

LEARNING FOR A GREEN FUTURE

Human history becomes more and more a race between education and catastrophe.

HG Wells

Preventing a global warming catastrophe is a truly global issue. Alongside regulation and stringent pricing of resources, products and services to take account of their true costs to the environment, more and better education in sustainability issues is a prerequisite for success in this paramount task.

Fighting climate change is both feasible and affordable. The cost of preventive actions is estimated at around 1% of global GDP. This is far less than the estimated 5% of global GDP or more (EC, 2011) that we may have to pay for letting climate change accelerate further. The transformation to a global low-carbon economy is also an economic opportunity. It will lead to the creation of many new jobs in new green sectors (for example renewable energy) and in transformed traditional industries (for example low-energy building construction). In the EU alone, 3 million of so called green jobs are expected by 2020 (EC, 2010) ●

ETF PARTNER COUNTRIES: GREEN GROWTH AND CLIMATE CHANGE

The ETF's partner countries cover a wide range of regions and socio-economic backgrounds. The potential for green growth and the risks from climate change vary significantly between them.

The Intergovernmental Panel on Climate Change (IPCC) predicts that north Africa could experience serious water shortages by the end of this decade. Countries in Central Asia may witness a significant decrease in agricultural yields due to droughts and flooding (IPCC, 2007). Increased poverty, hunger and migration are likely consequences.

The poor will be affected most by climate change. They often lack the skills and resources to mitigate a loss in livelihoods. Improving vocational education and training (VET) can deliver the skills to protect income sources and reduce the risks resulting from climate change.

Partner countries with a strong industrial base can create new employment by modernising their industries and becoming competitive in a low-carbon world. This can be facilitated by implementing a skills and entrepreneurial learning strategy that includes an emphasis on environmental awareness and increased environmental accountability of both public and private sectors ●



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HOW CAN VET HELP CLIMATE CHANGE AND GREEN GROWTH?

VET is closely linked to the world of work. VET systems need to anticipate and respond to changes in labour markets and in the skills profiles needed for successful careers in low-carbon economies.

VET can help adapt to climate change: Changing climate conditions constitute a significant threat to traditional income sources. In developing and providing the skills for sustainable agriculture, for example, VET can help to increase the sustainability of small-scale farming and decrease its costs. It can facilitate mutual learning and dissemination of good practices in and across communities.

VET can help to mitigate climate change: Protecting the environment, increasing the efficiency of energy and water consumption, and decreasing the use of non-renewable resources is fundamental for reducing the ecological footprint of economies. VET and entrepreneurial learning convey the necessary skills for the small changes that add up to tangible reductions in water consumption, increases in energy efficiency and improvements in fuel consumption.

VET can help to support green growth: Renewable energy, alternative transport and energy saving technologies offer new economic opportunities to large-scale industry and small and medium-sized enterprises (SMEs). To be able to exploit these opportunities, workers and managers must be comfortable with constant product innovation. VET can provide the required solid skills base and allow the workforce to acquire new knowledge within a lifelong learning perspective.

THE INTERNATIONAL COMMUNITY JOINS IN

In 2010, the EU adopted its Europe 2020 strategy. It has five headline targets and seven flagship initiatives designed to generate smart, sustainable and inclusive growth needed for high employment, productivity and social cohesion in Europe by 2020. It identifies key areas where the EU economies need to become greener and more innovative (EC, 2010a).

In the Bruges Communiqué of December 2010, EU ministers for VET and the European Commission steered cooperation in VET towards the achievement of the Europe 2020 strategy, explicitly mentioning sustainable growth and the promotion of equity, social cohesion and active citizenship through VET.

The UN Decade of Education for Sustainable Development 2005-14, is an opportunity for UNESCO to integrate the principles, values and practices of sustainable development into all aspects of education and learning. Building on its 2004 Bonn Declaration, UNEVOC focuses on technical VET and its links to sustainable development.

The UN Economic Commission for Europe (UNECE) adopted its Strategy for Education for Sustainable Development (ESD) in 2005 to promote ESD in formal, non-formal and informal learning (UNECE, 2005). The ILO, in co-operation with Cedefop, analysed changing skills needs for green innovation and growth through case studies from 21 countries in their 2010 research project Skills for Green Jobs (Cedefop, 2010; ILO, 2011). The OECD, in its Green Growth Strategy of May 2011, focuses on the macro policies needed for economic growth consistent with resilient ecosystems (OECD, 2011).

