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# Mainstreaming green job issues into national employment policies and implementation plans: a review

Kees van der Ree

Employment  
and Labour  
Market Policies  
Branch



International  
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Kees van der Ree

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## Preface

The primary goal of the ILO is to work with member States towards achieving full and productive employment and decent work for all. This goal is elaborated in the ILO Declaration on Social Justice for a Fair Globalization (2008), which has been widely adopted by the international community. Comprehensive and integrated perspectives on achieving this goal are embedded in the Employment Policy Convention, 1964 (No. 122), the Global Employment Agenda (2003) and – in response to the 2008 global economic crisis – the Global Jobs Pact (2009) and the conclusions of the Recurrent Discussion Reports on Employment (2010 and 2014).

The Employment Policy Department (EMPLOYMENT) is engaged in global advocacy and in supporting member States' efforts to place more and better jobs at the centre of economic and social policies and growth and development strategies. Policy research and knowledge generation and dissemination are essential components of the Employment Policy Department's activities. The resulting publications include books, country policy reviews, policy and research briefs and working papers.

The Employment Policy Working Paper series is designed to disseminate the main findings of research on a broad range of topics undertaken by the various branches of the department. The working papers are intended to encourage the exchange of ideas and to stimulate debate. The views expressed within them are the responsibility of the authors and do not necessarily represent those of the ILO.

Azita Berar Awad  
Director  
Employment Policy Department



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## Foreword

Given the very high priority afforded to environmental issues in international and national forums, especially since 2015 and the adoption of the Paris Agreement at COP21, mainstreaming environmental sustainability in employment policies offers a fantastic policy window to further the decent work agenda.

The degree of social and political consciousness of environmental and climate change issues has increased tremendously. There is a higher sense of urgency as well as understanding of policy responses that are required as the implementation of the Paris agenda shows, in particular through the adoption of Nationally Determined Contributions.

The link between climate change and employment has become much clearer. The ILO's constituents, by adopting the concept of "green jobs" following the Director-General's report to the 2007 International Labour Conference (ILC), Decent work for sustainable development, acknowledged the implications that climate change and low-carbon development have for employment.

Policy solutions are emerging. The Resolution on Sustainable Development, Decent Work and Green Jobs adopted at the ILC in 2013 provides policy guidance, including on labour market and skills policies. The inclusion of a green jobs component in the Comprehensive Employment Policy Framework adopted at the 2014 ILC further crystallized among constituents the consideration of environmental challenges through the undertaking of relevant employment policies. This paper shows that, between 2012 and 2017, 11 countries adopted a national employment policy which had a clear environmental dimension to it, compared with almost none before that period.

Through an active engagement of the World of Work in climate processes, the political will to transition towards greener societies in a way that ensures that this transition is just and does not leave anyone behind is beginning to translate into concrete action. The adoption by ILO constituents of Guidelines for a just transition in October 2015, calling on them to shape and implement measures in nine distinct policy areas, illustrates this new commitment. There is increasing political support and visibility to integrate decent work and just transition in national and global responses to climate change.

Effectively mainstreaming environmental sustainability in national employment policies calls for increased policy coherence between employment and environmental goals, and policy-oriented research to assess the impact of environmentally friendly technologies and patterns of production and consumption on employment in order to inform and facilitate social dialogue throughout the policy-making process. It also requires solid coordination mechanisms to enable environment and employment actors to work together.

This paper documents in detail the type of measures that an increasing number of countries are adopting to promote more and better employment and a just transition to environmental sustainability. It forms part of a new research area for the Employment and Labour Market Policies Branch in an effort to build knowledge on policies for green jobs. The results of this work will be used to bring relevant policy advice to ILO constituents.

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Coordinator  
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# 1. The rationale for mainstreaming green job issues into national employment policies

Over the past decade, recognition has grown of the need to implement employment policies that take into account the effects on the labour market of both climate change and national policies and strategies for low-carbon development.<sup>1</sup> In the lead-up to the Rio+20 Sustainable Development Conference in 2012, a range of studies were conducted around the concept of the green economy and its potential to ensure a more sustainable development path for countries. The 2008 report *Green jobs: Towards decent work in a sustainable, low-carbon world* elaborated on the relationship between decent work and the environment across eight key economic sectors.<sup>2</sup> It estimated at the time that up to 60 million jobs could be added to global employment if the right policy mix for a low-carbon development path was implemented. Ten years later, the ILO estimates that the impact could be much larger.<sup>3</sup>

The report was followed by a growing number of studies at national and sector level, undertaken by the ILO and others, assessing the employment gains and losses of redirecting investment towards greener sectors. By and large these reviews confirm that ambitious climate change policies do not reduce the overall level of employment. In fact, net gains can be achieved due to the generally higher labour intensity of green sectors and enterprises and more linkages to the national economy.<sup>4</sup>

However, this positive net overall effect includes significant changes in employment within and between sectors. Job losses will occur in high-emitting and polluting industries – such as coalmining, processing and energy generation from processing – while new jobs are created in green sectors such as renewable energy, organic agriculture, waste management, sustainable infrastructure and green buildings. Workers who lose their jobs will need to shift to new opportunities, sometimes far away from the location of the jobs they held. These moves may require temporary protection measures as well as active labour market interventions. As with any other transition, governments and social partners need to ensure that labour markets function well. They need to anticipate the changes in good time so that the costs of the transition can be managed.

## 1.1. Defining and measuring green jobs

In order to manage the transition, policy-makers need to be able to quantify the impact of certain policy decisions on employment. A system to measure green jobs needs to be in place. In turn, the measurement of current employment and the projection of changes brought about by environmental policies is premised on an agreed definition of “green jobs”. Over the years and through the growing number of studies across industrialized, emerging and developing countries, consensus is emerging about the definition used for measurement. Table 1 gives examples of some of the official definitions of “green jobs”.

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<sup>1</sup> This notion was also addressed in the conclusions of the Recurrent discussion on the strategic objective of employment at the 103rd ILC, 2014.

<sup>2</sup> UNEP/International Organization of Employers (IOE) /ITUC/ILO: *Green jobs: Towards decent work in a sustainable, low-carbon world* (Nairobi, UNEP, 2008).

<sup>3</sup> ILO: *World Employment and Social Outlook 2018: Greening with jobs* (Geneva, ILO, forthcoming).

<sup>4</sup> OECD: *Investing in climate, investing in growth* (Paris, 2017).

**Table 1. Example definitions of green jobs**

European Union (2012)	Jobs in environmental field or requiring environment-related skills
OECD (2011) EUROSTAT (2009)	Activities which produce goods and services to measure, prevent, limit, minimize and correct environmental damage to water, air and soil, as well as problems related to waste, noise and ecosystems. This includes technologies, products and services that reduce environmental risk and minimize pollution and resources
Bureau of Labor Statistics, US Department of Labor (2010)	Jobs that produce goods or provide services that benefit the environment or conserve natural resources; more environmentally friendly production; use fewer natural resources
UNEP et.al. (2008)	Jobs that contribute substantially to preserving or restoring environmental quality; protect and restore ecosystems and biodiversity; reduce energy, materials and water consumption through high-efficiency and avoidance strategies; decarbonize the economy; minimize or altogether avoid generation of all forms of waste and pollution

The ILO, together with the United Nations Environment Programme (UNEP), the International Trade Union Confederation and the International Employers Organization, added “decent” to “jobs” in the UNEP definition. More recently, employment created or linked to adaptation to climate change has also been included.

According to the ILO definition, green jobs are decent jobs that contribute to preserving or restoring the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency.

Green jobs contribute to:

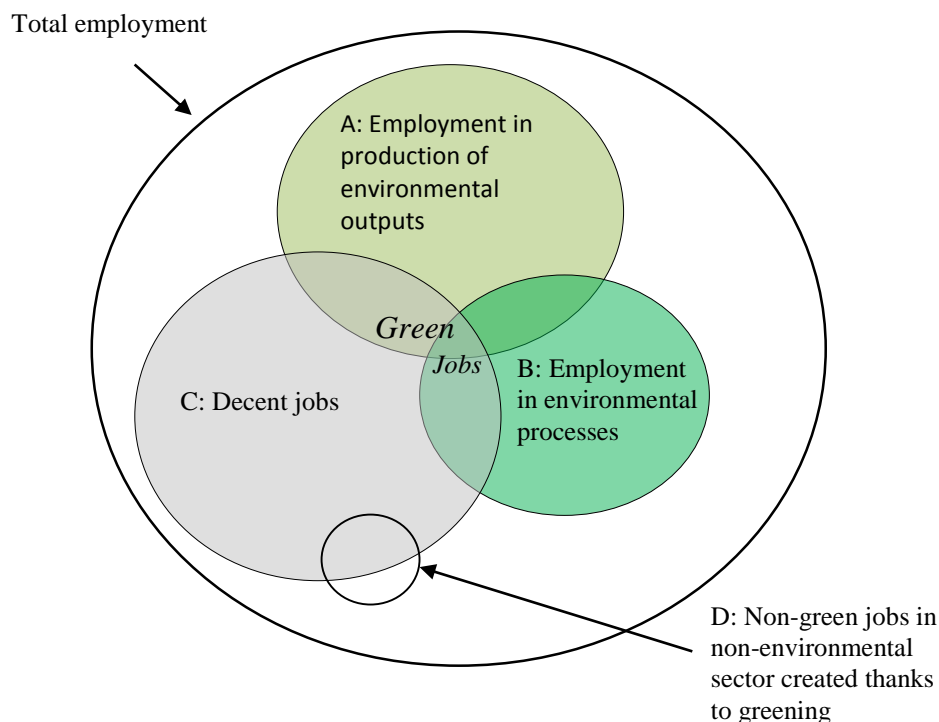
- improving the efficiency of energy and raw materials;
- limiting greenhouse gas emissions;
- minimizing waste and pollution;
- protecting and restoring ecosystems;
- adaptation to the effects of climate change.

The International Conference of Labour Statisticians (ICLS) developed a more precise definition of green jobs in 2013. It adopted a working definition and its Guidelines concerning a statistical definition of employment in the environmental sector are being piloted in national statistical offices at country level to assess the definition’s relevance and utility.<sup>5</sup> The objective was to eventually include green jobs in regular establishment and household surveys and labour statistics. Since 2013, a growing number of countries have been testing this measurement approach, including Albania, Mongolia and Barbados.

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<sup>5</sup> See: [http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normative\\_instrument/wcms\\_230736.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normative_instrument/wcms_230736.pdf)

**Figure 1. Schematic relationship between total employment, employment in environmental sectors and decent work**



Source: ICLS/ILO, 2013

Figure 1 shows that green jobs can be identified in two ways: i) through final output and ii) through production processes. From an output perspective, green jobs generate goods or provide services that benefit the environment. Examples are green buildings, clean transportation and solar-powered water heating systems. All the jobs involved are understood to be “green”, even though the outputs themselves may not be produced with entirely environmentally friendly processes and technologies. An example is a windmill manufactured from steel in metallurgic industries fuelled by petrol or coal.

On the other hand, jobs can be “green” when they contribute to more environmentally friendly processes – for example, reducing water consumption, controlling air pollution or improving resource recycling. Again, the work done in green jobs defined through production processes may not necessarily result in totally environmentally friendly final goods or services. An example is the jobs involved in making aeroplanes more energy efficient and apt to use biodiesel.

The overlapping portions in figure 1 between decent jobs and employment in either environmental outputs or processes represent the share of green jobs in total employment. More green jobs can be achieved by the expansion of any of the three circles, i.e. by creating new environmentally friendly jobs that are decent or improving the quality of the existing green jobs. The goal of full sustainability would be reached when all jobs fulfil the criteria of decent and green, or would “do no harm” in terms of environmental impact.

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Viewed this way, green jobs thus represent employment in the “green economy”. 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.<sup>6</sup> Economic activities i) are low in emissions of greenhouse gases, ii) are efficient in resource use, iii) maintain biodiversity and ecosystems and iv) enhance social inclusion.

The concept of the green economy gained traction when it was discussed and adopted in the outcome document of the 2012 United Nations Conference on Sustainable Development (UNCSD) in Rio de Janeiro, *The future we want*. Rather than a separate sphere of the economy, it is positioned as “one of the important tools available for achieving sustainable development and that ... could provide options for policy-making but should not be a rigid set of rules. We emphasize that it should contribute to eradicating poverty as well as sustained economic growth, enhancing social inclusion, improving human welfare and creating opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth’s ecosystems.”<sup>7</sup>

International organizations such as the Organisation for Economic Co-operation and Development (OECD), World Bank and Global Green Growth Institute (GGGI) have developed and promoted the concept of “green growth”. They put forward the idea that environmental protection can be a new source of economic growth and that economic growth policies must sustain natural assets so that these continue to provide the resources and environmental services on which our well-being relies.

More specifically, the World Bank describes green growth as “growth that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters”. In its main report to the Rio+20 Conference, the Bank dedicated a chapter to human capital and the implications of green growth policies for labour markets.<sup>8</sup> The report argues that a model of inclusive green growth is much less intensive in terms of resource consumption and can lead to social well-being and poverty reduction in both developed and developing countries.

In its 2017 report *Investing in climate, investing in growth*,<sup>9</sup> the OECD goes even further and states that the goal of reducing emissions can only be reached if governments take fully into account the social and economic factors that determine the success of ambitious climate policies. It argues for ensuring an “inclusive transition” based on dialogue and consensus building among stakeholders, and stresses the importance of adopting active labour market policies to guide and facilitate the change. This major report is a good illustration of the broad consensus that has emerged from earlier negligence – at best – among international organizations about the key importance of the employment dimension of climate change action.<sup>10</sup>

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<sup>6</sup> UNEP: *Towards a green economy: Pathways to sustainable development and poverty eradication* (Nairobi, 2011).

<sup>7</sup> UNCSD: *The future we want*, paragraph 56 (New York, 2012).

<sup>8</sup> World Bank: *Inclusive green growth: The pathway to sustainable development* (Washington, DC, 2012).

<sup>9</sup> OECD, *op. cit.*

<sup>10</sup> Similarly, the GGGI has included job creation as one of the six strategic outcomes of its refreshed mid-term strategy.

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To enhance understanding on inclusive green growth, several international organizations have set up interactive knowledge platforms and developed guidance on a range of topics, including employment and social inclusion.

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## **1.2. Understanding the links between environmental sustainability and full, productive and freely chosen employment**

Drivers of structural change towards a more sustainable economic model affect the labour market. A growing number of studies by the ILO and others<sup>12</sup> have assessed the real and potential employment outcomes of policies that underpin low-emission, resource-efficient development. Overall, these confirm that net employment effects are positive, albeit modest. In countries where environmental policies were combined with well-designed supportive measures like subsidies, fiscal incentives and sector promotion, as well as active labour market measures, quantitative outcomes were better.<sup>13</sup>

The review also found that the potential losses of employment were largely confined to highly emitting, polluting industries, which often employ only a small portion of the total workforce. The top ten polluting industries, which are also responsible for about 90 per cent of emissions in the EU-25 countries, only accounted for about 15 per cent of total employment (figure 2).

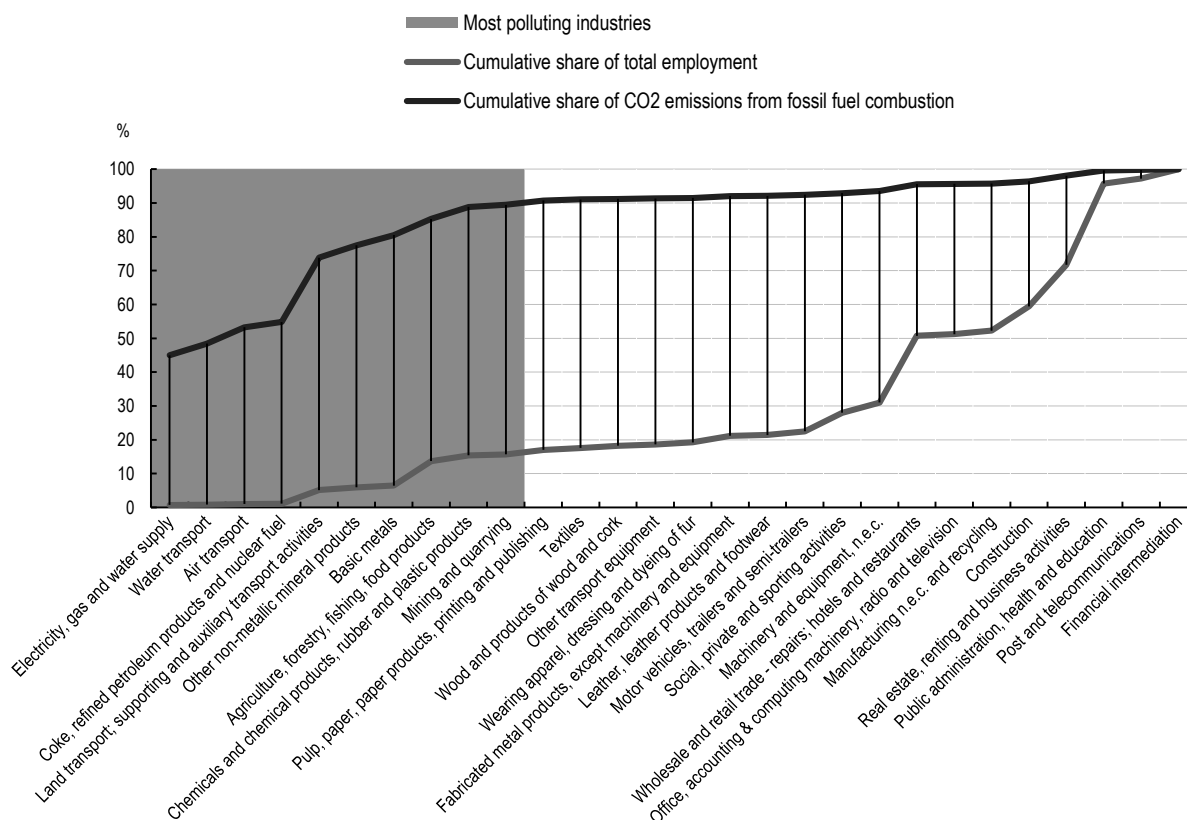
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<sup>11</sup> Good examples are: the Green Growth Knowledge Platform (<http://www.greengrowthknowledge.org/theme/jobs>), ILO Green Jobs (<http://www.ilo.org/greenjobs>) and ITUC's Just Transition Centre (<https://www.ituc-csi.org/just-transition-centre>).

<sup>12</sup> An overview is provided in UNFCCC: Just transition of the workforce, and the creation of decent work and quality jobs (Bonn, 2016); and in World Economic and Social Outlook 2018 (op. cit.).

<sup>13</sup> Ibid.

**Figure 2. CO2 emissions and employment, EU-25, 2005**



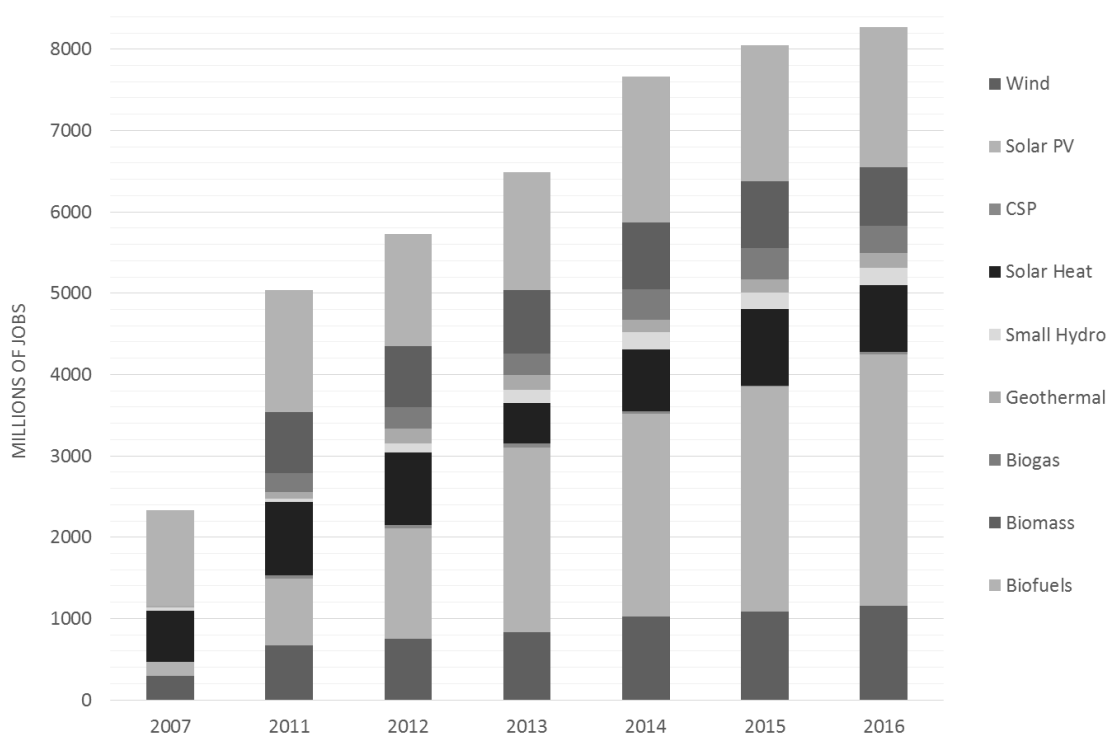
Source: ILO and OECD: Sustainable development, green growth and quality employment: realizing the potential for mutually reinforcing policies. Background paper for the Meeting of G20 Labour and Employment Ministers, Guadalajara, Mexico, 17-18 May 2012.

Although employment losses would be modest, the workers most affected tend to have lower skill levels. This implies that the transition to other jobs may be more difficult and possibly more costly in terms of unemployment payments and retraining. In section 2, a modelled scenario for US workers in coal and gas illustrates how the overall financing of the transition could remain feasible.

Other organizations have become more active in monitoring trends and setting out expectations on employment in the green economy, both at national and sector level. Renewable energy jobs are a case in point. The International Renewable Energy Association (IRENA) reported in its most recent annual estimate that global employment keeps growing, reaching about 9.8 million jobs in 2016 (see figure 3). Growth in investments, falling manufacturing costs and more enabling policies (including feed-in tariffs and agreements to connect to the national electricity grid) are driving the continued expansion of renewables, with wind power and solar photovoltaic the most dynamic sectors.<sup>14</sup>

<sup>14</sup> UNFCCC, op. cit.

**Figure 3. Estimates of global employment in renewable energy, 2012–16**



Note: The estimates reflect annual data collection efforts based on a wide range of sources, including government agencies, industry and NGO studies, academic reports and interviews with experts. Inevitably, however, the underlying methodologies vary, and data gaps remain.

Source: IRENA, 2017 (see Key references)

A recent review bringing together national and sectoral studies across the EU asserts that the share of green jobs (defined as employment in the environmental goods and services sector) in total employment increased by about 37 per cent from 2002 to 2011.<sup>15</sup> In 2012 about 4.2 million people across the EU were employed full time in the environmental goods and services sector, with a large share of those in natural resource management. A particularly rapidly growing sector is waste recycling, with an increase of 45 per cent between 2000 and 2007.

There are many ways in which the effects of structural change are transmitted to the labour market. One is through the adoption by firms of cleaner and more resource-efficient production processes and methods (“greening”), often induced by regulations and incentives. This alters the demand for labour in quantitative terms as well as with regard to workers’ qualifications. Another is through changing demand for greener products and services. Here too policies and legislation influence relative prices, for example through taxation and subsidies as well as certification. This drives changes in the way consumers behave and firms respond, which in turn affects labour markets.

