

ANTICIPATING THE TRANSITION: ENGAGING YOUNG WORKERS TODAY TO REACH 2050 GOALS

ANALYTICAL REPORT

2013



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INTRODUCTION

In March 2011, the European Commission published its Roadmap 2050, setting out the EU's strategic options to achieve a reduction in greenhouse gas emissions (GHG) of 80-95% by 2050 based on 1990 levels. Achieving this very ambitious aim will demand both development of new industries and sectors (e.g. in renewables, energy services, resource management) and a substantial transformation of production models, transportation and consumption across traditional economic sectors (such as automotive, construction, and distribution and trade). These changes will be implemented in the coming 40 years, affecting the whole working life of young workers entering the labour market today.

In December 2011, the Commission announced its "Youth Opportunities Initiative", focused on a youth guarantee, promotion of apprenticeships and internships and facilitation of school-to-work-transitions. This has been followed up by other initiatives and events such as the recent EU youth conference of the Irish Presidency which concluded that "young people in employment should have the right... to decent work and salary, non-precarious jobs, training and promotion opportunities, and should not face discrimination based on age". It also concluded that "financial, administrative and other necessary support, as well as entrepreneurial education and training, should be provided to encourage youth entrepreneurship with an emphasis on green and social entrepreneurship".¹

The aim of this study is to link this action on youth unemployment with the longer term European action on energy and resource efficiency, aimed at driving the development of new and transformative production models and consumption patterns towards sustainability. The 'greening' of the European economy entails changes in the labour market, in terms of types of jobs and skills required. Young people – the workforce of the future European economy – will need to carry out tasks and apply skills to adequately address the radical climate changes that may take place and the resulting changes to European economies and societies which climate change and resource scarcity may provoke in the future.

This study aims to highlight trade union action in collectively addressing youth unemployment and sustainable development issues in order to inform the further development of union strategies in this area. The project will consider how trade union initiatives on youth training and job placements can be linked to the growth of new green industries and transformation (greening) of the existing traditional sectors.

Findings of the study are based on the review of literature, statistics and other relevant information sources. The study also includes a survey of ETUC member organisations on the collaboration between sustainable development/environment and youth sections/departments on youth unemployment and sustainable development issues. Finally, findings are illustrated with prepared new or summarised already existing case studies on union initiatives on youth training and job placements that can be linked to the growth of new green industries and transformation (greening) of the existing traditional sectors.

There are many examples of non-formal training or 'training on the job' in manual and even non-manual trades essential to energy efficiency (e.g. building trades), renewable energy and other aspects of greening. The role of social partners in creating programmes for the transfer of collective knowledge and skills between generations is key if ambitious EU policies on climate change (e.g. Energy Efficiency Directive) and youth employment are to be rolled out across Europe. Practical examples exist and have been identified by on-going ETUC projects on Green Workplaces. This study will draw on these and other practical examples to promote trade union initiatives on training and job placements for young workers in relation to sustainable development across Europe².

¹ http://europa.eu/youth/content/ireland-presidency-eu-youth-conference-and-conclusions_en.

² Study, where information is available, covers the following countries of the ETUC member organisations: 27 EU Member States, Andorra, Croatia, Iceland, Liechtenstein, Monaco, Norway, San Marino, Switzerland and Turkey.

This study consists of four chapters and the main definitions used in the study are presented in the first chapter. The second chapter gives an overview of the broad social, economic and environmental context and related challenges, and draws implications in relation to sustainable youth employment and training, the third, examines general employment and demographic trends in relation to greening, illustrated with examples of union initiatives on youth training and job placements, and the final chapter sums up the results of the survey of ETUC affiliates on the link between action on youth employment and training and sustainable development. This is followed by conclusions and recommendations on further action in this respect. The study is accompanied by overviews of eight sectors that were selected for the analysis. These documents are provided separately from the main report.

1. DEFINITIONS

Chapter summarising the key definitions used in the study – youth, green jobs and green skills.

2.1. Youth

There is no straightforward definition of youth since it may be considered as a transition phase. According to A. Walther et al (2002) youth can be considered 'the passage from a dependant childhood to independent adulthood' when young people are in transition between a world of rather secure development to a world of choice and risk.

Defining youth at EU level is not an easy task. One alternative is to look at the age limits for key milestones to adulthood such as the age limit of child benefits, the end of full-time compulsory schooling, the voting age and the minimum age for standing for election (18 years is most often singled out) (Eurostat 2009a).

Age is a useful, but insufficient indicator to characterise the transition to adulthood. A second alternative would be to consider the time when a young person becomes financially self-sufficient. The average increase in the number of years of study (esp. through increased participation in higher education), combined with difficulties in getting a first job and access to affordable housing, as well as further negative impacts of the financial and economic crisis, have increased the length of the transition from youth to independence across countries. This is especially relevant for countries with very high unemployment of young people (e.g. Greece and Spain).

A third alternative is to look at official definitions by the EU institutions. For example, in a recent communication (European Commission 2012a) the European Commission based its analysis on a definition used in the Eurostat Labour Force Survey where youth is defined as less than 25 years of age, adults as over 25.

Considering the above variations and limitations, for a statistical overview of demographic and employment trends the study uses Eurostat's LFS definition of 'youth' as persons aged from 15 to 24. However, for the mapping of practices, case studies and analytical overview of the relevant trends, the study understands youth as the population aged between 15 and 29.

2.2. Greening of all jobs

The following two main approaches (European Commission 2013) dominate the literature in terms of defining 'green', 'green/ low-carbon economy', 'green jobs' and/or understanding 'green skills':

- the 'eco-industries' approach, in which 'jobs are green by nature of activity'; and
- the 'transformation' approach, in which 'all jobs are greening' including traditional industries (when, for example, energy-intensive activities of particular industries are undergoing a process of adaptation to the EU environmental standards).

The main features of both approaches are summarised in Table 1 below.

Table 1: Features of eco-industries and transformation approaches to 'greening'

Eco-industries approach ³	Transformation approach ⁴
<ul style="list-style-type: none"> • Static, i.e. relationship between 'green' and 'other' work is fixed • Activity-based (focus on activities with 'environmental purpose') • Initial effects in particular sectors • Categorical – allows for precise quantitative measurement • Existing statistical classifications do not allow detailed quantitative measurement • Good for preliminary identification of a core subset of activities that will be affected by environmental and low-carbon drivers • Risk on focusing on too narrow area of economy 	<ul style="list-style-type: none"> • Dynamic, relationship between 'green' and 'other' work changes over time • Concept-based (focusing on wide and constantly changing restructuring process based on environmental and low-carbon drivers) • Restructuring effects across all sectors and occupations • Implied – does not allow for precise quantitative measurement • Draws on existing statistical classifications for more qualitative measurement • Good for wider and especially long-term analysis of effects of environmental and low-carbon drivers on the economy • Allows for broad policy-based approach acknowledging the complex inter-linkages between climate change/environmental sustainability and labour markets • Risk of losing the focus (too wide a focus)

Source: Prepared by the authors based on European Commission, 2013.

These approaches are not mutually exclusive, but complement each other. Greening of the economy already started with the development and deployment of new technologies such as renewables (core subset of activities based on an eco-industries approach). However, following the 'transformation' approach, development and deployment of new technologies leads to wider cross-sectoral restructuring effects that significantly alter employment. Environmentally driven transformation affects labour markets in four ways (UNEP and ILO, 2008):

- 1) in some cases, additional jobs are created (as in the manufacturing of pollution-control devices added to existing production equipment);
- 2) some jobs are substituted (as in shifting from fossil fuels to renewables);
- 3) certain jobs are eliminated without direct replacement (as when packaging materials are discouraged or banned and their production is discontinued); and
- 4) many existing jobs are simply transformed and redefined as day-to-day skill sets, work methods, and profiles are 'greened'.

This study adopts a wide definition of green jobs as 'jobs that contribute to protecting the environment by reducing the harmful effects human activity has on it (mitigation of climate change) or help it to cope better with current climate change conditions (adaptation to climate change)' (Miranda and Larcombe 2012). The study combines the eco-industries approach and argues that positive labour market effects due to environmentally driven transformation are present not only in new industries and sectors (e.g. renewables, energy services, resource management), but also in traditional sectors such as automotive, construction or distribution and trade.

2.3. Sector-specific and generic green skills

The study follows the OECD definition of green skills as those 'required to tailor products, services, processes or operations due to climate change or low-carbon adjustments, requirements or regulations' (Miranda and Larcombe, 2012). Green skills can be:

- sector-specific (e.g., solar panel installation, wind turbine design, carbon trading);

³ Eurostat defines eco-industries as those 'activities which produce goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems. This includes technologies, products and services that reduce environmental risk and minimise pollution and resources' (European Commission, 2006).

A related concept is the Eurostat's 'Environmental Goods and Services Sector' (EGSS). Rather than defining 'green jobs', EGSS methodology instead explicitly defines a heterogeneous set of producers of technologies, goods and services in a set of pre-determined sectors that seek to protect the environment or minimise the use of natural resources, i.e. that have an explicit 'environmental purpose' (Eurostat, 2009b).

⁴ The transformation approach is, for example, stressed by the European Commission which defines green jobs as „... covering all jobs that depend on the environment or are created, substituted or redefined (in terms of skill sets, work methods, profiles greened etc.) in the transition process towards a greener economy“ (European Commission, 2012b).

- generic (e.g., green management, knowledge of sustainable materials, environmental-impact assessment skills, understanding of environmental legislation and certification, resource-efficiency improvement skills).

The study considers both sector-specific and generic skills.

2. BACKGROUND

Summary of findings

The wider social, economic and environmental policy context outlined above will have implications for trade union initiatives aimed at training and job placements for young workers in relation to sustainable development. Such trade union initiatives may address labour market, trade union, economic and environmental challenges in the following ways.

- Raise levels of education and training, reduce unemployment and ease transitions to the labour market for young people thereby significantly diminishing the risk of their social exclusion.
- Boost labour mobility of young people and contribute to the promotion of relevant good practices (e.g. sustainability-related apprenticeships) across Europe.
- Serve as an impetus to further develop skills' anticipation and provision systems.
- Increase union representation and protection of the workforce (and especially of often vulnerable young workers) and broaden trade union activities and influence.
- Equip the youth with adequate tools and skills to meet climate-related, as well as other environmental, social and economic challenges.
- Jointly contribute to companies' and other stakeholders' efforts to move towards a more innovative and inclusive form of capitalism characterised by the increasing application of disruptive technologies (e.g. IT, nanotechnology, renewable energy solutions) and collaboration with stakeholders previously overlooked or ignored by companies.
- Facilitate a way out of the economic crisis.

This chapter outlines the most pressing labour market, trade union-related, economic and environmental challenges in respect of environment-related trade union initiatives aimed at training and job placements for young workers. It also shows how such initiatives could contribute to addressing these challenges. Further chapters will examine the employment potential and demographic changes underway in different sectors linked to the greening of the economy and provide examples of relevant union initiatives in this respect.

The main object of this study – trade union initiatives on training and job placements for young workers related to sustainable development – need to be placed in a wider context. Union initiatives may be constrained or boosted by a number of challenges currently characterising Europe in relation to labour market, trade union, economic and environmental policy areas. This chapter briefly overviews these challenges to draw likely implications for this study.

2.1. Labour market challenges

Youth unemployment and its links with social exclusion

Across Europe youth unemployment rates are generally much higher than unemployment rates for all ages. Youth unemployment was rising before the current economic downturn and the financial crisis brought it to the top of individual government's agendas. In May 2013, more than 5.5 million young people in the EU were unemployed (Eurostat, 2013). The highest figures in 2012 were in Greece, Spain, Portugal, Italy, Slovakia and Ireland (see Table 2 below).

Statistics in Table 2 reflect the difficulties faced by young people in finding jobs. However, as suggested by Eurostat, the statistical office of the European Union, this does not necessarily mean that the group of unemployed persons aged between 15 and 24 is large, as many young people are studying full-time and are therefore neither working nor looking for a job (so they are not part of the labour force which is used as the denominator for calculating the unemployment rate, Eurostat, 2013). For this reason, youth unemployment ratios are calculated according to a somewhat different concept: the unemployment ratio calculates the share of unemployed for the whole population. Table 2 below shows that youth

unemployment ratios in the EU are much lower than youth unemployment rates; they have however also risen since 2008 due to the effects of the crisis on the labour market.

Table 2: Youth unemployment rates in 2010-212 in European Union

	Youth unemployment rate				Youth unemployment ratio		
	2010	2011	2012	2012Q4*	2010	2011	2012
EU-27	21.1	21.4	22.8	23.2	9.0	9.1	9.7
Euro area	20.9	20.8	23.0	23.7	8.7	8.7	9.6
Belgium	22.4	18.7	19.8	22.0	7.3	6.0	6.2
Bulgaria	21.8	25.0	28.1	28.4	6.7	7.4	8.5
Czech Republic	18.3	18.1	19.5	19.3	5.7	5.4	6.1
Denmark	14.0	14.2	14.1	14.2	9.4	9.6	9.1
Germany	9.9	8.6	8.1	7.9	5.1	4.5	4.1
Estonia	32.9	22.3	20.9	19.3	12.6	9.1	8.7
Ireland	27.6	29.1	30.4	29.4	12.0	12.1	12.3
Greece	32.9	44.4	55.3	57.9	10.0	13.0	16.1
Spain	41.6	46.4	53.2	55.2	17.8	19.0	20.6
France	23.6	22.8	24.3	25.4	8.9	8.4	9.0
Italy	27.8	29.1	35.3	36.9	7.9	8.0	10.1
Cyprus	16.6	22.4	27.8	31.8	6.7	8.7	10.8
Latvia	37.2	31.0	28.4	24.7	13.9	11.6	11.4
Lithuania	35.3	32.2	26.4	24.2	10.4	9.0	7.7
Luxembourg	15.8	16.4	18.1	18.5	3.5	4.2	5.0
Hungary	26.6	26.1	28.1	28.8	6.6	6.4	7.3
Malta	13.1	13.8	14.2	14.5	6.7	7.1	7.2
Netherlands	8.7	7.6	9.5	9.8	6.0	5.3	6.6
Austria	8.8	8.3	8.7	8.7	5.2	5.0	5.2
Poland	23.7	25.8	26.5	27.5	8.2	8.7	8.9
Portugal	27.7e	30.1	37.7	38.4	8.2	11.7	14.3
Romania	22.1	23.7	22.7	22.2	6.9	7.4	7.0
Slovenia	14.7	15.7	20.6	23.2	5.9	5.9	7.1
Slovakia	33.9	33.5	34.0	35.1	10.4	10.0	10.4
Finland	21.4	20.1	19.0	19.3	10.6	10.1	9.8
Sweden	24.8	22.8	23.7	24.1	12.8	12.1	12.4
United Kingdom	19.6	21.1	21.0	20.7	11.6	12.4	12.4

* The quarterly youth unemployment rate is seasonally adjusted.

e: estimate

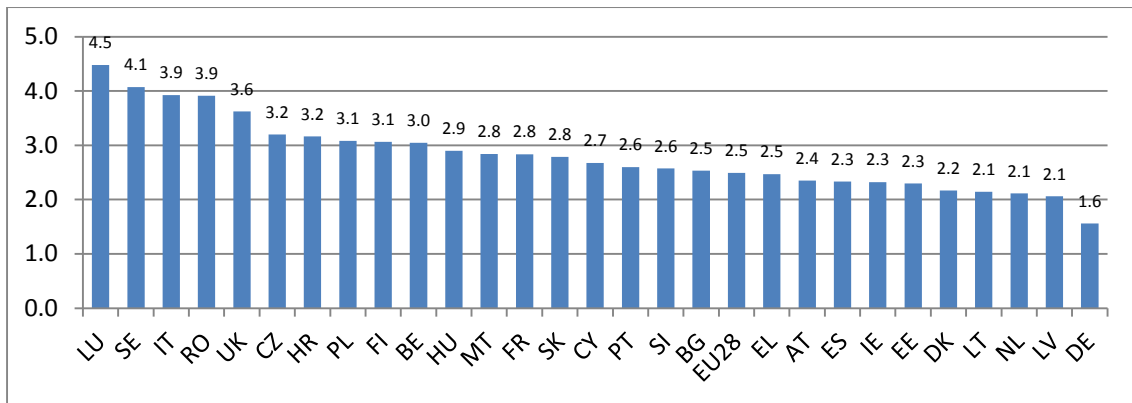
Source: Eurostat

Unemployment, as well as, among other things, poor levels of education and monetary poverty, are often indicated as the main determinants of youth social exclusion (Delhaxhe, 2013). According to the author, social exclusion produces deep and long-term damage to the living conditions, social and economic participation, emotional life, and health status of young people. It also contributes to the intergenerational transmission of poverty – for example, the cost to those who become unemployed could be a persistent loss in earnings, reduced life expectancy, and lower academic achievement and earnings for their children (IMF/ILO, 2010). Almost one in three young people aged between 18 and 24 is at risk of poverty or social exclusion in the European Union (Eurostat, 2012). In this way youth unemployment is likely to affect attitudes in a manner that reduces social cohesion in Europe (IMF/ILO, 2010).

Repercussions of youth unemployment in different countries

The variations in the severity of youth unemployment across Europe partly reflect different levels of economic resilience, and overall employment rates across Europe, but they also reflect systemic differences in how 'youth friendly' the labour market is in different countries (Lanning and Rudiger, 2012). Young people find it harder to compete with older and more experienced workers in some countries more than others. For example, Eurostat data in Figure 1 below shows that a young person in Sweden or in the UK in 2012 was respectively 4.1 and 3.6 times more likely to be unemployed than an 'adult' (person aged 25 and over). Such a rating is exceeded in countries hit hardest by the current downturn, such as Greece or Spain, where young people are 2.5 and 2.3 times respectively more likely to be unemployed than adult workers. In Germany, a young person is only 1.6 times more likely to be unemployed than an adult.

Figure 1: Ratio of unemployment rates for people aged 15-24 compared with those aged 25-64, 2012



Source: Eurostat

Furthermore, the nature of the political debate around youth unemployment and the issues identified as policy priorities differ significantly across Europe (Lanning and Rudiger, 2012). For instance, many young people find it difficult to secure a permanent contract in Spain because of a highly polarised labour market. Precariousness of work is a huge problem in the Netherlands, Germany and France. Numerous cases of unpaid internships are recorded in Italy. There are high numbers of students in tertiary education in Greece, as after finishing studies they face limited opportunities to enter labour market. Discrimination and integration of second generation migrants appear to be key factors in Denmark and Sweden because they find themselves most likely to be excluded (Lanning and Rudiger, 2012).

Youth transitions to the labour market

Young people's transitions from school to work have become longer and riskier since the 1980s (Lanning and Rudiger 2012). This is happening mainly because of the following reasons: an increase in reluctance on the part of employers to hire young people and a change in the types of jobs available to young people (which is partly related to the transformation of jobs due to the decoupling of environment from economic growth; see section on climate change).

Though policies operate within the context of national political, social and economic frameworks, some practices from other countries deserve proper consideration. For instance, Austria, Germany, the Netherlands and Denmark have relatively low rates of youth unemployment. These countries have well-developed and smoothly functioning transition systems between the world of education and the world of work, and well-balanced institutional support that all lead to lower youth unemployment. In particular, policymakers across Europe increasingly stress the importance of high quality vocational education, which duly combines theoretical and practical skills (e.g. through apprenticeships) and provides structured pathways into work.

Youth Employment Package for tackling youth unemployment

In 2011, the EC adopted the Youth Opportunities Initiative⁵ – which called for a stronger partnership between the Commission and national governments, particularly in countries with the highest youth unemployment rates, to drive down youth unemployment. In 2012, the EC proposed the measures – Youth Employment Package⁶ – to help Member States tackle high levels of youth unemployment and social exclusion by giving young people offers of jobs, education and training. The Package consists of the following three instruments:

⁵ European Commission, Youth Opportunities Initiative, available at: <http://ec.europa.eu/social/main.jsp?catId=1006&langId=en>.

⁶ European Commission, Youth Employment Package, available at: <http://ec.europa.eu/social/main.jsp?langId=fr&catId=89&newsId=1731>

- 1) Youth Guarantee – young people up to age 25 receive a quality offer of a job, continued education, an apprenticeship or a traineeship within four months of leaving formal education or becoming unemployed.
- 2) Facilitation of school-to-work-transitions – consultation of European social partners on a Quality Framework for Traineeships to enable young people to acquire high-quality work experience under safe conditions.
- 3) European Alliance for Apprenticeships – to improve the quality and supply of available apprenticeships by spreading successful apprenticeship schemes across the Member States and outline ways to reduce obstacles to mobility for young people.

Importance of labour mobility and its implications for young people

Labour mobility, both between sectors and between geographical regions, could ease the transition to a green economy by, for example, alleviating potential 'bottlenecks' that arise from limitations in skills, technology or in other factors of production (Cambridge Econometrics et al, 2011). Evidence shows that migration is more likely to be perceived as a viable alternative among young people (than among adults) and especially among those who are not married and among males with children (Kahanec and Fabo, 2013).

An increasing number of young people migrate annually in search of alternative livelihoods and opportunities (MDG-F, 2013). Recent financial and economic turmoil has increased labour mobility among young people – according to Kahanec and Fabo (2013), whereas before the great recession many young workers from the new EU Member States could have afforded to ignore the option of seeking employment abroad, or perceived it just as an alluring option, for many of them during the crisis this option turned out to be the only possibility for finding a job.

