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**Report on What Kind of Training Development Is Needed in Partner Countries' Vocational Education to Embed Green Skills in Partner Countries' Vet Systems.**



**Adapting Green Skills to Vocational Education Project**







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**RECOMMENDATIONS TO POLICY MAKERS ON WHAT KIND OF TRAINING DEVELOPMENT IS NEEDED IN PARTNER COUNTRIES' VOCATIONAL EDUCATION TO EMBED GREEN SKILLS IN PARTNER COUNTRIES' VET SYSTEMS.**

In recent years, post-global financial crisis economic strategies have referenced green growth of some kind—for example, the EU 2020 strategy for a ‘smart, sustainable and inclusive’ growth, and the 20-20-20 targets for 2020 (20% emissions reduction, 20% renewable energy share and 20% energy efficiency improvement). Developments of the market for renewable energy and energy efficiency services have also been highly influenced by government policy.

Cedefop defines green skills as ‘the knowledge, abilities, values and attitudes needed to live in, develop and support a sustainable and resource-efficient society’ (Cedefop, 2012). The United Nations defined green jobs as sectors and jobs in which waste creation and pollution is minimised (UNEP et al., 2008). The International Labour Organisation (ILO) includes in its definition of green jobs any sector that has a lower than average environmental footprint (ILO, 2012).

This report provides evidence for seven areas for policy response on green skills: Supporting green skills is integral to the transition to a low-carbon economy; Optimising public policy co-ordination is key to the transition; Fostering portable skills and lifelong learning; Matching market development to regulatory activity; Focusing on transparency around policy action; Developing strategic capacity within micro, small and medium-sized firms; Investing in Research and Development for anticipating and addressing gaps in knowledge.

Policy co-ordination appears to be uncertain and fragmented which can be traced back to resistance and uncertainty about environmental regulations and policies on green skills. There is also uncertainty around mechanisms for skill development, particularly the acquisition of skills through non-traditional channels in partner countries.

Developing green skills is part of a broader challenge to increase the strategic management capabilities of small and medium-sized enterprises (SMEs). These firms make up the vast majority of businesses within our economies and over half of the employment, yet SMEs have limited awareness of their needs and options in terms of green skill development.

For a greener economy the governments need a comprehensive policy approach that recognizes the country-specific and sector-specific challenges. Some policy advices for a change towards a sustainable greener economy are:

***Introduce environmental tax reform that shifts the burden to resource use and pollution.***

A tax reform promoting the technologies that has less footprint on the environment is a useful strategy for a government. Partner country governments use some measures on it. For example the tax on motor vehicles is decided according to volume of the engine of the vehicle. This means higher volume = higher oil consumption = higher tax. The tax policy may be used in a more effective way.



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*Encourage investment in a greener economy.*

The governments may encourage the investors to invest in a greener economy by some promotion policies. For example promoting the green energy sources by some legislation changes and providing some advantages to these technologies.

*Provide support to enterprises, notably SMEs.*

The role of SMEs in the transformation to a green economy will be critical for successful greening of the economy, especially in terms of improved employment and social outcomes. Indeed, SMEs provide two-thirds or more of all employment and are also the biggest source of new job creation and innovation. Environmental regulation, research and development as well as public procurement need to be mindful of the needs and limitations of SMEs. Our project implemented a questionnaire targeting the employers and the results show that the employers need to be trained on green skills.

*Place emphasis on skills and education policies to facilitate job transition and improve employability.*

This is critical because without skilled workers and competent enterprises the shift to a greener economy will be neither technically feasible nor economically viable. A greener economy will see the emergence of some new occupations, but it will mostly require new competencies in existing jobs and shifts in demand for occupations. There is not a specific strategy to adapt green skills to the vocational education in partner countries. But all of the governments in partner countries are define and promote green skill jobs. For example The Scottish Government's Skills Development Scotland (SDS) have created Modern Apprenticeships (MA) in areas including Wind Turbine Operations and Sustainable Resource operations and Management, intending to provide 30,000 new MAs each year by 2020. In vocational training, environmental competence is relevant as integrated part of the vocational action skills. It is also a fundamental element of the training regulations and the curriculum framework. Each partner country has its own vocational education system and all of them are adapting the new skill needs to their vocational education system, curriculum. Vet systems provides trainings about the environmental issues in their curriculum. The speed of including environmental subjects to vocational education curriculum changes from country to country.



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RECOMMENDATIONS TO POLICY MAKERS TO EMBED GREEN SKILLS IN PARTNER COUNTRIES' VET SYSTEMS.

**Identify and Focus on some sectors:**

Lots of sectors are related to a green economy but the governments shall identify and focus on some sectors. ILO report “Working towards sustainable development opportunities for decent work and social inclusion in a green economy” determines 8 sectors as agriculture, forestry, fishing, energy, resource-intensive manufacturing, recycling, buildings and transport. These sectors may change from country to country but determining key sectors and developing strategies specific to these sectors will be a more effective way of embedding green skills in partner countries' VET systems. VET authorities shall review their curriculums on vocation education systems for the occupations in identifies sectors. Include representatives of NGO's, employers, employees to decision making processes.

