



Synthesis paper of joint challenges and needs of the Interreg CENTRAL EUROPE programme area

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Introduction

Central Europe (Central Europe) covers 9 countries, seven of them fully including Austria, Croatia, the Czech Republic, Hungary, Poland, Slovakia and Slovenia, and two partly, namely Germany and Italy. Germany participates with the Bundesländer Baden-Württemberg, Bayern, Berlin, Brandenburg, Mecklenburg-Vorpommern, Sachsen, Sachsen-Anhalt und Thüringen as well as the Braunschweig region in Niedersachsen. Italy participates with 9 regions, i.e. Piemonte, Valle d'Aosta, Liguria, Lombardia, the autonomous provinces of Bolzano/Bozen and Trento, Veneto, Friuli-Venezia Giulia and Emilia-Romagna.

In total, Central Europe includes 81 NUTS-2 regions¹ with around 148.5 million inhabitants in 2019. This corresponds to one third of the EU population. Central Europe has seven cities with more than 1 million inhabitants, they are: Praha, Milano, München, Budapest, Warszawa, Wien and Berlin. Around one third of the Central Europe population lives in bigger cities, 37% in intermediate regions, and 30% in rural areas. Central Europe area covers approximately 25% of the EU, while its economy generates 30% of the EU GDP.

Central Europe is a major industrial core of the EU. This not only gives a distinct identity to the region but also a unique function as a highly important functional region within the EU. Its industrial development is a key factor for the global competitiveness of the EU and it exerts positive economic spill overs to other EU countries.

Also, Central Europe connects Europe from North to South and from East to West. In a literal sense, the Central Europe territory connects a) the Scandinavian and Baltic countries with Southern Italy and the Balkan countries as well as b) the Western European countries with Eastern EU and neighbourhood countries. In a figurative sense it links economically more prosperous countries in the West with less prosperous countries in the East, and also provides a cultural bridge all the way from Scandinavia to the Mediterranean Sea.

Central Europe brings together countries from both sides of the former Iron Curtain. This has economic, social, territorial as well as political implications. Despite major progress, economic and social differences between 'Eastern' and 'Western' Central Europe countries are still pronounced.

Central Europe is a highly functional area with a special role in the EU. This differentiates the Central Europe territory from other regions in Europe. Its role and functionality are not only based on the geographic proximity of countries or the sharing of common challenges. Much more it is the strength and number of interactions and linkages between a) economics and business (e.g. trade and investment linkages), b) administrations and the political sphere (e.g. Visegrád group, Centrope), c) people (cultural and historical ties) and d) the environment (e.g. the European Green Belt) in the Central Europe territory that give it a special place in the EU².

Sustainable economic development

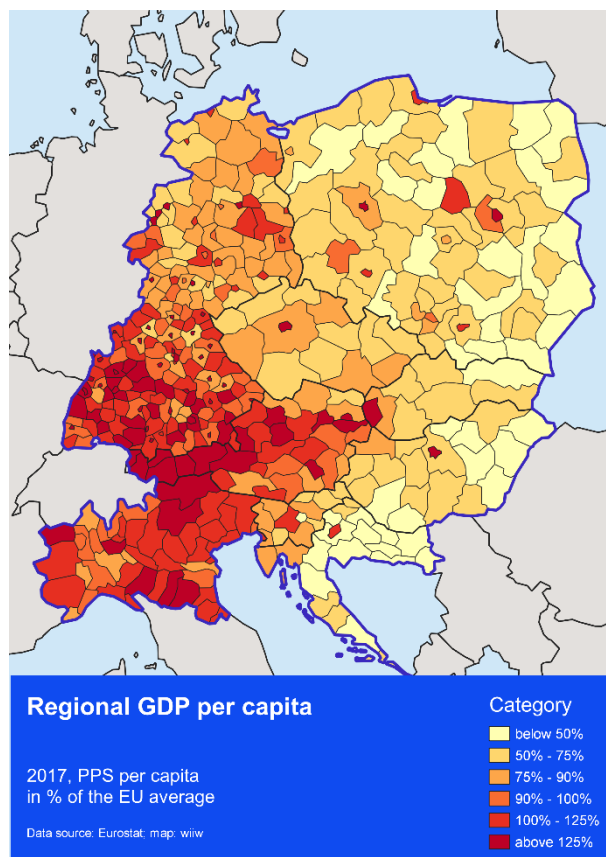
In the three decades after the breakdown of the Iron curtain, the formerly centrally planned economies in Central Europe grew strongly, but yet **disparities** between the countries and regions in the central Europe are still very high. The average GDP per capita (at purchasing power standards) of the ten most developed NUTS-

¹ According to NUTS 2021 classification.

² wiiw, 2018, Policy Brief: Socio-economic challenges, potentials and impacts of transnational cooperation in central Europe.

3 regions in central Europe is about 9 times higher than the GDP per capita of the ten least developed regions. (see Figure 1). These disparities are mirrored within the countries as gaps between urban and rural regions are widening. Closing these gaps will not only still take a considerable amount of time, but also continuous policy efforts, which are made more difficult through the emergence of the COVID-19 pandemic and the need to tackle its economic and social effects.

Figure 1: Regional GDP per capita, 2017, NUTS-3 regions in % of the EU average



Source: Eurostat, map: wiiw

Despite the differences, the countries in Central Europe are strongly linked economically, especially through the manifold **value chains** in the manufacturing industries, of which the automotive industry is the most prominent example of many. That is, economically Central Europe is a highly **functional economic area**, and considered to be the industrial core of the EU. Keeping or expanding this strong global position Central Europe has in manufacturing industry, is a major challenge. The fourth industrial revolution and the EU wide momentum for a green economy have triggered a period of transition towards a digitised economy with advanced technology that requires a skilled workforce. Value chains are being reviewed, revised and new value chains are created.

The combination of the fast pace of technological progress and fierce global competition due to globalisation implies that governments, businesses and citizens have to adapt swiftly in order to harness the potential benefits and to not fall behind. This refers to many aspects that are of high relevance for Central Europe such as key business areas, e.g. manufacturing, but also the S3 policy areas and related policy sectors such as a)

energy and environment; b) public health, medicine and life sciences, c) agro- and bio-economy, d) advanced materials and nanotechnology, e) transport and mobility, f) advanced manufacturing systems or g) ICT and electronics. This also refers to the services sector, especially the knowledge intensive services³. Here Central Europe faces a double challenge, as this sector not only needs to be modernised, but at the same time also could be expanded, as compared to other EU countries it is still less developed, i.e. its share in total gross value added is around 29%, while in the other EU regions it is, on average, 32%⁴.

It also means making use of local strengths, incorporate them into the S3 policies and expand existing or developing new economic activities. Notable examples include the creative and **cultural industries** that are catalysts for using local knowledge to develop new activities, and the **tourism** industry. In Central Europe the latter is well developed in the coastal and mountainous areas and is an important element of the local economies as it provides up to 14% of total employment⁵. In the more remote rural regions tourism in combination with cultural industries offers an untapped economic potential, for example by combining sustainable tourism with local crafts. To develop such activities, policy needs to support local stakeholders and initiatives to, inter alia, set up coordinated and joint tourism strategies.

Ideally, in the light of the European Green Deal and the Territorial Agenda 2030, the economic transformation is also an ecological one, amongst other actions by developing the **circular economy**. Evidence shows⁶ that it is increasing in Central Europe, but gaps to EU average levels, e.g. in Croatia, the Czech Republic, Hungary, Poland or Slovakia are still large (Figure 2) and require major efforts to be overcome. These can include the promotion of circular design and production, the support of circular economy related research and investments or the exploration of the opportunities of the bio-economy, which can be particularly important to support economic development of rural areas.

