

# Social and labour market impact of the green transition

## SUMMARY

The European Union's (EU) climate policies, part of the European Green Deal put forward by the von der Leyen Commission, will have profound consequences for other policy areas. During the 2019-2024 legislative term of the European Parliament, the EU adopted an overarching objective to cut net greenhouse gas emissions by at least 55 % by 2030, and achieve climate neutrality by 2050. This entails changing the way energy is produced and consumed in the EU, with knock-on effects for individual citizens, households, and businesses.

This briefing explores and maps out some of the social consequences of the Green Deal, focusing in particular on the effect the green transition will have on labour markets. It also touches briefly on the housing and transport sectors. The briefing's purpose is to offer an overview of the most important impacts in these areas, without pretending to be a full study. For reasons of brevity, it leaves out or touches only briefly on other important dimensions, such as education and gender.

While insufficient action in the face of climate change would lead to significant costs as well as severe consequences for human life and the natural environment, the design of climate policies poses distributional challenges for individuals, and at a systemic level for different regions and industrial sectors. While studies on the Green Deal's labour market consequences are often limited to the aggregate level, this 'macro' perspective can hide significant regional and sectoral diversity.

Existing EU funds and instruments have been designed to buffer against negative social consequences, particularly by providing upskilling opportunities, but their scope and size is limited. As the EU has only relatively limited competences in the area of social policy,<sup>1</sup> significant policy action at national and regional level is unavoidable. The convergence and coordination of policy and funding instruments is crucial. Success or failure of regional, national, and European responses will be determined by the ability of policymakers to set up an integrated policy framework comprising social, labour market and industrial policy elements.

# GREEN DEAL

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## State of play of EU climate policies

With the [European Green Deal](#), the EU outlined an ambitious strategy to fulfil its commitments under the [Paris Agreement](#) on climate change. In legislative terms, the basis of the Green Deal is the [European Climate Law](#), which sets an overarching goal of reducing net greenhouse gas emissions by 55 % by 2030 compared to 1990 levels, and for the EU's greenhouse gas emissions to be equal to or lower than their removals by 2050 ('net zero'). To fulfil these headline goals, the EU adopted a range of legislative measures collectively known as the ['Fit for 55' package](#). These include an [enlarged emissions trading system \(ETS\)](#), which, for the first time, covers the building sector and transport emissions. Other legislative acts adopted or revised during the 2019-2024 parliamentary term set higher targets for [energy savings](#) and [renewable energy](#) as well as rules on the [energy efficiency of buildings](#). The Fit for 55 package also sets up a new Social Climate Fund in addition to existing funding tools such as the Just Transition Fund. Together, these measures are projected to allow the EU to reach its climate goals for 2030 and 2050 respectively, and help avoid the most severe consequences of a rapidly changing climate.

Climate change has already led to significant costs, globally and in EU Member States, not to mention the risk to human health and our planet as a whole.<sup>2</sup> According to the [European Environment Agency](#), 'between 1980 and 2022, weather- and climate-related extremes caused economic losses of assets estimated at EUR 650 billion in the EU Member States, of which EUR 59.4 billion in 2021 and EUR 52.3 billion in 2022'. This correlates with findings in the [6<sup>th</sup> Assessment Report](#) by the Intergovernmental Panel on Climate Change (IPCC), which warns, with medium to high confidence, that 'every region in the world is projected to face further increases in climate hazards', leading to hazards and risks such as increased heat-related deaths, the spread of diseases, flooding, biodiversity loss and a decrease in food production – all of which, beyond individual suffering, will add to the socio-economic costs of climate change. As the [fastest](#) warming continent, with temperatures rising at around twice the global average, Europe is no exception.

As well as slowing down the warming of our planet, climate policies can have other beneficial outcomes, for example by lowering air pollution, thus helping to improve citizens' health. According to the Commission's [impact assessment](#) for the Fit for 55 package, achieving 55 % net greenhouse gas emission reductions lowers combined air pollution by 60 % by 2030 compared to 2015, which in turn reduces the annual number of premature deaths due to air pollution in the EU by more than 100 000. According to a [study](#) by the European Environment Agency, the estimated external cost of industrial air emissions between 2012 and 2021 was in the range of €268 billion to €428 billion per year.

