

## LandShift's Path to Climate-Resilient Land Use

Europe's land is at a crossroads. Forests, farmlands, wetlands, and peatlands are critical carbon sinks, biodiversity reservoirs, and the backbone of our food systems. Yet the EU's land sink is shrinking at an alarming rate, just as the revised LULUCF Regulation sets a binding target of 310 million tonnes of CO<sub>2</sub> equivalent net removal by 2030. **Closing this gap requires a new approach to land-use planning.** LandShift is that approach.

**LandShift** is a Horizon Europe Research and Innovation project coordinated by the Eratosthenes Centre of Excellence in Cyprus, bringing together 26 partners across nine countries. It establishes five Living Spaces in France, Greece, Italy, Poland, and Ukraine, where diverse stakeholders co-design and co-govern land-use strategies rooted in local realities.

A **Living Space** is more than a study area. It is a **living, evolving platform for co-creation and co-governance**, where diverse actors from local communities and farmers to regional authorities and researchers jointly identify challenges, design strategies, and monitor outcomes. **Each Living Space** is supported by an open-source Data Cube integrating satellite imagery, soil data, and ground measurements, and by a Living Earth framework that enables precise, consistent land-use mapping over time. Together, **these tools give each region the intelligence it needs** to manage its land in a way that is both climate-effective and locally meaningful.

Over the past decade, the **EU's land carbon sink declined by roughly 30%**, driven by ageing forests, increased harvesting, and more frequent climate-driven disturbances such as fires and droughts. While recent data suggest some stabilisation, the current net removal level of around 198-212 MtCO<sub>2</sub>e remains far below the 2030 LULUCF target of 310 MtCO<sub>2</sub>e, and current policies are projected to fall 40-55 MtCO<sub>2</sub>e short of that goal. **Opportunities for carbon sequestration, biodiversity conservation, and food system resilience** remain poorly coordinated and underused. Meanwhile, inconsistent monitoring, reporting, and verification practices across Member States continue to undermine accountability and informed policymaking. **LandShift directly addresses all three**, combining Earth Observation, Artificial Intelligence, and community engagement to give regional authorities the tools and evidence needed to design strategies that advance climate mitigation, biodiversity conservation, and sustainable food production simultaneously.

**LandShift supports over 15 EU strategies and initiatives**, including the EU Biodiversity Strategy, the Directive on Soil Monitoring and Resilience, and the New European Bauhaus (NEB). Its proposed Nature-Based Solutions are identified and adapted from existing, well-documented practices to align with **NEB principles of sustainability, inclusivity, and beauty**, ensuring they are ecologically sound and meaningful to the communities within them. **Policy** and **Community Labs** in each region ensure strategies are co-created with citizens and local stakeholders, building the governance capacity needed for solutions to last well beyond the project's lifetime.

LandShift will deliver **open-access tools, regional strategies**, and a **scalable roadmap** for replicating Living Spaces across the EU. The five Living Spaces are the starting point. The goal is a model for sustainable land management that every EU Member State can draw from and build on.

### Keywords

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