Evidence demonstrates that the combination of youth unemployment and migration may create an inter-locking set of difficulties for young people (Kahanec and Fabo, 2013). At best, a poor employment record in the early stages of a person's career can harm job prospects further down the line. Also, the lack of decent work and access to social protection exposes them to higher levels of vulnerability and a host of potentially exploitative practices. It also poses significant economic and social costs for the communities where they live in terms of lost productivity and managing the consequences of social exclusion.

Thus the question is not 'whether' labour mobility could, but 'what kind' of labour mobility could contribute to the transition to a green economy. Formulation and management of integrated youth employment policies and social and migration policies is an area where many countries have had little experience until recently. Labour market interventions have usually focused on increasing the number of jobs (supply side), with little attention to the barriers to labour market entry and decent work, or the push factors that lead young people to migrate away from their communities (ILO, 2008 in MDG-F, 2013). Preferable forms of labour mobility of young people still need to be developed in the EU. For example, the recent DG Employment study (2012c) concluded that the current international geographical mobility of apprenticeship-type students is still low, despite the appeal of a practical training placement in a foreign company. Existing barriers (in terms of costs, information, recognition of studies, language difficulties, etc.) still seem to outweigh the clear advantages that international mobility provides for students, enterprises and vocational educational training (VET) centres.

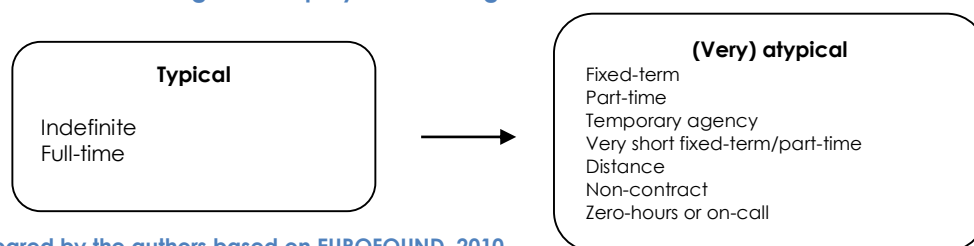
Inclusivity and flexibility of labour markets

Labour markets are becoming more inclusive and flexible in order to face the issues of an ageing population, equality standards and the requirements of global markets. The ageing process itself (i.e. falling fertility and mortality rates) implies that fewer workers have to provide output for more people (as more people exit than enter the labour market) (Barr, 2006).

According to the United Nations (2007) the major challenge to tackling demographic transition is the integration of more people into the labour markets because the increase in productivity of the current workforce is not sufficient. Yet an increase in the employment rate can lead to adverse results. Nowadays the female labour force is constantly growing: tertiary education attainment of women is higher than that of men (38.5 % and 30.8 %)⁷; wage gaps are slowly diminishing. However, women's participation in the labour market does change the balance between work and family life (OECD, 2012). To start with, the family structure is changing as double earners replace the male breadwinner and decisions to have children are postponed. This is accompanied by less regular and predictable working hours, together with work intensification (OECD, 2012). The vicious circle might start because of changes in the workplace: relationships may suffer as a result of a poor work-life balance or from being overworked; meanwhile overworked parents may be unable to provide their children with sufficient attention, leading to a greater likelihood of anti-social behaviour (Sigma Scan, 2010).

In order to adapt business strategies to globalised markets and new emerging needs (incl. the transition towards sustainability), more flexible employment arrangements and atypical forms of work start to dominate. Firms are moving away from vertically integrated organisations (i.e. a situation where one firm is engaged in different parts of production such as growing raw materials, manufacturing, transporting, marketing and retailing) to more specialised ones that outsource non-core functions and have a more decentralised form of internal organisation. This also includes a shift away from more permanent, lifetime jobs toward less permanent, even non-standard employment relationships and work arrangements (Rand, 2004; EUROFOUND, 2010; see also Figure 2 below). These trends create a challenge of dualised labour markets with a gap between protected fixed employment and flexible employment with less social protection and benefits and thus 'new social risks'.

Figure 2: Illustration of changes in employment arrangements and forms of work



Source: Prepared by the authors based on EUROFOUND, 2010.

Role of education and training

The European Commission staff working document on exploiting the employment potential of green growth (2012d) indicated that young people are currently more likely to be employed in non-green occupations compared to other workers. One of the likely reasons for this is a mismatch between skills that young people possess and those needed in transforming the labour market.

VET systems can and must play a key role in addressing skills' shortages, especially for sectors with growth potential such as low carbon technologies and green sectors (European Commission 2012b). The European Commission concludes (2012b) that European education and training systems continue to fall short in providing the right skills for employability, and are

⁷ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Tertiary_education_statistics

not working adequately with business or employers to bring the learning experience closer to the reality of the working environment.

Ensuring that workers have the right skills will be a challenging task as it will require mapping employers' fast evolving needs in a nascent field and delivering adequate and increasingly demanded tailored training (European Commission 2012d). Recent evidence (CEDEFOP, 2013a, b) shows that European countries have, to date, made limited progress in identifying skill needs for a low-carbon economy and integrating this understanding into coherent education and training policies. The European Centre for the Development of Vocational Training, CEDEFOP, (2013a, b) argues that examples of national strategies for green skills are limited to a few Member States including France, Austria and the UK.

The Council of the EU claimed (2009) that one of the main objectives of a renewed framework for European cooperation for the youth (2010-2018) should be the creation of more opportunities and greater equality of opportunity for all young people in education and in the labour market. Early identification and tailored delivery of green skills are the key measures instrumental in reaching this objective.

2.2. Trade union challenges

Trade unions today face enormous challenges. According to Stollt and Meinert (2010) whereas companies often operate on a European/global scale, trade unions have to rely largely on national tools for representing workers, despite considerable progress in cooperation within the EU in the recent past. At the same time, trade union density rates are falling in many countries, not least due to changes in the structure of the 'working society', such as the enormous increase in precarious work, job losses in sectors where unions traditionally have high membership rates and unemployment. Transition to a low carbon, resource-efficient society is one of the key paradigm shifts transforming the role of trade unions across countries. It has implications for the strength of the unions in terms of worker representation and related strategies to increase (or, at least, sustain) it.

Trade unions' involvement in sustainable development

Although trade unions are acknowledged for their main role as social and economic actors, they have been addressing environmental issues (e.g. pollution at the workplace, involvement in global environment events) for a long time (ETUI-REHS, 2008). Strengthening the role of workers and their unions, and related actions with regard to sustainable development (e.g. increasing the number of collective agreements aimed at achieving sustainable development) were already mentioned in Agenda 21 (United Nations, 1992). The result of this summit as well as subsequent processes has ended the antagonism between labour and nature in trade union activities where nature has traditionally been seen as 'labour's other' (Räthzel and Uzzell, 2013).

Sustainable development has opened up a new arena for dialogue, consensus-building and negotiation with management at company level, and also at the sectoral and cross-sectoral levels (ETUI-REHS, 2008). Unions are particularly strong at cross-sectoral level with the ability to assess environmental, social and economic costs and benefits of transition processes simultaneously. Cross-sectoral orientation of unions may therefore help to ensure the much needed balance in the process of anticipating and managing transition to a low-carbon, resource-efficient economy.

Furthermore, sustainable development implies a renewal of democracy and thus the renewal of trade union action in this respect (ETUI-REHS, 2008). Sustainable development is based on lifestyle changes, which will be possible only if they are credible and accepted by all citizens. Lifestyle changes will require the implementation of, as yet untested, participative processes. To ensure their smooth implementation trade unions will therefore be required to "negotiate fair transitions based on accurate data concerning the social repercussions of the various

changes and measures planned, instruments for the prevention and alleviation of such repercussions, and secure their own involvement in the strategy planning process and recognition of their role through obtaining appropriate rights and areas of competence" (ETUI-REHS, 2008).

According to Murillo (2013) trade union work on sustainable development has remained largely theoretical and resulted in relatively few concrete union policies. More practical work and more policies at the local level are needed. Difficulty in identifying priorities among closely related economic, social and environmental aspects is one of the key reasons for the low number of much needed union practical actions and policies. Furthermore, as Rätzl and Uzzell (2013) argue, 'one of the major obstacles to the success of environmental trade union policies are the different points of departure of unions due to their different national histories, their sectoral anchoring, their strength in terms of membership and their political convictions'. The assessment of union work and policies on sustainable development has also to consider the scale of challenges lying ahead and the cultural change involved – these elements can both enable trade union action and impede it.

Tackling the problem of youth unemployment is considered a priority across EU Member States and measures aimed at achieving sustainable development could provide solutions to it. Gil (2013) suggests that new sectors and activities based on clean production are a window of opportunity for the protection of jobs, especially for young people. Trade unions have successfully promoted the concept of 'just transition'⁸ (Murillo, 2013), but there is a need for very concrete measures to make it a constructive process with significant positive impacts across all three elements of sustainable development. Green youth employment and training can be some of the measures, which address not only environmental, but also the social and economic side of sustainable development.

Engaging young workers through sustainability

In the current economic climate in which trade unions are pressurised by budgets and falling membership, increasing the focus on the engagement of young workers through sustainability initiatives may be a way forward for unions: a) it may help to attract and mobilise new/young workers; and b) it may showcase the benefits of union involvement in sustainable development to employers (e.g. benefits stemming from energy efficiency improvements) or governments (e.g. meeting 2050 goals). The CUPE (2007) bargaining guide argues that greening the workplace not only protects the environment and saves financial and other resources that can be reinvested back into an improvement in working conditions, but also that 'a green union and workplace will appeal to young workers, who tend to be more environmentally aware and active'.

There may be many advantages to the engagement of young workers including: their active involvement, their often better understanding of the climate- and environmental challenges, higher innovation and creativity, positive outlook (stress on possibilities instead of challenges) and determination.

However, trade unions need to transform in order to engage and sustain young workers. One of the worker participation scenarios up to 2030 (Stollt and Meinert, 2030) argues that many trade unions "have developed over the years into key actors, promoting the necessary changes in a pro-active way, thereby becoming pillars of the new global governance architecture" and that "this was originally not necessarily based on conviction, but on the urgent need for trade union renewal in the face of steadily falling membership rates and the danger of being perceived as a brake on the necessary transformation".

⁸ The conceptual framework in which the labour movement captures the complexities of the transition towards a low-carbon and climate resilient economy, highlighting public policy needs and aiming to maximize benefits and minimize hardships for workers and their communities in this transformation (ILO, 2010).

The future is uncertain and no scenario is real. However the increasing challenges, as well as the growing complexity of the working environment of trade unions, argue for the need of transformation of the existing business model. Such a transformation could include an expansion of the traditional tasks of wage negotiations and campaigning for better working conditions to include more elements of the so-called 'organising' model. The additional trade union activities could include more in-depth and more intensive training and empowerment of members to organise for the union and for themselves by becoming more active, by being actively involved in the union's democracy, debates and campaigns. Trade unions could also more intensively engage in the alliances with environmental movements to find innovative ways of addressing youth employment on the one hand and insufficient progress in sustainable development on the other. Following this, trade unions may position themselves in the 'just transition' process as change agents training and empowering workers not only for traditional industries with strong trade union membership, but also new green industries where the case for trade union membership is yet to be developed. This may not only help strengthen the unions, but also constructively address the climate change challenges.

Increasing trade union membership

Trade union membership is typically characterised by the level of union density, defined as the proportion of employees who are union members (Fulton, 2013). The levels of union membership vary significantly and range from approximately 70% of employees in Finland, Sweden and Denmark, to approximately 10% in Estonia, Lithuania and France. The average level of union membership across the whole EU, weighted by the numbers employed in the different Member States, is 23%. Unions in newer EU Member States in Central and Eastern Europe face probably the most hostile climate in the EU as evidenced by below EU average levels of union membership in 8 out of 11 countries (the exceptions being Slovenia, Romania and Croatia with reported union membership at 26 %, 33 % and 35 % respectively; Fulton, 2013). Reasons for varied union density across countries are complex and numerous including prevalent national approaches to union membership and whether trade unions pay unemployment and/or other social benefits.

Trade unions have seen union membership of younger workers decline faster than among older workers despite the fact that the newly employed are not necessarily negative towards unions in the first place (Vandaele, 2012). Younger workers tend to work in sectors that are less covered by union membership and collective bargaining and this is seen by some researchers as one of the main reasons for the lack of unionisation amongst the young. Another reason is related to union tactics and activities in organising and attracting young union members. Vandaele (2012) states that the potential exists for trade unions to do more to increase their activity around attracting and mobilising young workers. Limited inflow of young members in trade unions will result in ageing union membership, which can affect future union policies (e.g. they may not adequately reflect the interests of young workers). Vandaele (2012) concludes that unless trade unions more actively engage in attracting and mobilising young members, "it will be very challenging to reverse the de-unionisation trend; and other organisational forms might well come to replace unions for the representation and service of the next generation of workers". Expanding a new role for trade unions in linking youth unemployment with sustainable development activities may help to avoid such a gloomy scenario.

The above indicates that there is a high potential for sustainable development to attract young workers to the union movement and to broaden union activities and influence. Trade unions may therefore become more representative of the workforce, and young (often vulnerable) workers would be better represented and protected as a result.

2.3. Economic and environmental challenges

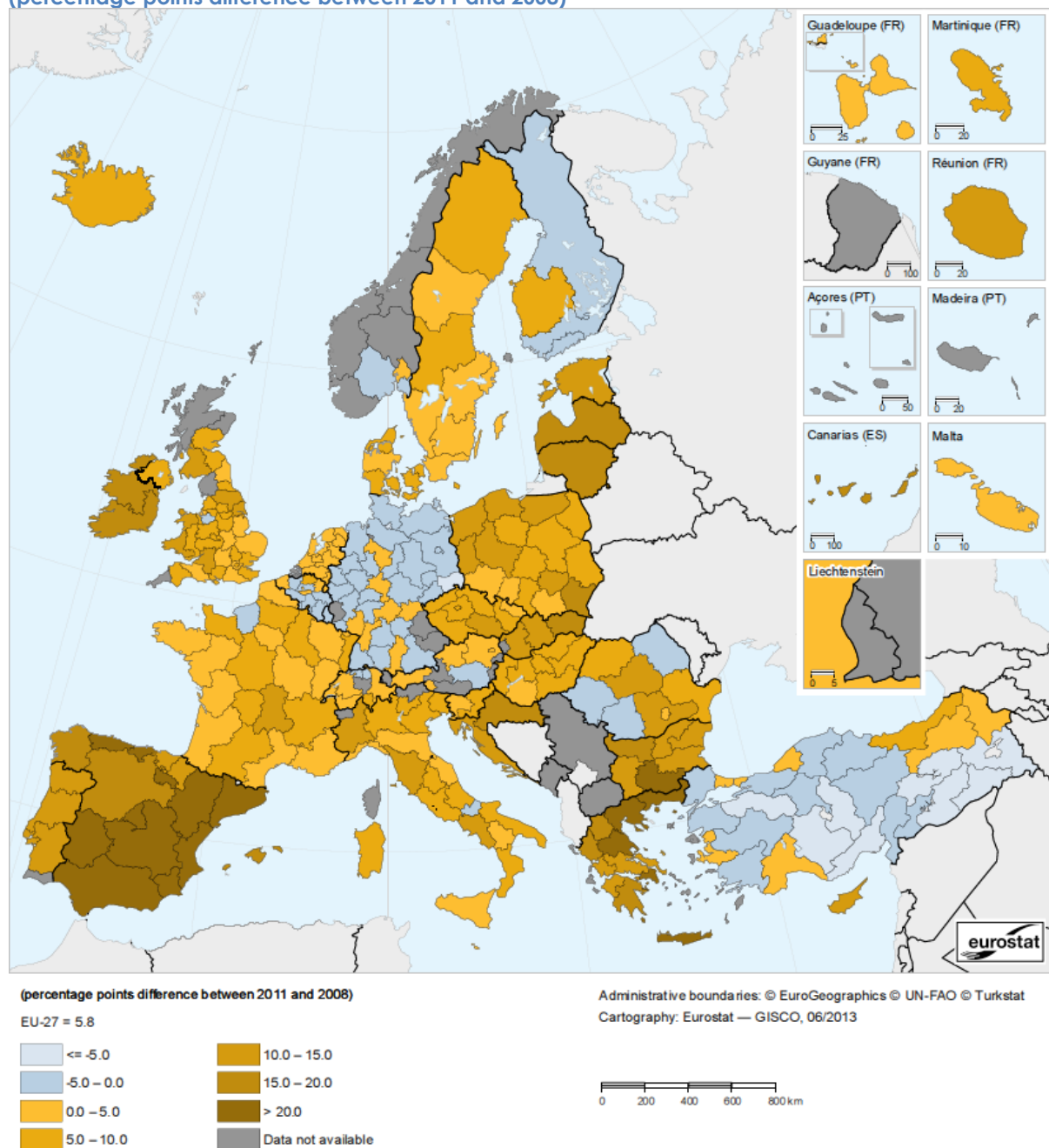
Effects of the crisis

The financial crisis, which first struck in 2008, followed by an economic crisis, has severely affected European labour markets, economies and the situation regarding climate change and related policies.

The crisis also significantly and diversely affected national labour markets (EUROFOUND, 2012 & 2013) and besides the major effects of decreasing employment rates and increasing unemployment, the crisis has also reduced collective agreement coverage, reduced the volume and quality of collective bargaining, increased the incidence of flexible, atypical, illegal and precarious employment and introduced a number of revisions of, for example, unemployment benefit and social security systems across many countries.

The crisis has significantly increased youth unemployment rates as evidenced by data provided by Eurostat (see Figure 3 below). The rise in youth unemployment rates was especially high in Southern and Eastern Europe including in some of the older EU Member States such as Ireland, or in certain regions of Scandinavia and the UK.

Figure 3: Change in youth unemployment rate, persons aged 15-24, by NUTS 2 regions, 2008-2011* (percentage points difference between 2011 and 2008)



* Chemnitz (DED4), Emilia-Romagna (ITH5), Marche (ITI3), Helsinki-Uusimaa (FI1B), Etelä-Suomi (FI1C), Pohjois- ja Itä-Suomi (FI1D), Cheshire (UKD6), Merseyside (UKD7) and Kontinentalna Hrvatska (HR04), 2009-11; Prov. Luxembourg (BE34), Oberfranken (DE24), Uterfranken (DE26), Kassel (DE73) and Tirol (AT33), 2008-10.

Source: Eurostat

The recent economic and financial crisis has also had effects on the trade unions (EUROFOUND, 2013). Firstly, it may have accelerated mergers and the reorganisation of trade unions across countries (in many cases, however, these had been planned for some time and thus are difficult to attribute to the crisis). Secondly, in many national cases, falling trade union density, already in evidence for some decades, was exacerbated by the crisis. In a few countries (e.g. AT, DE, LT or CZ) the decline in trade union density has slowed down. This may be due to employee trust in trade unions increasing in times of economic and employment uncertainty. Another reason is related to the positive effect of the crisis – in some countries trade unions have become more visible and important since the crisis, particularly in sectors where they have been staging protests, or in cases where they have assumed new roles (e.g.

in the implementation of working time reduction/short-time working arrangements to mitigate the negative effects of the crisis on employment).

The crisis also affected climate change and related policies. Firstly, it had only a temporary effect on global CO₂ emissions – after a 1% decline in 2009 and an unprecedented 5% surge in 2010, global CO₂ emissions increased by 3% in 2011, compared to the previous year, reaching an all-time high (Olivier et al. 2012). However, EU CO₂ emissions have continued to decrease since the crisis, most likely due to reduced overall economic activity. Secondly, the crisis has led EU Member States to adopt the economic stimulus packages, most of which include green elements typically accounting for around 10% of the packages (Cambridge Econometrics et al., 2011). These investments may have contributed to the reduction of CO₂ emissions (Cambridge Econometrics and Ecorys, 2011). Finally, the lacklustre economic environment may have also spurred businesses to turn to less energy-greedy infrastructures. However, due to the (still) high price of green energy solutions, the much needed investment into energy-efficiency and renewable energy has been pushed back in favour of getting businesses back on track.

Climate change

Climate change and pressures on resources have intensified and are significantly affecting policies in Europe, and a number of European initiatives have been developed to mitigate this change and increase resource efficiency and dematerialisation. A very significant step in this regard is the *EU climate and energy package*⁹ with the widely-known 20-20-20 targets: a) a reduction in greenhouse gas (GHG) emissions of at least 20 % below 1990 levels; b) renewable sources to represent 20 % of EU final energy consumption; and c) a reduction in energy consumption of 20 % from projected 2020 levels.

2020 is very close and it is already clear that targets set for 2020 will not be enough and will need to be raised further. Thus in *Roadmap 2050* (European Commission, 2011a), the European Commission has set out strategic options for achieving a reduction in GHG emissions of 80-95 % by 2050 based on 1990 levels. In addition, the 2010 flagship initiative 'Resource Efficient Europe' (European Commission, 2011b) and the 2011 EU biodiversity strategy to 2020 (European Commission, 2011c) extend the need for action beyond climate issues to also reversing biodiversity loss and speeding up the EU's transition towards a resource efficient (not only in terms of fuels, minerals and metals, but also in terms of food, soil, water, air, biomass and ecosystems) and green economy. The above-mentioned and many related policies and strategies aim to decouple economic growth from resource use and its environmental impact. These actions provide opportunities not only to mitigate the negative effects of the economic and financial crisis, but also to boost 'smart, sustainable and inclusive growth' scoring positive in all three (economic, environmental and social) dimensions.

This aim, as well as the aim of the Intergovernmental Panel on Climate Change to achieve a reduction of global GHG emissions of 50-85 % by 2050 are very ambitious and, as argued by some academics (Jackson, 2009), are impossible to achieve only through energy efficiency and productivity growth. In order for this strategy to succeed it may also be necessary to adopt a new concept of ecological macroeconomics, establish very strict ecological bounds on human activity and transform the current social logic of consumption. This poses serious challenges for the economy, environment and society in the coming 40 years that will need to be addressed by the present youth. A move towards a green economy will entail a significant transformation in the social and working life of young people. The extent and nature of this transformation will be different across sectors¹⁰ and results will vary.

