

# FER-PLAY

Circular fertilisers for healthy soils

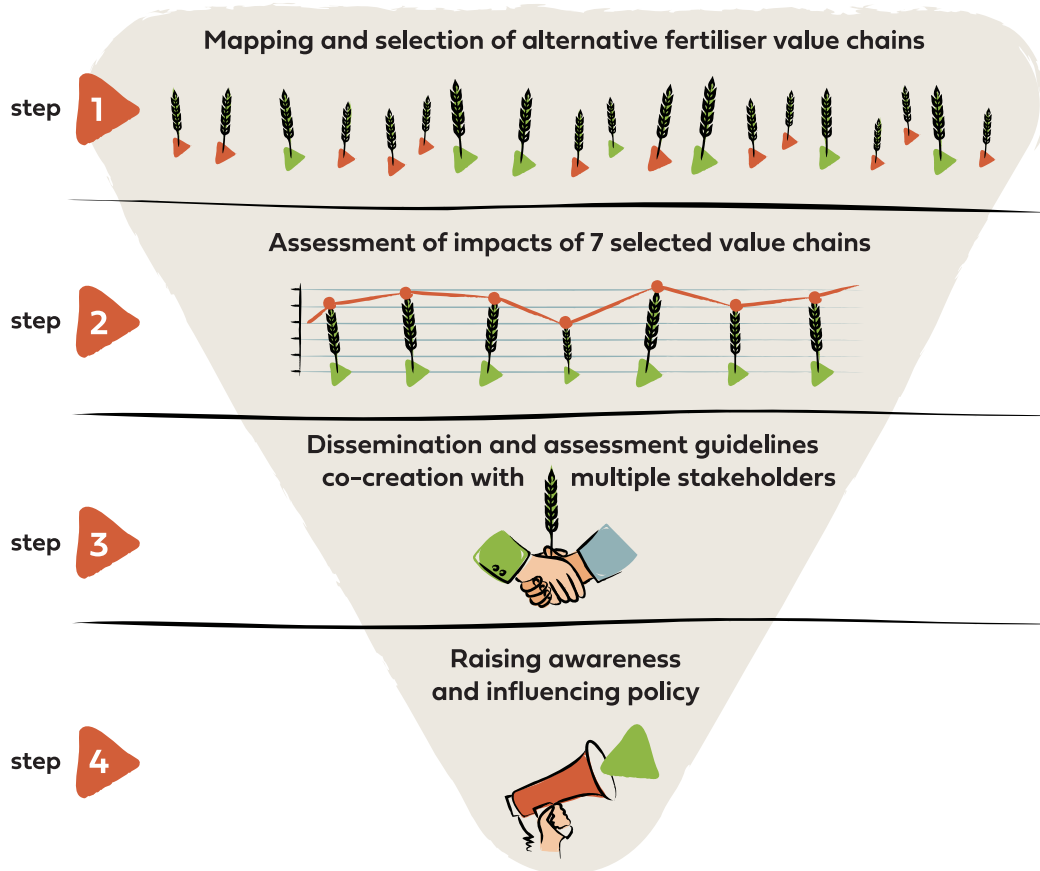
# What is FER-PLAY?

FER-PLAY is working to protect ecosystems, decrease EU dependence on fertiliser imports, and improve **resource efficiency** through the promotion of **alternative fertilisers**.

The project will map and assess alternative fertilisers made from **waste, by-products and wastewater** and highlight their multiple benefits to foster their wide-scale production and application.



# FER-PLAY's step by step process



## Stakeholders targeted



Fertiliser producers



Farmers and farmers associations

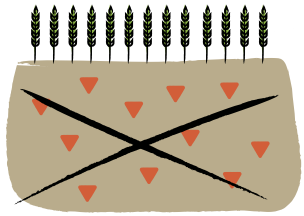


Public administrations

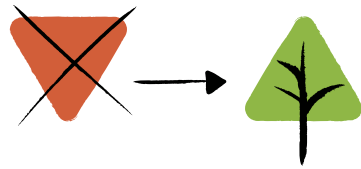


Waste valorisation & agricultural researchers

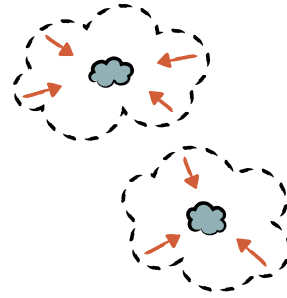
# Contributing to EU objectives



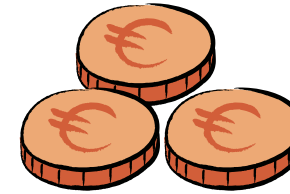
**Preventing water and soil contamination:** By 2050, 2.83 M tonnes less fertilisers leached into the environment each year