The changing size and structure of the economy through the expansion of “green” sectors generates and destroys jobs directly, as well as indirectly through forward and backward linkages. Over time, changes in workers’ income and their subsequent spending patterns have an added effect on the economy, and hence on jobs.

<sup>15</sup> Pociovălișteanu, D.M. et al. “Employment policies for a green economy at the European Union level”, in *Sustainability* (2015, Vol. 7), pp. 9231–9250. Available at: [www.mdpi.com/journal/sustainability](http://www.mdpi.com/journal/sustainability)



The changes in the labour market can be characterized in four different ways (see table 2).

**Table 2. Main employment effects of green policies**

	Effect	Example	Expected scale
1	Jobs are created (in existing and new occupations)	Solar panel technicians, organic farmers, recycling managers, staff in eco-tourism resorts, workers in natural resource conservation and restoration, environmental advisers, workers in bicycle shops	Modest
2	Certain jobs are eliminated	Coalminers, workers in the bottling industry adopting water- and material-saving technology, staff in the obsolete or prohibited packaging materials industry	Small
3	Jobs are substituted (occupations change)	Jobs in transport systems moving to rail, electric cars and shared vehicles; waste management jobs in landfill/dumpsites moving to incineration and recycling; jobs in quarries for construction using new building materials and re-using leftovers and waste	Modest
4	Jobs are transformed (occupations change)	Workers, operators and managers in greening sectors, notably buildings, agriculture and transport, all learning to manage new technology and operating practices; workers in all sectors where energy and resource efficiency are introduced (such as cleaner production in manufacturing, retail services without packaging, bottle companies changing to new materials and products); staff in financial institutions adopting sustainable investment strategies	Large

Source: UNEP, ILO, ITUC, IOE, 2008a; Strietska-Ilina et al., 2011; UNFCCC, 2016; author's elaboration.

These examples illustrate that, besides quantitative shifts, the transition also implies large-scale changes in occupations. Moreover, the employment transition may also change the quality of jobs. Greening and green jobs are not by definition of different quality, i.e. more or less decent. However, certain new occupations, such as in photovoltaic panels manufacturing, windmill installation or pollution control, may involve unknown hazards and occupational risks. This is relevant in the expansion of waste management, especially the management of electronic waste. The European Agency for Occupational Safety and Health at Work has undertaken a comprehensive review of the new and emerging risks likely to be associated with new technologies by 2020.<sup>16</sup> On the other hand, the reduction of pesticides and more stringent environmental regulation should improve working conditions. The quality of green jobs in terms of skills, remuneration, job security and social protection may be higher. This will partly depend on unionization and collective bargaining in green sectors.

In addition to the changes in production processes and the demand for green goods, other drivers of change need to be taken into account when considering responsive employment policies:

- Productivity: changing temperatures and erratic weather patterns will disrupt planting and harvesting cycles while heat stress will jeopardize open air jobs in fields such as agriculture, construction, waste management and street vending.

<sup>16</sup> European Agency for Safety and Health at Work: Green jobs and occupational safety and health: Foresight on new and emerging risks associated with new technologies by 2020 (Luxembourg, 2013).

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Even if jobs are entirely lost, lower productivity will reduce incomes and livelihoods.

- Displacement and migration: rising sea levels, resource depletion, droughts and floods push people away from unsustainable areas, causing pressure on labour markets elsewhere. Certain environmental policies in response may also have unexpected geographical effects on labour. The resulting spatial redistribution of employment may exacerbate regional inequalities.
- Timing and duration: the closure of coalmines or a temporary moratorium on fishing may threaten large numbers of jobs in the short run, as may a sudden introduction of carbon tax in cities with a large transport sector. Longer term effects are transmitted through innovation and technological development, changing the levels of competitiveness of more resource-efficient industries, including through trade. Also, input prices, especially those related to energy, may change. Public and private investment in, for example, sustainable construction will gradually change the demand for architects, managers, operators and workers in the building industry. The anticipation of changing skills needs over time is therefore essential to facilitate adjustment of the labour market.

There are also more fundamental, structural and long-term drivers of change influencing employment outcomes. One important trend in this context is the adoption of more resource-efficient and less harmful technologies and business operations. Another is the physical effect of climate change, notably heat stress and its adverse impact on labour productivity, but also those effects related to changing weather and storm cycles affecting agriculture and its workers – the largest provider of jobs globally. A third driver is changing consumer habits and responsive legislation towards promoting more sustainable products and services. Recognizing future threats and the promise of new business opportunities, global finance is also redirecting investments towards more sustainable economic scenarios, while pulling back funding from high-emission sectors such as coal.

A gender perspective should be adopted to assess the differences in the nature, extent and repercussions of the various effects on women and men. For instance, climate change and environmental degradation may be more negative for women and girls, partly due to their limited or unequal access to resources and assets. By contrast, the large-scale closure of coalmines would affect men more, as they constitute the bulk of workers in this sector.

### **1.3. Environmental sustainability and the ILO – a short history**

The above facets of the labour market have become much better understood since the publication of the seminal report on green jobs in 2008.<sup>17</sup> It took time, however, before environmental sustainability was fully embraced by the constituents and reflected in the work of the Office. In truth, attention to environmental sustainability by the ILO is not a recent phenomenon. The global ecological crisis in the 1970s and the first global UN Conference on Human Environment in 1972 prompted the then ILO Director-General to dedicate his report to the 1972 International Labour Conference (ILC) to the theme of “Technology for freedom: man in his environment”. He called for the reconciliation of “continued growth and innovation with comprehensive environment policies” and suggested “new departures in economic and social policy no less than in policies for science and

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<sup>17</sup> UNEP/IOE/ITUC/ILO, op. cit.

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technology. Environment considerations must form an essential dimension of growth.”<sup>18</sup> Despite this appeal, the ILO’s work on employment, particularly through the World Employment Programme, remained largely oblivious of the need to operationalize this conceptual relationship.

The ILC of 1990 discussed again the implications of environmental challenges for the world of work. The background report, *Environment and the world of work*, is still very relevant today.<sup>19</sup> It argued for a wider view by ILO constituents on the inter-linkages between the environmental, economic and social dimensions of development. The recommendations of the ILC for piloting an integrated approach were taken up by the Interdepartmental Project on Environment (1994–95). From then on, the links between employment and the environment have been increasingly present in country programmes, notably through the Employment and Infrastructure Programme promoting labour-intensive public works for nature conservation, reforestation, sustainable land practices and construction of all-weather rural roads.

In 2002 the ILO adopted the Global Employment Agenda.<sup>20</sup> This comprehensive initiative was a clear reflection of the growing recognition of the inter-linkages between social, economic and environmental issues. It included a specific policy objective on “making the future more socially and environmentally sustainable”. It stated that any employment policy that ignores the environmental consequences of economic activity is unsustainable. To address the related policy challenges, it called for policy integration between employment strategies and environmental goals. The Agenda was to include a research programme to assess the employment consequences of environmentally friendly technologies and patterns of production and consumption. The results would inform and facilitate social dialogue on the social consequences of environmental policies. It also particularly suggested including analysis on “employment gains and losses in environmentally friendly and unfriendly sectors”, as well as on how related investment would generate economic and employment growth.

The policy debate on the environment and the world of work was taken up in earnest with the Director-General’s report to the 2007 ILC, *Decent work for sustainable development*.<sup>21</sup> In the report, the Director-General proposed a programme of work to “promote a socially just transition to green jobs”. He called for “a major research and policy effort to identify the scale and nature of the employment transformation that will accompany the shift to more sustainable patterns of production and consumption, and in particular to a low-carbon economy”. The ILO constituents, by adopting the concept of “green jobs”, acknowledged the implications that climate change and low-carbon development have for employment. They also subscribed to the notion that the actors of the world of work have to play a critical role in the transition.

The Green Jobs Initiative, launched jointly with the International Trade Union Confederation, the International Employers Organization and UNEP, generated a series of policy reviews and debates at the ILO itself in the years that followed. It led to the creation of a dedicated, resourced programme of work on green jobs in 2009, with a mandate to work

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<sup>18</sup> Quoted from ILO: *Work in a changing climate: The Green Initiative*, Report of the Director-General (Geneva, 2017).

<sup>19</sup> ILO: *Environment and the world of work*, Report of the Director-General (Geneva, 1992).

<sup>20</sup> ILO: *Overview of the Global Employment Agenda implementation*, GB.300/ESP/2 (Geneva, 2007).

<sup>21</sup> *Decent work for sustainable development*, Director-General’s introduction to the International Labour Conference (Geneva, 2007).

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across the Organization to raise awareness and rally support for the promotion of green jobs through all strategic policy outcomes, including Employment.

In parallel to the growing number of knowledge products, policy guidelines and intensive capacity-building programmes developed through the expanding green jobs network across the Office, ILO constituents became increasingly engaged in policy discussions at the Governing Body about the ILO's role and contribution to the sustainability agenda in the lead-up to the Rio+20 Conference. Employment promotion, together with social protection and social dialogue, was at the heart of these debates.

The ILO's constituents, recognizing the unfolding changes in the world of work, adopted a Resolution on Sustainable Development, Decent Work and Green Jobs at the ILC in 2013,<sup>22</sup> providing policy guidance on issues including the labour market and skills. This was followed by a more specific set of Guidelines for a just transition in October 2015, calling on constituents to shape and implement measures in nine distinct policy areas.<sup>23</sup> The relevant sections for this paper are dealt with in more detail in section 3.

In the 2015 Paris Climate Agreement, the need to “ensure a just transition for the workforce” is included in the preamble; this led the United Nations Framework Convention on Climate Change (UNFCCC) to set up a dedicated task force on the issue. This reflects the growing concern about understanding and managing the distributional effects in terms of jobs and income of implementing the Nationally Determined Commitments to emission reductions pledged under the Paris Agreement. Governments have come to realize that, if ambitious climate policies are to be adopted, the availability of decent work and the provision of social protection across society must be assured. The reform of subsidies and fiscal incentives away from highly emitting economic activities (such as some forms of transport) in favour of emerging green sectors, or to finance social protection schemes for workers depending on diminishing natural resources (such as certain forests or fish stocks), is a matter of managing the political economy of the transition. ILO constituents are essential partners in this process.

This general discussion at the 2013 ILC and the subsequent Expert Meeting on Guidelines for a Just Transition, in 2015, have further crystallized among constituents the consideration of environmental challenges through the undertaking of relevant employment policies. The inclusion of a dedicated green jobs module in the Comprehensive Employment Policy Framework and a related training session in the annual training course held at the International Training Centre (ITC) in Turin has further contributed to the internalization of the link between employment and the environment among constituents.

## 1.4. Conclusions

The linkages between climate change, environmental sustainability and green policies have become clearer. National reviews and global reports have confirmed that the “green transition” does have a significant impact on employment, but the scale and speed of these changes are not essentially different from many other transitions resulting from structural transformation.

In some countries and certain sectors, sudden events or major policy changes (such as in energy strategies) may be disruptive in the short term. But mostly the changing patterns

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<sup>22</sup> ILO: Sustainable development, decent work and green jobs, Report of the Committee on Sustainable Development, Decent Work and Green Jobs, ILC, 102nd Session, Geneva, 2013.

<sup>23</sup> ILO: Guidelines for a just transition towards environmentally sustainable economies and societies for all (Geneva, 2015).

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of consumption and production happen at a normal pace, thus allowing labour markets to adjust – provided the changes are understood in good time and are well managed by institutions.

The risks of increased inequality in terms of the geographical distribution of job losses, the regressive nature of energy costs to households (i.e. the poor pay more than the non-poor, proportionally) and the marginalization of workers with outdated skills can be averted by analysing the potential effects of policy changes in advance and putting in place adequate compensation measures and active labour market support. If employment policies are to contribute to environmental sustainability, they should address the existing and potential job gains and losses resulting from green policies. Such analysis must be disaggregated by sex. The employment projections and estimates should guide environmental policies so that these do not harm but rather benefit women and men in the labour market.

The cost of managing the transition in ways that do not excessively burden the most affected and that seize the benefits for opportunities to create decent work – in other words, “a just transition” – is surmountable. Employment policies can be of critical importance to help ensure that the transition is fair, inclusive or simply “just”.

For countries where employment in highly emitting and environmentally damaging sectors and firms is limited, the green economy represents unprecedented opportunities to create new jobs and conserve natural resources and a healthy living environment at the same time. Here too employment policies have a key role to play, as the speed and success of achieving prosperity through green policies also hinges on a well-prepared labour force in terms of skills and employability, on innovation and entrepreneurship, and on supportive public employment programmes to protect and restore natural resources, among other things.

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## 2. National employment policies reflecting environmental sustainability

### 2.1. Growing recognition of the environmental dimension in national employment policies

Of the 57 countries with adopted national employment policies in EmPol, a total of 11 address environmental sustainability (table 3a). Another two countries have national development frameworks which include an employment chapter that features green jobs (table 3b). The review shows that over time recognition of the relationship between climate change, environmental sustainability and employment increased: while before 2010 not a single national employment policy mentioned these issues, a growing number of countries have included the promotion of green jobs as an element of their policies in the last six years.

It seems that in general the promotion of green jobs has not been a high priority for most ministries of labour.<sup>24</sup> Moreover, those that do give it attention include the creation of green jobs as just one intended outcome among many others. The exceptions are the countries described in detail later in this section, most notably The Philippines.

**Table 3a. Countries with adopted national employment policies that address environmental sustainability**

Country	Year	Title
China	2017	Promotion of Employment and Entrepreneurship Policy
Comoros	2013	National Employment Policy Framework Document
Ethiopia	2016	National Employment Policy and Strategy
Ghana	2015	National Employment Policy
Kenya	2013	Sessional Paper on Employment Policy and Strategy
Mauritius	2014 <sup>25</sup>	National Employment Policy, Fourth Draft
Mongolia	2016	State Policy on Employment
Morocco	2015	National Employment Strategy
The Philippines	2016	Green Jobs Act
Sri Lanka	2012	National Human Resources and Employment Policy

**Table 3b. Countries with a national development framework that features green jobs**

Country	Year	Title
Barbados	2013	Barbados Medium Term Growth and Development Strategy (2013–20)
South Africa	2012	Our Future – Make it Work. National Development Plan 2030

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<sup>24</sup> Feedback from ILO specialists signals that a growing number of relevant country policy processes are not yet reflected in the ILO global database.

<sup>25</sup> Since then abandoned and a new policy process started.

There is quite a variety among countries in terms of the priority and detail given to addressing environmental sustainability. Annex I contains an inventory of such references in nine countries, the remaining four countries being described in detail later in this section.

Interestingly, most policies that mention green jobs refer only to the potential for new jobs in the green economy and green enterprises, especially small and medium-sized enterprises (SMEs). Only a few countries covered in this review, such as China, address the possible negative transitional implications for jobs resulting from climate change or adopting a green economy approach, such as reducing CO2 emissions by shutting down highly emitting industries.

Ghana illustrates the manner in which many countries reflect on the issues relating to green jobs at different levels of their employment policy (see box 1).

**Box 1. Green jobs as part of Ghana's National Employment Policy (2015)**

Employment opportunities in the green economy are mentioned early on in Ghana's National Employment Policy. The preface and situational analysis state the need to reconcile employment growth with environmental protection. It uses ILO estimates on the untapped potential for green jobs. The analysis concludes that additional proactive policy initiatives are needed, as well as private investments. The Government should take advantage of green technologies and approaches to creating jobs for the unemployed as well as protecting the environment in a sustainable manner for future generations.

Good quality economic growth is put forward as an engine for decent work and should be sustainable, environmentally friendly and inclusive. Two of the four policy objectives include a strategic action related to green jobs or the green economy:

1. "to promote and support initiatives for the creation of green jobs in energy and industrial efficiency, energy supply, transportation, biodiversity, conservation and ecosystem restoration, soil and land management, and waste management";
2. "to expand social protection mechanisms for workers exposed to external shocks (i.e. fire, flood, retrenchment, structural changes to green economy, etc.), and develop new learning strategies to help them cope with these socio-economic shocks before they are re-integrated into the labour market".

The cross-cutting reflection of environmental sustainability is also signalled by the inclusion of the Environmental Protection Agency Act 1999 (Act 490) in the policy and legal context, providing guidance for the regulation of employment, working conditions and labour relations. In addition, the National Environment Policy and the Ghana National Climate Change Policy are mentioned, among others, as referral policies that should be developed in synergy with the National Employment Policy.

A more detailed analysis of the 13 country policies sheds light on the type of policy measures related to climate change, environmental sustainability and green jobs.

The score card (table 5) shows that there is a wide variety of the number and type of policy components mentioned. There are two countries that only make a minimal reference to environmental sustainability (Ethiopia and Morocco) and two which elaborate on green jobs all across their policy (The Philippines and China).

**Table 4. Number of policy components/measures proposed**

Number of measures	5 or fewer	6–11	12 or more
Number of countries	5	6	2 (The Philippines, China)

**Table 5. Country score card: aggregate policy components related to environmental sustainability, climate change and green jobs<sup>26</sup>**

	COM	ETH	GHA	KEN	MOR	MONG	SAfr	SRL	MAU	BARB	NAM	PHI	CHIN	ALL
<i>Total green policy components</i>	7	1	4	6	1	3	7	6	4	7	8	12	16	82
<b>I. Policies to influence the demand for green jobs</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>7</b>	<b>8</b>	<b>40</b>
1. Pro-employment macroeconomic policies														
• Monetary policy – quantitative easing, credit expansion						X	X							2
• Fiscal policy – stimulus packages, strategies to create fiscal space						X	X				X	X	X	5
• Investment policies and investment climate – includes investment in infrastructure, public services, green production and R&D	X									X	X	X	X	5
<b>2. Sectoral policies:</b> agriculture, services, environmental industries and services, industrial policies that enhance economic diversification	X	X	X	X	X	X	X	X	X	X	X	X	X	13
<b>3. Financial policies:</b> national supervisory and regulatory framework for the financial sector, so that it serves the real economy, promotes sustainable enterprises and decent work and better protects people's savings and pensions														
• Development financial sector and institutions (including microcredit funds), credit facilities, access to credit, guarantees, payment facilities	X						X	X			X	X	X	6
<b>4. Trade and regional integration:</b> policies that promote efficient and well-regulated trade and markets that benefit all and avoid protectionism														0
<b>5. Private sector development:</b> support to public and private enterprises (including cooperatives) and micro-entrepreneurs through:														
• Access to public tenders														0
• Subsidies, e.g. for non-wage labour costs, export credit facilities													0	
• Special measures for modern enterprises (mainly SMEs), MSEs, cooperatives								X			X	X	X	4
• Tax reductions													X	1
• Supportive regulatory environment conducive to job creation by sustainable enterprises (governance, regulations, cost of doing business)												X		1

<sup>26</sup> Adapted from ILO: Guide for the formulation of national employment policies (Geneva, 2012)





	COM	ETH	GHA	KEN	MOR	MONG	SAfr	SRL	MAU	BARB	NAM	PHI	CHIN	ALL
<b>III. Labour market institutions and intermediation</b>	2		2	2			1		1	2	1	2	3	16
<b>1. Employment services</b>														
• Support the reform and modernization of public employment services (PES) to improve their ability to provide career guidance, labour exchange services, delivery of active labour market programmes, and rapid response services in the aftermath of crises			X	X					X	X		X	X	6
• Promote the appropriate regulation of private employment agencies														0
• Promote cooperation between PES and private employment agencies													X	1
<b>2. Passive labour market policies (protection of workers), such as unemployment benefits, pre-retirement and pension schemes (especially in the context of external shocks and structural changes to the green economy)</b>	X		X										X	3
<b>3. Measures to promote or strengthen social dialogue, including in institutions</b>	X			X			X			X	X	X		6
<b>4. Wage policies</b>														0

Interestingly, as shown in table 6, demand-side policy components outweigh supply-side policies or labour market measures. Across the entire spectrum, countries with more measures tend to have relatively more demand-side policies. This could reflect a trend that, once countries begin to grapple with the enabling conditions for green growth, their attention shifts to a more proactive macroeconomic approach, stimulating investments and taking special measures to drive economic development in sectors with the potential for green jobs.

**Table 6. Type and frequency of measures proposed**

Type	Number
1. Policies to influence the demand for green jobs	40
2. Policies to influence the supply of workers willing, able and suited to undertake green jobs	26
3. Labour market institutions and intermediation	16

A more detailed analysis of table 4 leads to the following observations:

1. Among demand-side policies, sector development policies are most prominent (all 13 countries), followed by fiscal policies together with investment promotion (ten countries).
2. Among supply-side policies, training policies and (vocational) training systems are most frequent (nine countries). This reflects a similarly high score for skills development and re-skilling as part of active labour market policies.
3. In comparison with demand and supply policies, active labour market policies are the least common.
4. Social dialogue is explicitly mentioned in six countries.
5. Protection of employed workers, including those affected by external shocks due to climate change or by the impact of green policies, is taken up by three countries (Comoros, Ghana and China).
6. Only four countries explicitly propose measures for SMEs.
7. No countries mention gender equality or specific measures for women in the context of the green economy.

At the country level, however, the dedicated and productive efforts by the ILO to promote jobs in environmental sectors, often through time-bound technical cooperation programmes, were seldom articulated in national employment policies. This may reflect the lack of full understanding and low prioritization among constituents at that time. Ministries of labour and the social partners, under pressure to deal with many challenges in the labour market, simply did not lend much importance to environmental degradation and scarcity of natural resources as a threat to employment growth and good working conditions – or even if they did, they relegated the issue to other ministries and civil society organizations.

The fact that ministries of labour also lacked the tools to analyse and remediate the negative effects of environmental degradation on jobs may have contributed to this relative ignorance. Their policy priorities depend greatly on the likelihood of successful implementation. Environmental threats and, more recently, calls to reduce emissions remain outside their purview simply because their instruments are not compatible with the task. This reflects the sizeable challenge involved in developing appropriate and effective policy tools and implementation mechanisms to drive low-carbon, climate-resilient development.

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## 2.2. In-depth analysis of selected countries

This section provides a more in-depth review of employment policies, with a particular focus on green jobs in a few selected countries. The country cases have been selected because they seem to represent, to date, the most fully articulated approaches to embedding environmental sustainability in employment policies. Data analysis is based on desk reviews and contributions by ILO staff working with these countries, as well as interviews with involved stakeholders among ILO constituents.

The cases have been grouped in three categories:

1. **Type A** features countries that have relatively little carbon-intensive economic infrastructure (i.e. Barbados and Namibia), but have very specific environmental characteristics due to their geography. These conditions pose constraints on their development but can be turned into employment opportunities if adequate policies are undertaken.
2. **Type B** represents countries that are focusing both on new green jobs using their geographic specificities and on transitioning from “brown” to “green” industries. This category includes The Philippines.
3. **Type C** countries try to address the labour market implications of reducing emissions and adopting low-carbon economic development strategies. They include China, the USA and EU Member States.