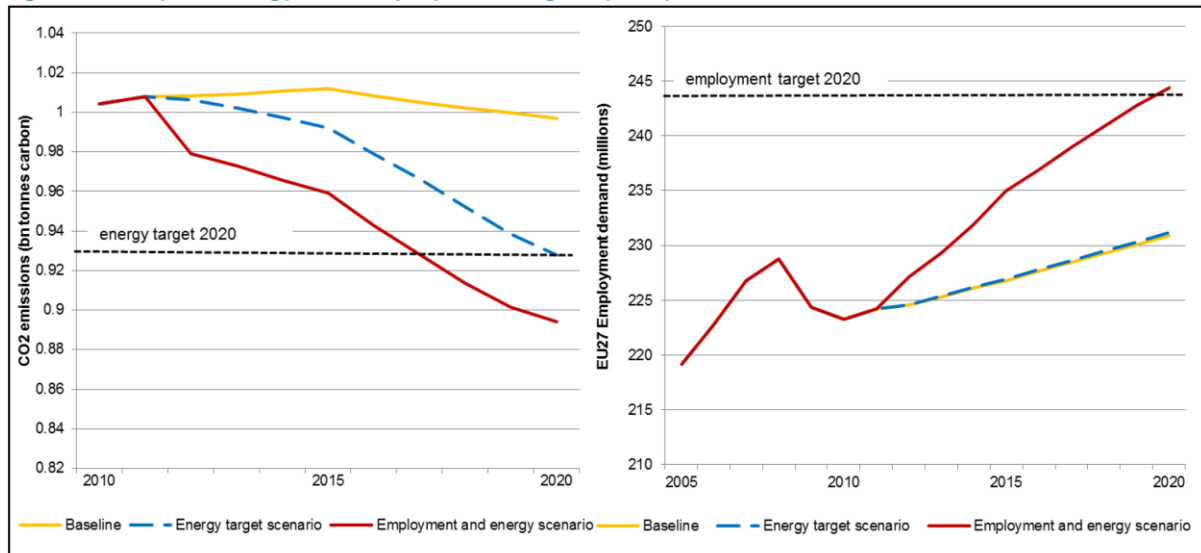
⁹ More information could be found at: http://ec.europa.eu/clima/policies/package/index_en.htm

¹⁰ Differences in sectors are evident already in GHG targets: power sector is expected to reduce GHG of 93 to 99 % by 2050 based on 1990 levels, industry – 83 to 87 %, transport – 54 to 67 %, residential and services – 88 to 91 % and agriculture – 42 to 49 % (European Commission, 2011a).

Outlook of the transition to a low carbon, resource-efficient society

One of the few studies exploring the implications of the transition to a low-carbon, resource-efficient society (CEDEFOP, forthcoming) does not indicate an inherent conflict between higher rates of employment and reduced energy use and GHG emissions. The study presents possible outcomes for energy and employment targets under the three scenarios (see Figure 4 below).

Figure 4: Europe's energy and employment targets: policy scenarios



Source: CEDEFOP (forthcoming).

The 'employment and energy' scenario is based on an assumption of measures likely to have significant employment effects (e.g. incentives for employers to hire additional workers such as lower labour taxes, work incentives for individuals, such as lower unemployment benefits and greater investment in research and development and skills, integrated with those to reduce energy consumption and emissions. Results indicate that under this scenario by 2020, the EU employment rate would be 75 % compared to the 71 % foreseen under the baseline scenario, meeting the EU employment target. The additional jobs generated in this scenario do not compromise EU climate and energy goals. According to the authors this is only possible if the following three conditions are met: a) skills of the existing workforce are updated or realigned to adjust to changing tasks and technologies; b) young and unemployed people are successfully (re)integrated into the workforce; and c) employers and individuals are aware of skill needs and available job opportunities.

Other research, looking into the future, suggests that significant trade-offs need to be made to sustain even current employment levels in the low-carbon economy in 2050. Jackson and Victor (2011) argue that central to a new macro-economics for sustainability lies the relationship between growth, labour productivity¹¹ and work. Authors argue that if there is an intention to slow down (or constrain) economic growth (key to a sustainable society, Jackson, 2010), then to maintain full employment one must either: (a) reduce working hours and/or (b) slow down (constrain) growth in labour productivity. Both measures are possible. In their modelling exercise authors demonstrate that the scenario in which working time is reduced by about a third and there is a rapid expansion of the green services' sector characterised by low productivity (growth) that includes such services as community energy projects (i.e. Scenario 3 in Figures 5 and 6 below) can result in de-growth with the current employment levels and could meet the target of an 80% reduction of GHG emissions over 1990 levels by 2050.

¹¹ Defined by the ratio of outputs (i.e. GDP) to inputs (i.e. time spent by workers in employed labour).

Figure 5: Illustrative scenarios – UK GDP from 2008 to 2050*

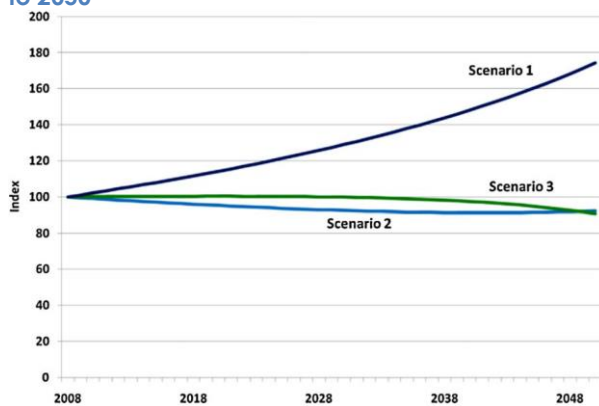
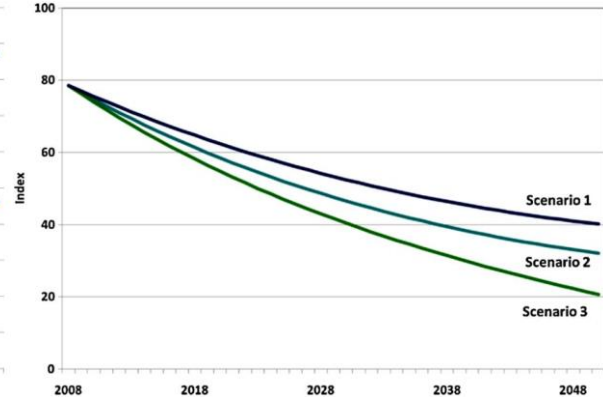


Figure 6: Illustrative scenarios – UK carbon emissions from 2008 to 2050*



* In Scenario 1, there is a vigorous (5%/ year) expansion of the green infrastructure sector (i.e. conventional sector based on renewable, low-carbon technologies and infrastructures), but no expansion of the green services sector (i.e. community based, resource light, low-carbon, service-based activities such as community energy projects and local farmers markets) and no reduction in working hours across the economy. In Scenario 2, the expansion of the green infrastructure sector is accompanied by a substantial (1.5%) year on year reduction in working hours across the economy. In Scenario 3, working hours are reduced at a more realistic rate (1%/year), but the expansion of the green infrastructure sector is accompanied by a slightly higher (6%/year) expansion of the green services sector.

Source: Jackson and Victor, 2011

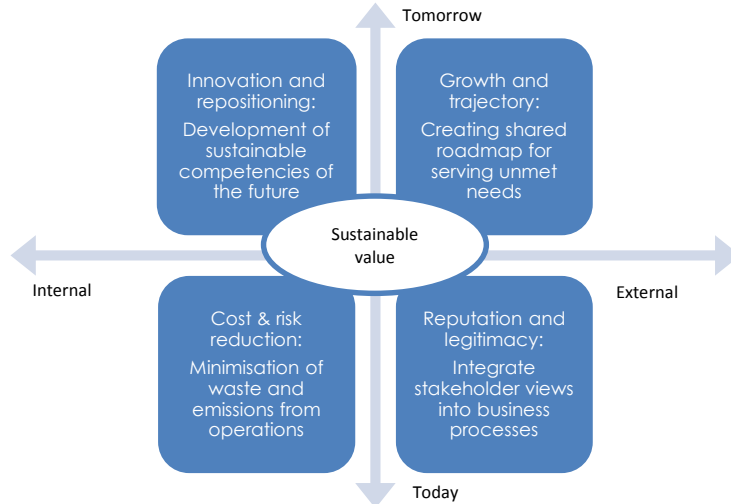
The results of Jackson and Victor's (2011) contribution are confirmed by other studies. For example, Watt (2012) argues that the strategy of meeting emissions' targets while maintaining employment would seem to require "a combination of radical efforts to accelerate the decoupling of emissions from economic growth (i.e. reducing the amount of CO₂ equivalent gases emitted for each unit of GDP – *note by the authors*) and considerably more substantial reductions in average working hours than have been the norm in recent decades".

The above cited modelling/simulation exercises are highly exploratory and/or mechanical, done to indicate policy options and trade-offs and stimulate further thinking in this respect. In general, there are quite a few long-term outlooks overviewing the cross-related developments in economy, environment and social dimensions by 2050. The primary reason for this is that these developments are likely to be based on complex factors such as transformative technologies that manifest themselves and can radically alter the ways of production and consumption in societies and thus are difficult to project. This adds to an increasing uncertainty with regards to the future pace and results of the transition process.

Strategies beyond a low-carbon, resource-efficient economy

There is a view (Hart, 2010) arguing that sustainable value for firms and for the whole of society is only semi-optimal when companies focus on internal processes of cost and risk reduction and external activities of maintaining reputation and increasing legitimacy. According to this view, to achieve higher sustainable value, companies and other stakeholders need to focus on the development of clean technologies and servicing the unmet needs of the poor (e.g. needs of the four billion poor people at the 'base of the economic pyramid' or BoP). The sustainable value framework is demonstrated in Figure 7 below.

Figure 7: The sustainable value framework



Source: Adopted by the authors from Hart, 2010.

According to Hart (2010) a more innovative and inclusive form of capitalism, characterised by the increasing application of disruptive technologies (e.g. IT, nanotechnology, renewable energy solutions) and collaboration with stakeholders previously overlooked or ignored by companies, can help open pathways for a new kind of economy. However, the analysis of the current business climate shows no significant progress in these directions. Trade unions may play an important role in helping to reverse such current trends through, for example, linking the green jobs' campaigns with union programmes that make use of workers' skills and knowledge to explore and design ways in which industries and services can be transformed.

3. OVERVIEW OF DEMOGRAPHIC, EMPLOYMENT AND SKILLS' DEVELOPMENT TRENDS IN RELATION TO GREENING¹²

Summary of findings

- Analysis of demographic and employment trends revealed that greening of the economy will have the most significant effects on young workers in automotive, chemicals, construction, energy, furniture, ICT, textiles and distribution and trade sectors. This is due to a number of factors including share of GHG emissions and energy and resource efficiency, employment effects of new environmental policies, share of young employees and degree of replacement demand of older workers. These sectors comprise approximately 1/3 of total employment in Europe. Taken together eight selected sectors will constitute approximately one quarter of the total requirement of workers (new jobs plus replaced existing jobs).
- Literature review suggests that aggregate employment effects of additional policies necessary to meet energy and climate targets by 2020 are likely to be small (up to 1.5 % in net terms). However there will be significant shifts within sectors – highest relative (in terms of shares) employment effects in the EU27 are expected in textiles, utilities, furniture sectors (negative) and construction sector (positive), meanwhile the largest absolute employment effects are expected in construction, textiles, furniture, ICT and distribution and trade sectors. In addition to the sectoral dimension, employment effects due to greening the economy will significantly vary by region, time and occupational groups (low and medium-qualified somewhat more affected). Indirect employment effects on jobs in the value and supply chains can be much larger. Long-term employment effects of greening the economy will much depend on the levels of investment in green solutions.
- Evidence shows that trade unions could adopt very different discourses with regards to the relationship between jobs and environment ranging from a pro-technological discourse arguing that there will be no negative employment effects from greening the economy to a social movement perspective in which unions may argue for alternative forms of production. Examples of trade union initiatives aimed at green job placements for young workers analysed in this report as well as sectoral overviews accompanying this report illustrate large variations in terms of, among other things, (the combination of) discourses adopted, geographical focus, scale, implementation period, number of partners involved and types of activities.
- Green skills play an important role for young workers' careers in traditional sectors. Recent evidence reveals that workers who are trained for green skills embedded in a broader set of occupational skills are in much better shape than workers trained for a discrete set of green skills only. Training that layers green skills onto a foundation of more traditional skills gives workers more and better options in the labour market.
- With regards to skill development, greening the economy is likely to lead to the following effects identified in the literature: a) an increase in demand for high level skills, b) an enhancement, rather than a change, in the existing skill set, c) an increase in negative division between highly-skilled and less skilled workers which will improve over time, d) the creation of significant adjustment pressures for low-skilled workers in high-carbon-intensive, and especially top emitting sectors, (esp. utilities, construction and chemicals), e) an increase in the demand for transferable skills including STEM skills (science, technology, engineering and mathematics), multi-skilling and interdisciplinary skills and other skills such as sense-making, social intelligence, novel and adaptive thinking, cross-cultural competency, computational thinking, new media literacy, design mind-sets, cognitive load management and virtual collaboration.
- The role of trade unions is especially important in improving the advancement of low-skilled and young workers in the selected sectors. The career advancement potential of

¹² The data in tables (unless specified otherwise) is from CEDEFOP and covers 33 countries: the EU27, candidate countries (Croatia, the former Yugoslav Republic of Macedonia and Turkey) plus Iceland, Norway and Switzerland. Sector definitions are provided in Annex 1.

greening in sectors is closely linked to the nature of union workplaces, where job positions, and career progression from one job to another, are embedded within a broader set of negotiations between labour and management. Given the somewhat predictable nature of the adjustment processes, there is considerable scope for trade unions to work together with partners to smooth the transition for low-skilled and young workers. This report, and the sectoral overviews accompanying it, have identified more union initiatives aimed at green skills' development for young workers compared to those aimed at job placements.

- Literature review, as well as the survey of ETUC member organisations, showed that at the moment, most of the union initiatives concerned with sustainable youth employment and training are aimed at greening the existing workplaces and/or at raising awareness in general. While these are valuable measures, such initiatives do not get to the heart of the matter, namely the production process itself and its impact on the environment. Thus, there is a need for ambitious trade union initiatives in particular sectors or in particular core activities of companies, which combine action on training and/or job placements of young workers, with activities transforming the role of labour in the greening processes, examining the potential for collective action, etc. for example: the Lucas Airport project, the initiative by the Unite union at Magor Brewery and the DGB training project "Resource Efficiency for Employees and Works Councils", which although not specifically targeting young workers, are good examples in this regard.

3.1. Selection of sectors

This study aims to give an overview of employment potential and demographic changes underway in different sectors linked to the greening of the economy. The selection of sectors has been carried out based on the following four criteria.

1. Importance of sector in terms of share of GHG emissions and potential/implications for energy and resource efficiency.
2. Employment effects of new environmental policies (in addition to those implemented at the moment) across sectors.
3. Share of young employees within sectors including its dynamics during 2008-2011.
4. Degree of replacement demand due to retirement, migration, mortality or occupational/sectoral mobility of existing workers.

On the basis of the above criteria the study has selected the following eight sectors¹³:

1. Automotive;
2. Chemicals;
3. Construction;
4. Distribution and trade;
5. Furniture;
6. ICT;
7. Textiles;
8. Utilities (including electricity, gas and water, but excluding sewerage).

The above sectors may include public companies with trade unions usually characterised with higher worker membership rates. However most of the companies in these sectors are private. Public sectors such as healthcare and education were not selected in the study as they are considered somewhat less relevant (at least directly) in terms of, for example, GHG emissions or employment effects of new environmental policies.

Sections below summarise demographic and employment as well as skill development trends that are relevant across the selected sectors. Sections also include findings from the relevant literature and case studies illustrating trade union action in employment and training areas. Sector-specific trends are examined in sectoral overviews that accompany this report as separate documents.

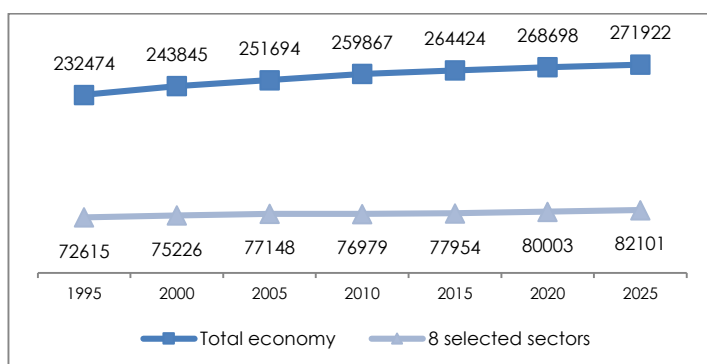
¹³ Document providing evidence for the selection of eight sectors is available from the ETUC.

3.2. Demographic and employment trends¹⁴

Importance of selected sectors

Selection of sectors is balanced both in terms of large/small sectors and manufacturing/ services sectors. Figure 8 and Table 3 below show that eight selected sectors comprise approximately 1/3 of total employment in Europe – in 2010 eight selected sectors employed almost 77 million workers compared to approximately 260 million in the total economy.

Figure 8: Employment dynamics in selected sectors and total economy, thousand people



Source: Authors' calculations based on CEDEFOP data

Table 3: Share of employed in the selected sectors, as % of total economy employment

	2010	2025
Textiles	1,4	1,1
Chemicals	1,4	1,4
Automotive	0,9	0,9
Furniture	1,4	1,3
Utilities	1,1	1,0
Construction	6,8	6,9
Distribution & trade	14,5	15,4
ICT	2,0	2,1
8 selected sectors	29,6	30,2

Source: Authors' calculations based on CEDEFOP data

Demographic and employment trends

Table 4 reveals that most of the young workers in eight selected sectors work in the retail trade, specialised construction activities, wholesale trade (distribution), construction of buildings and the automotive sector. However, the largest share of young workers in the total workforce was in retail, textiles (except leather), furniture sectors and specialised construction activities.

Table 4: Share of employees aged 15-24 in total employment (15+) 2011 by economic activity

Economic activity (NACE rev.2 two digit level)	TOTAL (15-24)	TOTAL (15 and over)	Share in %
Retail trade, except of motor vehicles and motorcycles	3792.6	22104.8	17.2%
Manufacture of wearing apparel	297.5	2180.9	13.6%
Specialised construction activities	1245.6	10065	12.4%
Manufacture of textiles	141.5	1323.8	10.7%
Manufacture of furniture	149.7	1498.7	10.0%
Manufacture of leather and related products	55.8	583.7	9.6%
Manufacture of motor vehicles, trailers and semi-trailers	310.1	3268.7	9.5%
Construction of buildings	593.3	6289.4	9.4%
Manufacture of rubber and plastic products	164.6	1804.9	9.1%
Manufacture of computer, electronic and optical products	148.3	1730.6	8.6%
Civil engineering	156.3	1944.3	8.0%
Wholesale trade, except of motor vehicles and motorcycles	650.7	8348.9	7.8%
Information service activities	29.4	398	7.4%
Manufacture of chemicals and chemical products	106.5	1524.3	7.0%
Electricity, gas, steam and air conditioning supply	113.1	1801.4	6.3%
Computer programming, consultancy and related activities	177.4	2838.4	6.3%
Manufacture of basic pharmaceutical products and pharmaceutical preparations	53.3	860.2	6.2%
Water collection, treatment and supply	19.0	509.5	3.7%
TOTAL - All NACE activities	24130.1	249664.2	9.7%

Statistics cover the EU27 plus IS, NO, TR, CH, HR (no data for AD, LI, MC and SM). For many detailed economic activities separate country data is not available.

Table reflects Eurostat classification of the selected sectors which is provided in Annex 1.

Source: Eurostat LFS

Table 5 shows that share of those employed from 2010 to 2025 in the selected sectors is likely to slightly increase due to forecasted positive dynamics in the largest – construction,

¹⁴ Some of the data in this and other sections are derived by the authors from the CEDEFOP skills' demand and supply forecast up to 2025 covering 33 countries: the EU27, candidate countries (Croatia, the former Yugoslav Republic of Macedonia and Turkey) plus Iceland, Norway and Switzerland.

distribution & trade and ICT – selected sectors. The largest negative trend in share of those employed is forecast in the textile sector, while furniture and utilities sectors are likely to experience only a slight decrease (see Table 5). The share of those employed in the chemical and automotive sectors is projected to remain stable during this period.

