MAPPING OF MARGINAL, UNDERUTILISED AND CONTAMINATED LANDS IN EUROPE AND UKRAINE AND SUSTAINABILITY ASSESSMENT OF BIOENERGY VALUE CHAINS THROUGH THE BIOPLAT-EU webGIS TOOL

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BIOPLAT-EU

Promoting sustainable use of underutilised lands for bioenergy production through a web-based Platform for Europe

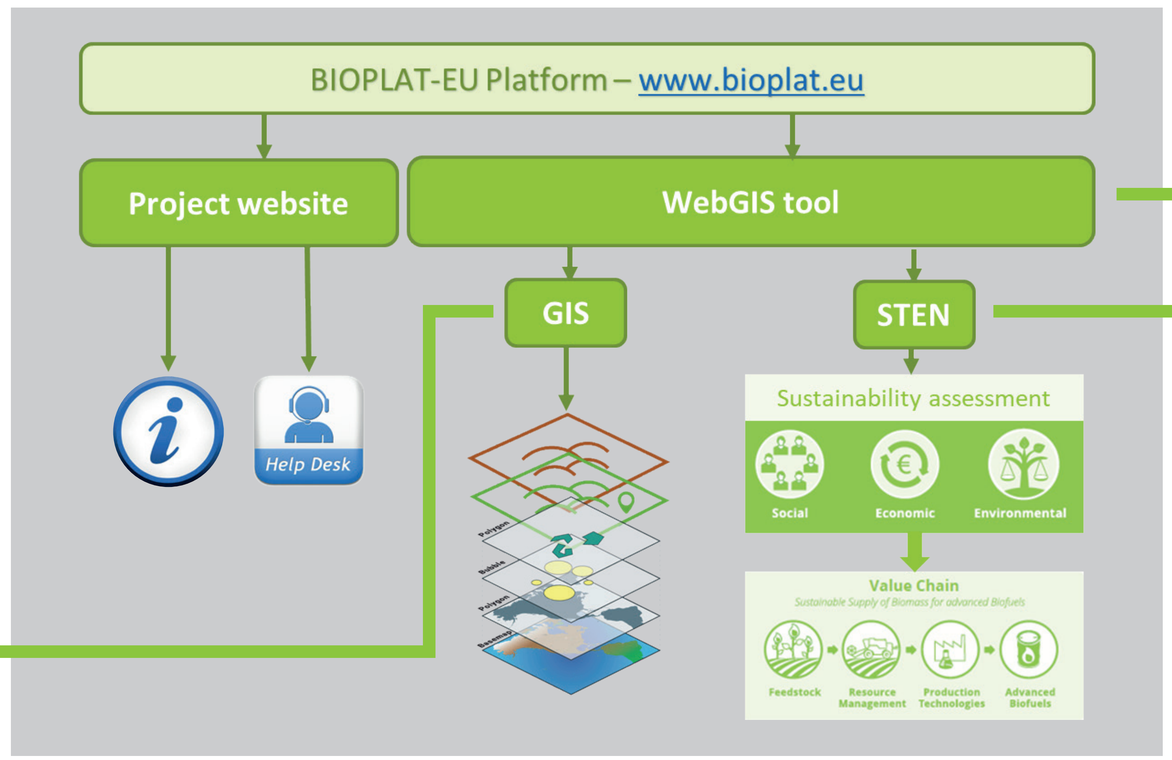
BACKGROUND

Bioenergy plays an important role and is a key element in reaching the European climate targets which requires to fulfil at least 32 % of its total energy needs with renewable energies for 2030. Furthermore, bioenergy is an important element in supporting the UN Sustainable Development Goals in the context of climate change and energy security. This is evident only if the bioenergy produced is sustainable. The use of Marginal, Underutilised, and Contaminated lands (MUC) for biomass production is one measure that can support sustainable bioenergy expansion.

OBJECTIVES

The overall objective of the project is to promote the market uptake of sustainable bioenergy in Europe using marginal, underutilised and contaminated lands for biomass production through the provision of a web-based platform that serves as a decision support tool. Furthermore, the BIOPLAT-EU project will help remove market uptake barriers of bioenergy including mainly technical, financial and legal barriers.

