Managing a just transition: 
the employment dimension of mitigation measures

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International Labour Organisation,
Geneva
Content

1. Climate change and jobs
2. Policy framework for a Just Transition
3. Tools and approaches
Anchor: Paris Agreement pre-ambule

“Taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities”
**Compass**: promoting inclusive low-carbon, climate resilient economies in setting the pathway to sustainable development

Triple benefit:

1. **Environmental** - climate change resilience, low-emission development, stable natural environment and lasting biodiversity
2. **Economic** — viable enterprises and economic sectors
3. **Social** — decent work, poverty eradication, social inclusion
1. Climate and Jobs: understanding the magnitude first

Shifts between sectors: ~ 1% (compared to globalization: 20%)

Figure 4. Simulated increase in job reallocation associated with an ambitious climate change mitigation policy, selected countries

In % deviation from the business-as-usual (BAU) scenario in 2030

15 Industries account for 70% of emissions (EU&US 8-10% of jobs)
But high emitting sectors majority low vs. high skilled in RE
Few industries emissions-intensive

Unweighted average across 27 OECD countries, 2004

Most polluting industries
Cumulative share of total employment share (% of total employment)
Cumulative share of CO2 emissions from fossil fuel combustion (% of total CO2 emissions from fossil fuel combustion)

a) Most polluting industries: Air transport; Water transport; Electricity, gas and water supply; Coke, refined petroleum products and nuclear fuel; Land transport; Basic metals; Other non-metallic mineral products.

b) Sectors are ranked by increasing ratio of CO2 emissions to value added.

Source: EU-LFS, GTAP database, KLEMS database
Drivers of change:

a) an unprecedented growth of green investments …

1. $ 285bn investments in renewable energies (for the first time higher than in oil, gas and coal) in 2015.

2. $ 102bn in China; developing countries’ investments higher than OECD countries (Frankfurt School-UNEP Centre, 2016).

1. $ 300bn investments in energy efficiency in 2011 with every 1 million euro creating net 8-27 jobs in Europe.
b) while investors pull out of fossil fuels...

1. In 2015, Norway parliament confirmed $900bn sovereign wealth fund's major coal divestment, the largest fossil fuel divestment yet, affecting 122 companies across the world.

2. UNEP-Finance Initiative’s Portfolio Decarbonization Coalition: 25 institutional investors committed to decarbonizing US$600 billion of assets.
c) carbon pricing

- The World Bank announced in September 2015 a new “carbon pricing leadership coalition”

- 73 countries aligned (representing almost half of the world’s population and 52% of global GDP)

- More than 1,000 companies and investors that support a price on carbon.
d) changing production systems

1. Companies, such as Renault, Veolia, Unilever, Kingfisher, Philips, Deutsche Post changing from produce-use-discard towards circular production systems such as ‘product-service systems’ (e.g leasing)

2. For Europe, a 7% point increase of GDP as compared to a BAU by 2030 adopting currently available technology for a circular production system in food, mobility and housing only (McKinsey, 2016).
Global net job gains possible:

• Growth 0.5 – 2 % of global workforce 2030
• = 15 – 60 m jobs (Aggregate country scenario)

National and sector assessments needed!

• REDD+:
  ➢ US$30 billion/y = 8m jobs in developing countries
• Renewable energy:
  ➢ in 2010: 5 million (direct and indirect) + 20%/year
  ➢ in 2015: 8 million
• Transition in developing countries? Leapfrogging!
Country reviews to know size and sectors of transition

