infant industries
- Skill development education and training

Statistical operational definition of employment in environmental sector and green jobs ¹

*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

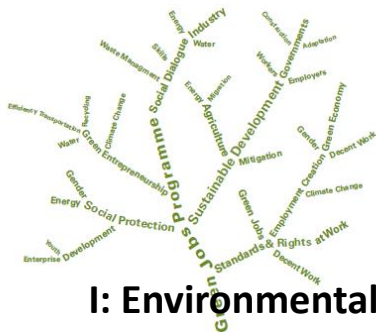
Environmental goods and services

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

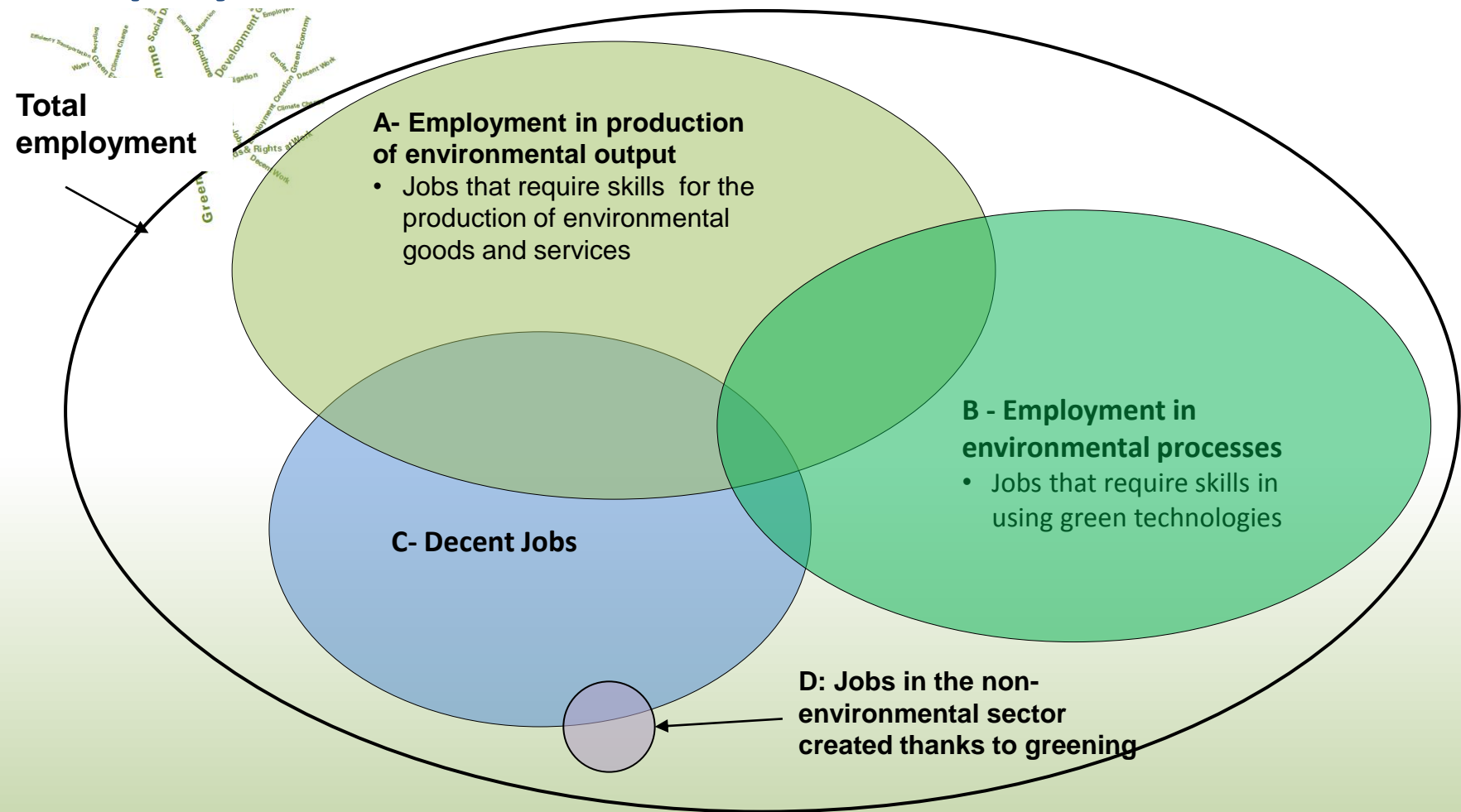


Employment in the environmental sector

... 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



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

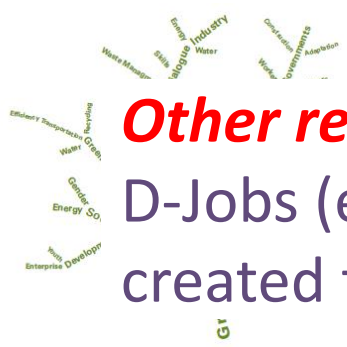
(B) environmental processes

- 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) = $(A \cup B) \cap C$

- 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.