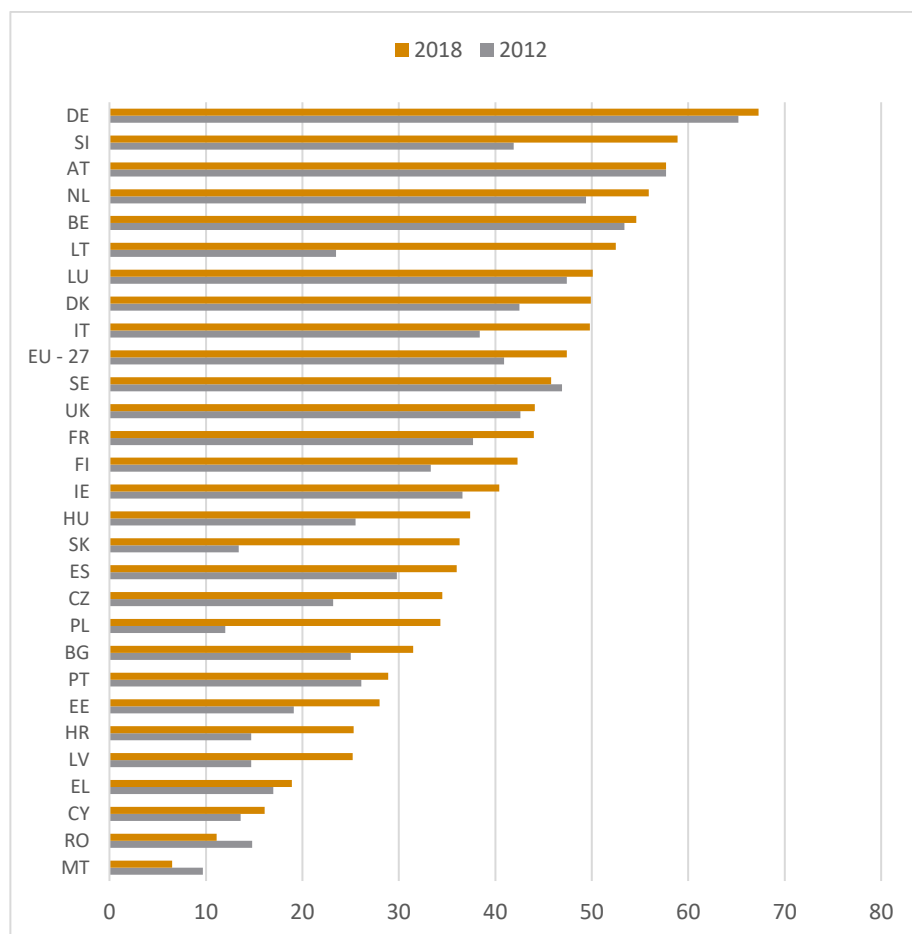
³ Knowledge intensive services (KIS) are grouped in the four main subgroups: a) High-tech KIS (telecommunications, computer programming, scientific research etc.), b) Knowledge-intensive market services (air transport, legal activities, architectural and engineering activities etc.), c) Knowledge-intensive financial services, d) Other knowledge-intensive services (e.g. health and education)

⁴ Analysis of the main territorial challenges, needs and transnational cooperation potentials in central Europe, wiiw 2020 Annex 1: Analytical report. This reference is hereafter called "wiiw 2020 Territorial Analysis, Annex 1: Analytical report"

⁵ Estimates based on 2017 NUTS-2 regional employment data.

⁶ wiiw 2020 Territorial Analysis, Annex 1: Analytical report"

Figure 2: Recycling rate of municipal waste, 2012 and 2018, % of total waste generated



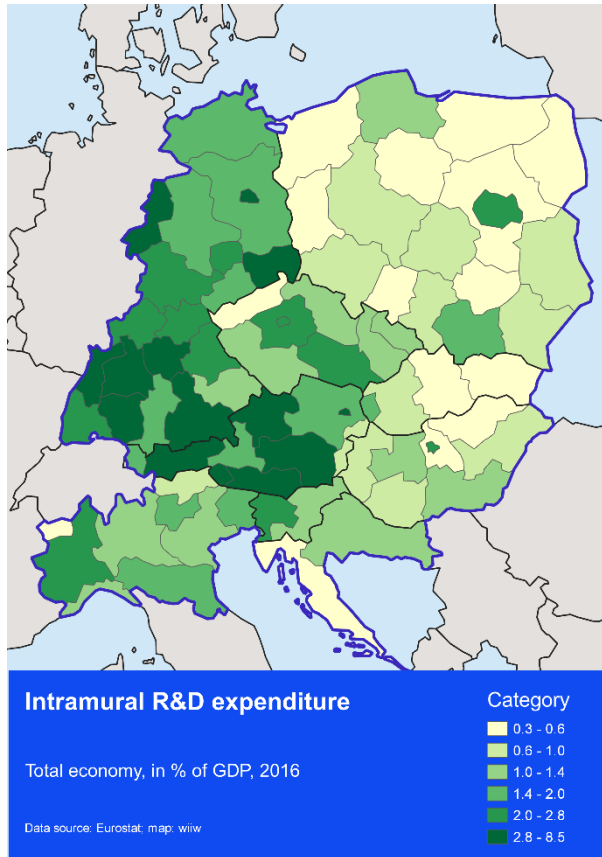
Notes: Data for Ireland for 2017.

Source: Eurostat

An important ingredient for the digital and ecological transformation is research and innovation. For Central Europe the challenge is to overcome the differences in **R&D potentials**⁷. In Central Europe only a few, mostly Austrian and German, regions have R&D expenditures higher than the EU benchmark of 3% of GDP (Figure 3). Likewise, R&D activities are heavily concentrated in highly urbanised regions, whereby in some countries, e.g. Croatia, Czech Republic, Hungary, Poland or Slovakia this spatial clustering of R&D activities increases over time, drying out the potential of the rural regions. Also, R&D activities are dominated by large companies, which account on average for 50% to 60% of commercial R&D expenditures (in Slovakia for 87%).

⁷ wiiw 2020 Territorial Analysis, Annex 1: Analytical report, p.10

Figure 3: Intramural R&D expenditure, total economy 2016, in % of GDP



Source: Eurostat; Map: wiiw

To tackle these challenges policy needs to support networks of different R&D actors within and across countries for the transfer of technology, policy learning and the sharing of best practices to improve innovation governance. Policy also needs to focus on SMEs enabling them to take up key enabling technologies or innovative activities like prototyping and also getting access to venture capital for the market-oriented development of innovation ideas. A key element is to overcome the urban-rural divide and to establish functional urban areas that not only physically connect urban with rural areas, but also allow mutually benefitting from the other regions' strengths.

