



FROM COAL TO LOW CARBON

COAL REGION DEVELOPMENT OPPORTUNITIES
UNDER EU RECOVERY PROGRAMMES



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Key messages

1. The Covid-19 crisis has laid bare the vulnerability of coal regions. Economic recovery and associated funding, as well as the need for new low-carbon solutions, offers a unique opportunity to address the transition of coal regions. The combination of worsening economics of coal and the increasingly universal move towards carbon neutrality makes redeveloping coal regions a priority.
2. The EU is home to a large number of successful coal region transitions, many of which are ongoing. In one way or another, long-term environmental, sustainable and low-carbon technologies and business solutions are becoming a central element of the transition.
3. Special Economic Zones (SEZ) are geographically limited areas where companies' operations are governed by specific rules on taxation, public funding for infrastructure, simplified planning procedures, the provision of specialised business services and attractive living and working conditions. They can play a decisive role in accelerating the economic development of regions affected by economic decline or stagnation.
4. Effective planning and programming, good governance and the engagement of local stakeholders and the local economy are preconditions for attracting long-term sustainable private investment. Getting governance right has proved to be one of the key determinants of successful transition.
5. Public funding will also be required, but only as one of the enabling tools, for example to build infrastructure, clean up sites for training and retraining and, more generally, to ease the transition. The EU Recovery and Resilience Facility together with EU budgetary sources, based on the Territorial Just Transition Plans for example, will be able to provide sufficient public money to catalyse private investment where regional plans are sufficiently developed.



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Contents

- 1. Introduction 1
- 2. Regional redevelopment of industrial clusters and low-carbon zones..... 2
- 3. Redevelopment opportunities through low-carbon special economic zones..... 5
 - The Humber Enterprise Zone - Drax power plant/Zero Carbon Humber 6
 - The Katowice Special Economic Zone..... 6
 - Plovdiv district and the Trakia Economic Zone 7
 - Zero-carbon industrial parks 7
- 4. Financing regional transition: EU Budgetary and Recovery Fund opportunities 8
- 5. Conclusions: strategy, governance and financing..... 9
 - Good governance 10
 - Well-thought-out strategy 10
 - Private finances are key to coal regions’ transition 11
 - Public funding 11
 - Available options to finance coal phase-out 11
- Literature 12

1. Introduction

Historically, coal regions have played a central role in the economic and social development of European economies. Jobs in the coal industry were generally highly qualified and well-paid. Over time, regions where coal was produced then became economic power houses, typically based on industrial clusters around coal, steel, energy or coal chemistry. As domestic coal in Europe [became less and less economical](#), coal regions started to face transformation. An increasing number of countries are making [pledges for carbon neutrality](#), which includes doing away with coal.¹ A combination of deteriorating economics of coal and economy-wide carbon neutrality goals are affecting coal-based countries in the EU and beyond, increasing the urgency for regional redevelopment.

To date, pledges to dispense with coal have been made mostly by developed countries with relatively high GDP per capita. In developing countries and EU member states in Central and South East Europe, and Energy Community member countries, coal phase-out and regional development have been delayed, largely due to fears of the regional and social impact and associated job losses of downsizing the coal industry.² Carbon pricing puts increasing pressures on coal-fired power generation, however. The ETS price has been steadily [growing](#), from barely €5 to over €30 per tonne CO₂eq since 2017, reaching levels above €40 per tonne in [March 2021](#). It is estimated to reach up to €65 per tonne CO₂eq by 2030.³

Carbon pricing has already had an impact on reducing coal-fired power generation; it has halved since 2015 and for the first time was outcompeted by wind and solar in 2019.⁴ In addition, the BAT regulations,⁵ with their tighter rules on industrial emissions for large combustion plants from 2021 on, will put further pressure on coal-fired generation across the EU.

Pressure on coal is not a European phenomenon, however. In the EU's immediate neighbourhood, Ukraine and the Western Balkan countries are exploring options to modernise their coal regions. For the first time, Ukraine outlined its commitments to reach carbon neutrality by 2070 and phase out coal by 2050 in its [Concept for Green Energy Transition](#).

