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Climate Adaptation Planning: The context of EU Cohesion Policy and Evidence from Urban Projects in Greece

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Abstract

As awareness of climate change increases, world-wide organizations such as the UN and the EU as well as individual countries, regions and cities undertake action to address the causes of the problem and its inevitable impacts. Since climate change impacts are mostly felt at the local (urban and regional) level, it is at this level to which climate adaptation measures are mostly applied. Cities appear to be extremely vulnerable to the impacts of climate change in various sectors which concern their built and natural environment as well as their functions. This is especially true for metropolitan areas where the complexity of organizational and spatial structure intensifies the degree of vulnerability. Thus, developing comprehensive and integrated climate adaptation strategies is essential for cities and metropolitan areas. At the EU level, “Promoting climate change adaptation, risk prevention and management” is one out of eleven thematic objectives which EU cohesion policy funding addresses in the programming period 2014-20. The European Climate Adaptation Platform is a web-based tool that supports cities, regions and countries in implementing the EU climate policy, through scientific and operational instruments. Greek cities have to exploit this context in order to prepare climate adaptation strategies and implement climate adaptation interventions with the aim of enhancing climate proofing and resilience. This paper examines the above issues with an emphasis on EU funded urban climate projects in Greece, and seeks to identify potentialities for an integrated approach.

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1. Introduction: Climate adaptation for cities and metropolitan areas

Cities and metropolitan areas concentrate the bulk of human activities thus making a significant contribution to climate change and to climate adaptation strategies. Climate change triggers risks in urban areas both directly and indirectly. First, these areas face climate risks which include “risks from heat stress, storms and extreme precipitation, inland and coastal flooding, landslides, air pollution, drought, water scarcity, sea level rise and storm surges [...]. These risks are amplified for those lacking essential infrastructure and services or living in exposed areas”¹. Second, the effects of urbanization can trigger climate risks by causing “local environmental stresses” such as “urban heat islands (higher temperatures, particularly at night, in comparison to outlying rural locations) and local flooding that can be exacerbated by climate change”². Therefore, climate adaptation planning is necessary for addressing climate change complex impacts, not only on the built and the natural environment but also on the various socio-economic fields, which is not of less importance as, for instance, new investments might be discouraged and existing enterprises might move or expand to safer locations in the case that urban centers fail to adapt to climate change risks².

According to the Fifth Assessment Report on Climate Change, provision and coverage of infrastructure and services is one of the two key categories of adaptation options, the other being the “competence and capacity of local governments”². The following adaptation sectors for cities are identified by this report: *Economic base of urban centers; Food and biomass for urban populations; Housing and urban settlements; Urban water, Storm and Waste Systems; Electric Power and Energy Systems; Transport and Telecommunications Systems; Green Infrastructure and Ecosystem Services within Urban Adaptation*².

Among these, the latter is mostly targeted at an integrated approach to climate adaptation planning, as it “seeks to move beyond a focus on street trees and parks to a more detailed understanding of the ecology of indigenous ecosystems, and how biodiversity and ecosystem services can reduce the vulnerability of ecosystems and people”. Such an integrated approach is essential to overcome possible conflicts, when for instance individual adaptation measures in an area can have “a knock-on effect” on other areas, as well as to promote synergies, when for instance strategies for adaptation of the urban economic base should be complemented by strategies for supporting vulnerable economic activities and households².

Climate adaptation planning consists of the following basic components: *Information base; Vision, goals and objectives; Options and priorities; Actions; and Implementation and monitoring*³. Even though this type of planning is becoming urgent, it does not have widespread application or has not yet been fully developed. Hence, a question arises as to what extent cities and regions do have integrated climate adaptation planning or if they simply emphasize one of the above components, in most cases the setting of a vision or the implementation of individual actions. It can be argued that in cases of lack of climate adaptation planning, spatial planning, which in general has a coordinating role on a territorial scale, may undertake to address the various climate parameters and actions in an integrated manner, as it is closely related to climate policies, due to the inherent territorial dimensions of the climate change phenomenon and its impacts⁴.

The EU in its climate change policy has not only stressed the significance of the urban level, but it has also incorporated climate change in its new urban agenda. Climate adaptation constitutes one out of nine thematic areas of the new urban agenda of the EU with the aim to “anticipate the adverse effects of climate change and take appropriate action to prevent or minimize the damage it can cause to cities. The focus will be on: vulnerability assessments, climate resilience and risk management (including the social dimension of climate adaptation strategies)”⁵. Climate adaptation is promoted in EU countries, regions and cities by various means, such as participation in city networks (e.g. the “Mayors Adapt” initiative) as well as funding climate-proofing investments (e.g. bioclimatic upgrading of buildings and open spaces). On the other hand, individual cities and metropolitan areas implement climate policies in various ways, whether they possess climate adaptation planning or not. This paper seeks to examine the EU context for climate adaptation planning at the urban level with a focus on Greece. This context, and especially the climate-adapt tool for cities, is presented in the next part of the paper. The third part draws on the Programme “Bioclimatic upgrading of public open spaces” in Greek cities, and finally some concluding remarks are made.

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