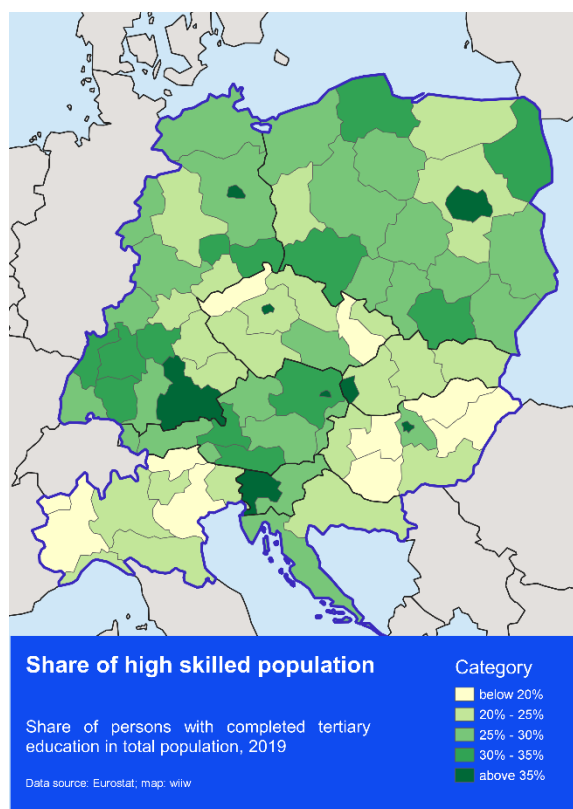
Skills are another important ingredient for a successful technological and ecological transformation. By and large, the skill supply in Central Europe is supportive of this as the share of people with upper secondary, post-secondary non-tertiary and tertiary education is generally above 80% and thus at least 6 percentage points higher than the EU average in 2019⁸. Nevertheless, in Central Europe highly skilled people are concentrated mainly in urban regions (Figure 4), while intermediate and rural regions have a high share of medium educated people (i.e. completed secondary education), who are typically the backbone of the

⁸ Source: Eurostat

manufacturing industry. This reinforces Central Europe's need to connect urban and rural regions and tap their combined potential.

Further skill related challenges exist regarding education and **informal learning activities**, which are important for the acquisition of entrepreneurial and soft skills, such as self-confidence, adaptability as well as creativity. In turn, these are important to support smart specialisation processes in the regions. In Central Europe participation in informal learning is generally above EU average levels, except for Hungary, Germany and Poland. Similar to this, **digital skills**, being vital for the smart specialisation process⁹, are unevenly distributed across Central Europe. In particular, Poland, Hungary, Croatia and Italy experience a high share of individuals without any experience with the computer, with digital illiteracy being particularly high in rural regions.

Figure 4: Share of population with completed tertiary education



Source: Eurostat; Map: wiiw

Environment, energy and climate change

Environmental challenges are manifold in central Europe given its rich bio-diversity and geographic characteristics including coastal and mountainous, large areas of farmland and forests as well as big cities.

⁹ European Commission (2018b), Skills for Smart Industrial Specialisation and Digital Transformation. Interim Report, DG for Internal Market, Industry, Entrepreneurship and SMEs, November 2018.

These challenges include climate change, a decline in biodiversity, green infrastructure, the need to reduce greenhouse gas emissions and environmental pollution and the necessary increase in energy efficiency and use of renewable energy.

Climate change potentially is the challenge with the most far reaching consequences. Because of the many different ecosystems, from the coastal areas at the Mediterranean Sea and the Baltic Sea, to the mountainous Carpathian and Alpine areas and to the densely urbanised or highly rural areas, Central Europe is subject to many climate change related challenges. These include a) an increase in heat extremes combined with increasing risks of (forest) fires, b) a decrease in summer precipitation, c) an increase in energy-demand for cooling or d) a substantial higher risk of river floods as projections suggest an increase of heavy rain events in Central Europe by 35% until the year 2070¹⁰. A specific problem for urban areas is the Urban Heat Island effect, i.e. cities showing higher temperatures (up to 12° C) compared to their surroundings. Consequences of these effects for urban areas are: a) an increasing summertime peak energy demand for cooling, b) air conditioning costs, c) air pollution and greenhouse gas emissions, d) heat-related health challenges for vulnerable groups of the society and e) reduction of water quality.

To tackle these challenges, policy needs to improve the practices and knowledge applied to increase climate change resilience, which then allows addressing among others urban heat islands, the management of water in both, urban and rural areas or improving the functional relationship in Central Europe regarding a transnational environmental risk management. Policy needs further include the introduction of 'green', i.e. nature-based adaption measures like a) new crop and tree varieties, b) allowing room for rivers to naturally flood onto floodplains and c) restoring wetlands.

To exploit synergies, climate change adaptation policies -as other environmental policies- in Central Europe, need to be connected with economic considerations, such as the sustainable tourism development in less prosperous regions. To this, adaptation measures can contribute to support local tourism e.g. by protecting and conserving historic buildings and cultural heritage sites.

Particular challenges for Central Europe, but also ones that offer synergies with other policy needs are **biodiversity and green infrastructure**. Central Europe has highly diverse biogeographical regions such as the Pannonian region (South of Slovakia, Hungary), the Continental region (Germany, Poland, Czech Republic, North and East of Austria, North Italy, and the East of Slovenia), Alpine region (the West and Centre of Austria, North Italy, West Slovenia, West Croatia, and South of Germany as well as the Carpathian areas in North and East of Slovakia and the South of Poland) and the Mediterranean Region (Croatia and Italy with the regions at the Ligurian Sea,).¹¹ These regions are highly differentiated and include large areas of forested and agricultural land, mountainous areas, watercourses, coasts with specific landscapes, the sea, plains, lakes and urbanised areas. Maintaining these natural resources and biodiversity is a major challenge.

Over the last years Central Europe experienced a continuous loss of biodiversity due to land use change and fragmentation, pollution, over-exploitation of natural resources, invasive alien species as well as climate-change¹². To illustrate, measuring biodiversity with the 'Common farmland bird index' indicates that biodiversity dropped strongly in all CE countries, except Hungary from 2008 to 2018, while in the same period

¹⁰ Source: European Environment Agency, <https://www.eea.europa.eu/highlights/why-does-europe-need-to/climatechangeimpactineurope.pdf/view>

¹¹ For a reference see: <https://www.eea.europa.eu/data-and-maps/figures/improvements-across-eu-biogeographical-regions>

¹² wiiw 2020 Territorial Analysis, Annex 1: Analytical report

it on average stabilised in the EU¹³. By reversing this negative trend, policy not only will contribute to preserving the beneficial functions of the various ecosystems such as climate regulation, food protection, soil fertility and the production of food, fuel and medicines. It will also make the regions a more attractive place to live and visit. The potential for this is high in Central Europe. The size of the core breeding and resting sites for rare and threatened species under the Natura 2000 network in most Central Europe countries is on average higher than in the EU average. To illustrate, around 37% to 38% of Slovenia's and Croatia's territory falls under the Natura 2000 network, in Slovakia 30%, while the EU average is at 18%¹⁴.

The provision of **green infrastructure**, being in line with the Territorial Agenda 2030¹⁵, is particularly important for several Central Europe cities that have a low amount of green space, like Bratislava, Prague or Budapest. At a more general level it mitigates the negative effects of land take and soil sealing. Actions are needed to tackle it, and they may include inter alia improving spatial planning taking into account green infrastructure measures, the restoration of contaminated or otherwise damaged land or the greening of cities (e.g. green roofs or walls), of which the latter also contributes to lower the urban heat island effects.

Energy efficiency and greenhouse-gas (GHG) emissions are particular Central Europe challenges. Although between 2005 and 2018 final energy consumption decreased in most and energy intensity¹⁶ in all Central Europe countries, , average consumption is still considerable higher than in the EU on average¹⁷. This is illustrated by the final energy consumption per m2 in the residential sector. It decrease in all Central Europe countries, except Italy, but by 2018 consumption was up to 47% higher than the EU-average (Figure 5). Similar for the GHG emissions. In four Central Europe countries (Czech Republic, Poland, Germany and Austria) GHG emissions per capita are up to 40% (Czech Republic) higher than the EU average, in two countries (Slovenia and Slovakia) they are around the EU average and only in the remaining three below it. Despite progress being made, as all Central Europe countries reduced their GHG emissions over the last two decades, policy needs to take further actions. This could include supporting the improvement of the energy performance of buildings and the uptake of efficient energy consuming equipment for heating/cooling. Also, the introduction of smart buildings that are capable to adapt operation to the needs of the occupants while ensuring optimal energy performances can be a policy target. Policy also needs to consider synergies with other economic challenges, e.g. by supporting the optimisation of industrial energy use and processes, to e.g. reduce the heat losses, introduce energy recovery processes, or shift manufacturing industry production processes to environmentally friendlier modes.

