ESPON Co-funded by the European Union Interreg

Proposal for an ESPON 2030 Programme Thematic Action Plan (TAP) on 'Adapting to the impacts of climate change'

INPUT PAPER FOR PUBLIC CONSULTATION

1. The understanding

Climate change is acknowledged as an urgent global challenge, which must be addressed with various measures at all levels of governance. A recent report by the World Meteorological Organisation highlighted that temperatures in Europe have increased at more than twice the global average over the past 30 years at an average rate of about +0.5 °C per decade – the highest of any continent in the world – and, regardless of future levels of global warming, temperatures will continue to rise at a rate exceeding global mean temperature changes. As the warming trend continues, exceptional heat, wildfires, floods and other climate change impacts will continue to affect society, economies and ecosystems; including impacts on infrastructure, industry, public services etc; requiring a renewed territorial governance emphasis on adaptation.

The TAP "Adapting to the impacts of climate change" aims to support these endeavours by providing territorial evidence on climate change-related challenges and development opportunities, and providing options for regions and cities to adapt to the impacts of climate change with the aim of promoting societal health and wellbeing. The objective of this TAP is to develop the knowledge base on the territorial aspects of actual climate change consequences and adaptation possibilities. Through observations for the entire ESPON Programme area, this TAP will offer new insights and possible pathways for all types of territories to adapt to the impacts of climate change, to protect and/or restore ecosystems that play a vital role in climate regulation, and to create, enhance and manage green infrastructure (GI) that connects areas and provides ecosystem services.

The update of the ESPON CLIMATE project (2022) has produced evidence to show that climate change is already generating numerous impacts on society and the environment in Europe today and is having, and will continue to bring territorially asymmetric consequences, with peripheral regions being hit first and hardest due to higher vulnerability and reduced adaptive capacity. The ESPON-TITAN has developed methodologies to analyse the distribution and territorial patterns of the economic impacts of the natural hazards across Europe, including climate hazards, as place-based evidence to support the identification of the most vulnerable regions. This TAP will therefore have a special focus on territories with additional challenges, such as economic development, accessibility or social disparities so as to help demonstrate how an ecocentric approach to territorial development can help address adaptation challenges.

- includes comparative studies, transferrable to policymaking, and aimed at identifying territorial impacts of climate change, and challenges and opportunities that may affect adaptation to

these impacts (e.g. geographical specificities, cross-sectoral etc) and their implications for EU territorial cohesion goals.

Among others, this TAP:

- develops indicators to measure and monitor climate risks in differing types of territories, sensitive to the differing baselines in different territories, and the interactions of these risks with other policy domains.
- informs countries, regions and cities seeking to build adaptive capacity to climate risks, particularly through nature-based solutions and restoration in line with wider biodiversity goals.
- Promotes cross-sectoral networking and involvement of civil societies in cross-cutting actions in relation to adaptation to the impacts of climate change and transforming territories to adapt to climate.
- strengthens the capacities and skills of policy makers, on all levels of governance and across policy sectors and borders, in order to further integrate climate change adaptation in programming and policy making processes, including climate mitigation policies and overcoming potential local conflicts.
- supports the capacity development of different territorial actors in planning, managing, implementing, monitoring and evaluating of ecosystem services and natural capital to ensure territories' adaptive capacities can be fully utilised.
- contributes to understanding possible territorial consequences, opportunities and challenges of territorially diverse European regions and cities following various pathways towards climate adaptation, including in respect of potential conflicts between policy domains e.g. green infrastructure versus food production etc

2. The policy setting

The EU Strategy on Adaptation to Climate Change (2021) aims to build a climate resilient society by improving knowledge of climate impacts and adaptation solutions; by stepping up adaptation planning and climate risk assessments; by accelerating adaptation action; and by helping to strengthen climate resilience globally. It pursues three objectives of smarter, systemic and faster adaptation and proposes a range of actions in order to meet them including more and better climate loss data, nature-based solutions; and local adaptation actions.

This TAP theme is linked to the Cohesion Policy objective of Greener, low-carbon Europe – to sustain policy actions towards climate change adaptation and risk prevention and management, and sustainable urban mobility. It is also in line with the objective of A Europe closer to citizens by providing input to the rationale for sustainable and integrated development of all types of territories and local initiatives. The New European Bauhaus movement is seeking to do precisely this by providing a bridge between the world of science and technology, art and culture through leveraging our green and digital challenges to transform societies for the better through co-creation. One practical initiative in this direction is the EU Covenant of Mayors for Climate & Energy which brings together thousands of local governments that want to secure a better future for their citizens by capitalising on the experience

gained in Europe and beyond, and is building upon the key success factors of the initiative: its bottom-up governance, its multi-level cooperation model and its context-driven framework for action.

This TAP theme also corresponds to the objectives of the Territorial Agenda 2030. It addresses the Green Europe objective by contributing to a healthy environment, a circular economy and more sustainable connections. It also responds to the Just Europe objective by addressing Europe's territorial diversity for a better-balanced territorial development.

