



OFTEN DRIVERS OF ACTION, LOCAL AND REGIONAL GOVERNMENTS ADAPT THE PACE OF THE TRANSITION TO MATCH THE NEEDS AND CAPACITIES OF THEIR COMMUNITIES

Local and regional governments (LRGs) set to be key players in climate action through their post-2020 commitments

RACE TO ZERO

In total, 1,049 cities and 67 regions have committed to Race to Zero, the global campaign launched by UN High-Level Climate Champions Nigel Topping (COP26) and Gonzalo Munoz (COP25) in 2020 to mobilize non-state actors towards net-zero emission by 2050.

[UNFCCC](#)

1,116



>1,500
MtCO₂e/year

LRGs IMPACT POTENTIAL

In ten major emitting economies, the impact of fully implemented, recorded and quantified commitments on global greenhouse gas emissions in 2030 would be reductions of more than 500 MtCO₂e/year for cities, and more than 1,000 MtCO₂e/year for states and regions. [NewClimate Institute, 2021](#)

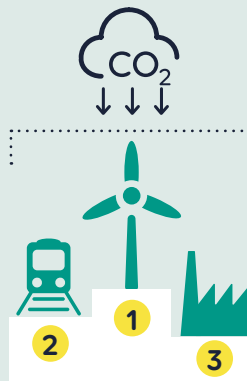
Renewable energy, a key factor in reducing emissions from cities and regions

834
cities



NUMBER OF CITIES HAVING ADOPTED A RENEWABLE ENERGY TARGET

834 cities had, as of 2020, adopted an objective in terms of renewables in at least one sector. 617 set objectives of 100% renewables for their energy procurement. [REN21, 2021](#)



FACTORS IN REDUCING EMISSIONS FROM REGIONS

The deployment of renewables is the main factor highlighted by European regions reporting a recent decrease in emissions to the CDP in 2021, followed by transport and industry.

Climate chance, from [CDP, 2021](#)

Learning from Covid, local governments encourage modal shifts towards soft mobility

1,441
km



NEW CYCLE LANES IN EUROPE

1,441 km of new cycle lanes were created in Europe between March 2020 and April 2021, out of 2,591 km announced by cities. [European Cyclists' Federation, 2021](#)



231
cities

low-emission zones



CITIES WITH A LOW-EMISSION ZONE

231 cities, among which 225 are in Europe, have a low-emission zone. This is 11% more than in 2019. [REN21, 2021](#)

In the building sector, local regulation accelerate the decarbonation



CALIFORNIAN CITIES HAVING ADOPTED MEASURES SUPPORTING THE ELECTRIFICATION OF HEATING IN NEW BUILDINGS

In February 2022, Contra Costa County became the 54th Californian city/county to adopt a measure supporting electrification or prohibiting gas in new buildings. [Sierra Club](#)

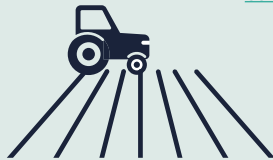
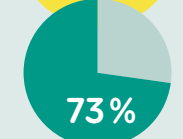


CITIES HAVING REPORTED THE IMPLEMENTATION OF BUILDING EMISSIONS MITIGATION ACTIONS TO CDP

These actions include renovation, adoption of energy codes, standards or regulations for construction or renovation, or even programmes for reporting emissions.

Climate chance, from [CDP, up, 2021](#)

Facing climate change risks, LRGs are developing their adaptation action



ADAPTATION ACTIONS THROUGH THE EUROPEAN COVENANT OF MAYORS

2,376 adaptation actions have been submitted to the European Covenant of Mayors by its 10,868 signatories. 73% of them are related to agriculture.

[CoM Europe](#)



CITIES AND REGIONS WITH AN ADAPTATION PLAN AMONG THOSE REPORTING TO CDP

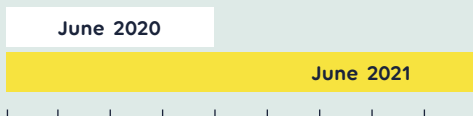
More than half of the cities (57%) reporting to CDP in 2020 and of the regions (53%) reporting in 2021 have an adaptation plan.

Climate Chance, from [CDP, 2021](#) and [CDP, 2021](#)

SIGNATORIES OF REGIONSADAPT

7 new regions have joined this initiative coordinated by the Regions4 network in 2021, bringing the total to 77. They are committed to developing, implementing and monitoring an adaptation plan.

Several years after their adoption by the States, the Sustainable Development Goals (SDGs) are permeating LRGs' actions



NUMBER OF VOLUNTARY LOCAL REVIEWS (VLRs)

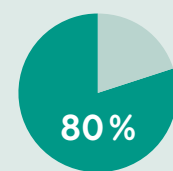
The total number of VLRs worldwide has doubled in one year (from approximately 40 VLRs in June 2020 to more than 100 in June 2021). In these documents, local governments assess the progress of the SDGs in their territories. [UCLG, 2021](#)



NUMBER OF VOLUNTARY SUBNATIONAL REVIEW

In 2019-2020, some 30 regions published a Voluntary Subnational Review, a new approach at this tier.

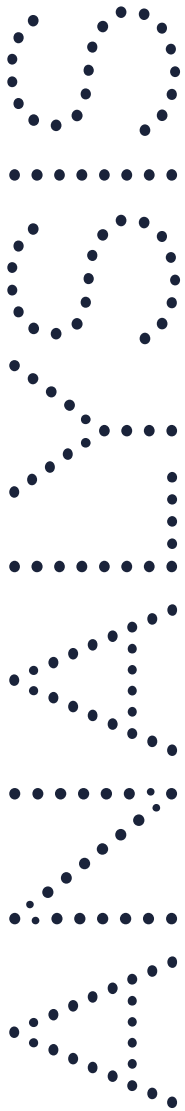
[Regions4, 2021](#)



SHARE OF EUROPEAN COMMUNITY NETWORKS THAT ARE AWARE OF THE SDGs

This share is slightly higher than last year.

[CEMR, Platforma, 2021](#)



European Regions Illustrate the Central Role of Local and Subnational Governments in a Just Transition Towards a Low-carbon Economy

Regional and local governments around the world are subject to the same general trend as other non-state actors: acting to mitigate climate change is ever more urgent, as is the need to anticipate and adapt to its increasingly visible impacts. Caught between dictates, local authorities are innovating: rather than separating their action between climate change mitigation and adaptation, more and more of them are setting up measures that combine both, from electricity supply to transport, and nature in cities. The first part of this analysis takes a closer look at this phenomenon.

In Europe, recent years have also seen a turning point in climate policies, with the launch of the European Green Deal in late 2019, the start of a new multi-annual financial framework (MFF) in 2021 and the setting up of the European recovery plan to help Member States to face difficulties due to the Covid-19 pandemic. Although the Recovery Plan for Europe, supposed to create a "green, digital" Europe, gives nation states a driving role, the climate dimension of the EU Cohesion Policy, which is aimed at regions, gains strength with the Green Deal. The second part of this analysis – the longest – aims to analyse the role that the EU gives to regions for reaching carbon neutrality, and the concrete action taken by regional and subnational European governments to bring down their greenhouse gas emissions.



Climate action in one fell swoop: pushed by the Covid-19 pandemic, local governments take on mitigation while building resilience

Local and regional governments are key players in the reduction of greenhouse gas emissions

According to a study by the NewClimate Institute published in 2021, the aggregated emissions reduction targets set by cities in ten major emitting economies would result in a reduction of over 500 MtCO₂e/year in 2030, while the targets set by regions would result in a decrease of more than 1,000 MtCO₂e/year¹. According to the Coalition for Urban Transitions, greenhouse gas emissions in cities could be reduced by almost 90% by 2050 with measures that are both technically feasible and widely available². Moreover, local and regional governments (LRGs) are crucial in implementing climate measures: 70% of mitigation measures and 90% of adaptation measures cannot be implemented without them³. Whether directly (via the services proposed and the equipment they possess) or indirectly (as the organizing authority of the territory, able to influence its development), local governments can use numerous levers to reduce greenhouse gas emissions on their territories.

In addition, numerous national and international networks and initiatives exist to support LRGs in their climate action (**ref. Part III**). Through exchanging good practices, sharing resources, and setting common targets, these cooperation structures encourage and support action. According to the NewClimate Institute, if the climate targets set by the main international cooperation initiatives on climate (Global Covenant of Mayors, Under2 Coalition, etc.) were reached by all of their members, it would lead to a decrease of 2 GtCO₂e/year in 2030⁴.

Weaker finances and capacities for action due to the pandemic

The Covid-19 pandemic generated an unprecedented shock for local and regional governments (LRGs). They found themselves on the frontline to manage a health and social emergency, illustrating their indispensable role in ensuring access to key services. Nevertheless, the numerous impacts of the crisis reduced their revenues, especially from transport, and increased their emergency expenditure (health, social protection, basic services, etc.). In its 2021 barometer, the European Committee of the Regions (CoR) estimated that the pandemic triggered

an increase in expenditure by local and subnational European^a governments of around 125 billion euros for emergency public health measures and support for individuals and business. In parallel, the CoR observed a drop in their income of about 55 billion euros, due to a dive in economic activity and so revenue from taxes. This overall shortfall of 180 billion euros, on average 7% of their earnings, hides considerable national differences: LRGs in Germany, Bulgaria and Cyprus were the hardest hit, with losses representing respectively 15%, 15.3% and 25% of their income⁵.

The Cities Climate Finance Leadership Alliance also regrets that only a small amount (according to its analysis) of recovery plans have been directed towards local governments, even less so for their investment expenditure (which is generally related to climate action): in October 2020, of the 20,500 billion dollars that had been announced in the world for recovery by countries, development banks and the private sector, only 1,100 billion were partly or fully earmarked for cities, mainly (80%) to make up their short-term deficits⁶.

Yet local and regional governments have not put a stop to their climate action. It even appears to have slightly shifted during the pandemic: in the energy, transport and building sectors, several local public action trends are difficult to classify as actions to mitigate climate change (i.e. action aimed at reducing greenhouse gas emissions), adapt to climate change, or build resilience to tackle future potential shocks. Focusing on three subjects (renewable energy, urban transport and nature in cities), the Observatory looks here at three recent action trends by local governments that are innovating by moving away from the usual way of working in silos.

