GUIDANCE NOTE 13

Promoting VET to support a green economy

Topic overview

A set of **policy recommendations outlining the skills needed for green jobs** was developed for the G20 Development Working Group under the Human Resource Development Pillar by the Inter-Agency Working Group on Greening Technical and Vocational Education and Training and Skills Development. (2013). The challenges of greening the economy, and the implications of the process for green vocational education and training (VET) 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 must aim for sustained growth while minimising its impact on environment. For instance, the rapid rise in renewable energy sources is a clear indicator of the growing importance of greening VET for employment (see Figure GN13.1).

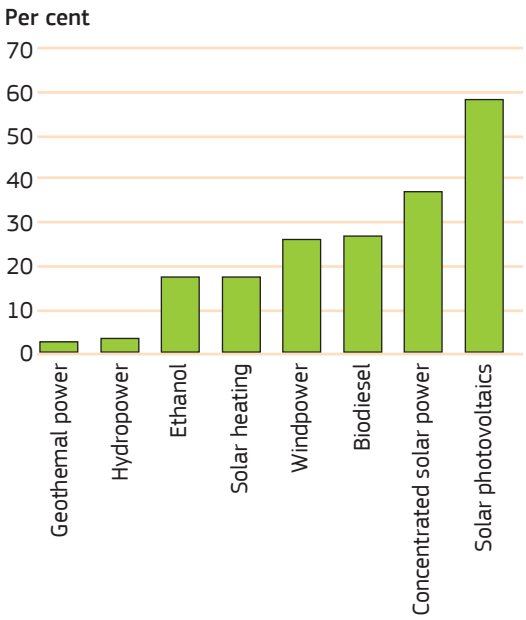
Labour market and green VET policies that facilitate a smooth and just transition will thus form an essential component of green economic growth strategies. Experience in many developing countries has shown that **VET bottlenecks where supply does not meet demand can be a serious impediment to green investment and growth**. These bottlenecks can arise both where new VET skills are needed to meet the requirements of changing and newly emerging green occupations, and equally where demand increases for green VET skills in existing occupations. Particularly severe green VET skill shortages have already been evident in fast-growing sectors such as renewable energies and energy efficiency. Lack of qualified VET staff is widely recognised as a significant obstacle to VET development for upcoming green employment opportunities.

While most countries have drawn up environmental policies, few have **put in place the green VET development strategies needed** to implement

SUMMARY OF KEY ASPECTS

- The concept of a green economy has been established at the global level as the new environmental guiding principle.
- The challenges of greening the economy, and the implications of the process for greening VET programmes, vary considerably among and within countries, depending on economic structure, institutional arrangements, level of development and composition of labour markets.
- While most countries have drawn up environmental policies, few have put in place the green VET development strategies needed to implement them.
- New qualifications profiles are emerging for innovative occupations geared to environmental protection as well as for traditional occupations due to the adoption of eco-friendly industrial processes.
- Capacity building is crucial within the informal economy to enable green jobs to be created in localities where they are most needed.
- VET policies and programmes must be designed using an approach that is differentiated according to sectors and regions.

FIGURE GN13.1 Average capacity growth rates of renewable energies, 2006–2011



Source: Parkinson, 2013.

BOX GN13.1 Policy recommendations for green VET strategies

- Improve policy coordination and encourage social dialogue for greening VET
- Encourage individuals and companies to invest in VET for green growth
- Revise curricula to increase learners' adaptability to green competences
- Make retraining opportunities accessible for all, and prioritise green VET programmes for vulnerable and disadvantaged groups
- Strengthen career guidance on green jobs
- Enable VET staff to keep skills for green jobs up to date
- Improve systems for identifying and anticipating green VET skills needs
- Support VET providers as active agents for local sustainable development
- Use indicators as tools for capacity building and policy learning in greening VET
- Maximise the jobs potential of the transition to green growth
- Use green VET programmes to improve the quality of jobs

Source: Inter-Agency Working Group on Greening Technical and Vocational Education and Training and Skills Development, 2013.

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, as well as a lack of adequate resources and institutional capacity to implement strategies. Economic sectors such as mining, fossil fuel–based energy generation, manufacturing, 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. Developing countries have the least responsibility for climate change and environmental degradation, but suffer their economic and social consequences disproportionately. Special policy recommendations that can speed up the development of green VET development strategies are listed in Box GN13.1.