## Climate policies and housing

Despite its positive effects overall, the green transition will have an impact on individual citizens, households and businesses, and it requires their active involvement in turn, for example in the form of the [EU Climate Pact](#) initiative. Housing is an area where the impact of climate change policies is likely to be felt directly by citizens, due to higher **energy prices** for fossil-based heating and demands to reduce the energy consumption of buildings. This poses a particular challenge for lower-income households, which spend a larger share of their income on energy. Between 2019 and 2022, low-income groups spent on average [10-13 %](#) more on energy than the highest income groups, whose energy spending increased by only 5-7 % in the same period. This difference might be due to low-income groups not having the same possibility to invest in energy-saving measures.

Russia's invasion of Ukraine, which led to a sudden spike in prices for electricity and gas, has put a renewed focus on energy poverty. According to [EU statistics on income and living conditions](#), around [9.3 %](#) of EU households said they were unable to keep their home adequately warm in 2022. However, there is no unified EU-level definition of [energy poverty](#). Energy poverty has negative impacts on health, wellbeing, social inclusion, and quality of life. People affected by energy poverty suffer from inadequate comfort and sanitary conditions, such as unsuitable indoor temperatures,

bad air quality, and related issues such as exposure to harmful chemicals and materials, which may lead to lower productivity, health problems and higher mortality. Future costs for heating will also reflect the fact that, with the [revision of the EU's emission trading system](#), a separate self-standing emission trading system for fuel distribution for road transport and buildings (ETS II) will be progressively established, likely pushing up prices for building fuels. After the start of a monitoring phase in 2025, ETS II will become fully operational in 2027, although the start of the ETS II system could be postponed to 2028 in case of exceptionally high gas or oil prices in 2026.

Rising prices for heating fuels add importance to **energy efficiency** measures, again affecting low-income households in a disproportionate manner. To cut emissions in the buildings sector, which constituted [35 %](#) of energy-related EU emissions in 2021, the [Energy Performance of Buildings Directive](#) aims for a reduction in primary energy use in residential buildings by at least 16 % by 2030. Poorer households may find it more difficult financially to retrofit their homes and benefit from technologies such as heat pumps, which often provide significant energy savings in the long run but come with high upfront costs – as do solar panels, which significantly lower the climate impact of homes. Without financial support, inequalities are therefore likely to rise.

There are also significant differences between Member States. According to a [2023 European Commission report on access to essential services](#), the inability to keep one's home adequately warm ranged from 1.4 % in Finland to 22.5 % in Bulgaria in 2022. If the impact of high energy prices differs from Member State to Member State, so does their capacity to provide public support. Central and eastern European countries have a [higher share of EU funding](#) for renovation and energy efficiency measures relative to national co-financing. The EU-funded share as a percentage of total expenditure for such measures is as high as 85 % in Croatia, Hungary, Latvia and Lithuania, while in Austria only 32 % of measures are paid for by EU funding.

## Climate policies and road transport

Electrifying road transport is a key plank of EU climate policies, since the sector accounted for around [22 %](#) of the EU's greenhouse gas emissions in 2022. Just as is the case for housing, road transport fuels will, in the future, fall under the ETS II emission trading system, likely pushing up end-consumer prices for petrol and diesel fuel. The [updated CO2 performance standards for cars and vans](#) require all newly registered cars to meet zero emission standards by 2035, and also contain tougher intermediate targets. As a consequence, climate policies will have a significant impact on mobility costs and mobility patterns, while putting the urban-rural divide in the spotlight. Transport-related inequalities could aggravate [transport poverty](#), described as situations in which citizens lack transport options (no availability) or are unable to meet the cost of transport.

