



Local implementation pathways of the European Green Deal: integration between environmental monitoring and community-driven policy-mechanisms

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INTRODUCTION & AIM

The European Green Deal (EGD) defines an ambitious pathway for the achievement of climate neutrality, pollution reduction and ecosystem restoration by 2050, with high-level goals, representing a clear challenge for effective local action. This study assesses how cities can implement EGD initiatives by integrating high-resolution environmental monitoring systems with community-driven policy mechanisms. Three European cities from different contexts (rural, coastal and urban) were chosen for a comparative evaluation: Lisbon, Aveiro and Évora.

METHOD

The methods utilized were as follows: a multi-criteria evaluation framework aligned with EGD's goals, inspired by the European Innovation Scoreboard; engagement through digital platforms, interviews with specialist-technicians, local non-governmental organizations and the local population; and the placement and incorporation of air and water quality sensors and biodiversity and energy usage monitoring systems. Data collected identified gaps, relations between environmental and policy interventions, and local priorities. The timeframe (2019-2024) aligned with the launch of the European Green Deal, allowing an assessment of recent developments and initial effects on local implementation.

RESULTS & DISCUSSION

Results indicate that cities with integrated environmental monitoring systems and participatory mechanisms showed alignment with the goals and targets of the European Green Deal, especially in air quality (a reduction in air pollution), urban green planning, improving biodiversity and sustainable mobility policies. Community participation contributed to acceptance and effectiveness of environmental policies, reducing local conflicts and supporting evidence-based decisions. The study formed a Local EGD Readiness Index, capable of assisting cities in assessing their annual progress and comparing data and performance across different regions.

CONCLUSION

Findings suggest that the local implementation of the EGD depends on the combination of environmental data and modern governance models. This approach allows more transparency and is able to connect the European Union's ambitions to regional priorities in adaptive policymaking. The framework offers a scalable model for cities seeking to advance their climate neutrality and their environmental resilience.

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