PPAs, a new way for cities to secure their renewable energy supplies

The pandemic has not stemmed the surge in Power Purchase Agreements (PPAs) observed since 2016. In general, PPAs are long-term contracts with fixed or variable prices, negotiated directly between producers and consumers (purchasers) of renewable electricity, without passing through an intermediate supplier. In 2021, PPAs represented 31.1 GW of installed production capacities of low-carbon electricity (+30% compared to 2020), which is about 10% of the renewable capacities installed in the world⁷.

^a The expressions "regional governments", "subnational governments" and "intermediate governments" are employed in this report interchangeably.



Highly popular with large companies, PPAs are increasingly attracting public actors, in particular big cities with significant financial resources. In total, between 2015 and 2020, the quantity of PPAs contracted by cities in the USA more than tripled, going from 1,062 MW (2015) to 3,306 MW (2020)⁸, during which time their price also rocketed⁹. Over that period, almost 90% of renewable electricity purchased by these cities was the object of a PPA¹⁰. In Europe, London has signed a 15-year PPA with the French renewable energy producer Voltalia. The city has committed to purchasing all of the electricity produced by a 50 MW solar farm being built in the county of Dorset (southern England)¹¹. In Australia, thanks to a PPA, the municipality of Melbourne has met 100% of its energy consumption from its renewable energy infrastructures since 2019. In 2020, the city facilitated the signature of a second PPA involving seven local actors that will avoid the equivalent of 1 MtCO₂ over the project's 10-year lifespan¹².

PPAs are a way of reducing emissions, bringing down costs and securing supply. In most cases, the capacities that are the object of the PPA have not yet been installed: the contract helps the producing company to finance the project, while the purchaser saves money in supply costs (about 3 million Pounds in the case of London¹³). The PPA therefore appears to be a way of securing both the amortization of developers' investments in renewable installations, and supply for consumers keen to move towards renewable energy – and this security could become all the more interesting following the hike in energy prices seen in Europe at the end of 2021¹⁴.

Weakened by the pandemic, public transport is diversifying its fleets and financing models

From Hong-Kong to Sao Paulo, and London to San Francisco, most urban public transport systems have been hit hard by the crisis¹⁵. Local governments have deployed a wide range of measures to revive public transport with a move towards softer modes and ensure the resilience of their service system.

Electric buses have gained ground on every continent. Despite the health crisis, global sales of electric buses soared from 2019 to 2020 (+11.54%)¹⁶. In Latin America, numerous cities have set about converting their bus fleets to electric: Bogota purchased 406 electric buses in 2020, and Mexico 193¹⁷. Through the Cities Finance Facility, a technical and financial support tool for climate projects, the C40 network has assisted the rollout of electric buses in Quito (Ecuador), Guadalajara (Mexico), Jakarta (Indonesia) and Bangalore (India) (**ref.Part III C40**). In the European Union, according to the European Alternative Fuels Observatory, about 8,000 electric or hybrid buses were in circulation in 2021, about a third more than in 2020¹⁸. From Finland¹⁹ to Italy²⁰, just like in Latin America, the Chinese manufacturer BYD won the lion's share of calls for tender launched by big cities. A study on the city of Trondheim (Norway) published in 2021 showed that the conversion of part of its bus fleet to biofuel or electricity enabled a 37% reduction in the fleet's carbon footprint²¹.

In parallel, the crisis has considerably accelerated the development of alternative modes of mobility for individuals, led by the bicycle. The European Cyclists' Federation (ECF) reports 2,591 km of bike-friendly infrastructures announced on the European continent since March 2020, 1,466 km of which have already been installed (**fig. 1**). Cycling infrastructures are also emerging in Africa, like in Nairobi (Kenya), which in 2015 committed to allocating 20% of its road infrastructure budget to non-motorized transportation²², a challenge undoubtedly facilitated by the nomination of a Bicycle Mayor responsible for developing cycling in the city. This position now exists in 109 cities in the world²³. All of these measures helped encourage the bike boom when the first lockdowns came to an end. Bicycle sales increased by 25% in France in 2020, 45% in the United Kingdom, and 65% in the United States²⁴. More people are buying electric bikes too. In 2020, sales shot up by 29% in France²⁵ and as much as 145% in the United States²⁶. Purchase support programmes set up by cities like Paris, Vienna, Guernsey and Madrid have certainly fuelled the trend.

These efforts move in the direction of a diversification of modes of transport and financing. Alongside "traditional" public transport modes, "micromobility" solutions are now a familiar feature in urban streets. The global market counted about 20 million vehicles in 2020, and is expected to grow by 10% per year until 2025²⁷. The sector is largely dominated by bicycles (98% of the fleet of shared vehicles in circulation) either organized into depot stations (often part of public shared bike systems) or *free-floating* (no stations). The "bikesharingblog" lists nearly 2,000 bike-sharing systems in the world (765 in Europe, 673 in China, and 203 in North America), up from last year, when for the first time bankruptcies outnumbered start-ups²⁸. These systems, many of which are run by municipalities, offer residents new means of transport and are a way for cities to extend their sources of mobility funding. Besides, a number of towns in the United States, France, and even countries like Estonia and Luxembourg, have made transport entirely free, sometimes in reaction to the pandemic.

Nevertheless, if these new models are not carefully implemented and combined with an analysis of their social impacts, they can bring the risk of accentuating social inequalities. In the United States, the urban geographer John Stehlin has shown that the development of cycling in Detroit, Philadelphia and San Francisco has gone hand in hand with gentrification, and deepened space, gender and race divisions²⁹. Similarly, free public transport tends to benefit often more privileged people living in city centres who have greater access to public transport; and it requires considerable financial resources, which are diverted from other issues just as important for users (punctuality, access for people living on the outskirts of cities, etc.)³⁰.

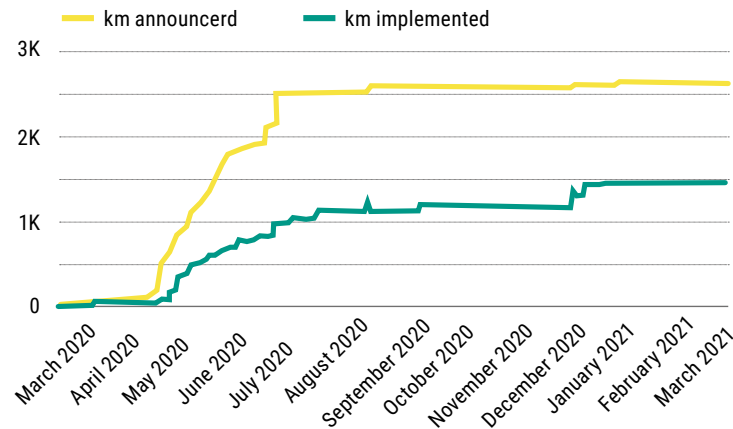
Some cities are putting together public policies on transport that take these issues into account. In its new Clean Transportation Electrification Blueprint, the city of Seattle aims to combine the development of electromobility with its commitment towards racial equality and climate justice. The plan targets both reducing emissions from transportation, and promoting electric mobility and active means of transport,



FIGURE 1

NUMBER OF KILOMETRES OF CYCLE LANES ANNOUNCED (IN YELLOW) AND INSTALLED (IN BLUE) IN EUROPE SINCE MARCH 2020

Source: [European Cyclists' Federation](#)



while attempting to develop a low-carbon, inclusive economy³¹. In Bogota, where only 24% of cyclists are women, the city has committed to achieving [parity](#) in bicycle usage.

Cities look to trees to absorb CO₂ and bring down the heat

In many cities, introducing green spaces and planting trees is a way of mitigating urban heat island effect and building resilience to increasingly frequent and intense heatwaves due to climate change. For example, increasing the surface area covered by green spaces is central to the [2030 Resilience Strategy](#) adopted in 2017 by Athens, one of the European cities most exposed to extreme heat. The city was granted a loan of 5 million euros by the European Investment Bank's Natural Capital Financing Facility in 2019 to restore green areas in its parks and streets, create green corridors between

green areas, and restore Mount Lycabettus. In July 2021, the city appointed a "Chief Heat Officer" to organize the capital's resilience to extreme heat, following the example of the US county of Miami-Dade and the city of Freetown (Sierra Leone) ([ref. Part III C40](#))³².

Yet all too often these areas are unequally distributed. In Europe, a recent report by the European Environment Agency underlined the unequal access to nature in cities. Cities in northern and western Europe tend to feature more green areas (in relation to their total surface area) than their peers in the south and east. What's more, within the same cities, green areas tend to be less accessible and of lower quality in disadvantaged neighbourhoods³³. The situation is similar in the United States: a study published in early 2021 showed that on average, disadvantaged neighbourhoods in US cities have 15% fewer trees than rich neighbourhoods, leading to a temperature difference of around 1.5°C³⁴.



The European Green Deal propels the regions onto the Climate Action stage

In the European Union (EU), the eruption of Covid-19 coincided with the launch of the European Green Deal, which intends to make Europe “the world’s first carbon-neutral continent by 2050”. The aim of this new strategy is to guide the next Multiannual Financial Framework (MFF), which establishes the main EU financing for the period of 2021-2027, and in particular its Cohesion Policy. As this new cycle begins, the Climate Chance Observatory has decided to direct its analysis specifically at Europe in an attempt to understand how the Green Deal influences climate action on the continent. A particular focus will be on the climate action implemented by the regions, which are the Cohesion Policy’s main targets.

The European Union^b comprises of many regions, with widely different sizes, populations, administrative statuses, histories and economies. Some of them are federated states, like in Austria and Germany, while others are local authorities within highly centralized states, like in France. In western Europe, regions correspond to historically coherent territories with strong identities that sometimes still maintain rivalry with the central state (e.g. the British nations, the Basque country, and Catalonia). In contrast, in the East, where most countries joined the EU after 2000, regions are simple administrative entities that generally resulted from reforms required by the EU³⁵. Five EU countries are not divided into regions: Cyprus, Estonia, Latvia, Luxembourg and Malta.

The Nomenclature of Territorial Units for Statistics (NUTS) of the European Union (EU) is a hierarchical system for dividing up the territory of the EU. It includes 242 “NUTS 2”, a scale of reference for its regional policy. This nomenclature does not however correspond to the general usage of the word “region” in all countries, like in France, where former regions that existed prior to the NOTRe Act of 2016 are classed as NUTS 2, and in Germany, where the Länder are generally classed as regions, even though they come into the NUTS 1 category.