More pressure on coal is also coming from the new US Administration. On January 27th, President Biden signed the [Executive Order](#) on Tackling the Climate Crisis at Home and Abroad with an aim to pursue an overarching approach to fossil-fuel phase out and decarbonisation of

¹ Among others, China (2060), Japan (2050), South Korea (2050), Switzerland (2050), the UK (2050), and US (2050).

² For example, seven member states do not envisage coal phase-out by 2030, namely Bulgaria, Croatia, Czech Republic, Germany, Poland, Romania and Slovenia.

³ The Impact Assessment estimates carbon price to increase to €40, 60 or 65 per tonne CO₂eq according to the different scenarios. European Commission (2020), "[Stepping up Europe's 2030 climate ambition Investing in a climate-neutral future for the benefit of our people](#)", SWD/2020/176 final, 17 September.

⁴ Agora Energiewende and Ember (2021), "[The European Power Sector in 2020: Up-to-Date Analysis on the Electricity Transition](#)", January.

⁵ The BAT regulations introduced tighter emissions limits of i.e. nitrogen oxides, sulphur dioxide and particulate matter. [Commission Implementing Decision \(EU\) 2017/1442](#) of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants (notified under document C(2017) 5225).

power sector by 2035. At the end of 2020, UN Secretary-General Guterres pleaded to the European Council for Foreign Relations to plan for a green recovery post-Covid, to [stop the financing of new coal immediately](#) and put a price on carbon.

At the same time, there is a long history of regional redevelopment in Europe,⁶ often but not always related to coal, for example in the Ruhr region (Germany), Limburg (Belgium and the Netherlands), the Nord-Pas de Calais region (France), the Manchester/Liverpool region (the UK). The Humber region in the UK has notably set itself on a low-carbon development path, including negative emissions.

In recent decades, radical transformations have also been witnessed in Eastern Europe, notably Katowice (Poland), Prievidza (Slovakia), Mátra (Hungary) and Plovdiv (Bulgaria). Past transformations, all of which are still ongoing, offer valuable experiences for the redevelopment of coal regions in transition. The EU budget and notably the Recovery and Resilience Facility (RRF) and the Territorial Just Transition Plans offer – many would say – a unique opportunity to accelerate this redevelopment.

2. Regional redevelopment of industrial clusters and low-carbon zones

All EU member states across the EU are embracing the economic and industrial opportunities that the European Green Deal is offering. The booming renewable energy sector in particular offers possibilities to develop industrial value chains⁷ and retain industrial capacity. Decreasing electricity prices and a growth of decentralised renewable energy technologies have also further unlocked the use of renewable electricity for self-consumption.⁸

More generally, this is also true for other value chains identified by the European Commission's New Industrial Strategy, many of which are linked to carbon-neutral transformation. Examples include: renewable energy, waste-to-energy, recycling and more generally, circular economy processes, battery production, re-use of components and recycling, water treatment and even the generation of negative emissions, namely by applying carbon capture and storage technology with biomass, so-called bioenergy with carbon capture and storage (BECCS). Some of these value chains may be offering manufacturing opportunities now located outside Europe, particularly for Central and Eastern European member states. Renewed focus on resilience and strategic autonomy will provide extra momentum. Already, new industrial

⁶ See for example European Commission, Platform for Coal Regions in Transition website with case studies: https://ec.europa.eu/energy/topics/oil-gas-and-coal/EU-coal-regions/resources_categories_en?redir=1.

⁷ Contrary to what is often claimed, a study for the [European Commission \(2019, p. 15\)](#) shows that some member states, e.g. Germany, have been able to retain significant parts of the renewable energy value chains within Europe, even for solar PV. From the countries examined, the same study shows great potential to manufacture goods and services produced in the area, jobs and growth for all member states, in particular for Bulgaria and Poland and to some extent for Romania.

