Meeting skill needs for green jobs:

Policy recommendations

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This set of policy recommendations was prepared at the request of the G20 Development Working Group (DWG) under the Human Resource Development Pillar by the Inter-Agency Working Group on Greening Technical and Vocational Education and Training and Skills Development. They were developed by the ILO, in cooperation with and based on inputs from the OECD, UNESCO and Cedefop. The text was amended and vetted by other members of the Inter-Agency Working Group.

1. Background and objectives

This document, jointly prepared by members of the Inter-Agency Working Group (IWG) on Greening Technical and Vocational Education and Training and Skills Development, presents a set of policy recommendations formulated in response to a request from the G20 Development Working Group (DWG) under the Human Resources Development (HRD) pillar. These recommendations are built on challenges faced and lessons learned in the course of initiatives taken by the IWG members with the aim of greening technical and vocational education and training (TVET) and skills development. They also acknowledge earlier G20 reports and discussions on green growth and HRD.

These recommendations are presented here to inform and advise the G20 governments on ways of anticipating and meeting the skill needs of labour markets while pursuing sustainable development and green growth. It is recommended that they be implemented in pilot countries under the G20 HRD pillar.

The G20 DWG meeting in Los Cabos, Mexico, on 3–5 May 2012 identified the green economy as a priority area. Leaders welcomed the launch of the Green Growth Knowledge Platform (GGKP), which will help developing countries implement inclusive green growth strategies and measures; the delivery of a toolkit of policy options for inclusive green growth; and a public–private Dialogue Platform on Inclusive Green Investments, which will encourage further exploration of effective mechanisms to mobilize public and private funds for inclusive green growth investment in developing countries.

On 17–18 May 2012, the ILO and OECD background report on *Sustainable development, green growth and quality employment* was presented at the meeting of G20 labour and employment ministers in Guadalajara, Mexico. This report reviewed the main implications for the labour market of a transition to green growth, and highlighted policy challenges for labour market and training policies.

On 22 May 2012, a G20 seminar on green growth, jointly organized by the Mexican G20 Presidency and the OECD, was held in Paris. One focus of discussion was the types of labour market and skills policies necessary to maximize the job-creation potential of green growth while minimizing the labour market adjustment costs in different G20 countries. Particular emphasis was placed on policy measures necessary to ensure that newly created green jobs offer the best possible working conditions and are concentrated in the formal sector.

At the fourth meeting of the DWG in Bali, Indonesia, on 4–5 October 2012, the ILO, OECD, UNESCO and World Bank submitted a report summarizing progress made in the HRD pillar since the May 2012 meeting in Mexico.

2. Key challenges in meeting skills needs for green jobs

The challenges of greening the economy, and the implications of the process for skills and training needs, vary considerably both among and within countries, depending on their economic structure and institutional arrangements as well as on their levels of development and the composition of their labour markets. Notwithstanding these variations, all countries, from the poorest to the wealthiest, and from the least to the most economically developed, now have to aim for sustained growth while minimizing its impact on the environment. The impact of the transition to green growth on employment levels and skill requirements is a key concern for policy-makers in countries at all stages of development, especially in the current economic climate of high unemployment and underemployment in many countries.

Labour market and skills policies that facilitate a smooth and just transition will thus form an essential component of green growth strategies. New employment opportunities can contribute to a more sustainable and inclusive growth for all, provided some critical issues relating to the development of appropriate skills are taken into account. These key points are summarized below.

Skill shortages can hamper the green transition

Experience in many countries has shown that "skills bottlenecks", where supply does not meet demand, can be a serious impediment to green investment and growth. These bottlenecks can arise both where new skills are needed to meet the requirements of changing and newly emerging occupations, and equally where demand increases for skills in existing occupations. Particularly severe skill shortages have already been evident in fast-growing sectors such as renewable energies and energy efficiency. Lack of qualified teachers and trainers is widely recognized as a significant obstacle to skills development for upcoming green employment opportunities.

Lack of coordination between skillsand environmental policies prevents implementation of ambitious green growth strategies

While most countries have drawn up environmental policies, few have put in place the green job skills development strategies needed to implement them. This failure is mainly attributable to weak coordination between national and/or local planning and labour policies, and between different actors and stakeholders within individual policy areas, and a lack of adequate resources and institutional capacity to implement strategies.

The green transition brings structural shifts in employment

Sectors such as mining, fossil fuel-based energy generation, manufacturing (including the automobile industry), forestry and agriculture are likely to be most seriously affected by structural change in the wake of the green transition. Conversely, new job opportunities will arise in industries that are expected to grow as economies go greener. While job gains are expected to outnumber job losses, workers losing "brown" jobs will not always be able to walk into green alternatives – especially as low-skilled and medium-skilled workers are disproportionately represented in brown sectors. Successful restructuring therefore presents major challenges, and will require the active engagement of employment services, including a prominent role for active labour market policies and concentrated attention on retraining both workers and jobseekers.