The regions form the foundation of the EU Cohesion Policy, where Climate is gaining ground

The project to reduce inequalities between European territories, which dates back to the Treaty of Rome, sees regions as primarily economic entities in the construction of Europe. The founding states of the European Economic Community (EEC), in the preamble to the Treaty of Rome, underlined the concern to “*strengthen the unity of their economies and to ensure their harmonious development by reducing the differences existing between the various regions and the backwardness of the less favoured regions*”. At that point in time, the aim of the EEC

was to reduce disparities between regions to facilitate the emergence and expansion of a European common market. Three years later, the European Social Fund (ESF), centred on boosting employment, became the project’s financial instrument, followed in 1975 by the creation of the European Regional Development Fund (ERDF) to support the economic development of the least advanced regions. Together, the ESF and the ERDF form the “Cohesion Policy”, supplemented in 1994 by the Cohesion Fund (**ref. Keys to Understanding**).

At the end of the 1980s, the Single European Act (1986) and the Structural Reform Support Programme (1988) gave EU regional policy a new dimension: the regions became policy partners.

The aim was no longer to simply help regions considered to be economically lagging behind, but to also involve them in putting together and implementing EU regional policy, in partnership with the European Commission and national administrations. Depending on the political organization of Member States, regions could even become structural fund managing authorities. The Interreg fund was created in 1990, as part of the ERDF, to promote and finance cooperation projects between regions and/or between different decision-making levels on EU priorities in terms of economic development. Two years later, the Maastricht Treaty created the Committee of the Regions, with a mandate to produce (non-binding) opinions on initiatives and legislative proposals with repercussions on regional and local levels.

The European Green Deal, the European Commission’s strategy to reach carbon neutrality by 2050, makes the regions a more obvious option for implementing a low-carbon economy on their territory.

Environmental and climate issues are increasingly present in the Cohesion Policy: 20% of funds had to be devoted to mitigation or adaptation projects from 2014-2020, representing about 78 billion euros and up to nearly a third of the ERDF³⁶. For the period from 2021-2027, the Green Deal, which was adopted in late 2019 with its numerous sectorial offshoots (Circular Economy, the Renovation Wave, Food, Renewable Energy, etc.), has established a target of bringing the overall figure to 30%, with the rest being subject to the “do no harm” principle. In addition, 10% of annual expenditure from the EU budget in 2026 and 2027 has been earmarked for combating biodiversity erosion³⁷. The European Cohesion Policy therefore makes the regions a key level in the implementation of the European Green Deal. To make this central role more concrete, the Committee of the Regions has set up a working group called “Green Deal Going Local” to reinforce the regions’ role in the Green Deal’s implementation, and showcase their action. A [map](#) produced by the EU already features over 200 LRGs steps being taken to decarbonize the European economy.

^b This analysis also covers the climate action carried out by the British nations.



The concept of a “just transition”, recently made concrete by the creation of a “Just Transition Fund” (JTF) by the European Union, recognizes the role of regions in mitigating the negative economic impacts of the transition in their territories.

The brand new “Just Transition Fund”, which was set up as part of the 2021-2027 operational programme, has a budget of 17.5 billion euros to support people who have lost their jobs due to environmental protection policies. It is part of the “Just Transition Mechanism” (JTM), alongside a programme within InvestEU and a loan facility partly managed by the European Investment Bank. To obtain funding, regions need to set up a “Territorial Just Transition Plan” that analyses how this fund works in tandem with the other Cohesion Policy funds (such as the ERDF and ESF+), and the EU carbon neutrality objective must be translated in national policies. The reconversion of the Ruhr, a German region historically known for its mining activities and coal and steel industries, is often put forward as an example of a successful just transition, thanks to long-term planning and constant dialogue between stakeholders³⁸. Today, all eyes are on the coal mining regions of Poland (**ref. Silesia case study**), which is set to be the first beneficiary of the fund, with an envelope of more than three billion euros (20% of the fund), followed by Germany (13%) and Romania (11%)³⁹.

States will also be key actors to support workers and households impacted by transition measures. As part of the new “Fit for 55” package whose target is to reduce emissions by 55% compared to 1990, the European Commission has proposed creating a social climate fund, financed in equal parts by the extension of the EU Emissions Trading System (ETS) to the buildings and

road transport and the Member States. With a budget of 144.4 billion euros, this fund could help Member States finance measure to mitigate the social impacts of the new ETS. In a press release published following the announcement of the “Fit for 55” package, the Committee of the Regions made the following observation: “Europe’s regions and cities must be recognised within the Social Climate Fund, alongside the Just Transition Fund, as over centralisation can threaten territorial cohesion and the social fairness of the green transition.”⁴⁰

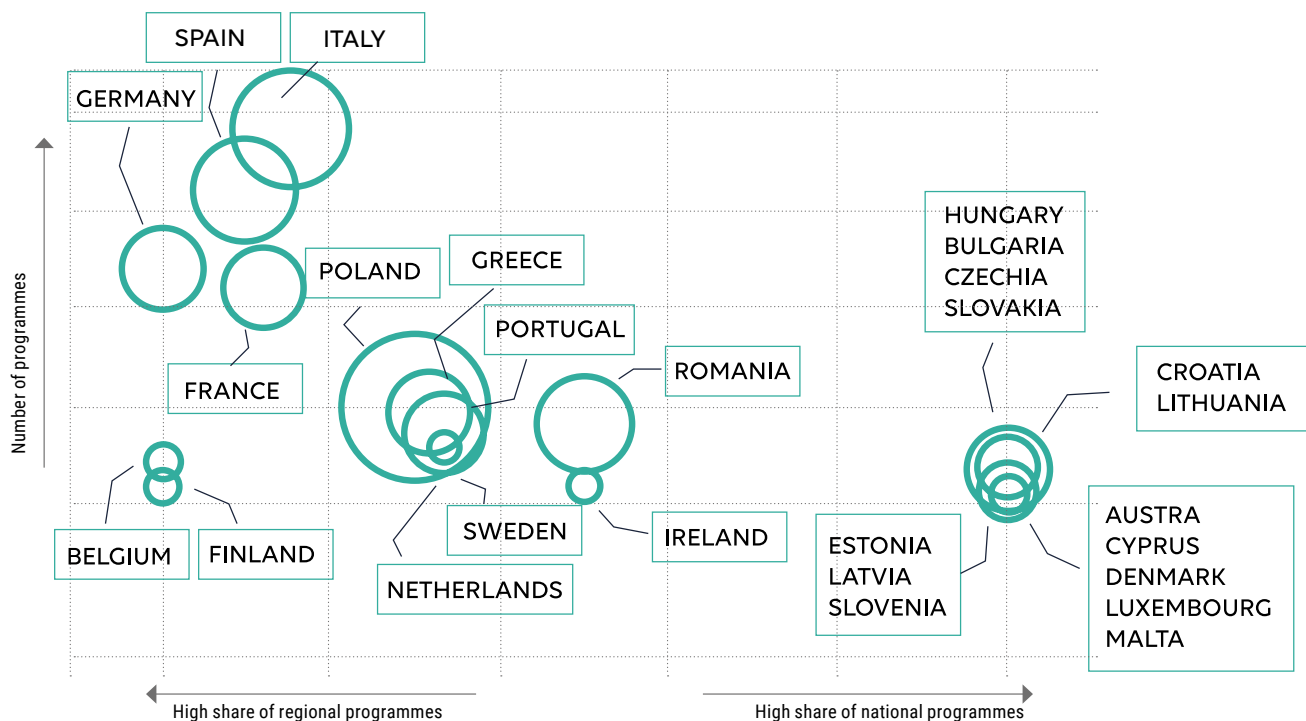
Unequal balance between different levels in the management of EU funds

In western European countries, cohesion programmes tend to target regions more than they do in the East. For 2021-2027, some countries have cohesion programmes at national level only: Hungary, Bulgaria, the Czech Republic, Slovakia, Croatia, Lithuania, Austria, Cyprus, Denmark, Malta and Luxembourg. The other Member States have presented regional programmes. In particular, Germany, France, Italy, Spain and Belgium have put forward a large number (**fig. 2**)⁴¹. This situation is similar to the previous financing period. Overall, according to a survey carried out by the Committee of the Regions on people involved in putting together operational programmes for 2021-2027, 45% of the programmes consider local and regional features related to implementing the Green Deal, and a little over 15% propose instruments specific to local and regional contexts.

FIGURE 2

REGIONAL AND NATIONAL PROGRAMMES FOR THE MFF 2021-2027

Source: [Committee of the Regions, 2021](#)





KEYS TO UNDERSTANDING

EUROPEAN FUNDS AND THE EU COHESION POLICY

The EU Cohesion Policy aims to correct regional imbalances within the EU by providing financial support to projects related to employment, the environment, climate and innovation, through three “structural funds”. The biggest one is the European Regional Development Fund (ERDF), which aims to promote and finance cooperation projects between regions and/or between different decision-making levels on EU priorities in terms of economic development (currently: research and innovation, SME competitiveness, the low-carbon economy, and efficient use of resources), is part of the ERDF. Next, the European Social Fund, which recently became the European Social Fund Plus (ESF+) integrating the Youth Employment Initiative, the Fund for European Aid to the Most Deprived, and the Programme for Employment and Social Innovation, aims to support employment and education. As a final point, the Cohesion Fund is reserved to countries whose GNP per capita is lower than 90% of the EU average, in order to promote growth, employment and sustainable development.