This inequality could be reinforced by [surging](#) prices for real estate and rent in urban areas. To the extent that lower-income households are pushed out of increasingly expensive urban areas, their mobility requirements increase. This effect is further amplified by the fact that lower-income households are less [likely](#) to drive electric cars. While many Member States subsidise the purchase of electric cars, poorer households buy new cars less frequently, thus benefiting less from electric car subsidy programmes. Current electric vehicles (EVs) are generally more expensive than internal combustion engine cars, although lifecycle costs tend to be lower thanks to lower energy and maintenance costs. A key tipping point will be the moment when electric vehicles achieve price parity with conventional petrol or diesel cars. The International Energy Agency estimates in its [2024 Global EV Outlook](#) that this could be the case in Europe during the 2025-2028 period, though significant uncertainties remain, not least in relation to the geopolitical environment, including possible tariffs on imported cars.

## Climate policies and the labour market

The green transition, in combination with the [digital transition](#), is likely to change a significant number of job profiles. Carbon-intensive industries are most impacted, but the effects of the twin transition on the labour market will touch a wide range of sectors and skills profiles. Calculating the precise effects is difficult, however. EU-wide impact assessments focus on aggregate effects, mostly long-term, and give an idea of the range of sectors affected and dynamics at play, but estimating the precise impact of the twin transition requires a much more granular sectoral or regional perspective.<sup>3</sup> While such a level of granularity would be beyond the scope of this briefing, it will highlight several key variables influencing the nature, speed and depth of the transition. Table 1 provides a selection of existing studies on the **aggregate employment effects** of the green transition by the European Commission, Eurofound and the European Centre for the Development of Vocational Training (CEDEFOP), all of which look at overall effects on all EU countries and all sectors of the economy.<sup>4</sup>

Table 1 – Selected studies on the economic and social impact of the European Green Deal

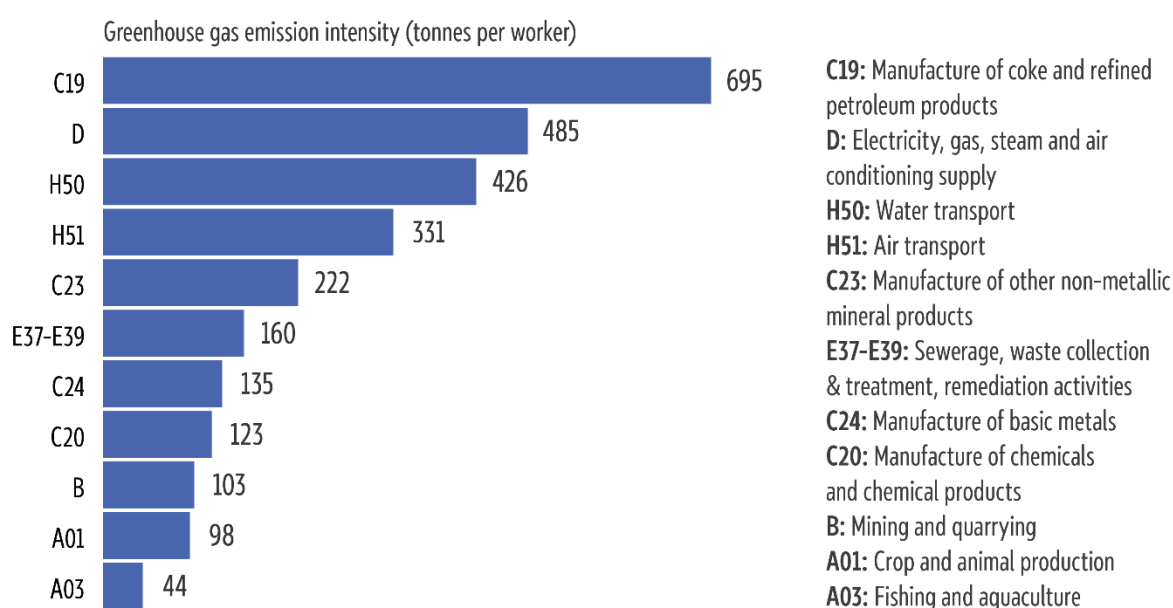
Study	Results
<a href="#">European Commission (2020) – Impact Assessment</a>	<p>Overall employment effects in 2030 estimated to be in the following range (deviations from 2019 baseline of a reduction of emissions by 'at least 40%'): -0.43 % to +0.6 %.</p> <p>JRC-GEM-E3<sup>5</sup>: Worst-case scenario implies GDP losses of around 0.7 % by 2030 under a setting where the EU achieves a 55 % level of GHG ambition and the rest of the world also steps up its ambition relative to NDCs.</p> <p>E3ME: 0.12 % to 0.55 % GDP increase with a 0.01 % to 0.23 % increase in jobs.</p> <p>E-QUEST: GDP varies between a 0.29 % loss and a 0.13 % gain, and employment between -0.09 % and +0.45 %.</p>
<a href="#">CEDEFOP (2021)</a>	<p>Net employment gain throughout the period (2020-2030).</p> <p>In 2030: Employment will be 1.2 % higher (2.5 million additional jobs) compared to 2020 baseline (pre-COVID-19) skills forecast.</p>
<a href="#">Eurofound (2023)</a>	<p>Marginal positive employment effects on aggregate (0.1 % positive deviation from baseline, i.e. 204 000 net jobs until 2030) with strong regional, occupational and sectoral differences (e.g. negative effects in Poland and Romania, and positive effects in Spain, Italy and France).</p> <p>Even better outcomes (+0.36 %, i.e. 743 000 jobs) if carbon tax revenues are used to lower social security contributions.</p> <p>Construction sector is mainly responsible for offsetting negative employment effects (not the case in the crowding-out scenario, in which households and firms have to cancel competing expenditures to find the finance for energy and climate investments).</p> <p>Overall trend is improvement in job quality (measured by wages), but additional job growth compared to baseline is mainly in low- and middle-paid jobs (construction sector).</p>
<a href="#">Joint Research Centre – Asikainen et al. (2021)</a>	<p>Shifts in sectoral employment which could net out, and quality of green jobs does not differ systematically from the quality of 'brown' jobs.</p> <p>Substantial impact of transition on some sectors (decrease in coal, oil, gas sector by 20.7 % to 22 %), overall impact on job reallocation will be limited: 80 % of carbon is emitted by sectors which account for only 8% of total employment.</p>

