

Toolkit

# Sustainable employment and welfare support

How to accompany the labour market transition  
in coal regions in transition

## SUPPORT MATERIALS

### Providing support materials to coal regions in transition

The Platform for coal regions in transition developed the following support materials to assist practitioners in coal regions across Europe.

#### Transition strategies toolkit

Guidance on how to:

- develop a transition strategy in coal regions;
- identify actions and projects to support the strategy;
- monitor, evaluate and continuously adapt the strategy.

[↪ Link](#)

#### Governance of transitions toolkit

Guidance on how to:

- design the right governance model to support a transition process in coal regions;
- facilitate stakeholder engagement;
- enhance the role of social dialogue and of civil society in the transition process.

[↪ Link](#)

#### Sustainable employment and welfare support toolkit

Addresses the issues of:

- skill needs and reskilling for coal regions in transition;
- cooperation among stakeholders;
- support options for workers who are at risk of losing their jobs;
- economic diversification of coal regions as a means for long-term job creation.

[↪ Link](#)

#### Environmental rehabilitation and repurposing toolkit

This toolkit gives advice on:

- securing finance;
- knowledge and tools;
- governance and institutions to support mine closure, environmental rehabilitation of mines and repurposing of coal related infrastructure.

[↪ Link](#)

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## How to use this toolkit

### Slides / Pages 4-22

This section features key ideas and concepts behind the elaboration of transition strategies.

It can also be used as a stand-alone presentation. For each slide, more detailed information can be found in the accompanying notes.

### Accompanying notes / Pages 23-39

The accompanying notes follow the same structure as the slides and offer an in-depth look at each section, including further resources, links, examples, and case studies.

## AIMS AND SCOPE

This toolkit gives **practical guidance on how to accompany labour market transition** in coal and carbon-intensive regions, and focuses on:

- providing short-term support for workers;
- providing medium- and longer-term actions for employment and job creation.

## WHO IS THIS TOOLKIT FOR?

- Representatives of local and regional government.
- Social partners (representatives of employers and trade unions).
- Partner organisations in worker support services.

## WHY DO WE NEED THIS GUIDANCE?

- The decline of jobs in coal-fired power plants and coal mines will continue or even accelerate in the future.
- In mono-industrial and industrial communities, a threat to the core industries will have severe economic consequences.
- These are relatively tightly-knit communities and the transition process needs to take into account that transition poses cultural and behavioural challenges.
- Different actions will be required depending on the pace of coal phase-out.

**Miners resting in a Silesian coal mine.**

*(Photo by Giorgio Monteforti)*



## ASSISTING THE LABOUR MARKET TRANSITION

The majority of coal-fired power plants in Europe are over 30 years old. By 2030 two thirds of Europe's coal fleet would need to be decommissioned. Many mines are closing down due to a lack of competitiveness. This will leave around 160,000 jobs in coal regions at risk by 2030 (JRC 2018). Furthermore, the necessity to reduce CO2 emissions challenges coal regions to thoroughly change their economic profile and transition to a zero carbon economy.

The European Commission is committed to assisting coal and carbon-intensive regions in harnessing the benefits of the clean energy transition through a comprehensive set of measures.

[Read more](#)

## KEY MESSAGES

- Labour market transition is a complex process. **Policy coherence across a range of policy** areas is therefore vital.
- **Involvement of relevant stakeholders**, including the individuals affected, as early as possible is key.
- **Anticipation and planning** is vital: if the focus and extent of change, in addition to the timeline, is known, this will aid planning.
- Supporting individual workers requires **short-term and longer-term** actions.
- **Options should be suited to workers' individual circumstances** in order to ensure a just transition.
- **Engaging employers and trade unions** is likely to be more effective than stand-alone training programmes.
- All policy measures should be **adequately funded**.



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**“The European Green Deal is our new growth strategy. It will help us cut emissions while creating jobs.”**

**URSULA VON DER LEYEN**

PRESIDENT OF THE EUROPEAN  
COMMISSION

**APPROACH**

# An approach to labour market transition

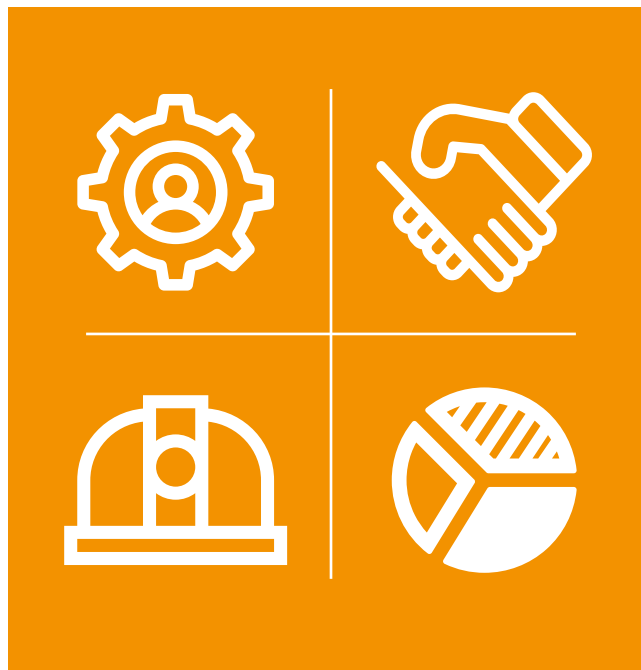
This toolkit is based on a four-pillar approach

**SKILLS**

- Anticipating skills needs
- Skills audits
- Transferability to other sectors
- Linking labour supply and demand

**SUPPORT FOR WORKERS**

- Information and consultation
- Tailored support for workers, with their involvement
- Specific requirements
- Welfare support



**COOPERATION**

- Key actors
- Cooperation processes and social dialogues

**ECONOMIC DIVERSIFICATIONS AND TRANSFORMATION**

- Promotion of new job opportunities
- Jobs in renewable energy and energy efficiency
- Regional structural change



## Skills

Anticipating skills needs and matching existing skills to those required to ensure that workers can participate in future alternative employment opportunities.

### Anticipating skills needs

- **Mega-trends such as sustainability and digitalisation** can lead to skills gaps and mismatches, but also offer major opportunities for employment and growth.
- Forecasting and anticipating skills needs is necessary to **provide workers with the right types of skills**.
- Ideally, a function for anticipating and forecasting would be developed through a **partnership between key stakeholders** such as local or regional authorities, national governments, and, where appropriate, individual companies and social partners (employer and employee representatives).

### Skills audits and skills matching

- Skills audits at a company level to **assess the available skills in the workforce** and support employees in developing and acquiring missing skills.
- The **review of existing skills** can be mapped alongside development needs.

#### ANTICIPATING SKILLS NEEDS - GOOD PRACTICE CEDEFOP'S SKILLS-OVATE: SKILLS ONLINE VACANCY ANALYSIS TOOL FOR EUROPE

Cedefop's Skills-OVATE (Skills Online Vacancy Analysis Tool for Europe) offers detailed information on jobs and on the skills that employers demand in vacancies they post online. The tool presents data from in Austria, Belgium, Czech Republic, Denmark, Germany, Hungary, Spain, Finland, France, Italy, Ireland, Luxembourg, the Netherlands, Poland, Portugal, Sweden, Slovakia and the United Kingdom. Cedefop's Skills Forecast also provides comprehensive information on future labour market trends in Europe. It acts as an early warning mechanism to help to alleviate potential labour market imbalances and support different labour market actors in making informed decisions.

➔ [Read more](#)



# Skills

Workers can benefit from transferring their skills to other occupations and sectors and from new employers and opportunities in their region.

## Transferability of skills

- Once the extent of existing skills is known, a process of **assessing transferability to other sectors** and other types of jobs can be undertaken. Where possible, working conditions and health and safety provisions should equal those in previous jobs.
- Mining occupations involve a high degree of physical tasks and technical knowledge, requiring strength and fine motor skills. **Similar occupations may be found in other sectors**, such as construction.

## Linking labour supply and demand

- **Attracting inward investment** from new industries and employers.
- Linking the local labour market to **wider regional opportunities**.
- Boosting local job creation by **encouraging and supporting entrepreneurship**.

### EXAMPLE OF ALTERNATIVE EMPLOYMENT OPPORTUNITIES

Sector	Skill	Region	Example
Same.	Same.	Same.	Power plant operator working in biomass power plant after plant conversion. Former coal miner working in an underground copper mine in the same region.
Other	Same.	Same.	Geologist working in research centre in same region.
Other	Other.	Same.	Industrial electrician retrained as wind farm technician working on wind farm located on the site of the former coal mine.
Other.	Other.	Other.	Industrial technician retrained as wind farm technician working in wind farm located in other region.
Same.	Other.	Same.	Geologist working as specialist tour guide after mine reclamation with museum.

Source: European Commission JRC 2018.





# Cooperation

The specific task of supporting workers who are at risk of losing their jobs requires the involvement and engagement of a number of key stakeholders.

## Key stakeholders

### Individual companies

Employers will be key in terms of offering employment and/or training.

### Central government

The central government might be able to negotiate agreements with large coal companies and influence outcomes at the local level.

### Regional authorities

These authorities have a good overview of the regional context and can be a link between various actors.

### Social partners

Trade unions can support workers, represent their interests and help guarantee workers' rights and just transitions. Furthermore, employer representatives can offer guidance to companies. Trade unions and employer representatives also have a specific role in relation to collective bargaining and social dialogue.

### Training providers

It is vital that public and private training providers are part of the cooperative transition process.

### Sources of advice and guidance

Experts in reskilling and upskilling must be engaged to provide alternative employment.

### Community representatives

It is important to include representatives of the affected local communities.

### Public employment services

These services can help match employment supply and demand, and can coordinate training needs and opportunities.

### Funding bodies

All levels of funding will be relevant, from the EU level (Cohesion Fund, Just Transition Fund, ESF, ERDF, Erasmus+, etc.), to national-level funding, as well as local and regional sources of funds. Funding can come from both public and private sources, or a mixture of the two. Private sources include funding from private companies, NGOs and charities or loans.