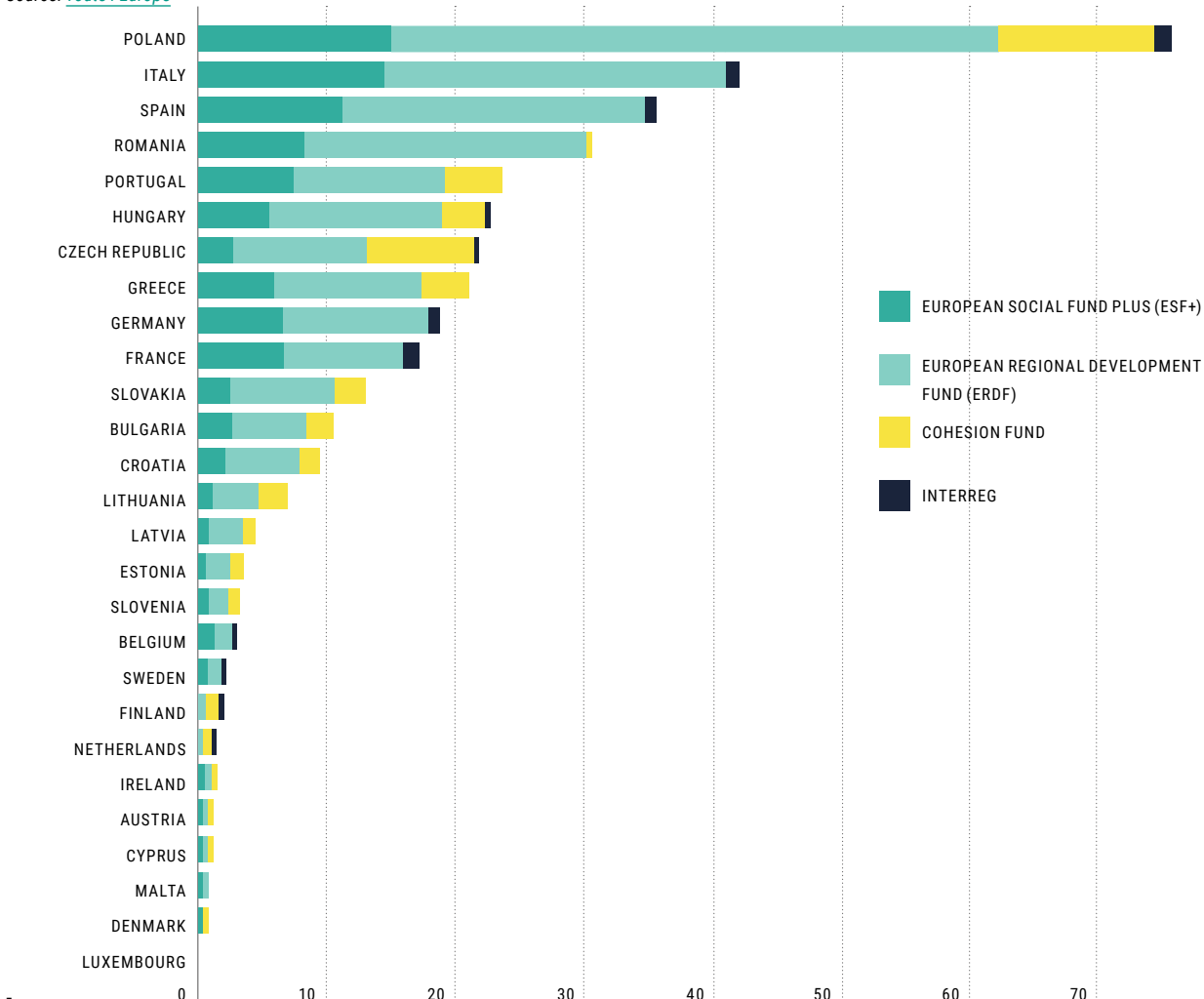
The Cohesion Policy framework is established for a period of seven years, according to “operational programmes” submitted by the managing authorities of these funds in Member States (central state, local authorities, special agencies, etc.). For 2021-2027, the budget amounts to 372 billion euros shared between the 27 members, broken down into 226 billion for the ERDF, 98.5 billion for the ESF+, and 48 billion for the Cohesion Fund. This makes it the EU’s second biggest expenditure item (30.5%), just behind the Common Agricultural Policy (30.9%). Five main targets have been set for the 2021-2027 period: the funds must contribute to making Europe “smarter”, “more connected”, “more inclusive”, “closer to citizens”, with “more sustainable growth and zero carbon emissions”.

The funds are granted based on regions’ “NUTS 2” socio-economic characteristics. Similarly, these characteristics determine the level of co-funding from the Cohesion Policy: the more developed a region is, the lower the rate of EU co-funding (share of EU financing for a project). As during the previous period, Poland is the biggest beneficiary of the Cohesion Policy (in volume) for 2021-2027, with about 75 billion euros, way ahead of Italy (42.1 billion euros), Spain (35.4 billion) and Romania (30.3 billion) (**figure**).

Source: [European Commission](#) and [Toute l'Europe](#)

AMOUNT OF EU COHESION POLICY (2021-2027 PERIOD) RECEIVED BY EACH MEMBER STATE (IN BILLIONS)

Source: [Toute l'Europe](#)





The management of EU structural funds is also left more to the regions in western European countries than it is in Eastern countries. The regions are the managing authorities of at least some EU funds in France, Belgium, Ireland, Italy and Poland, as the Austrian and German Länder and the provinces of the Netherlands. For example, in France, the European Social Fund is managed by the regional councils (35%) and the State (65%), as is the ERDF (75% by the regional councils and 25% by the State). However, in countries like Bulgaria, Croatia, Denmark and the Czech Republic, the State is the main managing authority of EU funds⁴².

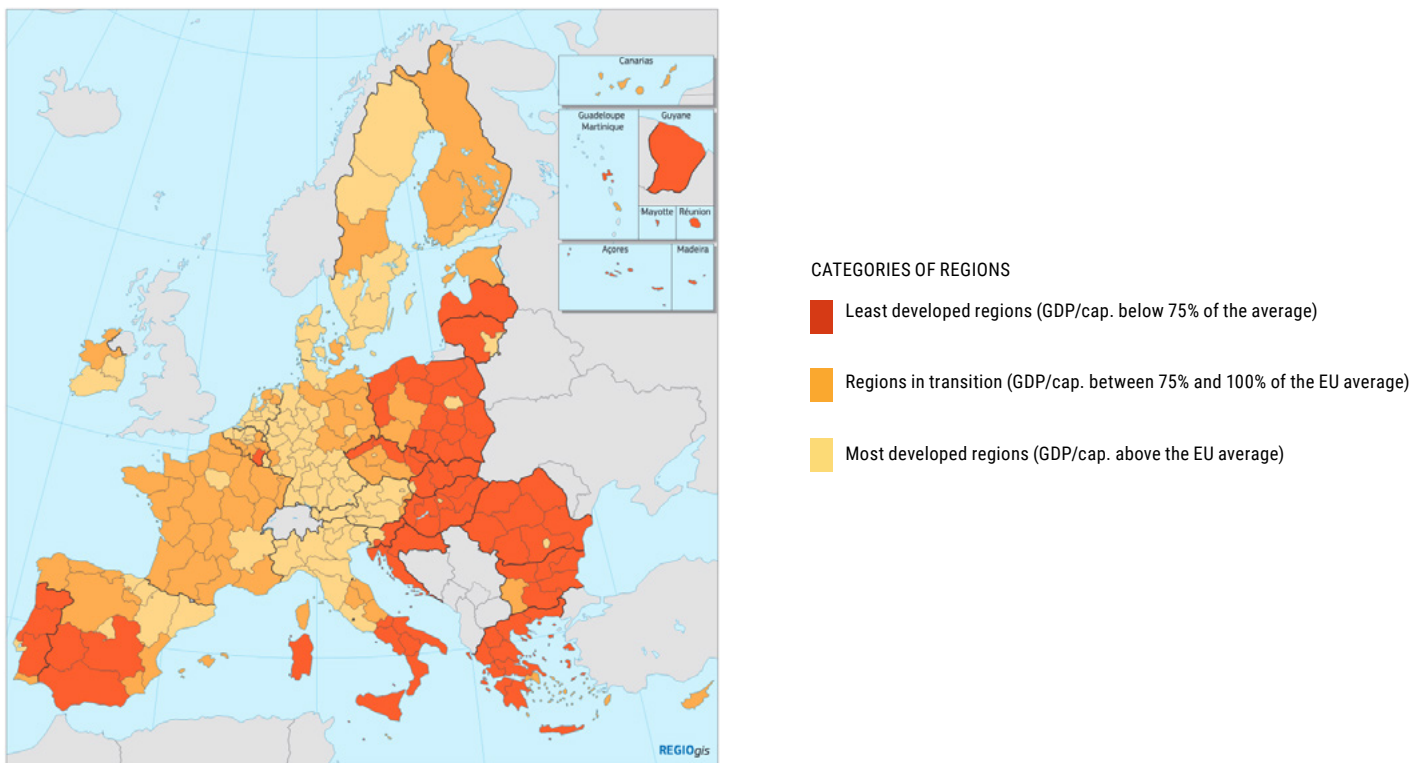
The primacy of the regional scale can disguise local disparities and deprive some areas from European funding. Cohesion Policy funds are distributed according to the development level of NUTS 2 regions (fig. 3). This can work to the detriment of a low-developed NUTS 3 region located within a generally developed NUTS 2 region. In the new Just Transition Fund, the method employed to identify the regions concerned considers their economic level, the carbon intensity of their economy, and employment in emitting sectors at NUTS 2 region levels. A report commissioned by the European Parliament’s Committee on Budgets points out the risk that this method might be disadvantageous for vulnerable NUTS 3 regions located within NUTS 2 regions identified as not very vulnerable, and therefore not earmarked by the EU for priority funding⁴³.

During the Covid-19 pandemic, the considerable EU recovery funds made available to Member States reinforced their role, sometimes to the detriment of regional and local levels. In response to the pandemic and the ensuing halt in economic activities, especially in 2020, the EU set up NextGenerationEU, a temporary financial instrument worth 750 billion euros⁴⁴, drawing from long-term borrowing on the capital markets. It is made up of a recovery fund called the Recovery and Resilience Facility of 672.5 billion euros that offers loans (360 billion euros) and subsidies (312.5 billion euros) to Member States, and 77.5 billion euros to boost European structural funds (e.g. the REACT-EU fund, endowed with 47.5 billion euros, reinforces the Cohesion Policy, in particular to deal with the consequences of Covid-19). To benefit from these funds, countries must present a national recovery and resilience plan in which at least 37% of expenditure must contribute to the EU carbon neutrality objective, and 20% to digitalization of the economy. Yet, according to a study by the Committee of the Regions, regional and local governments have been only marginally associated with putting together European national recovery plans, and these plans generally only give them a passive top-down implementation role. In particular, they make little reference to the Cohesion Policy, missing a key opportunity to exploit synergies between these different funds⁴⁴.

FIGURE 3

INVESTMENT FOR JOBS AND GROWTH GOAL (ERDF AND ESF+) ELIGIBILITY, 2021-2027

Source: [European Commission](#)



c - Fund amounts in 2018 prices.