Occupations change at different rates and in different ways as economies go greener

The green transition will generate far more demand for upgraded skills in established occupations than it will create brand new

occupations. Where new occupations are created, they often call for higher-level qualifications, either because of their dependence on new technologies or because they require sophisticated skills in, for example, networking, organization or consultancy. The core skills identified as necessary for green jobs include environmental awareness and willingness to learn about sustainable development as well as leadership skills.

Skills required for changing occupations are hard to capture

Ways of classifying and measuring these and other skills required in green jobs are only now being developed and refined. As a result, current labour market information is not up to date or appropriately organized. In the absence of reliable statistics, most countries have hitherto relied on qualitative data gathered through enterprise surveys, occupational research and/or consultations with experts.

Training for new skills requirements must be put in place promptly

Providing high-quality education and training will not only facilitate workers' ability to adjust quickly to labour market changes, but will also improve the capacity of businesses to adopt and generate new and greener technologies. Although it is difficult to forecast employers' skill needs, progress can be made by involving all labour market stakeholders and all levels of government (national, regional and local) in the effort to adapt education and training programmes to the emerging needs of the green economy. There is also a pressing need to update occupational certification systems, so that employers and customers can assess which workers have green competencies.

3. Policy recommendations to address these challenges

Improve policy coordination and encourage social dialogue

Green skills development must be integrated into wider training and skills development policy, rather than being seen as additional to or separate from other forms of skills development. Countries have found various effective ways to integrate skills issues with environmental policy development.

Whatever the specific challenges faced, closer dialogue and cooperation on the implications of green growth among employers, workers, policy-makers and educational institutions will benefit all those concerned. As green technologies and working practices diffuse throughout the economy, skill requirements will change. It is important to avoid skills bottlenecks that slow the transition towards a green economy and marginalize workers. Social partners and governments at all levels should collaborate in a broad effort to adapt TVET to changing skill needs, with particular attention to the local level, where different stakeholders representing both supply and demand come into direct contact.

Whatever measures for education and training are implemented, they will not lead to job creation unless they are coordinated with other policy mechanisms, including among others measures to promote a conducive business environment, encourage entrepreneurship and ensure social protection.

Focus on the development of portable skills throughout life to encourage occupational mobility

Transversal green skills (e.g. those connected with waste reduction or efficient use of energy) will be more in demand than specific green skills related to particular green jobs narrowly defined. Greening existing occupations often means introducing transversal green skills into current vocational training.

Core skills such as decision-making, leadership and readiness to learn remain essential and will continue to underpin occupational mobility. Environmental awareness is itself becoming an important core skill and merits inclusion in education from childhood onwards through youth and adulthood. If all employees are to be equipped with green skills, then a lifelong learning approach is crucial. Lifelong learning should cover all stages of formal education and training (compulsory schooling, TVET, higher education and retraining), as well as early childhood education, work-based learning and, where possible, other informal and non-formal learning environments. What is required is a learning culture that provides students with an active role, connects with actual sustainability issues in schools and community life, and organizes active learning at "real-world' sites.

Many countries face demographic challenges alongside the green growth challenge. This combination calls for the simultaneous provision of (a) broader foundations in initial training for young people, to increase their potential occupational mobility throughout their working lives, and (b) access for older workers to opportunities to receive training for green jobs. This requires that training approaches be flexible and comprehensive enough to address the different learning stages through which people pass in the course of their working lives.

Encourage individuals and companies to invest in skills development for green growth

Skills development has been shown to be a critical driver of change in its own right, triggering green investment and technological innovation, and thereby bringing sustainable innovations into markets at competitive prices. Equally important is the development of environmental awareness on the consumer side, to support the green transitions and markets that in the end create new jobs. Individuals and enterprises could be encouraged to engage with skills development through incentives to invest in acquiring new skills and/or in upgrading and maintaining their existing skills. Such incentives could be provided through the tax system, for example by making educational expenses tax-deductible.

Small and medium-sized enterprises (SMEs) are likely to require particular assistance in upgrading the skills of their workers. In order for SMEs to identify gaps in their existing skills base and their future skills needs, they require a well-developed business strategy. Developing green skills is thus part of the broader challenge faced by SMEs of increasing their strategic management capabilities. SMEs need to be made aware of business opportunities in green sectors and at the same time convinced of the value of green skills and the need to devote resources to acquiring them.

Revise curricula to increase individuals' adaptability

Education and training curricula should be reviewed periodically to ensure they

remain up to date and thus able to maximize the employability of students and their adaptability to the labour market implications of green growth. Curricula and programmes should be designed to attract more entrants in science, technology, engineering and mathematics (STEM) subjects in order to address current and future skills deficits in these areas in particular.