### 2.2.1. Type A countries: seizing the potential for new green jobs

Barbados

#### *Context*

The interest in and support for a green economy and green jobs in Barbados stems from a much earlier concern for sustainable development of the island, given its dependence on fuel imports, its need to ensure food security and its reliance on international tourism. The 1994 Conference on Small Island Developing States, which was held in Barbados, as well as a UNEP regional project on the green economy in the Caribbean (among other initiatives), have accelerated political support for green jobs across government ministries, especially the Ministries of Environment and Labour. Several ILO workshops and meetings in the region and the 2013 ILC Resolution have further sharpened the focus on green jobs. Moreover, high-level staff from the ministries and the social partners have participated in several capacity-building events, in particular at the Partnership for Action on Green Economy (PAGE) Academy in Turin in 2014 and 2016.

The Barbados Medium Term Growth and Development Strategy (2013–20) includes a dedicated section named “Transformation to a green economy”. This includes the following statement: “As Barbados seeks to restructure its economy and to mitigate and adapt to the changing climate while in the search to maintain a sustainable environment, one of the premier emphases of the country has been to embrace the concept of a ‘Green Economy’. This concept encapsulates economic, social, and environmental issues in a way that ensures the sustainable development of the nation, with the public and private sector all playing a part.”

The green economy calls for an integrated approach that provides new opportunities for economic growth by directing greater investment into sectors that enhance natural capital and generate new sources of employment, while reducing environmental risks.

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The inclusion of green policy objectives in Barbados can be traced to the National Strategic Plan (2006–25) and the Budget Speech of 2007. The process was given further impetus in 2009 when the then Prime Minister laid down the challenge of committing Barbados to become the “most environmentally advanced green country in Latin America and the Caribbean”. It was against this backdrop that the Government engaged UNEP in the establishment of a partnership to support the country’s transformation.

This strong recognition by the Government was the impetus to conduct the Green Economy Scoping Study (GESS)<sup>27</sup> in 2013, in partnership with UNEP and the University of West Indies (UWI) Cave Hill Campus. This work was supported by a Green Economy Technical Steering Committee, which contained representatives from all relevant stakeholder bodies (but not thus far from the Ministry of Labour).

The Barbados GESS evaluates the potential of five key sectors to contribute to the transition to a green economy. These sectors are: agriculture, fisheries, building/housing, transport and tourism. It has been shown that each of the proposed measures in the GESS will lead to better socio-economic performance in the long run, and this result has been validated through an inclusive process.

The results of the GESS informed a way forward to advance a green economy. This included, among other actions: i) the development of a policy framework for greening the manufacturing sector that aims to mainstream resource efficiency and promote eco-innovation, ii) a green and decent jobs assessment and establishment of a green skills development support programme and iii) the development of indicators to support monitoring of inclusive green economy policies.

The Decent Work Country Programme (DWCP) was signed in 2012 and is used as an authority for all actions undertaken. It does not include references to environmental sustainability, climate change or green jobs. It contains a large section on education and training, and the monitoring of the enabling environment. It is underpinned by a strong partnership with the social partners. Progress in the implementation of the DWCP is reviewed on an annual basis.

The Barbados Employment Policy was developed over a period of two years and adopted in 2014. It did not as such follow the ILO Guide for the formulation of national employment policy and the Global Employment Agenda.

*Current status (November 2017)*

Barbados joined PAGE in late 2016. This will expand the initiatives and the technical support offered by the UN agencies that form part of PAGE. A programming mission in March 2017 concluded a set of priority actions, including support for skills development.

Even though the Barbados Employment Policy is not explicit on climate change or environmental sustainability, it has been recognized that the implementation of a successful and sustainable green jobs initiative will require enhancing the Ministry of Labour’s active labour market policies. Consequently, the Ministry is currently engaged in strengthening its PES and the labour market information system, improving the physical capacity of the vocational training system, and adding new areas for capacity building. At the same time, its staff have been working closely with colleagues in the Ministry of Education to lead the development of competence-based training in the area of photovoltaic systems. New training programmes in other green areas may also be developed.

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<sup>27</sup> UNEP: Barbados green economy scoping study, Barbados, 2014. Available at: <http://www.un-page.org/countries/page-countries/barbados>.

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The Ministry has a strong Human Resource Development Strategy (2011–16), aimed at developing the national, institutional and human capacity for sustainable growth. A unit within the Ministry is dedicated to the implementation of this strategy. One of the key outcomes of the strategy is the recognition that support must be provided in new emerging sectors such as green energy and the cultural industries. These have been identified as areas in which green jobs can be developed. While green jobs are not specified in the strategy (or in the programme documents of the key labour services), it is anticipated that this policy will help to guide the strategic priorities of all programmes in the future. Given the forthcoming assessment of Skills for Green Jobs as part of World Employment and Social Outlook 2018, there will be greater focus in this area.

The Ministry of Labour also intends to work more closely with its partners in the Ministry of Environment. Following the 2016 Academy on Green Economy training course held at the ITC in Turin, the Barbados delegation, comprising staff from those ministries and UWI, developed an action plan that supports this partnership.

The Ministry has pursued a tripartite approach throughout all its programmes. A capacity-building workshop in early 2015 brought together the social partners to discuss policies and tools for greening the economy, enterprises and jobs. The Barbados Employers' Confederation, in particular, has been a strong driver in this context. A dedicated training session was held using the ILO resource guide *Greening economies, enterprises and jobs*.<sup>28</sup>

The commitment to tripartism is expressed through the Barbados Social Partnership, a formalized agreement between the Government, business and labour leaders to address economic and social issues. During the latest renewal of the partnership, climate change was mentioned as one of the most urgent challenges to address. The Partnership has called for social dialogue to address the Nationally Determined Commitments to reduce emissions (following the Paris Agreement) and offers a platform to ensure a just transition to a sustainable economy and society for all. This includes a communication campaign to enhance the understanding of the benefits of the transition, also planned as part of the PAGE support.

*Barbados National Energy Policy 2017–37 (final draft)*

Under the Barbados National Energy Policy, draft provisions have been made for human resource capacity and development. Overall Objective 11 of the new policy specifies “Increasing the number of persons locally with qualifications and skills relating to energy production and management of renewable sources”. The policy outlines the development of skills and knowledge in the energy sector that will result in a sector that:

- has a skilled workforce able to fulfil the requirements of the new renewable energy sector;
- has standards of qualification for all aspects of the energy sector, especially in renewable energy;
- maximizes information sharing between educational institutions and the energy sector in establishing degree programmes, vocational programmes and school curricula;
- incorporates new skills relevant to the conventional and renewable energy sectors in syllabuses in tertiary institutions such as Barbados Community College, Samuel Jackman Prescod Polytechnic and UWI;

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<sup>28</sup> ILO/ITC: *Greening economies, enterprises and jobs: The role of employers' organizations in the promotion of environmentally sustainable economies and enterprises* (Turin, 2016).

- has an increased number of scholarships available for people interested in studying new areas related to energy and aspects of sustainability in the oil and gas sector;
- has an increased number of qualified people conducting energy audits;
- emphasizes the concept of “innovation” throughout curricula related to energy at various levels of education.

Based on the above objectives, the new energy policy will clearly target the development of green skills in the energy sector of Barbados.

#### *Other initiatives*

Several organizations are pursuing green job initiatives. An example is the Ministry of Agriculture, which is promoting “agripreneurship” among young people. Another successful project is one led by a non-governmental organization, the Addis Alem Cooperative Society, which produces organically grown foodstuffs and vegetables for local hotels, and other agricultural by-products for a wide range of customers. It provides marketing services to farmers, agro-processors, retailers, vendors and customers.<sup>29</sup>

Building materials and supplies for construction of a facility dedicated to the generation and sale of electricity from a renewable source are duty free and VAT free. A zero rate of VAT is applied to all renewable energy and energy-efficient systems and products produced in Barbados. The administrations responsible for the execution of VAT and import duties are the Customs Department and the Barbados Revenue Authority. Developers, manufacturers and installers of renewable energy systems and products are eligible for a ten-year tax holiday (Barbados Income Tax (Amendment) Act 2013, Section 37I (1) and (2)).

Eligible businesses can deduct up to 150 per cent of the amount of interest paid on a loan in respect of:

1. the construction of a new facility to sell off electricity from a renewable source;
2. the construction of a new facility for the installation or supply of renewable energy and energy-efficient products;
3. the upgrading of an existing property so as to generate and sell off electricity from a renewable source (Barbados Income Tax (Amendment) Act 2013, Section 37J (1) (a) and (b)).

A person carrying on an eligible business is allowed to deduct against assessable income with effect from income year 2012, 150 per cent of the amount actually expended in:

1. the marketing of products that are for the generation and sale of electricity from a renewable energy source; or
2. the marketing of products that are related to the installation and servicing of renewable energy electricity generation systems or energy-efficient products.

A person operating an eligible business is allowed to deduct against assessable income with effect from income year 2012, 150 per cent of the amount expended in respect of product development and the conduct of research related directly to:

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<sup>29</sup> See: <http://www.addisalemcoop.com/?v=9d3d9048db16#>

- 
1. the generation and sale of electricity from a renewable source; or
  2. the installation and servicing of renewable energy electricity systems or energy-efficient products (Barbados Income Tax (Amendment) Act 2013, Section 37M (1) (a) (b)).<sup>30</sup>

The Bureau of Statistics has voiced interest in including a green jobs module in the country's Labour Force Survey. The ILO is piloting guidelines for this approach in selected countries following the adoption, in 2013, of definition and measurement criteria by the ICLS.

The Barbados Employers' Confederation is increasing its efforts to encourage dialogue around sustainable development and green economies. In 2016 it set up an information service for green economy issues and their implications for enterprises. The Confederation issued a promotional video titled *The Green Framework: innovation, initiatives and sustainability* to launch what was called "a regional discussion".

### *Assessment*

The Employment Policy has been developed in parallel with the Government's efforts towards a greener economy and does not as such reflect the country's priorities in terms of sustainable development. It seems there is an apparent lack of coherence and coordination among different ministries, which jeopardizes the advancement of the green economy approach and results on the ground. Nevertheless, progress has been made in supporting practical green jobs initiatives, as outlined above.

The involvement of the Ministry of Labour in PAGE in 2014 and the engagement with the ILO's Green Jobs programme – in particular the Minister's role as the Chairperson at the ILO tripartite Meeting of Experts on Guidelines for a Just Transition in 2015 – has helped build stronger linkages with environmental sustainability after the adoption of the Employment Policy. However, implementation of the action plans around green jobs is still in its early stage. It is expected that the work around skills needs, and the gaps in the offer by training institutions and the private sector, will lead to a broader range of initiatives towards advancing labour market readiness to provide jobs in the green economy. This would also involve other key ministries and the social partners, requiring a more effective coordination mechanism for policy coherence and implementation than has so far been the case.

## Namibia

### *Drivers of green employment policies*

The Green Economy Dialogues, held in 2011, opened the debate around a national approach to green growth and clean development. The Dialogues were responding to an increased awareness regarding sustainable development and climate change in Namibia. There is a fear that the fragile natural resource base may be degraded and over-exploited if Namibia continues its process of industrialization. At the same time, new clean technologies, especially in renewable energy, are attracting more and more interest from consumers.

In 2011, Namibia adopted the National Policy for Climate Change, which established guiding principles for mainstreaming climate change into policies, legal frameworks and development planning. The policy has been fully integrated into Namibia's new Fifth National Development Plan, which includes "A Sustainable Environment" as one of its four pillars.

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<sup>30</sup> ILO: Skills for green jobs Barbados (forthcoming).



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In February 2013, the ILO – in collaboration with the Ministry of Labour and Social Welfare and social partners – launched a one-year technical cooperation programme to support transition to a green economy in Namibia. The main objectives of the programme were i) improved awareness of the green job creation potential of a green economy and ii) improving the management practices of SMEs active in waste management services in the city of Windhoek, especially with regard to occupational health and safety and productivity. As part of this effort the Ministry of Labour and Social Welfare hosted a dedicated green jobs workshop in April 2013, “Unlocking the employment creation potential of the emerging green economy in Namibia”, with support from the ILO and the Embassy of Finland. This was followed by a second workshop in May 2015 on the construction sector, with the participation of the Zambia Green Jobs Programme and a focus on green buildings.

The social partners were actively involved in both events. The Namibian Employers Federation contributed with suggestions to assist enterprises in adopting more resource-efficient ways of working and help them to seize market opportunities in the evolving green economy. They were particularly interested in the tourism and building sectors, following examples from South Africa. The National Union of Namibian Workers emphasized the need to make the skills development system more responsive to changing requirements for workers and to maximize new job opportunities in sectors with growth potential. They also stressed that, were new waste management strategies to be adopted, appropriate measures would be taken to ensure workers’ health and safety.

A green jobs assessment was launched using input–output methodology. The purpose was to estimate the current share of green jobs in total employment and the impact on jobs were a green investment scenario adopted in specific sectors. The study and report are expected to be finalized by the end of 2017.

#### *National Employment Policy and green jobs*

A National Employment Policy was developed over the period 2011–13. It contains a section on green jobs, entitled “Sustainable Development: greening the economy and green jobs”. It states that:

“... in moving towards industrialisation in terms of vision 2030, the greening of the economy becomes eminent. It is therefore imperative to ensure the creation of decent jobs that contribute substantially to preserve or restore environmental quality, including jobs that help to protect ecosystems and biodiversity, reduce energy, material and water consumption through high efficiency strategies. ... In practical terms, green jobs reduce the consumption of energy and raw materials, limit the greenhouse gas emission, minimise waste and pollution, protect and restore ecosystems and adapt to climate change.”

The policy refers to existing policies related to the green economy as well as opportunities for the creation of green jobs across various sectors. It singles out renewable energy, which offers potential for the creation of new local jobs through the establishment of innovative local value chains. Biomass and its conversion into energy will create new jobs and business opportunities in rural areas and at the same time help to clear rangeland. Targeted investments in renewable energy and energy-efficient technologies will be supported by tax and investment incentives. These will help to develop labour-intensive, sustainable, renewable energy enterprises. The policy also refers to waste management as a source of local jobs through increased emphasis on recycling by local authorities and private companies.

The objective and strategy of the green jobs component of the National Employment Policy is “to increase the utilisation of renewable energy from local resources to achieve energy self-sufficiency and create sustainable new jobs”. Several strands for action are proposed: de-bushing, decentralized power plants, low-carbon transport, the promotion and manufacturing of solar heating systems, retrieving biogas from landfill sites and – importantly – capacity building on greening jobs in Namibia.

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The Government has fully adopted tripartism, both in policy formulation and implementation. The National Employment Policy was developed under the auspices of the DWCP 2010–14. A task force including the social partners was established to develop the policy. This task force engaged in extensive dialogue, including with non-governmental organizations (NGOs) such as the Namibian Informal Sector Organization. However, no environmental organizations were included in these discussions. At the adoption of the policy, the task force tasked a tripartite Employment Creation Commission with its implementation. Social partners are assigned to execute certain activities in the implementation plan and can submit proposals for funding consideration.

Initial efforts were made to map existing projects and initiatives relevant for (green) employment creation. The strategy on green jobs was actively disseminated to the regions in order to promote the approach, collect feedback and map current initiatives. In response, the regions submitted many relevant proposals for employment creation. The Ministry of Labour selected the most viable ones, which were subsequently submitted to the Ministry of Trade and Industry and SMEs for action. The latter ministry has built a database of suitable consultants to revise and improve draft project proposals and identify funding sources.

However, these steps towards implementation have not led to successful results for the National Employment Policy. The fact that green jobs are part of the policy does not change its systemic shortcomings with regards to institutional capacities, finance and, possibly, political will for a more proactive, focused implementation strategy. If the green economy were to advance in Namibia and generate decent jobs along the way, this would most likely happen thanks to other policies and programmes. The recently approved projects financed by the Green Climate Fund (GCF) in support of resilient livelihoods through community-based natural resource management are a case in point and have been more effective in sustaining and creating green jobs than the National Employment Policy.

While at the time of signing the DWCP in 2010 there was no reference to environmental challenges, climate change or natural resource management, seven years later the Minister of Labour, Industrial Relations and Employment Creation recognized at the 2017 ILC that “the largest portion of organized Namibian workers are employed in such climate-sensitive sectors as agriculture, livestock production, fishing, tourism etc.” He concurred that “natural disasters ... highlighted the linkages of climate change to poverty, unemployment, and extreme income inequality. The worst drought in recent years is one of the primary causes of Namibia’s recently reported steep increase in unemployment.”

#### *Other initiatives*

The Ministry of Environment and Tourism has set up a dedicated national Environment Investment Fund (EIF) (<http://www.eifnamibia.com>), which has been accredited by the GCF. In June 2017 two new projects were approved by the GCF.<sup>31</sup> As mentioned, the Ministry of Labour developed two concrete proposals for support from the EIF, one on construction and another on agricultural cooperatives, both of which target young people.

In 2016 the Government launched the Harambee Prosperity Plan for 2016–20. The question is to what extent it can become a vehicle to support green jobs, given that environmental sustainability and climate change are not articulated in the plan.

The Ministry of Environment and Tourism is promoting so-called de-bushing programmes, through which invading species are removed from roads and farms, and used for energy generation through biomass conversion. Proposals by the Ministry of Labour, also informed by ILO guidance through training and direct technical support, have taken into

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<sup>31</sup> The Namibian Environment Investment Fund obtained a grant agreement in October 2016, making it the first direct access entity to be supported by the GCF’s readiness programme.

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account the employment effects, as de-bushing is a labour-intensive effort and a tool in public employment programmes. Also, the development of project proposals for the EIF and, more recently, for the GCF, has taken the creation of jobs into account more consistently.

The private sector is taking green initiatives further. One particular area of growth is waste management, with companies such as Rent-a-Drum offering innovative services.<sup>32</sup> Business development in the area of solar panels and solar heating systems has been expanding in recent years, supported by a favourable business environment and improved access to finance.

The Green Building Council of Namibia was established in 2012 to further promote transformation towards a sustainable built environment. As a certification mechanism the council adopted the Green Star SA, which includes a socio-economic standard measuring impact in terms of linkages with local SMEs and the quality of working conditions.

In line with the National Employment Policy, the Government launched a study to identify possible options and linkages to leverage the building of low-cost housing for sustainable employment creation and skills and enterprise development. The study included a dedicated chapter on the use of renewable energy sources in a proposed housing scheme, with a view to enhance long-term benefits for the inhabitants and the country at large. As the housing programme was meant to deliver 185,000 houses, the energy needs for heating, lighting and cooking would be met by renewable energy sources. Energy efficiency and the use of green technologies in the execution of the housing project were also considered. In the long term, the total cost of energy for a house with solar energy would be about a third compared with houses using electricity from the main grid.

Already the Polytechnic Institute of Namibia is preparing teachers at vocational training centres to teach students how to install solar power heaters. By expanding the number of people with knowledge of the installation and repair of solar water heaters, the Institute hopes to improve employability as well as usage of solar energy. Despite this, however, the possible employment gains of using renewable energy were not made explicit in the government study.

#### *Overall assessment*

In principle, the green jobs component of the National Employment Policy is aligned with the Fifth National Development Plan 2017/18–2021/22 adopted in June 2017. In practice, however, the plan does not articulate the linkages between jobs and environmental sustainability, natural resource management and climate change.

In the evolving implementation plan of the National Employment Policy, the selection of priority sectors remains an issue. Although renewable energy has been retained and investments are being made by the private sector, other sectors are also being considered, such as construction and waste management. But a focus on green construction requires a comprehensive strategy of housing policies, certification, SME development, finance and skills upgrading.

The implementation framework related to the green jobs component involves the Ministry of Mines and Energy and the Ministry of Environment and Tourism; the role of the latter is to promote green technologies and jobs, as well as market diversification for new sources of employment. Importantly, the framework also specifies that the implementation of the policy will be financed through the government budget system. Line ministries, state-

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<sup>32</sup> See ILO: Decent work in waste management: A baseline study on the ward contractor system in the city of Windhoek (Pretoria, 2013).

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owned enterprises and other organizations will mainstream employment in their activity-based budgets and work plans. In order to ensure effectiveness, the Ministry of Finance will encourage ministries to make employment creation activities visible in their budget proposals. Furthermore the Government, in collaboration with its development partners, will endeavour to mobilize resources for funding various employment programmes and projects.

Despite these intentions and the parallel initiatives, effective implementation of the policy is far below expectations. Perhaps the comprehensiveness of the framework itself prevents any single actor from taking ownership and operating proactively. As mentioned above, the Ministry of Labour has limited staff capacity and lacks funding. Also, more awareness raising and advocacy is required to convince stakeholders of the potential gains from the transition. The expected results from the green jobs assessment could be instrumental in this respect.

### **2.2.2. Type B countries: adapting to climate change and promoting green jobs**

#### The Philippines

##### *Context*

The Philippines embraced the concept of green jobs at an early stage. The Philippine Development Plan 2011–16 refers to the greening of jobs, viewing it as a strategy for inclusive and sustainable growth. The National Climate Change Action Plan for the period 2011–18 also includes a reference to green jobs as a means to boost climate-smart industries and services.

The Philippines is an active member of the Climate Vulnerable Forum (CVF), which it chaired from October 2015 to October 2016. It played an important role in the adoption of the Manila–Paris Declaration in December 2015, gathering together 30 countries most vulnerable to the impacts of climate change. The Declaration commits to upscaled national climate action to trigger great ambition, and includes a three-year roadmap of activities aimed at enhancing cooperation among and protection for the world’s vulnerable countries.

In March 2016, the country ratified the Paris Climate Agreement. The Philippines submitted its Intended Nationally Determined Contribution (INDC) in October 2015, which intends to reduce greenhouse gas emissions by 70 per cent by 2030, conditional on the extent of financial resources (including technology development and transfer and capacity building) that will be made available to the country. The INDC is now being revisited in the formulation of the Nationally Determined Contribution (NDC), which will pursue mitigation efforts as a function of adaptation – the country’s anchor climate action strategy – while strengthening communities’ resilience against the impacts of climate change. The NDC will define the roadmap on how the country intends to transition towards a greener economy.

In terms of employment policies, the Philippine Labor and Employment Plan 2011–16 proposes the mainstreaming of green jobs through labour market policies.

Most recently, in 2016, a Philippines Green Jobs Act was approved. The Act includes legislation concerning fiscal and non-fiscal incentives for enterprises that generate and sustain green jobs. This includes a special deduction from taxable income equivalent to 50 per cent for skills training and R&D expenses, and tax- and duty-free importation of capital equipment, in addition to incentives already granted under existing policies. It also mandates the Department of Labor and Employment (DOLE) to formulate a National Green Jobs Human Resource Development (HRD) Plan, to (among other aims) provide the skills needed in the transition to a green economy. This includes support to the higher education

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and technical vocational training systems and improved knowledge of the skills requirements of the green economy.

The Green Jobs Act adopts the ILO definition of “green jobs”. It also provides for the DOLE to be included as an additional member of the Climate Change Commission Advisory Board, in order to link labour and employment dimensions in the policy framework with addressing climate change and sustainable development.

Prior to the Act, a green jobs mapping study had been undertaken, with the support of the ILO, to define green jobs and identify existing green jobs and their potential in ten key sectors (agriculture, construction, services, tourism, transport, solid waste and wastewater management, energy, forestry, fisheries and manufacturing). The resulting report, published in 2014,<sup>33</sup> is based on desk research undertaken by the Institute for Global Environmental Strategies (IGES), using available published data from government and non-government sources. It contains both qualitative and quantitative information.

The study developed a conceptual framework for the characterization of green jobs in The Philippines; this included clustering of economic activities and industries, selection of indicators, and a means of assessing the numbers of direct green jobs at the country and local levels. A number of relevant studies<sup>34</sup> preceded and helped enable the mapping exercise. Some highlighted the level of green jobs awareness, potential and readiness in The Philippines, while others focused on the greening of existing industries.