<table>
<thead>
<tr>
<th>Country</th>
<th>NET Green Jobs</th>
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<tbody>
<tr>
<td>China (2010)</td>
<td>30 million by 2020 (direct &amp; indirect)</td>
</tr>
<tr>
<td>South Africa (2011)</td>
<td>450,000 by 2025 (direct)</td>
</tr>
<tr>
<td>Brazil (2008)</td>
<td>2.9 million in 2008 (direct)</td>
</tr>
<tr>
<td>Bangladesh (2010)</td>
<td>7.5 million in 2010 ONLY 800,000 DECENT</td>
</tr>
<tr>
<td>Mauritius (2011)</td>
<td>55,000 in 2011 (11% of total)</td>
</tr>
<tr>
<td>Lebanon (2011)</td>
<td>30,000 by 2020 (direct)</td>
</tr>
<tr>
<td>Mexico (2013)</td>
<td>1.3m direct in 2010 (3% of labour force)</td>
</tr>
</tbody>
</table>

8 Sectors most affected

1. Agriculture
2. Fishery
3. Forestry
4. Energy
5. Manufacturing
6. Construction
7. Transport
8. Recycling

=> More than 50% of labour force
Sectors: Jobs in Renewable Energy - now

- **3,390** jobs in China
- **437** jobs in Indonesia
- **223** jobs in Bangladesh
- **223** jobs in Rest of EU
- **218** jobs in Japan
- **176** jobs in France
- **176** jobs in Germany
- **371** and **223** jobs in Rest of EU
- **653** jobs in Germany
- **934** jobs in Brazil
- **724** jobs in USA
- **7.7 Million** jobs in 2014

**Sectors:**
- Jobs in Renewable Energy - now
Expected jobs in Renewable Energy - 2030

- REmap: 24.4 million jobs
- REmapE: 22.9 million jobs
- Reference: 13.5 million jobs

Graph shows a trend from 2014 to 2030.
Feed-in tariff policies for renewable energy (Trend world-wide 1990-2013)
Good news – Bad news

“1.3 million workers in the coal industry and 500,000 in steel will be cut. The employees would be reallocated”.

(Source: Bloomberg, 29 February 2016, quoting Minister Yin Weimin for Human Resources Development and Social Security)
Implications for employment

- 1 million losses in China coal sector alone

+ 8 millions jobs in RE in 2015, 24 million in 2030

Productivity loss up to 7% by 2030 in BAU

1.5 billion people – work in water-related sectors under increasing stress of climate change

- 1 million losses in China coal sector alone

Changing jobs
<table>
<thead>
<tr>
<th>EFFECT</th>
<th>EXAMPLE</th>
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<tbody>
<tr>
<td>New job creation</td>
<td>Renewable energy sector; energy performance service companies; mobility services</td>
</tr>
<tr>
<td>Elimination</td>
<td>Some types of mining</td>
</tr>
<tr>
<td></td>
<td>Packaging (materials discouraged or banned)</td>
</tr>
<tr>
<td>Substitution</td>
<td>Shifting from fossil fuels to RE&amp;EE, automobiles to mass transit, waste disposal to recycling, primary metals production to secondary production</td>
</tr>
<tr>
<td>Transformation</td>
<td>Existing jobs greened along with changed workplace practices and methods, including on farms.</td>
</tr>
<tr>
<td></td>
<td>Supply-chain effects outside green (e.g. steel for wind turbines)</td>
</tr>
</tbody>
</table>
Green jobs are also decent jobs

Guaranteeing rights at work
- Respect of the ILO International Labour Standards

Creating jobs
- Equal opportunities, freely chosen, productive and gainful

Extending social protection
- Decent salary, social protection coverage, occupational safety and health

Promoting social dialogue
- Freedom of association and collective bargaining

Gender equality  Non discrimination
Labour Market implications of mitigation measures:

1. Nature and scope of adjustments in economic sectors
2. Shifts in the volume, composition and quality of employment
3. Changes in income distribution
5. Effects on productivity from measures to reduce GHGs;
6. Needs for human skills development and upgrading-
   Gaps
7. Needs for social protection are needed to support adaptation (Vulnerable Groups)
Schematic relationships between total employment, green jobs and decent jobs.

