



Ministry of Development Planning/
National Development Planning Agency

DEVELOPING A NEW SKILLS FOR GREEN EMPLOYMENT

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Preface

- **Target for Reducing carbon and other environmental impact (26 percent in 2020)**
- **Target of Economic Growth (7-7,7 percent in 2014)**
- **Target of Employment Related (11,7 million during 2010-2014)**

→ How we solve this Conflicting Goals?

→ Green Jobs?

Background on Green Jobs

- **The topic of green jobs is of interest across Government, Academia, and Business Community.**
- **No single definition of green jobs**
- **Various studies define the term differently**

The Common Thread

- **Green Jobs are jobs related to preserve or Restore the Environment**
- **Activities that Universally Cited:**
 - ➔ **Producing energy non renewable resources**
 - ➔ **Improving Energy Efficiency**
 - ➔ **Preventing and Cleaning up Pollution and green houses gases**
 - ➔ **Conserve Natural Resources**

For today Purpose, green jobs is defined as:

- **Green Jobs:**

A. Jobs in which workers duties involve making their establishment's production processes more environmentally friendly or use fewer natural resources.

→ The process Approach

Number of jobs in Establishment that use Environmentally friendly processes and practices.

(Source: Bureau of Labor Statistic-BLS/USA)

Cont.....

B. Jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources.

→ The output Approach

Number of jobs in establishment that produce green goods and services.

→ However, it is favorable that product or service produced should be environmentally friendly processed

(Source: Bureau of Labor Statistics-BLS/USA)

We need to Anticipate

- **The change is happening**
- **The role of it depends on the degree of effects of environmental degradation policy, legislation and technology diffusion, as well as the role of market and consumer demand**

(source: ILO)

Estimated Employment in the Renewable Energy Sector, Selected Countries and World, 2006

Renewable Energy Source	World	Selected Countries	
Biomass	1.174.000	Brazil USA China Germany Spain	500.000 312.200 266.000 95.400 10.349
Solar PV	170,000**	China Germany Spain USA	55.000 35.000 26.449 15.700
Solar Thermal	624.000-plus	China Germany Spain USA	600.000 13.300 9.142 1.900
Hydropower	39.000-plus	Europe USA	20.000 19.000
Geothermal	25.000	USA Germany	21.000 4.200
Renewable Combined	2.032.000-plus		

Job Projections From Energy-Efficiency Measures in the Building Sector

Country	Study or Project Description	Projected Jobs
Canada	Retrofit municipal buildings on a national scale	5,600-7,840 full time equivalent
European Union	European Commission Study: 20 percent reduction in EU energy consumption	1 million
	European Trade Union Confederation Study: 75 percent reduction of CO2 emission in the residential building sector	1.377 million by 2050 or 2.585 million by 2030
India	Replacing traditional cook stoves with recently developed biomass cooking technologies for 9 million household	150,000
United States	Apollo Alliance Study: \$89,9 billion investment in financing for green buildings, providing tax incentives, investing in research and development, and promoting new building codes and standards	827,260
	US Development of Energy: Standards on clothes washers, water heaters, and fluorescent lamp ballasts	120,000 through 2020

Selected Employment Estimates in the Recycling Sector

	Country	Number of Jobs (million)
All Recycling	China USA Brazil	10 1,1-1,3 0,5
Aluminium can Recycling	Brazil	0,17
Electronics Recycling	China	0,7

Changes in Employment

From a broad conceptual perspective, employment will be affected in at least four ways as the economy is oriented toward greater sustainability:

1. In some cases, additional jobs will be created-as in the manufacturing of pollution –control devices added to existing production equipment
2. Some employment will be substituted-as in shifting from fossil fuels to renewable, or from truck manufacturing to rail car manufacturing, or from landfilling and waste incineration to recycling
3. Certain jobs may be eliminated without direct replacement -as when packaging materials are discouraged or banned and their production is discontinued
4. It would appear that many existing jobs will simply be transformed and redefined as day-to day skill sets, work methods, and profiles are greened