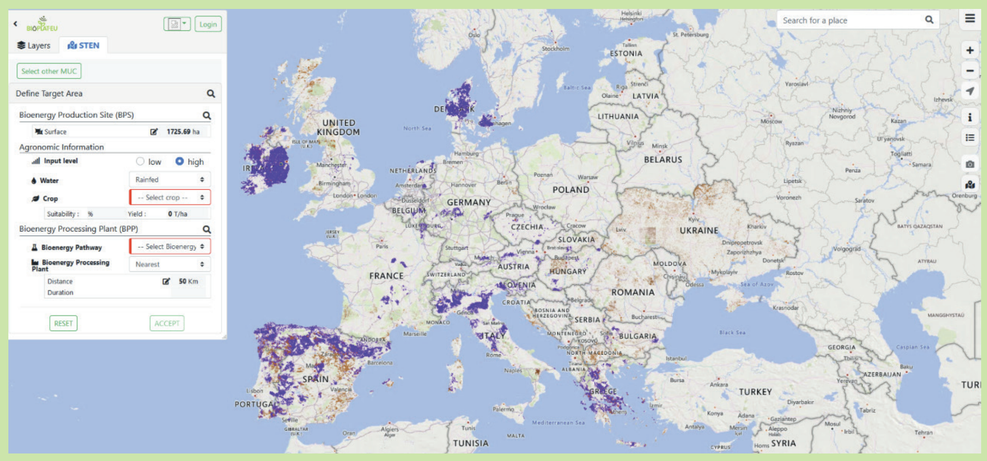
THE WEB-BASED PLATFORM



BIOPLAT-EU webGIS TOOL

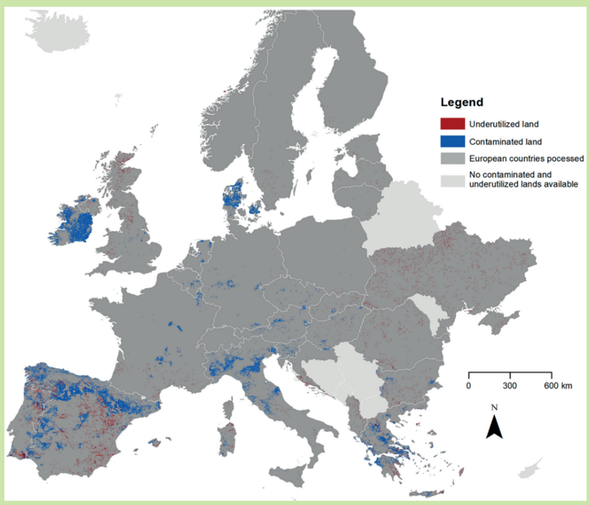
It combines the maps and the STEN. It allows stakeholders to search for MUC lands in Europe. It will give the user some specifications about these lands such as agronomic and climatic ones, and consequently what type of biomass would be suitable to be planted on these lands. The tool will then assess the environmental, social, and techno-economic sustainability aspects of the defined value chain when the user chooses or enters the required data.

The webGIS tool is considered an important decision-making tool for stakeholders, which gives first insights on the viability and sustainability of bioenergy value chains.



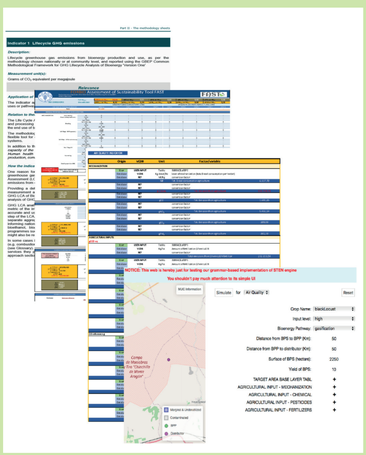
GIS MAPPING

The mapping of underutilised lands in Europe (unused for the last 5 years) using Earth Observation satellite data showed a total amount of 5.3 Million ha. As for the contaminated lands, national heavy metal contamination thresholds were used, when available. For countries with no available national thresholds (i.e., Bulgaria, Estonia, Ireland, Latvia, Liechtenstein, and Slovenia), thresholds in line with the EU-directive were used. Mapping contaminated lands is a difficult and sensitive exercise because of lack of precise data and confidentiality. Therefore, the mapped lands have to be re-evaluated locally.



STEN

The Sustainability Tool for Europe and Neighboring countries (STEN) is the backbone of the webGIS tool dedicated to the computation of sustainability indicators deriving information from databases and GIS layers.



NEXT STEPS

In the next phase, the BIOPLAT-EU webGIS tool will be tested on selected case studies in 6 countries: Italy, Germany, Ukraine, Hungary, Romania and Spain and then with external stakeholders in order to optimize it and fine-tune it.

Feasibility studies, business models and financial structuring support up to bankability of 12 selected value chains in the case study countries will take place.

A series of dissemination activities including workshops and presentations will be organized to inform about the tool and the opportunities to produce biomass for bioenergy production on MUC lands in a sustainable way.

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