⁸ CEER (2019), "[Regulatory Aspects of Self-Consumption and Energy Communities](#)", CEER Report C18-CRM9_DS7-05-03, 25 June.

clusters are emerging in Central and Eastern Europe, such as for IT in Cluj-Napoca and Sofia, [e-buses](#) near Poznan and [e-bicycles](#) in Plovdiv.

Coal regions consist of industrial clusters that grow around a combination of infrastructure, resources or cities. Coal region clusters are often associated with environmental degradation, air and noise pollution and unattractive living conditions. At the same time, ongoing redevelopment of industrial clusters, for example on future low-carbon technologies, is reliant upon existing human capital, infrastructure and land resources, especially present in open cast lignite areas. Moreover, coal regions' access to major transport axes, such as road, railways and airports, is an asset in their redevelopment.

Coal regions usually also have well-developed power grids as a result of their large generation capacities, offering an opportunity to speed up the integration of renewable energy and storage solutions. An underground pump storage of 200 MW offers a recent example, currently under construction on the basis of the infrastructure of closed [Prosper Haniel mine](#) in North Rhine-Westphalia and benefiting from well-developed grids to provide energy storage capacities in a high demand area.

Degraded land can be used for growing energy crops and industrial PV installations, allowing for diversification. As the experiences from successful transformations document, land, which is typically owned or controlled by a single owner, often the state, is a critical success factor, especially if combined with simplified planning procedures, for example by a single government or parliamentary decision. Solar PVs are widespread among repurposed coal mining areas. Given the availability of vast areas of land in coal regions, solar PV could potentially “fully substitute the current electricity generation of coal-fired power plants” in these regions, as shown in a recent study by a European Commission Joint Research Centre (JRC) team.⁹

Among others proposals, a floating solar plant on an open cast mine is under consideration following the imminent closure of the [Hambach coal mine](#) in Germany. Another former German coal mine in Göttelborn was converted into a solar energy park of over 8 MW in 2004. In Central and Eastern Europe, a solar power plant of 16 MW was commissioned in [Visonta in Hungary](#), situated on top of a lignite mine dump site. There is also no shortage of larger solar projects, even if currently at the planning stages. In Poland for instance, solar power plants are envisaged for [the Bogdanka coal mine](#) (30 MW) as well as a [100 MW solar park](#) at the site of the depleted Adamów coal mine.

Decommissioned coal mines can also serve for geothermal heat production for district heating, such as the [Mieres coal mine](#) launched in 2019 by Grupo Hunosa in Spain. Repurposing of coal-fired power plants additionally includes switching to biomass. The [Lynemouth coal-fired plant](#) of 420 MW in the UK is being retrofitted to operate in biomass, mainly wood pellets from the

⁹ K. Bódis, I. Kougias, N. Taylor and A. Jäger-Waldau (2019), “[Solar Photovoltaic Electricity Generation: A Lifeline for the European Coal Regions in Transition](#)”, *Sustainability* 11, No. 13, 3703.

US, Canada and Russia, which may raise issues of compliance with the sustainability criteria of the Renewable Energy Directive or appropriate UK rules.

The renewal of coal power plants and the repurposing of former coal mines is increasingly undertaken within renewable energy clusters aimed at giving new impetus to regional economies. Typical technologies for the redeveloped industrial zones are IT, car manufacturing, mobility and logistics. Most, if not all, of the considered examples are now deploying low-carbon technologies. One plant, the Drax power plant, is even reporting negative emissions. The closure and reconstruction of Frantisek coal mine in the Czech Republic during the late 1990s-2000s, one of the first such cases, led to the creation of [the Industrial Zone Frantisek](#), supported by EU structural funds. In Germany, [Bottrop city](#) is one of the successful examples of sustainable structural change projects, a pilot city within the InnovationCity Ruhr competition. This competition was launched in 2009 by a regional body called Initiativkreis Ruhr, made up of private companies and a local organisation.

