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Do EU Projects Spur Innovativeness, Eco-Innovation, and Circular Economy?

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Abstract. The aim of this study is to scrutinize the transnational projects implemented from 2014-2022 that focus on environmental quality. Our main interest was to review the projects co-funded by the EU and to analyse the number of projects including eco-innovation or elements of the circular economy. We focused on selected program schemes (transnational programs - Interreg, Horizon and Life) for TSG3 - Environmental Quality and specifically for each of the four flagship initiatives:
- monitoring and management of marine protected marine species,
- sustainable development of the coastal and maritime zones,
- protection and enhancement of natural habitats and terrestrial ecosystems,
- transnational contingency plan in the event of accidents at sea.

Eco-innovation is defined as "any innovation that reduces the use of natural resources and decreases the release of harmful substances across the whole life- cycle" (Eco-Innovation Observatory 2013). A broader and newer concept that we have focused on is the circular economy, defined by the Ellen MacArthur Foundation as "an industrial system designed to be regenerative that aims to rely on renewable energy; limits, tracks and reduces the use of toxic chemicals; and eliminates waste through the design of materials, products, systems, and business models." The circular economy is a model of industrial ecology that proposes concrete solutions to achieve a sustainable way of living and an environmentally friendly economy (Kobza and Schuster 2016). Unlike the linear model, the innovative circular economy approach embraces life-cycle thinking and considers both stocks and flows. Thus, materials should ideally also serve as a resource at the end of a product's life cycle to be returned to the cycle.

We have identified projects that indirectly or directly engage or promote eco-innovation (refers to any innovation that reduces the use of natural resources and decreases the release of harmful substances across the whole life- cycle) or another element of the circular economy (is the main alternative to the linear "use and throw away" model currently used - this circular model aims to minimize the environmental costs of production processes and products as much as possible during their life cycle in order to use resources more efficiently, commonly known as reduce, recycle, reuse). We also looked for and identified elements of general innovation, eco-innovation, or circular economy. Furthermore, we categorized the innovations we found into product, process, organizational, or marketing innovations based on the Oslo Manual.

Keywords: environment, sustainability, eco-innovation, circular economy, innovation, EU projects

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