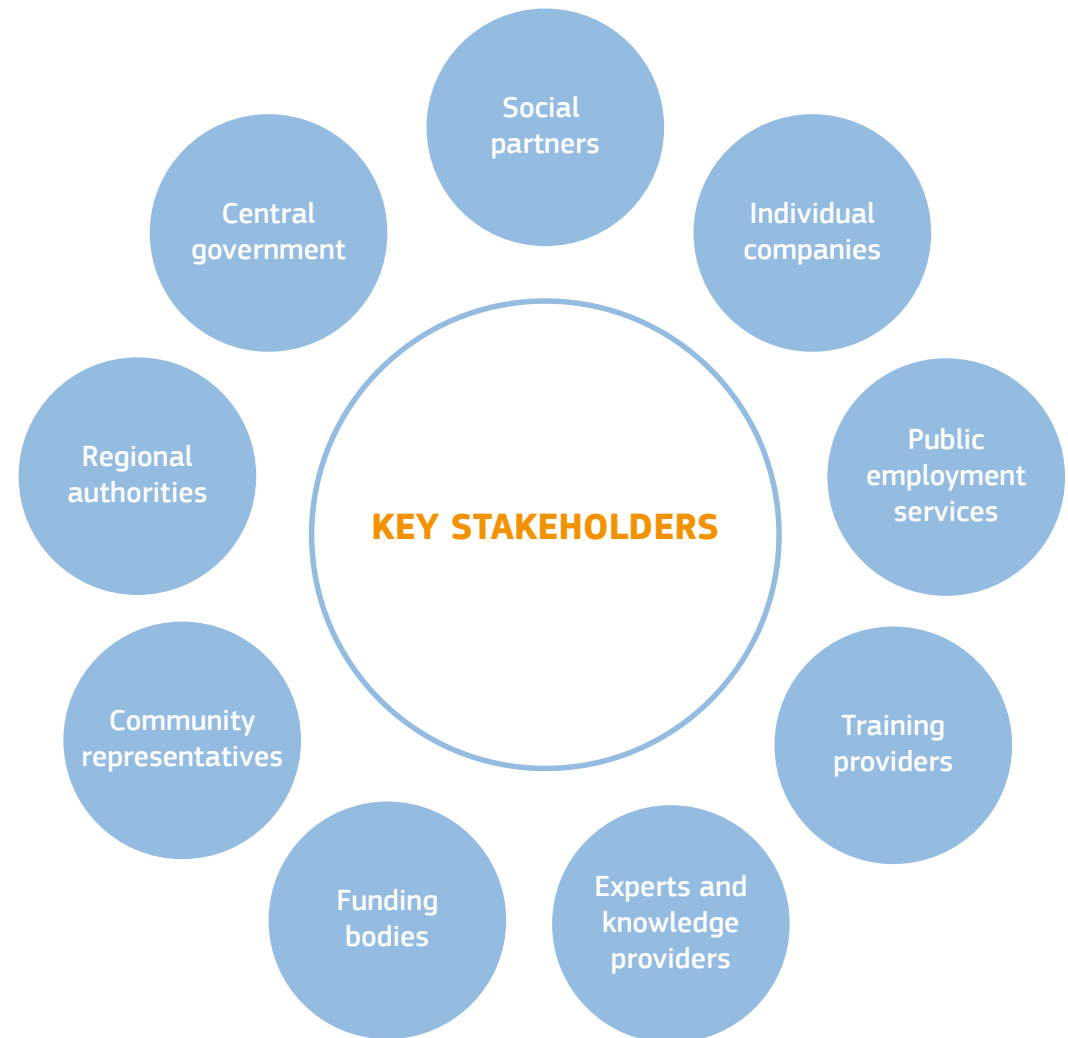
# Cooperation

The specific task of supporting workers who are at risk of losing their jobs requires the involvement and engagement of a number of key stakeholders.

## Key stakeholders

It is important to bring together the various stakeholders to develop sound solutions, which support both individual workers and the economic development of the region at large.

Cooperation should build on the capacities of government, individual companies and business associations, worker representatives, but also other experts and intermediaries like training providers and funding institutions.





# Cooperation

Engaging stakeholders requires an organised process that ensures inputs based on the different capacities of the various stakeholders.

## Cooperation process

### Steps to manage cooperation:

- **ensure dialogue between the social partners** (trade unions and employer representatives); this is crucial at the company, local, regional and national levels. For further details, see the [Governance of transitions toolkit](#);
- **identify relevant stakeholders**;
- **contact key stakeholders**;
- **conduct in-depth or focus group interviews** to identify contribution opportunities;
- **organise workshops and meetings** to develop a plan based on a common vision and policy mix;
- develop **roles and tasks** for stakeholders;
- establish a **timeline**;
- develop **monitoring indicators**.

### OAKDALE COLLIERY WIND PROJECT

The Oakdale Colliery wind project on the site of a former coal mine in Wales (United Kingdom) is a great example of cooperation. The project, developed through a public-private partnership, will provide jobs and revenues to the local community. Partnerships for Renewables will pay rent to the council for use of the area, as well as a community benefit package of about EUR 11,000 per year over the lifetime of the project, which will be invested in projects that create social, economic or environmental benefit.

[Read more](#)

## PACE IN SCOTLAND



### **SCOTTISH PARTNERSHIP ACTION FOR CONTINUING EMPLOYMENT (PACE) PROGRAMME**

The Scottish Partnership Action for Continuing Employment (PACE) Programme is the Scottish national strategic partnership framework for responding to redundancy situations.

PACE is considered to be highly successful in supporting transitions in Scotland: 80% of PACE customers have seen positive outcomes as a result of participating in the programme. Examples include:

- When Ageas – a major employer in Lanarkshire – had to close its call centre, it engaged with PACE at an early stage. It provided support to employees and organised a jobs fair. As a result, 80% of the redundant employees secured a positive outcome.
- In August 2015, Scottish Power decided to close the Longannet Power Station in Fife. Through PACE, employee support included advice on finding work – preparing CVs, cover letters and applications, interview techniques, and use of LinkedIn – presentation skills, advice on claiming state benefits, business start-up advice, support to access training, information on retirement options, and pensions advice. By October 2017, 60% of employees were either employed, self-employed or in education and training programmes.

Other examples of PACE support to employers are outlined in its [online toolkit](#).



## Support for workers

There is a legal requirement for employers to inform and consult with workers on changes that will impact them. Employees want to be included in decisions that affect them.

### Information and consultation

- Employees and their representatives need to be included **early on in the process** of restructuring plans that can affect their employment and future.
- Employers should consult with their workforce in a way that enables **meaningful dialogue**.
- It is considered best practice when **restructuring is conducted jointly between the employer and employee representatives**; this can help ensure a just transition.

### Key questions from workers' perspectives

- How will you ensure that I can find an alternative job or a bridge to retirement?
- How will my livelihood be guaranteed during the adjustment process?
- Who is going to pay?
- Why should I trust them?

#### EU FRAMEWORK ON WORKER CONSULTATION

Informing the workforce about restructuring is required by EU legislation on collective redundancies, which is part of the Information and Consultation Directive, and notes that consultation should take place 'in good time and with a view to reaching an agreement' (Art.2.1). This means that consultation should be undertaken in good faith by the employer.

[Read more](#)

A former miners dress room at the Alsem coal mine (Ostrava, Czechia), closed in 1993.  
(Photo by Breta Valek)



# Support for workers

It is important to offer support to all workers who are affected by industrial change in the region in which they work. Ideally, the move should be away from the coal sector, in the context of the phase-out of coal.

**Tailored support** The following actions can support individual workers in the transition:

Aim	Action	Suitable type of worker	Time-scale
<b>Move to alternative role within the company.</b>	Support workers who have appropriate skills and/or are willing to retrain to take on alternative roles.	All with relevant skills and disposition.	Short/medium- term.
<b>Move to alternative coal-based sites in the company.</b>	Practical support to transfer to another site.	Those who may find it hard to find work in other roles or sectors.	Short-term.
<b>Move to alternative local job.</b>	Regional worker transfer programmes. On-the-job training.	All with relevant skills and ability to move to an alternative local job.	Long-term.
<b>Move to another sector.</b>	Targeted training.	Workers likely to succeed in other sectors, particularly young people and those with post-secondary education.	Long-term.
<b>Move to another sector in another region.</b>	Targeted training. Practical and financial support for relocation.	Those likely to succeed in other sectors and who are willing and able to relocate geographically.	Long-term.
<b>Voluntary redundancy.</b>	Support package, including reconversion plan.	All.	Short-term.
<b>Retirement.</b>	Early retirement. Providing a bridge to pension.	Older workers.	Short-term.



# Support for workers

Some groups of workers are more vulnerable than others. Support should be tailored appropriately.

## Specific requirements

Group	Problem	Specific requirement
<b>Unemployed on a long-term basis.</b>	They may find it harder to integrate into the labour market.	<ul style="list-style-type: none"> <li>• Skills mapping, targeted training and development, work/training placement.</li> <li>• Practical help with job applications, CVs, interview techniques.</li> </ul>
<b>Young people.</b>	They may not have developed adequate skills and experience to enable them to enter a new type of labour market.	<ul style="list-style-type: none"> <li>• Assistance with gaining work experience placements/internships.</li> <li>• Training and upskilling.</li> </ul>
<b>Older workers.</b>	They may be vulnerable due to health issues and perceived lower adaptability and productivity.	<ul style="list-style-type: none"> <li>• Support with training and upskilling/skills reconversion.</li> <li>• Support with the management of any health issues.</li> <li>• Advice on early retirement/bridging period options.</li> </ul>

# SPECIFIC TYPES OF SUPPORT



## INDIVIDUAL SKILLS REVIEW

All individuals affected by the transformation of their sector should be offered an individual skills review, during which time they can meet with a skill assessor to map their particular skills. These can be both formal educational and vocational qualifications, as well as informal skills learnt during employment, with a focus on those skills that go beyond the job that they have been doing up until that point. This will enable the individual to think about the type of work that they may be able to do in the future and the type of training that they would like in order to develop their skills and competences in order to take advantage of new opportunities. Once an individual's skills are reviewed, they can be matched with available vacancies and training opportunities.