#### *Employment policy*

The DOLE and others have undertaken a range of initiatives related to green jobs since 2011. These include:

- The Green Our DOLE Programme: this offers opportunities for staff to engage in relevant discussion and advocate for green jobs.
- The Green Workplace Advocacy Programme: this creates awareness on green jobs and promulgates the benefits of greening practices in the workplace.
- Green My Enterprise: this was an initiative in 2010 by the National Wages and Productivity Commission for blending environmentally sound practices (resource efficiency, cleaner production, waste reduction and recycling) with productivity promotion efforts. It used training and consulting to help SMEs green their operations, through eco-audits, 5S and other instruments based on the ILO’s Green Business Asia training modules. By 2016 it had reached more than 2,500 enterprises.
- Green research and advocacy: this includes forums, conferences, surveys and publications on climate change, decent work and green jobs through the DOLE’s Institute for Labour Studies.
- The Just Transition Framework: this shapes the DOLE’s policy response and strategy for the transition to green jobs.
- The DOLE Integrated Livelihood and Emergency Employment Programme: this provides displaced populations affected by all kinds of shocks (including natural,

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<sup>33</sup> ILO/IGES: Green jobs mapping study in the Philippines (Bangkok, 2014).

<sup>34</sup> These include: C. Cruz: From jobs to green jobs: A just transition framework, ILS Discussion Paper Series (ILS, Manila, 2009); M.G. Riguer: Assessing green potential and readiness: The case of the construction sector, ILS Discussion Paper Series (ILS, Manila, 2009); A.B. Sibiran-Manalang et al.: Rapid sector scoping for Green Jobs in Asia Project (ILO, Manila, 2011); and R.E. Ofreneo: Green jobs and green skills in a brown Philippine economy (ILO, Manila, 2010).

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economic and man-made) with temporary employment and income support and social protection.

### *Current status*

The DOLE has been leading the groundwork for the implementation of the Green Jobs Act, in coordination with other government agencies, social partners and other stakeholders. A total of 16 departments, authorities and commissions have been assigned specific tasks related to green jobs.

One of the key issues to be addressed is how to identify and certify green jobs for the purpose of monitoring, i.e. assessing their environmental and decent work dimensions. The Climate Change Commission (CCC) has been tasked to lead the development and administration of the assessment and certification guidelines, in consultation with relevant agencies and stakeholders and in alignment with the National Green Jobs HRD Plan. The CCC is the lead policy-making body tasked to coordinate, monitor and evaluate government programmes and ensure mainstreaming of climate change in national, local and sectoral development plans.

The ILO Green Jobs programme has started piloting the ILO *Guidelines for a just transition* in The Philippines. The Just Transition pilot initiative provides support to government, workers and employers' representatives and other key stakeholders in the operationalization of the Green Jobs Act and in managing the structural changes towards pursuing an environmentally sustainable, climate-resilient pathway that creates decent jobs. The initiative takes a capacity-building approach, with a strong social dialogue component to build consensus on the development pathway and bring policy coherence to ensure a just transition.

The Just Transition initiative has a tripartite-plus cooperation mechanism through the Project Advisory Committee (PAC) and the Multipartite Technical Working Group (MTWG), which has been leading the Just Transition interventions and serving as a platform for social dialogue to build strengthened convergence and consensus on the pathways. The PAC and MTWG provide a collaboration platform for a broad range of tripartite-plus partners to support the implementation of the Green Jobs Act and to discuss and jointly address issues concerning the greening of the economy to ensure a just transition.

Support is provided with the following issues:

- the Implementing Rules and Regulations of the Green Jobs Act;
- integration of the promotion of green jobs and the need to address just transition issues in national frameworks and policies, including the 2017–22 Philippine Development Plan (based on the Sustainable Development Agenda), the National Livelihood Agenda and the NDC, to provide a stronger anchor for the pursuit of green jobs creation and to ensure coherence;
- the National Green Jobs HRD Plan, including analysis of Skills for Green Jobs policies and strategies at all levels, which will inform the Green Jobs HRD Plan as well as education and skills development policies and programmes in the country;
- policy analysis and employment projections on green jobs, including work by the government think tank the Philippine Institute for Development Studies. This is building the capacity of the tripartite constituents to develop and apply the employment projections model, in order to understand and anticipate the impact of greening on the labour market and identify response measures. It will serve as an important input to the Green Jobs HRD Plan;

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- the work of the Philippine Statistics Authority (PSA) in piloting the Green Jobs Survey questionnaires, using the 19th ICLS statistical guidelines as the basis for national scale-up and to help enable the PSA, together with the DOLE, to establish a database for green careers, professions and skills, as well as a list of emerging business enterprises which are generating and sustaining green jobs;
  - the Green Skills Development Strategic Plan of the Technical Education and Skills Development Authority (TESDA) and the establishment of a pool of trainers to roll out the ILO's Green Business training programme, comprising Start and Improve Your Business trainers and business development support service providers from both government and academia.

The DOLE convened an inter-agency Technical Working Group, composed of government agencies identified with technical assistance from the ILO, primarily to lead the formulation of the Implementing Rules and Regulations for the Act. The Implementing Rules and Regulations were issued by the DOLE Secretary in September 2017. They stipulate how government agencies should fully deliver their respective mandates under the law.

The DOLE has embarked on the development of the Green Jobs HRD Plan. This will include programmes, projects and activities pertaining to basic, higher and technical vocational education and training, a database that identifies and links green job opportunities with private and public entities, and information on the knowledge and skills requirements of a green economy. It intends to cover a range of sectors, in accordance with priorities identified in the NDC, the Philippine Development Plan and the Employment and Livelihood Blueprint.

The Green Jobs HRD Plan is structured in line with the policy components of the ILO Just Transition policy guidelines. It mandates the National Economic and Development Authority to mainstream green job issues in national development plans. This includes the promotion of job-rich sustainable tourism, the greening of public transport infrastructure and services, and green building practices. The Act tasks a range of relevant departments (as ministries are called in The Philippines) to integrate a green economy perspective in their plans and operations, including those dealing with basic education, higher education, skills analysis, recognition and training.

The DOLE plans to develop a database with information on green careers, professions, skills and emerging business enterprises offering green jobs. This will be instrumental for inspecting and certifying enterprises that are eligible for the fiscal incentives and other support prescribed in the Green Jobs Act. The Department of Environment and Natural Resource will strengthen the climate change information and management system with a view to integrating green jobs in its strategies and implementation.

At the subnational level, the Just Transition Framework is used in support of improving the performance of the mining sector, particularly in compliance with environmental, labour and health and safety standards, and in repositioning a key mining region in anticipation of mine closures, while optimizing the region's growth potential. The framework is now being used by the Government as a basis for policy discussions with various stakeholders. Proposed interventions are also being piloted in the Caraga region, the mining capital of the country.

Local government units are promoting green jobs in multiple ways, for example around waste management and construction. In the wake of the Haiyan typhoon in November 2013, social protection was expanded in the rehabilitation of destroyed buildings – an example of ensuring that jobs related to adaptation to climate change are also decent.

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## *Assessment*

The Philippines' early adoption, in 2009, and rapid advancement of the concept of green jobs is remarkable. At the ILC in Geneva in June 2017, the Government voiced its support clearly: "In this Conference, our collective resolve to prevent, mitigate, and adapt to climate change is resoundingly stronger. We cannot afford to adopt a 'business as usual' attitude because the intensifying climate change continues to adversely transform the economic landscape and the labour market itself, particularly affecting labour productivity, working conditions, and occupational safety and health."

The Philippines Green Jobs Act is a pioneering approach in institutionalizing labour and employment dimensions in the policy framework to address climate change and sustainable development issues. It also provides an anchor for the ILO's future support in advancing the Sustainable Development Agenda and the Paris Agreement, and in mainstreaming a just transition towards environmental sustainability in The Philippines. It could serve as a basis for other ILO member States.

The country has adopted a mainstreaming approach, while actively promoting green jobs through targeted fiscal incentives and capacity building. The intended HRD Plan recognizes the structural changes and identifies response measures to take advantage of opportunities and minimize risks resulting from the transition. If successful, it will accelerate the advancement of green businesses through a better prepared labour force.

There is a growing understanding and engagement among key stakeholders, including in the private sector, with the growth of greener enterprises (across sectors, especially in renewable energy, agriculture, tourism and waste management, including social enterprises), also triggered by climate change impacts. Yet there is a need to further invest in capacity building both for enterprises and workers. Another important issue to address is better access to local and international green financing facilities.

There is clearly strong and continued support for green jobs by the Government. In the private sector and among civil society organizations there is a growing sense of the employment benefits of greening. The Act, once implemented in full, would reinforce and expand the drive for green jobs.

But the Act requires stronger convergence among government agencies at national and subnational levels, as well as policy coherence – which remains a challenge. It will also require equipping officials with the skills to enable them to effectively implement their respective greening mandates. Successful implementation of the Act is also contingent on the effective implementation of all other existing policies, especially the Renewable Energy Act, the Solid Waste Management Act, the Organic Agriculture Act and other environmental policies.

Capacity needs to be built across all agencies, going beyond traditional ILO partners. There has been increasing demand for the ILO to support government agencies, such as the Climate Change Commission, TESDA and the Department of Education.

The factors leading to this comparatively successful adoption of green jobs are many, with the most important ones being:

1. high-level political recognition of and strong popular concern about the threats and opportunities of climate change and its implications for the world of work;
2. strong research and policy advisory capacity within the Department of Labour, with pivotal reports and public events on the concept and proliferation of green jobs;



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3. sustained inclusive social dialogue and tripartite consensus on the promotion of green enterprise, green jobs and a just transition;
  4. consistent, long-term support by ILO specialists and experts with various expertise, such as employment, local resource-based infrastructure, skills development and green business, combined with dedicated full-time national staff and effective managerial support by the ILO Office Director. Yet stronger integration across country objectives and support by ILO offices and specialists is warranted, including for resource mobilization;
  5. continued capacity development of multiple stakeholders through the Just Transition initiative and the ITC in Turin.

Despite this progress, full implementation of the Philippine Green Jobs Act and the adoption of the Just Transition Framework in other sectors, policy areas and at all levels of government would require a long-term support programme.

### **2.2.3. Type C countries: addressing the employment transition**

#### China

##### *Context*

With 5.8 million jobs, the mining and processing of coal is one of the largest industries in China. To this should be added a large share of employment in power and heat utilities (3 million jobs in total), which are heavily dependent on coal-fired plants. Jobs in coal are clustered around mines and unevenly spread across the country. Depending on scenarios on the future use of coal as a source of energy, given the global energy transition, technological and productivity changes alone will cause employment in coal to shrink to 1.6 million by 2050. If the national commitments of China to the Paris Agreement are fully implemented, 720,000 more jobs will be lost.<sup>35</sup>

The sheer size of this transition poses very significant challenges to the labour market. This is compounded by the low skill levels of workers, the lopsided structure of resource-dependent local economies and the challenges of integrating laid-off workers elsewhere. Half of all miners are over 45 years old and six out of ten only have education up to junior middle school level or below.<sup>36</sup>

Fortunately a number of people can be redeployed in growth sectors related to solar and wind power. The Chinese Academy of Social Sciences estimates this number at 413,000. More importantly, 3.5 million jobs can be created in the broader economy by 2050.<sup>37</sup>

Clearly, the Government will need to design and implement measures to create employment opportunities and enhance skill levels in regions most affected by the demise of coal. Such policies need to be in line and timed with other measures of industrial policy and regional development, requiring high levels of coordination and coherence.

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<sup>35</sup> *Managing the political economy frictions of closing coal in China*, University of Oxford Smith School of Enterprise and the Environment Discussion Paper (Oxford, 2017).

<sup>36</sup> See: <https://www.globalresearch.ca/chinas-cutback-in-coal-mining-2-3-million-new-jobs-required-by-2020/5607799>

<sup>37</sup> *Ibid.*

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### *Government measures*

In 2016 the Chinese Government ordered the closure of a series of coalmines, metallurgic industries and electricity companies to address industrial overcapacity and achieve reduction targets for CO<sub>2</sub> emissions. As a result, at least 1.8 million workers directly employed in those industries lost their jobs, with further negative effects on the surrounding local economies.

At national level the Government designed a package of accompanying measures. These included:

- active labour market policies: re-employment training subsidies, “start your business” subsidies, PES, job fairs;
- passive labour market policies/social protection: early “internal” retirement for workers less than five years away from their retirement age, while enterprises remain responsible for “subsistence” during those years of bridging;
- social protection, medical and pension benefits for employees of disappearing enterprises (often through going bankrupt);
- public employment projects to support finding re-employment.

In addition, the Government induced enterprises themselves to take responsibility by obliging them to absorb laid-off workers, using new technologies and focusing on the service sector. For this effort enterprises received preferential treatment in the form of tax incentives. Enterprise-based HRD departments should undertake active labour market mediation, for example by helping individuals to start their own enterprises while keeping their formal labour relationship with the firm for some time, presumably to provide a certain level of job security to start-up entrepreneurs in case their venture fails. These firms receive a subsidy for helping the start-ups.

The national government budget for these efforts stood at 100 billion yuan (CNY) (€1.3 billion) in June 2017, to which funding from provincial governments was added. A total of 726,000 workers in 2,000 enterprises in 28 provinces have been re-employed or assisted in other ways since the measures came into force in 2016. Good examples of where a re-employment plan was discussed and agreed before termination of employment are the iron and steel industries in Wuhan in Hebei province, and the steel industry in Hangzhou in Zhejiang province.<sup>38</sup>

### *Employment policy*

In April 2017 the Government issued a new State Council policy on “the promotion of employment and entrepreneurship”. This document addresses the wider challenges in the labour market, not just those related to coalmining and energy production. It states that the Government will make employment a top national priority and will implement a strategy “to make the employment transformation in the process of economic transition, and vice versa to facilitate economic transition by employment transformation”. This testifies not only to the recognition of the centrality of employment but also to its intricate relationship with economic and industrial policy.

The new policy refers to green jobs in relation to the integration of employment in the upgrading of the industrial structure and regional development. This includes sectoral strategies to create more employment opportunities in emerging industries and promoting

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<sup>38</sup> Cited from an interview with the Chinese delegation to the 2017 ILC.

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green reform of traditional industries. It intends to enable state-owned enterprises to become leaner and healthier.

The policy also aims at easing employment pressure in key difficulty-stricken areas and assisting workers in remote, resource-exhausted and uninhabitable independent mining areas to find employment in other regions. It calls for employment assistance across ministries and labour institutions in areas and sectors where overcapacity and excess inventory will be cut, recognizing the large number of employees to be reassigned and the associated high risks of unemployment.

The policy specifically addresses the reallocation of laid-off workers from enterprises with excess capacity in the steel, coal and electric power sectors. It encourages enterprises to reallocate laid-off workers through various channels.

The following mix of passive and active labour market provisions is proposed:

- support enterprises to explore the potential of internal settlement;
- lower the threshold and increase the standard of employment stability subsidies for enterprises that did not lay off workers or laid off fewer workers;
- promote resettlement and entrepreneurship for laid-off workers;
- provide supportive policies to enterprises that absorb laid-off workers;
- give higher priority to set up incubation centres and implement entrepreneurship programmes for laid-off workers who wish to start their own businesses;
- offer personal income tax advantages for the one-time compensation income for workers with terminated labour contracts during this round of overcapacity reductions in the steel, coal and electric power sectors.

The target of these employment and entrepreneurship measures should be qualified laid-off workers from enterprises that cut overcapacity. Disadvantaged workers facing difficulties with re-employment will be given priority to be placed in public service vacancies.

The policy adds that efforts should be made to actively and appropriately settle labour disputes by law.

### *Assessment*

The scale, intensity and pace of the restructuring in China of highly emitting industries with overcapacity are unmatched. The measures put in place to cushion the employment losses and encourage mobility and redeployment seem somehow commensurate, at least in design. The package to address the immediate employment crisis due to the sudden closure of mines and steel factories in 2016 has since been integrated in a more long-term policy commitment to promote employment and entrepreneurship across a range of sectors.

In the new policy, the specific passive and active labour market provisions formulated in response to the restructuring are comprehensive and should go some way to address the huge employment challenge. However, to date little is known about the effective implementation of the provisions and their achievements, other than reports in newspapers and on social media which testify to the sobering reality faced by many of the former workers in the coalmines and related industries.<sup>39</sup>

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<sup>39</sup> See, for example: <https://www.chinadialogue.net/>

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## 2.3. Conclusions

The four country case studies illustrate varying national contexts and different policy drivers. This makes a comparison between them methodologically complex. China is particularly unique in terms of the size of the employment challenge, the functioning of the state and the role of society actors.

Yet given this diversity, the case studies demonstrate a number of features that have contributed to embedding environmental sustainability in employment strategies.

These contributing elements are:

1. an assessment of the anticipated employment effects of climate change and/or related policies;
2. involvement of the social partners in dialogue and joint planning throughout the process;
3. articulation of a clear business perspective as well as a dimension of job security and/or creation;
4. sustained, customized capacity building on the concepts, strategies and tools for green jobs policies;
5. support (and direction) from strong high-level political leadership.

Given that the initiatives are all fairly recent, it seems too early to draw conclusions on best practices while the outputs and results of the policies are still being generated. Also, attribution may be particularly difficult, as many other actors on climate change and the green economy are active in the four reviewed countries. Moreover, measurement of the effects of any employment policy is complicated, as a clear model of change and related intervention model are often absent from the policy design. Indeed, most of the countries are still to fully implement their policy measures.



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### **3. Towards mainstreaming green jobs into national employment policies**

Building on the country experience covered in the previous section, this section addresses three important areas for effectively mainstreaming green jobs into national employment policies. First, it discusses how to enhance policy coherence between climate-related and employment policies. Second, it suggests practical ways of integrating the environmental dimension at each stage of the policy process. Third, it shows how social dialogue can be a very powerful tool to enable enhanced policy coherence and mainstreaming.

#### **3.1. Ensuring policy coherence between employment and sustainable development policies**

All policies addressing climate change and green growth<sup>40</sup> have an impact both on the size and structure of the labour market. For example, investment promotion and fiscal incentives for expanding the renewable energy sector will certainly raise the demand for jobs and the skill levels required for those jobs. Also, industrial development policies that focus on cleaner production and resource efficiency will change the qualifications needed by operators and workers in the manufacturing and service sectors, thereby affecting the employability of the current labour force. Government green procurement policies, often representing a substantial share of national economies, have a strong effect on the adjustment of firms and their competitive advantage, frequently requiring different skill sets or creating entirely new jobs.

Clearly, strong coherence among different policies is pivotal to achieving the policy goals of full, productive employment and a low-emission, climate-resilient economy. But this is neither automatic nor self-evident. There are potential or real conflicts between specific policies, for example in cases where unemployment is high in regions with environmentally harmful industries, or where the choice is between nurturing a home-grown SME sector for renewable energy expansion versus unconditional openness in the trade of photovoltaic panels. Synergies can also be brought out between, for example, skills development and job creation by investing in retrofitting old buildings for higher energy efficiency.

In the design and implementation of employment policies, a coherence “stress test” could be carried out analysing the risks and opportunities for aligning with environmental policies at three levels: i) objectives, ii) instruments and iii) implementation practices. This will help to identify pressure points where conflicts may arise and a compromise will have to be negotiated. Experiences with introducing a carbon tax or reducing fuel subsidies in recent years provide useful insights in this respect.<sup>41</sup> Increasingly, the Sustainable Development Goals (SDGs) are informing the design of national strategic frameworks, taking into account the Nationally Determined Commitments to reduce emissions in line

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<sup>40</sup> Such policies have been laid out in several publications of the World Bank, OECD, GGGI and UN Environment (including PAGE), among others. Many of these publications provide global coverage, although most of the best practice and guidance is implicitly derived from experience in industrialized and emerging economies. The Green Growth Knowledge Portal provides an excellent entry point to identify and review these reports.

<sup>41</sup> See, for example, OECD/International Energy Agency: Fossil fuel subsidy reform in Indonesia and Mexico (Paris, 2016).

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with the Paris Climate Agreement. This should be the main reference point for aligning separate policies, such as those on employment.

Strong coherence is also needed between national policies and local implementation agencies. Robust operational linkages should be built between, for example, local employment agencies, vocational training institutions and enterprise promotion centres. These are often better informed about challenges and opportunities related to green jobs. Moreover, given different economic and environmental contexts, low-carbon development strategies are often shaped at the local level. Sectoral strategies also have a strong geographical dimension, such as those related to extractive industries, tourism or municipal waste management. The articulation of the employment and social dimensions in such strategies and action plans is critical. Coordination mechanisms for national employment policies should therefore include representatives of local government institutions.

The review of 13 national employment policies in section 2 showed that all include a sector focus, recognizing the specific challenges and opportunities in each sector. The references and links made to other policies (macroeconomic, trade, education) point to the realization among policy-makers of the need to create synergies with other initiatives.

In spite of this realization and the growing body of knowledge on the intricate links between the environment and jobs,<sup>42</sup> national governments are yet to embark on deeper reflection and shape policies that address the environmental and social challenges simultaneously and effectively. Admittedly, this is a complicated issue which adds to the already demanding mandate and pressing challenges of ministries in charge of employment. Policy coordination and coherence are central to this effort. The starting point, in many instances, is the commitment of governments to reduce greenhouse gas emissions following the Paris Climate Agreement in 2015. Ministries of labour and the social partners can use the follow-up and implementation of the Agreement as an opportunity to argue for responsive employment policies that ensure a just transition.

Ministries of environment increasingly integrate employment dimensions in their policies. For example, the new Ministry of Environment, Green Economy and Climate Change in Burkina Faso includes a Directorate for Green Entrepreneurship and Investment. In Senegal, a National Strategy for Green Jobs was formulated in 2015 at the initiative of the Ministry of Environment, and is currently being integrated in the new National Employment Policy.

When governments develop policies and strategies for green growth (or low-carbon development), citizens should advocate for the inclusion of measures promoting employment in those strategies. Also, governments should develop responsive measures that facilitate the adjustment of the labour market and the opportunities for decent work in the transition.

A technical paper<sup>43</sup> developed as a key input to the UNFCCC Task Force for a Just Transition for the Workforce in 2016 recommends the following steps/actions when

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<sup>42</sup> The related ILO publications on sustainable development, decent work and green jobs have pointed out the labour implications of climate change and policies towards adaptation and mitigation, as discussed in section 1. The ILO's World Employment and Social Outlook 2018 brings together up-to-date results from modelling scenarios of ambitious emission reduction strategies, as well as summarizing the findings of new research on the impact of a deteriorating working environment on labour productivity, the needs and gaps in skills for the green economy, and other issues.

<sup>43</sup> UNFCCC: Just transition of the workforce, and the creation of decent work and quality jobs (Bonn, 2016).

designing implementation measures following a national commitment to reduce emissions (or when adopting green growth-oriented policies more generally):

1. integrate provisions for a just transition into the design of green growth policy and low-carbon development strategies;
2. involve the ministry in charge of employment in the agenda of the green growth policy design. During this involvement, simply assigning the task of workforce transition to that ministry should be avoided;
3. promote close collaboration both during the design phase and throughout the implementation phase between relevant national ministries, including ministries of economic planning and finance, with a view to finding the best solutions for workers affected;
4. establish and strengthen the institutional and technical capacity of subnational authorities at the regional and local levels to guide the transition of the workforce, and address the necessary changes in regional economies;
5. establish or strengthen availability of and access to basic labour market data.