¹³ wiiw 2020 Territorial Analysis, Annex 1: Analytical report

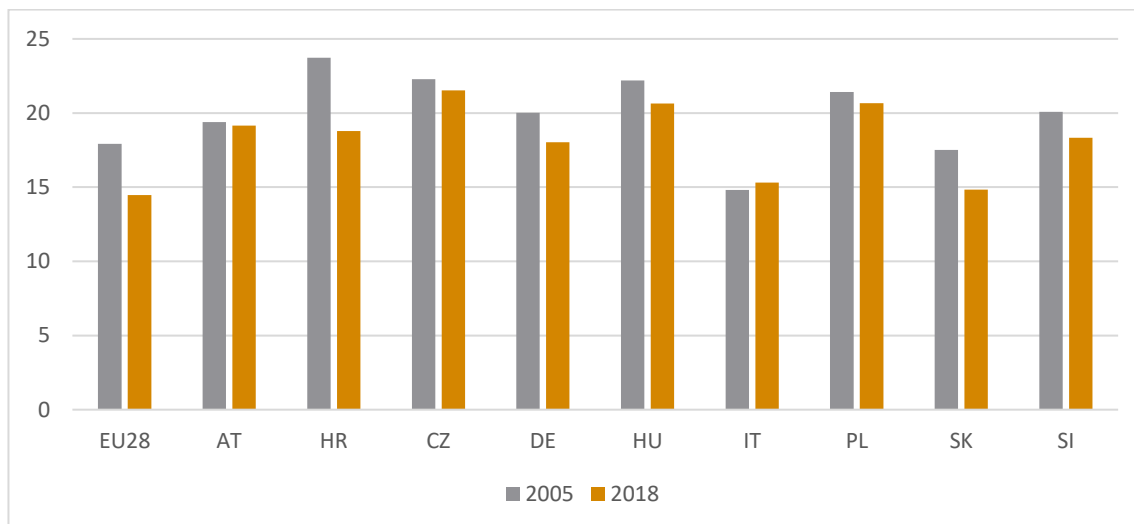
¹⁴ European Commission, 2020, Nature and Biodiversity Newsletter - Natura 2000, July 2020

¹⁵ Territorial Agenda 2030, Draft version July 2020, p.12

¹⁶ Energy consumption per unit of GDP.

¹⁷ Source: Eurostat energy database

Figure 5: Final energy consumption per m² in the residential sector, at normal climate, 2005 and 2018, in kg of oil equivalents / m²



Source: DATA MAPPER for Energy Union Targets

https://ec.europa.eu/energy/en/atico_countriesheets/database?indicator=EE4&type=bar

One way to reduce the Central Europe carbon footprint is the use of **renewable energy**. This extent of this tends to differ in Central Europe from a renewables' share in gross final energy consumption of 33.5% in Austria and 13% in the Czech Republic in the year 2018. Although in 2018 a number of Central Europe countries have already outperformed their self-selected 2020 renewable energy target, further policy efforts have to be taken in Austria, Germany, Hungary, Poland, Slovakia and Slovenia. For this, policy actions may address the research and industrialisation of the renewable energy supply chain to drive down costs or act at the regional and local level to form adequate support schemes to increase the use of renewable energy. Other actions can address the improvement of existing and the development of new technologies to generate renewable energy and the increase of energy storage capacities.

Another Central Europe specific challenge is **environmental pollution**. There are two types of pollution to be tackled. Firstly, **air quality** is of particular concern in the central Europe region. In fact, within Europe central Europe is the most heavily affected region by particulate matter (pm) as well as nitrogen oxides (NO_x). Especially high pm-concentration was measured in Poland, Northern Italy and partly in Hungary. Strong air pollution can be found in many central European cities, such as Budapest and Bratislava or Košice. Secondly, **soil and water contamination** related to abandoned military, industrial and storage sites or agriculture is a major issue. Most frequent contaminants include heavy metals and mineral oil. Remediation has been taking place; however, progress was considered to be slow, capacities to deal with the problem are rather limited.

Correspondingly, there is a recurrent need for policies to tackle air, soil and water pollution. Actions need to be taken to, for example improve the coordination of air quality governance or air quality modelling and monitoring. Policy should further contribute to the reduction of emissions in agriculture, industry, and households as well as to the rehabilitation of land to reduce soil sealing and contamination.

Sustainable transport and connectivity

Central Europe is a connecting region linking Europe from East to West and from North to South. It is strongly connected with and partly hosting the main European transport corridors. In fact, seven of the in total nine TEN-T corridors connect at least two Central Europe countries, i.e. the Baltic-Adriatic, Rhine-Danube, Orient/East-Med, Mediterranean, Scandinavian-Mediterranean, North Sea-Baltic and Rhine-Alpine corridor. With that Central Europe is connected to some of the main European harbours like Hamburg or Trieste and thus provides road, rail and waterways infrastructure for the free movement of goods and people within Europe. Hence Central Europe has a big role in the physical integration in the EU.

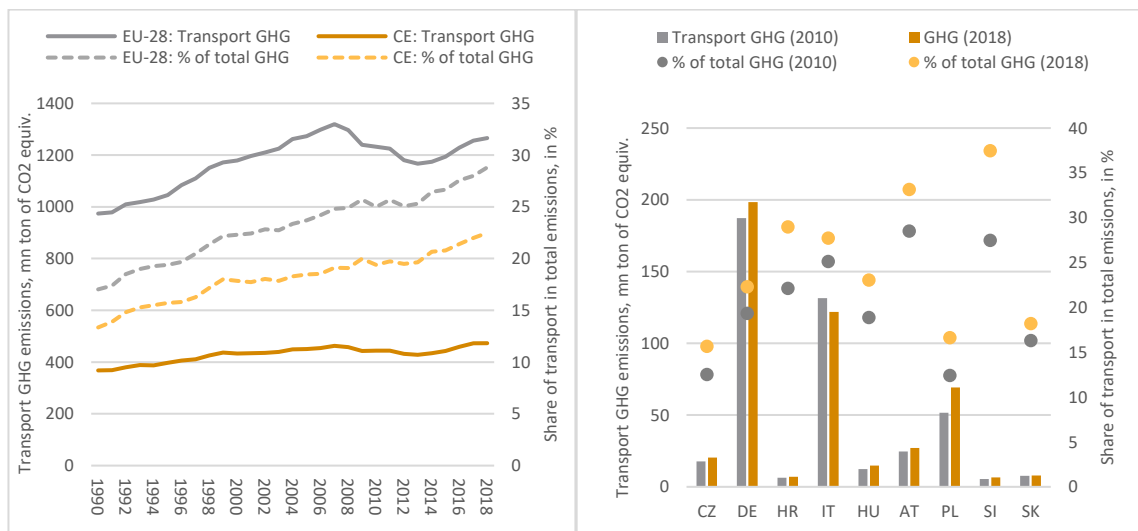
Also, Central Europe is a heavily economically integrated area within its own boundaries, and developing a sustainable transport infrastructure and services is essential for making the functional relationships between Central Europe countries and regions as well as between urban and rural areas work effectively. To fulfil its role as connecting region and to further deepen the region's functionality, several challenges need to be addressed in Central Europe.