A - Employment in production of environmental outputs

B - Employment in environmental processes

C - Decent Jobs

F - Non-green jobs in non-environmental sector that were created thanks to greening

E - Non-green jobs in non-environmental sector that were created thanks to greening
2. Policy Framework for managing a Just Transition

- International Labour Conference, June 2013:

- Policy Guidelines from Tripartite Meeting of Experts, Oct. 2015:

- Labour Convention for a Just Transition: proposed for 2018
Internation Labour Conference on Green Jobs, 2013

- **Common Vision** - “Achieving decent work, green jobs and sustainable development”

- **Guiding principles** for the greening of economies, enterprises and jobs, including the need for building strong social consensus on the goal and pathways to sustainability.

- The important role of **social dialogue** and respect, promotion and realization of fundamental principles and rights at work.
• “...transition to a greener economy could help reach many social goals over the next 20 to 30 years, including creating 15 to 60 million additional decent jobs”...ILO

• “Employers believe that proactively addressing higher energy efficiency and environmental issues of resource use...helps to enable long-term sustainable growth”...Employers

• “The transition has to create green and decent jobs and should not make workers the variable of adjustment. The world needs an ambitious transition towards environmental sustainability and workers want it to be a just transition”...Workers
2015 ILO Tripartite Expert Meeting: Guidelines for a Just Transition

• Anchor in COP21 Paris Agreement: “Recognizing the imperative of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities”
• Building on ILC 2013 Conclusions
• Consensus among 8+8+8 experts, mix of countries;
• Founded on fact-based background Report
• With recommended practical follow up by Governments, Social Partners and ILO Office
• Provides a model of change to reach relevant SDGs
## Guidelines for a Just Transition for all

1. **Policy coherence and effective institutional arrangements**

2. **Social Dialogue**

### Macro/Sector
- Macroeconomic
- Industrial and sector

### Employment
- Enterprises
- Skills
- Labour market

### Social Protection
- Occupational safety and health
- Social protection
1. Policy coherence and effective institutional arrangements

2. Social Dialogue

Macro/Sector
- Macroeconomic
- Industrial and sector

Employment
- Enterprises
- Skills
- Labour market

Social Protection
- Occupational safety and health
- Social protection

Guidelines for a Just Transition for all

Lab. Standards

Lab. Standards
3. Tools and approaches for effective country strategies

i. Country assessment and Just Transition support

ii. Knowledge sharing and mutual support (GAIN)

iii. Capacity building (ITC week – copy programme)
i) - Country analysis: Indonesia

Assessment of labour market implications & capacity-building for effective and inclusive implementation of Indonesia’s Nationally Determined Contribution (INDC) - 2016

Objectives:

• To facilitate improved understanding of the (I)NDC process and their roles including in its formulation and implementation.

• To build capacity of ILO constituents and other stakeholders to assess labour market impacts of NDC and enable them to framing INDCs within a just transition framework for all.

• To support consensus building through social dialogue for a more effective and inclusive NDC implementation process.
Setting BAU and INDC scenarios for CGE modelling;
• Running the model and obtaining the results;
• Sensitivity analysis on various scenarios, combination of scenarios and elasticity of substitution setting, etc.;
• Validation with national stakeholders;
• Reporting and informing policy makers.
i) - Country application of JT policies: The Philippines

Addressing employment implications of low-carbon and climate resilience policies

Objectives:

• To build capacity of ILO constituents and other stakeholders to apply green jobs modelling and use policy analysis results

• To facilitate employment strategies and community resilience building including through local economic development

• To advocate for Green Jobs through green Jobs ‘champions’ and development of knowledge products
### ii) Knowledge sharing and mutual support: The Green Jobs Assessment Network (GAIN)