The peri-urban Limburg region in Flanders/Belgium around Genk has focused on diversification with a mix of new technology firms, clean energy companies, and an array of service e-companies. The region pursues a strategy with both small-scale bottom-up initiatives started by citizens or NGOs, and a more traditional top-down approach for larger investment.¹⁰ To strengthen future economic competitiveness, the city of Genk is focusing on the transition from a manufacturing industry to an innovative manufacturing and knowledge economy. Already in 2008, the whole Limburg region had declared that it aims to reach carbon neutrality, and Genk is involved in the Accelerating and Rescaling Transitions to Sustainability (ARTS) project that identified 90 actions to be developed to support sustainability in the city.¹¹

In Hungary, the industrial conversion of the rules on industrial emissions for large combustion plants coal power plant to the use of biomass and photovoltaics is taking place along the transition to the development of an industry cluster, including an industrial park with 50% of the investment covered by tax allowances. The project has also received ERDF funding and national support schemes for renewables (tax exemptions for solar PV).¹² The transformation of an old hard coal mine to an industrial park in [Wałbrzych, Poland](#) was also assisted by the special economic zone status of the area (since 1997) and tax allowances to investors (35-55% until the end of 2020), however only for a limited time. One of the main reasons behind these measures was to retain high skilled workers.

¹⁰ The redevelopment of Genk's former mining sites was subsidised, inter alia, by a €217 million grant pledged by the Flemish government in 2014, which allowed it to devise an extensive investment plan. The government also provides tax incentives and subsidies for companies and academic institutions to work in the area. To finance these subsidies, the city developed an Integrated Territorial Instrument (ITI), which made it possible to also use multiple EU Funds (ESF, ERDF and the Cohesion Fund).

¹¹ European Commission (2020), "[Platform for Coal Regions in Transition, Case Study 'Genk's ongoing transition'](#)", January.

¹² See https://ec.europa.eu/energy/sites/ener/files/documents/transforming_the_lignite-fired_matra_power_-_platform_for_coal_regions_in_transition.pdf.

Focus on industrial clusters stems from the widespread idea that regional economic specialisation has a positive effect on regional competitiveness,¹³ as a part of the wider economy and industry structures. The so-called Smart Specialisation Strategy approach aims to identify areas for cooperation on regional innovation capacities and has also been successful in coal regions.¹⁴ Importance is placed on the need to develop a diversified technology portfolio to avoid a risk of dependence on a mono-technology approach to identifying the competitive advantages of regions.¹⁵

As industrial clusters develop, opportunities for SMEs emerge, which are generally seen as the backbone of the EU economy. For coal regions they represent a necessary stabilising factor and increase the resilience of regions to economic cycles.¹⁶ For many years now, the EU has been trying to put in place a horizontal policy addressing barriers. To narrow the SME financing gap during 2014-18, EU financial instruments helped mobilise €100 billion of financing, notably for SMEs, in the form of debt and equity finance. This programme will continue under InvestEU with a strong focus on green recovery. The SME window of InvestEU¹⁷ will support equity financing for SMEs and small midcaps in areas of special EU policy interest such as space and defence, sustainability, digitalisation, innovation, gender-smart financing, deep and green tech.

3. Redevelopment opportunities through low-carbon special economic zones

Innovation such as low-carbon technology is generally accepted by policymakers and economic researchers as a key driver behind long-term economic growth. A number of successful transitions – Limburg in Belgium and the Netherlands, Katowice in Poland, the Humber Economic Zone in the UK, as well as Plovdiv in Bulgaria – represent valuable lessons for the transition of coal regions to more sustainable economic regions or even low-carbon industrial clusters.

Special Economic Zones are a regional policy tool to accelerate the economic development of regions affected by economic stagnation: poorer, less developed regions bypassed by investors or affected by high unemployment. They are geographically limited areas where companies' operations are governed by specific rules. Generally, they aim to accelerate the economic

¹³ K. Reinhold and T. Mitze (2020), "[The role of R&D-intensive clusters for regional competitiveness](#)", MAGKS Papers on Economics 202001, Philipps-Universität Marburg, Faculty of Business Administration and Economics, Department of Economics (Volkswirtschaftliche Abteilung).