Table 5: Employment dynamics (%) and key employment indicators (thousands), 2010-2025

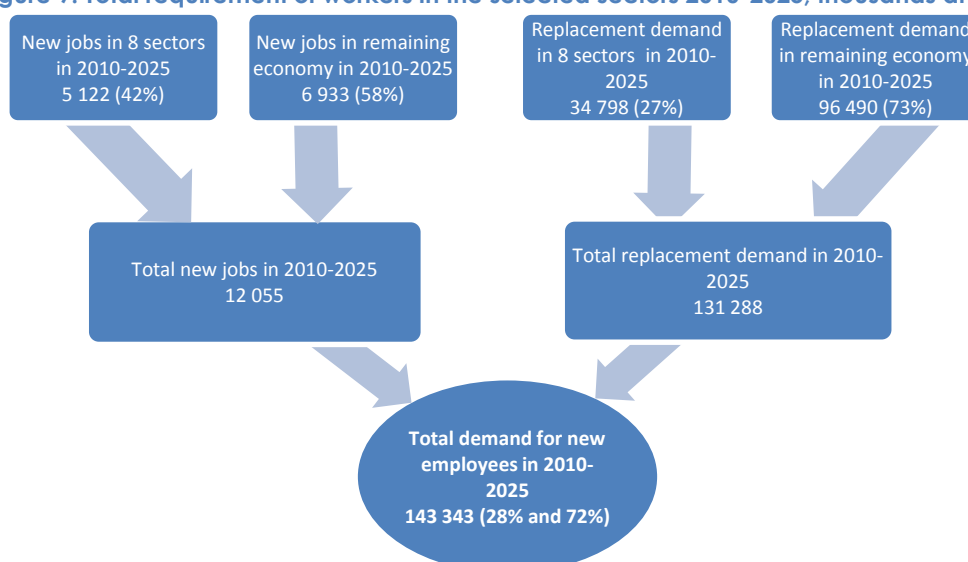
	Employment dynamics			Key employment indicators, thousands		
	Average annual growth rate of direct employment over 1995-2010	Average annual growth rate of direct employment over 2010-2025	Average annual replacement demand rate	New jobs	Replacement demand	Total requirement
Textiles	-3.14%	-0.99%	2.30%	-543	1482	939
Chemicals	-0.82%	0.12%	2.44%	68	1633	1701
Automotive	-0.15%	0.08%	2.36%	28	996	1024
Furniture	0.24%	-0.14%	2.42%	-78	1609	1531
Utilities	-0.72%	-0.58%	2.53%	-254	1320	1066
Construction	0.57%	0.40%	2.40%	1048	7549	8597
Distribution & trade	1.19%	0.76%	2.61%	4317	17767	22084
ICT	2.22%	0.68%	2.58%	536	2442	2978
8 selected sectors	0.40%	0.44%	2.46%	5122	34798	39920
Total economy	0.79%	0.31%	2.77%	12055	131288	143343

Source: Authors' calculations based on CEDEFOP data

As absolute numbers in Table 5 suggest, out of the selected sectors, construction, distribution and trade and ICT sectors will be the main sources of employment growth in 2010-2025. Data shows that the largest three selected sectors – construction, distribution and trade and ICT – are likely to experience much larger employment growth than the average of the total economy and are likely to create approximately half of all new jobs over the period 2010-2025, (about 6 million out of 12 million total of new jobs). Replacement demand in these sectors will not be more intense than on average in the total economy, but during this period it is forecast to constitute approximately 1/5 of all replacement demand (around 28 million out of 131 million replaced jobs). As a result, the total requirement for workers (new jobs plus replacement demand) in these three sectors is likely to constitute almost one quarter of that of the total economy (approximately 33.7 million out of 143.3 million jobs required).

Information in Table 5 is visualised in Figure 9 which shows that taken together eight selected sectors will constitute approximately 40 % of total new jobs, 27% of total replacement demand and 28% of total requirement of workers.

Figure 9: Total requirement of workers in the selected sectors 2010-2025, thousands and shares



Source: Authors' calculations based on CEDEFOP data

Employment effects of greening

In general, it is forecast that the policies required to meet the EU 20-20-20 targets will have little impact on the overall level of employment. Most studies indicate a modest positive outcome for employment, increasing by around 1%–1.5% (in net terms) by 2020, while results from forecasting models showed that, at the aggregate level, the policies had very little impact on total employment levels (Cambridge Econometrics et al, 2011).

The latest scenario-based forecasts, looking only at the impact of additional policies necessary to meet energy and climate targets, project an additional 250,000 jobs in the EU by 2020 as a result of low-carbon policies, i.e. a 0.16 % increase compared to the business-as-usual scenario (CEDEFOP, 2013). Since low-carbon industries typically require a relatively larger workforce per unit of output, it follows that the job gains associated with the shift towards a low-carbon economy offset job losses in the sectors that contract, leading to a small positive employment effect.

As evidenced in Table 6, employment effects of new policies required to meet the EU 20-20-20 targets will vary by sector. Recent macro-economic forecasts (Cambridge Econometrics et al, 2011), show that the largest relative (in terms of shares) negative employment effects in the EU27 are expected in textiles, utilities, furniture sectors and the largest relative positive employment effects are expected to be seen in the construction sector. The greatest change in employment levels (positive or negative) will be experienced in construction, textiles, furniture, ICT and distribution and trade sectors.

Table 6: Absolute impact of new climate change policies on EU27 employment with projected maximum and minimum differences (in thousands and %) from baseline scenario 2009-2020*

Sector	Min		Max	
	Thousands	%	Thousands	%
Automotive	4.2	0.18	23.7	1.02
Chemicals	-53.4	-1.58	36.3	1.07
Construction	-291.4	-1.93	413.2	2.74
Distribution & trade	-95.2	-0.27	30	0.09
Utilities	-44.9	-3.18	-11.1	-0.79
Furniture	-112.4	-4.28	10.8	0.41
ICT	-103	-2.5	18	0.4
Textiles	-171.8	-7.20	15.1	0.63
8 selected sectors	-867.9	-1.3	536	0.8

* Based on NACE Rev. 1.1 classification, two-digit level data. Baseline scenario is based on PRIMES 2009 forecast. PRIMES is an EU-wide energy model used for forecasting, scenario making and policy impact analysis up to the year 2030; see European Commission (2010). Baseline scenario already includes much existing environmental policy and any related labour market changes that it leads to (roughly half the reduction in CO₂ emissions from 1990 levels required to meet the 20% emissions target is included). Minimum and maximum scenarios include the impacts of new environmental policies rather than the general effects of all environmental measures. For each sector minimum and/or maximum scenarios may differ. For more details, please see the referenced study.

Source: Prepared by the authors on the basis of Cambridge Econometrics et al (2011)

Employment effects of new policies required to meet the EU 20-20-20 targets are also likely to vary by country and region. It is estimated that adjustment pressures arising from a green transition would mainly arise in the high-carbon-intensive sector (HCIS)¹⁵. According to a recent study, there is considerable variation among EU Member States with the share of workers who are employed in the high-carbon-intensive sector rising to over 52 per cent among newer members, i.e. EU-10, compared with just over 40 per cent among EU-15 Member States (European Commission – ILO, 2011a). If only the top 15 emitting industries are considered (as within the HCIS they account for roughly 95 per cent of total CO₂ emissions and approximately 85 per cent of all emissions arising from production) the disparity between EU-15 and EU-10 Member States is even more notable – more than one-fifth of all employees in the EU-10 are working in the top 15 emitting industries, more than double the rate (9.5 per cent) in EU-15 Member States.

¹⁵ High-carbon-intensive sector includes all high-carbon-intensive industries which are above the median in terms of GHG emissions (European Commission – ILO, 2011a).

Long-term employment effects of greening the economy will much depend on the levels of investment. According to Cambridge Econometrics et al (2011) beyond the 2020 period, the scale of the jobs that will endure is questionable unless the levels of initial investment continue or further investments are made. There will surely be demand for jobs in maintenance and replacement, but it will be far lower than the demand for new jobs stimulated during periods of heavy investment. Within these investment-intensive sectors there may also be very specific sub-sectors that suffer adverse effects (e.g. coal, manufacture of petrol and diesel, fertilizer, lime, aluminium and road haulage).

Long-term net employment effects of greening the economy will depend not only on scale and intensity of investment, but also on other factors including carbon leakage, carbon and energy prices. The overall 'net' employment effect is the sum of direct and indirect effects (that is, effects on jobs in the value and supply chains). Indirect employment effects are difficult to measure and require complex econometric models. However difficulty in measurement does not mean that the indirect effect, and therefore the net employment impacts, can be ignored.

Table 7 below illustrates four different scenarios of both direct and indirect employment effects of climate policies: loss of jobs (scenario A), green jobs but lower productivity (scenario B), loss of dirty jobs (scenario C) and green growth (scenario D). The Table shows that indirect effects could have a very significant role under scenarios A and B. On the other hand, concerning scenarios C and D, negative indirect effects may not be significant and could be ignored. However, especially in the short run and assuming significant emission reduction targets, energy prices are likely to increase significantly, with a likely substantial negative indirect impact on the level of employment.

Table 7: Direct and indirect employment effects of climate policies – different scenarios

	Mainly negative direct effects	Mainly positive direct effects
Mainly negative indirect effects	<p>A. "Loss of jobs"</p> <ul style="list-style-type: none"> • green energy with higher energy cost • higher price on carbon (fossil fuels) • carbon leakage • strong decline of traditional "dirty" production • not enough new low carbon or green activities • lower GDP and real income; • negative feedback effects 	<p>B. "Green jobs but lower productivity"</p> <ul style="list-style-type: none"> • no significant carbon leakage • direct job losses moderate • increase of renewable energy • increase of low carbon jobs • lower real income and negative indirect effects • lower productivity • the overall effect on employment is sum of mainly positive direct effects and negative indirect effects
Mainly positive indirect effects	<p>C. "Loss of dirty jobs"</p> <ul style="list-style-type: none"> • direct job losses ('dirty' production) • carbon leakage • some but not high enough increase of renewable energy and low carbon jobs • positive indirect effects through higher productivity which compensates the negative real income effect of higher energy costs 	<p>D. "Green growth"</p> <ul style="list-style-type: none"> • new efficient green or low emission energy production • no significant carbon leakage • new productive activities in industry sector (energy efficient technology; greener production in traditional sectors), fully compensating the loss of jobs in "dirty" production • increased or not at least decreased productivity no negative effect on GDP, real income and long-run employment (compared to business as usual case)

Source: Prepared by the authors based on EMCO, 2010.

Implications and areas of action for trade unions

It is important to consider the implications of the above-discussed employment trends for trade union policies and agendas. The implications may be very different and will depend on the discourse of each trade union with regards to the relationship between jobs and environment. Rätzl and Uzzell (2011) identified four reoccurring key 'discourses' trade unions have or may

adopt in this respect (Table 8). They can range from the pro-technological discourse arguing that there will be no negative employment effects from greening the economy to the social movement perspective in which unions may argue for a different form of production. Discourses are not mutually exclusive. Features of more than one discourse can be applied at the same time. What specific discourses, and features, trade unions have adopted/will adopt depend on the history of the union and on the subject positions of trade union members who develop union policies and strategies.

Table 8: Discourses of trade unions illustrating how they perceive the relationship between jobs and the environment

Technological Fix	This belief assumes that environmental protection poses no threat to workers, as green innovation will create new jobs, and that a low-carbon economy can be achieved through economic growth . This is conceived of as economic growth that meets the twin goals of protecting industry through modernisation and protecting the environment through reduced emissions. This discourse fails to acknowledge social aspects of work (e.g. the possibility that increased technological efficiency can reduce demand for labour).
Social Transformation	This perspective suggests that environmental change and social change need to go hand in hand . Rathzel's/Uzzell's interviewees with this view emphasised the close links between occupation and personal identity , for example, there are strong social distinctions between manual and office work, and feminine and masculine roles and a change in occupation can threaten this sense of identity. The researchers suggest that this needs to be considered in 'green job' retraining programmes, which need to present work as empowering and worthwhile to be successful . Labelling chemical or coal industries as 'dirty', for example, could alienate workers in these sectors from climate change efforts by challenging their sense of identity and pride in work.
Mutual Interests	This is the argument that unionists should engage fully in dialogue with workers and develop a joint vision that supports workers' immediate interests . These interests could be used to develop 'win-win' policies that reduce any perceived conflict between job protection and environmental protection . For example, one transport workers' union encourages lorry driving members to spend less time on the road, to allow more freight to be transported by rail or boat (while ensuring that it is always transported by lorry for at least some of the distance), which means the drivers can enjoy more time with family, while also enabling a more sustainable transport system.
Social movement	This perspective believes that environmental initiatives should tie in with broader societal concerns, such as health and safety, or even democracy. It conceives of unions as social movements, who not only protect their workers, but also the living and working conditions of society at large . For example, under this discourse unions can play a role in improving human wellbeing through a healthier environment or question the given forms of production and develop alternatives.

Source: Prepared by the authors based on Rathzel and Uzzell, 2011.

Literature review, similarly as the survey of ETUC member organisations (see Chapter 4, section 4.3), identified only a few examples of trade union initiatives aimed at creating job placements for young workers in relation to sustainable development. This is confirmed by other research. For example, surveys carried out by the Labour Research Department on behalf of the Trade Union Congress (TUC) in 2009 (1300 respondents)¹⁶ and 2012 (1200 respondents)¹⁷ showed that only 7% of respondents said their employer is creating any "green" new jobs. Although this question did not specifically relate to job placements for young workers, the low share of employers creating new green jobs demonstrates the limited possibilities in this area.

Existing trade union initiatives aimed at creating sustainable job placements for young workers differ significantly in terms of, among other things, their scale and ambition, or the discourse they follow and partners they involve. A recent initiative of the Italian General Confederation of Labour (CGIL) to launch a Plan for Jobs (see Box 1 below) is an example of an ambitious and autonomous trade union effort to initiate a social movement in the area of greening of industries that would hopefully result in the creation of a significant number of sustainable jobs.

Box 1: "Plan for Jobs" of the Italian General Confederation of Labour

On 26th January 2013 the Italian General Confederation of Labour (CGIL) launched a Plan for Jobs (*Piano del Lavoro*) as an extraordinary reaction to very difficult economic and social conditions in Italy in 2013. The main argument for the launch and implementation of the Plan was that job-rich growth is the only way out of the crisis, the process of de-industrialisation and the lost positions in the tourism industry of the country. With this initiative CGIL decided to go beyond the traditional limits of representativeness and traditional political elaboration by consulting

¹⁶ Information on 2009 survey available at: <http://www.lrd.org.uk/issue.php?pagid=45&issueid=1319>.

¹⁷ Information on 2012 survey available at: <http://www.lrd.org.uk/issue.php?pagid=45&issueid=1529>.

with the whole organisation and workers about the possibility of supporting a project in the interest of the whole country, and not only of the labour market (i.e. a programme to change the development model and one able to find a way out of the crisis).

This Plan aims to create new sustainable jobs for youth particularly in the southern regions, also to protect existing jobs in the more traditional sectors. The plan argues that all jobs, either new or existing, have to be decent – based on a contract, paid and qualified by universal protections and by training. The focus is on new jobs linked to various sustainable activities including: the complex maintenance of territory and the enhancement of cultural heritage, the knowledge-based economy and the innovation and sustainability of infrastructural networks (construction, energy, transportation, etc.).

More specifically, the Plan identifies a number of areas in which it is urgent to intervene to create new jobs including: hydrological reorganisation of the territory; non-invasive agriculture, compatible with the environment; anti-seismic prevention measures for building heritage; implementation of safety measures in school buildings; non-invasive building development linked to processes of urban regeneration and energy saving; development of shopping centres, new consumption patterns and valorisation of the cities; energy saving and reduction of energy costs through the use of renewable sources; "intelligent" networks for the management of electric power flows; environmental protection and reclamation of polluted sites; local public transport; and infrastructures for logistics.

The programme is to be implemented during 2013-2015. However, it also includes an extraordinary plan for the direct creation of jobs which should start immediately. The latter foresees immediate implementation of: the reclamation of territory including the hiring of young and qualified people; a special competitive examination for the hiring of young people in public administration; the reunification and increase of the tax exemption funds for the hiring of young people and of women with the constraint of a permanent contract; and the creation of an extraordinary plan for the employment of young people, through public employment or intervention.

The total necessary resources to implement the Plan amount to about EUR 50 billion on average in the 2013-2015 three-year period including EUR 15-20 billion for programmes of the extraordinary Plan for the direct creation of employment. Ex ante impact assessment of the programme argues that compared to the basic scenario (no new policies are implemented) the Plan could generate during 2013-2015 +2.9% of new employment and reduce the unemployment rate by 7%. Econometric estimates carried out specifically for the Plan for Jobs by the European Research Centre (CER) count that more than 1 million jobs could be created in 3 years and about 40% of these new jobs could be for young people between 15 and 29 years' old. However, it is not yet possible to measure the actual results of this initiative because it was launched very recently and it will take significant time for all local levels to launch their plan for jobs and measure actual results.

The content of the Plan for Jobs is open to discussion and to the contribution of the local CGIL structures and its federations at all levels. CGIL will also involve other trade union organisations, employers, political and institutional levels, NGOs and universities both in the programming and implementation phase at local level. Local 'Plans for Jobs' are being drafted by regional and local CGIL confederations and will lead to specific bargaining on this issue with the authorities (at regional, province or municipality level).

Recent developments related to the Plan have significantly improved the dialogue among trade unions and between trade unions and employers on some emergency issues (e.g. unemployment benefits). However, to guarantee successful implementation of the Plan strong political action and a radical change of economic policies are needed. Creation of jobs is possible if the government switches from austerity plans to investment (both public and private). However, overall success of this proposal in this and other national contexts depends on the actual contractual strength and on actual available resources (including EU and international ones), finally, on the capacity of social partners and political actors to enter into dialogue and plan jointly.

Sources: CGIL (2013), additional information provided by CGIL.

There are also trade union initiatives that are even more ambitious in terms of activities and that not only aim at creating job placements for young workers, but also, among other things, provide opportunities for developing green skills, relevant guidance services and engage in complex awareness-raising activities such as training 'green ambassadors'. However, this complex portfolio of activities is hardly possible without wide alliances with different stakeholders each significantly contributing to the same aim of the initiative. As Rätzl and Uzzell (2013) argue 'as a result of the merge of the protection of workers and the protection of the environment, trade unions need to build alliances with environmental movements'. It can be argued further that to make these alliances effective, they need to be extended far beyond labour and environment representatives. A good example of such an alliance is the Green Skills Partnership for London (see Box 2 below) which tries to combine several discourses.

Box 2: Green Skills Partnership for London

Green Skills Partnership For London (GSPL) is inclusive of trade unions, employers, further education colleges, community representatives, the Sector Skills Council (Asset, Summit and Construction), Job Centre Plus, and London Borough Councils. It has been established as a model to improve links, create partnerships and to deliver

sustainability training and employment opportunities. The partnership has evolved over eighteen months from initial experimentation in East London to successful piloting in South London and to a broad based partnership for the whole city. Its original inspiration was the United States west coast 'Apollo Alliance' model, about which the Institute of Public Policy Research (IPPR) and other organisations including the Trades Union Congress (TUC) were responsible for promoting awareness in the UK.

The main aims of the GSPL partnership are co-operative working and innovation around sustainable development principles as part of a 'bottom up' development, creating local jobs, work experience/placements/apprenticeships in environmental sustainability, climate change and low carbon initiatives. Furthermore, the project aims at innovative engagement of communities, including the most vulnerable and disadvantaged, in tackling fuel poverty, climate change and building sustainable communities; promoting environmental literacy enabling employers, families and communities to articulate their needs, set-up or participate in initiatives themselves and improve employment potential. Finally, to provide environmentally aware, current and informed career and training guidance, particularly in the renovation, domestic energy, waste and power and new eco-skills' markets. Consequently, this wide programme provides preparatory training, raises awareness about environmental issues and up-skilling of members of the local community, creates job opportunities, work placements and where possible, apprenticeship places for cohorts of young people.

To date, there has been a great deal of fruitful deliveries from the GSPL partnership, e.g. 40 community Discussion Leaders trained (3 courses) across 2 boroughs, 2 community awareness courses organised, 14 people signed up to do their PTTs award (preparing to teach in the lifelong learning sector). Also, 6 people placed into part-time paid training as 'green ambassadors' through Lewisham college and the construction union UCATT. Recruitment to 'green skills' training providers organised around rainwater harvesting, solar photovoltaic, internal and external cavity wall insulation etc. A key partner, the Environmental Regeneration Charity (Groundwork) delivered pre-employment opportunities in the horticulture, waste management and retrofit sectors in South London, with a further 60 green and low carbon jobs to be created. Likewise a guarantee of opportunities for jobs, work placements and apprentices across 3 London boroughs through the project from Beonsite/Lendlease was negotiated.

Between the current aims of the project, further activities are foreseen. For example, work with a local council to obtain empty properties/voids to retrofit and bring back into use utilising local labour and skills and providing training opportunities for apprentices and others seeking construction qualifications.

Sources: Union Learn SERTUC; Green Skills Partnership for London (2012); additional information provided by SERTUC.

According to a recent study on the external conditions influencing sustainable practices and behaviour in the workplace (West University of Timisoara, 2012) one of the macro-structural factors acting as barriers to initiatives about sustainable activities at the workplace is the lack of methods for environmental performance evaluation. This factor may impede promotion of sustainability at the workplace and thus the creation of green job placements for the youth. A recent initiative from the Confederation of Vocational Unions in Norway (YS, see Box 3 below) has specifically tried, among other things, to develop a model measuring green value creation and thus enabling systematic efforts towards more green jobs.

Box 3: The Confederation of Vocational Unions in Norway promotes greener jobs

The Confederation of Vocational Unions in Norway (YS) together with the World Wildlife Fund Norway (WWF-Norway) implemented the project "A Green Economy in Norway: what is it and how to get there?" The reference group of the project involves the YS, the WWF-Norway, the Grid-Arendal (centre collaborating with the United Nations Environment Programme (UNEP)) and one internal reference group. The project is funded by the YS and the Norwegian Ministry of the Environment. The main objectives of the project were to: (1) clarify the terminology related to the green economy, (2) assess the status of the green economy in Norway and (3) develop a model that enables systematic efforts towards a more green economy. The main result of this project was a simplified input-process-output model of green value creation which was tested in the healthcare sector in Norway. The developed model helps to assess and further promote the green direction in an organisation by measuring and improving the status of a number of key parameters related to the creation of green value.