Building effective policies and strong coherence rests on empirical data about the effects of environmental policies and regulations on employment. This is particularly relevant when introducing measures to create or regulate markets for environmentally friendly goods and services in specific sectors such as renewable energy, recycling or sustainable agriculture. See box 2 for an example from the agricultural sector.

#### **Box 2. Understanding and managing the employment effects of food labelling**

One policy tool used to green the agricultural sector is labelling. A study described in the report *Managing the impact of mitigation policies* reviewed various carbon labelling efforts, including cocoa labelling in Ghana (the Rainforest Alliance, UTZ, organic and FAIRTRADE labels) and palm oil production with the label Roundtable for Sustainable Palm Oil (RSPO). All these labelling efforts were put in place with the clear objective to address climate change. The study assessed the labels as climate mitigation tools, in terms of their impact on the three dimensions of sustainable development: i) economic, ii) social and iii) environmental.

The study found that cocoa labelling in Ghana has had unintended economic impacts by favouring large cocoa producers at the expense of small producers. On the other hand, smallholders have increasingly started selling cocoa via cooperatives, which has generated positive economic impacts by providing producers with better access to credit as well as an increase in income. An important economic impact has been increased productivity, which is the result of compulsory producer training in good agricultural practices. Increased productivity actually tends to be more significant than price premiums for increasing incomes.

Palm oil is a particularly labour-intensive crop. It creates more jobs than its closest substitutes (soybean oil and rapeseed oil). Therefore maintenance of market share for palm oil, which is linked to RSPO certification, has contributed in a positive manner to improved livelihoods and poverty alleviation. On the other hand, the possible decrease in food security has had a potentially negative social impact on rural livelihoods.

The study also found that RSPO production has contributed to improvements in quality and productivity, as producers are forced to implement good practices in production, harvesting, handling and management. On the other hand, the RSPO can favour large producers at the expense of SMEs, which tend to need training and capacity building in order to understand and comply with standards.

The key finding most relevant for this report is that effective flanking measures were put in place to mitigate the negative impacts of the food labels studied. In Ghana, the negative economic impacts of cocoa labelling on small producers were addressed with intensive training and capacity building. In the case of RSPO labelling, a support fund was put in place in 2013, recognizing the special challenges faced by smallholders (defined as those with 50 hectares or less) in the palm oil sector at the international level.

As it is impossible to mitigate the negative impacts of climate-related food labels if those impacts are not known, stakeholders should be involved in dialogue from the start of the certification process through to its implementation and evaluation.

Source: CEPS: *Managing the impact of mitigation policies*, 2015.



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### 3.2. Mainstreaming environmental sustainability in employment policies

As shown in the score card in section 2, a comprehensive policy approach includes components that steer the demand for labour, such as macroeconomic and trade policies, sectoral policies, trade and private sector promotion, and public employment schemes. It also includes policies that change the supply of labour in terms of quantity and quality, and the conditions under which workers take up jobs. This encompasses education, skills development and training, labour mobility promotion and a range of active labour market measures.

Both these sets of policies, strategies and measures are governed by labour market institutions, such as public and private employment agencies, bodies in charge of labour protection, and employers' and workers' organizations engaged in social dialogue.

A national employment policy spans, in principle, the entire spectrum of these policies and their relevant institutions and actors. The scope, content and balance between the three blocks will differ from country to country.

Employment policies that include an objective to contribute to the transformation to low-carbon, environmentally sustainable economies and societies are essentially no different from any others. However, as explained in the previous sections, the need for policy coherence and good institutional coordination is even stronger in this transition, due to the complexity of and inter-linkages among policies addressing climate change and striving towards economic, social and environmental sustainability.<sup>44</sup>

An example of a proposed policy framework that purposely links green growth with employment is given in box 3 below, demonstrating the attempts in this respect by the European Union (EU).

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<sup>44</sup> This is most clearly stated in ILO: Sustainable development, decent work and green jobs, Report of the Committee on Sustainable Development, Decent Work and Green Jobs, ILC, 102nd Session, Geneva, 2013.

### **Box 3. An integrated policy framework for green employment: the example of the EU**

In the EU, only a few Member States link policies for green growth to employment promotion. To promote a more combined approach, in 2014 the European Commission developed an integrated framework for employment policies in the transition to a green economy. It lays out targeted policy responses and tools to help make labour market and skills development policies conducive to job creation in the green economy. The main features of the framework are:

#### **1. Bridging skills gaps:**

- Fostering skills development, meeting skills demands in growing eco-industries, up-skilling across all sectors and re-skilling in vulnerable sectors.
- Aligning sectoral training standards in vocational education and training with labour market needs, including through close involvement of the social partners to design and review training programmes, qualifications and accreditation systems.
- Improving forecasting of skills needs across sectors and industries.

#### **2. Securing transition:**

- Anticipating change and managing restructuring, building on sectoral initiatives.
- Adapting labour market institutions through PES focusing on green employment strategies and programmes.
- Promoting occupational mobility, as well as mobility of jobseekers, including through competence-based job matching.

#### **3. Supporting job creation:**

- Improving access to and use of existing funding opportunities.
- Shifting taxes away from labour towards polluting economic activities.
- Promoting green public procurement, assisted by regulations on certification and life-cycle costing approaches, and supported by capacity building for public sector managers and private sector enterprises.
- Promoting entrepreneurship and social enterprises in expanding green sectors, accompanied by a dedicated Green Action Plan for SMEs with green skills upgrading of the workforce.

#### **4. Improving data collection and quality:**

- Harmonizing statistics for more evidence-based policy-making and monitoring.
- Anticipating employment implications and transitional adjustments, including changing skills needs.

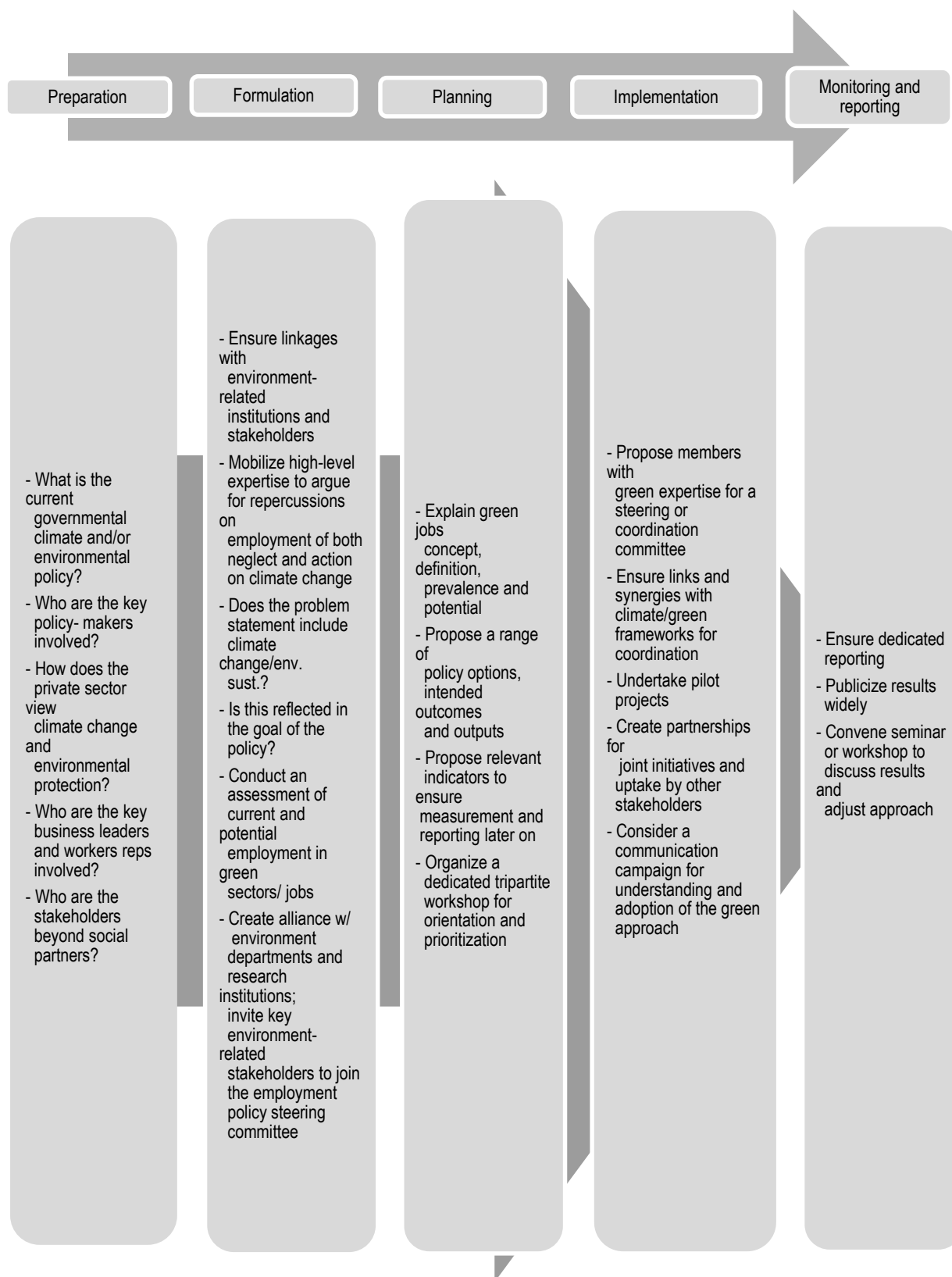
#### **5. Promoting social dialogue:**

- Encouraging social partners to develop joint activities at cross-industry and sectoral levels.
- Ensuring workers' participation in environmental management, more efficient use of energy and resources, and the identification of new risks at the workplace.
- Enhancing workers' rights to information and consultation, including for the development of sector-wide resource-efficiency roadmaps.

Source: EU: Green Employment Initiative, 2014.

The ILO's approach to supporting national employment policies is also based on a comprehensive framework. The inclusion of measures towards environmental sustainability needs to be considered at all stages of the policy process – from diagnosis and analysis, to design and formulation, to implementation and monitoring.

**Figure 4. Suggestions for mainstreaming throughout the employment policy process**



Source: Author's own elaboration.

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### **3.2.1. Diagnosis of challenges, binding constraints and potential employment impacts of different sectoral**

*Situational analysis: studying the implications of green policies for the various dimensions of employment*

Labour force statistics can be a useful source to measure employment in environmental goods and services, as well as jobs related to environmental management. The work of the ILO on piloting an agreed statistical definition of green jobs, described in section 2, represents a valuable contribution to enabling countries to include green jobs assessment in standard labour market analysis. Improved ability to collect and grasp such data will help the diagnosis and review of existing socio-economic policies to inform the design of national employment policies. This analysis should also include climate change initiatives and environmental policies from an employment perspective. The purpose is to make sure that these maximize the employment potential and address the negative repercussions of ambitious climate action on the labour market. These efforts should be informed by quantitative and qualitative assessments of different mitigation scenarios, providing insights on how many jobs are at stake, as well as who the people and livelihoods affected are (see box 4 for an example from the USA). The employment assessments will generally shed light on the more promising green sectors in the context of climate change adaptation strategies and green growth potential. This should then inform the most appropriate employment policies to accompany these adaptation and green growth scenarios.

#### **Box 4. Costing and financing a just transition in the USA**

The Political Economy Research Institute (PERI) estimated the costs involved to support a just transition for workers and communities that are currently dependent on domestic fossil fuel production. Essentially, it calculated the budget needed for i) income, retraining and relocation support for workers facing retrenchment, ii) guaranteeing the pensions of workers in the affected industries and iii) setting up effective transition programmes in affected communities.

Forecasting a downsizing of the US fossil fuel industry in line with the CO<sub>2</sub> emissions reduction targets set by the Intergovernmental Panel on Climate Change, the impact on the supply chain and downstream energy production was calculated. Total estimated employment in the coal, gas and ancillary industries amounts to about 750,000 people. In the adopted emission reduction scenarios about 450,000 jobs would be at stake. Of these, the far greatest number, 83 per cent, are held by workers who could retire in the projected period. The remaining 17 per cent of workers would have to be redeployed in renewable energy or other sectors. Together with funding for the pension provisions of retired workers and long-term and transitional support for affected local economies and communities, the total cost would be US\$600 million per year.

Source: PERI, 2016.

#### Undertaking prior quantitative analysis of the employment effects of a change in effective demand for greener goods and services.

Employment projection models are useful tools to assess the likely losses and gains in employment if a given increase in sectoral demand occurs (or is stimulated through targeted investments).<sup>45</sup>

The ILO has developed an approach using dynamic social accounting modelling based on the input–output tables of national economies. This involves close interaction of national stakeholders, especially to differentiate the most environmentally friendly economic activities from others and to determine what are the jobs linked to climate change adaptation.

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<sup>45</sup> ILO: Employment impact assessments: A review of methodologies. STRENGTHEN Publication Series No. 3 (Geneva, 2017).

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However, staff in key ministries do not always have a full understanding of how employment projection models work and what they predict under particular circumstances. Therefore dedicated workshops should be organized, preferably with the statistical office and other relevant actors for economic planning, so that ILO constituents acquire the knowledge and confidence to argue for the mainstreaming of environmental issues in employment policies. Such training is particularly relevant in the context of the Nationally Determined Commitments to reduce emissions and their implications for sectoral policies that, in turn, affect employment. The ILO has successfully enhanced this capacity in countries like The Philippines (as documented in section 3), Indonesia, Tunisia and Zambia, among others. GAIN (see box 5 below) is a useful instrument in this respect, to pool technical resources and expand outreach.

**Box 5. GAIN**

In undertaking national green jobs assessments over the years, the ILO has created the Green jobs Assessments Institutions Network (GAIN), composed of professionals applying an analytical approach and providing mutual support. A comprehensive training manual was validated in December 2017, which includes useful guidance for explaining why and how this approach can be instrumental in shaping effective national policies.

The methodology is described in detail in a handbook published by the Green Jobs programme, while the merits and disadvantages are discussed in a green jobs policy paper. The handbook also contains a full chapter on explaining the rationale for undertaking a green jobs assessment and how to use its results for policy-making.

Source: ILO/GAIN: How to measure and model social and employment outcomes of climate and sustainable development policies (Geneva, 2017); see also Skills for green jobs, 2015 ([www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---ifp\\_skills/documents/genericdocument/wcms\\_461268.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/genericdocument/wcms_461268.pdf)).

### Skills assessment tools

The ILO has done considerable work on assessing skills needs in the greener economy. This analysis is meant to inform training policies to close the gap between the skills demanded in the labour market and current skills development instruments and facilities. There are short-term skills shortages that can often be dealt with by modifying existing curricula in vocational training institutions. But employment policies that take a longer view should consider the mid- and long-term changes expected from the key drivers mentioned in section 1, in particular green technology and green investment. A proactive approach should be developed so that education and training systems also become drivers of sustainability in its own right. The assessments, methodology and country studies, as well as the policy guidance derived from them, have been brought together in the Skills for Green Jobs package of publications and tools.<sup>46</sup>

### Taking the opportunity to link to other diagnostic work

The opportunity to undertake a relevant diagnosis is sometimes provided in the framework of broader initiatives to address climate change or to support the green economy. The CVF, an international group of countries most affected by changing weather patterns, prolonged droughts and intense rainfall, produces standard assessments. These do not necessarily refer directly to jobs, but focus on the impact of climate change on livelihoods, in particular as a result of disasters. Using the assessments to articulate an employment diagnosis can shed light on the need for, and improve, the value and effectiveness of public employment programmes, disaster preparedness and post-crisis rebuilding efforts.

Another context is provided by the expanding initiative PAGE, a joint programme of UNEP, the ILO, the United Nations Development Programme (UNDP), the United Nations

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<sup>46</sup> See: [http://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---ifp\\_skills/documents/genericdocument/wcms\\_461268.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/genericdocument/wcms_461268.pdf)

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Industrial Development Organization and the United Nations Institute for Training and Research. Now active in over 12 countries, PAGE normally begins its country engagement with a comprehensive assessment of the status, potential and constraints for advancing an inclusive green economy. In most cases an employment assessment forms part of the exercise, such as in Peru, Mongolia, South Africa and Senegal. The availability of funding, though modest, represents a useful opportunity for an ILO contribution, and PAGE also provides for unique visibility and political leverage through its high-level engagement with a range of ministries.

### **3.2.2. Strategic planning – choosing policy options and identifying specific measures**

The ILO Guidelines for a just transition to environmentally sustainable economies and societies put forward specific recommendations across nine policy areas, as agreed by a tripartite group of experts, to analyse and address the challenges of the green transition. The aim of the guidelines is to help governments and social partners to shape and implement effective policies that ensure decent work opportunities for all in the transition.

The ILO has produced dedicated policy briefs on specific areas of the guidelines, including labour market policies, social protection, indigenous peoples, migration and public employment programmes.

For more details, see:

[http://www.ilo.org/wcmsp5/groups/public/@ed\\_emp/@emp\\_ent/documents/publication/wcms\\_432859.pdf](http://www.ilo.org/wcmsp5/groups/public/@ed_emp/@emp_ent/documents/publication/wcms_432859.pdf)

#### *Demand-side policies and measures*

##### Macroeconomic policies

Tax reform is the most common tool used by governments to promote greening (see box 6 for an example from Canada). There are a number of ways governments can increase the cost of pollution, emissions or natural resource degradation. The critical issue for employment policies is to link the increase in tax revenues to lower tax and social charges for labour. Also, governments can opt to redistribute such gains to offset adverse effects on households or particular groups in the labour market, as illustrated in the case of China in section 2. The reform of taxation or the pricing of emission permits are primarily instruments for environmental policy, but ILO constituents should advocate for making the revenues and changing behaviour of firms a source of job creation and social protection.

#### **Box 6. British Columbia's carbon tax**

In July 2008, British Columbia implemented a carbon tax that was levied on almost all sources of carbon emissions (including gasoline, natural gas, coal, propane and home heating fuel) and covered all industries and residents.

The tax was designed to be revenue-neutral, meaning that the entire revenue was returned to reduce personal and corporate income taxes and used to reduce the burden on low-income households through direct transfers. Such specifically targeted revenue recycling to low-income households has reduced any regressive effects of the tax.

The most recent findings show that, in terms of environmental improvements, the tax has been fairly successful. It has also led to an increase in employment, with about 10,000 extra jobs per year created between 2007 and 2013 – an overall 4.5 per cent increase over the six-year period. However, the impact of the policy on employment differs across sectors. The most polluting and trade-exposed sectors (e.g. energy generation, metal manufacturing and chemical manufacturing) have experienced a decline in employment, while “clean” and service-oriented industries have experienced an increase in employment.

Source: revised from OECD: Investing in climate, investing in growth (Paris, 2017).

The case study in section 2 on the adoption and implementation of a Green Jobs Act in The Philippines illustrates how governments can design measures that lower the non-wage

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cost of labour (taxes, levies, social charges) with the aim of inducing enterprises to hire workers.

### Financial policies

The availability of adequate finance for private investment, loans and guarantees is an essential condition for advancing the transition to a low-carbon economy. Employment policies need to take into consideration the conditions under which firms, in particular SMEs, can access credit and financial services.

There has been a considerable increase in recent years in efforts among multilateral development banks (e.g. the World Bank, Asian Development Bank, African Development Bank and European Bank for Reconstruction and Development) to support clean energy investments, green technologies and resource-efficient industrial adjustments. Development banks are using lending products, co-financing, technical assistance, grants and non-lending products and services to support the transition in developing member countries. The GCF, set up in 2013 in the framework of the UNFCCC, is becoming an important conduit for small- and medium-sized grants with technical assistance to green investment initiatives. The ILO is working towards partnering with entities accredited to the GCF. Eventually this could become a source of finance for the ILO's support in the field of employment in the green economy.

South Africa has established a range of financial instruments to assist the private sector in adopting new technologies and investing in green markets.<sup>47</sup> The ILO has provided capacity-building support on green jobs to one of the facilities set up by the Development Bank of South Africa, the Green Fund (see box 7).

**Box 7. South Africa's Green Fund – supporting catalytic investments for greening the South African economy**

The Development Bank of Southern Africa (DBSA) established the Green Fund in 2012. It aimed to:

- promote innovative and high-impact green programmes and projects;
- reinforce climate and sustainable development policy objectives through green interventions;
- build an evidence base for the expansion of the green economy;
- attract additional resources to support South Africa's development of a green economy.

Applications to the Green Fund are evaluated on four principles: i) relevance, which requires demonstrated alignment to thematic funding windows, ii) innovation, which requires that the initiative be novel (innovation can relate to any of the following aspects: technology, business model, institutional arrangements or financing approach), iii) additionality, by which financing complements available resources and does not substitute or crowd out private investment and iv) the ability to scale up and/or replicate, whereby the project has the potential to be rolled out to other sites and/or to be implemented on a large scale.

By 2016, the Green Fund had approved 55 projects valued at 738 million rand (€45 million), creating a projected 12,700 green jobs. The approved projects included waste management, agriculture, wildlife, transport and construction projects, as well as eight capacity development programmes to support both institutional and individual skills development.

The ILO, through the ITC in Turin, has supported the quality of the green jobs created through a dedicated capacity-building programme targeting local government officials, social partners and staff from national ministries and civil society organizations. With funding from the DBSA, a total of 140 people were trained during 2014–15, with high levels of participant satisfaction and follow-up action.

Source: PAGE: Green economy inventory for South Africa: An overview (Pretoria, 2017).

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<sup>47</sup> See: <http://www.sagreenfund.org.za/wordpress/>

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## Sectoral policies

As already noted, sectoral policies are often part of employment policies that address environmental sustainability. Numerous countries have successfully used sectoral policies in support of efforts to green different parts of the economy. They entail regulations and mandates, and could be combined with financial incentives as well as specific skills policies. Examples include energy consumption norms for automobiles; pollution limits for power plants; building insulation standards; appliance efficiency requirements; product take-back laws (extended producer responsibility); or waste management and recycling regulations.

Sectoral policies can powerfully shape the direction and pace of innovation towards a green economy. One example is tourism, a sector with large potential for future employment growth that offers many opportunities for adopting low environmental impact and high resource efficiency practices, both in building and operating facilities and in managing tourist activities. In this respect, the ILO has supported the Ministry of Tourism and Creative Economy in Indonesia in the development of a Strategic Plan for Sustainable Tourism and Green Jobs at the national scale. Public investment in infrastructure is another example of a sectoral policy and represents an important area of work for the ILO. Investments in public infrastructure make a major contribution to climate change adaptation and sustaining the natural environment, and also offer huge potential for job creation.

The ILO's local resource-based approach also catalyses economic development. The experience and tools of the Employment Intensive Investment Programme have been made suitable for application in the context of adaptation. The programme combines local participation in planning with the use of locally available skills, appropriate technology, materials and work methods. Referred to as "Green Works", the approach has been applied to different areas of infrastructure, including irrigation and water supply, land resource management, flood control and drainage, weather-resistant rural transport improvement and maintenance, reforestation and introducing alternative and new livelihood opportunities.

The Green Works approach has been adopted in the Pacific region and also in The Philippines, where young people were contracted for infrastructure rehabilitation in the aftermath of a series of typhoons. The approach can also be used as part of more comprehensive efforts to address vulnerabilities and build resistance against natural degradation. This is well illustrated by the project Green Livelihood Access for Central Kalimantan's Inclusive Environmental Response to Climate Change (GLACIER), implemented in the context of REDD+.<sup>48</sup> This project showed the effectiveness of environmental investments that support responses to climate change using participatory local resource-based approaches and techniques to improve access to sustainable livelihoods among people dependent on forestry. In parallel, capacity was enhanced to build alternative local value chains in new forest products and access rural markets.