All four studies point towards important conclusions.

First, the overall impact of the green transition on the number of jobs is likely to be either slightly positive, or job losses are likely to be relatively limited. The majority of studies predict small positive aggregate employment effects by 2030 in a corridor ranging between a decrease of 0.4 % to an increase of 1.2 %. The variation partly depends on whether and how carbon tax revenues are redistributed. Overall, these scenarios correlate with calculations by the International Monetary Fund in its [2022 World Economic Outlook](#).

Second, the limited aggregate impact of the green transition on output and employment in most studies can be explained by a relatively small number of carbon-intensive jobs, but these will be affected disproportionately. Most jobs in the EU are in so-called 'white' sectors generating few CO<sub>2</sub> emissions and not tied to energy-intensive activities, while the majority of emissions are concentrated in a [relatively small number of sectors](#) (see Figure 1). In 2021, employment in 'brown' sectors<sup>6</sup> ranged between [3 % and 10 %](#) in most EU Member States. The aggregated view provided by these studies is therefore likely to hide significant sectoral, occupational and regional disruptions.

Figure 1 – Sectors in the EU-27 with the highest greenhouse gas emissions per worker (2020)



Source: [Vandeplas et al. \(2022\)](#), based on Eurostat, Air Emissions Accounts.

Zooming in on the **regional level** might give a glimpse of the highly diverse effect of the green transition. In about 5 % of EU NUTS-2<sup>7</sup> level regions, more than [20 %](#) of employment is in highly polluting 'brown' industries, while most EU Member States record employment in brown activities ranging between 3 % and 10 %. In seven regions, all located in Greece or Romania, employment in highly polluting industries concerns up to [25 % to 31 %](#) of all jobs.

Regions with high levels of carbon-intensive 'brown' employment often share a number of characteristics. They tend to have a relatively [underdeveloped transport infrastructure](#), not least due to their often rural geography or distance to their respective capitals or large agglomerations. Per capita income is often below [65 %](#) of the EU average. At the same time, many of these regions are highly exposed to climate impacts. This is especially the case for southern and south-eastern Europe, which is more [exposed](#) to severe effects such as droughts or wildfires. Such regions thus often face a double dilemma of a significant climate-change impact coupled with high transition costs.