<table>
<thead>
<tr>
<th>Region</th>
<th>Country</th>
<th>Institution</th>
</tr>
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<tbody>
<tr>
<td>Africa</td>
<td>Kenya</td>
<td>Kenya Institute for Public Policy Research and Analysis (KIPPRA)</td>
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<tr>
<td></td>
<td>Mauritius</td>
<td>University of Mauritius</td>
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<td></td>
<td>South Africa</td>
<td>University of Pretoria</td>
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<tr>
<td>Americas</td>
<td>Brazil</td>
<td>University of Sao Paolo</td>
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<td></td>
<td>Mexico</td>
<td>EMPLEOS VERDES</td>
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<td></td>
<td>USA</td>
<td>Political Economy Research Institute (PERI)</td>
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<tr>
<td>Asia and the Pacific</td>
<td>India</td>
<td>National Council of Applied Economic Research (NCAER)</td>
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<td></td>
<td>Japan</td>
<td>Institute for Global Environmental Strategies (IGES)</td>
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<td></td>
<td>Mongolia</td>
<td>Economic Policy &amp; Competitiveness Research Center</td>
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<tr>
<td>Arab States</td>
<td>Egypt</td>
<td>Centre for Environment and Development for the Arab Region &amp; Europe (CEDARE)</td>
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<td>Egypt</td>
<td>Centre for Sustainable Development Solutions (CSDS)</td>
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<td></td>
<td>Tunisia</td>
<td>ALCOR</td>
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<tr>
<td>Europe and Central Asia</td>
<td>Germany</td>
<td>Institute of Economic Structures Research (GWS)</td>
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<td></td>
<td>Netherlands</td>
<td>Institute of Social Studies</td>
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<td>Turkey</td>
<td>Middle East Technical University</td>
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Green Jobs Assessments methodology and capacity building

• Based on Social Accounting Matrix
• Estimates Direct, Indirect & Induced effects
• Allows for ‘What if’ Scenarios
  (E.g. if policy shifts 5% investment into green sectors - how many jobs will be created?)
### Participating countries:

<table>
<thead>
<tr>
<th>Completed</th>
<th>Focus/Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>Green Growth</td>
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<tr>
<td>Tunisia</td>
<td>Green Jobs</td>
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<tr>
<td>Uruguay</td>
<td>Green Jobs</td>
</tr>
<tr>
<td>Peru</td>
<td>Green Growth</td>
</tr>
<tr>
<td>Mexico</td>
<td>Green Economy</td>
</tr>
<tr>
<td>India</td>
<td>State level RE</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Green Growth</td>
</tr>
<tr>
<td>Mauritius</td>
<td>Sustainable development</td>
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<table>
<thead>
<tr>
<th>Ongoing/Planned</th>
<th>Focus/Context</th>
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<tbody>
<tr>
<td>Mongolia</td>
<td>Statistics</td>
</tr>
<tr>
<td>South Africa</td>
<td>Buildings</td>
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<tr>
<td>Indonesia</td>
<td>NDC</td>
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ILO Technical Support

Understanding labour market implications

Policy reform and implementation

Consensus-building
Social Dialogue Tripartism

Measuring labour market impacts

Developing policy scenarios within the “Just Transition” Framework
Just Transition Program Cycle

Assessment of Green Jobs Actual/Potential

Inter-ministerial/stakeholder Task Force

Capacity building

Social Dialogue & Action Plan

Pilot Projects

Green Jobs strategy

Policy Implementation

More and better Green Jobs
iii) Capacity Building: The ILO International Training Centre, Turin, Italy

The ILO Turin Centre’s facilities

Located in an attractive park on the banks of the River Po, the Centre’s campus provides a congenial environment in which to live and study.

- It contains 21 pavilions with fully equipped modern classrooms, conference halls and meeting rooms fitted out for multilingual simultaneous interpretation, a computer laboratory, and a computerised documentation centre linked to various data banks.
- The campus has 185 single fully serviced study bedrooms, 66 double bedrooms and 12 suites, each with private bathroom, telephone, wi-fi and flat screen television (satellite TV available in the majority of the rooms). Among these bedrooms, 22 rooms are accessible for people with disabilities.