Firstly, for transport to be effective and inclusive, it needs infrastructure and respective services **connecting** the Central Europe regions. This, in turn, requires a transport network and related transport services linking peripheral regions to the core transport network. Hence, for Central Europe to strengthen its functional relations, it is crucial to ensure a high regional and local accessibility, which connects rural and urban areas in Central Europe. For this, policy needs to remove various existing bottlenecks within and across countries because of missing trans-border links or services outside of the core TEN-T network in Central Europe. This includes the need to support the integration of various transport modes and to ensure the interoperability and adequate supply with transport infrastructure capacities.

Secondly, at the moment Central Europe transport is not particularly **environmentally sustainable** or **climate resilient**. To illustrate, from 2010 to 2018 the transport sector's share in the total GHG emissions increased in all Central Europe countries, most significantly in Slovenia, Croatia and Poland (Figure 6). This means that increasing the sustainability of transport requires the shift from predominantly still fossil fuel-based road transport to more sustainable modes. As of 2018, throughout Central Europe, more than 65% of freight is transported via roads. Road transport is responsible for 72% of the transport sector's GHG emissions in Central Europe¹⁸.

¹⁸ wiiw 2020 Territorial Analysis, Annex 1: Analytical report

Figure 6: Greenhouse gas emissions attributable to the transport sector (million ton of CO2 equivalent) and its share in total emissions (in %)



Note: Data in these charts refer to the whole territories of DE and IT. Source: Statistical Pocketbook of the European Commission, DG MOVE (2018) based on information provided by the European Environment Agency (EEA) in June 2019; Diagrams: wiiw.

A **sustainable, multimodal mobility** is particularly important for **urban areas** amongst other reasons given the high levels of air and noise pollution in some central European cities, like Bratislava, Budapest, Prague and Warsaw. These cities have particular high rates of car ownership, which coincides with major problems related to traffic congestion and air pollution. In turn, medium and small cities in Central Europe often lack an adequate provision of public transport opportunities. This leads again to an extensive use of cars as the main means of transport.

Changing these transport patterns and behaviour requires policy to address urban planning, safe cycling and walking paths, clean local public transport, introducing new delivery technologies such as drones, or car and bike sharing services. In addition, urban transport policies need to be seen in a functional urban area context, requiring a thinking beyond city borders and incorporating the needs and the mutual relationships with the surrounding rural areas.

The third challenge relates to **transport safety** in Central Europe. The number of road fatalities is high (in 2017 25,256 road fatalities were recorded), particularly in Croatia and Poland. Also, around 29%-30% of all traffic related victims in Slovakia and Poland as well as 27% of those in Hungary were pedestrians. These numbers would be even more alarming if cyclists were not counted as drivers. To improve transport safety efficiently, policy may combine this with measures related to increasing the environmental sustainability, such as the introduction of intelligent transport systems for vehicles, including the transfer of latest available technologies.

The fourth challenge is the creation of a comprehensive **intermodal and intelligent mobility and freight transport**. Before the COVID-19 pandemic, which brought a dramatic (temporary) reduction in transport flows, expectations were that the combined rail-road transport market in Europe will grow strongly, with strong repercussion on Central Europe given its central geographic location. To handle these transport flows, policy

needs to establish transnational, national, local and traffic systems, to manage transport efficiently, reduce traffic congestion and emissions and improve transport safety. To make full use of intelligent and intermodal transport systems, policies supporting their introduction in a harmonised way across borders will increase the utility of these systems, e.g. in the case of intelligent cross-border travel information and traffic management services.

Horizontal challenges

DEMOGRAPHIC CHANGE AND EQUAL OPPORTUNITIES

The large differences in prosperity and prospects in Central Europe are a multidimensional phenomenon, as regional disparities concern income levels, job opportunities, innovation potential, connectivity, accessibility, employment opportunities or quality of life to mention a few. The direct consequence of these differences across Central Europe regions and territories are differences in **demographic trends**, caused by migration and natural population developments¹⁹. In Central Europe, net migration rates differ greatly, with part of the regions suffering from large emigration flows, while others being confronted with challenges caused by inflows.

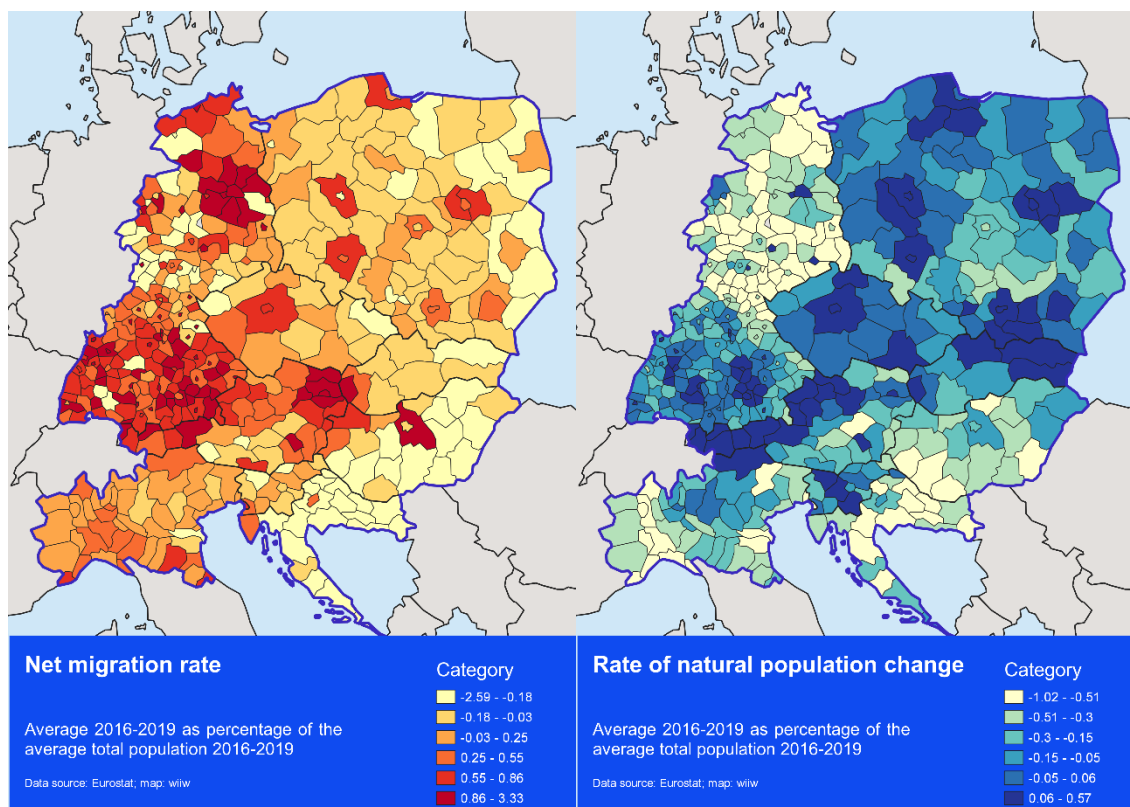
By and large, this **migration pattern** has an East-West trajectory, with large net-emigration rates in Croatia, eastern Hungary and eastern Poland. Strong immigration in turn, is recorded in Berlin, Bratislava and Vienna, around Budapest and most of southern Germany. In addition, Central Europe faces a strong trend of urbanisation and sub-urbanisation, i.e. people leaving peripheral rural regions and moving to or close to larger cities (Figure 7).

