

## THEMATIC IMPACT PAPER – LOW-CARBON

### *CENTRAL EUROPE NEEDS TO REDUCE ITS CARBON FOOTPRINT FOR A SUSTAINABLE FUTURE*

Central Europe is host to several so-called ‘carbon-intensive regions’ in Europe, mainly driven by coal mining and energy intensive industries’ activities (in particular in Czech Republic, Hungary, Slovakia, Slovenia as well as numerous regions and cities in Eastern Germany and Poland).

However, the capacity of regions in Central Europe to adapt to a greener and low-carbon economy differs widely across the area, from high-performing Alpine regions with a generally high level of ‘green readiness’ to regions at the periphery of the CE area with a generally lower level of ‘green readiness’. The financial capacity for the implementation of integrated low-carbon approaches is still limited. Administrative and technical obstacles still exist for the implementation of low-carbon technologies. Not least, public awareness and support for implementing low-carbon solutions differs significantly.

At a time when decentralised energy systems are emerging across Europe, cities and their hinterlands, as well as local and regional communities are called to play an increasingly prominent role. In particular, local authorities and related institutions “can encourage, enable, measure and regulate the local economy and inform debate on suitable energy options to help cities adapt to new technologies and changing energy requirements”.

The Interreg CENTRAL EUROPE (CE) Programme 2014-2020, a European Union funding programme that supports transnational cooperation in Austria, Croatia, Czech Republic, selected regions in Germany, Hungary, Northern Italy, Poland, Slovenia and Slovakia, addressed these challenges by contributing to developing low-carbon solutions and ideas for mobility and transport in functional urban areas, energy planning and public buildings and infrastructure, both in urban and rural areas, acknowledging the cross-cutting and pervasive nature of low-carbon challenges.

### *Interreg CENTRAL EUROPE – LOW-CARBON*

**25 projects** to focus on CE low carbon solutions

**9 countries** connected by low carbon activities

#### *The programme's contribution to CE becoming greener*



**218 strategies and action plans** for implementing low carbon solutions



**225 tools** to assist making sustainability ideas reality



**204 pilot actions** to demonstrate the benefits of new low carbon activities



**292 trainings** to enhance skills for reducing the CE carbon footprint

**201 project partners** engaging green cooperation

**44 million Euro from the ERDF** to support CE becoming greener

#### *The programme's impact on reducing the carbon footprint in CE*



**520 million Euro** of additional green investments



**1,502 CE institutions** adopted the new or improved strategies, tools or services



**7,900 persons** received training to improve sustainability related skills



**301 new jobs** were created

## *THE PROGRAMME'S LOW-CARBON FOCUS*

From 2014 to 2020, the Interreg CE Programme addressed the low-carbon related challenges of Central Europe through its dedicated Specific Objective 2.1 “Energy efficiency and renewable energy usage in public infrastructures “, Specific Objective 2.2” Low-carbon energy planning strategies and policies” and Specific Objective 2.3 “Low-carbon mobility planning in functional urban areas”.

Specific Objective 2.1 aimed at reducing energy consumption and improving energy efficiency. Specific solutions were developed, including retrofitting and refurbishment of buildings, changing the lighting design of public spaces, implementing smart metering. It also focused on building skills and competences, enhancing access to knowledge, developing and implementing strategies, management approaches, as well as financing schemes.

Specific Objective 2.2 aimed at improving low-carbon energy planning at territorial level, for sustainable energy transition. It covered a variety of topics, from geothermal energy and waste heat utilization. It contributed to capacity building with regard to efficient energy management, improving governance and testing new financing solutions. It also developed and implemented low-carbon strategies and provided inputs for policy making at EU level.

Specific Objective 2.3 aimed at improving capacities for mobility planning in functional urban areas, to lower CO2 emissions. It contributed to jointly plan and implement low-carbon mobility solutions in a transnational context, by means of comprehensive and integrated approaches. These combined electric mobility, non-motorized transport, public transportation and made full use of digital solutions. The Specific Objective also contributed to developing smart solutions for clean freight transport and to reducing energy use and environmental impacts of air transport activities.