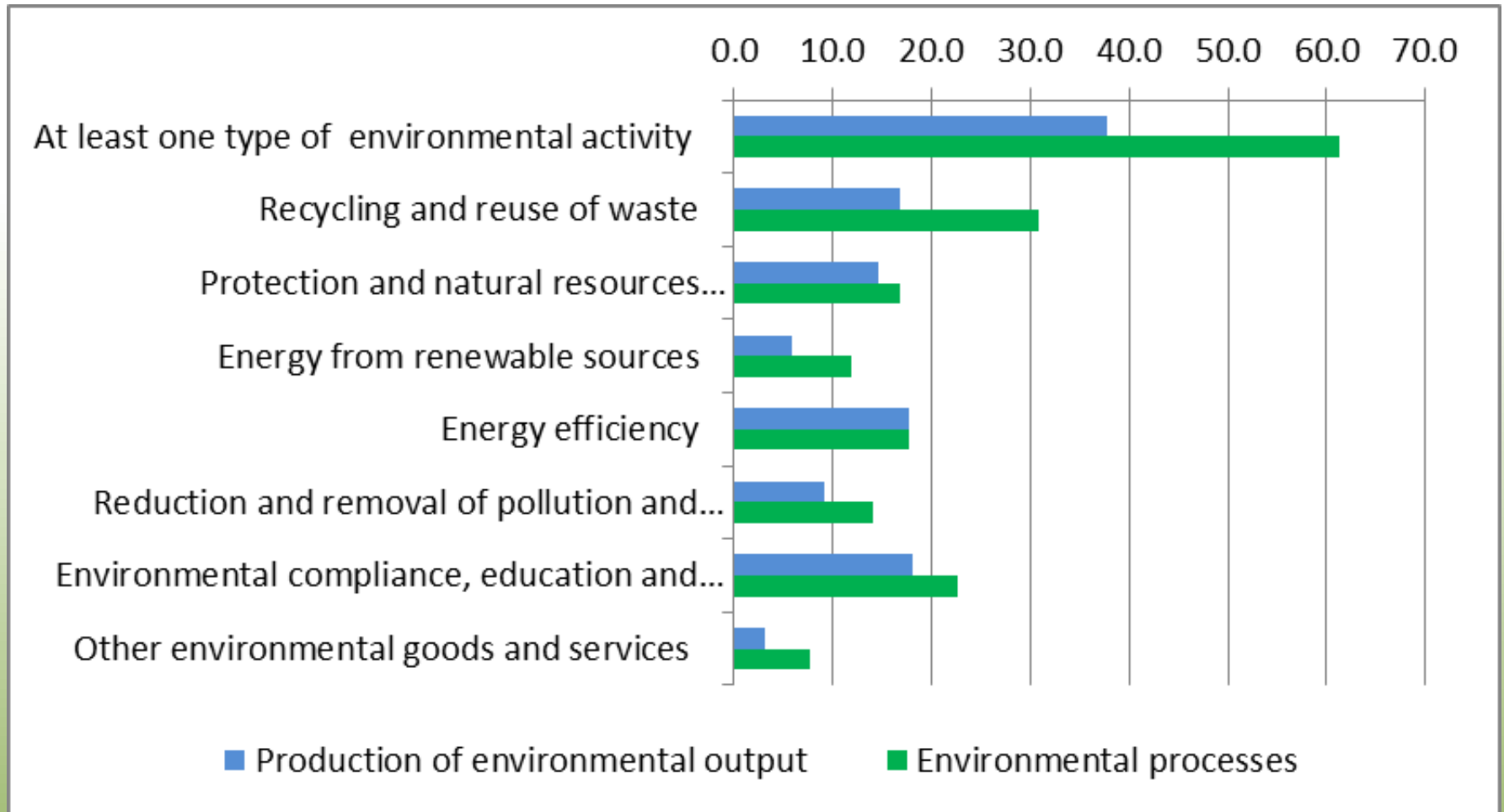
Pilot Household Survey, 2013

Summary results

	Percent
Total empl.	100.0
Empl. involved in the production of environmental goods and services	50.7
Empl. involved in the production of environmental goods and services and spend spent more than half of their working time	21.9
Empl. in environmental processes	64.8