After finalisation of the above-mentioned project the YS will strive further to transfer green knowledge into tangible practice and has developed a "Greener Jobs Programme" based on the earlier developed input-process-output model. The programme covers the following elements: an introduction for shop stewards and key resource people about the green economy; a joint study to assess how green an industry, enterprise or organisation actually is (by using the input-process-output model created in the previous project); an investigation into the potential of making the workplace greener; the joint preparation of a first "Greener Workplace manual" for a particular industry or organisation. Participation in this programme provides training and skills' development for participants, a clear environmental profile and visibility to other associations and partners and a tool to stimulate motivation and commitment within an industry or organisation. The programme focuses on how to make the existing jobs greener rather than in creating new jobs.

The YS faces challenges in promoting the "Greener Jobs Programme" due to the fact that these issues are still considered new to many organisations, and therefore understood by potential participants as an additional task

or difficult to achieve through lack of time/understanding of the project. Despite these difficulties the YS continues to search for candidates with a real interest in the programme, strives to sign relevant agreements with employers and carries out pilot projects. At the moment representatives of the YS Committees on Youth and Sustainable Development are carrying out two pilot projects in the public sector (municipalities) related to the home care and forestry industries.

Source: Kristoffersen, G. (2013).

As sectoral overviews show (see separate documents to this report) the greening of industries may lead to radical changes in production, distribution and consumption patterns within and across industries. Unions may play a significant role in both anticipating and managing this change. A prominent example of collective trade union action in transforming a particular industry at the grassroots level is illustrated by the Lucas Aerospace project (see Box 4 below). Despite the fact that the project was not successful in the end, it demonstrates that trade union strength lies in collective action even in such difficult cases as the transformation of production.

Box 4: Lucas Aerospace Project

The Lucas Aerospace project is an exemplary case of a workers' movement led by shop stewards campaigning to convert production to socially useful and environmentally desirable purposes. In the 1970s the UK government announced defence cuts, and the Labour government supported the 'consolidation' of the UK's military industries. Due to these new governmental guidelines 13,000 workers from Lucas Aerospace (making aircraft systems, many of them defence-related) would have been left redundant in its seventeen factories.

Instead of fighting for the maintenance of the defence-related jobs, shop stewards invoked the help and expertise of the Lucas Aerospace workers. A survey about the potential of the physical assets and the range of workers' skills was carried out.

A super-suggestion scheme was sent around all the factories, inviting everyone to put in proposals about the projects they would have wanted to carry out. In the end the scheme resulted in 150 socially- and environmentally-oriented production ideas, such as building medical aids, new transport systems and several renewable energy technologies, etc. This was a strategy that was built explicitly on the complementary skills and competences of workers, engineers and shop stewards. One of the reasons why it was possible to engage workers and engineers in the process was that the Lucas shop stewards managed to overcome the division between white- and blue-collar workers in the company. Lucas shop stewards combined all trade unions across all seventeen factories.

The Lucas project, though influential with unions and governments all over the world at the time, in the end failed. The main reason was that the workforce was challenging the management over the right to determine what should be produced. Also, technologies suggested by the workers were not familiar in that period. The situation at Lucas Aerospace where jobs were at risk, is similar to what can occur as a result of the current transition process towards a green economy. Therefore it is worth using the good practice from this case which might be transferable to other organisations and could create a greater chance for the realisation of socially and environmentally just policies: it is essential to create forms in which workers on the floor and technicians and engineers inside and outside factories can work together to develop, for example, alternative forms of production. Of equal importance is trusting in and building on workers' skills and desire to produce something useful for themselves and the environment, developing strategies with workers (technicians, and academics), instead of for them.

Sources: Rätzzel et al. (2010); Elliot, D. (2011).

Besides trade union initiatives focusing on green job placements for young workers at the general/multi-sectoral level, there are also those aimed at particular sectors. One of these examples is the restructuring of the Porto Torres Eni industrial plant in Sardinia with the aim of transforming an old petrochemical plant into a plant that produces bio-plastics, bio-additives and bio-lubricants and thus creating a number of green jobs in these areas. Relevant sectoral trade unions both participate in the establishment and, later on, in the monitoring and coordination stages of this project (for more information, please see overview of chemicals sector, a separate document of this report). However research found not many examples of trade union initiatives focused on green job placements for young workers at the sectoral level. There is an urgent need for a considerably higher number of such union initiatives at the workplace level related to the core economic activities of particular sectors.

As can be seen from the examples provided above, the choice in the types of initiatives is very broad. It is very important to choose the right discourse (or combination of different discourses) behind concrete initiatives and carefully build trade union actions upon it. The choice should not only depend on the internal characteristics of the union, but also on the environment that surrounds it – young workers (likely future members of the union), the most innovative

employers, government administrations, other trade unions, academics, etc. The right choice may strengthen the trade union, both in terms of representation and its political influence, while the wrong one may weaken it by, for example, further decreasing its membership and/or political influence. There is also a compromise between a moderate position based on incremental and modest changes and a radical one that could possibly challenge the prevalent traditional practices. While the former may guarantee the mere existence of the trade union, the latter, if successfully adopted and implemented, could bring significant benefits for the trade unions.

Quantitative and qualitative research on what workers think about climate change, on how action on the environment and climate change in the workplace could be promoted, and on the role of trade unions in this respect, is lacking. So far there are only a few examples of this kind of research including the ETUC Green Workplaces project¹⁸, 2011-2013, the FP7 research project 'Low Carbon at Work' (LOCAW)¹⁹ on modelling agents and organisations to achieve a low carbon Europe, the, already referenced, regular national surveys carried out in 2007, 2009 and 2012 by the Labour Research Department on behalf of the TUC in the UK, and surveys related to the TUC National Green Workplaces' initiative²⁰. This research has provided many useful findings. For example, surveys commissioned by the TUC regularly demonstrate high interest levels of union involvement in climate change. However, they do not specifically focus on the employment opportunities for young workers in the green economy and the role of trade unions in promoting it. Thus further research efforts are needed to highlight the options trade unions may opt for with respect to sustainable youth employment in the future.

3.3. Skill development trends²¹

Skill development is a wide term and may include requirements for employees' qualifications, the demand for training activities, patterns of organisation of learning activities and career development-related issues (EUROFOUND, 2002).

Greening effects on skill development

A recently carried out study on the greening effects on quantity and quality of jobs (EUROFOUND, 2013) suggests a number of insights regarding greening effects on skill development of employees.

- There is a general positive link between greening and skill development – the study revealed that employees working with green business practices face higher qualification requirements, a greater demand for training activities and, to a lesser extent, better organised learning and higher employability.
- Greening is not likely to result in many new occupational profiles – the study, as well as literature (e.g. CEDEFOP, 2010; Cambridge Econometrics et al, 2011; ILO, 2011), suggests that the acquisition of green skills will mainly *enhance* rather than *change* the existing skill set.
- All things being equal, at least in the short term, greening may 1) increase the demand for highly skilled workers (e.g. managers, engineers, technicians) and decrease the demand for, or have no effect on, medium- or low-skilled employees (e.g., operators, assemblers, labourers). There is a consensus that technical change is biased in favour of higher-level skills. Green technical change is no different in this respect.
- Overall job quality correlates with occupation – the more skilled the occupation, the better the conditions expected to be faced due to greening.

¹⁸ <http://www.etuc.org/a/9884>

¹⁹ <http://www.locaw-fp7.com/>

²⁰ Every project in the TUC's National Green Workplaces' initiative since 2006 has involved surveying workers at workplace level as a method of campaigning. A number of affiliates to the TUC have also done so (for example, Unite carried out a survey of their ICT sector).

²¹ Some of the data in this and other section is derived by the authors from CEDEFOP skills demand and supply forecast up to 2025 covering 33 countries: the EU27, candidate countries (Croatia, the former Yugoslav Republic of Macedonia and Turkey) plus Iceland, Norway and Switzerland.

- Differences in demand for workers and the correlation between job quality and occupation may imply an increased division between highly skilled and less skilled workers: while highly-skilled workers may expect more training, higher income, better health, better career prospects and quality of life, less skilled jobs may involve more difficult manual work, increased exposure to dust, work under increased time pressure, lower wages, higher adaptability costs and so on. Over the medium to long term, when technologies mature, there could be a higher demand for less qualified employees. This may reduce this implied division between workers.
- Skill development may be positively influenced by a number of factors including customer demand (the higher the customer demand, the higher the impact on skill development), regulatory requirements (licences, certification and occupational health and safety requirements usually lead to more intense skill development) and institutional cooperation (between the labour market and education and training institutions).

Most recent CEDEFOP data confirms the above-identified trend towards medium/highly skilled²² jobs. Table 9 shows demand by broad occupational groups and qualifications in eight selected sectors, while Table 10 shows it for the total economy.

Table 9: Aggregate demand by broad occupational groups and qualifications in eight sectors, 2010-2025*

	2010			2025				
	Occupation share in total industry employment	Share of low-skilled employees in respective occupation	Share of medium-skilled employees in respective occupation	Share of highly-skilled employees in respective occupation	Occupation share in total industry employment	Share of low-skilled employees in respective occupation	Share of medium-skilled employees in respective occupation	Share of highly-skilled employees in respective occupation
Legislators, senior officials and managers	12%	23%	42%	34%	11%	19%	39%	41%
Professionals	7%	3%	17%	80%	9%	4%	21%	75%
Technicians and associate professionals	13%	12%	57%	31%	15%	11%	50%	39%
Clerks	10%	21%	62%	17%	9%	19%	55%	26%
Service workers and shop and market sales workers	15%	30%	60%	10%	14%	20%	61%	19%
Skilled agricultural and fishery workers	0%	40%	54%	6%	0%	43%	50%	7%
Craft and related trades workers	27%	38%	56%	7%	24%	30%	60%	11%
Plant and machine operators and assemblers	9%	41%	55%	5%	8%	32%	60%	8%
Elementary occupations	8%	55%	42%	4%	9%	42%	51%	8%

* Shading emphasises the main changes discussed in the text.

Source: Authors' calculations based on CEDEFOP data

Table 9 shows that in 2010 the occupational group most in demand in the eight selected sectors was craft and related trades workers (27%), in comparison with the total economy (see table 10) in which this group comprised only 13%. In 2010-2025 there will be an increase in demand for highly-skilled occupations (i.e. professionals as well as technicians and associate professionals). The qualification structure of the main occupational group – craft and related trades workers – will move towards moderate/high qualifications. In general, the share of highly-skilled employees will increase in all occupational groups of the eight selected sectors except for professionals where more medium-skilled employees will be in demand.

²² Three levels of qualification – low, medium and high – are aggregated based on the following classification: low qualification includes 1) pre-primary education; 2) primary education (1st stage basic) and 3) lower secondary education (2nd stage basic); medium qualification – 4) upper secondary education and 5) post-secondary non-tertiary education; high qualification – 6) first stage of tertiary education and 7) second stage of tertiary education.

Table 10: Aggregate demand by broad occupational groups and qualifications in total economy, 2010-2025*

	2010				2025			
	Occupati on share in total industry employ ment	Share of low-skilled employe es in respecti ve occupati on	Share of medium-skilled employe es in respecti ve occupati on	Share of highly-skilled employe es in respecti ve occupati on	Occupati on share in total industry employ ment	Share of low-skilled employe es in respecti ve occupati on	Share of medium-skilled employe es in respecti ve occupati on	Share of highly-skilled employe es in respecti ve occupati on
Legislators, senior officials and managers	8%	19%	38%	44%	9%	15%	34%	50%
Professionals	14%	2%	13%	85%	15%	2%	17%	80%
Technicians and associate professionals	16%	8%	51%	40%	17%	7%	44%	49%
Clerks	10%	17%	61%	22%	9%	13%	54%	33%
Service workers and shop and market sales workers	13%	30%	59%	12%	13%	20%	60%	20%
Skilled agricultural and fishery workers	7%	69%	26%	4%	5%	53%	37%	9%
Craft and related trades workers	13%	36%	57%	7%	11%	31%	58%	11%
Plant and machine operators and assemblers	8%	39%	56%	5%	7%	30%	61%	9%
Elementary occupations	11%	56%	39%	5%	13%	41%	49%	10%

* Shading emphasises the main changes discussed in the text.

Source: Authors' calculations based on CEDEFOP data

Table 11 shows the trends in employment demand by broad occupational groups across eight selected sectors. It shows that in the automotive, chemicals, construction, utilities, furniture and textiles' sectors the largest share of employees work in two occupational groups – craft and related trades workers and/or plant and machine operators and assemblers. The ICT sector is dominated by (associate) professionals and technicians. Large shares of technicians and associate professionals also work in the chemicals and utilities sectors.

CEDEFOP forecasts that in the period 2010-2025 the occupational structure is not likely to change significantly except in two of the selected sectors – automotive and utilities. In these sectors shares of professionals will significantly increase at the expense of a considerable reduction in craft and related trades workers (marked by arrows in Table 11). The greening of the economy, but also other factors (e.g. changing production/distribution patterns) may explain this shift.

Table 11: Demand by broad occupational groups in each of eight selected sectors, in 2010 and 2025*

	Automotive		Chemicals		Construction		Distribution & trade		Utilities		Furniture		ICT		Textiles	
	'10	'25	'10	'25	'10	'25	'10	'25	'10	'25	'10	'25	'10	'25	'10	'25
Legislators, senior officials and managers	5%	7%	9%	10%	6%	8%	16%	14%	6%	9%	6%	6%	11%	12%	6%	6%
Professionals	12%	20%	11%	15%	4%	5%	4%	5%	15%	19%	4%	7%	36%	36%	3%	5%
Technicians and associate professionals	15%	17%	18%	19%	6%	8%	14%	17%	22%	25%	10%	14%	26%	25%	8%	12%
Clerks	7%	3%	10%	9%	5%	4%	13%	13%	13%	11%	8%	8%	7%	4%	6%	6%
Service workers and shop and market sales workers	1%	1%	1%	2%	0%	1%	29%	25%	1%	1%	2%	2%	1%	1%	2%	4%
Skilled agricultural and fishery workers	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%
Craft and related trades workers	28%	17%	10%	9%	63%	60%	12%	11%	24%	16%	42%	33%	11%	13%	38%	25%
Plant and machine operators and assemblers	27%	26%	32%	26%	6%	5%	4%	5%	13%	12%	16%	17%	6%	7%	29%	27%
Elementary occupations	6%	8%	9%	8%	9%	9%	8%	10%	6%	7%	10%	13%	2%	2%	8%	15%

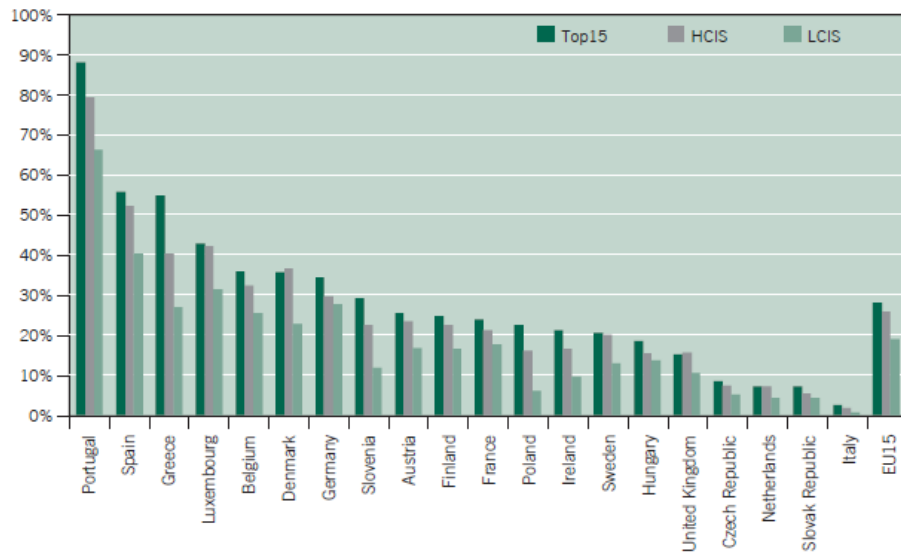
* Shading emphasizes the main changes discussed in the text. Arrows mark the change in demand in most significant occupational groups in selected sectors between 2010 and 2025.

Source: Authors' calculations based on CEDEFOP data

Distribution of greening effects on skill development

According to the European Commission and the ILO, the skill composition of workers in high- and low-carbon-intensive sectors will influence the employment transition (European Commission – ILO, 2011a). The share of low-skilled labour in high-carbon sectors is higher in all but two countries (Figure 10). For example in the EU-15, nearly one-fifth of workers in the low-carbon-intensive sectors (LCIS) are low-skilled compared with 27 per cent in the high-carbon-intensive sectors (HCIS) and almost 30 per cent in the top 15 emitting industries.

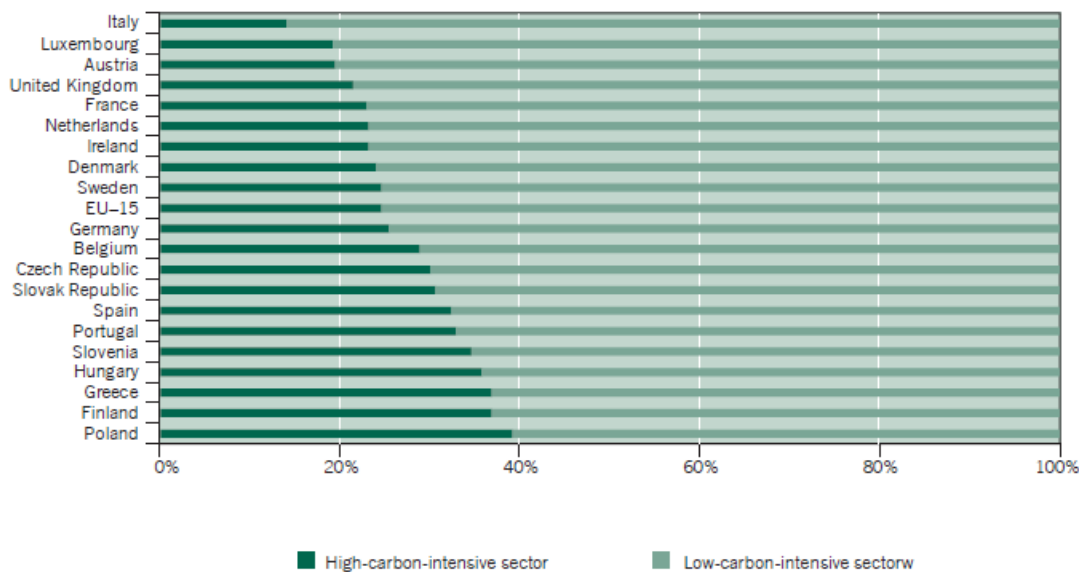
Figure 10: Share of low-skilled employment by industry classification, 2005*



* HCIS means high- and LCIS – low-carbon-intensive sectors; TOP15 – top emitting sectors.
 Source: European Commission – ILO, 2011 a.

Looking at the distribution of highly skilled workers by sector, it is obvious that the vast majority of highly skilled employees work in the LCIS (Figure 11). In fact, in the EU-15, more than three-quarters of highly skilled workers are engaged in low-carbon-intensive activities.

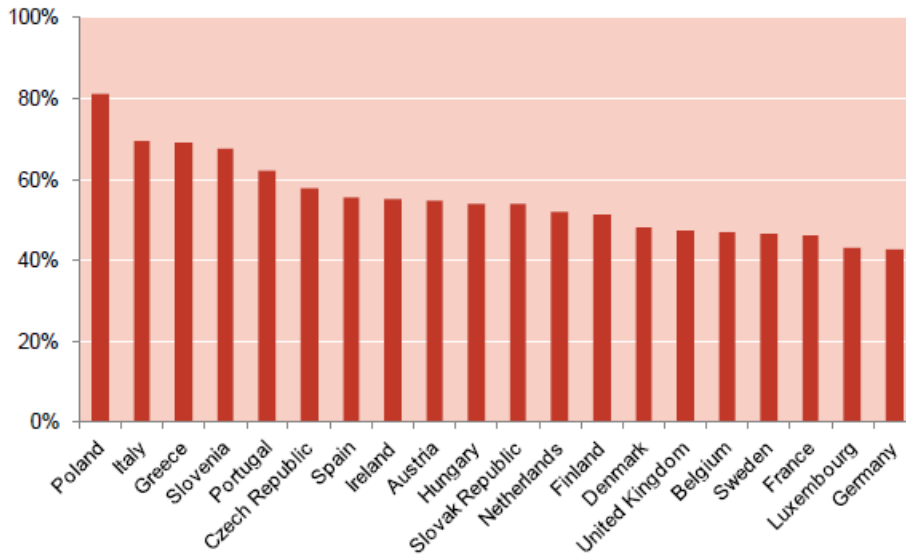
Figure 11: Share of high-skilled workforce, 2005



Source: European Commission – ILO, 2011 a.

The above evidence suggests that adjustment pressure will be mainly on low-skilled workers currently employed in HCIS including utilities and chemicals (among the top 15 most carbon-intensive sectors) as well as textiles and retail (somewhat less carbon-intensive – not in the list of top 15)(European Commission – ILO, 2011b). According to estimates by the International Institute for Labour Studies, the total employment size of the EU HCIS is approximately 87 million workers, of which approximately 21 million are low-skilled (European Commission – ILO, 2011b). The ratios of low-skilled in HCIS tend to be somewhat higher for countries in Eastern and Southern Europe (Figure 12). To achieve a higher impact just transition policies may need to focus on the low-skilled in above-mentioned sectors and regions.

