

The transnational research project Bio_Solar: Unveiling the Hidden Potential of grasslands within solar Park is a pioneering initiative spanning Spain, Portugal, Poland, Sweden, and Hungary. Focused on Nature-based Solutions (NBS) for biodiversity conservation and human well-being, the project explores the grasslands within solar farms from the Mediterranean in Spain and Portugal to Sweden and the varied landscapes of Poland and Hungary. The area under and around the panels represent a good opportunity to create natural grasslands. Solar farms lifespan is estimated in 25 years with no biocides what may turn these areas into optimal patches to recover local biodiversity. Cattle can be used to grass control providing extra economical profits. However solar farms also alter landscape and sometimes is known to affect steppe birds when are developed in sensitive areas what may produce a negative social response from the local communities. Also solar radiation, rainfall and evapotranspiration show strong differences along the South-North gradient so the effect of the panels may have different regional differences in the grasslands within the solar farms.

Objectives: The project seeks to unravel the intricate interplay between solar farms development and biodiversity, addressing key scientific objectives across 10 work packages. The goals include identifying suitable locations, assessing the cost-benefit implications, monitoring biodiversity including soil microbiota. Also we will study the local community's perception. All together results will provide crucial information for policy makers about the cost and benefits of solar farms. Innovation and Novelty: The project's novelty lies in its holistic approach, transcending traditional ecological studies. It explores the transnational dimensions of solar farms as potential areas to recover local biodiversity. Research Methodology: Structured across work packages, the research employs a multifaceted methodology. This includes social, economic, and environmental diagnoses and detailed cost evaluations.

Impact and Knowledge Sharing: The project is poised to drive transformative change by actively disseminating its findings in international conferences, research publications, and collaborations with stakeholders. "Bio_Solar" emerges as a pioneering transnational research endeavour, unravelling the potential of solar park grasslands for transformative biodiversity conservation. Identifying specific elements such as distances between plates or adequate management of grass and other elements such as refuges for fauna we pretend create protocols to enhance biodiversity at the same time that producing energy.

By including countries with distinct environmental and societal contexts, the project aims to provide nuanced insights into the transnational implications of NBS for biodiversity conservation and human well-being, ultimately contributing to transformative change in the renewable energy landscape.