On the other hand, the green transition might generate opportunities for regions which benefit from being the source of new (renewable) energy production or centres of clean tech manufacturing – especially if they build on or manage to create [cluster effects](#). Prosperous regions might benefit from a head start thanks to pre-existing local technological capabilities or other factors such as the existence of infrastructure. It is noteworthy that regional differences are

significant, with the most innovative regions in the EU being in northern, north-western, and parts of central Europe according to the Commission's [Regional Innovation Scoreboard 2023](#). This indicates that green technological innovation might have a significant impact on centre-periphery tensions and polarisation within EU economies.

**Sectoral differences** are relevant both on the aggregate and on the local level. Reducing dependence on fossil fuel and carbon-intensive products will lead to significant shifts within sectors and between sectors. A 2022 European Commission discussion paper identified the most [emission-intensive sectors](#) per worker in the EU-27 as 'Coke and Refined Petroleum Products', 'Electricity, gas, steam and air conditioning supply', and 'Water and Air Transport' (see Figure 1), although this methodology groups diverse sectors and might obscure significant within-sector differences. Indeed, the macroeconomic models often do not reflect within-sector changes. The electricity sector in Figure 1, for example, might see both significant job losses in fossil fuel-based power plants and new jobs being created around wind or solar energy. Here, too, it depends on geography as well as regional, educational, industrial and other policies whether 'green' jobs are created in the same location as 'brown' jobs.

In 2021, 'brown' jobs in highly polluting activities concerned [5.7 %](#) of total EU employment. Employment in coal and lignite mining is expected to decline further, with a significant local impact, but at EU level it represents only around [0.1 %](#) of total employment. Other 'brown' jobs could be transformed, as certain inputs from sectors such as metal mining and chemical/metal manufacturing may still be required. Overall employment in the coal, oil and gas sectors is projected to fall by up to [22 %](#) by 2030, with significant differences between countries and sectors. In Poland, mining sector employment is expected to drop by [48 %](#) below 2019 levels. As one of the largest sectors overall, manufacturing will undergo profound changes and is, in absolute terms, the sector with the largest expected employment losses for many countries. Within manufacturing, Eurofound [projects](#) that employment will shift away from the automotive industry towards the production of low-carbon technologies, such as wind turbines and energy-efficient domestic appliances. Positive employment effects are projected in construction, not least due to growing demand for building insulation and the need to install renewable energy generation capacity. Employment in the service sector is also predicted to be positively affected by demand generated by additional investments.

The green transition goes hand in hand with the digital transition, with implications not only for the *quantity* but also the *quality* of jobs. Very generally, new skill needs for 'green' job profiles are often met by [shifting](#) employment from lower skilled jobs to highly skilled jobs, with the construction sector being a notable [exception](#). More broadly, however, a transition-related skills-gap seems likely, which creates the need for reskilling and retraining. The green transition is also expected to affect jobs through the adoption of more environmentally friendly work practices and [greener task configurations](#). In these sectors, the green transition leads to a '[greening](#)' of existing skill profiles and tasks rather than a reallocation of employment.<sup>8</sup>

## EU funding

EU funding to mitigate social and labour market consequences of the green transition is spread over a range of instruments. Table 2 below gives an overview of some of the most widely used and well-known funds. For a full list of EU funding instruments, see the [EPRS Guide to EU Funding \(2023\)](#).

Directly linked to EU climate policies is the [Social Climate Fund](#), which provides €65 billion in EU funding over the 2026-2032 period for vulnerable households, micro-businesses and transport users to counter the additional costs they may face when the emission trading system is extended to the buildings and road transport sectors, and also requires Member States to draw up social climate plans. More targeted is the [Just Transition Fund](#) (JTF), which is part of the [Just Transition Mechanism](#). The JTF's aim is to support EU regions most affected by the transition to a low-carbon economy. Two additional instruments within the Just Transition Mechanism, the InvestEU 'Just Transition' scheme under the InvestEU programme and a new Public Sector Loan Facility, are expected to mobilise

€10 billion to €15 billion in mostly private sector and €18.5 billion in public investments, respectively.