**Replacing the +3.77 M tonnes of conventional fertilisers with alternative ones**



**Mitigating GHG emissions** from the agricultural sector: 88% of CO<sub>2</sub> and 87% of N<sub>2</sub>O emissions by 2050



**Improving resource independence:** Reduce fertiliser imports by 20% leading to savings up to €689.38 M per year, diversifying EU sources of nutrient supply

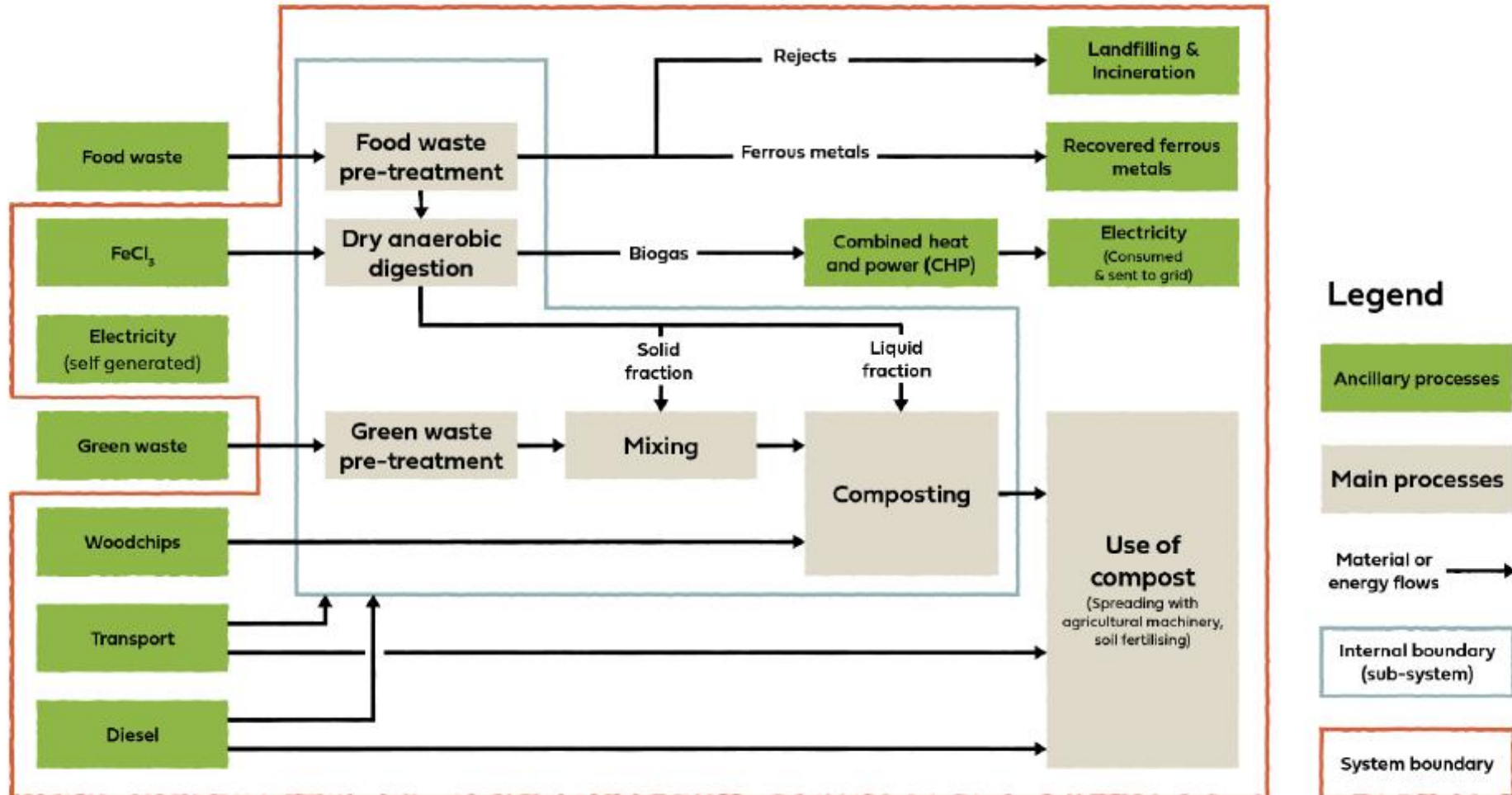


