

ASSESSING IMPACTS OF ENVIRONMENTAL SUSTAINABILITY PUBLIC POLICIES IN THE LISBON METROPOLITAN AREA USING THE IMPACT-WEB-GIS PLATFORM

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Urban environmental sustainability is a growing concern within the United Nations and European Union's ongoing policy agendas to fight climate change. This paper contributes to this debate by presenting the main impacts of the Operational Programme for Sustainability and Use of Resources (POSEUR 2014–2020) in the Lisbon Metropolitan Area (NUTS II). The analysis was supported by the use of the Impact-WEB_GIS platform, specially developed for the purpose of this study, complemented by a territorial impact assessment methodology. In addition to the production of general impact scores, five analytic dimensions were further analysed, supported by state of the art: i) low-emissions economy, ii) adaptation to climate change, iii) risk prevention and management, iv) environmental protection and v) resource efficiency. At a strategic level, the research created awareness of the need to adjust regional policy to the region's characteristics on environmental sustainability matters.

Regarding the Impact-WEB-GIS platform, being deployed at the moment, an expert review on usability analysis will take place soon, with 5 experts following the literature guidelines, to assess the usability and task satisfaction of this analytical Graphical Information System, in the context of the POSEUR (2014–20) policy case study, which will certainly lead to another iteration of development and an improved user experience of the system. Additionally, the system development will continue, by integrating new features such as the visualization of aggregated statistics in the mentioned territorial units, improvements of the ETL process via interoperability with APIs from third parties, and improved support to the TARGET_TIA methodology via development of an analytical engine. Under this roadmap, there are also plans to use this system for more policy intervention analysis, such as ex-ante analysis of the Interreg-A V programme (2021–2027) in Europe, the estimated territorial impacts of the Ukrainian War in Portugal (municipal level), and the assessment of the main impacts of the Lisbon Strategic Urban Development Plan (2014–2020) in all the Lisbon city parishes, amongst other uses cases.

In sum, the obtained general impact score (+1.3) represented a low to average positive impact of POSEUR on promoting environmental sustainability processes in the LMA. Crucially, the stakeholders that benefited from POSEUR funding demonstrated that its funding was insufficient to tackle the region's systemic environmental challenges and needs in the selected five analytical dimensions. Even so, high positive impact scores, under the TARGET_TIA methodology, were observed in the dimensions of adaptation to climate change (Change (reaching a Significant Positive Impacts figure) and environmental protection (with Moderate Positive Impacts). These results emphasise that there is no necessary mandatory causality between the expenditure and its effects on the terrain. In these dimensions, POSEUR accomplished its goals of creating sustainable urban management plans to be executed in future similar operational programmes, as well as a renovated waste collection system that increases the recycling numbers of the benefiting municipalities. These follow the guidelines of the UN Sustainable Agenda for 2030 and promote the awareness of stakeholders and citizens about the environmental risks associated with a lack of infrastructure and adequate planning.

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The low scores obtained in the remaining three of the five analytical dimensions exhibit this EU policy programme's fragilities (i.e. insufficient effectiveness and efficiency). For instance, the focus on small-scale projects prevented POSEUR from supporting solutions to tackle potential regional natural hazards more effectively, in addition to the problem of hiring external companies to execute the projects on the field via public selection. Due to the current set of global events, such as the Covid-19 outbreak, the war in Ukraine and rising inflation, some projects were not executed, which prevents the production of a sounder ex post impact analysis of POSEUR. This can be seen as one limitation of this research work, the other being the choice of stakeholders to be interviewed. The opinion of our interviewees was crucial to measure the scores using the TARGET_TIA model, although the possibility of interviewing other entities could have contributed to improving the overall analysis.

In a nutshell, POSEUR served as a positive public investment vehicle to mitigate national and regional environmental sustainability needs. The selected projects were adapted to the LMA's urban management model and to the national public policy priorities of decarbonising the economy, supporting intermodality and solving sanitation issues. Hence, the region became technologically more innovative. Nevertheless, as one of the most developed regions of Portugal, the LMA did not receive the investment that other more rural Portuguese NUTS II did. This turned out to be prejudicial to implementing measures that could produce a significant transition towards a more sustainable economy and use of resources in the region. There is a generalised expectation for the future Portuguese environmental sustainability operational programme (2021–2027) to achieve far better impact scores that were not successfully reached with the financial help of POSEUR 2014–20.

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