These **policy recommendations can only be taken if resources are available**. It is therefore suggested that not only national governments but also international partnerships with developing countries take these recommendations into account both in environment programmes and in VET programmes. Many developing countries are endeavouring to introduce resource-efficient technologies and to expand the use of renewable energy. In countries where the vast majority of people are employed informally, a transition of this kind is only conceivable with the involvement of the informal economy. At the same time, moving towards a greener economy is creating opportunities for new technologies, investment and jobs. This is the message of the United Nations Environment Programme's *Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World* (UNEP, 2008), which estimates that efforts to tackle climate change could result in the creation of millions of new green jobs in the coming decades.

The **relationships between environmental and VET policies** are complex. Traditional top-down instruments to promote environmental standards often fail to penetrate the informal economy or can even have a detrimental effect. Some industrial countries have developed green skills frameworks for specific occupations — e.g. in the construction and energy sectors. It is essential that VET policies and programmes are designed using an approach that is differentiated according to sectors and regions. Aside from specific occupational skills, the cross-cutting VET competences listed in Box GN13.2 are necessary for a green economy.

The importance of green VET competences for workers and enterprises in developing countries is beyond question. New qualifications profiles are emerging for innovative occupations geared to environmental protection — green jobs such as solar installation technicians and energy consultants, to name a few. In almost all conventional occupations, there is further potential to operate more sustainably. This can be tapped by enabling workers to gain appropriate green qualifications. **Government intervention is crucial to support green employment creation.** Government action to reduce damage to the environment and health is often a prerequisite for developing markets for greener technologies and services. Government subsidies for research and early stage deployment can accelerate innovation and provide a signal of certainty to formal industry that it too should be co-investing in, for instance, green VET programmes.

BOX GN13.2 Cross-cutting VET competences for a green economy

- **Strategic and leadership skills** to enable policymakers and business executives to set the right incentives and create conditions conducive to green production, greener transportation, etc.
- **Adaptability and transferability skills** to enable workers to learn and apply the new technologies and processes required to green their jobs
- **Environmental awareness** and willingness to learn about sustainable development
- **Coordination, management and basic entrepreneurial skills** to facilitate holistic and interdisciplinary approaches incorporating economic, social and ecological objectives as well as to seize the opportunities of low-carbon technologies
- **Systems development and risk analysis skills** to assess, interpret and understand both the need for change and the green measures required
- **Innovation skills** to identify opportunities and create new strategies to respond to green challenges
- **Communication and negotiation skills** to discuss conflicting interests in complex green contexts
- **Marketing skills** to promote greener products and services
- **Consulting skills** to advise consumers about green solutions and to spread the use of green technologies
- **Networking, information technology and language skills** to perform in global markets for green products and services

Source: Strietska-Ilina et al., 2011.

Procedure

STEP 1: Identification and preparation

First of all, **collect necessary environmental and green-specific data on the situation of target groups** seeking employment in green jobs. The collected information enables identification of the form and content of a green-sensitive VET project. From this information base, analysis allows the selection of options to obtain a best-fit option leading to an overall project intervention strategy, definition of modes of financing, and reaching agreement on the conceptual approach and project management structures. Three fields of coordinated action have been identified:

- designing the frameworks of the experiential learning projects for green capacity development and technology transfer;
- implementing the experiential learning projects;
- mainstreaming the lessons learned and knowledge transfer.

STEP 2: Design and appraisal

Reflect on and consider which are the **relevant components when planning the implementing phase** of the selected project intervention strategy. For instance, the aim can be to improve coordination between ministries, VET providers, technology transfer institutions and companies. This is carried out in experiential learning projects in a way which is practical and replicable using hands-on training and applied technology transfer, e.g. for:

- the installation and maintenance of solar water heaters and photovoltaic systems;
- water/wastewater and waste disposal management;
- increasing energy and resource efficiency in production processes;
- increasing local content in technological components for equipment used for renewable energies.

STEP 3: Implementation

Delineate the plan. For instance, after planning implementation of the South African Skills for Green Jobs initiative, a project overview plan was outlined in more detail, including operational planning. Finally, work packages were detailed, including the following.

- As part of a Green College Initiative, all public VET colleges are involved in self-defined green projects across South Africa.
- At the start of 2015, the topic of renewable energy technologies was integrated into a three-year national certificate (vocational) programme at seven VET colleges with 500 learners. Lecturers at the VET colleges are receiving ongoing staff development in this new subject. Teaching and learning materials have been developed and are now being used.
- New occupational qualifications needed to implement experiential learning projects — including a solar water heater installer and a photovoltaic systems installer — have been approved, and experiential learning projects outlined.

