Interreg Europe

Project Proposal Concept Note

Working Title: Mega Byte to Mega Watt

Priority

Strengthening institutional capacities for more effective regional development policies

PO 2 - Greener Europe

(i) Energy efficiency and reduction of greenhouse emissions

Common Regional Development Issue

This proposal seeks to explore how public policy can support carbon reduction. Reducing the carbon footprint of data centers and mitigating greenhouse gas emissions is crucial for achieving environmental sustainability and meeting climate goals. The digital transition, a key component of the 2030 Digital Compass, not only aims to transform businesses but also presents an opportunity to contribute to the European Union's Green Deal objectives. By aligning digital advancements with eco-friendly practices, Europe can work towards its target of reducing greenhouse gas emissions by at least 55% by 2030.

A 2022 JRC report explores how the EU can ensure synergy between the green and digital transitions, emphasizing key sectors and green/clean tech. In this context, collaborative efforts among regions can focus on interregional cooperation to formulate and enhance policies supporting small and medium-sized enterprises (SMEs) and startups. Specific policies may include initiatives to empower individuals with skills for emerging green digital startups or providing support for SMEs and startups in the green/clean tech sector.

While the energy consumption of individual online activities may seem negligible, the cumulative impact of the 4.1 billion internet users worldwide contributes to approximately 3.7% of global greenhouse gas emissions, similar to the aviation industry's output. Addressing this issue is critical as these emissions are projected to double by 2025 without concerted efforts to reduce the environmental impact of digital technologies. Raising awareness about responsible digital use is essential for fostering a sustainable approach to technology and minimizing its ecological footprint.

Importance for European regions

The importance of reducing the carbon footprint of data centers and mitigating greenhouse gas emissions is significant for European regions due to several key reasons.

Firstly, it aligns with the broader goal of achieving environmental sustainability. European regions are increasingly recognizing the importance of adopting eco-friendly practices to preserve the environment and address the challenges posed by climate change. Moreover, this effort is crucial for meeting the ambitious climate goals set by the European Union, including a target to reduce greenhouse gas emissions by at least 55% by 2030. Mitigating emissions from data centers and digital activities is instrumental in contributing to global efforts to combat climate change. The 2030 Digital Compass outlines the digital transition as a key strategy for European regions to stay competitive and foster economic growth. Integrating eco-friendly practices into this transition not only enhances environmental sustainability but also ensures a responsible and forward-looking approach to technology adoption.

Additionally, aligning digital advancements with the objectives of the EU's Green Deal is crucial. The Green Deal is a comprehensive plan designed to make the EU's economy sustainable, and integrating digital technologies into this initiative contributes to its overall success, a twin transition.

Interregional cooperation plays a pivotal role in this context. Collaborative efforts among European regions allow for the sharing of knowledge, best practices, and innovative approaches. Interregional cooperation enables regions to collectively formulate and enhance policies that support small and medium-sized enterprises (SMEs) and startups in adopting green and clean technologies, fostering a shared commitment to sustainability.

While the energy consumption of individual online activities may seem negligible, the cumulative impact of the 4.1 billion internet users worldwide contributes to approximately 3.7% of global greenhouse gas emissions, similar to the aviation industry's output. Hence, the need for the Mega Byte to Mega Watt (Mb to MW) project, which aims to address this environmental challenge by reducing emissions from data centers and promoting responsible digital use, amongst identified target groups.

Lastly, raising awareness about responsible digital use is essential. By promoting environmentally conscious behaviors and practices, European regions can contribute to minimizing the ecological footprint of digital technologies. In summary, addressing the environmental impact of data centers and digital technologies is crucial for European regions to achieve their climate goals, promote economic growth, and ensure a sustainable and responsible approach to the digital transition outlined in the 2030 Digital Compass.

Overall aim and specific objectives

The overarching goal of the proposal is to establish the groundwork for forward-looking policies in EU regions with a focus on mitigating greenhouse gas emissions resulting from the use of electronic data by SMEs, startups, and the wider community. Through interregional learning, the objective is to ensure that public policy supports sustainable growth and competitiveness in these sectors while addressing the environmental impact of electronic data usage.

To achieve this primary objective, partners collaborate at an interregional level to pursue the following specific goals:

Encourage interregional learning on the benefits of reducing greenhouse gas emissions from the electronic data usage of SMEs, startups, and the broader community. Addressing the challenges associated with implementing such measures, this includes a specific focus on the environmental impact of electronic data usage in the context of SMEs and startups.

Understand and assess regional efforts or potential actions to minimize greenhouse gas emissions resulting from electronic data usage. This involves analyzing and evaluating the success and impact of policy measures, identifying practical solutions for supporting SMEs and startups in adopting eco-friendly practices, and exploring specific measures to significantly reduce the environmental footprint.