**The curriculums of Vocational Education system shall be reviewed at regular intervals:**

Green technologies changes rapidly and it is difficult to estimate new developments will necessitate the curriculum changes in which professions. Lots of occupations may need an development at its vocational education methods to adapt green skills to that occupation. So it is a good idea to review the curriculums at a regular interval and adapt new developments to the curriculums.

**The green skills education shall be included by work-place training because the technology is changing very fast:**

Workplace training to address changes in production processes shall be a key element of the skills strategy. Green skills are developing in line with technological changes. This means the employees may not have to be trained on that skill due to lack of the curriculum when they are student. This rapid development makes workplace training so important. Most of the green skills may be needed after the employee graduated vocational education system. The companies and other work-place training opportunities shall be provided to the employees. The governments may undertake supervision role in these workplace trainings.

**Developing the curriculum changes as fast as possible:**

Green skill related technologies are related to several technological developments in several fields. A new development in chemistry sector may give the opportunity to have a greener way of construction or IT technology may decline the cost of communication and decrease the need for transportation. So it is difficult to predict which technological development may assist to a greener economy and these changes are so fast. The Education policies shall adapt the new technological changes to the curriculums as fast as possible. To make these curriculum changes the authorities need collaboration between new technology developer companies, universities and VET authorities.

**Training of teachers about the importance of green skills:**

Some occupations are directly related to green skills like environmental engineering but some occupations have poor connection to the green skills like social workers. The governments shall



have a strategy on environmental education and awareness in public sector, at initial education and at the business sector. Especially for the occupations have poor connection to the green skills, it is difficult to have a specific curriculum related to green skills but if their teachers have basic information about green skills and are aware of the importance of environmental issues, they can raise the students' awareness on green skills.

**Awareness raising strategy for employers about importance of environment and green skills and create the demand for green skill jobs:**

To provide vocational education to potential employees on green skills may not be enough. The governments should create the demand for these jobs. Raising awareness of the employers and human resource managers in companies have a critical role on creating demand for green jobs. IF the employers know the way of doing a task in a greener way, they will prefer this way and they will employ the employees who have green skills.

**Strengthening skill needs forecasting and match of skills and vacancies:**

A mismatch of skills between vacancies and job searchers can increase unemployment and lead to under-utilization of an economy's output potential – both critical issues at a time when the global economy. While the difficulties of forecasting skill needs for some industries and occupations were exacerbated by the ongoing effects of the recession and the economic crisis, the countries vary significantly in the extent to which they coordinate attempts to forecast skill needs. Measurement of the needs of employers and employees on green skills.

**Promotion of careers in 'green occupations' through information, advice and guidance:**

Some policy attention could be given at national level to raise awareness of careers possibilities in some of these occupations among young people through existing national information, advice and guidance systems. This may need to be coupled with suitable signposting to enable young people without the requisite STEM qualifications to have 'second chance' access to them, possibly while gaining some of the practical experience which is valued by employers. For some young people, the best way of awakening their interest in careers in these occupations may be to stress the contribution that the job makes to supporting environmental sustainability or the 'eco-friendliness' of the occupation, rather than the STEM skills involved. Some workers may need to transition to other sectors, including new greener industries and therefore there is a need to provide counselling, retraining and upskilling to enhance their chances of taking up new employment. The extent of skills and occupation transition will very much depend on a number of factors including country specific industrial structure and stage of development.

**Actions for specific occupations:**

Some occupations are directly related to green skills like solar photo voltaic installer but some occupations have poor connection to the green skills like teacher. For directly related occupations, their potential contribution to the green economy is clear. The work of energy auditors, insulation workers, SPV installers and environmental engineers are good examples.

Promoting the students to these occupations and increasing the quality of education in these vocations is important. Raising the status of these occupations may help to stimulate awareness



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among the general public, and learning providers of labour market needs and of the possibilities presented by the transition to a green economy.

### **Collaboration between agencies responsible of education and environment:**

Energy and environment policies create the primary regulatory mechanisms that appear to have the most direct effect on the demand for skills in sectors directly affected by regulation, for example construction. Innovation and industrial policies appear to have indirect effects by providing financial support through favourable taxation or subsidies or direct government investment in infrastructure, which stimulate market demand particularly for renewable energy technologies. The major role for public actors will be to provide direction and co-ordination for skills development and training activities to occur. Green skills development needs to be integrated into the wider training and skills development policy rather than being seen as additional or separate to other forms of skills development. In partner countries there is some agencies responsible of environment, industry and construction and these agencies make some regulations for an environment-friendly policies. These policies may need some trainings or certification programs so the agency responsible of education shall be prepared to close the skill gaps in their own country. This makes the collaboration between agencies very important.

### **Collaboration between central government and local governments.**

In some partner countries, the local administrations are active in policy making so collaboration between the local authorities and central authorities is very important. A better collaboration makes to take necessary measures easier.

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