The EU's COVID recovery fund, [NextGenerationEU](#), also contains a significant element of climate financing, with its main funding programme, the [Recovery and Resilience Facility](#), requiring Member States to spend a minimum of 37 % of overall expenditure on climate-related objectives. This target has been met or exceeded in all Member States, ranging from 37 % in Italy, Latvia, and Greece to 69 % in Luxembourg. However, the underlying RRF regulation lacks a common definition of climate action. Significantly, its cross-border projects remain relatively [limited](#) despite the transnational nature of climate change.

Climate-related EU funding also forms part of the traditional EU cohesion policy spending programmes, which can be used to finance green transition projects. The goal of [territorial cohesion](#) is promoting balanced and harmonious territorial development between and within countries, regions, cities and municipalities. The largest fund in this group is the [European Regional Development Fund](#) (ERDF), which invests in the social and economic development of all EU regions and cities. The [European Social Fund Plus](#) (ESF+) supports jobs and creates a fair and socially inclusive society in EU countries. The [Cohesion Fund](#) (CF) invests in environment and transport in the less prosperous EU countries. The Modernisation Fund supports the modernisation of energy systems and the improvement of energy efficiency in 13 lower-income EU Member States.<sup>9</sup>

Finally, the EU invests in climate-related innovation, for example through the [Innovation Fund](#), financed by ETS revenues, which invests in the development of low-carbon technologies. The [InvestEU](#) programme is designed to foster sustainable investment, innovation and job creation. [Horizon Europe](#) is the EU's key funding programme for research and innovation, and includes, for example, the Adaptation to Climate Change mission. Two smaller funds relevant for reskilling are the [European Globalisation Adjustment Fund for Displaced Persons](#) for EU workers or self-employed people who have been displaced due to restructuring, and the [Research Fund for Coal and Steel](#) to support research and innovation projects in the areas of coal and steel.

Table 2 – Selected EU funds providing economic and social support for the green transition

Fund	Purpose	Budget (€ billion) Current prices	Timeline
<a href="#">Just Transition Fund</a>	Based on Just Transition Plans by Member States, it supports upskilling and reskilling of workers, job-search assistance, as well as investment in energy infrastructure, SMEs and research.	19.32 (8.45 from the EU budget, 10.87 from NGEU)	2021-2027
<a href="#">Social Climate Fund</a>	Based on Social Climate Plans drawn up by Member States, it supports measures for energy efficiency, building renovation, zero- and low-emission mobility and transport, and greenhouse gas emission reductions, as well as supporting vulnerable households, micro-enterprises and transport users. Measures may include direct income support to absorb the increase in road transport and heating fuel prices. Financed mainly by assigned revenues from the auctioning of emission allowances under the ETS.	65	2026-2032

Fund	Purpose	Budget (€ billion) Current prices	Timeline
<a href="#">Recovery and Resilience Facility</a>	Funded by the NextGenerationEU instrument, the RRF was set up to provide grants and loans to Member States to support the economic recovery from the coronavirus pandemic. At least 37 % of the expenditure has to contribute to the green transition, including biodiversity. Investment has to be based on Recovery and Resilience Plans submitted by Member States and which must include specific milestones.	338 (grants) + 385 (loans)	2021-2027
<a href="#">European Regional Development Fund (ERDF)</a>	Investment in energy efficiency, energy systems and grids, and digital skills, as well as promoting the transition to a circular economy and fostering social, economic and environmental development in urban areas, for example by providing support to education services.	226	2021-2027
<a href="#">European Social Fund Plus (ESF+)</a>	Support for social projects and labour mobility, particularly for job seekers, modernising labour market institutions and services, and support for education and training, including vocational training and adult learning.	99.26	2021-2027
<a href="#">Cohesion Fund</a>	Support for projects in the field of environment and trans-European networks, including local and regional as well as cross-border mobility.	48	2021-2027
<a href="#">Modernisation Fund</a>	Modernisation of energy systems and improvement of energy efficiency in 13 lower-income EU Member States. Financed by revenues from the auctioning of emission allowances under the ETS.	57	2021-2030
<a href="#">Innovation Fund</a>	Financed by ETS revenues for demonstration of innovative low-carbon technologies.	40	2020-2030
<a href="#">InvestEU</a>	Investment scheme for sustainable investment, innovation, and job creation.	10.28, of which 6.07 under NGEU (aim: to mobilise a total of €372 billion of investment)	2021-2027
<a href="#">Horizon Europe</a>	Horizon Europe is the EU's main funding programme for research and innovation.	95.5, of which 5.4 under NGEU	2021-2027
<a href="#">European Globalisation Adjustment Fund for Displaced Persons (EGF)</a>	For EU workers or self-employed people whose jobs have been lost (minimum threshold 200 jobs lost) due to restructuring, with the aim of helping them to find new jobs. EGF support includes advice for job seekers, education and training initiatives and support for business creation.	Annual ceiling 0.21	2021-2027



