CERESiS

ContaminatEd land Remediation through Energy crops for Soil improvement to liquid biofuel Strategies

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Our partners

ABE

CERTH CENTRE FOR RESEARCH & TECHNOLOGY HELLAS

National Research Council STEMS Institute of Science and Technologies for Sustainable Energy and Mobility

National Technical University of Athens

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Motivation

- **2.8 million** potentially contaminated sites, just across the EU-28
- **Global problem** → 20 million ha of land where the soils are contaminated by potentially toxic elements
- Liquid biofuels are **critical for decarbonization** of transport – but high risk of taking land away from agriculture → **Food vs Fuel**
- High quality land is **not sufficient or sustainable** for biofuel production
- **Second generation** lignocellulosic bioenergy crops **can be grown on contaminated land**

Example sites

Aims and objectives

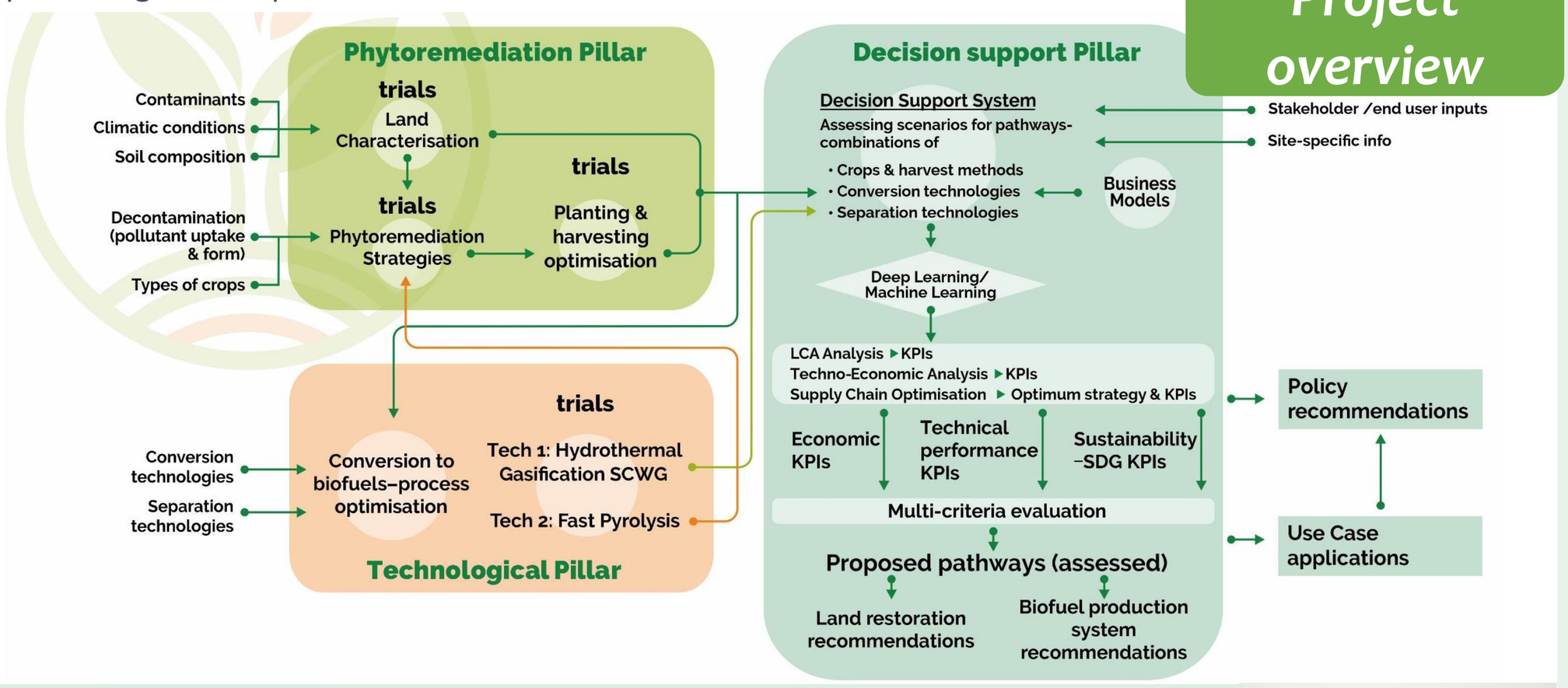
Aim: CERESiS aims to develop, assess and validate **integrated biofuel production pathways linking land decontamination to appropriate bioenergy crops** and environmentally & economically efficient **advanced biofuel production** → WIN-WIN

Objective 1: Demonstrate the **suitability and effectiveness of various conventional and novel species of energy crops for phytoremediation purposes in contaminated land**, against a variety of the most common contaminants globally

Objective 2: **Demonstrate the potential of two novel thermochemical processes**, i.e. Supercritical Water Gasification (SCWG) and Fast Pyrolysis (FP), **for the production of biofuels and key biofuel precursors**

Objective 3: Provide **decision support to stakeholders and policy makers in order to achieve optimal win-win solutions** for site-specific land decontamination through phytoremediation while simultaneously producing clean liquid biofuels

Project overview



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