Make retraining opportunities accessible for all, and prioritize training for vulnerable and disadvantaged groups

The transition towards green growth will require a significant number of workers to move from declining firms and sectors to growing ones. One of the key policy areas will revolve around measures to assist workers to make these transitions smoothly. Active labour market programmes can play an important role in speeding the re-employment of displaced workers.

The growth dividend offered by the greening of the economy will only be fully realized if training is made readily accessible to young people, older workers, people with disabilities, rural communities, and other vulnerable and disadvantaged groups, including workers in the informal economy. Policy-makers need to commit resources to both training and retraining for all these groups. In particular, short, intensive vocational training courses, tailored to employers' needs, have proved their worth in delivering retraining for specific new job opportunities.

Strengthen career guidance on green jobs

Misperceptions about green careers need to be addressed by improving the quality of advice and guidance, and through information campaigns about green jobs. Studies have shown that younger workers in particular sometimes perceive green jobs as low-status or 'dirty' or for people with no qualifications. At the same time, because newly emerging occupations are not burdened by a history of gender stereotyping and segregation, they offer a unique opportunity to break existing gender barriers. Career guidance also has an important role to play in providing information on opportunities for training for green jobs, and in matching green jobs and skills on local labour markets.

Enable trainers and teachers to keep skills for green jobs up to date

Not enough trainers and teachers are aware of environmental issues, and not enough are able to teach new techniques. Shortages are particularly acute in the agriculture and construction sectors. Teachers and trainers have a critical role to play both in promoting environmental awareness among young people and in spreading environmental training beyond the formal system of education by reaching out into the adult population. The education and continuing professional development of such teachers and trainers should therefore be a top priority in any skills response strategy.

Improve systems for identifying and anticipating skill needs

There is an urgent need for a more rigorous approach to the analysis and anticipation of demand for green jobs and related skills. Those countries with strong labour market information systems have shown that their systems can be easily adjusted to incorporate this requirement. In other countries, such systems have to be built up, incorporating in the process due recognition of skills and occupations emerging in the context of green growth.

Where reliable statistics on green jobs and skills demand are lacking, qualitative approaches, including sector studies, can be useful, as can public–private partnerships and social dialogue. Institutional development often supports anticipation of skill needs, facilitates social dialogue and exchange of information and compensates for the lack of hard data.

Support training providers as active agents for local sustainable development

Vocational schools and other learning providers can encourage the spread of sustainability ideas and values and can also highlight green business opportunities, acting as local agents for skills development in the greening economy. Their expertise on issues such as adaptation to climate change, environmental protection and sustainability can promote green economic development locally. There is a need to anchor sustainable development principles in TVET institutions, by means such as greening the campus, technology programmes, the community, research and the institution's culture.

Use indicators as tools for capacity building and policy learning in greening TVET

Regular monitoring, based upon clearly defined goals and indicators, will be crucial to success in initiatives to foster capacity building and policy learning. Relevant indicators will cover, among other things, the priority given to sustainability in the management of campus operations.

Maximize the jobs potential of the transition to green growth

While there is a strong political will to use green growth policies as a way to raise overall employment rates, the employment dividend of a green economy does not come automatically. Policy-makers should maximize the jobs potential of the green transition by making sure policy packages are well adapted to the national context. For example, developed countries may find it useful to combine environmental taxation with employment support measures, such as retraining for new job opportunities, in order to shift the taxation burden towards resource use and pollution and away from labour. Developing countries, on the other hand, may find it more useful to focus on attracting investment in expanding labour-intensive renewable energy capacity, for example by making the business environment more inviting and developing a pool of qualified labour.

Use training to improve the quality of jobs

A greener economy does not automatically deliver decent jobs. Skills development in areas such as occupational safety and health, minimizing waste, workers' rights and collective bargaining may contribute to the improvement of working conditions and the avoidance of occupational hazards.

Include the greening of TVET in the post-2014 education and sustainable development agendas

The role of TVET is likely to increase in the next set of global education and development goals, following on from the Millennium Development Goals, the Education for All objectives and the Rio+20 conference. Greener skills development systems and institutions can significantly contribute to the post-2014 education and sustainable development agendas. Further emphasis should be placed on greening TVET as a catalyst for cross-sectoral planning and the implementation of programmes in priority areas such as climate change, biodiversity and disaster risk reduction.

Foster mutual learning for greening TVET and skills development

The G20 can help to foster mutual learning about good practices in adapting labour markets and national and local skill development systems to the requirements of a greener economy, for example by compiling information about the content and effectiveness of policy measures introduced at different levels of government in collaboration with the private sector, including through the Global Public–Private Knowledge Sharing Platform on Skills for Employment.

This set of policy recommendations reflects research findings and policy work of the members of the Inter-Agency Working Group on Greening Technical and Vocational Education and Training and Skills Development:

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