## Policies to promote private sector development

The private sector also has a critical role to play in realizing inclusive green growth. Business resilience strategies need to take into account the impact of climate change and the changing availability of natural resources. Innovation and technology development, together with investment in new products and services, underpins the transition to greener economies and societies.

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<sup>48</sup> See: [http://www.ilo.org/jakarta/whatwedo/projects/WCMS\\_202802](http://www.ilo.org/jakarta/whatwedo/projects/WCMS_202802)



At the policy level, there is significant scope for establishing linkages and seeking coherence between strategies for environmental sustainability and private sector development. The Donor Committee for Enterprise Development (DCED) has brought together evidence of the policy synergies and formulated practical guidelines for practitioners.<sup>49</sup>

**Table 7. Synergies between policies for green growth and an enabling business environment**

<b>Green growth helps business development through:</b>	<b>Business environment reform helps green growth through:</b>
<ul style="list-style-type: none"> <li>• creation of and access to new markets, such as clean technology and renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>• a focus on structural change through regulatory and policy reform, enhancing the sustainability and scalability of green growth initiatives</li> </ul>
<ul style="list-style-type: none"> <li>• a focus on long-term sustainability and access to resources, thus helping to provide medium-term security for firms</li> </ul>	<ul style="list-style-type: none"> <li>• unlocking the resources, creativity and innovation power of the private sector</li> </ul>
<ul style="list-style-type: none"> <li>• support and incentives for resource efficiency to lower costs and improve profitability for firms</li> </ul>	<ul style="list-style-type: none"> <li>• a sharper focus on the real alignment of incentives and better understanding of the pitfalls of poorly designed regulation</li> </ul>
<ul style="list-style-type: none"> <li>• a stronger perspective on the political economy of a country, bringing in externalities and potential new economic opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• the reallocation of subsidies and adjusting taxes to reflect real costs to the environment for enhancing green growth</li> </ul>

The guidelines, based on evidence derived from case studies, provide detailed suggestions for how and when governments can propose specific measures to design inclusive green growth strategies through private sector development, which in turn can boost green jobs. Special attention is needed to ensure that such frameworks provide an enabling environment and assist SMEs, including cooperatives and social entrepreneurs, in making the transition. This is important because, although most jobs are created by SMEs, they often have only limited access to information on how to make their operations more resource efficient and responsive to the need for greater environmental protection and sustainability.

Employment policies should leverage the strong potential for private sector-driven green growth with decent work. This can be achieved, among other means, by:

1. establishing green investment funds and credit lines;
2. the promotion of green business practices, especially among SMEs, for example through training and advisory services on green standards and certification schemes;
3. innovation and market development, including the use of value chain interventions to introduce and promote the adoption of new green products or production processes and green technology start-ups promoting new green business models;
4. promoting green entrepreneurship at secondary and tertiary training institutions, in particular for young people.<sup>50</sup>

<sup>49</sup> DCED: The search for synergy: Business environment reform and green growth, 2017. Available at: [https://www.enterprise-development.org/wp-content/uploads/GGWG\\_BERGuide\\_Final.pdf](https://www.enterprise-development.org/wp-content/uploads/GGWG_BERGuide_Final.pdf)

<sup>50</sup> ILO and G. Waigi: What works in green jobs for youth (Geneva, 2018).

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There is evidence that combining a number of green growth policies and instruments in a single model of intervention can be successful. The Zambia Green Jobs Programme has a primary focus on creating an enabling environment and strong SME capacity for job creation, but focuses entirely on an expanding green sector, i.e. construction (see box 8).

**Box 8. Decent work through sustainable housing construction in Zambia**

In Zambia, the innovative ONE UN Green Jobs Programme (2012–17) aimed to create jobs through the development of SMEs able to produce and sell affordable and sustainable urban housing for the poor. Support was provided to help small construction enterprises access training in modern green building techniques, business skills, and improving access to finance and new markets.

Trained enterprises offer green houses which:

- are cheaper than conventional housing due to the use of local stabilized soil blocks rather than conventional cement;
- provide access to electricity through photovoltaic panels;
- provide clean water, for example through water harvesting technology;
- reduce carbon emissions and running costs over the lifetime of the building.

As green construction requires more local input, more jobs are created in comparison with the conventional housing industry. To achieve transformational change in the construction sector, the ILO assisted the Government of Zambia to create an enabling environment for construction businesses.

The ILO also engaged in a partnership with LafargeHolcim, a global leader in the building industry, to promote affordable and sustainable housing in Zambia. The project's demonstration houses, which are environmentally friendly and also create jobs, are replicated through LafargeHolcim's investment in the construction of 800 housing units by local SMEs.

To prove the climate change mitigation effects of the green housing programme in Zambia, a partnership with MyClimate is under way to certify carbon reductions. The programme shows how an employment-led green growth strategy has a triple win for jobs, the environment and the poor in need of urban, climate-smart housing.

Source: revised from UNFCCC, 2016, and ONE UN Green Jobs Programme in Zambia, <http://www.zambiagreenjobs.org/>

Other demand-side measures

Some countries have endeavoured to encourage the formalization of jobs in waste management by providing access to social protection or exempting workers from income tax. Also, by integrating informal collection and recycling activities in municipal waste management systems and raising the monetary value of recyclables, the demand for jobs can be increased. To ensure that these are decent jobs, adequate provisions for the safety and health of waste workers need to be in place.<sup>51</sup>

Rewarding work that helps conserve and restore natural resources and improves the quality of the living environment is the basic concept underlying the design of payment for environmental services systems. Many countries have set up sizeable payment for environmental services programmes that target the poor, so that the initiative fulfils both social and environmental objectives. The example of the Expanded Public Works Programme in South Africa is referred to in Annex I. The ILO's Social Protection Department has documented a series of related initiatives, such as Brazil's Bolsa Verde and similar programmes in the Sahel.<sup>52</sup> The experience of India with the National Rural Employment Guarantee Act, initiated as a poverty reduction policy, also provides useful

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<sup>51</sup> Council for Industrial and Scientific Research: Integrating the informal waste sector into municipal waste management (Pretoria, 2016). Available at: <https://www.csir.co.za/integrating-informal-waste-sector-municipal-waste-management>.

<sup>52</sup> See: <http://www.socialsecurityextension.org/gimi/gess/ShowProject.action?id=3046>

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guidance in respect of employment creation for the rehabilitation of the natural environment and adaptation to climate change.

*Supply-side measures to improve the availability and employability of workers with green skills*

### Human resources development and vocational and technical skills

There is broad recognition of the importance of matching skill levels with the labour market requirements of development, and skills upgrading is an essential ingredient of greening the economy. In adopting new technologies, operating in more efficient ways and exploring new markets, enterprises need staff with different skill sets. In some sectors, such as construction and renewable energy, the advancement of the transition has slowed due to the lack of experienced, qualified workers.

All the countries reviewed in detail in section 2 have included skills development in their policy measures. Adequate technical and vocational training systems help workers develop the skills needed to succeed in a green economy. This concerns skills for entirely new types of jobs and occupations as well as the proficiency to work with new materials, processes and technologies in existing jobs. Such skills development and upgrading facilitates entrepreneurship, innovation in enterprises, and the adoption of sustainable workplace practices.

Setting up dedicated institutions can help. In India, for example, the Government has established a dedicated body, the Sector Skill Council for Green Jobs, to address the shortage of skilled workers in the installation and maintenance of solar panels. India has embarked on an ambitious renewable energy strategy and requires a skilled workforce to ensure it reaches its goal. The Council will accredit 60 training organizations in the solar energy sector, provide trainee certification, and train 1,500 trainers during its first year of operation. It will also draw up a comprehensive skills development plan for the next ten years.

In Bangladesh, a similar initiative has had considerable success in providing energy to rural populations and creating jobs – especially for women – in the process (see box 9).

#### **Box 9. Skills for solar home systems in Bangladesh<sup>53</sup>**

The experience of Bangladesh, which has the largest and fastest growing off-grid rural electrification programme in the world, indicates the tremendous potential inherent in providing energy access and generating associated employment. Under the aegis of the government-owned Infrastructure Development Company (IDCOL), installations of solar-powered heating systems have grown rapidly, reaching 4 million units in May 2016. The target for 2017 is 6 million units. IDCOL channels donor funding into small-scale finance, sets technical specifications for solar home systems, certifies products and components, and selects partner organizations, mainly NGOs and microfinance institutions.

Employment has grown along with the expanding number of installed solar home systems, and was estimated at over 100,000 jobs in 2014 (both direct and indirect jobs through the supply chain). This implies one job in the supply chain to serve the energy needs of 174–182 people (or about 34–36 households, assuming an average of five people per household).

To achieve this success, important efforts have been made on training and to scale up and standardize skill acquisition among solar technicians and entrepreneurs, including through adapting the National Technical and Vocational Qualification Framework. By 2013, more than 15,000 field staff and managers of partner organizations, as well as local technicians, had received training in the configuration and positioning of solar-powered heating systems, installation procedures, maintenance and troubleshooting. Most of the trainees have been women. Grameen Shakti has established 46 technology centres where locals are trained as technicians to service and repair solar equipment in their own villages.

Source: ILO: Green Jobs progress report, 2013

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<sup>53</sup> This text builds on ILO, 2013, op. cit. and UNFCCC, 2016, op. cit.

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There are a growing number of support programmes addressing the much-needed reform of technical and vocational education and training (TVET) institutions and curricula. For example, the ILO has worked in Central America and the Dominican Republic within the framework of the Fortalecimiento de sistemas integrados de Formación, Orientación e Inserción Laboral (FOIL) project.<sup>54</sup> Standards and training modules have been developed for a range of green occupations. In turn, training institutions have provided 8,000 workers with technical vocational training in solid waste management, water treatment and the implementation of environmental management systems. Through a similar approach pursued in Nanjing, China, the ILO has helped revise and develop training systems for green skills. As a result, the Nanjing centre has acquired national capacity-building and certification responsibility for other training institutions in China.<sup>55</sup>

#### *Active labour market measures*

A growing number of international agencies are supporting skills development programmes and the reform of TVET institutions for green jobs promotion. The Agence française de Développement (Afd) has drawn up useful practical guidance in this respect (see box 10).

**Box 10. Operational guidelines for mainstreaming the environment into employment and training projects**

- Support employment projects that establish or adopt official certification for green skills and jobs to increase their participation in training activities and projects dedicated to the wider transition to a green economy. This can be the first step towards a green employment certification system linked to public environmental targets.
- Help develop generic skills needed across a variety of sectors, including green sectors.
- Support training courses for public authorities in, for example, forestry and agriculture that are followed up and involve experts from those sectors.
- Support capacity-building projects for public authorities to develop local and national green growth and economic plans and strategies.
- Support projects that develop strategic capacity within SMEs. Promote a broader understanding of how SMEs respond to skills deficits and their mechanisms for skills development.
- Support SME projects to improve their competitiveness and innovation. Many such initiatives indirectly support green jobs and skills by providing funding to SMEs in green sectors, or SMEs developing a particular innovative technology. The primary aim of such projects is SME development, and the effort should be on enhancing the indirect effects on green jobs and skills.

Source: Afd: Facilitating green skills and jobs in developing countries, 2015.

Other labour market measures may include the promotion of entrepreneurship. The intervention model developed by the ILO for East Africa promotes business development in locally emerging markets for green products, such as solar photovoltaic systems, locally recycled water irons, eco-tourism and carbon credit trading. It targets young women and men and helps address youth unemployment challenges. A recent ILO review of youth employment approaches in the context of green jobs for young people has documented this approach and other successful initiatives.<sup>56</sup> Over the years, the ILO has adapted a range of entrepreneurship development training tools and resources to respond to the growing

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<sup>54</sup> See: [http://www.ilo.org/global/topics/green-jobs/projects/latin-america/WCMS\\_213186/lang-en/index.htm](http://www.ilo.org/global/topics/green-jobs/projects/latin-america/WCMS_213186/lang-en/index.htm)

<sup>55</sup> ILO: Green jobs progress report 2013 (Geneva, 2014).

<sup>56</sup> ILO and G. Waigi: What works in green jobs for youth (Geneva, 2018).

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demand for support for green business development.<sup>57</sup> It has also generated a large number of guides, manuals and training programmes in support of green entrepreneurship and the promotion of green enterprises.<sup>58</sup>

Well-functioning PES are an important means of matching demand and supply in the labour market. Such services normally include information on vacancies, job placements, counselling and vocational guidance, job search courses and assistance in cases requiring geographical mobility.

In the context of the transition to greener economies, PES should give particular support to people who have lost their jobs due to environmental policies or regulations, helping them to find alternative employment. The case study on China in section 2 illustrates the importance some governments lend to this function.

PES are important for enterprises in search of workers with the adequate levels of skills and experience for existing or new green occupations. In growing sectors like renewable energy and green construction, the shortage of skilled workers can be partially remediated through information campaigns in nearby (or distant) localities, job fairs at tertiary training institutions and facilitating apprenticeship arrangements, among other measures.

Labour markets in green sectors do not in essence operate differently from other labour markets. But PES would do well to ensure they fully understand the particular needs of green enterprises in terms of qualifications, work experience and particular transversal skills for safe and clean business practices and sensitivity to resource efficiency. As in the case of vocational training institutions, PES need to be up to date and well equipped to understand which enterprises risk losing workers and which are looking to employ more workers.

Young people – as first-time jobseekers or with limited professional experience – represent an important segment of the intended and actual users of PES. In countries with high levels of youth unemployment, PES could facilitate entrepreneurship training and link up with business service centres. In cases where young people have a strong interest in green jobs, PES may establish a dedicated service or project to collect and make available information on opportunities for young people in green sectors and enterprises. An example from the UK is given in box 11.

**Box 11. PES guiding low-skilled young people into green skills training, UK**

The Transform Project was an initiative by British Gas, Accenture and the environmental charity Global Action Plan in partnership with PES in the UK. It started in 2013, with the aim of training 1,400 unemployed young people for new jobs in energy efficiency retrofitting of UK homes. These jobs form part of the Government's policy to provide energy efficiency measures for low-income and vulnerable households.

The target group for the project was young people between the ages of 17 and 25 who were not in employment, education or training. They attended a week-long training course, for which they received a certificate in sustainability equivalent to an advanced school-leaving qualification. They were trained to work with social housing tenants and to survey properties for possible upgrades to improve energy efficiency, including insulation and double glazing.

The course also included an element of work experience, and all those who completed it were guaranteed a job interview with British Gas for a fixed-term contract on a local retrofitting project.

Source: DG Employment, Social Affairs and Inclusion, EU: Public Employment Services and Green Jobs, 2013.

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<sup>57</sup> These include: Start your waste recycling business – business manual; Start your waste recycling business – trainers guide; and Start and improve your green construction business.

<sup>58</sup> See: [http://www.ilo.org/global/topics/green-jobs/areas-of-work/WCMS\\_461943/lang--en/index.htm](http://www.ilo.org/global/topics/green-jobs/areas-of-work/WCMS_461943/lang--en/index.htm)

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Most of the experience with functioning PES for green jobs has so far been found in industrialized countries with well-functioning labour markets and the active involvement of social partners. In terms of the challenges and opportunities in the emerging transition, the role of PES to align actors and shape a common vision about the direction and pace of adjustments is important. In developing countries where labour market information is often incomplete and the understanding of the dynamics of the green economy more limited, dedicated capacity building is important.

In general, it would seem best to embed PES for green jobs in the overall functioning of service providers, rather than developing separate functions. Nevertheless, given the many untapped opportunities for green growth in developing countries, a proactive role for PES is important. To be effective, PES need to consult and work with sector institutions who deal with environmental issues more regularly, such as agricultural extension workers promoting sustainable farming practices, or energy efficiency auditors visiting companies. This is a key aspect of better coherence for effective implementation of green policies.

### **3.2.3. Policy implementation**

#### *Coordination*

Resource managers with relevant expertise should be involved and engaged in coordination mechanisms to ensure that the implementation of employment policies addresses environmental sustainability throughout the process.

If relevant institutions are involved at the formulation stage, they should ideally also be tasked with the responsibility to implement relevant components or measures of the policy as part of an agreed work plan. They should also be instrumental in promoting the “greening” of generic implementation measures, for example in sectoral policies such as tourism strategies including eco-services and jobs for resource efficiency in the hospitality industry, or PES including green jobs counselling.<sup>59</sup> Coordination mechanisms should facilitate links with all relevant sectoral policies to advocate for including the employment dimension, such as in energy policies, education policies, and agriculture and rural development policies. This could be achieved by broadening the membership of coordination bodies or organizing periodic consultations.

Besides horizontal coordination, it is important to build strong operational linkages with government agencies at the subnational level. Local employment agencies, vocational training institutions and enterprise promotion centres, for example, have delegated implementation tasks. They are also better informed about challenges and opportunities for green jobs. Their involvement in coordination mechanisms with national ministries is therefore essential.

Institutional coherence and cooperation between key actors at the provincial and municipal levels is particularly important in countries with more decentralized decision-making structures. Low-carbon development strategies are often shaped at a local level, given the particular economic and environmental context. Sectoral strategies have a strong spatial dimension too, such as those related to extractive industries, tourism or municipal waste management. The articulation of green jobs in such strategies and action plans is critical. Local coordination mechanisms for employment policies should therefore include representatives from relevant government institutions, and preferably also from the private sector.

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<sup>59</sup> More suggestions are provided in Annex II

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At national level, close coordination is particularly required to help ensure coherence and synergies with institutional arrangements related to climate change and/or green growth. This pertains especially to institutions and actors involved in the Nationally Determined Commitments to reduce emissions in line with the Paris Climate Agreement.

The involvement of the social partners in realizing intended policy outcomes, including on environmental sustainability, is particularly important. Without their support and active engagement certain measures may not succeed, such as fiscal reforms to tax emission-intensive industries, or rolling out incentives for resource efficiency among enterprises. Developing operational relationships with the private sector is also instrumental for learning from existing initiatives and identifying opportunities for scaling up.

Coordination with the social partners would be more effective if they saw opportunities for advancing their own agenda and the usefulness of policy measures for their own members. Sharing implementation tasks with social partners should therefore be informed by a good understanding of their respective challenges and priorities.

### *Monitoring and evaluation*

An implementation strategy requires a detailed work plan and a framework for monitoring and evaluation. The agreed outputs and targets need to reflect environmental sustainability and should be measurable. In cases where the output is a green procurement policy proposal, for example, a relevant indicator could be the share of green jobs in the resulting employment created. It is important to dedicate time and expertise to designing an appropriate monitoring and evaluation framework. This includes verifying whether the sources and means of verification for measuring are available. In cases where no existing labour market surveys or other statistics exist, special initiatives could be considered, such as sample surveys, opinion polls or focus group discussions. In addition, it may be possible to use existing environmental monitoring as a vehicle for collecting employment data, for example through extension agents for smart agriculture methods or energy efficiency auditors visiting firms. The social partners often have unique contacts and may have their own mechanisms for monitoring through their membership.

The reports on progress could be used as inputs for dedicated communication campaigns to make the concept of green jobs more widely known and advocate for more resources for policy implementation and scaling up.

Annex III includes suggestions for indicators that would qualify an employment policy as “green”. It also suggests indicators to measure the performance of ILO support as formulated in the Programme and Budget for 2018–19.

### *Financing*

In case budgetary resources for implementation are limited, efforts should be made to identify climate finance-related budgets in the public and private sectors. The development and financing of nationally determined strategies for reducing emissions should be a key priority.

In practical terms, fiscal measures could be proposed to tax emitting sectors for the promotion of employment in green sectors. There may also be sectoral strategies with green components with which cost sharing may be agreed, e.g. green buildings or waste management.

In many developing countries extra budgetary resources are needed to fully implement employment policies. In this context it is important to identify climate finance-related funds in development banks and (multi-)bilateral financial partners. Establishing working

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relationships with the National Designated Authority (NDA) for the GCF, for example, could be helpful.

### *Legislation*

There are few cases where the promotion of green jobs is accompanied by legal provisions. The case of The Philippines in section 2 is an exception. The adoption and implementation of a Green Jobs Act in that country illustrates how governments can design measures that lower the non-wage costs of labour (taxes, levies, social charges) with the aim of inducing greening enterprises to hire workers. A set of rules and regulations was developed to support the implementation of the Act.

Other Green Jobs Acts refer to a set of government measures (such as in the USA and South Korea) in the wake of the global financial and economic crisis of 2008–09. These were part of stimulus packages for local economic regeneration, mainly through public investment in infrastructure.

Legal provisions in other spheres can trigger the demand for green jobs. For example, laws and regulations meant to compel the building industry to comply with energy efficiency standards can boost employment opportunities for skilled workers. Similarly, legislation in relation to waste collection and recycling has implications for green jobs – in both quantitative and qualitative terms.

Legal provisions governing green certification and those asserting the competency standards of trained staff can also have positive effects on the growth of green enterprises and the expansion of green jobs.

International labour standards are applicable to jobs regardless of their contribution to environmental sustainability. Yet those related to occupational health and safety in the workplace have a direct, regulatory effect on green jobs. The ratification and effective implementation of these standards is an important means to improve the quality of employment in occupations exposed or contributing to environment-related outputs, thus creating green jobs.

### *Other guidance*

Some organizations, notably GIZ and the AfD, have also developed relevant implementation guidance on how to mainstream employment and social considerations into environmental projects. Their ideas include:

- Identify and advocate for institutional interests regarding employment policies.
- Approach and support green projects that have the potential to develop green skills through training. Measurement criteria could be the number of people trained or apprenticeships offered.
- Highlight and possibly monitor job creation (temporary and permanent) of the project. Measurement criterion could be jobs created (temporary and permanent), disaggregated by sex.
- Develop certification and auditing services in relevant sectors, e.g. building. Many services are related to energy efficiency and create green jobs and skills.

As much as it is important to estimate beforehand the potential effect on the labour market of adaptation and mitigation measures, it is equally critical to ensure monitoring and measurement of the impact on employment and livelihoods once policies are implemented. This will help in taking action to remediate unintended effects and maximize job gains and improvements.



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### 3.3. Social dialogue for effective policy formulation and implementation

The country cases reviewed illustrate how the social partners have been involved at all stages of the development and adoption of employment policies along with green jobs. Awareness raising and training at an early stage of the process have been pivotal in overcoming initial resistance and creating a common agenda. Tripartite workshops for sharing experience and good practices from elsewhere have been important to provide new perspectives about the potential of green jobs and to develop policy recommendations.

However, separate meetings and pilot projects with the social partners have been crucial. For trade unions, labour contracts and working conditions in environmental sectors have been a key concern, and they stress the promotion of decent work in the green economy. They demand that, for sectors and firms under pressure, adequate measures for retrenched workers, retraining and assistance for finding alternative employment are provided (see box 12 for an example from the USA). For employers' organizations, the main concern is lowering the cost of doing green business and facilitating access to technology and new markets. The ILO's support for greening enterprise practices, based on worker–manager dialogue and cooperation, has been instrumental in illustrating the efficiency gains to be realized.<sup>60</sup> Also, the ITC/ILO's guide for employers' organizations, *Greening economies, enterprises and jobs*, has been key in mobilizing support for effective employment policies with green jobs.