Fund	Purpose	Budget (€ billion) Current prices	Timeline
<a href="#">Research Fund for Coal and Steel</a>	Supports research and innovation projects in coal and steel, financed by revenues generated by the European Coal and Steel Community (ECSC) in liquidation assets.	0.78	2021-2027
<a href="#">LIFE Programme for the environment and climate action</a>	Support for a sustainable, circular and resilient economy, and actions to protect and restore the environment, and to halt and reverse biodiversity loss.	5.43	2021-2027

## Outlook at EU level

The green transition requires regions, sectors and the labour market to adapt. As the above analysis has shown, adaptation costs differ between regions, sectors and employment profiles. While policy responses have to be tailored to local and regional specificities, it is clear that they need to be multidimensional. A one-size-fits-all model does not exist.

Local, regional and national governments have an important role to play in putting into place a comprehensive and proactive policy framework, which builds on and leverages strengths, reduces weaknesses, and buffers against negative shocks. Part of the response has to be a social policy that responds to the needs of citizens and households most impacted by the green transition, as outlined in a joint [policy briefing](#) by the European Environment Agency (EEA) and Eurofound which argues for policies that lower greenhouse gas emissions while also aiming to reduce social inequalities and maximise non-financial co-benefits in areas such as health.

Beyond its ability to help buffer against negative consequences, the European Union can help to foster growth and employment opportunities in a 'green' economy. This is the aim of the European Commission's [2023 Green Deal Industrial Plan for the Net-Zero Age](#). Its four dimensions (see Figure 2) comprise faster access to sufficient funding for companies, adequate skills in the workforce, open trade and export opportunities for Europe's businesses, and a predictable and simplified regulatory environment.

Figure 2 – European Commission Green Deal Industrial Plan



Source: European Commission [Green Deal Industrial Plan](#).

This policy debate takes place against the backdrop of renewed interest in the deepening and completion of the single market, as called for by the [Letta report](#). Another dimension is industrial policy, where the European Parliament, in a [February 2023 resolution](#), called for an EU strategy to boost industrial competitiveness, trade and quality jobs to complement legislation such as the [Net-Zero Industry Act](#). The resolution stressed the importance of enhancing the EU's manufacturing capabilities in key strategic technologies, such as solar and wind energy, heat pumps, electricity grids, batteries, long-duration energy storage, electrolyser manufacturing for renewable hydrogen and pre-fabricated sustainable building material. It also highlights the importance of training and reskilling workers, and calls for a reduction in unnecessary regulatory burdens as well as the establishment of a predictable and simplified regulatory environment. In order to finance the green transition, Parliament pronounced itself in favour of a European sovereignty fund.

Such demands give rise to a number of broader challenges which the EU needs to address.