Central jurisdictions for implementing the transition towards a low-carbon economy

Within the Member States, regions, provinces and federal states often have key jurisdictions on climate and the environment. In general, regions have authority when it comes to energy, transport, spatial planning, housing, risk management, management of natural resources and health. **Table 1** lists the jurisdictions related to climate and the environment in regions of 16 EU Member States, as declared in the [TERRI Report](#) published by the CEMR in early 2022. The table, put together from numerous contributions from networks of local authorities in member countries, includes typical gaps and is incomplete (e.g. the German Länder do have jurisdictions relating to transport). Nevertheless, it gives a quick overview of jurisdictions that are largely shared by regions in Europe. It shows that all European regions have the authority to decide on the environment and transport, followed by spatial planning. On the other hand, regions appear to have less control over research and energy, or at least it is not identified.

For example, in Spain^d, the considerable political and financial autonomy of the 17 Autonomous Communities (CCAA) (each has its own legislative assembly and government) makes them key actors in numerous domains related to the environment and climate. CCAAs possess exclusive legislative and executive jurisdictions for everything related to social services, agriculture and animal rearing, domestic fishing, industry, commerce, tourism, youth and sports⁴⁵.

In Italy, transportation, public works, culture, tourism and urban planning mainly come under the regions. However, for renewable energy sources, the state has authority over production support measures. The regions' role is limited to facilitating administrative authorization applications⁴⁶.

Regions have very different margins for manoeuvre from one country to another. **Table 2** compares the jurisdictions of the regions of France, a historically highly centralized country, with those of the Länder in Germany, a federal state.

- In both countries, the regions have key jurisdictions in the sectors of energy, transport and spatial planning.
- Nevertheless, their margins for manoeuvre are very different. For example, while the German Länder define their strategies for deploying renewable energy, leaving the federal state to manage the national network and set up financial support programmes, French regions are only responsible for applying locally the multiannual energy programme decided at a national level.
- Reflecting this difference in latitude, the average Land budget is over ten times higher than a French region's budget.

In many EU Member States, the regions play a central role in implementing national climate policies.

- In France, regions are the “front runners” on climate action and the energy transition. They are responsible for putting together the regional plan for spatial planning, sustainable development and local equality (SRADDET), which has to apply the national low-carbon strategy (SNBC) at regional scale.
- In Germany, legislation on energy, the environment and climate change is shared with the Länder, which gives them considerable room for manoeuvre. In addition, no federal law obliges local governments to establish a climate plan or climate measures: the Länder are therefore the reference scale for local climate action. Lastly, the federal Climate Change Act explicitly guarantees that Länder can adopt their own legislation on climate change: in 2021, ten had adopted a climate law, eight of which established quantitative CO₂ emissions trajectories⁴⁷.
- In Spain, the central state is responsible for establishing basic legislation, while the CCAAs are responsible for applying it on their territories, putting supplementary protection rules in place, and producing annual reports measuring the impact of the measures⁴⁸.
- The governments of Scotland, Wales and Northern Ireland must contribute to implementing the measures decided at United Kingdom level, including the 2008 Climate Change Act and the corresponding carbon budgets. However, they can also produce climate policies in their respective nations. In particular, they are responsible for adaptation plans⁴⁹.

As managers of European funds in several countries, in particular in Western Europe, regions control the use of these funds by local governments and direct them towards their political priorities. In addition, national laws often mean that local governments have an obligation to the regions when it comes to their climate action:

- In France, local climate plans (PCAET) have an obligation of *accountability* towards regional SRADDETs. This means that PCAETs have an obligation to not go against the basic guidelines of the SRADDET, with a slight margin for manoeuvre to stipulate and develop these guidelines.
- In Germany, the authority to regulate the action of local authorities lies exclusively with the Länder. The federal level cannot legislate on questions concerning territorial authorities or directly transfer obligations to them. Some Länder require that climate objectives be integrated into urban planning tools, like in Bremen, or require specific tools, like heat supply plans to attain carbon neutrality in the Land of Baden-Württemberg. Others provide local authorities with technical support for planning and monitoring, such as in North Rhine-Westphalia⁵⁰.

^d For reasons of political and historical background, data access, and the natural bias of the authors of this analysis, the jurisdictions of regions located in western Europe are discussed more here.



TABLE 1

OVERVIEW OF REGIONAL JURISDICTIONS ON SOME KEY SECTORS IN 16 EU MEMBER STATES, DECLARED TO THE CEMR

Source: First 6 columns: [CEMR](#), 2022. Last column: analysis by the Climate Chance Observatory.

NB: A green box indicates that the regions in that country have jurisdictions related to the theme in the column. A white box does not mean that they do not.

Approach	Environment	Land and/or urban planning	Transport	Research	Energy	European funds management
Belgium	Green	Green	Green	Green	Green	Green
Croatia	White	Green	Green	White	White	White
Czech Republic	Green	White	Green	White	White	White
Denmark	Green	White	Green	White	White	White
Finland	White	Green	White	White	White	Green
France	Green	Green	Green	White	White	Green
Germany	Green	White	White	White	White	Green
Greece	Green	White	White	White	White	White
Italy	Green	Green	Green	Green	Green	Green
Malta	Green	White	Green	White	White	White
Poland	Green	White	Green	White	White	Green
Romania	Green	Green	Green	White	White	White
Slovakia	White	White	Green	White	White	White
Spain	Green	White	White	White	White	White
Sweden	White	White	Green	White	White	White
The Netherlands	Green	Green	Green	White	Green	Green

EXPERIENCE FEEDBACK

USE OF EU FUNDS: EUROPEAN REGIONS SET THEIR SIGHTS ON HYDROGEN

Few studies have attempted to analyse how regions use EU funds to reduce their greenhouse gas emissions. A study by the Conference of Peripheral Maritime Regions of Europe (CPMR) shows that the 35 regions questioned employed from 20% to 35% of ERDF funds for climate, mostly on energy and mobility.

Since 2020, following on from national recovery and investment plans, more and more regions have been linking these two sectors and investing EU money in projects related to hydrogen, often to decarbonize transportation.

In the recovery plan that it submitted to the European Commission, Belgium anticipates setting up a regulatory framework for the hydrogen market and making investments to build a hydrogen transportation network. Belgium is entrusting the Walloon and Flemish regions with a mission to develop an industrial value chain for the transition to hydrogen and its use in industrial processes and heavy goods transportation. According to the Committee of the Regions, it is one of the only recovery plans to give the regions a major role in its implementation.

In the Occitanie region (France), a regional plan for developing green hydrogen with a budget of 150 million euros was adopted in 2019. A spin-off of the plan, the Corridor H2 project, aims to decarbonize transport of goods and passengers on a route that goes from the Mediterranean Sea to the North Sea, thanks to hydrogen-powered transport. By the end of 2023, the plan is to roll out two green hydrogen production units, eight hydrogen fuelling stations, along with 40 lorries and 15 regional coaches powered by hydrogen. The project is financed by a 40-million-euro loan from the European Investment Bank and a subsidy of 12.5 million euros from the European Commission. The region already features a small hydrogen production unit at Toulouse Blagnac Airport, and has placed an order with Alstom for three trains running on a mix of electricity and hydrogen.

The pioneer of hydrogen-powered trains is a German Land: the production plant of Coradia iLint hydrogen trains is located in Salzgitter in Lower Saxony, and several are ready to operate on regional lines following a two-year pilot phase. The Land has also partnered up with neighbouring Land, Bremen, on the Hyways for Future project, which is aiming to launch a green hydrogen production ecosystem. In addition, in partnership with the Dutch island of Ameland, Lower Saxony has received Interreg funds to prepare the region's economy for the arrival of hydrogen. In Germany, the Ministry of the Environment of Baden-Württemberg has adopted a roadmap to develop a hydrogen economy.

Another example: through H2Wielkopolska, the Greater Poland Province supports small and medium-sized enterprises to develop hydrogen.

Source: [Committee of the Regions](#)



TABLE 2

COMPARISON OF THE JURISDICTIONS OF FRENCH REGIONS AND GERMAN LÄNDER

Source: [Climate Chance](#), case study on multi-level governance

	18 French Regions	16 German Länder
ENERGY	<ul style="list-style-type: none"> • Regional Schemes for Connection to the Renewable Energy Network • Energy Efficiency measures 	<ul style="list-style-type: none"> • Regional energy transition strategies and legislation. • Support programmes to expand energy efficiency and renewable energy. • Promote energy efficiency/ renewable energy through building regulations; land-use planning and regulations; local government regulations (i.e. guidelines for municipalities) • District heating regulations and planning. • Regulations on municipal energy management.
TRANSPORT	<ul style="list-style-type: none"> • Interurban transport networks (regional express trains), school transportation • Civil airports and commercial ports 	<ul style="list-style-type: none"> • Regional transport planning • Construction and maintenance of regional roads • Management of public transport, regional waterways, ports
HOUSING	<ul style="list-style-type: none"> • Joint funding of housing 	
WATER, WASTE AND SANITATION	<ul style="list-style-type: none"> • Regional waste prevention and management plan 	<ul style="list-style-type: none"> • Regulations on water management • Monitoring and management of regional water bodies, coastal water management • Waste management regulations.
ECONOMIC DEVELOPMENT	<ul style="list-style-type: none"> • Development of the economic development and regional innovation plan (SRDEII) • Selection of companies meriting support in the region (creations, takeovers, businesses in difficulty) • Management of EU funding 	<ul style="list-style-type: none"> • Support for regional economic development (advisory support and/ or financial support). Location marketing. • Regional land-use and spatial development planning and regulations (e.g. Raumordnungspläne)
URBAN AND SPATIAL PLANNING	<ul style="list-style-type: none"> • Development of regional land use plans • Interregional management of coastlines and massifs • Water protection 	<ul style="list-style-type: none"> • Building regulations (incl. energy efficiency standards) • Legislation on and financing of social housing • Funding instruments for urban development
ENVIRONMENT AND CLIMATE PROTECTION	<ul style="list-style-type: none"> • Regional Schemes for land use, sustainable development and equality (SRADDET) • Regional plans for forest and wood - Protected areas and regional parks • Action to promote biodiversity 	<ul style="list-style-type: none"> • Management of regional protected areas and natural resources • Regional planning and regulations on environmental protection; landscape management; soil conservation; climate change (9 Länder have enacted a climate change law) • Public relations, awareness raising and advisory services • Promotion of education for sustainable development • Supervision of local air pollution control, environmental monitoring • Sustainable public procurement
BUDGET (billion euros)	32,26 (2018)	417,203 (2019)



However, this intermediate role sometimes involves blurred jurisdictions and competition with other levels.