¹⁴ See, for example, case studies on South Limburg (the Netherlands), Asturias (Spain) and North-Rhine Westphalia (Germany). In TRACER (2019), "[Best practice report: Smart Specialisation Strategies and SET plan implementation actions](#)", TRACER, Transition in Coal Intensive Regions, September.

¹⁵ J. Crespo, P.A. Balland, R. Boschma and D. Rigby (2017), "[Regional Diversification Opportunities and Smart Specialization Strategies](#)", European Commission Directorate-General for Research and Innovation Directorate A — Policy Development and Coordination Unit A.6 — Open Data Policy and Science Cloud

¹⁶ See for example, R. Richard Filčák (2019), "[The Upper Nitra Region. Scope and challenges in a socially sensitive, low-carbon industrial transition](#)", Final report, Coal regions in transition - analysis of the SME sector and identification of its development potential - Upper Nitra region, Slovakia, European Commission, December.

¹⁷ European Commission (2020), "An SME Strategy for a sustainable and digital Europe", Communication, COM(2020) 103 of 10.03.2020

development of regions, to manage post-industrial property and infrastructure, to create new jobs and attract foreign investors. More recently, low-carbon development comes into focus.

Typically, economic zones offer tax allowances, such as for corporate income tax or regional and local taxes. Often, such tax breaks are higher for smaller businesses to support Small and Medium sized Enterprises (SMEs). In addition, companies can obtain public funding for infrastructure, tax exemptions for new investment or job creation, as well as the possibility of simplified planning procedures or the provision of specialised business services such as advisory and other services to facilitate investment and (international) expansion. Increasingly, attention is paid to generating attractive living conditions, for example high quality schools and day care facilities, efficient public transport, modern housing, and digital services to attract and retain qualified staff.

The Humber Enterprise Zone - Drax power plant/Zero Carbon Humber

The Humber Enterprise Zone is the largest of its kind in the UK. Comprising 30 sites adapted to different needs, it resides in the heart of the UK's 'Energy Estuary,' the largest development sites adjacent to the deep-water port at Able Marine Energy Park and Paull. It aims to attract major industrial activities such as offshore wind; 80% of all North Sea offshore wind farms and 60% of the entire European market for renewable energy is within 12 hours reach of the Humber.

The Drax Power Station (about one hour from the Humber Economic Zone), which supplies 6% of the country's electricity needs, including 15% of its renewable power, is gradually moving to low-carbon generation and negative emissions. Founded in 1967 close to the Selby coalfield, the Drax Station had a generating capacity of just under 2,000 MW by 1975: all coal. From 2012 on, Drax underwent modernisation and has been transformed into a mainly biomass-fuelled generator using compressed wood pellets, including imports compliant with EU sustainability criteria. By 2016, 70% of its electricity was generated by compressed wood pellets.

In 2018, the first bioenergy carbon capture and storage (BECCS) project of its kind in Europe was announced in cooperation with Mitsubishi Heavy Industries Group. In the same year, together with Equinor and National Grid, the company launched the so-called Zero Carbon Humber, a partnership to build the world's first zero-carbon industrial cluster and decarbonise the North of England. The transformation was almost complete when in 2020, Drax announced that after almost 50 years of operation, coal-fired electricity generation at Drax Power Station would probably cease in 2021. The final step is the sale of gas assets in the same year to concentrate a biomass supply chain.

The Katowice Special Economic Zone

The Katowice SEZ, which is not part of, but close to a coal region, was established in 1996. It covers a total area of 2,750 ha. and is located in the Śląsk and Opole Voivodships, offering plots, production, warehouse and office facilities, and providing available state aid consultancy. Investment incentives are corporate income tax credits from 25% up to 55%, investor service,

strong support from local authorities for investors, and investment areas (greenfield) of more than 1,500 ha. (with both small and large plots) connected to the main communication routes of Poland and Europe. It is helped by its location in the south of Poland, near the A4 motorway (connection with Germany and Ukraine) and A1 (connection with the Czech Republic), with access to almost 5 million inhabitants in the Silesian Voivodeship.