[Read more](#)



## CAREER COUNSELLING

Individuals should be offered career advice and counselling, building on their skills review. This will help them to explore current options and future goals. Overall, it should be noted that those involved in the coal industry are often reluctant to take other types of employment and may see work in the service and trade sectors as humiliating. It is therefore important to focus on how existing competences can usefully be transferred to other sectors, and how training can help individuals to gain new and valuable competences. Devising an upskilling pathway for individuals is a good way of focusing on where an individual is at present, and where they want to be. Guidance on this is contained in the *Council Recommendation of 19 December 2016 on Upskilling Pathways: New Opportunities for Adults*, which can be of help when designing re-skilling pathways for coal workers in transition. This publication includes many examples of good practices showcasing possible ways to implement upskilling pathways.

[Read more](#)



## TRAINING OPPORTUNITIES

Once a skills audit and counselling have taken place, an individual will be better placed to review the training opportunities that are available to them. Guidance and support from a career advisor should include communicating relevant training opportunities to individuals and providing practical support on how to apply for training courses. Evidence suggests that stand-alone training programmes have limited success. For example, Kluwe (2016) found that only 30% of programmes show some degree of effectiveness and often their success was limited. IDDDRI (2018) also found this, due to factors such as structural unemployment in the region, a lack of engagement with potential employers, the lack of a holistic approach to supporting workers, and the lack of monitoring of outcomes. Where possible, therefore, worker transition programmes should focus on placing workers in jobs, or jobs coupled with retraining, rather than being stand-alone retraining programmes.

[Read more](#)





# Support for workers

For most people, welfare support will consist of unemployment benefits. However, it is important to ensure that welfare support takes the form of a “hand up” rather than just a “hand out”.

## Welfare support

Different types of welfare support are needed for different types of people.

### Older workers

- Emphasis on income replacement.
- Early retirement options.

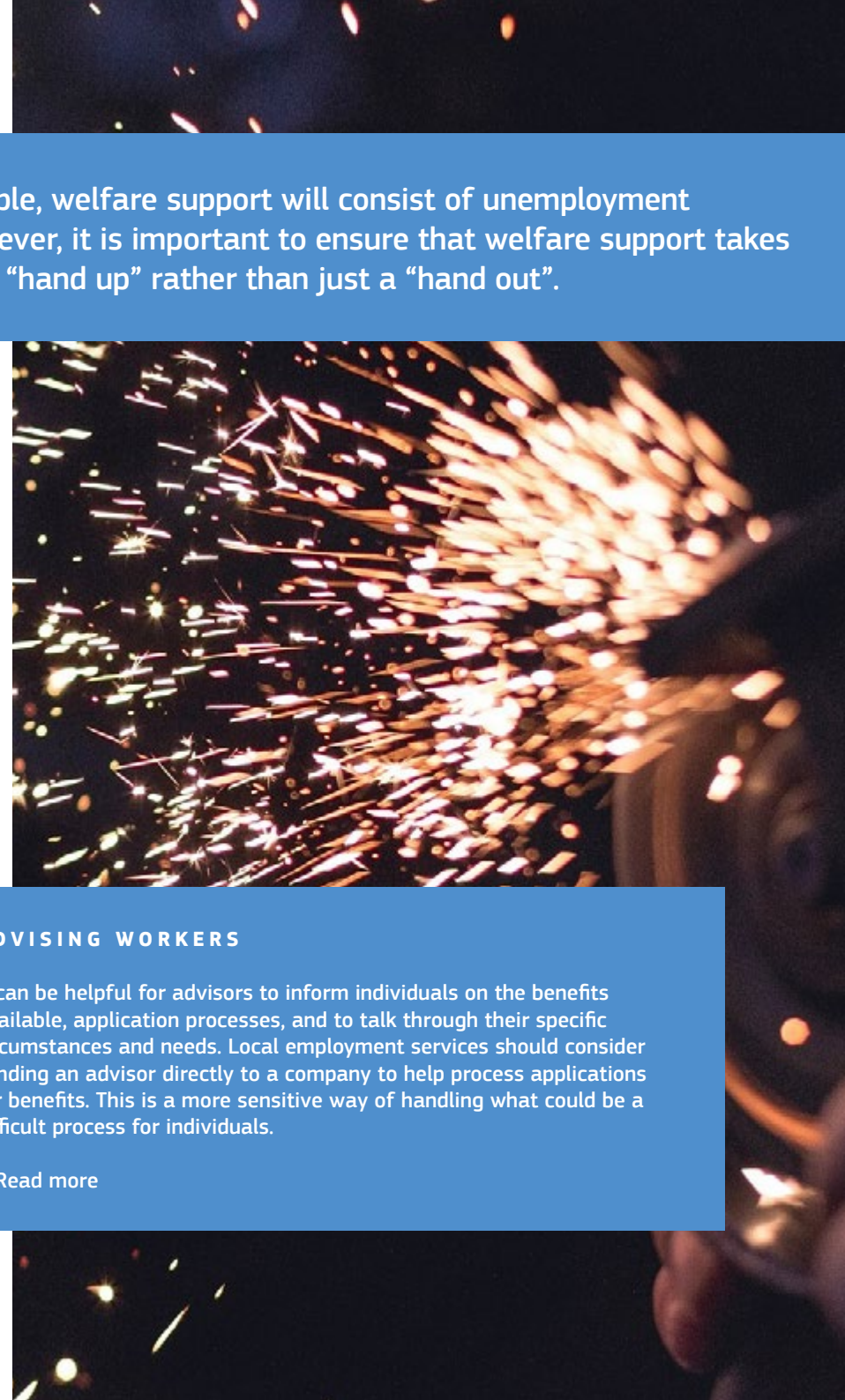
### Younger workers

- Active engagement in seeking employment.
- Payments dedicated to covering the costs of travel.

### ADVISING WORKERS

It can be helpful for advisors to inform individuals on the benefits available, application processes, and to talk through their specific circumstances and needs. Local employment services should consider sending an advisor directly to a company to help process applications for benefits. This is a more sensitive way of handling what could be a difficult process for individuals.

[Read more](#)





## Economic diversification and transformation

Economic diversification and transformation is crucial for regions to promote job opportunities in various fields.

### Economic diversification matters

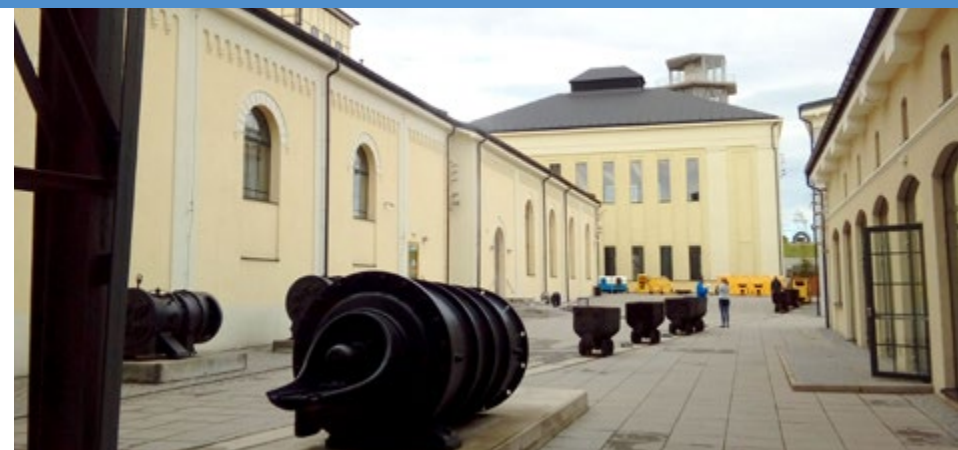
- It promotes job opportunities.
- It minimises dependency on a small number of large industries.
- It is less sensitive to economic fluctuations.
- It fosters innovation.

### Support materials for practitioners

- **Smart Specialisation** approach.
- **TRACER** project report on Smart Specialisation supporting coal regions (*early 2020*).

*“The greening of economies presents many opportunities to achieve social objectives: it has the potential to be a new engine of growth, both in advanced and developing economies, and a net generator of decent, green jobs that can contribute significantly to poverty eradication and social inclusion.”*

### ILO Guidelines for a just transition



ECONOMIC DIVERSIFICATION - GOOD PRACTICE

#### WAŁBRZYCH SPECIAL ECONOMIC ZONE “INVEST-PARK” IN POLAND

The Wałbrzych Special Economic Zone “INVEST-PARK” has successfully transformed Wałbrzych from an area known mainly as a former hub for heavy industry to an attractive place in which to invest, by providing subsidies in the form of tax allowances, based on the size of investment and the number of new jobs created. Companies within the manufacturing sector are preferred in the selection process, although firms involved in service activities in the fields of IT, research and finance are also able to tender for settlement.

Today, INVEST-PARK is one of the largest and economically most rapidly developing zones in Poland, with 53,500 new jobs and an investment value of €6.3 billion.

[Read more](#)

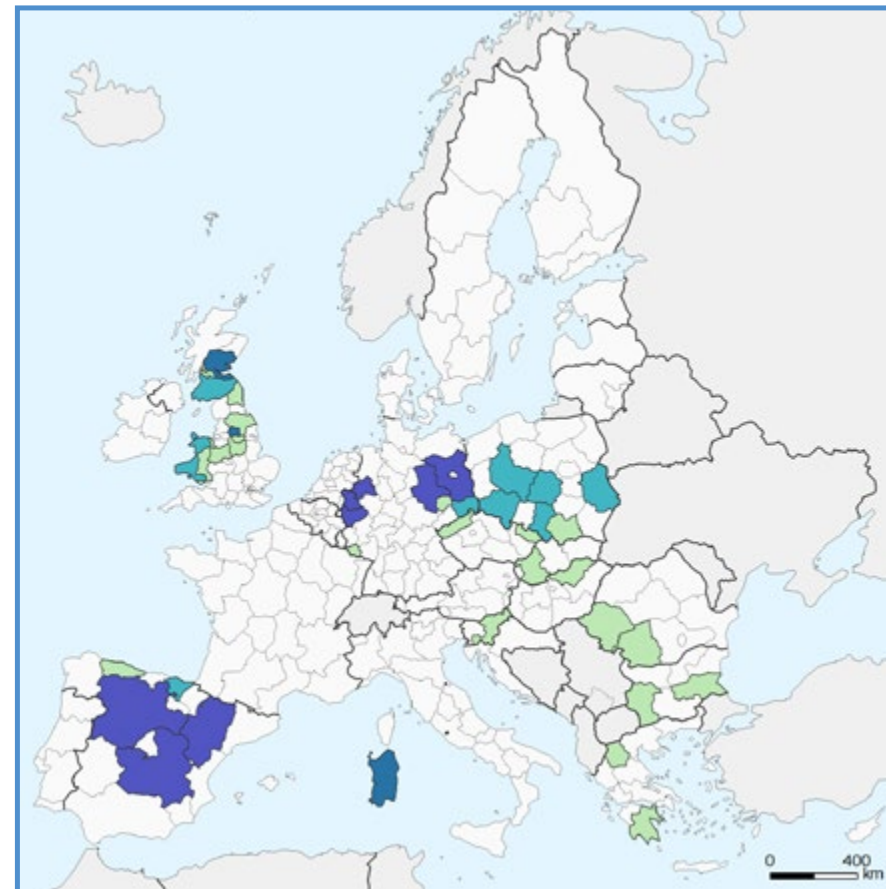


## Economic diversification and transformation

Renewable energy and energy efficiency can offer large employment potential for coal regions. However, this, by itself, will not be sufficient to compensate for the loss of all coal-related jobs in coal communities.