- In Spain, despite a large body of legislation at national level, the devolution of jurisdictions on climate is not particularly clear, which can generate conflicts of interpretation of jurisdiction limits at each level. At regional level, the unprecedented adoption over the last three years of energy transition laws in the Balearic Islands, Catalonia and Andalusia takes on a political dimension given the regions' quest for autonomy vis-à-vis the central state. Interestingly, in the summer of 2019, the Constitutional Court of Spain prohibited fifteen articles of the ambitious law on climate change drawn up by the Catalan regional government, judging that it did not have the authority to establish emissions reduction or energy transition targets. The law was including a timetable to reduce the Autonomous Community's GHG emissions by -40% in 2030, -65% in 2040, and -100% in 2050, and to obtain an electricity mix featuring 100% renewable sources by 2050⁵¹.
- In Germany, the Länder can impose obligations on lower levels for climate and environment issues, but they generally refrain from doing so because any new jurisdiction devolved to the municipalities has to be accompanied by a corresponding budget transfer.

Competition between regions and the State can act to boost climate ambitions.

- In Germany for example, the Länder can adopt more ambitious climate policies than the federal state, initiate their own climate projects, and set up financing programmes. This latitude sometimes leads to a race between the Länder to produce the most ambitious climate package, which can in turn raise ambitions at federal level⁵².
- The same observation applies to the United Kingdom, where the ambitious climate policies put in place by Scotland and Wales have forced the central State to step up its own goals⁵³.
- Based on a survey of its 35 member regions, the Conference of Peripheral Maritime Regions (CPMR) shows that among the regions targeting carbon neutrality, more than one-third (37%) aim to reach it before 2040 (2035, 2040 or 2045), making them more ambitious than their home nations. In total, over 80% of the regions questioned had an objective of carbon neutrality⁵⁴.

European regions demonstrate encouraging Climate results

Bucking the global trend, emissions declared to the CDP by European regions have mostly decreased over recent years.

Figure 4 shows regions that declared their emissions to the CDP in 2021, most of which are signatories of the RegionsAdapt initiative. In 2021, Europe was the continent that gathered the most of these regions. Over half of them reported a drop

in emissions (15/28) compared to the last reporting period. Five of them reported an increase in their emissions, and three a stagnation (some are not equipped to measure the evolution). At global level, 26 regions declared a decrease in emissions out of almost 100 declaring regions, compared to 22 that announced an increase.

Regions strongly committed to renewable energy have seen their emissions decrease for several years. The development of renewable energy to replace electricity produced from fossil fuels is the main factor behind the drop in emissions by European regions that declare their emissions to the CDP, showcased for five of them (**fig. 4**).

- For example, Andalusia (Spain) reports a 10% reduction in its emissions from 2018 to 2019, which it puts down to the drop in electricity production from coal, coupled with an increase in renewables. The development of renewable energy is also the main reason behind the drop in the region's emissions from 2005 to 2017 (-21.7%). In 2017, renewables represented 38.8% of total electricity production in the region. In particular, Andalusia is a pioneer and global leader in thermodynamic solar power: its 22 power plants alone produce 22.77% of the country's energy production⁵⁵.
- Increased use of renewables is also the factor put forward by the Kymi Valley region (Finland) to explain its lower emissions in 2019.
- Scotland (United Kingdom) attributes its 43% decrease in emissions from 1990 to 2019 to the move from coal electricity to a mix that is now mainly based on wind power, which also explains more recent decreases (-2.3% from 2018 to 2019)⁵⁶.
- In contrast, Catalonia (Spain) explains the slight rise in its emissions from 2018 to 2019 by the drop in its hydropower production and the increase in electricity production from combined cycle gas plants, which have become widespread in Spain since the 2000s⁵⁷.

As well as regions that declare to the CDP, other regions seem to have benefited from the surge in renewables to bring down their emissions levels:

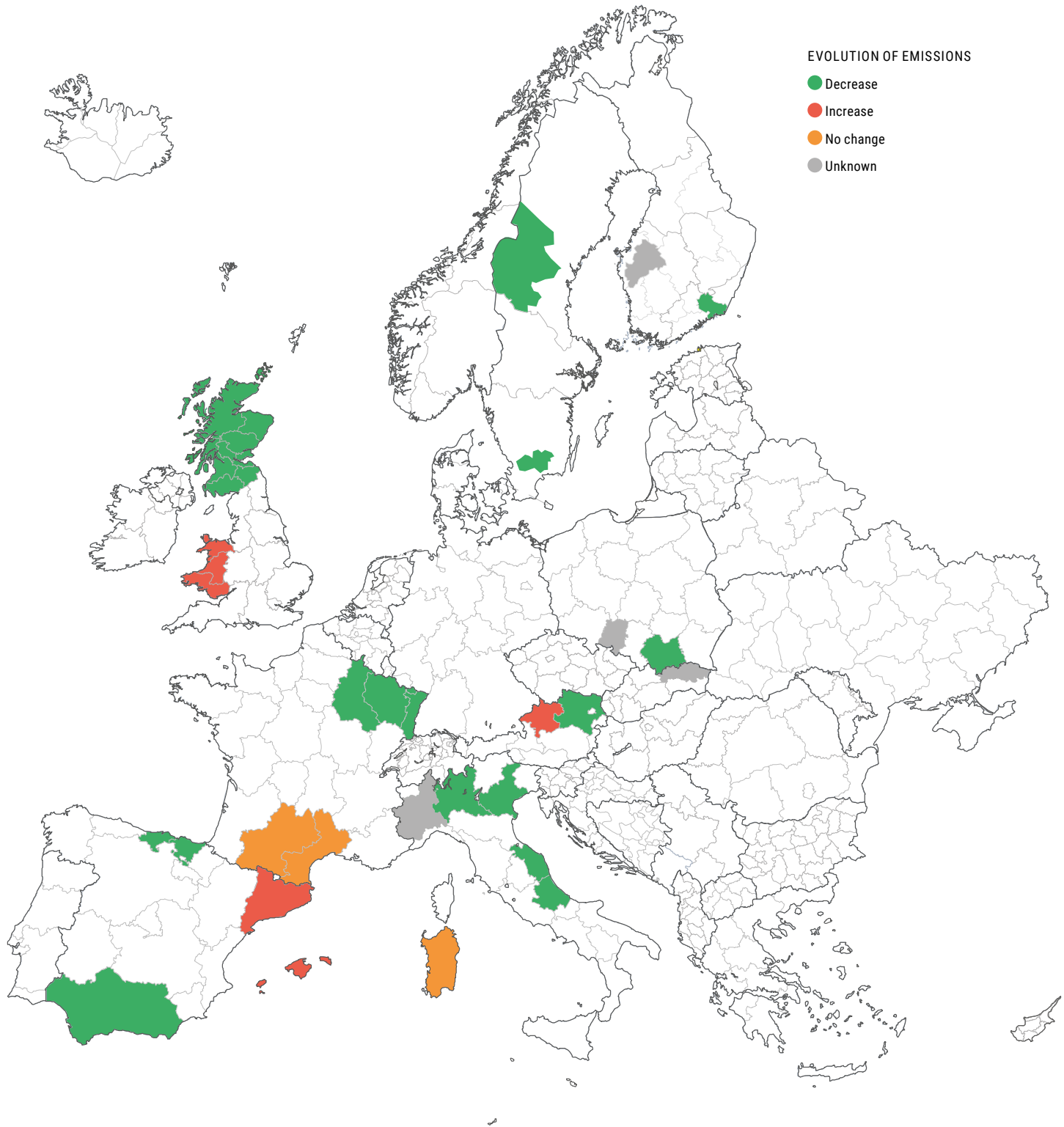
- In the Pays de la Loire (France), the *Basemis* method has been used to monitor regional emissions since 2008. The results show that for an energy consumption that remained relatively stable from 2008 to 2018, greenhouse gas emissions went down by about 8%. Over the same period, production using renewable sources more than doubled, leading to a 10% drop in the carbon intensity of energy⁵⁸.
- Similarly, in Thuringia Land (Germany), 57% of electricity production comes from renewables (22.4% wind and 20% biomass). One-third of the electricity consumed in the Land is imported, and renewables provide 24% of its energy consumption – the second highest share among the Länder. Over 30,000 photovoltaic systems installed by households, companies and municipalities provide about 12% of Thuringia's electricity. It is also the Land with the second highest



FIGURE 4

EVOLUTION OF EMISSIONS COMPARED TO THE LATEST REPORT MADE BY REGIONS THAT DECLARED THEIR EMISSIONS TO THE CDP

Source: Author's figure based on the [CDP States and Regions Dataset](#)





number of energy cooperatives. Thanks to this strong development of renewables, and also to the residential and road transport sectors, the Land's emissions went down by 23% from 2000 to 2015⁵⁹.

Industry is also a key factor in the evolution of emission levels in the regions. Four regions that declare to the CDP (Grand Est in France, Kronoberg County in Sweden, Scotland, and Abruzzo in Italy) esteem that the decline of their industry, in particular steel, explains the recent decrease in their emissions. They admit themselves that this decline is due more to economic difficulties than climate efforts. On the other hand, the Land of Upper Austria declared an increase in emissions in 2018, which it puts down to a rise in steel production, similar to Wales, which identifies its steelmaking industry as the main factor behind its recent emissions increase.

Regions are also setting up programmes to decarbonize buildings. Two regions (Basque Country and Abruzzo) highlight the energy savings made by buildings to explain the drop in the emissions that they declared to the CDP, without however providing details on the actual policies that led to these results. Two interesting examples of such policies have been noted by the Observatory in recent years:

- With a view to reducing final energy consumption by 60% in 2050, the Nouvelle Aquitaine region (France) has provided support to private individuals with 10,000 monitored renovations (audits, third-party financing), representing 84,000 tCO₂eq avoided. The region is also making efforts to stimulate the energy renovation market by providing building professionals and banks with a model. Nouvelle Aquitaine is a pioneer in fostering the eco-materials industry, with its "*Bâtiment du future*" (building of the future) call for projects, aimed at providing technical and financial support for the best renovation and construction projects. In addition, the region supports businesses of all sizes to improve the energy efficiency of their industrial processes by at least 10% in three years⁶⁰.
- In Lombardy (Italy), 96 million euros, granted by the ERDF, have been allocated to energy efficiency in public buildings, 52% of which are categorized as class G (highest energy consumers). They must reduce their energy consumption by between 1.7 to 2.7 million tonnes of oil equivalent (Mtoe) out of a consumption of about 24 Mtoe, which is a drop of between 7% and 11%⁶¹.