In General, Related to Green Jobs There are Two Groups of Policies Need to be Improve

1. Comprehensive Environmental Policies:

→ Government of Indonesia has developed Key National and Sectoral Policies related to Climate Change Adaptation and Mitigation

2. Comprehensive Skills Policies for Green Jobs

→ We still behind on this

→ Expecting ILO will contribute on this issued

Environmental Policies

- **The Government of Indonesia has already identified challenges and Priorities for Green Economy as part of the National Response to Climate Change Adaptation and Mitigation**
 - ➔ **Indonesia responses to Climate Change**
Published by ministry of National Development Planning (Bappenas, 2008).
 - ➔ **Action plan on Climate Change (Ministry of Environment, 2007)**
- **At the Sectoral Level, Ministry of Energy, Finance, and Forestry, have developed Policy Responses related to Climate Change Problem.**

Comprehensive Skills Policies for Green Jobs

- **The skills need Assessment would distinguish between:**
 - ➔ **New Green Occupations**
 - ➔ **The Greening of Existing Occupations**
- **The Sectors that affect Climate Change the most due to their high emissions of Carbon Dioxide and thus require New Skills to Mitigation.**

New Skills for Green Employment

Energy Sector	Transportation Sector
<p>Skills Require:</p> <ul style="list-style-type: none">▪ Energy Diversification▪ Energy Conservation▪ Clean Technology Implementation (such as carbon capture and storage-CCS)	<p>Skills Require:</p> <ul style="list-style-type: none">▪ Promotion of Biofuel in transportationsuch as producing vehicles that are Compatible with biofuel gas station.▪ Construction in mass transportation with Environmental Friendly Technology
<p>Goals: Greater efficiency in Industry, power, manufacturing and other sectors, such as construction.</p>	<p>Goals: Reducing fuel Consumption in Transportation</p>

New Skills for Green Employment

Waste Sector	Land Use Change and Forestry
<p>Skills Require:</p> <ul style="list-style-type: none">▪ Industrial waste Treatment▪ Industrial water Treatment▪ Domestic waste water Treatment▪ Managing Burning Solid waste and waste disposal sites	<p>Skills Require:</p> <ul style="list-style-type: none">▪ Mitigation on Illegal Logging▪ Land and Forest Rehabilitation and Conservation▪ Restructuring the Forestry Sector including Forest Related Industry▪ Forest mapping▪ Community outreach on those who live in and surrounding the forest
<p>Goals: Reducing Green House Gas from Waste Activities</p>	<p>Goals: Reducing Carbon Dioxide Emissions from Land use and Forestry Activities</p>

Existing Condition

- **Indonesia has formulated National Strategy for Responses to Climate Change, (Bappenas, 2008) and Formulate detail Sector Policies in Reducing Emissions.**
- **However, the Government of Indonesia does not have a detailed Skill Development Strategy Regarding Green Jobs.**
 - ➔ **Some Companies using ISO to built “green” Capacity**
 - ➔ **Initiatives from Ministry of Environment, Indonesian Standard and Registration for Environmental Competency, still partial and only related to Environmental Services.**

What expected from the workshop and the Role of ILO

Skills shortage already pose a major barrier to transitions to green economics and green jobs creation.

Assist Indonesian Government to:

- 1. Formulate A Holistic Skills Development Policies to Promote Skills for Green Job Coherence with Environmental Policies.**
 - Developing a map Skills is a Vital initial step as potential for skills Upgrading**
 - Designing Competence and Training System for Developing Competency and Skill Qualification for green workers.**

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- 2. Assist Indonesian Government to formulate methodology for collecting statistics on green employment.**
 - No national Labor Profile Data which shows the changes of workers in Green “employment”.**
 - Now green issues affecting the labor market.**
 - Bring new Dimension to the Labor Market by adding new occupations**

Thank You