At the same time, **natural population developments**, i.e. the difference between the number of live births and deaths, are largely negative in central Europe. In over 75% of the regions natural population rates decline, particularly in eastern Germany, southern Hungary, north-western Italy and Croatia.

The combination of population decline and outward migration is a particular challenge for **rural regions**. As often young, well educated people leave the region, this erodes the productive basis and potential source of economic development of the regions. It also leads to a shrinking and ageing of the regions, because the population declines and the average age of people increases. This creates social challenges in the form of unequal opportunities depending on the region a person lives in. In many cases, unemployment, poverty and material deprivation trigger a vicious circle and reduce the opportunities to take part in society.

¹⁹ ESPON (2018), Indicators for integrated territorial and urban development. Working paper.
<https://www.espon.eu/integrated-indicators>

Figure 7: Average yearly net migration rate (left graph) and average yearly rate of natural population change (right graph) 2016 – 2019 in % of the total average population 2016 – 2019



Source: Eurostat, Maps: wiiw

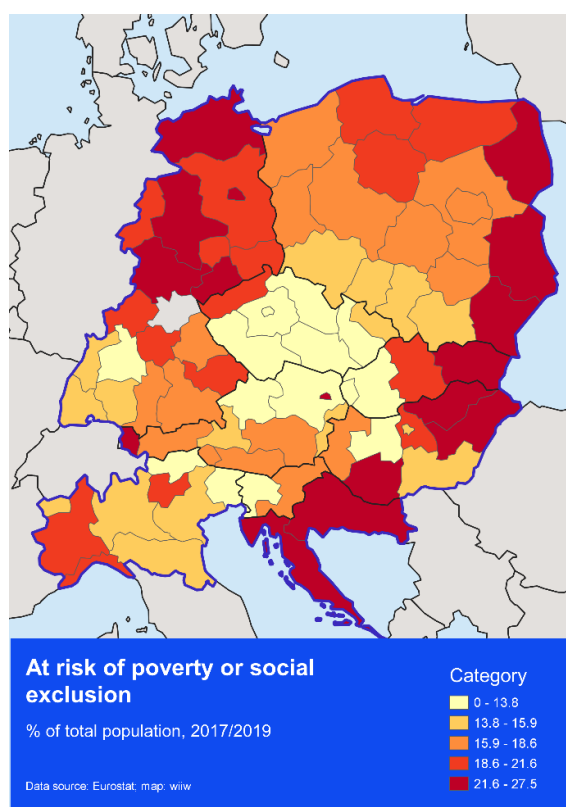
In Central Europe this is a particular problem in the less prosperous regions, like Eastern Germany as well as in peripheral Polish regions, Slovakia or Croatia where **long-term unemployment** is a serious problem. Also, youth employment is a challenge for some Central Europe regions as is involuntary part-time employment, i.e. people holding part-time jobs as no adequate full-time jobs are available to them²⁰. This is a particular challenge for women in those Central Europe regions, where for example Slovakia and Hungary parenthood has a substantial negative impact on female employment. This points to crucial difficulties in the **labour market integration of women**.

In addition to these challenges, the rapid transformation of the labour market due to globalisation and the cross-country division of labour has increased the demand for work flexibility and has decreased job stability. This introduced new requirements for **training and skills** in Central Europe. The capacities to meet these requirements differ in Central Europe as participation rates in education and training vary between 2% to around 20%, with low rates being recorded for Polish, Slovak and Croatian regions. More generally, in Central Europe participation rates in education and training are significantly higher in urban than in rural regions. In part, this correlates with challenges concerning early leavers from education and training, which are a particular challenge for certain Central Europe hotspots like Východné Slovensko, North-Eastern Hungary, Piemont, Severozápad or Berlin.

²⁰ wiiw 2020 Territorial Analysis, Annex 1: Analytical report

The differences of employment and training opportunities often translate into other social challenges such as **social exclusion** and a limited access to public services, most importantly, services of general economic interest (e.g. health care services). Thus, the risk of poverty and social exclusion²¹ is still an important issue in most central Europe countries, particularly in rural regions in in Croatia, Hungary, Poland and Slovakia. (Figure 8). This is accompanied by high rates of young people not in employment, education or training in regional clusters in Italy Croatia, Hungary, the Czech Republic and Poland.

Figure 8: At risk of poverty or social exclusion 2018/2019, in % of total population



Source: Eurostat.

Note: AT, DE, SK – 2017.

The challenge for social policies is to not only treat the symptoms of lower levels of economic development but to address their causes. Hence, the policy challenge is to develop synergies to other policies that support explicitly economic and territorial development. For example, this asks for policies linked to innovation policies, to support innovation including social innovation. Also, a particular important issue for Central Europe is linking policies to skill development, most prominently digital skills. Such policy actions need to involve local stakeholders from both, the market and public sector, and citizens that work together to fulfil local needs and thereby exploit local knowledge. This is particularly important for rural regions.

²¹ The risk of poverty and social inclusion is calculated relative to the nation median household income. This is why, e.g. Vienna and Berlin, though compared to other countries are high income regions, yet, compared to the regions in their countries, have a high share of population with incomes far below the Austrian or German median income.

Second, policy needs to add a territorial component to European social policies by internalising the Just Europe priority of the Territorial Agenda 2030²². Policy needs to strengthen local and regional governance to be able to cooperate for improving working and living conditions. One step in this direction is to connect Central Europe and create a polycentric network of urban and rural areas. This includes policy support of functional (urban) areas, both within countries and across borders, to create a local critical mass for development and to exploit synergies to address the multi-dimensional development challenges in Central Europe.

DIGITALISATION

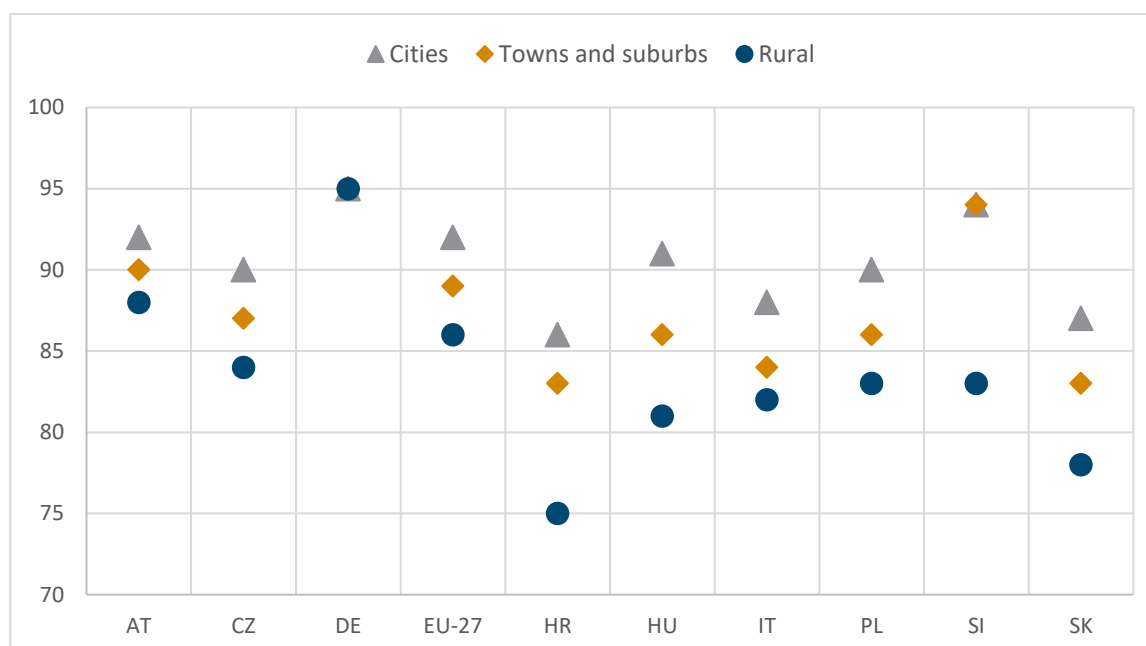
Digitalisation is one of the biggest changes to the global economic and social system since the industrial revolution. This includes changes to the every-day lives of people, e.g. in health (e-health), education (e-learning), culture, leisure and sports (e-sports), communication, mobility (self-driving vehicles), interactions with the government (e-government) and shopping. Digitalisation has a high growth potential, yet also bears challenges like adapting to structural changes of both firms and the labour force, developing and/or adopting new technologies to stay competitive and seizing the innovative potential to be at the forefront of digital transformation.