WHAT IS A GREEN JOB?

There is no single true definition of a “green job”. Existing definitions focus on the job profile or the industry profile or both. Jobs are considered green

- if they have either an explicitly environmental focus in their job profile (reducing energy consumption, protecting ecosystems and biodiversity or minimising emissions and waste),
- if they are located in industries or in projects characterised by their environmental focus (energy efficiency, renewable energy, environmental protection or emission reduction).

SKILLS AND COMPETENCES FOR GREEN JOBS

The majority of green jobs combine existing skills sets with additional skills relating to green technologies, applications or processes (see also ILO, 2011). There will be a need for invention, innovation and moulding of some radically new professional expertise. However, the main challenge is to reform and upgrade the VET system and to offer opportunities for initial training, up-skilling and retraining across the entire range of jobs and occupations in a lifelong learning setting.

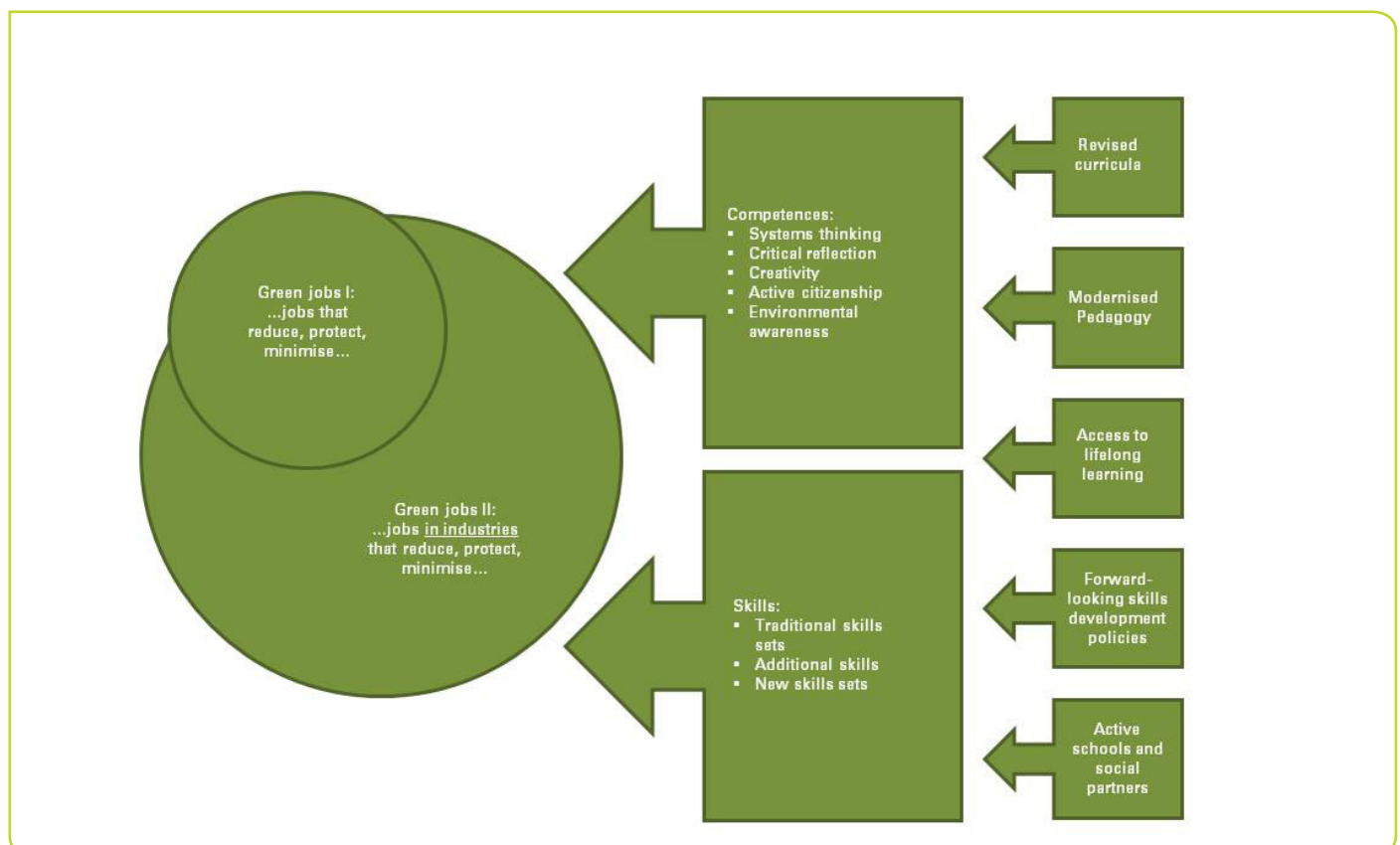
Developing competences like environmental awareness, systems thinking and creativity will need as much attention as the delivery of specific skills. The promotion of competences in learners needs to be an integral part of the entire education system, from early childhood to adult education, including the VET system. New and additional skills will need to be delivered across occupations (e.g. energy literacy) as well as in sector- and occupation-specific ways (e.g. organic agriculture, maintaining e-cars).