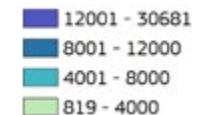
### Jobs in renewable energy and energy efficiency

- Supporting renewables and energy efficiency can help to bring **future-proof jobs** to coal regions.
- The Joint Research Centre (JRC) estimates that by 2030, up to **315,000 jobs could be created** in the EU coal regions from the deployment of clean energy technologies. This number is expected to reach 460,000 by 2050.
- In many countries, jobs in renewables and energy efficiency outnumber jobs in the coal sector. However, in municipalities with coal mines, **additional sectors need to be explored** to fully compensate for the loss of coal-related jobs.



#### RENEWABLE JOB POTENTIAL IN COAL REGIONS

Number of jobs (full time employment) in 2030 by Solar, Wind and Bioenergy according to projections EUC03232.5 for technology deployment according to (JRC 2020).



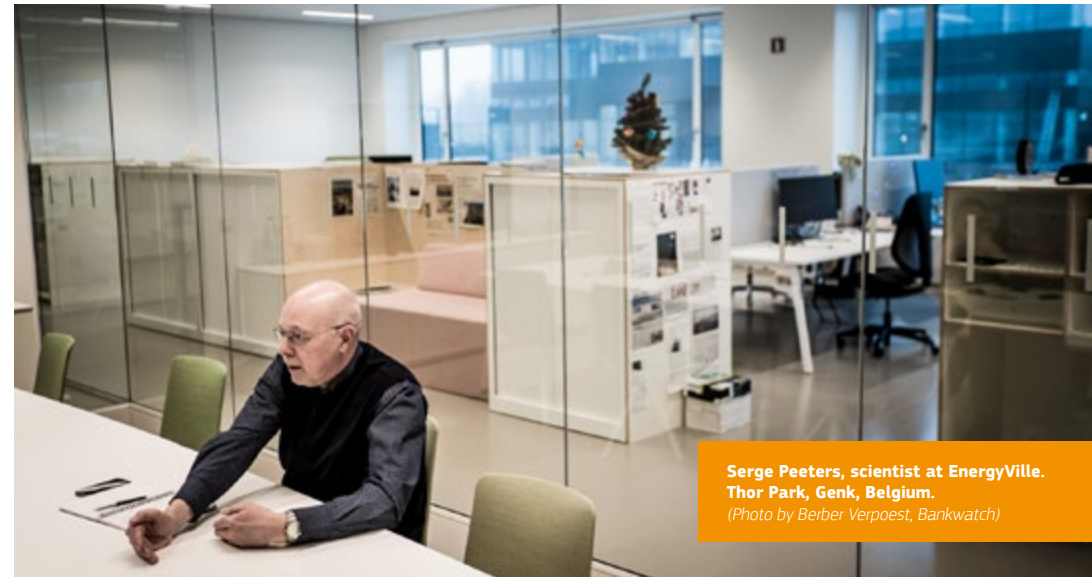


## Economic diversification and transformation

Mega-trends such as digitalisation can lead to skills gaps and mismatches, but also offer significant opportunities for employment and economic development.

### Skills development for digitalisation

- **Rapid digitalisation and new technologies**, such as the internet of things, robotics and artificial intelligence are a disruptive trend for the business model of many companies but also offer opportunities for economic development and jobs in coal regions.
- **Skills gaps and mismatches related to digitalisation** can create a bottleneck for qualified workers in the medium to long term.
- Companies, governments and regions should **implement skills strategies according to their contextual needs** and circumstances.



Serge Peeters, scientist at EnergyVille.  
Thor Park, Genk, Belgium.  
(Photo by Berber Verpoest, Bankwatch)

#### EU 'SKILLS FOR INDUSTRY' PUBLICATION SERIES

The EU is currently working on several skills development issues related to digitalisation and industry 4.0, such as collaborated training programmes, dual-track systems, curriculum development, smart education methodologies and technology-based tools.

[Read more](#)



## Economic diversification and transformation

Regional structural change is a long-term process that takes many decades. Regions will face new transition challenges today and in the future.

### Transformation towards a climate-neutral economy

- Coal related **infrastructure and heritage** can be an asset for a region in the future.
- Coal regions should use the inevitable transition away from coal as a **catalyst for innovation processes**.
- **Future-proofing of private investments and public support programmes** should be a key element in a region's transition strategy.
- One approach to diversifying the economic base is to **foster entrepreneurs**, small businesses and start-ups in coal regions.



#### NEW INDUSTRIAL STRATEGY FOR EUROPE

*'The European Green Deal sets the objective of creating new markets for climate neutral and circular products.'*

*'Industry has a leading role to play in what is the greatest challenge and opportunity of our time.'*

☞ COM (2020) 102 final

# HELPFUL TOOLS AND HANDBOOKS



## TRACER (2020) – BEST PRACTICE REPORT ON LABOUR MARKETS, SOCIAL ISSUES AND TOURISM

Based on eleven case studies from European coal-intensive regions, this short report offers a guideline for a step-by-step strategic approach to labour market and social transformation processes. It includes a condensed assessment procedure for labour market structures and social challenges, drivers for a sustainable transition and recommendations on how to facilitate a successful change process. It can serve as an entry point to creating a tailored approach for each coal intensive region.

[🔗 Read more](#)

[🔗 TRACER case studies](#)



## ETUC (2018) - INVOLVING TRADE UNIONS IN CLIMATE ACTION TO BUILD A JUST TRANSITION

This guide sheds light on how trade unions (and other organisations) can play an active role in the design and implementation of national and sub-national strategies for decarbonisation as well as in the development of just transition frameworks. The guide is made up of five building blocks, which cover economic diversification, governance and trade union participation, training and skills, social protection and preparing trade union organisations. Each building block has been designed with a brief introduction to the theme, a series of recommendations and a set of examples. The guide is available in English, French, German, Spanish, Italian, Polish and Finnish.

[🔗 Read more](#)



## GIZ (2018) – GUIDE FOR MAPPING THE ENTREPRENEURIAL SYSTEM

This guide leads readers through the process of mapping environments for entrepreneurship, including surrounding institutions, actors and prevailing cultures, through five consecutive steps: research design, data collection, data analysis, data validation and results application. For each step, the guide provides tools, such as a list of indicators, information on data sources and sample questions for structured interviews. It offers a practical and pragmatic approach, which aims to produce results in a short period of time (3 - 4 weeks).

[🔗 Read more](#)

# Accompanying notes

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# Introduction

## Aims and scope

The overarching aim of this toolkit is to give practical guidance on how to accompany the labour market transition in coal and carbon-intensive regions. It focuses on:

- providing short-term support for workers affected by labour market transition, and in particular targeted support for vulnerable groups of workers;
- providing medium- and longer-term actions that support employment and job-creation through regional diversification.

This toolkit is aimed at representatives of local and regional governments and social partners at all levels, particularly regional and national partners. Trade unions have an especially crucial role to play in supporting and guiding workers in a just restructuring process. The toolkit is also aimed at the range of partner organisations operating in the area of reskilling and upskilling, outplacement, and other worker support services.

## Why do we need this guidance?

Jobs in the coal sector in Europe have been declining for many decades (due to mechanisation, substitution by other fuels

and low economic competitiveness of mines). This process will continue in the future. It will be even accelerated by the necessity to reduce CO<sub>2</sub> emissions. By 2030 up to 160,000 jobs in coal fired power plants and coal mines are at risk (JRC 2018). The most affected Member States include Germany, the UK, Germany, Poland, the Czech Republic and Spain.

Mono-industrial and traditional industrial communities have a number of unique qualities that policymakers must take into consideration during transition processes. These include economic, cultural and normative circumstances.

Many of these areas depend on one type of industry and often one employer for economic prosperity. When this industry comes under threat, this will have severe economic consequences for the community. The culture of such a community is also built around the industrial monopoly, with generations of families working, for example, as miners. This creates a type of “lock-in,” where commuting to another region is difficult to contemplate, as this is not the norm for that community. These are relatively tightly-knit communities and any plan to manage the transition of such areas must take into account the fact that this is not just an economic challenge, but also a cultural and behavioural one. The new jobs that are generated by inward investment may not necessarily be occupied by those working in the former industrial monopoly; those jobs are more likely to be filled by women or those with a culture of commuting.

## KEY MESSAGES

- **Labour market transition is a complex and often difficult process. Policy coherence is vital. Involvement of all relevant stakeholders, including employees and those supporting them – in particular trade unions – as early as possible is key.**
- **Anticipation and planning is vital, as this will help to form a coordinated and relevant response to events. If the focus and extent of change, in addition to the timeline, is known, this will aid planning.**
- **Supporting individual workers requires both short-term actions focused on upskilling and redeployment, and longer-term actions focused on reconversion and attracting investment from alternative industries.**
- **Options should be suited to workers’ individual circumstances in order to ensure a just transition.**
- **Engagement with employers and trade unions, through schemes such as worker transfer or on-the-job training, is likely to be more effective in supporting individuals to find employment, especially as compared to stand-alone training programmes.**
- **All policy measures should be adequately funded.**



There is also a temporal dimension to transition strategies. Different types of actions will be required depending on the pace of coal phase-out:

- if a coal region is being transitioned at a relatively fast pace, jobs are likely to disappear in the short term and affected workers will need immediate support, including income replacement through welfare, assistance finding alternative employment in the short term, or early retirement. This is the case, for example, in Spain, where the coal phase-out is being accelerated;
- in other communities, the phase-out may be over a much longer period, which means that the adjustment plan can be drawn-up on a longer-term basis. This type of plan will include actions such as attracting alternative employers to the region and ensuring that the workers in the region, and particularly the younger generation, have the necessary skills to work for these alternative employers.