First, regarding the governance of climate policies, the EU should strive towards complementarity and avoid contradictory policies which might hinder objectives being reached. One [barrier](#) for successful collective action is a lack of coordination between overall climate targets set at EU level and policy decisions taken mostly at national level. To coordinate between the EU and the national level, National Energy and Climate Plans (NECPs) were introduced in 2018. EU countries need to outline the measures they plan to reach the EU climate and energy targets. However, the Commission found in its [assessment of the draft NECPs](#) that some Member States were late in submitting final plans, while the combined ambition fell short of overall targets. The European Court of Auditors noted that [NECPs lack data on investment needs](#) and funding sources.

Second, removing bottlenecks and improving key infrastructure is key for greater efficiency and economies of scale. An example would be the infrastructure necessary to underpin the green transition, such as expanding cross-border electricity grids that allow for more green energy to circulate between Member States and contribute to greater resilience of electricity grids against blackouts. It is for this reason that the conclusions of the [European Council of 17 and 18 April 2024](#) called for better cross-border connectivity and high-quality infrastructure.

Third, the question of funding is a central challenge, as increased borrowing costs are putting [pressure](#) on both EU and Member State budgets. More private and public investment will be necessary to rapidly scale-up renewable energy production, increasing energy efficiency, or green tech manufacturing. The development of a true European capital market union will be important to unlock cross-border private investment in the green transition. However, the EU also has to decide to what extent it needs to, and can, provide public financing in the face of budgetary constraints. The size and priorities of the next multiannual financial framework (MFF) will be of particular importance in this regard. The question of funding is also relevant for reskilling and education policies, an area where the EU only has limited competences.

These three points are just some of the policy challenges triggered by the green transition. They are listed here as exemplars, since they interact most closely with questions central to EU policymaking. This briefing could not cover other important dimensions such as education policy or gender. What the examples above show, however, is that successful green transition policies require well thought-out policies balancing regional, national, sectoral and other specificities against the need to ensure implementation of overall targets previously set at EU level. Given the complex and diverse requirements and consequences of the green transition, such a holistic policy mix has to include social, labour, industrial and educational policy elements.

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## ENDNOTES

- <sup>1</sup> According to Article 4 of the [Treaty on the Functioning of the European Union](#), social policy is a shared competence 'for the aspects defined in this treaty'. For the general principles of social and employment policy at EU level, see this [fact sheet](#).
- <sup>2</sup> For the effects of climate change on Europe, see, for example, the [European State of the Climate report 2023](#), which notes that 2023 was the second-warmest year on record for Europe.
- <sup>3</sup> The gender dimension is not covered here. For example, the [risk of poverty or social exclusion](#) in the EU was higher for women than for men.
- <sup>4</sup> A number of academic studies also confirm these results. See, for example, [Varga et al. \(2022\)](#), [Jaumotte et al. \(2021\)](#), [Alexandri et al. \(2024\)](#), and [Cambridge Econometrics \(2021\)](#).
- <sup>5</sup> JRC-GEM-E3, E3ME, and E-QUEST are three commonly used macroeconomic models, based on different assumptions. In JRC-GEM-E3, wages are assumed to be more flexible and the economy operates in equilibrium with full utilisation of resources (no spare capacity). In E3ME, there is no full capacity utilisation (unused resources to begin with). Finally, E3ME is a structural macro-model in the New-Keynesian tradition, with frictions in goods, labour and financial markets.
- <sup>6</sup> There is no standardised classification of 'brown' or 'green' jobs, and these labels might hide significantly divergent job profiles. It is possible, for example, for a 'brown' sector to contain 'green' job profiles working towards low or even zero greenhouse gas emissions.
- <sup>7</sup> NUTS-2 regions have between 800 000 and 3 million inhabitants and are the basic regions for the application of regional policies.
- <sup>8</sup> [Copeland et al. \(2022\)](#) show that a large part of emission reductions that occurred as production processes were greening in advanced countries over the period 1995-2009 were due to changes at the task level within industries rather than due to a change in the composition of industrial activities. Moreover, some 'white' jobs might see growth as a result of the green transition (e.g. bus drivers, if the demand for public transit grows).
- <sup>9</sup> The beneficiary Member States are Bulgaria, Czechia, Estonia, Greece, Croatia, Latvia, Lithuania, Hungary, Poland, Portugal, Romania, Slovenia and Slovakia.

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