Lastly, three regions mention the road transport sector to the CDP to explain the drop in their emissions. Regional jurisdictions related to transport generally make regions key actors in mid-distance transportation and inter-modality. In France, the regions lead the way on inter-modality and complementarity between the different modes of transport.

Networks of climate-engaged regions act as their voice, showcase their climate results, and reinforce their role in the eyes of international and state institutions. Regions4, for example, organizes reporting for its members (and signatories of its RegionsAdapt initiative) to the CDP, and brings their results

to the attention of international bodies. Through its #RegionsVoice project, the network acts as the voice of regional governments at major events for international climate negotiations (**ref. Part III**). In 2021, with Under2 Coalition, the biggest network of regions committed to aligning with the Paris Agreement (260 members in 2021 – **ref. Part III**), Regions4 expressed regional priorities and aspirations at COP26, and delivered the results of regions' action to combat climate change. In its COP26 Declaration, the network underlines the importance of establishing multi-level governance for climate action, for example by working with regional governments to produce, coordinate and implement NDCs and National Adaptation Plans⁶².

Uniform climates make it easier for regions to organize their resilience

Through RegionsAdapt, Regions4 helps regions organize their adaptation action. Regions4 coordinates the RegionsAdapt initiative, which works to facilitate innovation, tools and good practices for climate change adaptation for 77 regions on all five continents. 87% of its members are now equipped with a climate change adaptation plan (**ref. Part III, Regions4**). The initiative also organizes its members' reporting on emissions and climate actions to the CDP. As well as promoting the adoption of climate change adaptation measures by regional governments, RegionsAdapt therefore improves regions' progress monitoring, visibility and aggregation⁶³.

In an article from 2020 studying the role of RegionsAdapt in regional climate change, Setzer et al. observed that the place of regions in adaptation policies is increasingly important for at least three main reasons⁶⁴:

- **Regions' jurisdictions make them indispensable actors in climate change adaptation.** In 2019, the Observatory pointed out that the local level is a vital part of the concept of adaptation, making it naturally connected to regional and local governments⁶⁵. In practice, the authority that the regions have over energy, transport, spatial planning, housing, risk management, natural resources management and health make it a key level for implementing adaptation measures, including in highly centralized states.
- **Moreover, positioned between the central state and local governments, the regional scale is particularly suitable for adaptation action.** For example, when regions are responsible for locally applying a national mitigation strategy or action, often devised with a sectorial approach, they necessarily adopt a territorial approach and take into account the actors actually present in the region. In addition, they can promote the replication of local policies that have proved successful in other similar territories⁶⁶.
- **Lastly, regions generally cover relatively uniform geographical areas, which makes them ideal for devising adaptation measures adapted to a particular context.**



EU funds are accessible to regions to implement their adaptation actions. For 2021-2027, the LIFE programme, which is the EU's funding instrument for the environment and climate action aimed at companies, local authorities, associations and universities, has made adaptation one of its three climate "priorities" along with mitigation and governance. As part of its Horizon Europe fund for research and innovation, the European Commission launched five "missions" in 2021 aimed at financing concrete action to meet five challenges for 2030: improve the lives of three million people suffering from cancer; restore the oceans; attain carbon neutrality in 100 cities; finance 100 soil restoration projects; and help 150 regions become climate resilient. This latter "[adaptation](#)" mission has a budget of 122.38 million euros and will be aimed at regional (or intermediate) governments, which may be in a consortium with other actors on their territory. In its implementation plan, it anticipates boosting the Policy Support Facility, a support and financing tool for regional and local governments for implementing their climate plans or adaptation action, which will be coordinated by the European Covenant of Mayors for Climate and Energy⁶⁷. Moreover, the ERDF has financed regional projects on adaptation. For example, from 2012 to 2015, the [SEAP Alps](#) project, which received funding of 1.6 million euros from the EU, made it possible to build a Sustainable Energy Action Plan (SEAP) specifically aimed at Italian Alpine communities, which was then applied to 46 municipalities. From 2016 to 2019, the Interreg fund was at the origin of a similar project, this time in the Pyrenees: the OPCC2 project involved building knowledge on the potential climate impacts facing the mountain range up to 2100, providing valuable data for local decision-makers in the regions.

Through science-policy interfaces, regions are anticipating future climate events and organizing their resilience. Regional climate-energy observatories are flourishing in the EU to evaluate the climate risks specific to different regions and act as spaces of dialogue and proposals. Several French regions have their own regional group of climate experts (GREC) responsible for anticipating the impacts of climate change on the regional territory, or advising the region on public policy: RECO in Occitanie, AcclimaTerra in Nouvelle Aquitaine, GREC SUD in PACA, Ouranos-AuRA in Auvergne-Rhône-Alpes, etc. The same idea exists in Germany: for example, Thuringia Land has created an [Advisory Council for Protection from Climate Change and Climate Change Adaptation](#), which advises the ministry for the environment, energy and nature conservation. Legally written into its law on protection from climate change and adaptation to its impacts, voted in 2018 (ThürKlimaG), the council comprises scientists appointed for five years from a wide range of disciplines (hydrogeology, meteorology, biogeochemistry, bioenergy). Similar energy-climate observatories have also been set up on the other side of the Atlantic, like Ouranos (Quebec) and the New York City Panel on Climate Change.

Lastly, when drawing up their SRADDETs, several French regions (Centre Val de Loire, Brittany and Île-de-France) organized their own "regional COP", gathering all types of

local representatives to decide on common measures. These participative processes aim to make citizens aware and mobilize local actors to act for the climate. In Centre Val de Loire, for example, all private and public organizations can make a voluntary commitment, set up a coalition, organize a COP-accredited event, and finance events or projects related to the COP, etc.

Regions can also finance scientific research programmes to improve their knowledge on the consequences of climate change for their territory. In Spain, for example, Andalusia devoted over a billion euros to funding research on adapting agriculture to climate change from 2014 to 2020⁶⁸. In the Basque Country, five research and technology centres are taking part in the Urban Klima 2050 project alongside local regional governments. The aim is to develop pilot sites to prepare the region's adaptation to climate change (**ref. Part III Regions4**).

Following on from towns, regions are adopting the SDGs and making them part of their policies

Already analysed in the Synthesis Report on Local Climate Action 2021, more and more LRGs have been taking on Sustainable Development Goals (SDGs) since they were adopted by nations in 2015. More than just another analysis framework to communicate about their action, this engagement helps to connect climate action with other dimensions of public life (gender, the economy, inequalities, etc.).

Regional and local governments are using the Sustainable Development Goals (SDGs) to boost recovery. In a survey carried out by the Committee of the Regions and the OECD in May and June 2021, almost half of the 85 regions and towns in the 24 EU countries questioned said that they wanted to use the SDGs as a framework for their recovery policy: 40% had already done so before Covid-19, and 7% intended to take advantage of the pandemic to start using them⁶⁹. The conclusions of the annual report on SDG localisation by the CEMR and Platforma points in the same direction: 15% of local government associations questioned said that they were more committed to the SDGs than they were in 2019⁷⁰.

Following on from local governments, regional governments are adopting the SDGs in "voluntary reviews". While the number of "Voluntary Local Reviews" (VSR) (local government documents on their SDG progress) doubled from 2019 to 2021, many "Voluntary Subnational Reviews" the regional equivalent, have sprung up⁷¹. Regions4 counted about thirty of them for 2019-2020 alone, of which 16 were in Europe (e.g. Lombardy (Italy), Catalonia, Basque Country, Valencia (Spain), Normandy, Occitanie, Pays de la Loire (France), Åland Islands (Finland), etc.)⁷².

Besides VSRs, a number of European regions have recently integrated SDGs into their public policies. In Denmark, the Capital Region (Hovedstaden) has put together a [Regional](#)



[Development Strategy 2020-2023](#) on SDGs, in which it commits for example to stop using fossil fuels for its heating and electricity by 2035. The same goes for the Region of Southern Denmark, with its [Southern Denmark for the Future](#) strategy. Grouped into the Danish Regions Association, the five regions in the country report in the Danish Voluntary National Review (VNR) that they work together to define common indicators to monitor the progress of SDGs on their territories⁷³. In Germany, in 2019, a resolution was adopted to share the attainment of the SDGs between the federal government and the Länder. Several local government organizations highlight the progress and action made by German towns, counties and Länder in implementing the SDGs in the annex of the national review published in 2021. They point out in particular that, “most of the German federal states have adopted or revised own sustainability strategies with reference to the SDGs and have implemented diverse programmes and efforts. Some of them specifically focus on supporting their municipalities in developing and implementing their own sustainability strategies”⁷⁴. An [SDG-Portal](#) has been set up by these organizations to follow SDG progress in the regions with over one hundred indicators, and to compare them with each other. In Sweden, almost half of the country's municipalities and almost all of the regions are involved in the Glocal project, which aims to train political representatives and municipal agents at local authorities⁷⁵.

Local and regional governments in Europe are increasingly involved in national reviews. They participated in three-quarters (6/8) of the Voluntary National Reviews (VNRs) in European countries published in 2021, a sharp rise compared to the average of 57% from 2016 to 2020. For example, the Danish government worked with the Danish Regions Association and the Local Governments Association (KL) to produce its VNR. Contributions from the six cities most active on SDGs are presented in a special section of the review. In Spain, regional and local governments presented their own contributions for the VNR and participated in a consultation during the production process. Overall, since the first VNRs were published in 2016, it is in Europe that local and regional governments have been the most closely associated with their production⁷⁶.