According to Katowice Special Economic Zone website, there are currently over 450 business entities operating in the zone, representing almost €10 billion (PLN 42 billion) worth of investment, as well as more than 80,000 new jobs. It is now home to an automotive cluster and the third largest educational centre in Poland, with over 100,000 students. It has attracted investors from Poland and across Europe (e.g. Austria, France, Germany), as well as outside Europe (e.g. Japan, Korea, US). It was recognised as the best free zone in Europe in 2015, 2016, 2017 and 2019 and, in 2019, as the second-best zone in the world.

Plovdiv district and the Trakia Economic Zone

Trakia Economic Zone (TEZ) has been developed around Plovdiv, the second biggest city in Bulgaria, 100 km from the largest coal region in South East Europe. TEZ is currently aligning its development with the objectives of the European Green Deal¹⁸ and has launched the consortium Zero Carbon Economic Zones together with three other Bulgarian regions. TEZ offers a public-private model of partnership between nine municipalities, regional and state institutions, on the one hand, and business, on the other. For example, Plovdiv was named one of the 10 best medium-sized cities of the future in the *Financial Times*' 2020 global ranking.

TEZ is the largest industrial centre in Bulgaria and a major zone in South East Europe more broadly. It has attracted upward of €3 billion in investments over 180 operating businesses, several of which are global leaders in their industries. According to the Zone, more than 30,000 well-paid jobs have been created. Recently, new investments were attracted in the sphere of high-quality textile, processing, logistics, and manufacturing equipment. It now aims to create zero-carbon industrial parks.

Zero-carbon industrial parks

The success story of Plovdiv has been emulated by other industrial parks, namely Burgas, Gabrovo and Haskovo, which have recently been grouped into a [Consortium](#) with Plovdiv.¹⁹ The consortium aims to create an “investment-appealing and innovative environment” in these municipalities and an attractive work-life environment to attract and retain qualified staff.

¹⁸ Namely, carbon neutrality by 2050, decoupling of economic growth from GHG emission and the ‘just transition’, i.e. leaving no-one behind.

¹⁹ The project has been produced by a TEZ team in a joint effort with the biggest scientific community for applied research in Europe - Fraunhofer, UNIDO, IBA, and the success-proven public-private partnership with nine municipalities and three clusters. The concept is described in the “Zero Carbon Industrial Parks (ZCIP) Consortium – Strategic Intent” paper.

Initially, the ‘zero-carbon industrial parks’ are meant to produce roadmaps to curtail greenhouse gas emissions under the commitments made by the EU and Bulgaria, in alignment with the Paris Agreement and UN Sustainable Development Goals. The target objective for 2030 is to make the parks a high-tech sustainable and eco-investment destination, i.e. places of high innovation potential, research & development, and incubators and accelerators for new businesses. Research institutions assist the emerging businesses by way of research and training. Transport, digital, and other infrastructures are developed for connectivity. The TEZ has set goals for reduced waste reduction, re-use and recycling. It also provides for education and vocational training, day-care facilities and social housing, to attract a wide array of social groups.

Sector focus includes low-carbon energy (e.g. energy efficiency, energy consumption management, hydrogen production, biogas, solar energy, wind energy, energy cooperatives), mechanical and electrical engineering and electronics (e.g. new transport solutions, vehicles and robotics), the bioeconomy, and digital solutions.

4. Financing regional transition: EU Budgetary and Recovery Fund opportunities

Previous successful coal region redevelopment has generally benefited from generous government funding. Regions in the EU also benefit from the EU budget’s Cohesion policy to develop their regional economies, support that can be directed to investment in energy transition.