There are a growing number of studies on the involvement of trade unions in supporting adjustments to the labour market, particularly at the local and sector levels, that provide guidance for effective green policy implementation.<sup>61</sup> The ILO, through the ITC in Turin, is actively supporting capacity building programmes for trade unions. As mentioned earlier, the International Trade Union Confederation's (ITUC) Just Transition Centre has established a useful knowledge platform on the issue.

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<sup>60</sup> See, for example, *Greener Business Asia Phase 2*: [http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms\\_155692.pdf](http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_155692.pdf)

<sup>61</sup> For experiences in Europe, see *Confrontations Europe: Social dialogue in the face of employment challenges posed by the energy and digital transitions* (Brussels, 2016). Available at: [http://confrontations.org/wp-content/uploads/2016/11/Executive-summary\\_Report-on-industrial-relations-in-Europe\\_English-version.pdf](http://confrontations.org/wp-content/uploads/2016/11/Executive-summary_Report-on-industrial-relations-in-Europe_English-version.pdf)

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### **Box 12. Just transition in the energy sector – the role of trade unions**

Diablo Canyon is the last remaining commercial nuclear power plant in California, meeting 8.6 per cent of California's power needs. In 2011, 1,200 workers were employed at Diablo Canyon, and 200 workers were employed by subcontractors. In 2016, the plant faced uncertainty about whether its lease and permits would be renewed. If the state had not extended the lease, the plant would have had to close down as early as 2018.

The local trade union worked to ensure that the plant would stay open to preserve employment, while Friends of the Earth US was campaigning for it to be phased out and for investment to be made instead in renewable energy, energy efficiency and energy storage. Diablo Canyon's owners informed the trade union that they would not seek relicensing of the plant after 2024, based on market conditions, but were seeking a coalition to stave off an abrupt shutdown.

The trade union negotiated a retention package for the eight to nine more years the plant would remain operational, combined with benefits including annual bonuses, severance allowances and retraining. The facility will also compensate the community with \$85 million for its loss of property tax revenues and will reserve up to \$62.5 million for plant decommissioning.

Both unions and civil society groups describe the Diablo Canyon closure plan as a good example of effective social dialogue involving strong unions and a large and well-funded employer who recognizes and supports rights at work. For workers, the long lead time to closure (eight to nine years), good retraining and redeployment provisions, and a generous retrenchment package were key. The company's ability to offer a just transition fund, compensate the community for lost tax revenues and create new jobs in renewable energy and energy efficiency were also important.

Source: OECD, 2017.



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## 4. Conclusions

### 4.1. A systemic view on policies for environmental sustainability

In developing and emerging economies, the mainstreaming of green job issues into national employment policies and implementation plans is still at an early stage. Few countries have so far developed and implemented green jobs strategies as part of their employment policy.

The ILO Guidelines for a just transition and the 2015 Paris Climate Agreement may have catalysed interest among ministries of labour and the social partners. The fact that national governments have started designing low-carbon development strategies in line with the Agreement has provided further impetus to the engagement of ILO constituents.

These national initiatives on climate action on one hand, and the inclusion of a just transition to environmental sustainability as a cross-cutting policy driver in the ILO Programme and Budget for 2018–19 on the other, are indicating growing recognition of the required policy coherence between environmental and employment policies. However, rather than simply wondering “why”, ILO constituents are increasingly asking “how” this can best materialize.

Successful mainstreaming hinges on the degree to which the adoption of a new concept can help advance an existing policy agenda. With scarce resources and stretched technical capacities, ministries of labour will only want to jump on the green bandwagon if it is a vehicle for better outcomes on their own policy objectives.

It is therefore of critical importance to demonstrate that linking climate action with employment promotion can be highly productive and create win–win outcomes. Awareness-raising workshops and communication campaigns have proven effective in this regard, as illustrated in section 1. Once the concept has been adopted, a more analytical approach should be followed, with sound diagnostics to understand both the current situation regarding green jobs and the anticipated employment changes stemming from adopting a green policy approach. The ILO’s work on input–output modelling and the related body GAIN can provide valuable technical support in this respect.

The review of national employment policies in section 2 found that in some countries green jobs are being promoted without a related employment policy in place. This can be merely a matter of phasing, as policy reform is often a way to catch up with economic reality. Green initiatives can propel and inform subsequent policy change. But it can also be that the model of change towards a greener economy is not linear, i.e. green job outcomes may more often be the result of policies other than those on employment, or simply an unintended but welcome by-product. In the design of the GCF, for example, job creation is termed a “co-benefit”. Instead, decent work should be considered as an intended outcome of policy implementation, or indeed as a prerequisite for a successful paradigm shift. The call for a just transition of the workforce in the Paris Climate Agreement marks a significant shift in this direction.

There is merit in taking a broader view on policy outcomes. National employment policies do not necessarily reflect fully a country’s efforts to promote environmental sustainability and its commitment to reducing emissions. Some countries have adopted green economy strategies with a component on labour markets without necessarily developing a green employment policy. These approaches often focus on sectors or themes with particular green development potential, such as renewable energy, energy efficiency, construction, agriculture or waste management. This resembles the model of change of PAGE, which promotes investment and mobilized technical support for specific sectors in order to draw

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policy recommendations from it, with the purpose of triggering a country-wide green economy policy approach.

In a similar vein, some countries are reforming their human resource and skills development policies with a view to aligning them with green economy strategies. Skills training for workers, entrepreneurship promotion and cooperative development may be included in other strategies and action plans underpinning green economy approaches, and may involve ministries of employment. The same holds for climate adaptation strategies that include rebuilding damaged infrastructure or preventing future losses by constructing more sustainably. The ILO's Public Employment Programme provides effective tools to design and implement such "green works" in ways that optimize the use of local resources and maximize employment gains.<sup>62</sup> These approaches illustrate how green jobs can be promoted in their own right, without being properly part of a national employment policy.

Although many countries have realized progress in greening certain areas of the labour market – such as skills development, entrepreneurship and local resource-based infrastructure building – this progress cannot always be presented as an example of downstream national employment policies. It would certainly be useful to dedicate future efforts towards documenting such partial initiatives and analysing their upstream influence towards policy reform for green economy development. This would also be instrumental in finding successful approaches to make climate action and environmental policies more sensitive to their impact on employment. Together with green employment policies, such job-focused environmental policies would help create a powerful alliance for a just transition towards environmentally and socially sustainable societies.

Taking a systemic view, a more holistic approach may be adopted in which the development of the labour market is viewed from different policy angles. For example, jobs can be created through rural development policies if ministries channel investment towards agriculture, land development and infrastructure. Employment policies and related labour market instruments can greatly facilitate the positive outcome of such policies in terms of jobs. Indeed, without taking into account prevailing skills levels, or the (un)availability of labour in specific regions, rural development may fail to succeed. Similarly, renewable energy policies require sufficient local SME capacity and skills in order to meet their indicators on the proliferation of off-grid energy devices such as solar panels, thermal power stations and wind energy generators.

Governments would ideally take into account such prerequisites across a range of related policies before they enact new measures. This would enhance policy coherence and make both employment and environmental policies more effective.

## **4.2. From initial guidance to building a model of change**

The country review and case studies presented in this paper provide a starting point from which more specific guidance can be derived. Early lessons centre around i) the utility of robust assessments of the employment impact of green economy policies, ii) the focus on real gains and losses for enterprises and jobs, thus making the business case for greening but also anchoring the need to ensure a just transition for affected workers and iii) sustained social dialogue throughout the policy process to enhance ownership and ensure "real economy", pragmatic policy measures.

As demonstrated, capacity building from the outset is often needed to create shared understanding and support productive policy dialogue. Bringing in champions and showing leadership from comparable countries can help trigger a more proactive attitude and assist in overcoming doubts in respect of new green policy components which are not familiar to

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<sup>62</sup> See: <http://www.ilo.org/global/topics/employment-intensive-investment/themes/green-works/lang--en/index.htm>

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ministries of labour (such as fiscal reform to tax carbon-intensive production and recycling of the revenues to fund social protection for affected workers and families).

The checklist provided in Annex II offers a soundboard for those asking for guidance in the mainstreaming process. The list should be tested and developed further, as a living document, and complemented by specific references to useful country examples.

The lessons and guidance provided by the review should be taken further in the context of designing and implementing comprehensive employment policies. It would be helpful to develop a model of change – or even a variety of models, given the different goals of employment policies. If the aim is to reduce poverty, the promotion of green jobs may take a different policy route than if the policy goal is to enhance competitiveness and trade. In cases where countries prioritize the reduction of emissions to agreed targets, policies for green jobs may focus on carbon-intensive sectors first. Indeed, no two employment policies are alike, and will have different green jobs approaches and tools.

Once a basic model of change has been adopted, a range of intervention models need to be developed to achieve the intended change through policy. In section 3 a number of practical measures for particular cases have been listed and illustrated. A more complete compendium of practical approaches and their applications would be extremely useful. Across the ILO's Green Jobs network there are already many such examples, and a dedicated effort to collect and systemize these would not necessarily be an insurmountable task. The country pilots in which the Just Transition Framework is being applied can also offer a rich learning ground in this respect.

#### **4.3. An expanded role for the ILO in mainstreaming green jobs in employment policies**

Given the existing experience and the database on employment policies and green jobs, it would be possible to expand and amplify efforts to mainstream the environment in policy design and implementation. The critical step is to have constituents internalize the notion of joined-up approaches and demonstrate that promoting green jobs can help them achieve their existing objectives.

With employment policies addressing climate change, ministries of labour would be in a better position to mobilize resources for implementation by tapping into the growing offer of climate change-related finance, such as the GCF. But this too calls for sometimes unconventional approaches and political entrepreneurship, in seeking alliances with actors more familiar with environmental policies. Such partnerships with a variety of actors beyond traditional ILO constituents may become a necessity for constituents, and the ILO itself, in the promotion of green jobs and national employment policies with green jobs components. Other UN agencies (e.g. the UNDP, the Food and Agriculture Organization and UN Environment), the GGGI and, within government, ministries other than labour ministries are increasingly becoming key players in this area.

In many countries, the landscape for multi-bilateral funding is rapidly changing, as are private investment flows into sectors like renewable energy, green construction and sustainable agriculture. Employment policies that enable these financial flows to realize their intended returns and show impact would be most welcome, and could even attract the required support for the creation of green jobs in the process.



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## Annex1. Review of national employment policies that address climate change or environmental sustainability

Source: ILO EmPol database

Country:	1. The Comoros
Source:	National Employment Policy Framework Document (Document Cadre)
Year:	2013

The objectives of the employment policy will be achieved through four strategic axes, the second of which focuses on sectoral approaches, in particular in rural areas and among micro, small and medium-sized enterprises. This second strategic axis includes seven priority areas, the last one being the promotion of green jobs. It provides a definition that includes decent work and quotes data from the Millennium Institute, gathered by ITUC in 2012, about the potential of green jobs.

The policy includes a proposal for a just transition strategy, based on good practices from other countries, as the transition to a greener economy with decent work will benefit workers, businesses, national economies and future generations.

The strategy includes the following initiatives:

- (i) Conduct advocacy, information and awareness-raising activities around the concept of “green jobs” among all sectoral organizations. The strategy refers to fiscal incentives for the import of renewable energy devices and mentions agriculture, husbandry, fisheries and construction as potential green sectors.
- (ii) Allocate funding to public investments in the promotion of alternative green jobs in both urban and rural areas.
- (iii) Elaborate on policies related to training, retraining and skills development to respond to the needs of a greener economy.
- (iv) Advance social dialogue and consultations between government, employers and workers on opportunities for green job creation, with the support of technical and financial partners.
- (v) Establish, in partnership with the Professional Association of Banks, green credits with special interest rates to encourage investments in the green economy.



<b>Country:</b>	2. Ethiopia
<b>Source:</b>	National Employment Policy and Strategy
<b>Year:</b>	2016

Ethiopia’s National Employment Policy has five policy priorities, one of which is entitled “focussing on cross-cutting issues for employment creation”. Eight cross-cutting issues are identified under this policy priority, and green jobs are included in the last one, entitled “Improving environmental protection and natural resource management”. The goal under this heading is to “Promote employment opportunities through improved environmental protection and natural resource management”.

Three main strategies are proposed to achieve this goal:

- a) strengthening environmental protection and natural resource management programmes against the negative consequences of climate change and natural resource degradation for rural and urban employment;
- b) providing support to those vulnerable to climate change and related disasters and to agricultural workers to engage in alternative income-generating activities;
- c) promoting the inculcation of green economy initiatives across all economic sectors.

Despite the inclusion of climate change and the green economy in the strategy, the policy remains silent on related implementation measures and does not include monitoring indicators for green jobs. It does not appear that green jobs are mainstreamed in the other policy priorities and strategies.

<b>Country:</b>	3. Ghana
<b>Source:</b>	National Employment Policy
<b>Year:</b>	2015

Green jobs are clearly present in Ghana’s employment policy. The preface refers to employment opportunities in the green economy, among other opportunities, and the situational analysis dwells on the need to reconcile employment growth with environmental protection. It uses ILO estimates on the untapped potential for green jobs. The analysis concludes that additional proactive policy initiatives are needed, as well as private investments. The Government should take advantage of green technologies and approaches to creating jobs for the unemployed as well as protecting the environment in a sustainable manner for future generations.

In the section on principles and core values, good quality economic growth, as an engine for decent work, is defined as sustainable, environmentally friendly and inclusive.

This relatively high-level recognition of green jobs is further reflected in two of the four policy objectives. Under the objective “To create more decent jobs to meet the demand for employment”, strategic action 8 is “to promote and support initiatives for the creation of green jobs in energy and industrial efficiency, energy supply, transportation, biodiversity, conservation and ecosystem restoration, soil and land management, and waste management”. As part of the objective “To improve the quality of jobs for those employed”, strategic action 15 is “to expand social protection mechanisms for workers exposed to external shocks (i.e. fire, flood, retrenchment, structural changes to green economy, etc.),

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and develop new learning strategies to help them cope with these socio-economic shocks before they are re-integrated into the labour market”.

Finally, the importance of environmental sustainability is signalled by the inclusion of the Environmental Protection Agency Act 1999 (Act 490) in the policy and legal context, providing guidance for the regulation of employment, working conditions and labour relations. In addition, the National Environment Policy and the Ghana National Climate Change Policy are mentioned, among others, as policies underpinning the National Employment Policy.

<b>Country:</b>	4. Kenya
<b>Source:</b>	Sessional Paper on Employment Policy and Strategy
<b>Year:</b>	2013

The sessional paper, which also refers to itself as the Employment Policy, addresses green jobs in several places, starting with the foreword written by the Cabinet Secretary for Labour. This states that “this policy seeks to promote productivity, national competitiveness and economic growth; creation of decent employment opportunities; creation of green jobs ...”.

The creation of “green jobs for sustainable livelihoods” is included as the second element (of seven) of the policy objectives. The policy is meant to be mainstreamed, coordinated and implemented within the framework of national economic and social policies, which includes policies referring to the green economy. One of the eight principles underlying the policy is “Transition to a green economy as a provider of human well-being, source of new decent jobs and supplier of sustenance for poor households”.

In the section on employment strategies and interventions, environmental management is mentioned “as a means of promoting creation of green jobs for sustainable livelihoods”.

The weak framework for environmental management in Kenya is identified as one of the constraints to the full growth and employment creation potential of micro and small enterprises to contribute to the green economy and green jobs.

The policy’s detailed Implementation Matrix also links improved environmental management with employment creation, as well as with sectoral growth.

It is worth noting that, at the 2017 ILC, the Cabinet Secretary for Labour confirmed Kenya’s commitment to the Paris Agreement on Climate Change. The country has adopted an integrated green economy strategy and implementation plan to promote sustainable greening of the economy and all workplaces. As part of that approach, PES have been redesigned to respond to green jobs. The Secretary acknowledged the potential for job losses and the need to create an adequate institutional and policy framework and foster social dialogue to ensure a just transition process. This should include social protection measures and skills training in order to realize the job potential of the green economy.

<b>Country:</b>	5. Mauritius
<b>Source:</b>	Draft National Employment Strategy
<b>Year:</b>	2014

The case of Mauritius illustrates a comprehensive approach to a policy process that includes green jobs. At the diagnostic and design phase, green jobs have been incorporated as a key building block of the country's vision and strategy for sustainable development.

### *Background*

Mauritius is a small island developing state which has set itself the target of becoming a model for sustainable development. The country is facing a number of environmental challenges, one of the most important being its reliance on fossil fuels. In 2008 the Prime Minister launched the Maurice Ile Durable (MID) vision for the country to lead the way in sustainable development through a participatory process. In its initial stages, the MID was primarily focused on the development of renewable energy. This focus was expanded to include Education, Environment, Employment, Economy and Equity ("the five E's"). A consultative, highly participatory process was launched in 2011 for the development of an all-encompassing MID Policy, Strategy and Action Plan. Working groups including social partners and other major stakeholders were set up for each of the E's and a series of national consultations were held to develop a MID Vision in a participatory manner.

### *Employment pillar in the MID*

With ILO support, an assessment of the prevalence and potential of green jobs in the country in 2012–13 was carried out by national consultants and the Bureau of Statistics using the 2009 input–output table. The study revealed that there were 35,000 green jobs in Mauritius, or 6.3 per cent of total employment (concentrated in electricity generation using biomass and agriculture). Projecting an annual growth rate of 2.5 per cent in total output per year, 21,600 new green jobs would be created. This compares favourably with 15,250 jobs when assuming business-as-usual growth without increased green products and processes. In particular, the increase in employment in the renewable energy scenario would be nearly twice as high in comparison with the effect of simulated output growth in the fossil fuel sector.

A national tripartite workshop was held in 2012 building on the green jobs assessment. Prior to the workshop the ILO had commissioned three more studies: i) a review of trade union strategies and activities on sustainable development, ii) a survey among members of the Mauritius Employers' Federation on their experience and interest in adopting green business models and iii) an assessment of the skills required for greener business and green jobs and the existing gap in training to address these needs. The workshop had a strong awareness-raising effect and produced a strategy proposal together with an Action Plan on Employment under the MID consultative process.

### *Links with employment policy development*

The consultations and ILO support had notable effects on the drafting of a new employment policy in the subsequent years (2013–14). The fourth draft of September 2014 conceptualized the link between employment and the environment in various stages of the policy. In the situational analysis, the country's heavy dependency on fossil fuel imports (at 85 per cent of national consumption) was viewed not only as a drain on economic growth but also as an indicator of foregone employment opportunities. The analysis recognized that natural resources sustain more than 45,000 jobs in agriculture and sugar cane, 20,000 jobs in tourism and 10,000 jobs in fishing, forestry and livestock.

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The then draft policy contained an extensive section entitled “Green jobs”, which in large part reflected the outcomes of the MID Working Group on Employment. It proposed the following initiatives:

- identification of sectors with potential for creation of green jobs;
- construction of green buildings and retrofitting, leading to the promotion of energy conservation and modernization of the building stock;
- promoting renewable energy and energy efficiency, including through enterprise development and entrepreneurship in the equipment manufacturing, installation and maintenance sectors, including the training of investors, managers and workers;
- incentivizing high productivity organic agriculture and export of certified produce, including strategies to support nascent domestic production and employment creation in the organic fertilizer and integrated pest management industries;
- developing an eco-tourism strategy. This would comprise the training of hotel management and staff in the greening of the industry, including the promotion of high-end certified eco-tourism and sourcing of local produce;
- increasing energy and water efficiency in the textile industry by following best practice in advanced plants in Mauritius. Provision of the necessary support network, exchange of best practices, and training of management and workers to enable investment and employment creation;
- inclusion of the green concept in the various training programmes at technical and vocational training institutions and also at university level, so as to develop skills for the greening of jobs throughout industry;
- supporting the Employment Service to work closely with school leavers and the Careers Guidance Unit with regard to the choice of appropriate fields of study and career paths, including green jobs as appropriate;
- developing the “Green Enterprise” strategy and programmes of the Mauritius Employers’ Federation while also providing them with the necessary incentives for the use of green technologies to create green jobs;
- promulgating legislation to provide for the greening of jobs and enterprises.

Since 2014 new national policy priorities have largely superseded the draft policy. Most of the proposed initiatives towards green jobs have not been implemented due to changes in priorities. Some progress has been made through other programmes, notably PAGE. Meanwhile, a new employment policy is under development in which environmental issues seem to feature, but it is too early to assess its relevance and real chances of implementation.

#### *Assessment*

The emphasis on social dialogue and capacity building in the MID design process during 2011–12 has greatly enhanced the visibility and priority given to environmental sustainability in the subsequent employment policy. In all phases – diagnosis, analysis, review, discussion, strategy formulation and action planning – the Ministry of Labour and the social partners were engaged on an equal footing. In addition, ILO support was extended to further capacity building of both trade unions and the Mauritius Employers’ Federation on topics they had prioritized.

Some of the key factors in this process were: i) high-level commitment to employment issues at the MID Commission, ii) strong advocates among the social partners iii) timely and relevant technical inputs by the ILO, supported by Regular Budget Technical Cooperation

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funding from both the Africa Regional Office and the ILO Field Office Madagascar, and iv) close collaboration with qualified local institutions and consultants.

<b>Country:</b>	6. Mongolia
<b>Source:</b>	State Policy on Employment
<b>Year:</b>	2016

Green jobs as an outcome of employment growth is the policy's goal. The intended policy result is that "the support mechanism for employers is improved and [the] labour participation rate and green jobs are increased". The relevant indicator of achievement is "the share of green jobs in total employment to increase from 6.1 per cent in 2015 to 10 per cent in 2020 and 30 per cent in 2025".

The ILO has worked with Mongolia on the statistical measurement of green jobs since 2014, following the adoption of a working definition and a proposal to pilot its applicability at the ICLS in 2013 (see section 1). Initially undertaken with the support of just the ILO, the work has since been embedded in the inter-agency body PAGE. The jobs estimate is linked to an overall assessment of green development options, supported by macroeconomic policies and sector approaches in green building, among others.

One of the principles guiding the implementation of the policy is that related policies concerning socio-economic development, budgets and investment, tax and credit, as well as local and sectoral policies, should be directed to generate decent employment that is stable and green. This illustrates the possibilities for mainstreaming employment in green policies.

The policy includes measures to i) improve the value of green jobs in the labour market by supporting their demand and supply and ii) invest in export-oriented and high-technology sectors to create more green jobs.

<b>Country:</b>	7. Morocco
<b>Source:</b>	National Employment Strategy
<b>Year:</b>	2015

The strategy is viewed as an inter-ministerial policy and should also contribute to the protection of the natural environment. The green economy is described in terms of a valuation of the country's natural resources, and green jobs as a means to overcome territorial differences in social equality – a cross-cutting objective of the policy.

Consequently, the promotion of green jobs is included in one of the policy's five operational objectives, entitled "Supporting territorial (or local) initiatives for sustainable development". Two specific measures are proposed: i) developing payment for eco-system services for resource conservation and ii) supporting the circular economy.

<b>Country:</b>	8. South Africa
<b>Source:</b>	Our Future – Make it Work. National Development Plan 2030
<b>Year:</b>	2012

The National Development Plan is a comprehensive policy package formulated through an extensive process of consultation and drafting. It cannot be equated with a national employment policy or strategy, although it has a dedicated chapter on the economy and employment.

There are references to the green economy and, to a lesser extent, green jobs throughout the document. For example, the plan refers to the 2011 Green Economy Accord, which also had a separate employment pillar supporting the green economy through the promotion of green jobs.

