



GREEN economy

Briefing Paper

Employment

Overview

One of the key challenges facing policy-makers in transforming their economies is creating decent and meaningful employment. According to the International Labor Organization (ILO), over 600 million new jobs would be needed in the next 10 years.¹

With new and emerging technologies, shifts in employment and changes in the workforce are occurring across the world. Employment shifts driven by economic transformation occur at three different levels: (i) across sectors (or industries); (ii) across enterprises within the same or similar sector (industry); and (iii) within enterprises. The speed and the amplitude of job creation and loss across these three levels determine the effects on the number of jobs as well as income.

Economic policies chosen by countries to drive their green economy transitions will affect employment across a range of activities and will have wide impacts. While a global transition to a low-carbon and sustainable economy could provide ample opportunities for employment across many sectors of the economy, and indeed become a new engine of development, several challenges need to be addressed in order for such a transition to succeed.

In discussions leading up to the UN Conference on Sustainable Development (Rio+20), the impact of green economy policies on employment is taking centre stage. UNEP and the ILO argue

that a green economy will only materialize if the right employment policies are in place and these include investing in human and social capital. This paper highlights employment opportunities and key challenges in a transition to a green economy and suggests what policy measures need to be put in place to ensure that newly created jobs can become decent jobs.

Employment opportunities in a green economy

As the economy is oriented towards greater sustainability, employment will be affected in at least four ways:

- First, in some cases, additional jobs will be created – as in the manufacturing of pollution-control devices added to existing production equipment.
- Second, some employment will be substituted – as in shifting from fossil fuels to renewables, or from truck manufacturing to rail car manufacturing, or from landfilling and waste incineration to recycling.
- Third, certain jobs may be eliminated without direct replacement – as when packaging materials are discouraged or banned and their production is discontinued.
- Fourth, many existing jobs (especially plumbers, electricians, metal workers, and construction workers) may be transformed and redefined as day-to-day skill sets, work methods and profiles are greened.

¹ ILO, 2012. *Global Employment Trends*, Geneva.

*UNEP defines a **green economy** as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.*



the green scenario. The UNEP/ILO/IOE/ITUC Joint Report (2008) also shows that the potential of job creation exists in the building sector (including construction, retrofitting, lighting and appliances), as well as in the transportation and recycling sectors.³

An ILO study (2009) on the green building industry in Brazil, for

Ample evidence demonstrates that great potential of job creation exists as the economy goes through a green transformation. According to a report commissioned by a coalition of environmental NGOs, for instance, greening the EU Budget by investing in green sectors brings about positive employment benefits.² This study explores the potential employment effects of investing EUR 1 billion each in eight key environmental policy areas, such as agri-environment, organic farming, energy efficiency, renewable energy, waste recycling and sustainable transport, and compares these with the employment supported by the Multi-annual Financial Framework (2014-2020) of the European Union. While the scale of employment impacts from the investment varies in different sectors, the study estimates that 52,000 jobs could be created in the renewable energy, followed by 25,900 jobs and 21,500 jobs in the energy efficiency and the sustainable transport sectors respectively. In comparison to the reference scenario of investing into EU Cohesion and Common Agricultural Policies, it was found that the total number of employment is higher in

instance, shows that jobs related to greening the construction, commercialization, maintenance and use of buildings grew from 6.3 per cent of the total number of formal jobs in 2006 to 7.3 per cent in 2008.⁴ In China, the green component of the fiscal stimulus started in 2008 is expected to create 5.3 million direct and indirect jobs (ILO, 2010). Other estimates predict 8 million jobs will be created in the renewable energy sector (particularly wind and solar energy industries) over the next two decades. According to the World Wind Energy Association, direct and indirect employment in the world wind power industry almost tripled from 235,000 in 2005 to 670,000 people at the end of 2010.