Figure 12: Share of low-skilled workforce in the high-carbon-intensive sector (HCIS), 2005*



Source: European Commission – ILO, 2011b.

The above figures may exaggerate the challenge given the fact that the top 15 emitting industries within the HCIS account for roughly 95 % of total CO₂ emissions and approximately 85 % of all emissions arising from production (European Commission – ILO, 2011a). Only 12 per cent of all workers are employed in the top 15 emitting industries (approximately 24 million workers). However, as stated earlier, the share of the low-skilled in the top 15 emitting industries is higher than the HCIS' average. Thus the problem of adjustment pressures for skill development in the utilities and chemicals sectors may be particularly strong.

Earlier studies (for example, EUROFOUND, 2013) and analysis carried out in this study (see overviews of the selected sectors accompanying this report) reveal the different effects on skill development by the greening the economy across sectors (Table 12). It shows that probably the strongest adjustment pressures, in addition to earlier identified utilities and chemicals sectors, will be on the construction sector. Automotive, distribution and trade, furniture and textiles sectors are likely to experience moderate adjustment pressures, while the ICT sector is likely to be the least affected in this respect.

Table 12: Summary of effects on skill development across the selected sectors

Sectors	Effects
Automotive	<ul style="list-style-type: none"> Moderate impact due to strong sector resilience High demand for highly skilled in EU15, for medium- to low-skilled in EU12 Demand for interdisciplinary skills and multi-skilling as business model of the sector from products to services Highly skilled, especially in demand in emerging industries such as low-carbon vehicle production
Chemicals	<ul style="list-style-type: none"> Moderate to high impact due to rather long period of greening of sector High adjustment pressure for low-skilled works in the sector
Construction	<ul style="list-style-type: none"> High impact Move towards more skilled jobs (high demand for, for example, technicians and (associate) professionals) High demand for recognition of green skills, training innovations (for example, on-site training of workers) Interdisciplinary (especially in retrofitting) and generic green skills Progress in green skills' development is especially needed in SMEs and relatively large informal construction sector
Distribution & trade	<ul style="list-style-type: none"> Moderate impact (higher impact in retail) Highest demand for transferable skills such as eco-product knowledge and understanding customers' needs Likely loss of employment/ high adjustment pressure for low-skilled workers (esp. in retail) High need for multiskilling
Furniture	<ul style="list-style-type: none"> Moderate impact Most effects are on the highly-skilled
ICT	<ul style="list-style-type: none"> Low impact, highly-skilled employees will remain in high demand as before High demand for hard transferable skills such as STEM combined with business and management skills
Textiles	<ul style="list-style-type: none"> Low impact in general, but high adjustment pressure for low-skilled works in the sector More horizontal (cross-occupational) demand of skills in the sector Importance of interdisciplinary skills
Utilities	<ul style="list-style-type: none"> High impact High demand for hard transferable skills such as STEM Highest need for new skills in renewables High adjustment pressure for low-skilled works in the sector

Source: Prepared by the authors, partly based on EUROFOUND 2013 and on overviews of the selected sectors that accompany this report.

Implications of greening for generic skills

Beyond the sector-specific 'green' know-how, there will be a strong need to reinforce human capital in general due to the changes in production methods and adoption of new business models in a greening economy. Workers in all selected sectors will experience significant adjustment pressures with regards to generic or transferable skills. There is already a very high demand in the industry for science, technology, engineering and maths' (STEM) skills that is not likely to diminish in the near future. STEM skills provide the basis for high-level low-carbon skills (CEDEFOP 2010). The lack of general interest by workers in science and engineering, leads to a deficit in available technical skills (European Commission 2011b). Thus lack of STEM skills may significantly constrain the greening trends in many, if not all, economic sectors (EUROFOUND, 2013).

In addition, multi-skilling (for example, by combining new environmental and ordinary skill sets) and interdisciplinary skills are likely to become increasingly in demand across industries, especially in highly-skilled non-manual and manual occupations (EUROFOUND, 2013). Furthermore, as routine tasks are increasingly carried out by technology rather than by people, there will be a greater need for skills in, for example, independent problem-solving, planning, organisation and communication, even in elementary occupations (CEDEFOP 2012).

According to a recent study in the U.S (White S. et al, 2012) workers who are trained for green skills embedded within a broader set of occupational skills are in a much better shape than workers only trained for a discrete set of green skills. Training that layers green skills onto a foundation of more traditional skills gives workers more, and better, options in the labour market: the green skills may make them more attractive to employers, but if the market for the application of those skills is shaky they still have the foundational skills to work in a related occupation.

Implications and areas of action for trade unions

The greening of the economy and future scenarios for the development of green skills will very much depend on disruptive shifts accelerating in the economy and in the labour market, which will reshape the landscape of the workforce. All workers will have to adapt to the changing working environment. Thus it is important to place the development in green skills within a wider context, and in relation to the other skill demands that will become relevant in the future. A recent study by Davies et al (2011) provides a good example of such an exercise in foresight (see Box 5 below).

Box 5: Main disruptive shifts and key skills of the future workforce

Foresight study foresees the following six big disruptive shifts that are likely to reshape the future landscape.

1. Extreme longevity: increasing global lifespans change the nature of careers and learning.
2. Rise of smart machines and systems: workplace automation nudges human workers out of rote, repetitive tasks.
3. Computational world: massive increases in sensors and processing power make the world a programmable system.
4. New media ecology: new communication tools require new media literacies beyond text.
5. Super-structured organisations: social technologies drive new forms of production and value creation.
6. Globally connected world: increased global interconnectivity puts diversity and adaptability at the centre of organisational operations.

What do these six disruptive forces mean for the workers of the next decade? The study has identified the following ten skills that will be critical for success in the workforce.

1. Sense-making: ability to determine the deeper meaning or significance of what is being expressed.
2. Social intelligence: ability to connect with others in a deep and direct way, to sense and stimulate reactions and desired interactions.
3. Novel and adaptive thinking: proficiency at thinking and coming up with solutions and responses beyond that which is rote or rule-based.
4. Cross-cultural competency: ability to operate in different cultural settings.

5. Computational thinking: ability to translate vast amounts of data into abstract concepts and to understand data-based reasoning.
6. New media literacy: ability to critically assess and develop content that uses new media forms, and to leverage these media for persuasive communication.
7. Transdisciplinarity: literacy in, and ability to understand, concepts across multiple disciplines.
8. Design mind-set: ability to represent and develop tasks and work processes for desired outcomes.
9. Cognitive load management: ability to discriminate and filter information for importance, and to understand how to maximise cognitive functioning using a variety of tools and techniques.
10. Virtual collaboration: ability to work productively, drive engagement, and demonstrate presence as a member of a virtual team.

Source: Prepared by the authors, partly based on EUROFOUND 2013.

While the sector-specific green skills and above-identified (more horizontal) future key skills will be especially important for the highly-skilled workers, they will also be increasingly required, due to the changing working environment, from the low-skilled and young workers who are entering the labour market.

The role of trade unions is especially important in improving the advancement of low-skilled and young workers in the selected sectors. The career advancement potential of greening in sectors (especially in the traditional extensively unionised sectors) is closely linked to the nature of union workplaces, where job positions, and career progression from one job to another, are embedded within a broader set of negotiations between labour and management. This is particularly important where 'greener' positions are being developed at the lower end of the labour market, both because it clarifies pathways into those jobs, but also because it can assign measurable value to worker skill upgrades by documenting, for example, improved (i.e. greener) outcomes such as higher productivity or energy saving (White S. et al, 2011).

Given the somewhat predictable nature of the adjustment processes, there is considerable scope for trade unions to work together with governments, employers and other stakeholders to develop strategies for a just transition for low-skilled and young workers.

Literature review and the survey of the ETUC member organisations (see Chapter 4, section 4.3) have found more examples of trade union initiatives aimed at the development of green skills for young workers in comparison with union initiatives aimed at sustainable job placements for young workers. Other research shows that skill development initiatives are more widespread than ones concerning job placements – in the survey carried out in 2012 (1200 respondents)²³ by the Labour Research Department on behalf of the TUC - 10% of respondents reported that opportunities for reskilling and up-skilling in relation to climate change had become available (7% in the 2009 survey covering 1300 respondents)²⁴. This share was higher than the share of respondents (7%) in the 2009 and 2012 surveys stating that their employer was creating new "green" jobs.

One of the good practice examples in this area is the summer camp organised by the Spanish Trade Union, Confederation of Workers' Commissions (CS-CCOO) with the aim of supporting young trade unionists in the organisation of their work in representing workers at company level in relation to the environment. The initiative is general and considers green skills across a few sectors (see Box 6 below).

Box 6: XXV Trade Union Summer Camp of the CS-CCOO

The trade union, Confederation of Workers Commissions (CS-CCOO) is one of an all-comprising-body that confederates all kind of workers in Spain into a two-tier system: Federations (according to the activity or the sector involved) and Territorial Unions (attending to the territory where the work place is based). Promotion of sustainable development and affiliation of women and young people are among the main priorities of the CS-CCOO.

Every year, the youth department of the CS-CCOO organises a 3 day summer school with around 100 participants from all over the country. This summer camp is organised in collaboration with the Environmental department of the CS-CCOO and the International Labour Foundation for Sustainable Development (Sustain Labour). The summer

²³ Information on 2012 survey available at: <http://www.lrd.org.uk/issue.php?pagid=45&issueid=1529>.

²⁴ Information on 2009 survey available at: <http://www.lrd.org.uk/issue.php?pagid=45&issueid=1319>.

school is the most important event aimed at young union representatives organised by the CS-CCOO. This activity seeks to support young trade unionists in the organisation of their work in representing workers at company level, with special attention to their role in collective bargaining. In 2011, the XXV Trade Union Summer Camp's main focus was on the analysis of the role that trade unions can play in the fight for "another globalisation". For this reason, there were discussions on the environment, the sustainable production model and the fight against climate change from a trade union perspective. Therefore the development of skills in sustainable mobility, green energies and energetic renovation of buildings were addressed.

Both the youth department of the CS-CCOO and the environmental department concluded that the training of young trade unionists in environmental matters should not be something specific, but should be formalised as a basic pillar throughout the whole of trade union training.

Source: Information provided by CS-CCOO.

There are also examples of trade union initiatives aimed at sustainable training beyond the borders of an organisation. One such example is the project "Resource Efficiency for Employees and Works Councils" carried out by the Confederation of German Trade Unions (DGB) together with the DGB Bildungswerk Bund (the training organisation of the DGB). Although this initiative does not specifically target young workers, it has systematically (based on a particular methodology) and successfully, led to a raising of the skills of approximately 1,000 employees regarding energy and resource efficiency in the selected companies (see Box 7 below). This initiative is a good example of trade union action beyond the workplace and beyond (more general) awareness-raising activities of the unions.

Box 7: DGB training project "Resource Efficiency for Employees and Works Councils"

The Confederation of German Trade Unions (DGB) together with the DGB Bildungswerk Bund (training organisation of the DGB) jointly implemented the training project 'Resource Efficiency for employees and Works Councils' (KoReBB) from May 2008 until April 2011. The DGB Bildungswerk Bund at national level is carrying out training for Works Council' members and raising political awareness through courses for trade union members together with the sectoral trade unions (IG Metall, IG BCE, ver.di, NGG etc.). KoReBB was promoted by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

This project was designed to support measures for improving resource utilisation in companies. The objectives of KoReBB were to explore and promote existing options for the efficient use of energy and materials and energy sources in companies, and thereby contribute to the preservation of jobs (i.e. greening the workplace). The key conclusion stressed during the project was that, on average, costs for energy and materials and not the labour costs, are the main fixed costs for companies. This idea establishes a different (better) strategy for employers – resource efficiency instead of staff cutbacks. The potential to increase resource efficiency was estimated at between 5 % and 20 %. Measures aimed at increasing resource efficiency in companies are likely to motivate employees (in contrast to staff cutbacks which send a negative signal to employees). The project was based on the basic principle that environmental consciousness and behavioural changes must be done with the participation of the employees.

The steps of the project were initially to raise the awareness of issues of resource efficiency at regional and local level of the DGB, in Works Councils and, subsequently, to develop the professional competence of Works Councils and employees concerning resource efficiency. The project has also aimed to support Works Councils and employees in implementing activities to increase resource efficiency in their companies. For each Works Council the following activities were carried out by the DGB: contacting the Works Council member, convincing the Works Council management and human resources about the project, presenting the approach and discussing the training issues and planning measures and training. These activities should result in an external project aimed at company level training and qualification towards specific resource efficiency issues.

Trainings were arranged in several stages: cross-sectoral events with local trade unions; sector specific trainings, exchanges of best practice, direct cooperation with companies (9 pilot projects). Approximately 1000 participants in the end were awarded with "Expert in Resource Efficiency" certificates. As part of a further training plan, the project offers training courses and a certificate for the qualification of "In-house efficiency expert".

The project contains a number of good practice elements which can be used by other trade unions including: a broad involvement of various actors; identification of win-win-win situations where employees, employers and the environment are winners; development of involvement mechanisms (e.g. working groups); and overcoming the lack of technical/environmental competences through training provision. However, the project was based on an open network characterised by voluntary participation and lack of standards. Another challenge for the project was related to the interest and commitment of companies to finance training.

The KoReBB project has been continued via another one aimed at corporate social responsibility (CSR) and resource efficiency in SMEs (*Vertreten - Verbinden - Verantworten. Netzwerk zum sozialen Engagement im Handwerk*, VVV). The successor project will be carried out during 2012-2014 with the following goals: (1) raising awareness on sustainable development and resource efficiency (as part of CSR); and (2) raising awareness of trade

union activities for unorganised craft workers (the higher rate of organisation, the better base for collective bargaining).

Source: Hoffman, J. (2013); Aumayr, C. (2011); German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (2012); KoReBB project website, available at: <http://www.betriebsratsqualifizierung.de/projekte/korebb>

A good example of an even more extensive initiative in terms of activities, sectors, time periods covered, and number of partners involved, is the project "Réseau Intersyndical de Sensibilisation à l'Environnement" (RISE, in English: an inter-trade union network for awareness of the environment, see detailed description in Box 8 below). Although this initiative is not specifically focused on young workers, it is nonetheless a good example of geographically focused trade union action with regards to the sustainable training of workers across different industries experiencing restructuring. This initiative may be adopted, taking into consideration the local and regional conditions, by other regions in Europe.

Box 8: Le Réseau Intersyndical de Sensibilisation à l'Environnement (RISE)

"Réseau Intersyndical de Sensibilisation à l'Environnement" (RISE), is a project supported by the Government of the Walloon Region. This project was initiated by two main Belgian trade unions – the Catholic labour union (Confédération des Syndicats Chrétiens – CSC) and the Socialist labour union (Fédération Générale du Travail de Belgique – FGTB). The Fondation Travail-Université (FTU) was also involved in the project as a scientific partner supporting the action of the trade unions. RISE consists of three main stages: (1) RISE I -1996-1999; (2) RISE II - 2000-2003; and (3) RISE III starting in 2004 to date.

In the beginning, the overall purpose of RISE was to increase the efficiency of the existing social dialogue on environmental matters in the enterprises of the region and to develop new initiatives in such a social dialogue. RISE I was designed as a pilot experiment, which had to develop and validate activities in four areas: (1) information and awareness of workers; (2) training of union representatives; (3) pilot experiments of workers' participation in environmental change at the enterprise level; and (4) "technical support" (eco-advising) for answering environmental questions raised by grass-root union initiatives.

Of great importance are pilot experiments implemented with the aim of developing concrete social dialogue during the realisation of environmental projects at the enterprise level. The following six experimental case studies were carried out in total.

- (1) A chemical plant, manufacturing fertilisers and other agro-chemical products (278 workers), where the experiment consisted of selective separation of non-chemical waste (office, laboratory and packaging waste) on the one hand, and a decrease in nitrate emissions in waste water on the other.
- (2) A food plant, manufacturing sausages and pâté (169 workers), where the action was oriented towards awareness and changes of behaviour in the selective separation of production waste and recycling of packaging material.
- (3) A copper foundry, manufacturing intermediate products of copper plates and wires (179 workers), where a survey of environmental problems and a risk map were created with the direct involvement of the workers.
- (4) A maintenance plant for electric and diesel locomotives, belonging to the public national railway operator (SNCB) (950 workers), where an integrated plan of environmental improvements was designed and implemented: waste water processing, selective separation of waste, better identification of hazardous products, a new prevention plan including environmental risks, the setting up of an "environmental cell" at the plant level.
- (5) An automotive assembling plant, which "customises" imported cars for the Belgian market (137 workers), where the experiment consisted of looking for new solutions to a series of environmental or health and safety problems, as the existing solutions were unsatisfactory for the workers: air pollution, bad operation of filters, wrong use of thinners, risks due to irrelevant building arrangements.
- (6) A firm specialised in asbestos removal in polluted buildings (47 workers), where RISE allowed for a negotiated initiative for worker training on environment and health aspects related to asbestos.

The selection of firms was made by the trade unions, but it was not based on existing or future environmental projects. The firms were selected according to complex criteria of sectoral diversity and a balance of interests between the unions. The evaluation made by both trade unions shows that the pilot experiments resulted in a considerable improvement in the quality of social dialogue on health and safety issues, quality policy and environmental policy at the firm level.

The RISE II project (2001-2003) was developed by the CSC and FGTB so that the range of initiatives of the first project could continue to be expanded and diversified. Among the main objectives was to continue the reinforcement of training and environmental awareness; developing new initiatives in companies, or in areas not yet explored, to consolidate experience in the management of environmental issues and diffuse this knowledge within and outside of the two unions, and also to strengthen technical support so that workers' representatives were better informed and their actions structured in relation to the environment devices. There was also a specific focus of the project at the request of the Walloon Region: the implementation of an environmental permit, ISO 14001 and the 'Eco Management and Audit Scheme'(EMAS), environmental management systems, such as the monitoring of

compliance with regulations, and the NIMBY phenomenon (an acronym meaning "not in my backyard," a phrase used to denote the opposition to projects that could be developed in or nearby a residential area).

Since 2004, the Walloon Region has established a framework agreement with all of the socio-economic actors (social partners: Walloon Business, UCM – the main francophone employers' organisation, and the unions) of the Walloon Region to further their actions in terms of awareness, information and training their target audience about the environment. Since then, each year (September-October), each player presents the region's agenda for the next year.

Sources: **Le Réseau Intersyndical de Sensibilisation à l'Environnement [Online]. Available at: <http://www.rise.be/>; Valenduc, G. (2001).**

Besides the general or multi-sectoral trade union initiatives outlined above there are also ones that focus on the training of green skills for young workers in particular economic sectors. Overviews of the selected economic sectors accompanying this report contain a number of such examples including the Wakefield and District Homes and UCATT partnership for zero-carbon housing (see overview of the construction sector), Sofiyska Voda AD internships 'Challenge the Future' (see overview of the utilities sector), the training programmes of the Energias de Portugal (see overview of the utilities sector) or the Metal, Construction and Allied Workers' Federation project for the improvement of youth qualifications in the area of electric cars (see overview of the automotive sector).

Most of the trade union initiatives aimed at developing the green skills of young workers focus on general awareness-raising activities to promote generic/soft skills in relation to sustainable development (e.g. behaviour aimed at greening the workplace including tele/video conferencing, lighting control, reducing the electricity consumption of computers and other machines, etc.). The development of generic/soft green skills is crucial for the development of trade union capacities with regards to sustainable development. For example, skills in influencing, persuasion and communication are very important if workers are to negotiate and bargain collectively with employers on green issues, changes to working processes and mainstream union involvement.

Furthermore, the development of workers' generic/soft green skills is valuable in itself even if it does not bring immediate economic value. It stimulates people to make changes in their behaviour which may boost (both in terms of pace and quality) the transition to a low-carbon, resource-efficient society. For example, Wilke and Wolff (2012) argue that to green the automotive sector it seems necessary first to compel people to change their concept of mobility and reduce individual car ownership. A simple thought experiment can clarify this: currently, the consequence of individual mobility in Europe results in almost 500 cars per 1000 inhabitants; if this mobility concept is transferred to China or India overall CO₂ emissions would increase dramatically, even if all the new cars were powered by electric drives.

However greening the economy requires not only generic/soft skills. Workers need to perform specific tasks that they have never performed before – for example, electricians have to install solar, wind power or energy-saving devices, plumbers have to work with renewable energy equipment and systems such as biomass-fired boilers and solar water heating solutions, insulation workers have to implement re-insulating or retrofitting tasks. Thus for significant progress in greening the economy there is a substantial need, not only for generic/soft, but also specific green skills 'topping up' the traditional skills of the existing workers.

Literature review and the survey of the ETUC member organisation (Chapter 4, section 4.3) reveal that there are fewer trade union initiatives focusing on the core economic activities of particular sectors (e.g. retrofitting skills of young workers in the construction sector). These kinds of trade union initiatives are especially important as young workers (especially those with lower qualification levels) in certain sectors face significant adjustment pressures in relation to the transition to a low-carbon, resource-efficient economy. A good example of trade union action in greening the company's core economic activities at the grassroots level is the case of the Magor Brewery (see Box 9 below). Although this trade union initiative does not fall within one of the selected sectors, and is not specifically focused on youth, it does provide a good

example of how unions could train their representatives to negotiate on green issues, including on changes to production processes and the way a business or organisation is run.

Box 9: Reducing the carbon footprint at Magor Brewery

Magor Brewery is a large scale brewery located in Wales, United Kingdom. It covers 57 acres and employs around 350 people, so it uses a huge amount of resources to produce its range of beers and lagers. Trade union Unite represents nearly 90% of the workforce and was ideally placed to help the company reduce its carbon footprint, saving the company's resources.