Managing the impact of transition of European coal and carbon-intensive regions in transition (CCIRIT) on regional employment is therefore a key issue, and one that involves a large number of actors. There are many issues to consider, including short- and medium-term actions such as re-skilling and redeploying the existing workforce, supporting vulnerable groups, and creating local employment opportunities, as well as longer-term actions such as diversifying regional employment, and stimulating employment in

new sectors. Where possible, it should also be ensured that working conditions and worker protection in new jobs are at least equal to those in previous jobs. Targeted and practical guidance to help those involved navigate the options and learn from existing good practices is extremely valuable in helping to achieve successful outcomes.

### Link to the broader strategy aspects

In 2019, the European Commission launched the [EU Green Deal](#), which aims to be the new growth strategy for the EU. It includes:

- becoming the world's first climate-neutral continent by 2050;
- mainstreaming sustainability in all EU policies;
- supporting investments in green technologies, sustainable solutions and new businesses;
- setting a path for transition that is just and socially fair.

The European Commission is committed to assist coal and carbon-intensive regions in harnessing the benefits of the clean energy transition, and has proposed, under the Clean Energy for All Europeans package, a comprehensive set of measures to provide the stable legislative framework needed to facilitate the clean energy transition.

The EU Green Deal is supported by a series of funding and investment initiatives. The [Just Transition Mechanism](#) is particularly important for coal regions in transition.

➔ [Read more on the EU Green Deal](#)

## Skills

### Anticipating skills needs

In a post-industrial world, skills needs are more diverse and the concept of a job for life is no longer relevant. Mega-trends such as sustainability and digitalisation can lead to skills gaps and mismatches, at the same time these developments offer major opportunities for employment and growth (read more in the chapter on economic transformation and diversification). In order to provide workers with the right types of skills to enable them to remain employable, some form of forecasting and anticipation function is necessary. This can be a difficult task, and is usually a medium- to long-term activity, as it needs to feed in to trainings developed by vocational educational training (VET) providers, schools and colleges. Ideally, an anticipation and forecasting function would be developed in partnership between actors such as local or regional authorities, national governments, individual companies, and social partners (employer and employee representatives).

A number of such initiatives already exist at the European level. Cedefop's [Skills-OVATE: Skills Online Vacancy Analysis Tool for Europe](#) offers detailed information on the jobs and skills that employers demand in online job postings. The tool presents data collected from July 2018 to March 2019 in Austria, Belgium, Czechia, Denmark, Germany, Hungary, Spain, Finland, France, Italy, Ireland, Luxembourg, the Netherlands, Poland, Portugal, Sweden, Slovakia and the United Kingdom. Other Member States will be included by the end of 2019. Cedefop's [Skills Forecast](#) also provides comprehensive information on future labour market trends in Europe. It acts as an early warning mechanism to help alleviate potential labour market imbalances and support different actors in making informed decisions.

Successful examples also exist at national and regional levels. In France, a national forecast is carried out jointly by the Prime Minister's office and the Ministry of Labour ([Prospective des Métiers et des Qualifications](#)), while region specific exercises are carried out by the French regional development agency. The public employment service ([Pôle Emploi](#)) also provides projections at the national, regional and sectoral levels.

In Germany, sector-specific employer organisations regularly carry out their own skills assessments. Germany also forecasts at the regional level through the [QuBe project](#) ([Qualifikation und Beruf in der Zukunft](#)).

It should be noted that the time span and frequency of forecasting initiatives vary, and some flexibility is always necessary. Exercises to anticipate future skill needs can forecast in the short- (up to 2 years), medium- (2-5 years), or longer-term (5 years or more). Most forecasts cover a medium-term time span of 2-5 years and short-term anticipation exercises are less common, perhaps because they overlap in purpose with assessments of current skill needs. Nevertheless, the Italian Chamber of Commerce (*Unioncamere*) leads the Excelsior Project ([Progetto Excelsior](#)), which provides one-year employment forecasts by sector and occupation.

## Skills audits and skills matching

When coal phase-out is a medium- to long-term process, and there is more time to plan ahead, skills audits at the company level are important to assess the available skills in the workforce and to support employees in developing and acquiring missing skills.

Once a review of existing skills has been carried out, these can be mapped alongside development needs. The EU can play a role here through organisations such as Cedefop, which has developed a framework for assessing governance of skills anticipation and matching in EU countries. The framework identifies key elements of well-functioning skill needs anticipation systems in EU countries. Training can then be organised to deliver the skills required, followed by some form of validation and recognition, e.g. by support of the Commission's initiative [Upskilling Pathways](#).

### CASE STUDIES

## SKILLS DEVELOPMENT

In Wales, the grant scheme [Welsh Government Skills Support for Tata Steel](#) was intended to support professional and technical skills learning relevant both to the steel industry and to wider employment markets. It includes:

- £4m of grants for the financial year 2016-17 to support learning designed to improve professional and technical skills relevant both to the steel industry and to wider employment markets;
- a total of 5,925 employees received training supported by the Welsh Government with an average of 4.1 individual trainings per employee across eight projects: improving the supply chain; developing craft skills; upskilling new talent; improving health and safety and environmental awareness; leadership and management training; and apprenticeships;
- evaluation shows a positive impact on employees and on the business in relation to Tata Steel's objectives: to transform business performance; to increase the flexibility and capacity of the workforce; to support succession planning; and to provide a safe and healthy workplace;
- employees reported very high levels of satisfaction with the training in terms of: relevance to their job; improving motivation and confidence; improving technical skills; impacting positively on the transferability of their skills; and supporting career progression.

Another example of a skills initiative comes from North-Rhine Westphalia in Germany. The [Cooperative Training at Coal Sites – Training in Mining Regions for Young People](#) programme has been running since 2008. The programme explicitly focusses on (former) mining towns but does not aim at re-skilling miners. Instead it offers training to young people in order to give them the skills necessary to obtain a company apprenticeship or enter a company training scheme. It includes:

- a focus on encouraging inward company investment into the region in order to provide employment for young people;
- cooperation between training providers, local employment authorities and SMEs, who together provide initial training to young people, with the goal of helping them to participate in a company training programme the next year. This is funded by the local government in North-Rhine Westphalia, the RAG Foundation (€500,000 each annually) and the ESF.

## Skills development and transferability of skills to other sectors

Once the extent of existing skills is known, a process of assessing transferability to other sectors and other types of jobs can be undertaken. Where possible, working conditions, and health and safety provisions should equal those in previous jobs. Mining occupations involve a high degree of physical tasks, requiring both strength and dexterity. Similar occupations may therefore be found in construction, agriculture and horticulture, manufacturing, and some service occupations that also include physical and practical tasks, such as caretakers. Further, there are many types of skills that can be developed to be applicable to other sectors, such as those relevant to administrative, management, and sales and marketing roles. Qualified technicians, craftsmen, and operators of machinery and equipment are likely to find it easier to transfer to new sectors. For example, solar companies may be interested in hiring former coal miners for solar installation jobs, assembling and maintenance. In particular, electrical and mechanical skills, experience working under difficult conditions, and sophisticated safety experience are highly valued in the wind and solar energy industries.

It should be noted, however, that it is by no means certain that the sectors listed above will offer jobs for life, even though they may well offer an initial opportunity to remain in the labour market. Given this fact, workers will need to recognise that they may have to

change jobs more frequently than in the past. These types of jobs are likely to require more geographic mobility in terms of requiring work to be carried out in different/multiple locations.

## Linking labour supply and demand

This is a key part of any transition strategy and there are a range of ways to:

- create demand for labour at the local level by attracting inward investment from new industries and new employers. This could be linked to a green energy strategy;
- link the local labour market to wider regional opportunities. This can be difficult, given the cultural and behavioural factors linked to mono-industrial regions and a traditional reluctance to work outside the immediate community. However, this can be achieved by offering advice and support to individuals and ensuring that there is affordable and reliable public transport that connects the area with the wider region;
- boost local job creation by encouraging and supporting entrepreneurship. Along with financing support (e.g. through start-up bank loans), advice and guidance on business start-ups is a key factor. The Commission's [EntreComp Framework](#) can serve as a valuable starting point for the development of policies regarding digital skills. This will help to boost business creation, leading to job creation.

### EXAMPLES OF SKILLS ADAPTATIONS

The table below shows examples of skills adaptations in various scenarios relating to sector, skills and region.

Sector	Skill	Region	Example
Same.	Same.	Same.	Power plant operator working in biomass power plant after plant conversion. Former coal miner working in an underground copper mine in the same region.
Other.	Same.	Same.	Geologist working in research centre in same region.
Other.	Other.	Same.	Industrial electrician retrained as wind farm technician working in wind farm located on the site of the former coal mine.
Other.	Other.	Other.	Industrial technician retrained as wind farm technician working in wind farm located in other region.
Same.	Other.	Same.	Geologist working as specialist tour guide with a museum after mine reclamation.

Source: European Commission JRC 2018.

# Cooperation

## Key actors

Multi-stakeholder consultation and community engagement are important and are common practice in coal mine closure processes. The closure of mines has a significant impact on local and regional economies, the identity of local populations, and on communities and family networks. This impact may last for many years, affecting current and future generations.