## *INTERREG CE PROJECTS PROVIDE SUCCESSFUL EXAMPLES OF HOW TRANSNATIONAL COOPERATION CAN LEAD TO LOW-CARBON SOLUTIONS*

The Interreg CE projects aimed to contribute to the **low-carbon policy framework** that was in place when the programme was designed, in particular the ‘Resource efficient Europe’, the EU “Renewable Energy’ as well as the EU “Energy Efficiency” Directive and ‘Agenda for new skills and jobs’. The projects focused on mobility, transport, industry, waste, and buildings, both in urban and rural areas. The Programme effectively contributed to the development of **low-carbon solutions, optimizing efforts to reduce carbon footprint** in the region.

The Programme also contributed to **improving the framework conditions**, for example by supporting the development of governance systems of functional urban areas. The best practice examples of successful projects have facilitated low-carbon mobility access, providing a roadmap for other regions to follow. There is a need for concerted efforts to build capacities and resources, particularly in public bodies, to achieve significant progress in the implementation of low-carbon mobility concepts.

In this respect, transnational collaboration was particularly important for the **success of the projects**, allowing for better results to be produced as outputs were fed with multiple experiences coming from different fields of expertise and territories. The transnational nature of the programme provided beneficiaries with access to **networks**, which are not available at a national level. This enabled them to achieve an international impact of their results and to publish their respective projects’ outcomes globally.

In an effort to tackle carbon emission levels in the region, the low-carbon priority projects have focused on optimizing the efforts for **reducing the carbon footprint** in the region through measures that were aimed for instance, at **increasing energy efficiency**, such as the EfficientCE marketplace where stakeholders today exchange new technologies and pieces of equipment.

### Interreg CE 2014-2020 programme effects to reduce the CE's carbon footprint

- 1 Contributed to improving the low-carbon policy framework
- 2 Contributed to the development of low-carbon solutions and reducing the carbon footprint
- 3 Supported the introduction of renewable energy sources
- 4 Improved the governance framework conditions and transnational collaboration
- 5 Allowed the beneficiaries to access international networks
- 6 Contributed to increasing energy efficiency
- 7 Increased the public sector capacity to improve policy-making and offer new or better services
- 8 Improved energy management and planning of public authorities
- 9 Supported economic development and labour markets

Against this background, the Interreg CE low-carbon projects were particularly fruitful as they focused on exploiting **energy efficiency solutions** across Central European cities. Again, **transnational collaboration** was important for the success of the priority because it brought **interdisciplinarity** into the projects and thus allowed for better results to be produced as the outputs were fed with multiple experiences coming from different fields of expertise and territories. This was showcased by the TARGET-CE project that used technical and non-technical solutions from eight previous international projects, delivering the “Oneplace platform”. It collects best practices, databases of experts, strategies, action plans, tools, educational material, etc. to support public authorities, citizens, and energy planners.

The Interreg CE Programme significantly contributed to improving the **capacity** of the public sector in relation to **awareness-raising** and **knowledge-building** for low-carbon issues, as well

as capacity-building to plan and implement territorially based low-carbon solutions. This has helped **improve policy-making** and **offer new or better services** (e.g. low-carbon mobility planning, energy efficient public buildings, sustainable public transport, district heating systems etc.) for citizens and companies in this field.

The low-carbon Interreg CE projects also contributed to **improving the energy management** of public authorities with the aim to reduce energy consumption and the improve energy efficiency of public buildings. Projects such as FEEDSCHOOLS provided local authorities with technical and financial solutions to implement ‘nearly Zero Energy Building’ renovation activities in schools. The project also contributed to promoting behavioural change within respect to energy savings.

Also, projects helped improving the **capacity** of the public sector in relation to **energy planning**. For example, projects such as CitiEnGov supported the development of integrated territorial plans to enhance the use of Renewable Energy Sources and improve energy performance in urban areas.

The transition to a low-carbon economy has significant implications for **economic development and labour markets**, not least through its high potential for job creation from clean energy technologies and energy efficiency. The development of renewable energy sources and energy-saving investments can help reduce carbon emissions while improving the resilience to conventional energy shocks and producing additional income and jobs. In this context, the given efforts are joined by the Programme for instance with projects such as PROSPECT2030 (‘PROmoting regional Sustainable Policies on Energy and Climate change mitigation Towards 2030’). It focussed on improving the use of public funds dedicated to low-carbon measures and developing decentralised energy planning approaches.

*THE PROGRAMME REDUCED THE CE CARBON FOOTPRINT, IMPROVED NATIONAL AND TRANSNATIONAL “GREEN” COOPERATION, CONTRIBUTED TO EU AND NATIONAL POLICIES AND MORE*

While focussing on their originally intended tasks the Programme and the projects produced a significant value added.