3. The challenges, trends and drivers behind

Previous ESPON research (ESPON GRETA) has shown the benefits of natural ecosystem services, such as parks, nature reserves, street tree lines, streams and green roofs, for bettering adaptive capacity to climate change, including attenuating flooding, mitigating urban heat island effects etc. The Green Infrastructure (GI), as opposed to capital intensive hard infrastructure, also provides cross-cutting positive effects for improving quality of life and restoring ecosystems in accordance with the EU Biodiversity Strategy, Circular Economy Action Plan and the recently proposed Nature Restoration Law. Restoring wetlands, rivers, forests, grasslands, marine ecosystems, and the species they host will therefore help:

- increase biodiversity
- secure the things nature does for free, like cleaning our water and air, pollinating crops, and protecting us from floods
- limit global warming to 1.5°C, including through carbon sequestration.
- build up Europe's resilience and strategic autonomy, preventing natural disasters and reducing risks to food security.

GI can provide multiple ecological, social and economic benefits to improve the liveability, health, wellbeing and sustainability of places. Between 2006 and 2021, many cities throughout Europe lost green spaces, mainly because of unsustainable urbanisation. In the context of climate change mitigation and adaptation, these cities need to focus on strategic, cross-sector planning to reverse these critical development trends and cater for the long-term sustainable development. On the regional scale, various regions in northern and southern Europe have high potentials for GI networks but rather low shares of protected core areas like nature reserves. Priority actions are necessary there to ensure conservation measures.

One major barrier to the deployment of GI is the still insufficient understanding among stakeholders of the way natural ecosystems function, how they can be identified and their benefits quantified, all of which often results in an underused potential for GI development. Better use of integrated spatial planning processes, improved capacity of decision-makers and better institutional cooperation are important elements to address this challenge. Policy sectors like finance, energy, health and social services, have so far not been integrated sufficiently in GI planning in spite of existing interrelations. In addition, planning authorities at national, regional and local administrative levels are challenged to

quantify and forecast in a consistent manner the influence of their spatial planning policies on GHG emissions.

For ecosystem services, biodiversity, and natural resources, time series of comparable sub-national data (at the long-term) are missing, particularly at city/regional scale. This type of data is of importance to develop indicators at regional level that are easy to quantify and can be used for monitoring, adjusting and evaluating implementation strategies. Building a mechanism for monitoring and evaluation is key to understanding how a strategy delivers clear benefits to a region, including the identification of policy conflicts. Especially the empirical evidence on the benefits of implementing GI and using natural carbon sinks (sequestration) would require specific monitoring over a certain period of time. This was undertaken, for example, in the ESPON GRETA - Case study Latvia (2022) which provides an in-depth analysis and characterisation of GI in Latvia from a multiscale perspective, and outlines policy recommendations that could build the basis for comprehensively embedding the concept of GI into legislation and formal planning processes.

Policy needs:

- Which are the main challenges and constraints in your country/region/territories to adapt to the impacts of climate change?
- Do you need any specific evidence and/or support to better analyse these challenges and be able to identify the opportunities and incorporate climate adaptation in the strategies for your territory?
- Are climate adaptation and ecosystem/biodiversity protection aspects included in your policies and how?
- Are there any knowledge gap that prevent you from delivering a more effective policy response in relation to policies on climate adaptation and ecosystem/biodiversity protection?
- What is the character of those knowledge gaps? Do they result from difficulty in understanding the territorial development trends and challenges? Or, from lack of access to good practice on how similar places in Europe have dealt with those trends and challenges through the use of projects or policy instruments?
- Would ESPON be a right instrument to address those knowledge gaps? Why and in what way?
- What would then be your specific evidence and knowledge needs for better capacity development in policymaking that ESPON could address?

Research support:

- What are the gaps in scientific evidence that could support a better understanding of the territorial aspects of the challenges and opportunities represented by climate adaptation and ecosystems/biodiversity protection?
- Is the already available evidence up-to-date or does it require revisiting, e.g. on challenges, trends and drivers behind?
- Does the available research have a sufficient territorial focus and if not what would be needed to complete it?
- What are the current discourse questions and debatable aspects that might be further pursued by ESPON?
- In that, are there any distinct evidence gaps on climate adaptation and ecosystems/biodiversity protection that the ESPON Programme would be suited to fill? What are the instruments to achieve it and how could this complement the work by other research bodies?
- How could the available evidence satisfy needs for better informed policy decisions on carbon neutrality and greener territories?
- How can ESPON research show that climate adaptation and ecosystems/biodiversity protection are an opportunity for all territories no matter their specific socio-economic situation?
- Which are the policy processes that could benefit from territorial evidence in this field?
- Specifically, what kind of ESPON support would be most suitable to fill knowledge gaps in policy making on climate adaptation and ecosystems/biodiversity protection with research-based evidence?