Along the same lines as voluntary reviews for the SDGs, the localisation of NDCs could raise the climate ambition and lead to greater synergy between the climate agenda and the 2030 Agenda. A recent GIZ report points out that at regional and local levels, the frontier is narrower between policies to make progress on the SDGs and climate policies than it is at national level. Involving regions and local governments in putting together national climate strategies could therefore be a way of bringing these two agendas closer⁷⁷. The Committee of the Regions shares the same opinion, pointing out in their recommendation adopted in January 2022 that, “Local and regional authorities (LRAs) are best placed to integrate social issues with climate action, since they are the level of government closest to the people and play a key role in implementing legislation”⁷⁸. They also call for the integration of gender issues when drawing up, implementing and evaluating the Green Deal.



KEY TAKEAWAYS

Despite a negative impact on their finances, the pandemic has not stopped local and regional governments from pursuing their action on climate. However, it may have triggered a slight change: efforts to decrease greenhouse gas emissions increasingly try to integrate the long term and secure the necessary funding, and perhaps pay more attention to vulnerable people to leave no one behind.

In this global picture, European regions are no exception. While the European Green Deal and the new EU financial framework for 2021-2027 give them a key role in reaching the EU objective of carbon neutrality by 2050, the regions are already showing their capacity to engage in the transition (on renewable energy, transport, building, etc.) and anticipate the upheavals that their territories are likely to undergo due to climate change (e.g. via regional energy-climate observatories).

This general overview however hides some considerable disparities, on at least two levels: geographic and economic.

Firstly, for mainly historical reasons, the regional scale has a particular importance in western European countries, but not for their neighbours in the east. In France, Spain, Germany, Italy, Austria, Belgium, the Netherlands, etc, regions are major actors, sometimes autonomous (especially in Spain or federal countries), and can find themselves in competition with the national level. However, in the east, when they exist, regions mostly date from the point of accession to the EU. This East-West division thus draws some strong disparities in terms of jurisdictions and resources that are particularly apparent in the management of EU funds, which are mostly national in the east, but also in terms of climate action, which is more proactive, visible and monitored in western European regions.

Next, the economic situations of European regions mean that they are very unequally prepared and armed for the transition. It is easier to build a low-carbon economy in a rich, urban, tertiary region than it is in a coal-mining region, where the often depleted economy centres on fossil fuels. The European Just Transition Mechanism attempts to address this challenge by helping the most vulnerable regions, such as Silesia in Poland.

The Sustainable Development Goals, initially developed for nations, can also logically be applied at regional level. At the level of these territories, which are relatively uniform in terms of climate conditions but multifaceted in terms of actors and needs, the goal is not just to reduce emissions: the SDGs provide a framework for thinking out climate action and integrating other dimensions of living in society, such as economic life, greater equality, and inclusivity.



COUNTRY	REGION	POPULATION	LAST REPORTED EMISSIONS	MITIGATION TARGET
POLAND	SILESIAN VOIVODESHIP	4,620,624 HAB. (2012)	13.2 MTCO ₂ DUE TO ELECTRICITY PRODUCTION (2019)	CO ₂ EMISSIONS DUE TO ELECTRICITY PRODUCTION: -61.2 % BY 2030

In Silesia, a much needed “just transition” to moving on from coal

In 2015, 80% of Poland’s electricity and 86% of its heat came from coal, most of it from domestic production. Silesia is a strategic region for the coal industry, with [around half](#) (17) of Poland’s ~30 remaining mines. The region had [the worst air pollution](#) in 2019, on average three times the levels recommended by the WHO. Three years after the [Silesian Declaration on Solidarity and Just Transition](#), signed by many countries at the COP24 in Katowice, the region has a Territorial Just Transition Plan, to be funded by the EU.

Although coal mining in Poland has largely declined over the past 30 years, the coal sector still accounts for 4.2% of employment in Silesia. It is the sector with the highest rate of union membership: 72% of workers are members of a union, compared to an average of 11% across all sectors.

Thus, in addition to the need to significantly reduce coal activities in the region, which emit greenhouse gases and are dangerous to human health, there is a challenge of retraining workers who are attached to the identity of their region and dependent on this industry.

National climate and energy plans focused on the “just transition”

One year after the COP24 was held in Katowice, the capital city of Silesia, in 2019, the national government adopted its [National Energy and Climate Plan 2021-2030](#), where it set a target of a 23% increase in energy efficiency by 2030 and plans to use EU funds to train workers affected by mine closures to work in other sectors. In 2021, the “just transition” is [one of the three main pillars](#) of its Energy Policy to 2040.

Poland is set to be [the first beneficiary](#) of the Just Transition Fund, set up by the EU to help regions heavily dependent on fossil fuels to socially support their energy transition: 20% of the fund’s EUR 19 billion is reserved for the country, ahead of Germany (13%) and Romania (11%). Three

Polish regions have been identified by the Commission to receive these funds: Silesia, Eastern Wielkopolska and Wałbrzych. Three others are under negotiation between the Polish government and the Commission.

A national Just Transition plan has been prepared by the Polish Ministry of Climate and Environment. In parallel, the governments of these six regions [have established](#) a Territorial Just Transition Plan (TJTP), in partnership with the European Commission, the national government, local governments, organisations representing the private sector, research, trade unions and civil society.

A Territorial Just Transition Plan ready for implementation

The [Silesian TJTP](#) foresees the closure of three mines before 2030 (Ruda, Boleslaw Smialy and Sosnica), which will reduce coal extraction from 30 Mt in 2021 to 23 Mt in 2030. According to the plan, these closures will result in the loss of more than 5,000 direct jobs and about 15,000 indirect jobs. Thanks to European funds, Silesia plans to create around 30,000 jobs by supporting the development and creation of companies. The main transition burden [is shifted](#) to after 2030, as the remaining eleven mines, on which over 100,000 jobs depend, will be closed between 2030 and 2049. Normally, the allocation of just transition funds by the EU is conditional on a plan to close the mines (or sharply reduce their production)

before 2030, but the EU has tolerated this 30-year staggering of closures because of the importance of the Silesia region for the supply of coal to all of Europe.

The TJTP also plans to reduce coal-fired electricity production by 80% by 2030 (from 14,403 GWh in 2019 to 3,079 GWh in 2030) through the closure of four coal-fired power plants (two in 2028, two in 2030), thereby reducing CO₂ emissions from electricity production by 62.1%. It also plans to install renewable energy capable of producing 189,827 MWh per year. [A report](#) by the Bankwatch Network and the Polish Green Network analysing the TJTPs in Poland finds that on the whole the plans provide adequate measures for retraining of workers affected by the closures of emitting activities, as well as helping companies to employ. However, in the case of Silesia, they regret that the age structure of workers is not mentioned in the plan, although it would help to refine the estimates of job losses and needs.

In 2021, in addition to numerous diplomatic tensions between Poland and the European Commission, a coal mine concession granted in June by the Polish Minister for Climate and Environment in Myslowice (southern Silesia) seems to threaten the credibility of the TJTP and the allocation of EU funds, as evidenced by [an exchange](#) between a Polish Member of the European Parliament (S&D group) and the European Commissioner in charge of Cohesion Policy, Elisa Ferreira.



COUNTRY	REGION	POPULATION	LAST REPORTED EMISSIONS	MITIGATION TARGET
UNITED KINGDOM	SCOTLAND	5,453,400 (2019)	47.8 MTCO ₂ E (2019)	-75% BY 2030; -90% BY 2040; «NET ZERO» BY 2045 (BASELINE YEAR: 1990/95)

Linking climate action and the SDGs in Scotland

In the United Kingdom, strong decentralisation allows cities and the four constituent nations to set more ambitious targets than the UK government and to experiment with measures and modes of governance for climate action within certain areas ([Climate Chance](#), 2019). This is particularly the case in Scotland: enacted in 2009 and updated in October 2019, Scotland's Climate Change Act now sets an ambitious target of net-zero emissions of all greenhouse gases by 2045, with 2020 having an interim target of being at least 56% lower than 1990. In addition, climate action is part of a wider strategic framework and has many links to Scotland's work on the SDGs.

In 2007, Scotland adopted the [National Performance Framework](#) (NPF), a comprehensive strategy to make Scotland «a more successful country with opportunities for all to flourish through increased wellbeing». The NPF sets out eleven targets with indicators to measure the country's development through more than just GDP. A fourth update of the NPF is currently underway.

In February 2020, Scotland published its [Environment Strategy](#), to set out the overall framework for environmental and climate action. A section of the strategy analyses the links between this vision and both the NPF and the SDGs.

A collaborative and integrated approach for climate and SDG action

Scottish climate action lays out the collaborative approach: public engagement is a key pillar of Scotland's climate strategy, with Climate Week celebrations every year and largescale public consultations like the [Big Climate Conversation](#).

The collaborative approach is also a pillar of Scotland's SDG policy. The [Scotland SDG Network](#), established in 2017, is made up of over 500 individuals and organisations working together to implement the SDGs. For the elaboration of the UK's Voluntary National Review (VNR) – the assessment of the progress made in achieving the SDGs at

the national level, the SDG Network joined forces with the network of Scottish local authorities (COSLA) and the Scottish Government to deliver Scotland's contribution. This initial work then led to the publication of a specific [VNR](#) for Scotland in 2020.

The chapter on SDG 13 in this Scottish VNR focuses on the links between climate action and SDGs: "the range of commitments in our Climate Change Plan mean that our climate action also helps to deliver other SDGs [than SDG 13]". The link is also made with the NPF: at the end of the chapter, a figure shows the alignment of the Scottish Climate Change Adaptation Programme with the NPF and the SDGs.

An effort that reaches the local level

In 2018, the Scotland SDG Network published an open letter asking Scotland's 34 councils to report on their work in implementing SDGs.

Five cities responded: East Ayrshire, Fife, Aberdeenshire, Glasgow and Dundee.

In its response, the city of Dundee, for example, states that it takes into account the 17 SDGs in its City Plan, its Council Plan and its Sustainable Dundee Plan. Its [Climate Action Plan](#), published after important co-construction work with local stakeholders, sets out the links between the actions

provided by this plan and the SDGs in a large table presented in an appendix to the document.

A connection to a Just Transition

Convened in 2019, a Just Transition Commission compounded of civil society experts, delivered its final report in March 2021. In response, the Scottish government created a National Just Transition Planning Framework, and entitled a new Commission to advance work to design a Plan.

[A North Sea Transition Deal](#) was firmed in March 2021 between the UK government and the offshore oil and gas industry to safeguard jobs and create additional 40,000 jobs by 2030 in CCUS and hydrogen production in the region.



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