Net gain in jobs in the transition to green economies stems from new markets being created (such as in waste management and recycling) and value chains in green sectors being often longer and more diversified than in conventional sectors (e.g., renewable versus fossil fuels). This leads to the creation of indirect jobs upstream and downstream, as well as induced effects through increased demand.

² GHK, 2011. *Evaluating the Potential for Green Jobs in the next Multi-annual Financial Framework.*

³ UNEP/ILO/IOE/ITUC, 2008. *Green jobs: towards decent work in a sustainable, low-carbon world.*

⁴ ILO, 2009. *Empregos Verdes no Brasil : quantos são, onde estão e como evoluirão nos próximos.*

UNEP launched its Green Economy Initiative in 2008, and is currently supporting over 20 countries around the world in their transition towards a green economy.

Table 1. Selected employment estimates in the recycling sector

| | Country | Number of jobs (millions) |
|-------------------------|---------------|---------------------------|
| All recycling | China | 10 |
| | United States | 1.1 - 1.3 |
| | Brazil | 0.5 |
| Aluminium can recycling | Brazil | 0.7 |
| Electronics recycling | China | 0.7 |

Source UNEP/LO/OE/ITUC, 2008

Several other opportunities can arise through the transition towards a green economy. In many countries, green policies and investment can function as new growth engines and lead to higher income and employment. R&D in environmental technologies can spill-over to many other areas of the economy and lead to the development of new products and the emergence of new lines of business.

Employment-related challenges in the shift to a green economy

Greening the economy will involve large scale investment in new technologies, equipment, buildings and infrastructure, and could thus be a major stimulus for much-needed employment. Various studies show that continuing with business-as-usual will result increasingly in job losses and that the transition from brown to green industries can entail net employment effects. But additional employment potential can only be realized if the labour market is supported by adequate policies, for example, retraining of skills or employment services facilitating the reallocation of labour. Developing a global programme for retraining relevant skills, including entrepreneurial skills and apprenticeships for green jobs could particularly help young people to seize the opportunities presented by the greening of economies.



Making the economy more sustainable will also require a just transition for those who now hold jobs in carbon-intensive and polluting industries. For labor unions, already buffeted by the forces of globalization that bear an uncertain future in terms of wages, job security and organizing rights, this transition is a major challenge.

In addition, a transition towards a green economy does not automatically lead to more decent work. The implementation of adequate policies and strong labour market institutions will be required. These policies and institutions need to promote a just and inclusive transition. A broad social acceptance for such a transition is also required and this is only possible if peoples' livelihoods and working conditions are taken into account by policy-makers.

In designing green economy policies and anticipating their effects on economies and

The Green Economy Report, published by UNEP in 2011, makes a compelling economic and social case for investing two per cent of global GDP in greening 10 central sectors of the economy.

incomes, governments can apply measures to facilitate the transition that takes place on the labour markets and in the social systems, thereby changing the world of work in a positive manner.

What UNEP is doing

UNEP has been joining forces with the ILO to contribute to the international dialogue and analysis on the relationship between green economy and employment. Examples of UNEP's collaborative activities on green economy and employment include:

- The first UNEP and ILO joint report on green jobs, released in September 2008, identified the large potential of green jobs in particular sectors and discussed the issues of fair and just transition towards a low carbon economy.
- UNEP's Green Economy Report, launched in November 2011, analyses the impact of green investment on net job gains or losses. It concludes that a green economy

is competitive vis-a-vis business-as-usual on the job front, without even deducting the potential negative impacts on jobs of the current scenario.

- An updated report on green jobs by ILO, UNEP and ITUC will be released in the second quarter of 2012. The report focuses on employment and social inclusion potential of a green economy; the need for workforce transition; and the role of social dialogue.
- UNEP's future work on Green Economy and Employment will focus on: green jobs intervention in the large context of the current employment crisis; the implications of green technologies and innovation for resource productivity and labour productivity; the relationship between quantity and quality of jobs (decent work); the particular case of youth unemployment; the engagement of youth in transitioning to green economies; and measurements of green jobs.

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