Tony Bates is the Unite Branch Chairman, and a Production Technician at Magor. He was instrumental in setting up an initiative that saw the workforce taking the lead in energy saving. Tony takes up the story: "The original idea started from Unite's Green Workplace initiative. The main driver was a few members who wanted to actively start to do something instead of just talking about it. I coordinated the start, and it just got up and ran". The result was Project JUPITER (Join Us People in Tackling Energy Reduction).

Unite set up a team of Energy Guardians and convened a meeting to look at what energy savings could be made and how they could achieve them. They came up with a set of long-and-short term goals. Energy Guardians represent all departments at Magor and now meet monthly. They monitor improvements and examine the work process, looking at possible ways to cut such things as water and energy use. All of this is done with the involvement of the entire workforce, with Energy Guardians taking forward ideas that come up in their department. This has developed into an energy saving mindset amongst the employees, with the knock on effect of workers taking the message, and money saving ideas, home.

The project has now been going over two years, and through an initial £1.4 million company investment in the ideas and initiatives put forward by the workforce, the firm has recouped its outlay in less than 18 months. Since starting the project, the company has seen water usage drop by 46%, electricity usage fall by 49% and heating bills cut by 23%. In the first two years, the firm saved more than £2 million in bills, and this has been done through a mix of quick wins and a rolling programme of installing energy efficient equipment. Building on this success, the company has invested a further £1.1 million in project Jupiter.

Tony feels that one of the most important things in the project was to involve members who were keen at the beginning. "To start with I chose the most positive people with an interest in the environment, that way the team was already highly charged and raring to go" he says. "The challenge I set was that we needed most of the members to buy in. We pitched it that it was not about saving the company more money, but in participating in securing our children's and grandchildren's future, and also about changing a mindset and saving members money on their home utility bills." Tony also felt that having the support of management was vital to the project's success. Tony provided the following top tips: find members with an interest in the issues; work closely with the workforce to raise awareness and increase involvement; make sure it's a standalone initiative; ensure meetings are open, inclusive and equal; and above all, be positive and take the project slowly.

The project has now entered its second phase, and is spreading the energy-saving word beyond Magor, into the local business community. It is approaching other companies to establish a Welsh energy coalition aimed at sharing best practice and innovation on energy reduction. A recent event at the plant was attended by 20 local companies and it is hoped they will soon get involved in their own projects. The Magor Brewery case really demonstrates how a union organised workforce can develop projects that benefit not only their members, but also the company they work for and the wider local community.

Sources: Hatch, 2011.

Last but not least, similar to the conclusion in the previous section on demographic and employment trends, the opinions of employees with respect to developing green skills, possible strategies for further action in this area, and the role of unions in this process, are still significantly under-researched. Therefore further research is needed to fully exploit the potential of trade unions in developing skills that significantly soften the adjustment pressures on young workers and other vulnerable groups in relation to greening the economy.

4. FINDINGS FROM THE SURVEY

Summary of findings

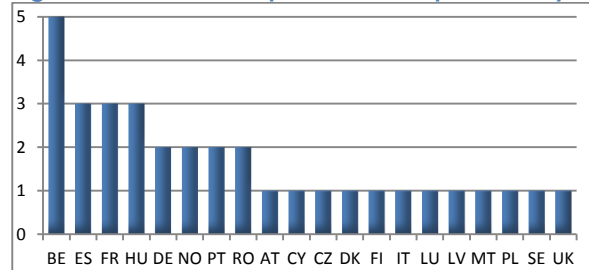
- The survey showed that youth and sustainable development/environment sections/departments of trade unions have only just started cooperating on sustainable youth employment and training issues. Youth is not often considered in union work on sustainable development/the environment and, conversely, sustainable development/the environment is not often considered a priority in union work on youth. This cooperation still needs to gather momentum. There are very different kinds of cooperation including, for example, awareness-raising, development of policy documents, information exchange or technical visits – the choice in type of cooperation depends on the issue to be addressed as well as the characteristics of the trade union.
- The survey revealed that at the moment approximately half of trade unions take a pro-active role in promoting sustainability beyond their workplace, including various campaigns, training activities, information sessions, conferences, the fostering of good practices, coordination of initiatives and consulting with other unions and actors. To stimulate cooperation between the youth and sustainable development/environment sections/departments, such pro-active roles need to be endorsed and implemented by all trade unions.
- Sustainable development/environment sections/departments could cooperate in reducing the still high rates of youth unemployment through, for example, the development of apprenticeships that are related to sustainable development/the environment. At the moment most of the union initiatives are aimed at greening the existing workplaces and/or at raising awareness in general. Very few examples of union initiatives in the area of sustainable job placements for young people exist. Examples of job placement or training initiatives in particular sectors or in particular core activities of companies are especially rare.
- The survey suggests a non-exhaustive list of concrete measures (in no particular order of priority) to facilitate union work on sustainable youth employment and training.
 - Mainstreaming sustainable development in the initial and/or in continuing education and training.
 - Strongly linking the recent policy initiatives (e.g. Youth Guarantee) to the sustainable development/youth agenda.
 - Focusing on union initiatives aimed at developing sustainable job placements for young people and linking these initiatives to those focused on green skills' training for young people.
 - Sharing experiences including the preparation of case studies/policy documents/guidebooks, technical/study visits.
 - Securing trade union representatives the right to spend time being involved with sustainable development issues during and at work.
 - Giving more attention not only to the content of the initiative, but also to its form (e.g. combining education with fun, firstly providing attractive information material and only then – training).

A survey of 85 ETUC member organisations from a total of 36 countries in Western, Central and Eastern Europe was carried out between 12th March and 15th June 2013. The survey was sent out to all ETUC members regardless of whether they were in the eight selected sectors. The main aim of the survey was to: 1) reveal the potential of cooperation between the youth and sustainable development/environment sections or departments of trade unions on sustainable youth employment and training issues; and 2) uncover good practice examples in this area. The survey seeks to show the importance of this kind of collaborative work in the current context characterised by a hostile economic climate where unions are pressurised by budgets/falling membership and pressures to side-line such work.

4.1. Number and characteristics of respondents

A total of 34 questionnaires were received from 20 countries (see Figure 13). Questionnaires were not received from ETUC members in the following 16 countries: Andorra, Bulgaria, Croatia, Estonia, Greece, Iceland, Ireland, Liechtenstein, Lithuania, Monaco, San Marino, Slovakia, Slovenia, Switzerland, the Netherlands and Turkey.

Figure 13: Number of questionnaires per country

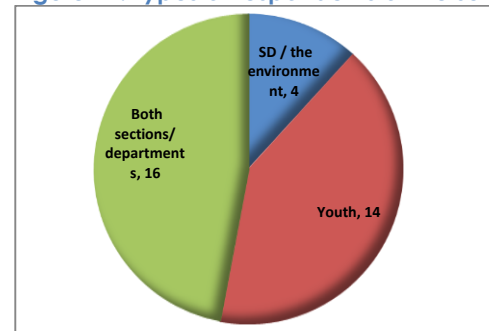


Source: Prepared by the authors

28 questionnaires were received from ETUC affiliates. The remaining six questionnaires were provided by the following organisations:

1. PRO-GE (AT);
2. Industriegewerkschaft Bergbau, Chemie, Energie (IGBCE) (DE);
3. VDSZSZ- Free Trade Union of Railway Workers (HU);
4. Fellesforbundet (The Norwegian United Federation of Trade Unions) (NO);
5. S.N.T.T Tarom Technical Trade Union (RO);
6. Federatia sindicatelor din transport Transloc si servicii publice ATU Romania (RO).

Figure 14: Types of respondents of the survey



Source: Prepared by the authors

There were approximately an equal number of cases where unions' sections/departments answered the questionnaire jointly and when only one of these sections/departments did it separately. Results indicate that youth sections/departments were more engaged in the survey than those in sustainable development departments.

4.2. Methodological notes

The survey questionnaire consisted of 18 questions including questions for (a) people working with the youth, and/or (b) those working with sustainable development as well as (c) joint/general questions (the questionnaire template is provided in Annex 2). The questionnaire included only two open-ended questions, the rest were fully or at least partly closed. The survey questionnaire was piloted with the Lithuanian trade union *Solidarumas* and the finalised document was distributed by the ETUC.

There are two methodological issues which need to be considered when analysing the survey results. Firstly, some questionnaires which were answered only by one union section/department also provided answers to questions dedicated to other sections/departments:

- 9 out of 16 questionnaires filled in by youth sections/departments answered questions dedicated to people working in sections/departments on sustainable development/the environment;
- 2 out of 4 questionnaires filled in by the sustainable development/environment section/department answered questions dedicated to people working in sections/departments on youth.

Most likely the above may be due to the fact that particular trade unions did not have a sustainable development/environment department. It may also be the result of a lack of

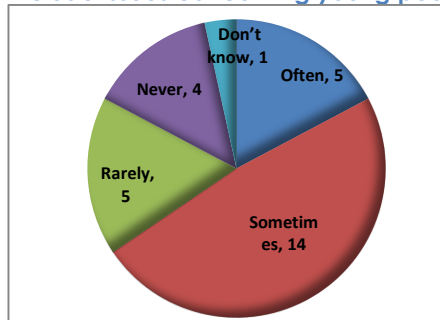
collaborative working between the sections/departments. However, this may not be intentional, but caused by developments in the internal and external environments of unions. For example, unions may face increasing resource pressures, particularly during a time of austerity and cuts. Unions may also experience a rising amount of work and increasing number of different responsibilities due to the merger or growth of their organisations and/or expansion of their work agendas covering more topics than ever before. This makes internal communication/collaborative working more difficult in a large organisation.

Secondly, out of 34 organisations that answered the questionnaire, five were not federations. Although the quality of responses by these organisations was similar to those of federations, these organisations have somewhat smaller representativeness and thus smaller weight in comparison with federations.

4.3. Analysis

The link between sustainable development and youth

Figure 15: Does your work on sus dev/ the environment include issues concerning young people?



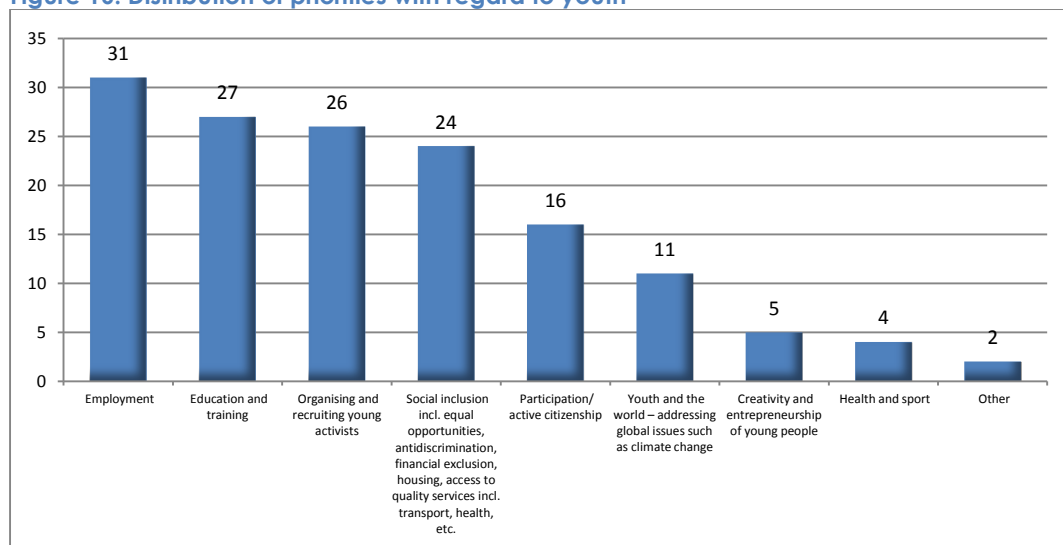
Source: Prepared by the authors

The survey results reveal that youth-related issues are generally covered in union work on sustainable development/the environment – out of 29 responses, 5 respondents stated they were often included, while 14 stated they were sometimes included.

Global issues such as climate change that are closely related to sustainable development were considered important in 11 responses. The youth-related priority most often mentioned by

people working in union sections/departments on youth was employment (see Figure 16 below). This may suggest that sustainable development and the most important priorities from a youth perspective are not yet closely linked and are still considered to be separate agendas.

Figure 16: Distribution of priorities with regard to youth*



* Other priorities included the following: (1) information on trade unionism to young people who are not affiliates; and (2) support of and collaboration with youth and apprentice representatives during fairs or events.

Source: Prepared by the authors

The survey revealed that in approximately half of the cases (13 out of 30 replies) sustainable development/environmental issues were addressed in one or more of the above-mentioned youth-related priorities. This shows that there is still plenty of capacity and opportunities to, among other things, improve links, share good practices and create joint measures integrating sustainable development/environmental issues and youth-related priorities (esp. employment as well as education and training).

In cases where sustainable development/environmental issues were addressed as youth-related priorities, respondents usually mentioned general issues such as the energy turnaround, green jobs, an alternative model of growth, a just transition towards a green economy. Only one respondent stressed a specific issue – energy-efficiency in buildings. Trade unions usually address these issues through training/information events. Some unions integrate sustainable development and the environment in their priorities by preparing publications, submitting proposals for the vocational school curriculum or by participating in working groups and/or social dialogue with government and/or with employers.

The survey also asked people working on sustainable development whether they considered environmental issues in their organisation's internal organising activities. Most (18 out of 30 replies) do consider environment issues, while approximately one third do not consider these issues (10) or do not know whether it is done (2). Approximately half of the respondents stressed the sustainability of their own actions, for example: an assessment of environmental impact, environmental certification, use of public transport, procurement/use of sustainable materials and equipment (recycled paper, ink), the use of energy-efficient measures (PV solar panels, isolation, efficient lighting, proper waste disposal). The other half emphasised their pro-active role in promoting sustainability including various campaigns, training activities, information sessions, conferences, the fostering of good practices, the coordination of initiatives and consultation of other unions and actors.

The link between sustainable development and job quality

In most cases (21 out of 27, with 5 negative and 1 'don't know') union work on sustainable development/the environment included issues relating to job quality. Approximately half of the respondents could not single out any particular issue relating to job quality. Those who did, most often mentioned issues related to health and well-being and skill development.

Most often, respondents addressed job quality issues during collective bargaining, training or awareness raising/campaigning activities. Few made use of other activities including information material (publications, brochures, newsletters), intranet-pages or union networks.

Most respondents (19 out of 30, with 9 negative and 2 'don't knows') referred to sustainable development/the environment in their organisation's definition of 'decent work'. However, only a few elaborated further/stressed specific issues. For example, one trade union mentioned the link between social progress (and protection), environmental protection and decent jobs. Others stressed the link to general issues such as work conditions for current or future workers (e.g. health, increasing pressure for workers to perform, blurring of the boundaries between work and uncertainty of the labour market) or a change in the production system/new industry development models.

Sustainable development/environment issues were considered in the 'decent work' definition via documents (e.g. action programmes, proposals for a Youth Guarantee, congress papers, operational plans), campaigns or collective bargaining activities.

Trade union initiatives²⁵

The survey asked unions to indicate whether they were involved in initiatives aimed at green skills' training, job placements for young workers, green skills' training programmes for unemployed youth or other related activities. 10 out of 34 trade unions indicated at least one initiative. 21 union initiatives were indicated in total. Most of the initiatives were received from trade unions in Spain (12), followed by unions from Germany, Italy and Portugal indicating two initiatives, and unions from Belgium, Norway and the UK each indicating one.

The provision of training for green skills aimed at young workers was the most commonly reported initiative, while job placements for young workers and green skills' training programmes for unemployed youth – the least frequently reported initiatives. There were also other kinds of initiatives: research reports, agreements/plans, information exchange activities focusing on greening and specific projects (e.g. BUILD UP SKILLS aimed at boosting continuing or further education and training of craftsmen and other on-site construction workers and systems installers in the building sector²⁶).

Respondents participating in the survey also identified initiatives by other trade unions with which they were familiar. A total of 7 such initiatives were identified – three in Belgium, two in Portugal, one in Germany and one in the UK.

An analysis of all identified trade union initiatives showed that most of the initiatives were aimed at greening the existing workplaces and/or at raising awareness in general, but very few – at training young workers/unemployed youth or creating job placements for young workers in particular sectors or in relation to particular core activities of companies.

Importance of sustainable youth employment and training

The majority of respondents (19 out of 33, with 11 negative and 3 'don't knows') considered sustainable youth employment and training a priority within their collective bargaining and social dialogue framework. A majority of the respondents who considered sustainable youth employment and training a priority stressed the high unemployment rate of the youth and regarded sustainable development as an opportunity for reducing it. One of the more often cited measures in this respect was the development of apprenticeships.

Meanwhile respondents who indicated that sustainable youth employment and training was not a priority of their organisation mostly stressed (in order of priority):

- the lack of resources (e.g. time or absence of a specific section/department in the organisation);
- the dominance of other priorities (e.g. job retention or social issues);
- a lack of tradition (i.e. it was emphasised that youth employment and environmental issues had been very strictly separated in the past) or the novelty of the concept (i.e. the fact that these issues seemed to be too recent to be completely integrated into union activities).

Half of the trade unions that participated in the survey (17 out of 33) had specific policy positions regarding sustainable youth employment. Most respondents whose organisations had a specific position regarding sustainable youth employment stressed particular issues including:

- dual vocational training;
- a training guarantee;
- up-skilling of low-skilled workers;

²⁵ Some of the trade union initiatives are described in detail in chapter 3 and/or in the sectoral overviews – separate documents accompanying this report. The complete list of all trade union initiatives identified in this survey is available from the ETUC.

²⁶ <http://www.buildupskills.eu>

- an update of a (C)VET curriculum;
- a second chance for early school leavers;
- quality and rights for sustainable youth employment (e.g. an argument against mini-jobs and other similar initiatives);
- access to training and professional integration;
- priority for certain work contracts (e.g. open-ended/permanent contracts) which reduce uncertainty for workers;
- a reduction in lending rates and support for youth entrepreneurship;
- an upgrade of career guidance in schools; and
- a reconciliation of family and work in order to promote the possibility of employment for women and the young.

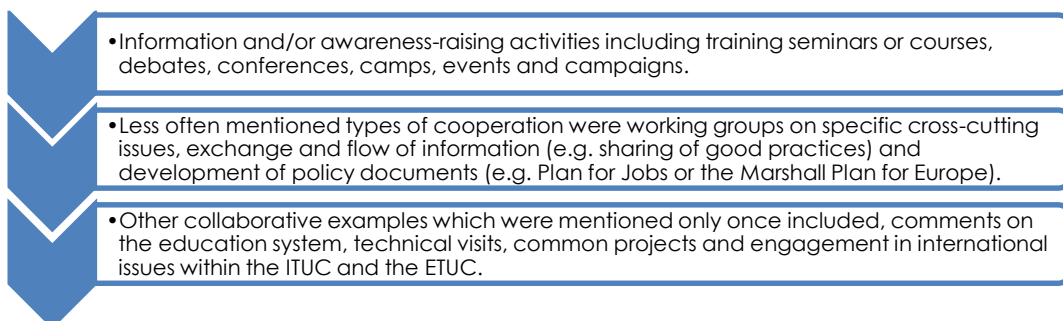
A few respondents indicated positions on a more general level, for example: the empowerment of young people and the fight against precarious working conditions; a new growth model for the young and other workers, and policy documents (e.g. Plan for Jobs) outlining complex positions regarding employment and the environment.

Cooperation between and outside the unions

Approximately three quarters of the 28 union initiatives aimed at training for green skills, job placements or other related activities for young workers involved at least one partner. Partners most often were other trade unions, education and training institutions (e.g. colleges, universities), government (e.g. local or regional authorities, city councils, job centres), NGOs (e.g. foundations, alliances), employers or other stakeholders such as embassies, research organisations or observatories. This, and the evidence provided above, suggests that trade union cooperation with other stakeholders in implementing union initiatives is strong, while much potential exists for internal cooperation in, for example, integrating sustainable development or youth related issues into different agendas, or promoting innovative actions in this area to gather momentum.

The possible actions that could be taken to strengthen internal cooperation of sections/ departments covering sustainable development and youth issues within unions are numerous. The survey suggests that the most widespread type of cooperation between sections/ departments covering sustainable development and youth issues is information and/or awareness-raising activities (see Figure 17 below). Other types were far less prevalent. It is noteworthy that for one of the unions this survey was “the first cooperation we have had between our two departments!”.

Figure 17: Types of cooperation between sections/departments covering sustainable development and youth issues, in order of priority



Source: Prepared by the authors

Interestingly, the TUC’s green workplaces survey in 2012²⁷ indicated an even broader variety of awareness-raising activities which could be jointly promoted by union sections/

²⁷ Information on 2012 survey available at: <http://www.lrd.org.uk/issue.php?pageid=45&issueid=1529>.

departments: 34% of the respondents used a green newsletter or organised a green day to inform workers about the environment and climate change, 24% carried out a green survey, 17% a green audit and 15% showed DVD/films on relevant issues (LRD, 2012). In addition, the TUC's survey showed that the other most popular method for combating climate change in the workplace was participation in joint union-management discussions on the environment (indicated by 26% of respondents) and environmental training for shop stewards (indicated by 20% of respondents)(LRD, 2012). Implementation of the above-indicated awareness-raising actions may further stimulate collaboration between and within unions and lead to more innovative and effective actions.

Cooperation between sections/departments covering sustainable development and youth issues can be further facilitated by engaging the youth into union activities to stimulate more, and new kinds, of union action.