In the coming years, opportunities for redevelopment of regions that decide to move away from coal are unprecedented, due to the rollout of funding under the EU and national recovery facilities. At EU level, the Next Generation EU (NGEU) recovery package, in combination with the EU’s regular seven-year shared investment budget (the Multiannual Financial Framework (MFF)) for the period 2021–27 create the chance for coal regions to address the costs of transition, be it in terms of investment needs or for the programmes to cushion their socioeconomic effects. Its success will strongly depend on the member states and regional authorities making good use of this moment.

The explicit objective of NGEU is in fact not to bring back the economy to a pre-pandemic situation, but to transform it. It aims to move beyond the pandemic by mobilising EU level support to redirect the economy towards a more sustainable model and to take a lead in the new digitally driven social and industrial era. It therefore introduces important obligations to finance the green and digital transformations. This is underpinned by a target of using 30% of the total MFF and NGEU support for climate objectives – compared to 19.7% estimated to have been allocated by 2014–20 EU budget, according to European Commission estimations.²⁰ The

²⁰ This figure has been put into question. In the case of the Common Agricultural Policy, in particular, the Commission estimated the green share of direct payments expenditure to be 20%, but studies claim it could be as

MFF plus NGEU package has a total value of €1.8 trillion. To guarantee the achievement of the 30% target, NGEU (and in particular, its largest share; the Recovery and Resilience Facility (RRF)) has to allocate at least 37% to climate investments.²¹ There is even €17.5 billion dedicated exclusively to mitigating the impact of energy transition in the form of the Just Transition Fund (JTF).

Access to funding will be subject to assessment by the European Commission of National Recovery and Resilience Plans under the RRF, which together²² make up more than 90% of the grant part of Next Generation EU.²³ Taking into account the additional nationally pre-allocated top-ups for the Cohesion Policy and the JTF, this total rises to 98%. Poorer southern and eastern European countries will benefit most since governing allocations under these grants are the (inverse) per-capita income ratio in 2019 (relative to the EU average) and pre-crisis unemployment rates (average over the period 2015-19). Plans for allocation should be presented by 30 April 2021, although the official RRF start is unlikely to occur before the end of the year.

As outlined, the availability of finances to undertake the in-depth transformation of coal dependent regions represents a unique opportunity. The ball is now in the court of national and regional authorities, however, to plan for and implement the EU's traditional structural funds, the recovery support and other national funding in a coherent, efficient and effective way. If this opportunity is squandered, regions will have a much more difficult job to decarbonise – an inevitable task in the new future.

5. Conclusions: strategy, governance and financing

Experience suggests that a comprehensive strategy to attract investment has been even more important than funding, notably comprising future-oriented financially sustainable activities such as in the cases of Limburg, Humber, Katowice or Plovdiv.

Successful regions have focused on forward-looking strategies that not only seek to attract investment in modern businesses but also address structural reforms capable of driving

low as 10%, reflecting concerns over the current methodology for calculating the level of climate-related expenditures (see European Court of Auditors (2020) and Bas-Defosse et al. (2020)). The present agreement foresees the development of a new methodology in addition to annual reporting by the European Commission.

²¹ The overwhelming share of NGEU is allocated to the RRF, at €672bn (of which grants are €312.5bn and loans €360 bn). This amount is reserved to finance National Plans implemented by the member states. In addition, there is €47.5 bn additional support for the EU's Cohesion Policy (ReactEU), €5 bn in grants for research and innovation, €5.6 bn additional funding for debt and equity instruments of the InvestEU financial instruments, €7.5 bn for rural development, €10 bn for the Just Transition Fund (topping up the €7.5 bn in the MFF) and €1.9 bn for the Union's civil protection mechanism.

²² The Recovery and Resilience Facility (the Facility) supports reforms and investments undertaken by member states and aims to mitigate the economic and social impact of the coronavirus pandemic and make European economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions.