Empl. in environmental processes - full time equivalent	18.8

Pilot Establishment Survey, 2013

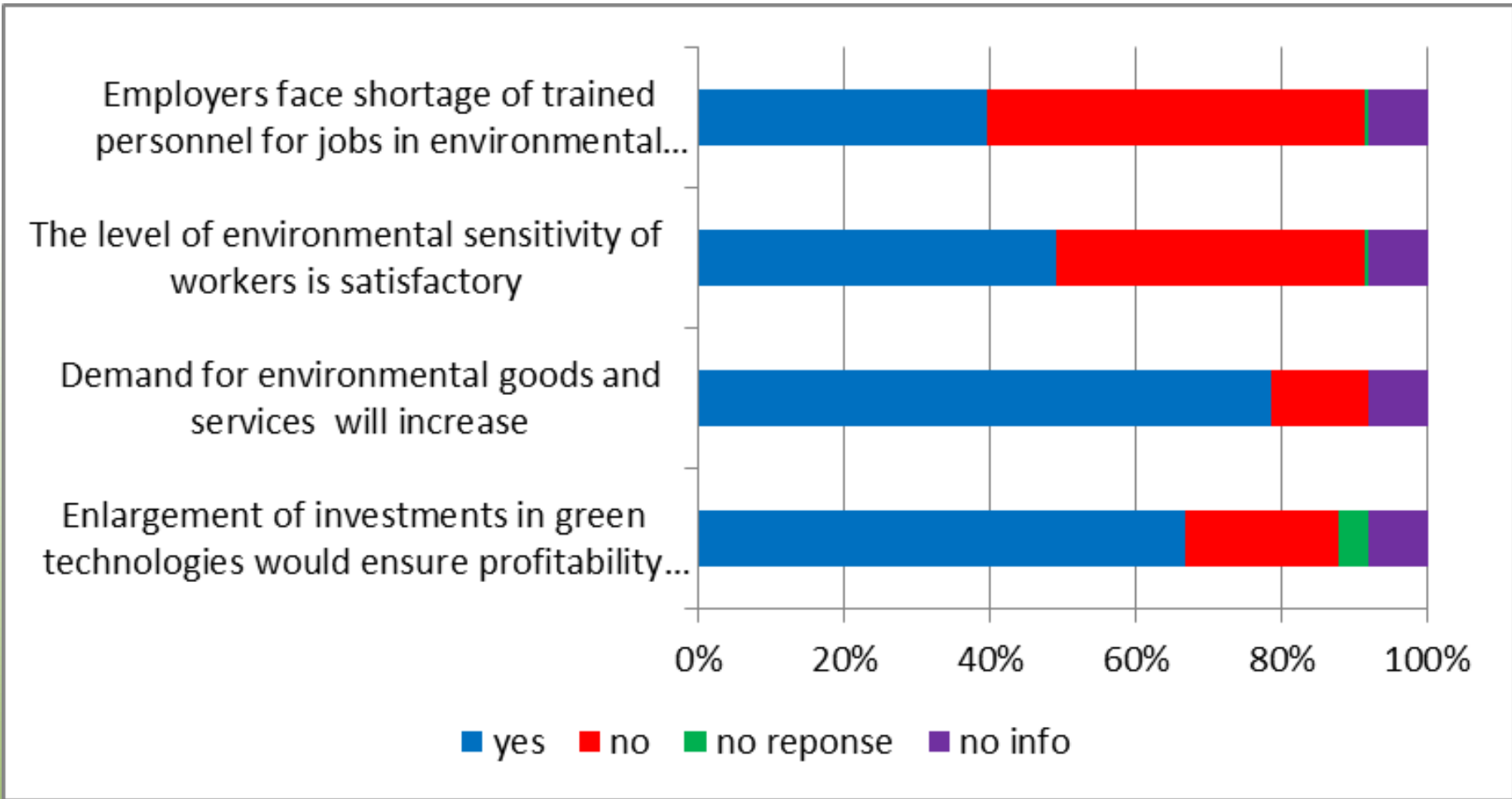
Establishments engaged in the production of **environmental output** and **environmental processes**, by type of environmental activity in non-agriculture, *% of responding establishments*