Engagement of the youth

According to the surveyed ETUC member organisations, the most effective way of involving the youth in training and employment activities related to greening of the economy is by traditional approaches covering training, awareness-raising, debates/discussions, seminars or conferences. Respondents stressed that these activities should be relevant, attractive (e.g. seminars combining education with fun or provision of attractive information material followed by training), increase awareness about environmental issues, communicate their relevance, and provide an optimistic perspective for the youth regarding new job opportunities.

A few unions argued that sustainable development should be integrated into initial training by, for example, adapting training content, foreseeing compulsory information which the youth will have to have at the end of secondary school, using a confrontational method and images to better match expectations and the reality of working.

Surveyed unions also suggested the following additional measures other than training or awareness-raising:

- a few responses stressed the need for more practical projects and tools such as social media (e.g. web, commercials);
- a couple of respondents suggested policy-related measures (e.g. more public policies focused on young people or the need to change the employment policies' paradigm);
- one respondent emphasised the need to secure the right for young trade union representatives to spend time being involved with sustainable development issues during and at work;
- one respondent suggested a sharing of practices from abroad (by showing how things work or can work and/or showing the impact of the "worst practice");
- one respondent highlighted the need to establish an effective channel of communication on undertaken actions.

The survey suggests that focusing on the engagement of the youth, does not mean that unions undermine the needs of other workers – respondents emphasised the necessity of providing training opportunities in the area of sustainable development for all generations (e.g. lifelong learning for all workers). This clearly shows that activities aimed at sustainable youth training and employment should at least not impede the interests of other groups and preferably have positive effects in this respect.

CONCLUSIONS AND RECOMMENDATIONS

The aim of this study was to link European action on youth unemployment with the longer term (2050) European action on energy and resource efficiency, which is pushing for the development of a new, sustainable transformation of Europe's existing model of production and consumption. The project has tried to examine how trade union initiatives on youth training and job placements can be linked to the growth of new green industries and transformation (greening) of the existing traditional sectors. The role of social partners in creating programmes for the transfer of collective knowledge and skills between generations is key if ambitious EU policies on climate change (e.g. the Energy Efficiency Directive) are to be rolled out across Europe. This study has explored the role of trade unions in this regard. A number of conclusions and recommendations follow as a result.

CONCLUSIONS

- An overview of the wider policy context showed that union initiatives aimed at training and job placements for young workers in relation to sustainable development may help to address current labour market, trade union, economic and environmental challenges in a number of different ways:
 - raise levels of education and training, reduce unemployment and ease transition into the labour market for young people, thereby significantly diminishing the risk of their social exclusion.
 - Boost the mobility of young people and promote relevant good practices (e.g. sustainability-related apprenticeships) across Europe.
 - Serve as an impetus to further develop anticipation of demanded skills and provision systems.
 - Increase union representation and protection of the workforce (and especially of often vulnerable young workers) and broaden union activities and influence.
 - Facilitate a way out of the economic crisis.
 - Equip the youth with adequate tools and skills to meet climate-related as well as other environmental, social and economic challenges.
 - Jointly contribute to companies' and other stakeholders' efforts to move towards a more innovative and inclusive form of capitalism characterised by the increasing application of disruptive technologies (e.g. IT, nanotechnology, renewable energy solutions) and collaboration with stakeholders previously overlooked or ignored by companies.
- An analysis of demographic and employment trends has revealed that greening the economy is likely to have the most significant effects on young workers in automotive, chemicals, construction, energy, furniture, ICT, textiles and distribution and trade sectors. This is due to a number of factors including their share of GHG emissions and energy and resource efficiency, employment effects of new environmental policies, the share of young employees and degree of replacement demand of older workers. These sectors comprise approximately 1/3 of total employment in Europe and are likely to constitute approximately 1/4 of the total requirement of workers (new jobs plus replaced existing jobs).
- Literature suggests that aggregate employment effects of additional policies necessary to meet energy and climate targets by 2020 are likely to be small (up to 1.5 % in net terms). However, there will be significant shifts within sectors – highest relative (in terms of shares) employment effects in the EU27 are expected in textiles, utilities, furniture sectors (negative) and construction sector (positive), meanwhile the largest absolute employment effects are expected in construction, textiles, furniture, ICT and distribution and trade sectors. Furthermore, employment effects due to greening the economy will significantly vary by region, time and occupational groups (low and medium-qualified somewhat more affected). Indirect employment effects on jobs in the value and supply chains could be much larger. Anyway, long-term employment effects of greening the economy will much depend upon the levels of investment in green solutions.

- Evidence shows that trade unions can adopt very different discourses with regards to the relationship between jobs and the environment, ranging from a pro-technological discourse arguing that there will be no negative employment effects from greening the economy, to a social movement perspective in which unions may argue for alternative forms of production. Examples of trade union initiatives aimed at green job placements for young workers analysed in this report as well as in the sectoral overviews accompanying it, show large variations in terms of, among other things, discourses adopted, geographical focus, scale, implementation period, number of partners involved and type.
- Green skills play an important role in the careers of young workers in traditional sectors. The evidence reveals that workers who are trained for green skills embedded within a broader set of occupational skills are in a much better shape than workers trained for a discrete set of green skills only. Training that layers green skills onto a foundation of more traditional skills gives workers more, and better options, in the labour market.
- With regards to skill development, greening the economy is likely to: a) increase the demand for higher skills, b) enhance, rather than change, the existing skill set, c) increase the negative division between highly-skilled and less skilled workers, which is likely to improve over time, d) create significant adjustment pressures for low-skilled workers in high-carbon-intensive and especially top emitting sectors (esp. utilities, construction and chemicals), e) increase the demand for transferable skills, including STEM (science, technology, engineering and mathematics), multi-skilling and interdisciplinary skills and other skills such as social intelligence, novel and adaptive thinking, cross-cultural competency, a design mind-set, cognitive load management and virtual collaboration.
- The role of trade unions is especially important in supporting lower skilled and young workers in the selected sectors. The career advancement potential of greening in sectors is closely linked to the nature of union workplaces, where job positions, and career progression from one job to another, are embedded within a broader set of negotiations between labour and management. Given the somewhat predictable nature of the adjustment processes, there is considerable scope for trade unions to work together with partners to smooth the transition for low-skilled and young workers. Both this report and the accompanying sectoral overviews have identified more union initiatives aimed at the development of green skills for young workers compared to those aimed at job placements.
- Research showed that at the moment most of the union initiatives concerning sustainable youth employment and training are aimed at greening the existing workplaces and/or at raising awareness in general. While these are valuable measures, such initiatives do not get to the heart of the matter, namely the production process itself and its impact on the environment. Thus, there is a need for ambitious union initiatives in particular sectors, or in particular core activities of companies, which combine action on training and/or job placements for young workers with activities transforming the role of labour in the greening processes and examining the potential for collective action, etc. the Lucas Airport project, the Unite union initiative at Magor Brewery and the DGB training project 'KoReBB' which, although not specifically targeted at young workers, are good examples in this regard.
- One of the likely reasons for the limited number of union initiatives aimed at job placements or training for young workers in relation to greening may lie within the limits of organisations themselves. The survey of the ETUC member organisations showed that youth and sustainable development/environment departments of unions have only started cooperating on sustainable youth employment and training issues. Youth is not often considered in union work on sustainable development and, conversely, sustainable development is not often considered a priority in union work on youth. This may not be intentional and can be caused by, for example, increasing resource pressures, the rising amount of work and increasing number of different responsibilities. In any case, results of the survey show that cooperation between youth and sustainable development/environment departments still needs to gather momentum.

RECOMMENDATIONS

- The link between youth and the environment provides an opportunity for trade unions to promote just transition processes to a new level, by focusing on the core of production activities through, for example, involvement of young workers directly in transforming existing, and in designing new forms, of production. Unions may play an important role in the just transition process through, in the words of Rätzzel and Uzzell (2013), 'reformists strategies' linking green jobs' campaigns with union programmes that make use of workers' skills and knowledge to explore and design ways in which industries and services can be transformed. The importance of such union initiatives can only rise. For example, the implementation of the European Energy Efficiency Directive creates an opportunity for social partners to work together to implement transformative energy efficiency improvement initiatives.
- To facilitate this transformation process all social partners, including trade unions, need to further develop intelligence regarding green jobs and green skills, which may encompass a number of measures including: the tackling of skill shortages through advanced monitoring and anticipation activities, the identification of skills which are key for the greening of the economy; appropriate education and training measures to ensure their adequate provision, and intensive work at the grassroots level to transform the role of workers in the transition process from within. These and other activities need to be focused on young workers and other vulnerable groups, and on particular geographical regions undergoing significant transformation processes, and sectors such as the highly polluting industries. Furthermore, unions could start working with companies and other stakeholders to create a more innovative and inclusive form of capitalism, characterised by the increasing application of disruptive technologies (e.g. IT, nanotechnology, renewable energy) and collaboration with stakeholders previously overlooked or ignored by companies.
- Analysis and examples of union initiatives considered in the report, or in the accompanying sectoral overviews, suggest that it is essential for unions to choose the right discourse (or combination of discourses) behind their initiatives and not only democratically, but also consistently, build trade union actions upon it. There are compromises in terms of the extent to which a given discourse considers the internal and external environment of an organisation and whether it is moderate or radical. Results of these compromises can be very different. The right choice may strengthen the union, both in terms of representation of workers and its political influence, while the wrong one may weaken it by, for example, further decreasing its membership and/or political influence.
- The survey of the ETUC member organisations demonstrated that there is still plenty of potential and opportunities to, among other things, implement joint initiatives integrating sustainable development and youth-related priorities. For example, the survey suggests that the youth and sustainable development/ environment departments could work jointly in collaboration with other stakeholders (e.g. government, employer organisations and training providers) to reduce the still high rates of youth unemployment through, for example, the development of high quality apprenticeships that are related to sustainable development. The implementation of this, and other measures, will depend upon their particular characteristics, internal union policies and their external environment. Examples already exist (e.g. apprenticeship provision in the Green Skills Partnership for London) and could be considered by unions preparing to implement this type of initiatives.
- Potential and opportunities lie in the fact that approximately half of the surveyed unions take a pro-active role in promoting sustainability beyond their workplace, including participation in various campaigns, training activities, information sessions, conferences, the fostering of good practices, coordination of initiatives and the consultation of other unions and actors. To stimulate cooperation between the youth and sustainable development/ environment departments, such pro-active roles need to be endorsed and implemented by all unions.
- The survey also provides the following non-exhaustive list of other measures (in no particular order of priority) to facilitate union work on sustainable youth employment and training.
 - Mainstreaming sustainable development in the initial and/or continuing education and training.

- Strongly linking the recent policy initiatives (e.g. Youth Guarantee) to the sustainable development/youth agenda.
- Focusing on union initiatives aimed at developing green job placements for young people and linking these initiatives to those focused on green skills' training for young people.
- Sharing experiences including the preparation of case studies, policy documents, guidebooks, technical/study visits.
- Securing trade union representatives the right to spend time being involved in sustainable development issues during and at work.
- Giving more attention, not only to the content of the initiative, but also to its form (e.g. combining education with fun, firstly providing attractive information material and only then – training).
- Recent research on drivers for, and barriers to, sustainability at the workplace (CIRPA, 2011) concluded that “according to a very simple scheme of interpreting the drivers/barriers dualism, it might appear that the drivers rely more on the individual while the barriers depend on the organisation”. Thus trade union initiatives may need to address both sides: engage the youth to stimulate the driver side of the transition process and create favourable conditions for the promotion of sustainability within and outside trade unions to remove the barriers on the organisation side.
- Research indicates that there is considerable potential and opportunities to transform the existing business model of trade unions. Such a transformation could include an expansion of the traditional union tasks of wage negotiations and campaigning for better working conditions to include more elements of the so-called 'organising' model. The additional union activities could include more in-depth and more intensive training and empowerment of members to organise for the union and for themselves by becoming more actively involved in the union's activities, addressing youth employment on the one hand, and insufficient progress in sustainable development on the other. Trade unions could also more intensively engage in alliances with environmental movements to find innovative ways of addressing these issues.
- However, neither a transformation of the existing business model of trade unions nor engagement of the youth is possible without adequate resources. To ensure these processes are successful it is not only important to seek sufficient resources, but also to ensure their continuity by treating these resources as an *investment* and not as a *cost*.
- Trade unions could engage with Eurostat and other statistics agencies in the development of composite indicators consistently measuring job quality across different sectors and countries. Such composite indicators could include a non-exhaustive list of variables measuring educational attainment, permanency of job, type of job, hours worked, non-standard hours of work, atypical work and education and training opportunities. Job quality composite indicators could also help monitor the progress of the transition to a low-carbon, resource-efficient economy.
- Last but not least, further multi- and inter-disciplinary quantitative and qualitative research efforts are needed to highlight the options trade unions and their represented workers will have with respect to sustainable youth employment and training in the future; to explore the possibilities of behavioural change among workers; and to investigate what role unions can play in transforming the production systems towards a low-carbon, resource-efficient society.

Roadmap 2050, setting out the EU's strategic options to achieving a reduction in greenhouse gas emissions, will demand both the development of new industries and a substantial transformation of the modes of production, transportation and consumption across traditional sectors. These changes will be implemented within the coming 40 years, affecting the whole working life of young workers entering the labour market today. Trade unions have a crucial role to play in this and may position themselves in the 'just transition' process as 'change agents' training and empowering workers, not only for traditional industries with strong trade union membership, but also for new green industries where the case for trade union

membership has yet to be developed. This may not only help strengthen the unions, but also constructively address the pressing youth unemployment and climate change challenges.

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ANNEX 1. DEFINITION OF SECTORS

Section of sectoral report	Demographic trends	Boosting jobs/ Developing skills
Used classification	Nace rev. 2	Nace rev. 1
Source	Eurostat	CEDEFOP
Textiles	Manufacture of textiles (C13) Manufacture of wearing apparel (C14) Manufacture of leather and related products (C15)	Manufacture of textiles (DB17) Manufacture of wearing apparel; dressing and dyeing of fur (DB18) Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear (DC19)
Chemicals	Manufacture of chemicals and chemical products (C20) Manufacture of basic pharmaceutical products and pharmaceutical preparations (C21) Manufacture of rubber and plastic products (C22)	Manufacture of pharmaceuticals, medicinal chemicals and botanical products (DG24.4) Manufacture of chemicals and chemical products (DG24) (except DG24.4) Manufacture of rubber and plastic products (DH25)
Automotive	Manufacture of motor vehicles, trailers and semi-trailers (C29)	Manufacture of motor vehicles, trailers and semi-trailers (DM34)
Furniture	Manufacture of furniture (C31)	Manufacturing n.e.c.: Manufacture of furniture; manufacturing n.e.c. (DN36) Recycling (DN37)
Utilities (i.e. electricity, gas and water)*	Electricity, gas, steam and air conditioning supply (D35) Water collection, treatment and supply (E36)	Production and distribution of electricity (E40.1) Steam and hot water supply (E40.3) Manufacture of gas; distribution of gaseous fuels through mains (E40.2) Collection, purification and distribution of water (E41)
Construction	Construction of buildings (F41) Civil engineering (F42) Specialised construction activities (F43)	Construction (F45)
Distribution & trade	Wholesale trade, except of motor vehicles and motorcycles (G46) Retail trade, except of motor vehicles and motorcycles (G47)	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel (G50) Wholesale trade and commission trade, except of motor vehicles and motorcycles (G51) Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods (G52)
ICT (broad definition)	Computer programming, consultancy and related activities (J62) Information service activities (J63) Manufacture of computer, electronic and optical products (C26)	Manufacture of office machinery and computers (DL30) Manufacture of radio, television and communication equipment and apparatus (DL32) Computer and related activities (K72)
Total economy	All activities (A-T)	All activities (A-Q)

* Does not include sewerage.

ANNEX 2. QUESTIONNAIRE OF THE SURVEY OF THE ETUC MEMBER ORGANISATIONS

GENERAL QUESTIONS

1. Please specify the organisation and section(s)/ department(s) represented in this questionnaire.

Name of organisation:	
Country of organisation:	
Economic sector(s)/ industry(ies) covered by organisation:	
Questionnaire is answered by person(s) working in the following section(s)/ department(s):	<input type="checkbox"/> Sustainable development/ the environment <input type="checkbox"/> Youth <input type="checkbox"/> Both sections/ departments

QUESTIONS for person working in section/ department on sustainable development/ the environment

2. Does your work on sustainable development/ the environment include issues concerning young people?	<input type="checkbox"/> Often <input type="checkbox"/> Sometimes <input type="checkbox"/> Rarely <input type="checkbox"/> Never <input type="checkbox"/> Don't know
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3. Do you consider environmental issues in your organisation's internal organising activities (e.g. environmental considerations in recruiting process, operations, campaigning, etc.)?	<input type="checkbox"/> Yes, please specify: <input type="checkbox"/> No <input type="checkbox"/> Don't know
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4. Does your work on sustainable development/ the environment include issues relating to job quality (e.g. skills development, career and employment security, health and well-being and work-life balance)?	<input type="checkbox"/> Yes, please specify the issue(s) and relevant activities that address these issue(s): <input type="checkbox"/> No <input type="checkbox"/> Don't know
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5. Contact details of person working in section/ department on sustainable development/ the environment:	Name and surname:	
	Covered economic sector(s)/ industry(ies):	
	Email:	
	Tel.:	

QUESTIONS for person working in section/ department on youth (incl. youth employment)

6. What are your organisation's priorities with regard to youth? Please check one or more answers.	<input type="checkbox"/> Education and training
	<input type="checkbox"/> Employment
	<input type="checkbox"/> Creativity and entrepreneurship of young people
	<input type="checkbox"/> Health and sport
	<input type="checkbox"/> Participation/ active citizenship
	<input type="checkbox"/> Social inclusion incl. equal opportunities, antidiscrimination, financial exclusion, housing, access to quality services incl. transport, health, etc.
	<input type="checkbox"/> Organising and recruiting young activists
	<input type="checkbox"/> Youth and the world – addressing global issues such as climate change
	<input type="checkbox"/> Other, please specify:
	<input type="checkbox"/> Don't know

7. Are sustainable development/ environment issues addressed in one or more of the above-selected priorities?	<input type="checkbox"/> Yes, please briefly describe the issues and how they are addressed in the above-selected priority(ies): <input type="checkbox"/> No <input type="checkbox"/> Don't know
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8. Is any reference to sustainable development/ the environment included in your organisation's definition of 'decent work'?	<input type="checkbox"/> Yes, please specify what and how: <input type="checkbox"/> No <input type="checkbox"/> Don't know
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9. Contact details of person working in section/ department on youth (incl. youth employment):	Name and surname:	
	Covered economic sector(s)/ industry(ies):	
	Email:	
	Tel.:	

QUESTIONS to be answered jointly by persons from Sustainable development and Youth sections/ departments

10. Is your organisation involved in any of the following initiatives? If yes, please describe the initiative below. If there is more than one initiative, please copy and paste the table and fill it for each of them.	<input type="checkbox"/> Green skills training for young workers
	<input type="checkbox"/> Job placement(s) for young workers in the green economy
	<input type="checkbox"/> Green skills training programme(s) for unemployed youth
	<input type="checkbox"/> Other, please briefly describe:
	<input type="checkbox"/> No
<input type="checkbox"/> Don't know	

Name of the Initiative (original and in English):	Original:	In English:
Does the Initiative specifically target youth aged 15-29?	<input type="checkbox"/> Yes	<input type="checkbox"/> No, please specify the target group:
Start and end dates of the Initiative:	Start date:	End date (if applicable):
Partners of the Initiative (e.g. name of employer, training provider, NGO, government, if any):		
What specific activities were/ are carried out?		
On what particular green jobs/ green skills is/was the Initiative focused on?		
What are the results of the Initiative (e.g. number of placements created, number of persons trained or changes in work conditions)?		
What are the main lessons stemming from the Initiative (e.g. what would you have done differently, what additional actions would be necessary to further boost the Initiative)?		
Name and email of person to contact for more information:		

11. Are you aware of any of the following initiatives carried out by other trade unions? If yes, please indicate contact details of the person who could provide more information on the initiative.	<input type="checkbox"/> Green skills training for young workers
	<input type="checkbox"/> Job placement(s) for young workers in the green economy
	<input type="checkbox"/> Green skills training programme(s) for unemployed youth
	<input type="checkbox"/> Other, please briefly describe:
	<input type="checkbox"/> No
<input type="checkbox"/> Don't know	
Name and email of person to contact for more information:	

12. Are youth employment and training that are sustainable considered a priority for your organisation, within its collective bargaining and social dialogue framework?	<input type="checkbox"/> Yes, please explain why:
	<input type="checkbox"/> No, please explain why:
	<input type="checkbox"/> Don't know

13. Does your organisation have a specific policy position with regard to youth employment that is sustainable?	<input type="checkbox"/> Yes, please specify:
	<input type="checkbox"/> No
	<input type="checkbox"/> Don't know

14. How do sections/ departments within your organisation that cover Sustainable development and Youth issues work together on youth employment that is sustainable (incl. organisation of training, exchange of information, etc.)?	Please briefly explain:
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15. In your opinion, what is the most effective way of involving youth in training and employment activities related to the greening of the economy?	Please briefly describe:
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END OF SURVEY

16. The findings from this survey, along with the selected case studies and analytical report, will be discussed at a final conference in Brussels in October. Would you be interested to take part in it?	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
17. Are you interested in obtaining the final report of this study?	<input type="checkbox"/> Yes
	<input type="checkbox"/> No
18. Do you agree that your organisation's name will be referenced in the study? In case of more than one respondent, please agree on one single answer.	<input type="checkbox"/> Yes
	<input type="checkbox"/> No

THANK YOU FOR PARTICIPATING IN THE SURVEY!