Design and, where feasible, initiate the implementation of concrete policy improvements to ensure a reduction in greenhouse gas emissions from electronic data usage. This includes fostering a vibrant SME and startup ecosystem that actively contributes to environmental sustainability. Building capacity among regional authorities and stakeholders is a crucial aspect of implementing improved approaches.

Implement, extend, and monitor policy improvements, utilizing regional resources in the followup phase. This involves ongoing monitoring of the effectiveness of policies designed to reduce greenhouse gas emissions from electronic data usage by SMEs, startups, and the community at large, ensuring continuous progress toward environmental sustainability.

Approach (organisation of interregional learning, activities proposed, core phase and monitoring phase)

In the proposal "Mega Byte to Mega Watt," the approach aligns with the principles of the Interreg Europe programme, which facilitates interregional cooperation projects among regional policy actors. These projects are specifically designed for the exchange of knowledge, capacity building, and the transfer of identified good practices and innovative approaches. The primary goal is to integrate the lessons learned from cooperation into improved regional policies and actions.

The project will consist of two phases:

Core Phase (maximum three years): This phase is dedicated to enhancing policies through learning about stricter regulations on data center scale, resource consumption, and alignment with local development goals. It involves activities such as the exchange of experiences, capacity building, transfer of good practices, and exploration of innovative approaches. In justified cases, pilot actions may be included to test new and promising approaches. At the end of the Core Phase, each region either achieves a documented improvement in their selected policy or develops an Action Plan for policy improvement.

Follow-up Phase (1 year): This phase is dedicated to monitoring the initial effects of policy improvements and assessing whether additional policy enhancements are achieved. During this phase, partners continue to learn from the implementation of policy improvements and the finalization of any pilot actions. Interreg Europe supports the costs incurred for monitoring, while the implementation costs of actions are expected to be funded from local, regional, or national sources (e.g. capture and utilize waste heat generated by data center operations).

Throughout the project, partners engage regional stakeholder groups to actively involve relevant actors in policy learning, this will be a diverse group, as the proposal is a twin transition. These stakeholders play a crucial role in the preparation, implementation, and monitoring of policy improvements.

Pilot actions can be proposed at two points during project implementation.

- At the start of the project within the application form or
- During the mid-term review organized in the core phase. Pilot actions initiated at the project's outset must be completed by the end of the core phase, while those approved at mid-term can be finalized during the follow-up phase. Each region can have a maximum of one approved pilot action per project.

Additionally, projects are expected to contribute to the content and activities of the Policy Learning Platform, ensuring that valuable lessons learned from projects extend to other regional policy actors across Europe.

Eligibility rules concerning Partnership and Policy instruments.

The application must involve partners from the four geographical areas defined by the programme (North, East, South and West).

Applications submitted have to ensure that at least four out of the five areas below are represented

in the partnership with at least one project partner:

GEOGRAPHICAL AREAS:

North: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Norway, Sweden

East: Austria, Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia, Slovenia

South: Croatia, Cyprus, Greece, Italy, Malta, Portugal, Spain

West: Belgium, France, Ireland, Luxembourg, Netherlands, Switzerland

Candidate countries: Albania, Bosnia and Herzegovina, Moldova, Montenegro, North Macedonia, Serbia and Ukraine

- At least one policy instrument addressed in the application must be an Investment for jobs and growth goal programme.
- For at least 50% of the policy instruments addressed in the application, the policy responsible authorities must be involved as partners. For the remaining policy instrument(s) (if any), these authorities must be involved as an 'associated policy authority' (with a signed Declaration to be submitted with the Application).

The involvement of the same organisation in different applications/projects must be justified in the dedicated field of the application form.

Proposed Partnership

The partnership will engage regional authorities from 5 to 8 regions. All partners must identify the policy instrument that they wish to improve, of which at least one at project level must be an **Investment for jobs and growth goal programme**.

The Lead partner is DETAILS to Follow

The partnership will be balanced among partners with leading and learning participation in the carbon reduction digital economy and society, intersecting key sectors from the Smart Specialisation priorities in each region.

The partnership will include an Advisory Partner, with expertise in the field of decarbonization and the twin transition.

Next Steps for interested Partners.

The third call for Interreg Europe 2021-27 was published on 20th March 2024. The complete application must be submitted online by 7th June 2024, 12.00 CEST (Paris time).

Before the launch of the call, interested partners will be asked to:

- Confirm their participation;
- Indicate the policy instrument that they wish to address and ensure that the Managing Authority is involved (preferably as full project partner);
- Participate in min.1 on-line consortium meeting.

Upon launch of the call, and respecting tight deadlines, confirmed partners will be asked to:

- complete an input document, providing details required to complete the various sections of the Application Form. This will include information about regional needs, about the policy instrument and about the project budget;
- Partners will be asked to comment on project drafts, bringing in their suggestions and comments and to confirm a draft budget;
- Partners' legal representatives will be asked to sign the Partner Declarations;
- Associated policy authorities' (where the Managing Authority is not directly involved as a partner) authorised person will be asked to sign the Partner Declarations.

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