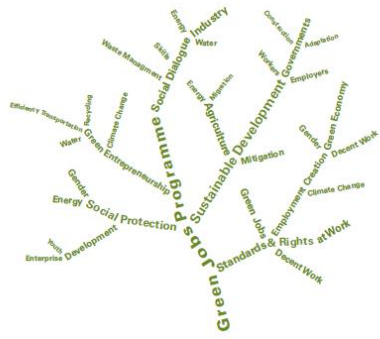




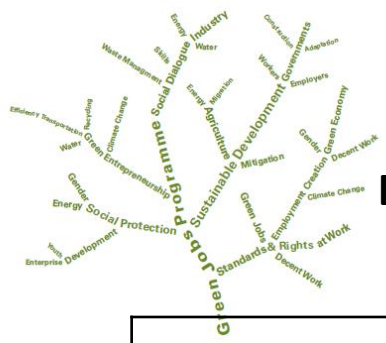
Pilot Establishment Survey, 2013

Expectations





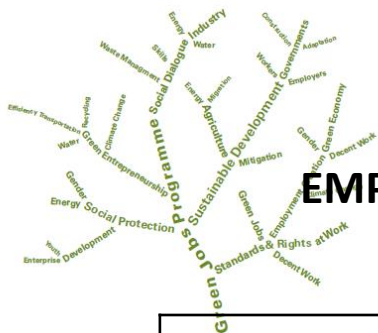
PILOT SURVEY in MONGOLIA, 2014: Preliminary results



EMPLOYMENT IN THE ENVIRONMENTAL SECTOR (LFS), 2015

	Percent
Total employed	100.0
Employed person involved in the production of environmental output	21.6
Employed person involved in the production of environmental output and spent more than half of their working time	5.4
Employed person in environmental processes	22.7
Employed person that spent more than half of their working time using environmental processes and technologies	3.4

EMPLOYMENT IN THE ENVIRONMENTAL SECTOR (Establ. survey), 2015



	Percent
Total employed person	100.0
Employed person in establishments that produce environmental output	27.5
Employed person involved in the production of environmental output	9.7
Employed person in establishments that use environmental technologies in production process	37.5
Employed persons that spent more than half of their work-time in environmental processes	0.4