The specific task of supporting workers who are at risk of losing their jobs requires the involvement and engagement of a number of key stakeholders and actors:

- **individual companies:** new and existing employers in a variety of sectors should be engaged as they will be key in terms of offering employment and/or training. Employers in green energy sectors are particularly important stakeholders;
- **central government:** central governments might be able to negotiate agreements with large coal companies and influence outcomes at local levels;
- **regional authorities:** local governments have a good overview of the region and its context, and can serve as a link between various actors;
- **social partners (trade unions and employer representatives):** trade

unions have a key role to play in supporting and advising workers, both collectively and individually. They are key actors in terms of working with employees to help devise training and out placement. Trade unions can also represent workers' interests and provide pragmatic approaches to guarantee working conditions, thus helping to ensure a just transition. Trade unions and employer representatives also have a specific role in relation to collective bargaining and social dialogue;

- **training providers:** training is a key element of worker support, and so it is vital that public and private training providers are part of the cooperation process;
- **other sources of advice and guidance:** in addition to the stakeholders listed above, other experts may have relevant expertise in areas such as reskilling and upskilling and working with employers to provide alternative employment;
- **community representatives:** the closure of coal mines has a significant impact on the local area and so it is important that representatives of the community, in addition to those representing local authorities, are engaged;
- **public employment services:** public employment services at regional and local levels can play a vital role in helping to match supply of and demand for employment. They can also coordinate training needs and opportunities;

### GOOD PRACTICE

## COOPERATION BETWEEN ACTORS

There are a number of good examples of cooperation between different actors. For example:

- **coal workers were re-employed at the Dortmund airport as part of a successful cooperation between public services and private companies.** The airport developed a qualifying training course and hired 76 retrained former miners (RECORE, 2006);
- **the Oakdale Colliery wind project, which is located in the former Oakdale Colliery coal mine, which covers around 162 hectares in Wales. It has a capacity of 4 MW (2 Senvion MM100 wind turbines of 2MW rated power each) and it will generate approximately 10 GWh/year. This project has been developed via a public-private partnership between the organisation Partnerships for Renewables and the Caerphilly County Borough Council. It will provide job creation and additional revenues to the local community. Partnerships for Renewables will pay rent to the council for use of the area, as well as a community benefit package of about EUR 11,000 per year throughout the lifetime of the project, which will be invested on projects that create social, economic or environmental benefit;**
- **the framework agreement for a just transition in coal mining in Spain for the period 2019-2027 is another successful example reached through dialogue between trade unions and public authorities.**

- **Funding bodies.** All levels of funding are relevant, from the EU level (ESF, ERDF and Erasmus+), to national-level funding and local and regional sources of funds. Funding can come from both public and private sources, or a mixture of the two.

- **workshops or meetings.** Develop a plan based on a common vision and policy mix, and develop key roles and tasks for the stakeholders, timeline and monitoring indicators.

## Cooperation process

Engaging stakeholders requires an organised process in order to ensure inputs from all key actors are considered. Effective social dialogue between trade unions, employers and public authorities at the company, local, regional and national levels is crucial. For further details, see the [Governance of transitions toolkit](#).

It is of particular importance to engage and consult all relevant stakeholders as early as possible. This is no easy task: “tailored workforce transition programmes and the building of local economic resilience require time, preparation and learning by doing” (IDDRI 2018, p.6).

Steps in this process could include:

- **identification of relevant stakeholders.** Research to find out who the key actors are in the region;
- **mobilisation of stakeholders;**
- **establish contact with key actors;**
- **in-depth or focus interviews.** Establish communication with key actors to identify the areas in which they can contribute;

## Multi-agency/multi-actor partnership frameworks: PACE in Scotland

There are a number of examples of multi-agency or multi-actor partnerships that have achieved results in responding to large-scale industrial closures and redundancies. This includes the Scottish [Partnership Action for Continuing Employment \(PACE\) Programme](#). This Scottish national strategic partnership framework for responding to redundancy situations works to ensure that local public sector agencies respond to potential and proposed redundancies as quickly and effectively as possible.

There is a national PACE team and 18 local PACE teams across Scotland. PACE support is tailored to meet individual needs and local circumstances and may include: PES (Jobcentre Plus) services, one-to-one counselling, information packs, training, seminars on skills such as CV-writing and starting up a business, and access to IT facilities.

PACE is considered to be highly successful in supporting transitions in Scotland. According to the latest research, the [PACE](#)

[Client Experience Survey 2018](#), 80% of PACE customers achieved positive outcomes. For example:

- when Ageas – a major employer in Lanarkshire – had to close its call centre, it engaged with PACE at an early stage. As well as providing support to its employees, links were forged with other employers and a jobs fair was organised that brought together 40 employers representing 2,000 job vacancies. As a result, 80% of the redundant employees secured a positive outcome. PACE has produced a [YouTube video](#) overviewing this project;
- in August 2015, Scottish Power confirmed a decision to close the Longannet Power Station in Fife, affecting over 230 Scottish Power staff, as well as additional contractors. PACE engaged with Scottish Power and supply chain companies to support affected employees. A range of support was provided to employees, including advice on finding work – such as on preparing CVs, cover letters and applications, interview techniques, and use of LinkedIn – presentation skills, advice on claiming state benefits, business start-up advice, and support to access training, information on retirement options, and pensions advice. By October 2017, out of 370 individuals, 194 were employed (192 in full-time work), five were self-employed, and 23 were in education and training programmes. This together accounts for 60% of the sample. A total of 77 individuals chose not to access

further support and 69 were classed as inactive due to factors such as retirement, ill health and choosing not to seek benefits. Only two people were unemployed.

Other examples of PACE support to employers are given in its [online toolkit](#). These include success supporting men over 40, and cases of paper mills closing in rural or semi-urban areas.

# Support for workers

## Information and consultation

In a scenario in which the phasing out of coal is accelerated and there is little time for medium-term planning, short-term immediate actions to support affected individuals are necessary. Those affected will also need a lot of reassurance; they are likely to have the following key questions when confronted with restructuring (IDDRI 2018).

- How will you ensure that I can find an alternative job or a bridge to retirement?
- How will my livelihood be guaranteed during the adjustment process?
- Who is going to pay?
- Why should I trust them?

It is understandable that employees want to be included, in good faith, and early on in the process of any restructuring plans likely to affect them. They also want to be given a chance to participate meaningfully in decision-making processes that concern their futures. This usually takes place through trade unions, which have the right to represent workers collectively in statutory information and consultation processes. It

is best practice that employers consult with their workforce on their restructuring plans in good time and in a way that enables meaningful dialogue between the employer and employee representatives. In practice, this means that, while the overall aims of restructuring may have been decided, the decision on how restructuring should be implemented should be discussed and reached jointly between the employer and the employee representatives.

## EU framework

Informing the workforce about restructuring that is likely to have employment consequences is required by EU legislation on [collective redundancies](#), the [information and consultation Directive](#), the [EWCs Directive](#) and the [acquired rights Directive](#). The EU Directive on collective redundancies also notes that the consultation should take place ‘in good time and with a view to reaching an agreement’ (Art.2.1), implying that the consultation should be undertaken in good faith by the employer.

## Tailored support for workers: who is being targeted?

It is important to offer support to all workers who are affected by industrial change in the region in which they work. Ideally, the move should be away from the coal sector, in the context of coal phase-out. However, in some cases, a temporary move to other coal

businesses may buy some time to allow the individual to think about longer-term options and the acquisition of relevant skills and competences. Support can be offered by a range of experts and stakeholders, including trade unions, other employment experts or a mixture of actors.

### GOOD PRACTICE ENGAGING WITH THE WORKFORCE

**As much information as possible should be given to the workforce, so that as broad a picture of the situation as possible can be conveyed. If the employer imparts high quality information to the workforce in a timely manner, this will help to gain the trust of the workforce and its ‘buy-in’ to the process of restructuring. Examples of good practice in this regard include:**

- **Limburg, in the Netherlands, where trade unions were given an active role in committees that oversaw the transition process for the region (Gales et al, 2017);**
- **in 2018/19 trade union representatives participated with voting rights in the German Commission that developed both a timetable for coal phase-out and cornerstones of support schemes for the German coal regions (Agora Energiewende, 2019).**

## Specific requirements of certain groups of workers

Certain groups may be more vulnerable than others. Those who are:

- **unemployed on a long-term basis (12 months or more)**, for example, may find it harder to integrate into the labour market. In these cases, the following are particularly important:
  - skills mapping, targeted training and development, work or training placement;
  - practical assistance with job applications, CVs, interview techniques;
- **young people** may not have developed adequate skills and experience to enable them to enter a new type of labour market. It is important to offer:
  - assistance with gaining work experience placements/internships;
  - training and upskilling;
- **older workers** (over the age of 50) may be vulnerable due to health issues and perceived lower adaptability and productivity. It is important to offer:
  - support with training and upskilling or skills reconversion;
  - support with the management of any health issues;
  - advice on early retirement or bridging period options.

## Specific types of support

### Individual skills review

All individuals affected by the transformation of their sector should be offered an individual skills review, during which they can meet with a skills assessor in order to map their

particular skills. These can be both formal educational and vocational qualifications and informal skills learnt during employment, with a focus on those skills that go beyond the job that they have been doing up to that point. This will enable the individual to think about the type of work that they may be able to do in the future and the type of training that

they would like in order to develop their skills and competences to take advantage of new opportunities.

Once an individual's skills are reviewed, they can be matched to available vacancies and training opportunities.

### SKILLS REVIEW: AIMS AND ACTIONS

Aim	Action	Suitable type of worker	Time-scale
<b>Move to alternative role within the company.</b>	Support workers who have appropriate skills and/or are willing to retrain to take on alternative roles.	All with relevant skills and disposition.	Short/medium- term.
<b>Move to alternative coal-based sites in the company.</b>	Practical support to transfer to another site.	Those who may find it hard to find work in other roles or sectors.	Short-term.
<b>Move to alternative local job.</b>	Regional worker transfer programmes. On-the-job training.	All with relevant skills and ability to move to an alternative local job.	Long-term.
<b>Move to another sector.</b>	Targeted training.	Workers likely to succeed in other sectors, particularly young people and those with post-secondary education.	Long-term.
<b>Move to another sector in another region.</b>	Targeted training. Practical and financial support for relocation.	Those likely to succeed in other sectors and who are willing and able to relocate geographically.	Long-term.
<b>Voluntary redundancy.</b>	Support package, including reconversion plan.	All.	Short-term.
<b>Retirement.</b>	Early retirement. Providing a bridge to pension.	Older workers.	Short-term.

## Career counselling

Individuals should be offered career advice and counselling, building on their skills review. This will help them to explore current options and future goals. Overall, it should be noted that those involved in the coal industry are often reluctant to take other types of employment and may see work in the service and trade sectors as humiliating. It is therefore important to focus on how existing competences can be transferred to other sectors, and how training can help individuals to gain new and valuable competences.

