

Introductory information:

Location: Former lignite mine near Kozani, Western Macedonia, Greece

Area: 20 ha

Climate: Mediterranean/Continental

MarginUp! proposal: Intercropping of perennial woody species and indigenous herbs in severely degraded land



Land where intervention will take place: Abandoned former lignite mine near Kozani, Western Macedonia, Greece. Photo: DIADYMA

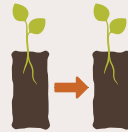
Benefits:



Biodiversity enhancement



Circular use of biomass



Replication potential



Improved soil quality and productivity



Water optimised production



New regional business models



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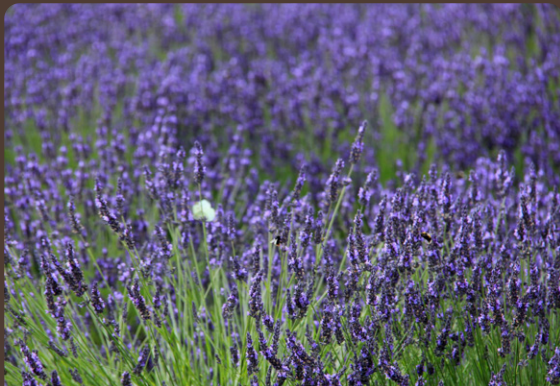
Replication potential:

Abandoned and in-transition lignite mines and areas with comparable marginality attributes and climate conditions in coal regions.

Feedstock:



Robinia pseudoacacia tree. Photo: Andreas Rockstein



Lavender flowers. Photo: Karen Roe

Supporting the development of the bioeconomy:

The proposed value chain will enhance the local economy and local ecosystem services. Its upscaling will mitigate social, economic, and environmental negative consequences of lignite mines closures.

Stakeholder engagement:

Cooperatives, agronomists and agroengineers, bio-based businesses and industries, rural entrepreneurs, technology providers, regional authorities, academia and research institutes will all be involved in the use case through the different stages: crop cultivation and harvesting, biomass processing, manufacturing, and production.

Land, biodiversity, and ecosystem resilience:

Intercropping with perennial woody species and indigenous herbs increases carbon sequestration and storage, improves soil quality and establishes a new and productive ecosystem, enhancing biodiversity, boosting crop output, assuring farming system resilience and generating multiple economic streams.

Bio-based products:



Natural cosmetics. Photo: Photo: Tara Winstead



Ash pellets



Wood-based fiberboards



Pseudoacacia nectar. photo: Pxfuel

Circularity and biomass cascade use:

The biomass produced will be employed for medium density fibrewood (MDF) production and bioenergy in the form of pellets, which can be returned to the land. The blossoms and herbs will be used to produce natural cosmetics and the nectar will be used by local beekeeping cooperatives.