For Central Europe, digitalisation of the business sphere is of prime importance, given the strong role of and up- and downstream linkages of Central Europe manufacturing industries. Their joint modernisation (i.e. across Central Europe countries) is a necessity to retain or expand their position at the European and the global market and thus to provide jobs and incomes. Digitalisation is also important for SMEs, especially in rural areas, to get access to new markets, and to develop their products and put them on a large marketplace.

Tackling this challenge requires policies to focus on the currently underdeveloped business digitalisation in Central Europe, which except for Austria and Germany is below the EU-average²³. A particular need is the support of SMEs to take up digital technologies, as in many times the financial and knowledge capacities are less abundant. This includes improving digital skills as well as digital connectivity, especially in rural areas in Central Europe. Although 89% of all households in Central Europe have access to the internet, there are sizeable differences across and within countries. With the exceptions of Austria, Germany and Slovenia (except its rural areas), the digital accessibility of all Central Europe countries is below the EU average. Urban rural differences exist in all countries, particularly in Croatia, Hungary, Slovenia and Slovakia (Figure 9).

²² Territorial Agenda 2030, Draft version July 2020, p.10ff.

²³ wiiw 2020 Territorial Analysis, Annex 1: Analytical report

Figure 9: Internet access in households by degree of urbanisation, 2019, in % of total households

Source: Eurostat; Diagram: wiiw

Outside the business sphere, digital technologies need to be supported and spread where they improve the people's lives. Digital public services, including e-government and e-health, which are underdeveloped in the Central Europe as well, are one target group. Policy actions to improve e-government and modernise public administration could focus on capacity building, developing cross-border digital public services or facilitating digital interactions between public authorities and the private sector. Such services may benefit people with limited access to physical public services and increase the overall efficiency of the services provided by local, regional or national governments.

Policies can also support Central Europe cities to become smart cities, to manage their resources, assets and services efficiently and in alignment with the citizens' needs. With that digitalisation policies will indirectly contribute to other policy needs, such as pollution and GHG emissions e.g. by efficiently managing transport flows, or providing timely services in many areas such as the innovative and creative sector or regarding health services.

Other areas that benefit citizens include e-culture, i.e. the digitalisation of cultural heritages, the media and news sector. In a transnational context and to further strengthen the functionality of the Central Europe regions cross-border digital connectivity needs to be improved, which may include the introduction of common standards and increasing the trust in and the cyber-security of cross-border digital systems.

COOPERATION AND GOVERNANCE

Central Europe, its countries and people share a common identity based on cultural and historical ties²⁴. Some of these ties trace back to centuries of joint history, while others are founded on the recent history of sharing a common economic and political system and/or a common border draped by an iron curtain. Right from the curtain's fall it was evident that the Central Europe countries shared many common interests and challenges. To facilitate following and tackling them, the necessity for Central Europe cooperation was evident.

The first result of this was the establishment of the Central European Initiative in 1989 that supports European integration through cooperation between its Member states and with the EU, other interested public institutions, private and non-governmental organisations, as well as international and regional organisations²⁵. Two years later in 1991, the Visegrád Group (V4) – comprising the Czech Republic, Hungary, Poland and Slovakia, was established. The backbone of this cooperation consists of mutual contacts at all levels: from the highest-level political summits to expert and diplomatic meetings, and covering the activities of non-governmental associations, think-tanks and research bodies, cultural institutions and numerous networks of individuals²⁶. In recent years, further institutionalised cooperation was established in Central Europe, including the Green Belt Initiative in 2014. It aims at harmonising human activities with the natural environment and increasing opportunities for the socio-economic development of local communities along the former Iron Curtain. In 2015, the Commission Initiative on Central and South-Eastern European Energy Connectivity was launched. It aims to strengthen solidarity and enable a safer energy supply for citizens and businesses across the region in the field of gas, electricity, renewables and energy efficiency. Central Europe countries participating in this initiative include: Austria, Croatia, Hungary, Italy, Slovakia and Slovenia. Further cooperation structures include the EURegions as well as the European Groups for Territorial Cooperation, of which 34 are active in Central Europe.

Besides the growth of political and personal ties, Central Europe countries established other strong functional relationships, based on geographic proximity, historical and cultural similarities and a common economic perspective. These relationships include inter alia economic, industrial value chains and labour markets as well as mutual tourism or cross-border health services. Hence, in many ways, cooperation has always been central to Central Europe.

The continued existence of old challenges, like economic and social disparities, and the emergence of new challenges like digitalisation or the shift to a greener economy as supported by the European Green Deal, reinforce the need for cooperation in Central Europe. The challenge in cooperation is the need to coordinate different systems and levels of governance across and within countries. It was demonstrated above that the economic and social Central Europe challenges are multidimensional. To tackle them effectively it needs the collaboration of different institutions within and across countries, from central government ministries to regional and local governments, to national and regions interest groups, business and the population. Hence there is a constant need for policy to support these coordination efforts and to strengthen multi-level and multi-sectoral governance in the Central Europe countries. This includes integrated approaches by involving local

²⁴ Analysis of the main territorial challenges, needs and transnational co-operation potentials in central Europe, final report, wiiw 2020

²⁵ <http://www.cei.int>

²⁶ <http://www.visegradgroup.eu/calendar/2018/joint-statement-of-the-180329>

and regional non-governmental stakeholders including the population, that not only better address local needs but will also increase the trust in and the accountability of Central Europe governance.

COVID-19 PANDEMIC

The outbreak of the COVID-19 pandemic was a major shock to the world including Central Europe. The economy declined strongly in all nine countries, particularly in Italy and Croatia, where GDP is expected to decline by more than 10% in 2020. Unemployment was increasing everywhere, although at least at the beginning of the pandemic most labour-shedding was avoided through a reduction of working hours. In many cases, people started to work from home, particularly in Austria, Germany and Italy, while in Hungary, Croatia or Slovakia a smaller share of the population took this option. The extent to which this “home-office” was applied depended amongst other determinant also on the digital connectivity, which is still very different in Central Europe. Nevertheless, the pandemic induced need for more digital services is an opportunity to explore new solutions, especially in the supply with e-solutions by the public sector. The Corona induced lockdowns had devastating effects on tourism, with tourism nights spent in Central Europe dropping between 80% and 95% depending on the country and regions. Strongly hit regions included the coastal regions in the South and North of Central Europe as well as the Alpine regions, all of which are heavily economically depending on tourism.

