

## SoildiverAgro project

Adoption of new management practices to increase crop production and quality



### THE WHAT AND WHY

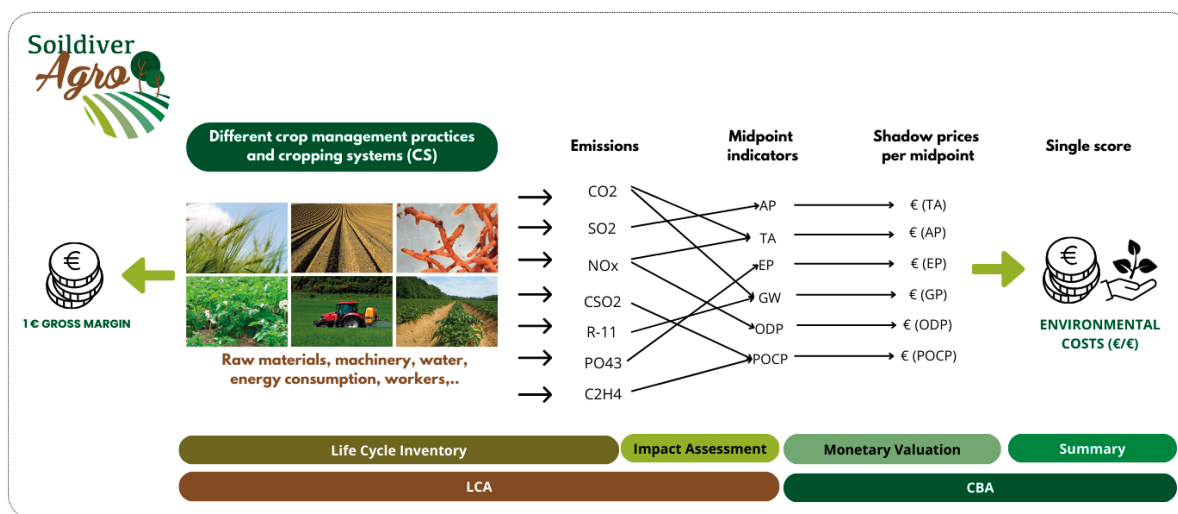
## Environmental cost-benefit analysis (e-CBA): a methodology for the economic evaluation of environmental impacts

Environmental impact assessment of agricultural systems often focuses on the biophysical analysis of impacts but rarely considers their environmental costs. Environmental cost-benefit analysis (e-CBA) addresses this gap by monetizing environmental impacts. This method, applied in the SoildiverAgro project, facilitates the identification of more sustainable agricultural practices without compromising profitability, thus supporting decision-making by farmers and policy makers.

e-CBA is a methodology that combines life cycle assessment (LCA) with the monetary valuation of environmental impacts. Based on production and emissions data, the LCA quantifies the impacts in various categories, such as climate change or eutrophication, in physical units (e.g. kg CO<sub>2</sub>-eq). These impacts are then converted into environmental costs by using reference values from environmental valuation studies, such as those provided by the Handbook of Environmental Prices.

In the context of SoildiverAgro, this method enables the comparison of different agricultural practices, such as reducing the use of chemicals, crop diversification or the use of biofertilizers, by measuring their environmental costs in € (i.e. impact) per € gross margin for the farmer.

The results provide important insights for the design of incentives and regulations that promote agricultural practices that balance sustainability and economic profitability. By translating environmental impacts into economic terms, e-CBA facilitates informed decision making by farmers and policy makers and enables direct comparison with farmers' economic outcomes.



1. Diagram showing the relationship between Life Cycle Assessment (LCA) and Environmental Cost-Benefit Analysis (e-CBA), the methodology used in the SoildiverAgro project

### KEYWORDS

Economic cost, impact monetization, e-CBA, LCA, sustainability, agriculture practices

### AUTHORSHIP

**Miguel Rodríguez Méndez**, GEN research group, ECOBAS, Universidade de Vigo  
**Marina Gómez Rodríguez**, GEN research group, ECOBAS, Universidade de Vigo



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