References and further reading

Inter-Agency Working Group on Greening Technical and Vocational Education and Training and Skills Development, 2013. 'Meeting Skill Needs for Green Jobs: Policy Recommendations'. International Labour Office, Geneva.

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Case study: Promotion of green VET competences in Pakistan

CONTEXT	Pakistan's **rapid population growth and the corresponding expansion of the workforce** are a burden on the national economy. Millions of young people enter the job market annually; they are unable to find work and do not contribute to national growth since they lack relevant knowledge, skills and occupational competence. Further major challenges are the various forms of pollution in the country and **widespread water-borne diseases**. Because only just over half of urban residents have access to sanitation, the remaining urban excreta are deposited on roadsides or into waterways. Additionally, only three major sewage treatment plants exist in the country; two of them operate intermittently. Much of the untreated sewage goes into irrigation systems, where the wastewater is reused; and into streams and rivers, which become sewage carriers at low-flow periods. Consequently, the vegetables grown from such wastewater have serious bacteriological contamination. Gastroenteritis, widely considered in medical circles to be the leading cause of death in Pakistan, is transmitted through waterborne pollutants.
CHALLENGES AND OPPORTUNITIES	A comprehensive VET system development programme was launched in 2011 with co-financing from the European Union, the Embassy of the Kingdom of the Netherlands, the Royal Norwegian Embassy and the German Federal Ministry for Economic Cooperation and Development (BMZ). The programme is implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The focus of the green skills programme component is **development of VET modules for ground and water protection** as part of each agricultural occupation. The Government of Pakistan was convinced that the development of green skills will become a major topic of VET system reform. There are **two entry points for promoting green skills**: • a national VET qualifications framework needs to be developed and curricula for the priority areas of agriculture, energy and services must be checked and revised; • a VET fund has been designated for project proposals for innovative VET programmes delivered through VET providers, businesses, non-governmental organisations, etc. The VET fund has four innovation themes, one of which is the **promotion of green VET competences**. With support of the VET fund, 2 out of 12 pilot VET modules for green VET competences have been developed so far: Pest Control by Organic Means in Agriculture and Organic Vegetable Growing with the Use of Greenhouse Tunnels and Water Drop Irrigation. Further VET modules are under preparation. In addition, a learning region has been identified in Pakistan's Federally Administered Tribal Areas.
ACTIONS TAKEN	The pilot projects are going to be implemented to **enable small farmers to use resource-efficient agriculture** in order to increase their yield, stop and partly reverse soil erosion, protect groundwater and contribute to environmental protection. The main programme actions are: • introduction and training of multipliers in organic pest control; • provision of VET programmes in organic vegetable growing and support of business start-ups; • introduction to resource-saving agriculture and training of small farmers in the pilot regions by regional trainers and managers; • documentation of impact using special software to collect socio-economic data.

LESSONS LEARNED	• **Capacity development on green skills** is at the heart of successful strategies for agriculture and improving rural livelihoods. Rural populations need not only skills which enhance their productivity but also green skills which can enhance their well-being, as part of a wider rural lifelong learning agenda. • **Thinking on greening VET programmes** is still very new in Pakistan. Relatively little was done during the past to explore pedagogical approaches for green skills in the labour market. The project is showing lighthouse examples of innovations on greening VET programmes. • The development of a **national VET qualifications framework** and the influence of small farmers in tribal areas on learning outcomes, together with workplace learning, have triggered new VET programmes and modules that will promote green competences in the field of agriculture, energy and services. • The Technical Education and Vocational Training Authority (TEVTA) of the province of Punjab developed manuals for a range of agricultural occupations that support multipliers in VET provider and workplaces to **integrate green competences into their VET teaching practices**. • The environmental needs of existing various forms of pollution and the cause of widespread waterborne diseases lead to growing **employment opportunities in new industries** such as waste management, grey water treatment and reuse, pollution prevention and control, environmental monitoring and inspection, organic farming, and forest and agricultural land rehabilitation. • A VET fund has been used to allocate funds in accordance with provincial policies and priorities. The VET fund has been effective in **promoting social dialogue and partnership** between the state, social partners, small farmers and other stakeholders.

Source: GIZ, 2013.