It also has:
- a reception desk open 24 hours a day;
- a restaurant, a self-service canteen and a coffee lounge, all catering for international dietary needs;
- a bank;
- a travel agency;
- a laundry service;
- a post office;
- an internet point;
- a recreation room;
- facilities for outdoor and indoor sports;
- medical service.

Social events are regularly held both on and off campus, so that participants from different cultural backgrounds can make the most of a stimulating international environment.

For further information, please contact

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Green jobs for a just transition to low-carbon and climate-resilient development
Course content

• Day 1 – Understanding the planetary boundaries and the global agendas for sustainable development (recapitulation of distance learning phase), including a special focus on climate change and the Paris Agreement.

• Day 2 – Understanding the concept of just transition to low-carbon and climate resilient development and the promotion of green and decent jobs as a means to achieve sustainable development. Review of concepts and practices through case-study analysis.

• Day 3 – How to promote a just transition at country level (1): overview of policy areas and instruments, as well as challenges and opportunities in different economic sectors.

• Day 4 – How to promote a just transition at country level (2): understanding transitions in labour markets, identifying roles of different stakeholders and how to get them involved.

• Day 5 – Orienting just transition and green jobs actions and strategies for their promotion at national, local and institutional levels.
Conclusions

1. Jobs are at the heart of policy
2. Transition policies needed to realize net employment gains and a Just Transition under mitigation measures
3. If well managed, climate action can be pathway for reduced inequality and more social inclusion
4. But policy coherence essential: coordinated social, economic and climate policies
Annex: some enabling social policies for a just transition

- Social dialogue
- Skills for green jobs and retraining
- Green enterprise development
- Labour market policies
- Social protection
Social dialogue

S. Africa - Green Economy Accord

- Government, business and labour signed accord 2011
- Most comprehensive social partnerships on "green economy" in the world
- 300,000 new Green Jobs by 2020

Many other examples France (Grenelle), Spain (Kyoto), Germany (Building pact) etc.
Skills development, education and training

Ensuring adequate skills at all levels to promote the greening of economies and to facilitate a just transition

- including skills that support entrepreneurship, resilience and innovation in enterprises, especially in micro-, small and medium-sized enterprises

- and retraining and upgrading the skills of the existing workforce

e.g. Bangladesh ‘Solar System’ 100,000 jobs

• Institutionalisation of training curricula in Technical and Vocational Institutions

• Job placement and linking trainees with renewable energy service providers

• Promoting solar entrepreneurship through business skills and finance
Green enterprise creation

ILO Facility: Green Youth Entrepreneurship 2010-2014

• East Africa: 70% youth unemployment
• Objective is 21,000 jobs for youth

Thailand

• Greening of hotel sector
• Energy efficiency through workplace cooperation
Labour Market policies

- Support for jobseekers
- Exit strategy for environmentally harmful sectors
- Appropriate support strategy for infant industries
Social protection

• Ensuring adequate social protection systems (providing health care, income security and basic social services)

• to enhance resilience and safeguard populations against the negative impacts of economic restructuring, climate change and resource constraints.

**India: NREGA**

• US$ 8 bill (only ~ 0.4% GDP)
• Benefit 59 million hh
• Adaptation, irrigation, reforestation

**Poland: 1990-2006 restructuring**

• 388,000=> 119,000 jobs
• Social program and retraining
• 75% transitioned to new jobs
Indonesia

- The June 2013 gasoline and diesel reforms were combined with an IDR 29.1 trillion (US$ 2.6 billion) package of compensation mechanisms targeted at low-income households, including a temporary cash transfer, a basic infrastructure program and expansions of the Poor Student Education Support (BSM) program, the Hopeful Family Program (PKH) conditional cash transfer and the subsidized rice program Raskin.
Resources on line

• ILO Green Jobs Programme: www.ilo.org/greenjobs

• Green Jobs Training Platform: http://greenjobs.itcilo.org