Devising an upskilling pathway for individuals is a good way of focusing on where an individual is at present, and where they want to be. Guidance on this is contained in the [Council Recommendation of 19 December 2016 on Upskilling Pathways: New Opportunities for Adults](#), which can be of help when designing re-skilling pathways for coal workers in transition. There are many [examples of good practices](#) showcasing possible ways to implement upskilling pathways.

## Training opportunities

Once a skills audit and counselling have taken place, an individual will be better placed to review the training opportunities that are on offer. Guidance and support from a careers advisor should include communicating the relevant training opportunities to individuals and providing practical assistance on how to apply for training courses.

### CASE STUDY

## SAARLAND AND RUHR REGIONS

The Saarland and Ruhr regions in Germany provide a good practice [case study](#) of a large and gradual restructuring and coal phase-out process that began in the 1950s. The transition has encompassed a wide range of actions, including attracting other industries to the region, such as automotive and tourism, and making significant investments in R&D through establishing technology parks, supporting technology transfer, and offering targeted support to SMEs.

[Read more](#)

The German energy and mineworkers' union IG BCE was an important actor in facilitating and negotiating coal phase-out. As a result, a socially accepted phasing-out of subsidised coal production in Germany took place gradually, with phase out completed in 2018. This was governed by a collective wage agreement on socially acceptable personnel measures. Structural regional policy and the European Structural Funds and the Cohesion Fund were also crucial to the process.

The coal mining company Ruhrkohle AG was established in 1969. From 1969 to 2015, employee numbers shrank from 180,000 to 9,500. A social compensation plan was set up to support workers in transitioning to new jobs. This included the following elements:

- early retirement, with the precise nature of the package depending on the age of the workers and the type of job that they had been doing (e.g. underground or surface mining);
- qualification or retraining initiatives (around 26,500 individuals pursued this option);
- on-the-job qualification initiatives;
- direct redeployment;
- temporary placements;
- in-house redeployment;
- redundancy payments;
- around 3,000 workers in total moved to other sectors (for example, around 100 former miners are now working at the Dortmund Airport);
- coal heritage projects: the Zollverein industrial complex in Essen, formerly the largest colliery in the world, was converted into a museum and a UNESCO World Heritage Site, which now receives 250,000 visitors a year.

Further reading [Lessons from Germany's hard coal mining phase-out: policies and transition from 1950 to 2018](#).



Evidence suggests that stand-alone training programmes have limited success. For example, Kluwe (2016) found that only 30% of such programmes show some degree of effectiveness, and often their success is limited. IDDRI (2018) also found this, due to factors such as structural unemployment in the region, a lack of engagement with potential employers, a lack of a holistic approach to supporting workers, and a lack of monitoring outcomes.

Where possible, therefore, worker transition programmes should focus on placing workers in jobs, or jobs coupled with retraining, rather than being stand-alone retraining programmes.

### Other practical assistance

Other types of practical assistance include the following:

- help with how to put together a job application;
- assistance with updating and producing a CV, including how to use computers to do this;
- where applicable, financial advice. Individuals faced with losing their jobs and needing to find alternative employment are likely to have financial concerns. Advice on how to manage personal and family finances, including bridging transition periods between work, can help to ease anxiety.

## Welfare support

Welfare support for workers who are losing their jobs is vital to ensure that funds are being brought into the community. There will usually be a need to provide some form of welfare support to workers who have lost their jobs.

For the majority of people, this will consist of unemployment benefits. However, it is important to ensure that welfare support takes the form of a “hand up” rather than just a “hand out”. This would, for instance, include not just income replacement benefits, but also travel and accommodation arrangements to support people seeking alternative employment.

Different types of welfare support will be needed for different types of people:

- older workers will need more emphasis on income replacement, as they may have more financial responsibilities and not be in a position to seek alternative work. Older workers may also want to consider early retirement options. Details around eligibility will vary depending on the country and the particular company involved. However, there may be options available to workers in their fifties, with the possibility of organising a bridging period until full pension eligibility is reached. These options can be explored with a financial advisor;

- welfare support for younger workers is likely to have a larger component dedicated to active engagement in seeking employment, encompassing payments dedicated to covering the costs of travel.

It can be helpful for advisors (these could be trade union advisors or other advisors) to work with individuals to inform them of benefits available to them, how to apply for these, and to talk through their specific circumstances and needs. Trade unions can also act as focal points to advise workers on options.

Where a large number of workers are made redundant, local employment services could consider sending an advisor directly to the company to help process applications for benefits. This is a more sensitive way of handling what could be a difficult process for individuals.

**It is important to ensure that welfare support takes the form of a “hand up” rather than a “hand out”, including travel and accommodation arrangements to support people seeking alternative employment, in addition to income replacement benefits.**



## Economic diversification and transformation

### Economic transformation: why diversification matters

Economic diversification is crucial for regions to promote job opportunities in various fields. Minimising dependency on a small number of large industries can make regions less sensitive to economic fluctuations and can foster innovation in regional networks and clusters. For policy makers, the main challenge is to transfer these goals into a diversification strategy that not only pursues growth and jobs, but also ensures long-term sustainability. As the mobility of the workforce in heavy industry sectors tends to be low, the creation of jobs within the area of former coal mines should be considered a specific challenge.

The EU Smart Specialisation Strategy (S3) is an innovative approach aiming at economic development and creating jobs by enabling each region to identify and develop its own competitive advantages. The [S3 Platform](#) provides advice to EU countries and regions for the design and implementation of their Smart Specialisation Strategy. It includes a wealth of tools, guidance material and good practice examples as well as databases. It furthermore facilitates networking and peer-

#### CASE STUDY

### WAŁBRZYCH SPECIAL ECONOMIC ZONE “INVEST-PARK” IN POLAND

The Polish city of Wałbrzych was one of the most deprived post-mining cities through the 2000s, with very high unemployment rates. A special economic zone with tax breaks for companies relocating to the regions was set up, which initially had very limited success. However, today the Wałbrzych Special Economic Zone “INVEST-PARK” (which extends far beyond the city limits) has supported the transition from an area known mainly as a former hub for heavy industry, to an attractive place in which to invest. Companies within the manufacturing sector are preferred in the selection process, although firms involved in service activities in the fields of IT, research and finance are also able to tender for a place in the park. Today, INVEST-PARK is a rapidly developing economic zone in Poland, with 53,500 new jobs created and an investment value of €6.3 billion.

[Read more](#)

#### CASE STUDY

### ZUKUNFTSAGENTUR RHEINISCHES REVIER - A REGIONAL ECONOMIC DEVELOPMENT AGENCY IN GERMANY’S LARGEST LIGNITE MINING AREA

Since 2014, the newly funded regional development agency *Zukunftsagentur Rheinisches Revier* has been active in developing a shared vision and development strategy for the *Rheinisches Revier* region by organising idea contests, networking events and studies on the prospects of establishing specific industry branches. The agency’s shareholders are local municipalities, regional business associations and the trade union for the industrial sectors of mining, chemical industry and energy (IG BCE). This setup has helped to reduce competition among the main sectors and forms the basis of a future-oriented concept for proactive structural change.

to-peer learning activities across EU member states and regions.

Information with high relevance for coal regions:

- a specific [Smart Specialisation Platform for Industrial Modernisation \(S3P-Industry\)](#) exists, which offers support and facilitates cooperation in 21 thematic areas, including “Mining” - but also “Efficient and sustainable manufacturing”, “Hydrogen valleys”, “SME integration to Industry 4.0”;
- the Horizon2020 [TRACER project](#) has developed guidance on Smart Specialisation Strategies and SET plan implementation actions specifically in coal regions.

## Jobs in renewable energy and energy efficiency

Clean energy technologies offer great economic and job opportunities for both active and former coal mining regions. By 2030, up to 315,000 jobs could be created in EU coal regions from the deployment of clean energy technologies; this estimate increases to 460,000 jobs by 2050 ([JRC 2020](#)).

Supporting renewables and energy efficiency therefore not only help the transition to a climate neutral energy system, but can also provide economic opportunities for coal regions, with future-oriented job prospects for young people.

However, for those municipalities that heavily rely on coal mining today, renewables and energy efficiency alone will most likely not be sufficient to compensate all jobs in the coal sector. As much as clean energy technologies can be an important element of a diversification strategy, developments in other sectors also need to be pursued.

The specific options vary from region to region: in rural regions wind, solar and biomass have great potentials for both energy supply and job creation. In more urban areas, specifically in northern climates, improving energy efficiency not only helps to reduce energy costs, but can also create many new jobs at the regional level. The modernisation of buildings is a prominent example: a high share of the value added goes to (mainly local) construction companies.

### CASE STUDY

## STRUCTURAL CHANGE DECADES AFTER PHASING-OUT COAL

Many of the coal mining areas that experienced a significant decline in coal mining in the past have adopted a strategy of attracting large industrial players to the regions. This strategy has helped to create jobs in new industrial sectors with the advantage that the required skill profile is quite similar to those of the former miners. In this way, a number of the Western European coal mining regions (e.g. Saar and the Ruhr Area in Germany or Limburg in Belgium) have been successful in attracting car manufacturing companies in the 1960s and 70s. This helped to initially compensate for job and income losses in the region. In the meantime, however, many car companies have now left those regions - or are themselves now challenged by the transition from combustion engines to e-mobility. Thus, even coal mining regions that closed their last mine decades ago are today in their second or third phase of structural change - and are now adapting to megatrends such as globalisation and digitalisation (see [the ongoing transition of Genk](#)).

### CASE STUDY

## EMPLOYMENT AND ENERGY TRANSITION IN GERMANY

On the national level, the energy transition in Germany has led to a positive effect on employment: new employment in the renewables sector outnumbers job losses in conventional energy. The installation of renewable energy systems such as wind and solar also offer economic potential for coal regions. A study by the IÖW shows that in the Lusatian region, approximately 3,900 jobs in the mining industry could be fully substituted by the renewable energy sector at state level, but only around 800 of these new jobs would be created directly in the municipalities where the coal mines are located. Similar projections have been made for the Rhenish coal mining area, where the 4,500 coal jobs could be replaced with jobs in the renewable sector, but only again 800 directly in the municipalities of the coal mines and power plants (IÖW 2017).