The plan states that the green economy agenda will be leveraged to promote deeper industrialization, energy efficiency and employment. The development of environmentally sustainable green products and services, including renewable energy technologies, will contribute to the creation of jobs in niche markets where South Africa has or can develop a competitive advantage. Inevitably, in the transition to a greener and more environmentally sustainable economy, trade-offs must be made. However, the careful design and sequencing of decisions ensures that the decline of legacy sectors such as coal-fired electricity generation are balanced by concurrent growth in green economy sectors. The emergence of SMEs in areas such as waste management contributes to reducing unemployment, poverty and income inequality.

A specific reference is made to the need to undertake a national skills development strategy to meet the requirements of the green economy.

The plan identifies growth opportunities in regions with untapped potential where new initiatives can create new employment opportunities, such as agriculture in the green economy and conservation efforts in general.

The plan also proposes the creation of green economy zones. These zones have proven potential to create green jobs where short-term state intervention could leverage significant private development, especially in solar and wind energy.

Related to the plan, the South African Government has embarked on large-scale public employment schemes in natural resource management, access to clean water, improved waste management and fire prevention and control. Each programme is named after its purpose, e.g. “Working for Water”. This particular programme is a water-clearing public employment programme that recruits unemployed citizens on short-term public contracts to remove water-intensive alien species from local water catchments. Participants could be described as “mobile service providers” who bid for contracts to restore public or private land. They are paid at a nationally set level according to the competitive salary for similar jobs. Initiated back in 1995, Working for Water covers all major water catchment areas in South Africa and provides jobs and training for 20,000 people annually.

Working for Water also aims to alleviate poverty. It specifically targets marginalized groups and seeks to employ 60 per cent women, 20 per cent young people and 5 per cent disabled people. An essential element of the programme is to support people in finding work and to strengthen communities. Therefore, participants are obliged to take part in work-related (e.g. skills development and worker safety) and health-related (e.g. HIV/AIDS) training. Working for Water provides women with four months’ maternity leave at half pay and gives participants access to childcare facilities while they are working.

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Since 2003, Working for Water has been part of the Expanded Public Works Programme, which combines different public works programmes aiming to provide income and poverty relief. The programme is mainly financed by the Government using poverty relief funds. However, private companies are increasingly becoming purchasers of the environmental service.

At the 2017 ILC, the Minister of Labour confirmed that South Africa has embraced the need for a shift to a low-carbon, resource-efficient and climate-resilient economic growth path. Among other enablers and incentives for green initiatives, a Green Fund has been put in place to promote innovative and high-impact green programmes and projects and build the evidence base for the expansion of the green economy. She also underlined the need for scaling-up of skills development programmes to ensure that workers are not affected negatively by the developments in the green economy.

<b>Country:</b>	9. Sri Lanka
<b>Source:</b>	National Human Resources and Employment Policy
<b>Year:</b>	2012

The policy includes the promotion of green jobs as one of nine sectoral priorities. It defines green jobs as environmentally friendly, decent jobs. It recognizes that the demand for workers with new skills will increase as the green economy advances as a result of a range of supportive, environmentally related policies.

The policy response to this evolving change is to improve skills in the area of green restructuring, support the greening of existing jobs and take action to overcome negative effects of climate change. Priority areas are climate adaptation, vulnerability assessment, energy efficiency, renewable energy and efficient resource utilization, including land and water, pollution control and waste management.

Research on the labour market for green jobs will be initiated to forecast employment and skills needs. The results will be integrated into economic planning so that developments in the labour market and implications for education and training can be addressed in a timely manner.

Technical and financial support will be offered to entrepreneurs, including SMEs, to explore green business opportunities, create their own start-up companies and expand opportunities to learn about new technologies. The objective is to create decent jobs that are productive, deliver a fair income and are related to environmentally sustainable technology developments and green businesses throughout the country.

## Annex II: Checklist for mainstreaming environmental sustainability in national employment policies

(Adapted from ILO. 2012. Guide for the formulation of national employment policies, pp. 50–51)

Policy phase	“Green” perspective	Detailed questions	Useful links and resources
<b>Prior contextualisation</b>			
<p>Origin, impetus, drivers For example:</p> <ul style="list-style-type: none"> <li>• subsequent employment policy cycle</li> <li>• change of national development plan/strategy</li> <li>• natural disaster/major event international context (UNFCCC, Rio+20, SDGs)</li> <li>• proactive head of state</li> <li>• major investment inflow (private, development banks, official development assistance)</li> </ul>	<p>Situational analysis of main drivers and context:</p> <ul style="list-style-type: none"> <li>• What is the current governmental climate and/or environmental policy?</li> <li>• Does the country have a green growth strategy?</li> <li>• Did it sign up to the Paris Climate Agreement?</li> <li>• Does the country have any external funding with a focus on climate change and the green economy?</li> <li>• Does the country have a relationship with the Green Climate Fund (GCF)?</li> </ul>	<ul style="list-style-type: none"> <li>• How did the policy process start and did it include green jobs from the beginning?</li> <li>• What are the links with climate policies and green growth initiatives, if any?</li> <li>• To what extent (when, with what arguments, how) have the social partners favoured the inclusion of green jobs?</li> <li>• Is there a National Designated Authority (NDA) with the GCF?</li> <li>• Are there any GCF-accredited agencies with funding?</li> </ul>	<p>Review national policy documents and statements, identify emission reduction commitments, identify climate vulnerability assessments, review sector policies, especially on energy, mining, natural resource management</p> <ul style="list-style-type: none"> <li>• ILO resources: Climate change and jobs (<a href="#">link</a>)</li> <li>• Green Growth Knowledge Platform (<a href="#">link</a>)</li> <li>• Partnership for Action on Green Economy (<a href="#">link</a>)</li> <li>• Global Green Growth Institute (<a href="#">link</a>) – GCF website</li> </ul>
<p>Private sector status and attitude to environmental sustainability</p>	<p>How does the private sector view climate change and environmental protection?</p>	<p>Review statements, strategy notes, reports and press articles about the costs of dealing with adaptation and mitigation; review reports about new business developments and investments in green sectors</p>	<p>World Business Council for Sustainable Development (<a href="#">link</a>)</p> <p>Donor Committee for Enterprise Development (<a href="#">link</a>)</p> <p>ILO/ITC Turin <a href="#">guide</a> for employers’ organizations</p>
<p>Who are the key employers’ and workers’ organizations involved?</p>	<p>Which of the organizations show an interest in environmental sustainability? Any sector-based organizations? Trade unions’ view on sustainable development?</p>	<p>Have employers’ and workers’ organizations taken any action on climate and/or environment? Do they provide advocacy or business services?</p>	<p>South Africa’s National Business Initiative (<a href="#">link</a>)</p> <p>Just Transition Centre (<a href="#">link</a>)</p>



Policy phase	“Green” perspective	Detailed questions	Useful links and resources
<b>I. Preparation</b>			
Attributing responsibility and accountability for the formulation of the national employment policy	Reflect environmental sustainability in terms of reference of responsible actors	Do the mandate/terms of reference/work plan make reference to climate/green issues?	PAGE synthesis <a href="#">report</a> on integrated planning and sustainable development
Study the political economy. Who controls what? Who should we take on board to get the required policy support? Who are the stakeholders?	Include focus on climate change, (energy) transition and natural resource management	Who are the main drivers and stakeholders of climate-related policies? Is the ministry in charge of employment convinced of environmental concerns? Have any (other) stakeholder consultations addressed employment?	Identify and get in touch with other organizations with an interest in the environment and employment, e.g. Green Economy Coalition ( <a href="#">link</a> ), Greenpeace, WWF
What is the main problem to address? What is the intended goal of the employment policy?	More and better work for all? Poverty alleviation? Sustainable development? Economic growth? Inclusive development? Climate change?		See examples in Annex I
What is a green job?	Undertake consultations to agree on a definition of “green jobs”	Ministry of environment or national accounts may have data on employment in environmental sectors	See section I ILO green jobs website ( <a href="#">link</a> ) Consult statistical office, research institutions, ILO, PAGE, GGKP, OECD Organize awareness-raising workshop
What are the current and potential numbers of green jobs?	Consider the options and costs of assessing current and potential employment related to the environment	Are there existing labour market/ establishment surveys that include data on green jobs and businesses?	Access and review examples • ILO <a href="#">guide</a> to measuring green jobs
Set up the formulation team based on this analysis	Include an environmental expert		
Set the overall development goal of the national employment policy – may require an initial meeting of the formulation team and/or all the stakeholders; also an opportunity to launch the process, inform everyone about it and explain their roles	Advocate for reflection on sustainable development and a just transition as the overall goal or context of the policy Invite stakeholders from an environmental/climate change context	Does the formulation team include a member with a “green hat”? Does the team have any knowledge or competency in green issues?	See, e.g., PAGE synthesis <a href="#">report</a> on integrated planning and sustainable development

Policy phase	“Green” perspective	Detailed questions	Useful links and resources
Budget for the policy formulation process and ensure enough resources are available	Include an allocation for environmental contextualization		
<b>II. Formulation</b>			
Employment situation analysis and knowledge building, including broad-based consultations at national, regional and local levels	Step 1. Conduct diagnosis and prospective studies aimed at identifying the sectors and skills most at risk and, equally, the opportunities to promote major emerging sectors and jobs linked to a green economy. Identify the types of professions and skills that would likely be involved, as well as the projected growth potential, in order to facilitate realistic planning	Step 2. Estimation of green jobs. Definition and statistical classification of green jobs at the national (or provincial) level; publication of a baseline study of green jobs. This research is done through large and inclusive consultation/participation of all relevant stakeholders and serves to raise awareness of green jobs and the importance of considering the employment dimension when taking environmental action	Van der Ree, K. <i>Mainstreaming green job issues into national employment policies and implementation plans: A review</i> (Geneva, ILO, 2018)
		What kind of analysis has been done, if any, of environment-related jobs and/or sectors related to natural resource management, including energy? Has the concept of “transition” been addressed? Inclusion of green research questions?	
Priority setting and generation of policy interventions		Allocation for green consultations?	Mobilize high-level expertise to argue for a causal relationship and the repercussions on employment of both neglect and action on climate change
Presentation of the issues identified in the analysis of the employment situation	Simulation of various scenarios for expansion (i.e. broadening and deepening) of a green economy and the implications for the labour market, including identifying demand–supply gaps	Are green issues included?	GAIN training manual (ILO, forthcoming)

Policy phase	“Green” perspective	Detailed questions	Useful links and resources
Establishment of a hierarchy; selection and analysis of causes and effects of the identified issues	<p>Analysis of measures to overcome labour gaps in the case of:</p> <ul style="list-style-type: none"> <li>i. demand higher than supply (in specific sectors). Need for new workers with the relevant green skills. Occupational standards may be updated and training curricula of technical training centres revised and updated. Promotion of entrepreneurship and sustainable enterprise development are other interventions needed to increase the labour supply;</li> <li>ii. supply higher than demand (in specific sectors), leading to possible lay-offs. Workers need income security through social protection (e.g. unemployment benefits, cash transfers) and support to improve their functional and geographical mobility through active labour market policies (e.g. employment services, professional re-orientation). These mechanisms (and related institutions) have to be revised in order to fit efficiently with the new requirements of a green economy</li> </ul>	<p>Has the impact of climate change been considered? If so, how? Has the effect on labour of environmental policies been considered? Has the concept of “just transition” been used? If any of these have been considered, what priority has been given to green issues? Have the mechanisms/instruments been revised or adjusted to address green issues?</p>	
Identification of a package of policy interventions	As above	What interventions are related to green issues, if any?	
Narrow down the options and arrive at a common platform			

Policy phase	“Green” perspective	Detailed questions	Useful links and resources
<b>III. Operational planning and drafting of the document</b>			
Set the objectives and targets, expected outcomes and monitoring indicators	<p>Consider and propose green objectives, outcomes, targets or indicators</p> <p>Conduct an assessment of green jobs and current and potential employment in green sectors</p> <p>Can the link with SDG indicators be made in ways that join two or more goals (e.g. renewable energy + jobs, access to water + employment creation)?</p>	<p>This is the key step:</p> <ul style="list-style-type: none"> <li>review this paper for examples of macro, sector and enterprise measures focus on sectors with green jobs potential</li> <li>review supply-side measures in terms of their recognition of green jobs</li> </ul>	ILO green jobs website ( <a href="#">link</a> )
Design the institutional framework for coordination and implementation	Inclusion of links with climate/green frameworks for coordination and implementation	Invite key environment-related stakeholders to be members of the employment policy steering committee	
Design the monitoring and evaluation framework	Consider and propose green indicators		See Annex III of this publication
Estimate the level of resources needed for implementation			
Check the national requirements for adoption	<p>Consider involving the ministry of environment or climate change commission in the adoption</p> <p>Consider the relevance and usefulness of legal instruments and enacting green policies by law</p>		See The Philippines case study in section 2
If further knowledge building is required, add another six months to the timeline		Any dedicated capacity building on green issues?	The ITC in Turin has a range of green jobs training courses ( <a href="#">link</a> ) PAGE learning materials ( <a href="#">link</a> )
Resources required:		Specific, earmarked resource allocation to green issues?	
<ul style="list-style-type: none"> <li>If draft is done with help of a consultant</li> </ul>			

Policy phase	“Green” perspective	Detailed questions	Useful links and resources
<ul style="list-style-type: none"> <li>Additional knowledge building will require resources</li> </ul>			
<ul style="list-style-type: none"> <li>Assistance with development of monitoring and evaluation framework</li> </ul>			See Annex III
<b>IV. Validate and submit for adoption</b>			
Tripartite validation. Resources needed for national tripartite workshop	Ensure substantive resource person or input on environmental dimension	Consider undertaking dedicated review of proposed national employment policy through green lens; could be a “what if” climate stress test	Review other policies to compare structure, content and implementation strategy (on, e.g., the GGKP, PAGE and GGGI platforms)
<b>V. Formal adoption</b>			
Communication plan, letting people know resources needed for the communication campaign		Are green issues reflected in the communication plan? Has employment been reflected in communications on the climate/energy/green sectors?	
Operationalize the inter-ministerial tripartite steering committee (e.g. nomination of members, mandate)	Propose members with green competence; consider adding observers and advisers if not official members of steering committee. Consider including representative(s) from local governments where green policies are most relevant	Does the committee foresee holding consultative meetings with other (green) stakeholders? Is there scope for dedicated capacity building on green issues?	See, e.g., PAGE synthesis <a href="#">report</a> on integrated planning and sustainable development
Secure the budget	Ensure allocation to green outputs; consider mobilizing funds from climate and other green finance for employment promotion	Widen mapping to include climate-related funds, nationally and globally	
Operationalize the monitoring and evaluation framework	Ensure indicators and reporting on green issues/jobs		See Annex III

Policy phase	“Green” perspective	Detailed questions	Useful links and resources
Drafting of decrees can start prior to formal adoption	Consider green standards and certification that also reflect employment; consider adding environmental issues to employment standards	Any legal instruments on green issues (e.g. jobs, enterprises, resource efficiency, emissions) that also reflect employment?	
Resources may be needed if external expertise is required			
<b>VII. Start implementing activities</b>			
Set up implementation committee/task force	Propose members with green competence	Organize a green jobs sensitization workshop for committee?	See The Philippines case study in section 2
Prepare a detailed work plan	Ensure green output, activities and priorities	Are there any 100% green outputs? Set up green fund/green training curriculum? To what extent can other outputs be “greened”? For example, PES including a “green desk”, tourism strategy reflecting employment in eco-services	
Seek commitment from key partners to policy intentions	Ensure partners mentioned in the policy are also tasked with implementation responsibility	Has the ministry of education designated staff to review TVET in green skills? Are green certification and auditing services being planned in relevant ministries? Has the ministry of education agreed to undertake an employment assessment of green policy decisions?	See the <a href="#">PAGE</a> country reports
Involve social partners	Ensure understanding on green jobs and greening enterprises is adequate; identify and align interests and actions of social partners with the goals and objectives of the national employment policy	Can social partners become more attractive for members by participating in green jobs/enterprises/strategies? Are they having contact and outreach with the local private sector, especially SMEs? Are trade unions acting on climate change more generally?	See the ITC/ILO resource <a href="#">guide</a> <i>Greening economies, enterprises and jobs</i>

Policy phase	“Green” perspective	Detailed questions	Useful links and resources
Undertake pilot projects of sufficient scale and with good potential visibility	Identify proactive, efficient partners already active in the green economy and establish cooperation; add/propose a jobs dimension to existing environmental initiatives; design new pilot projects in key areas (e.g. green entrepreneurship promotion, green value chain promotion in agriculture, green demonstration building)		See the PAGE country reports
Promote mainstreaming of environmental issues into existing or new projects on employment, enterprise development and skills development	Skills certification Capacity building among staff in forestry, agriculture and waste management Innovation and support for green SMEs		ILO resources on skills for green jobs See also the <a href="#">SWITCH Africa Green website</a> (entrepreneurship) and DCED green growth <a href="#">resources</a>
<b>VII. Monitoring, evaluation and reporting</b>			
Design a monitoring and evaluation framework with outcomes, outputs and indicators	Ensure green output, activities and indicators	Have 100% green outputs and indicators been included?	
		Have practical green outputs and indicators been included?	
Ensure sources and means of verification	Identify to what extent existing sources/methods can be greened. In cases where no established sources exist (e.g. no green jobs in labour market surveys), consider sample measurement, opinion polls, focus group discussions	Do measurement institutions/staff fully understand the green jobs dimension? Can existing environmental monitoring be utilized as a vehicle for employment data (e.g. extension agents for smart agriculture methods, energy efficiency auditors)?	
Include social partners	Utilize contacts, reputation, technical and advocacy capacity	Do social partners have their own monitoring mechanisms to which green jobs can be added?	See the ITC/ILO resource <a href="#">guide</a> <i>Greening economies, enterprises and jobs</i> Just Transition <a href="#">Centre</a>

Policy phase	“Green” perspective	Detailed questions	Useful links and resources
Ensure dedicated reporting on environmental dimension/achievements	Documented evidence of green outputs and outcomes		
	Consider an information platform or campaign to increase awareness and make a stronger case for green employment approaches		See the <a href="#">PAGE</a> website for country examples
<b>VII. Financing</b>			
Ensure budgetary resources	Identify climate finance-related budgets in the public and private sectors; advocate for allocation of the national employment policy budget to green outcomes	Consider proposing fiscal measures to tax emitting sectors and subsidize green sectors Are there other policies that have a green component with which cost sharing can be established (e.g. green buildings, waste management)?	
Mobilize extra-budgetary resources	Identify climate finance-related funds in development banks and (multi)lateral financial partners	Does the country have an NDA with the GCF? Are there resources with the ministry of environment for co-financing?	<a href="http://www.greenclimate.fund/home">http://www.greenclimate.fund/home</a> <a href="https://www.thegef.org/">https://www.thegef.org/</a>





## Annex IIIa. Example indicators for mainstreaming environmental issues in employment policies

Level	Example	Qualified “green” indicators or measurement criteria
Process	<p>Participation of individuals or organizations in diagnosis, policy formulation and monitoring</p> <p>Policy drafts are shared for consultation</p> <p>Policy includes provisions for horizontal and vertical coherence</p>	<p>At least one member of steering committee or task force with environmental expertise included in diagnosis, formulation and monitoring</p> <p>Invitations for meetings and workshops sent to environmental experts and relevant government institutions dealing with climate change, environmental sustainability and resource efficiency</p> <p>Background reports, policy inputs and draft proposals are shared with environmental experts/institutions for consultation</p> <p>Comments and proposals are reflected in the subsequent policy draft</p> <p>Safeguards for policy coherence with relevant ministries and local government institutions are included in the policy and implementation framework</p>
Goal	Full, productive and freely chosen employment ...	... which includes a just transition to environmental sustainability, low-carbon development, resource efficiency, climate resilience or green growth
Objectives	<p>More and better jobs</p> <p>Improved employability of rural young people</p> <p>Higher productivity among SMEs ...</p> <p>Strengthen capacity of TVET institutions to respond to new demands in labour markets ...</p> <p>Improved institutional framework for employment ...</p>	<p>Share of green jobs, by sex and by age</p> <p>Increase in the number of people completing certified green training</p> <p>... including resource productivity and cleaner production</p> <p>... including those arising from green economy investments and policies</p> <p>... with links to environment-related policies</p>
Outcomes	<p>PES providers assist young people to find jobs</p> <p>The financial sector offers loans to SMEs for accessing technology and for innovation</p> <p>Government procurement policies and regulations include criteria on job creation</p> <p>Inter-ministerial coordination mechanisms address labour market challenges</p>	<p>PES have better knowledge of the job potential in green sectors and include green jobs in their offer to jobseekers</p> <p>Financial services target SMEs in green sectors and markets</p> <p>Procurement policies include criteria related to creation of green jobs</p> <p>Skills anticipation reviews address environmental trends and policies</p> <p>Skills development systems and/or curricula address needs in green occupations and aptitudes for greening existing jobs</p> <p>This mechanism includes a designated task for employment in the green economy</p>
Inputs	<p>Employment project models and reports ...</p> <p>Skills anticipation methodologies and reports ...</p> <p>Market assessments for financial services ...</p>	<p>... specifically for green sectors and green jobs</p> <p>... including, or with a focus on, emerging occupations in the green economy</p> <p>... including financial needs related to the existing and potential demand for green goods and services</p>

**Annex IIIb. ILO Programme and Budget 2018–19, Outcome I. Existing indicators and suggested additional “green” qualifiers**

Outcomes (as given)	Indicator (as given)	Example qualifying “green” measurement criteria
Outcome statement	Member States implement policies and programmes that promote more and better jobs and enhance youth employment prospects with a view to inclusive growth and development	... that contribute to adaptation to climate change and low- carbon development
1. Comprehensive employment frameworks	n/a	Constituents incorporate environmental sustainability dimension in revision or new design of employment policies, guided by ILO support
2. Promote youth employment	Youth employment programmes in response to conflicts, natural disasters or environmental crises are developed or implemented	<ul style="list-style-type: none"> <li>• Green entrepreneurship programmes launched and implemented</li> <li>• Public employment programmes for adaptation, nature conservation and regeneration employ young people</li> </ul>
3. Reduce skills mismatches; enhance access to the labour market	Forward-looking skills strategies developed for more effective anticipation and skills training adapted to labour market demands in response to [industrial, sectoral, trade, technology or] environmental developments	<ul style="list-style-type: none"> <li>• Skills anticipation methodologies incorporate changing demand stemming from green growth</li> <li>• Skills for green jobs TVET curricula developed and offered</li> </ul>
4. Environmental policies for structural transformation	Investment programmes and projects implemented for more and better jobs which are environmentally sustainable. Suggest wording as “... more and better jobs that contribute to environmental sustainability or to adaptation to climate change”	<ul style="list-style-type: none"> <li>• Sector policies (e.g. renewable energy, tourism, infrastructure) designed and supported by employment-focused strategies and tools</li> <li>• Public employment programmes for response to and resilience against climate change implemented</li> </ul>
5. Improved labour relations, labour market institutions and working conditions	The labour market implications assessed of [digital,] green [and other new] technologies to inform employment, skills and structural transformation policies	<ul style="list-style-type: none"> <li>• Green jobs assessments undertaken and used for policy advice and institutional strengthening</li> <li>• Employment protection measures implemented in response to job losses due to climate change or green policies</li> </ul>

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