The COVID-19 consequences for Central Europe are still as much unclear as high the uncertainty regarding the future development of the pandemic is. If it is a temporary phenomenon and everything goes back to “normal” in 2021 much of the challenges mentioned below will not change. If it is longer lasting, the challenges will be overshadowed by the pandemic and its economic and social effects. Particularly for Central Europe, its effect on the functional relationships and co-operations in the public and private sphere will be detrimental as the pandemic has shown how quickly the countries turn to national solutions when facing a global crisis, thereby at least partly interrupting the flow of people, goods and services across borders.

It seems natural to argue for a coordinated approach across European countries in general and Interreg CE countries in special to address the challenges of the “borderless” pandemic. COVID-19 has shown that such concepts are highly necessary, yet still largely missing²⁷. In case the pandemic cannot be controlled easily governments and public authorities need to find coordinated ways to deal with it, to ensure the free movement of people and goods within Europe, but at the same time offering best possible protection against the COVID-19 virus.

Lessons learnt

In the period 2014-2020 the Interreg CENTRAL EUROPE programme supported 138 projects under the objectives: innovation, low carbon, environment and culture as well as transport. The experience of the current projects as well as the knowledge gained in the 2007-2013 programme²⁸ provide a number of lessons learnt for the 2021-2027 programme.

First, capacity building and policy learning is major and important result of the projects. This includes capacity building for local, regional and national administration and policy makers as well as private businesses,

²⁷ wiiw, 2020, Covid-19 effects on Central Europe

²⁸ For a summary see wiiw, 2018, Socio-economic challenges, potentials and impacts of transnational cooperation in central Europe.

especially SMEs. Cooperation provided a critical mass of actors, through which tackling joint challenges was possible, allowing stakeholders to improve their knowledge as well as to develop and implement tools and strategies regarding innovation, energy, environmental, culture or transport related challenges.

Second, pilot actions were very useful to implement and exchange experience on state-of-the art methods and technologies and showcase their benefits. Pilot actions also allowed to test and consequently implement new technologies and solutions. Thereby they had valuable demonstration effects, which contributed to a significant leverage of funds in certain area. A high leverage as well as a high visibility was particularly visible in the 2007-2013 and 2014-2020 transport projects. Specifically, some of the 2007-2013 projects like BATCo were essential for establishing TEN-T routes in Central Europe, while some 2014-2020 projects like TRANS-BORDERS or CONNECT2CE were essential for the increase in cross-border connectivity.

Third, the experience from the past programmes shows that project results can be classified along a common typology. Accordingly, these common types of results can be identified:

- Policy learning and change, including the improvement of policies and the development of new policies;
- Increased knowledge and capacity, including the knowledge and transfer and exchange;
- Coordination and cooperation, i.e. the enhancement of governance and coordination at all levels;
- Reduced barriers – to lower regional disparities, better integrate vulnerable citizens and improve the quality of life in both urban and rural areas;
- New/better Services, in particular tailor-made services for citizens;
- Behavioural change, i.e. raising awareness and changing habits.
- Leverage of funds, i.e. leveraging of public and/or private funds including the preparation for follow-up investments.

Fourth, in a more general sense, the inclusion of policy makers at all levels of governance helped the projects to generate significant leverages, e.g. either through the provision of additional funding or the roll-out of solutions within their territories and even beyond. Also, by actively involving relevant stakeholders and target groups such as politicians but also the business sector and taking a strategic approach that aims at a long-term development perspective for the region, the programme's ability to generate sustainable results, being visible long after the respective projects were completed, was greatly enhanced. This was also shown by a stakeholder-survey conducted in the impact assessment of the CENTRAL EUROPE 2007-2013 programme²⁹.

Fifth, the operational evaluation of the Interreg CENTRAL EUROPE programme 2014-2020³⁰ has shown several positive features of the programme that should be continued in the 2021+ programme. They include:

- A wide array of support measures to projects and to beneficiaries on communication that ensured an efficient project and programme management and implementation.
- The cooperation with H2020 and other EU programmes through the 4th call can be highlighted as good practice among European transnational programmes, in particular regarding the up- and down-streaming of project results.
- Effective quality controls at project and programme level ensured the monitoring of project output quality and their progress towards the set targets.

²⁹ wiiw, 2018, Socio-economic challenges, potentials and impacts of transnational cooperation in central Europe

³⁰ Operational Evaluation of the Interreg CENTRAL EUROPE Programme - Final Evaluation Report, July 2019

- The 2014-2020 programme generated high interest of potential project partners and thus had a fairly evenly distributed applicant structure in terms of country and institution coverage. Amongst others, this is expressed in a high share (41%) of private partners in the projects and also a high share (24%) of newcomers to Interreg³¹.

Finally, the impact assessment of the 2007-2013 programme³² showed that the CE Programme can successfully:

- Reduce barriers between policy makers, the business and research sectors, local and regional administrations and planners and other stakeholders both within countries and across borders.
- Ensure a high sustainability of cooperation and the establishment of new cooperations.
- Improve the coordination of policy makers and local authorities, as was seen in many projects setting up specific governance structures to tackle common problems.
- Increase public (and private) management capacities through the creation and exchange of knowledge fuelled by studies, the collection of best practice, pilot actions, training, etc.
- Produce a considerable value added, by contributing both to wider EU strategies and policies as well as to economic, social and territorial development.

Complementarity and synergies (incl. contribution to MRS)

The success of transnational cooperation programmes depends, amongst others, on the extent to which Interreg project results can be transferred to and up-scaled by other, financially bigger, European or national programmes and initiatives. Achieving this, consistently requires a significant amount of coordination and cooperation of the various programmes. As transnational cooperation projects are important tools to implement local, regional and transnational cooperation initiatives, coordinating and cooperating with mainstream and/or national programmes creates opportunities to capitalise the projects' outputs and results, and consequently to multiply their territorial impact.

In turn, the effectiveness of transnational cooperation programmes can be even further increased by making use of synergies and complementarities that can be developed between different regional and territorial programmes. Thus, by avoiding overlaps and building on the specific strengths of each specific programme, their impact and effects on territorial cohesion as well as their individual visibility will be increased. As for the Central Europe programme, four types of cooperation with other programmes can be identified, namely coordination and cooperation with a) other Interreg programmes, b) regional and national and European (ESIF) funds, c) with EU-wide programmes, initiatives and funds, including Horizon 2020 and Horizon Europe, the EU LIFE programme for the environment, the Just Transition Fund, the Connecting Europe Facility (CEF), Creative Europe or the European Grouping of Territorial Cooperation (EGTC) and d) with the four EU macro-regional strategies.

The capacity of the Central Europe programme to create synergies is, amongst others, illustrated by its 4th experimental call (focussing on capitalisation through coordination) of the 2014-2020 period, where the programme linked up with centrally managed EU Programmes such as H2020, in order to up- and downstream existing results for achieving a higher territorial impact.

³¹ Operational Evaluation of the Interreg CENTRAL EUROPE Programme - Final Evaluation Report, July 2019

³² wiw, 2018, Socio-economic challenges, potentials and impacts of transnational cooperation in central Europe

The Central Europe Programme also has an important bridging function for the EU macro-regional strategies (EUSDR, EUSALP, EUSAIR and EUSBSR) as it is the only programme that jointly touches all of them. It is a quasi-natural hub, with the potential and possibilities to facilitate the cooperation across the four macro-regional strategies. In practice, more than 80% of the Central Europe projects of the 2014-2020 refer to one or more of the four macro-regional strategies, with many projects also being thematically aligned to their specific action areas. Most projects contribute directly to at least one MRS. Even if the contribution is often not concentrated on one single MRS, many projects make an important contribution through implementing objectives of several different macro-regional strategies “on the ground”.³³

³³ Operational Evaluation of the Interreg CENTRAL EUROPE Programme - Final Evaluation Report, July 2019