²³ C. Alcidi, D. Gros and F. Corti (2020), "Who will really benefit from the EU Next Generation EU Fund", CEPS Policy Insight 2020-25, October.

regional economic development. The Plovdiv economic zone in Bulgaria showcases how businesses can establish themselves when framework conditions are right, i.e. when the transition is tailored to each region's potential to design the 'right' ecosystem. The latter should have a business-friendly local government and efficient administration, as well as attractive tax rules and business services. Building business parks and subsidising new businesses on their own has proved insufficient.

Good governance

Successful redevelopment strategies will require, first, good governance and then quality 'programming'²⁴ as part of regional policies. Successful regions tend to have more effective administrations that are proactive and entrepreneurial. Regional administrations need to remain open to exploring all the complexities and opportunities for transition, supported when necessary by central government. All successful place-based approaches have so far shared a determination to change and to use innovative, 'out of the box' thinking. Local and regional administrations both in urban and rural environments have been catalysts for regional transformation.

Well-thought-out strategy

Another major condition has been the preparation of an ambitious but realistic strategy with tailored policy mixes, budget stability, and capacity-building mechanisms. Successful stakeholder consultations become essential to ensure buy-in from citizens and the business community, especially when there is a legacy of mistrust in the capacity of regional and national governments. The engagement of key representatives of business and civil society, as well as various administrative bodies may provide a platform to jointly assess a 'baseline' scenario for the region, followed by a long-term vision for the region over 30-50 years. The latter should comprise a clear set of milestones, actions and short-term targets, for example through a [back-casting](#) exercise to accommodate new instruments for the longer-term vision for a region.

It is advisable that, initially, consultations on long-term objectives for regions are done without taking EU funding into account. It is only after the regions have agreed on their long-term objectives that the search for the right implementation instruments should be undertaken. Experience has shown that money is usually available for convincingly developed plans, especially now, under the Next Generation EU and the Just Transition Mechanism.

Experience also shows that the implementation of plans and roadmaps requires a clear allocation of responsibilities across regional bodies for the short and medium term. This will allow for the creation of a coherent programme for the next 7 to 10 years. Once the allocation of responsibilities is complete, the necessary administrative restructuring, the specialised bodies and the list of potential financial sources may be more fruitful.

²⁴ See for example, a toolkit by the European Commission "[Transition Strategies. How to design effective strategies for coal regions in transition](#)".

Private finances are key to coal regions' transition

In Central and Eastern Europe, funding for transition has been a bottleneck for some time. With the introduction of the RRF, this situation has changed. Yet, while public funding is a precondition for successful transformation, it needs to be tailored to overcoming any barriers that might keep investment at bay, i.e. underlying infrastructure, lack of skills or facilities. Such barriers are most often legal and administrative rather than financial. Public funding is only one of many enabling tools that include, for example, building infrastructure, the clean-up of sites, training and retraining, to more general support transition. The main priority when designing a transition strategy is to identify the sources of private capital from potential investors and interested entrepreneurs for the region, to make best use of public funding.

Public funding

Dedicated implementation bodies, possibly in the form of a public-private partnerships and where possible with the involvement of universities have worked in the past. Notable [examples](#) of such bodies include specialised fund management and project implementation offices with a public mandate. A number of public financial instruments with a one-stop-shop entity will assist beneficiaries in applying for support, including grants, guarantees and subsidised loans.

Available options to finance coal phase-out

With the RRF in place, there is no shortage of funding for refinancing solutions to cover the costs of transition. Indeed, refinancing may be one of the options where the Just Transition Fund guarantees can ensue a low cost of finance. In this case, power station owners could borrow funds to cover the losses of building a new low-emissions facility and phase out coal. With subsequent cheaper production costs, the cost-to-price differential could then contribute to paying off the debt. Lending could be channelled using the EIB and national promotional bank financing. The EIB also offers support for energy transition outside the Just Transition Fund. It is important to consider the potential revenues from the sale of the emission allowances under the ETS to support investments.

If such a financing model were to prove impossible (for example, there would not be a 'replacement' for the asset), EU support could assist in covering decommissioning costs, similar to nuclear power decommissioning in some of the member states. This option, however, is a last resort.

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