Inter alia this includes high **multiplication and synergetic effects** as many low-carbon Interreg CE projects were implemented in synergy with other Interreg projects, or other EU-funded projects, like EU Horizon programmes. For example, Dynamic Light cooperated with the Horizon2020 Project "Premium Light Pro" and established a cooperation project with Nature park authority Nossentiner Schwinzer Heide in Germany. TOGETHER cooperated with other ETC initiatives and projects as well as Horizon projects. Similar experience is observed for other projects including ENERGY@SCHOOL, BOOSTEE-CE, CE-HEAT and others.

In addition, the Interreg CE low-carbon projects contributed to **better coordination and governance**, particularly horizontally at local and regional level (within and across countries), as well as vertically between the local and regional levels.

Interreg CE low-carbon projects tended to have positive effects on the **management of innovative renewable energy resources**. This includes for example the management of the energy efficiency of wastewater and municipal waste treatment plants (REEF 2W project), or the use of geothermal energy as a new source of renewable energy (GeoPLASMA-CE project).

Importantly, many projects led to **new partnerships or cooperation opportunities**, for example in other Interreg programmes like Interreg Alpine Space.

All these positive effects contribute to the high sustainability of the low-carbon projects' outputs. Thus, the established networks have a high durability (of at least 3 years after the original projects ended), fuelled through the exploitation of synergies with other initiatives, the access to funds or the increased interest from citizens and businesses.

The Interreg CE programme addressed **strategically important issues** at national and **European levels**, such as enabling the implementation of the EU Macro-Regional Strategies, and more moderately successful in. Also, many low-carbon projects had a significant impact on **local and regional strategies and policy-making**. As an illustration, FIRECE results, supporting the energy low-carbon transition in CE areas with innovative financial instruments, found their way into the implementation of Regional Energy Plans in Germany, Italy, Poland, Hungary, Czechia and Croatia. Thanks to CE-HEAT results, waste heat

utilisation is now getting higher visibility in energy policies, strategies and actions plans.

**The Interreg CE 2014-2020 low-carbon value added**

-  **Synergetic and multiplication effects**
-  **Improving regional coordination and governance**
-  **Improving the management of innovative renewable energy resources**
-  **Generated new partnerships and cooperations**
-  **Addressing strategically important issues at national and European levels**
-  **Improving local and regional strategies and policy-making**
-  **Generating benefits for a wide variety of different territories**
-  **Generating benefits for a wide variety of different target groups**

It is important to highlight that the Green Deal, announced in 2019, during the Interreg CE Programme 2014-2020, provided a strong impetus for projects funded under the Low-Carbon Thematic Priority of the Interreg CE programme. Thus, mega-trends such as climate change, the increasing importance of topics related to energy security and the strong demand for shifting energy production to locally produced and renewable energy have been very positive factors for low-carbon projects.

Interreg CE low-carbon projects provided value-added for many different target groups, such as local public authorities, ministries, energy and urban planners, or schools and public institutions. In similar fashion, the projects provided value added for many different types of territories. Renewable energy projects benefitted mostly urban areas, low-carbon energy planning projects benefitted stakeholders at the urban, rural and regional level, while low-carbon mobility in projects had their highest impact, by design, in functional urban areas.

## SUMMARY

Recent developments linked to climate change and energy security concerns have further increased the awareness around and importance of territorially based low-carbon solutions. The diversity of low-carbon issues tackled by the Interreg CE projects has contributed to address these challenges faced by Central Europe from different and complementary perspectives.

The Programme produced long-term outputs and results with the perspective of 2030. Thanks to this future oriented vision, the Programme supported a lasting change at the policy level, for instance through the Regional Energy Action Plans. The ripple effects are identified today, whereby public sector stakeholders are now drafting energy reports on a regular basis, continuing an activity that they started as part of the Interreg CE projects. Additionally, this long-term vision is very promising for the sustainability of the project results.

Low-carbon projects have contributed to improving capacity-building to plan, implement and coordinate energy efficiency and renewable energy solutions at the local and regional levels – as well as between the two -, benefitting to many different target groups and types of territories.

In addressing a common, yet pressing low-carbon challenge, the Interreg CE Programme facilitated effective dissemination and communication activities. These, in turn, enabled the project outputs and results to be replicated and transferred across the target regions. Overall, such results contribute to the efforts for bridging the gap between carbon emissions across Central Europe.