## Skills development for digitalisation

*“The twin ecological and digital transitions will affect every part of our economy, society and industry”.*

(EU 2020)

The need for climate mitigation is not the only driver for industrial transformation in coal regions. Rapid digitalisation and the spread of new technologies, such as the Internet of things, robotics and Artificial Intelligence are a challenge to the business models of many companies (putting jobs at stake) but also offer a broad range of opportunities for economic development.

While the main challenges of digitalisation for industry are related to the massive growth of digital tools that include connected objects, communication systems, data centres and associated energy consumption, research estimates that a lack of skills will create a bottleneck in the medium- to long-term process of digitalisation.

There are increasing skills gaps and mismatches related to digital and high-tech key enabling technologies. Enterprises, especially SMEs, are reporting difficulties in finding employees with these skills. Skills needs must be better anticipated to manage change, nurture new types of work and strengthen social cohesion. To face that challenge, it is crucial to support the upskilling

of the workforce, enabling them to move into new and higher-skilled roles.

Companies, governments and regions should therefore implement skills strategies according to their contextual needs and circumstances. The EU is currently working on several skills development issues related to digitalisation and industry 4.0, such as collaborated training programmes, dual-track systems, curriculum development, smart education methodologies and technology-based tools (see box on page 36).

For coal regions in transition, digitalisation is therefore both a challenge and an opportunity. It is an issue beyond the re-skilling needs of workers currently employed in coal and carbon-intensive sectors. Developing a sound, future proof skills base in all sectors is a key element for any economic diversification and transformation strategy of coal regions.

## Regional structural change is a continuous process

Even when coal mining regions have fully transitioned away from coal and have successfully established new economic pillars, they will in the future have to further adapt to new framework conditions and respond to new challenges. This simple fact is important for today's strategy development.

### FURTHER READING

## OECD REPORT - REGIONS IN INDUSTRIAL TRANSITION

Coal regions are obviously not the only regions which face challenges in structural development. The OECD Report “Regions in Industrial Transition” explores challenges and gives recommendations on how industrial regions can support innovation, diversify and transform their economy and help workers and companies to develop required skills. For each topic the report contains overviews of most relevant policy issues and possible policy responses as well as global good practice examples, many of which are from coal regions.



[➤ Read more](#)

## EU 'SKILLS FOR INDUSTRY' PUBLICATION SERIES



### CURRICULUM GUIDELINES 4.0 – FUTURE-PROOF EDUCATION AND TRAINING FOR MANUFACTURING IN EUROPE

This report provides a systemic overview of the new ways of organising learning experiences for the future digital transition of the economy. The guidelines aim to provide key stakeholders with an analytical base for developing skills strategies for the new industrial age. The report offers both conceptual guidance and good practice examples. [Read more](#)



### SKILLS FOR SMES – CYBERSECURITY, INTERNET OF THINGS AND BIG DATA FOR SMALL AND MEDIUM-SIZED BUSINESSES

This report was developed in response to the specific challenges of SMEs facing digitalisation issues, identified as a lack of digital leadership skills at the top, a shortage of IT professionals and severe lack of adequate skills amongst users. The report presents a shared vision, a roadmap and a plan to develop a toolbox. [Read more](#)



### SKILLS FOR INDUSTRY – SCALING-UP BEST PRACTICES AND RE-FOCUSING PROGRAMMES AND INCENTIVES

Considering the increasing demand for high-tech skills as a result of the digitisation of the economy and advanced technologies, this paper identifies as a main challenge for policy design the growing skills gap and calls for innovative action in skills development training and in funding programmes for re- and up-skilling. It analyses the funding models of education and training programmes targeting the workforce at national and EU levels and the synergies between the different instruments, with a view to identifying best practices. [Read more](#)



### ONLINE TRAINING – PROMOTING OPPORTUNITIES FOR THE WORKFORCE IN EUROPE

This report analyses how the needs of the workforce could be effectively met by online training solutions in combination with traditional forms of training, with a special focus on SME realities. Based on this analysis, it develops a vision and recommendations for specific support measures towards 2030. [Read more](#)

The future is not predictable, and regions will have to be prepared to continuously respond to new challenges. But, there are trends, which are foreseeable at least to some degree (such as digitalisation). Coal regions should use these trends to ensure that the inevitable transition away from coal is a catalyst for innovation processes in the region. Activities to diversify the economic base should plan for both short- and long-term benefits for the region. Future-proofing of private investments and public support programmes should be a key element in a region's transition strategy.

In contrast to encouraging the settlement of large industrial companies, a future-proof economic development strategy requires promoting a broad set of tools and approaches. Fostering education, science and innovation in regions is one key success factor. Furthermore, supporting universities and research institutes in coal regions has long-term positive effects, such as creating jobs for the children of today's miners.

One approach to diversifying the economic base is fostering entrepreneurship, small businesses and start-ups in coal regions. There are many positive examples of ongoing activities of this nature; however, this strategy also poses significant challenges. One of these is culture: most industrial workers are used to working for large companies, with clear rules and responsibilities and social benefits supported by strong labour unions. Not many find it easy or even desirable to become an entrepreneur and thereby lose

these supports. For trade unions, the main challenge is ensuring strong membership that enables unions to fight for good terms and conditions, including pay that corresponds to the relatively high levels of pay for miners.

## Improving quality of life and climate-proofing

The transition away from coal poses many challenges for coal regions. However, it also offers opportunities to improve living conditions locally. Regional decision-makers should try to seek synergies between the necessary economic development of the region, and other issues of political interest, such as reducing local pollution and health risks, and maximising social benefits and equality.

Climate-proofing is one important element. The need to reduce CO<sub>2</sub> emissions will only increase in the future as Europe strives

towards a net-zero economy. Thus, regions should actively explore options that help them to develop along this pathway.

The EU Green Deal underpins Europe's climate ambitions with an economic strategy: the necessary transition of industry comes with many opportunities for jobs and economic development (see box). To support this process the European Commission proposed 25% of the post-2020 EU budget to climate mainstreaming across all EU programmes. Furthermore, at least 30% of the European Regional Development Fund (ERDF) and 37% of the Cohesion Fund (CF) investments shall contribute to climate objectives.

Regions should also consider how local smart specialisation and economic diversification processes and actions can support mitigation targets. This is also in regions' self-interest; attracting companies and building infrastructure that rely on a high-carbon

business model may become stranded assets in the future.

From the workers' perspectives, it is not only about the number of jobs and their regional distribution - but also about the quality of work. In the past, many jobs in the coal sector, especially mining, came with pros and cons: e.g. high health risks, but good pay. It is important to provide a framework which ensures that new green jobs can also be considered good jobs, with respect to health, payment as well as labour and social standards.

Climate-proofing economic development strategies is a fairly new venture. So far, only limited experience and few tools exist that coal regions can draw on as a blueprint for a successful approach. This is, therefore, a field in which coal regions will need to experiment and develop their own novel approaches. This is a great challenge, but also an opportunity for innovation with the objective of achieving long-term competitiveness.

### EXAMPLE: SUPPORTING ENTREPRENEURS

[Climate-KIC](#) identifies, supports and invests in entrepreneurs through every stage of innovation, helping them to move from initial concepts, through to testing and demonstration, and achieving commercial scale. This approach targets young entrepreneurs. Climate-KIC is active in many coal regions across Europe, offering support to individual start-ups, as well as to local initiatives who themselves support new entrepreneurs (e.g. so called "impact hubs"). Another example are clusters, which aims to improve performance and increase competitiveness through trans-national and international cooperation. The European Cluster Collaboration Platform provides a mapping tool to find existing clusters in Europe.

[↪ Read more](#)

## EU INDUSTRIAL STRATEGY AND CIRCULAR ECONOMY ACTION PLAN



In March 2020, two strategies were launched, which constitute an important framework for transition processes in coal regions: the New Industrial Strategy for Europe and the New Circular Economy Action Plan. Both documents stress the necessity for industry to contribute to a pathway to a net-zero carbon emission economy by 2050 - but also highlight the opportunities this transition offers for Europe:

*Industry has a leading role to play in what is the greatest challenge and opportunity of our times. All industrial value chains, including energy-intensive sectors, will have a key role to play. They will all have to work on reducing their own carbon footprints but also accelerate the transition by providing affordable, clean technology solutions and by developing new business models.*

*(...) The European Green Deal sets the objective of creating new markets for climate neutral and circular products, such as steel, cement and basic chemicals. To lead this change, Europe needs novel industrial processes and more clean technologies to reduce costs and improve market readiness. For instance, the Commission will support clean steel breakthrough technologies leading to a zero-carbon steel making process. ↻ COM (2020) 102 final*

*(...) applying circular economy principles across the EU economy has the potential to increase EU GDP by an additional 0.5% by 2030 creating around 700,000 new jobs. There is a clear business case for individual companies too: since manufacturing firms in the EU spend on average about 40% on materials, closed loop models can increase their profitability, while sheltering them from resource price fluctuations. ↻ EU 2020*

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### Lead authors

Andrea Broughton, Ecorys

Timon Wehnert, Wuppertal Institute

### Contributors

Paul Baker, Ecorys

Jannis Beutel, Wuppertal Institute

Robert Pollock, Ecorys

Maria Yetano Roche, Wuppertal Institute

### Reviewers

Andrzej Błachowicz, Climate Strategies

Paul Boutsen, ADACT Belgium

Sabina Irimie, Institutul Social Valea Jiului

Rainer Janssen, WIP Renewable Energies, Germany

Piotr Lewandowski, IBS Poland

Rita Mergner, WIP Renewable Energies, Germany

Gloria Popescu, ISPE Proiectare si Consultanta S.A

Karel Tichý, Ministry of Regional Development of Czech Republic

Martina Weissova and Pavlína Novotná, Ministry of Regional Development of Czech Republic

Fiona Wollensack, GIZ

Zoe Rasbash, Climate Strategies

## Platform for coal regions in transition

The Platform for coal regions in transition is an initiative by the European Commission.

[ec.europa.eu/coal-regions-in-transition](https://ec.europa.eu/coal-regions-in-transition)

[secretariat@coalregions.eu](mailto:secretariat@coalregions.eu)

[@Energy4Europe](https://twitter.com/Energy4Europe)

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