GREEN JOBS: MODERATING THE TRANSFORMATION

The shift to a low-carbon economy will create many new employment opportunities, but it will also lead to the decline of traditional industries and make familiar jobs and activities disappear (e.g. in coal mining and parts of petrochemicals).

In order to allow the workforce to switch more easily from old brown jobs to new green jobs, an early analysis of the change in the demand for labour and the forecasting of future skills needs are important. Social partnership is crucial for these analyses. By bringing together labour market actors and education and training providers, countries can translate labour market needs into up-skilling and retraining activities and into changes of curricula in vocational and higher education.

Employment services, and in particular Public Employment Services, can act as agencies for moderating the transition to a low-carbon economy. They can provide career guidance and targeted training as well as work-experience for the unemployed. They can also play an important role in providing access to lifelong learning.



Traditional skills sets describe established occupations (e.g. welder), additional skills refer to new skills that are added without completely changing the nature of an occupation (organic farming methods, insulation standards in buildings etc.), new skills sets refer to emerging occupations in low-carbon economies (bio-fuels technician, energy consultant etc.). However, the borders between the categories are blurred, e.g. newly emerging occupations almost always build upon traditional skills.

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ETF ACTION

The ETF has identified five areas in human capital development to support partner countries to meet the demands of sustainable development, responding to the challenges of climate change and taking advantage of the transformation to low-carbon economies.

▪ Competences for sustainable development

Becoming competent in sustainability requires developing problem solving ability, awareness of environmental issues and attitudes that support sustainable actions. The ETF advocates a school and a teaching culture that provides students with an active role, connects with actual sustainability issues in schools and community life and organises active learning at 'real-world' sites.

▪ Methods of identification, forecasting and provision of skills for green jobs

Forecasting future skills needs and targeted labour market interventions are crucial for shifting to a low-carbon economy successfully. Identifying and testing adequate qualitative forecasting approaches is a priority in the ETF's assistance to partner countries. The ETF also provides information on existing approaches for identifying skills for green jobs. From these examples the partner countries can draw lessons and inspiration for their own policies.

▪ Vocational schools as agents for local sustainable development

Vocational schools are ideally positioned to function as expertise resources on issues such as adaptation to climate change, environmental protection and sustainability. In its

support and capacity building activities for schools, the ETF promotes the whole school approach to learning for sustainable development in which schools actively support values of sustainability and become local agents for skills development in green economies.

▪ The green transformation as an objective of entrepreneurial learning and business education

Integrating sustainable development and green growth into all aspects of entrepreneurial learning and business education is fundamental for the transformation to a green economy. Without businesses taking on the challenge of transforming environmental regulation and customer demands into a wide and growing range of sustainable services and products, the shift to a low-carbon economy will remain elusive. The ETF promotes the provision of the necessary training and consultancy services.

▪ Indicators as tools for capacity building and policy learning in greening VET

Indicators facilitate policy debate and policy learning over time. The ETF uses indicators to promote broad government support for including sustainability and skills development in a green economy in VET reform, and to support individual vocational schools in becoming centres for skills development in a green economy. Self-assessment processes bring together teachers, headmasters, policy makers and stakeholders, providing a communication platform and creating momentum for advancing sustainable development and skills development for green jobs in VET systems.

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