**Promoting the development of the circular bioeconomy** at local and regional levels

# The consortium



# Composted biowaste



# Functional unit and system boundaries

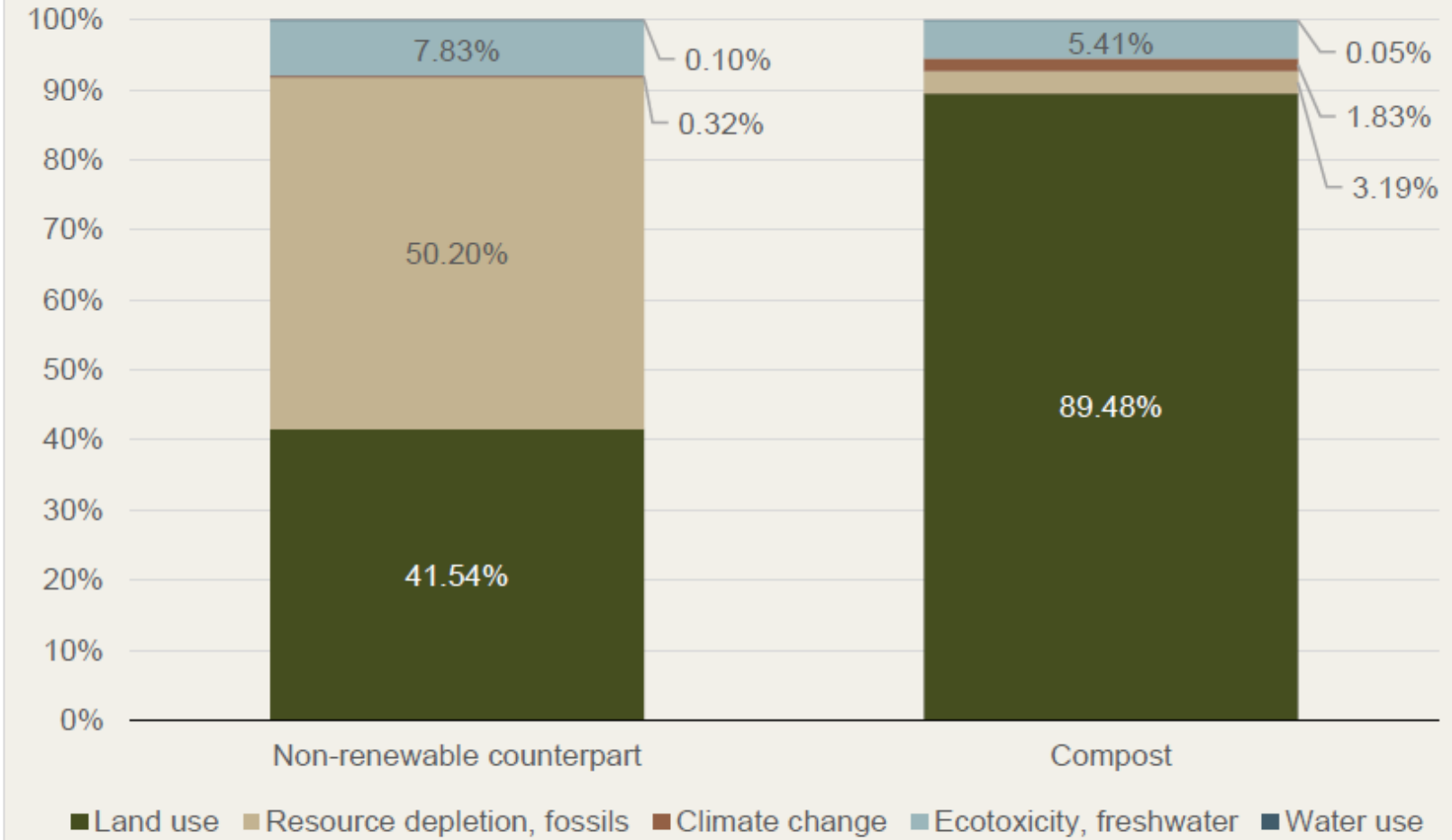
FU: The supply of a specific amount of nutrients and carbon to agricultural soils.

Reference flow: 1 tonne of traditional fertiliser.



N: 15 kg.  
P: 7 kg (as  $P_2O_5$ ).  
K: 11 kg (as  $K_2O$ ).  
C: 248 kg.  
[Wet basis, 25% of moisture]

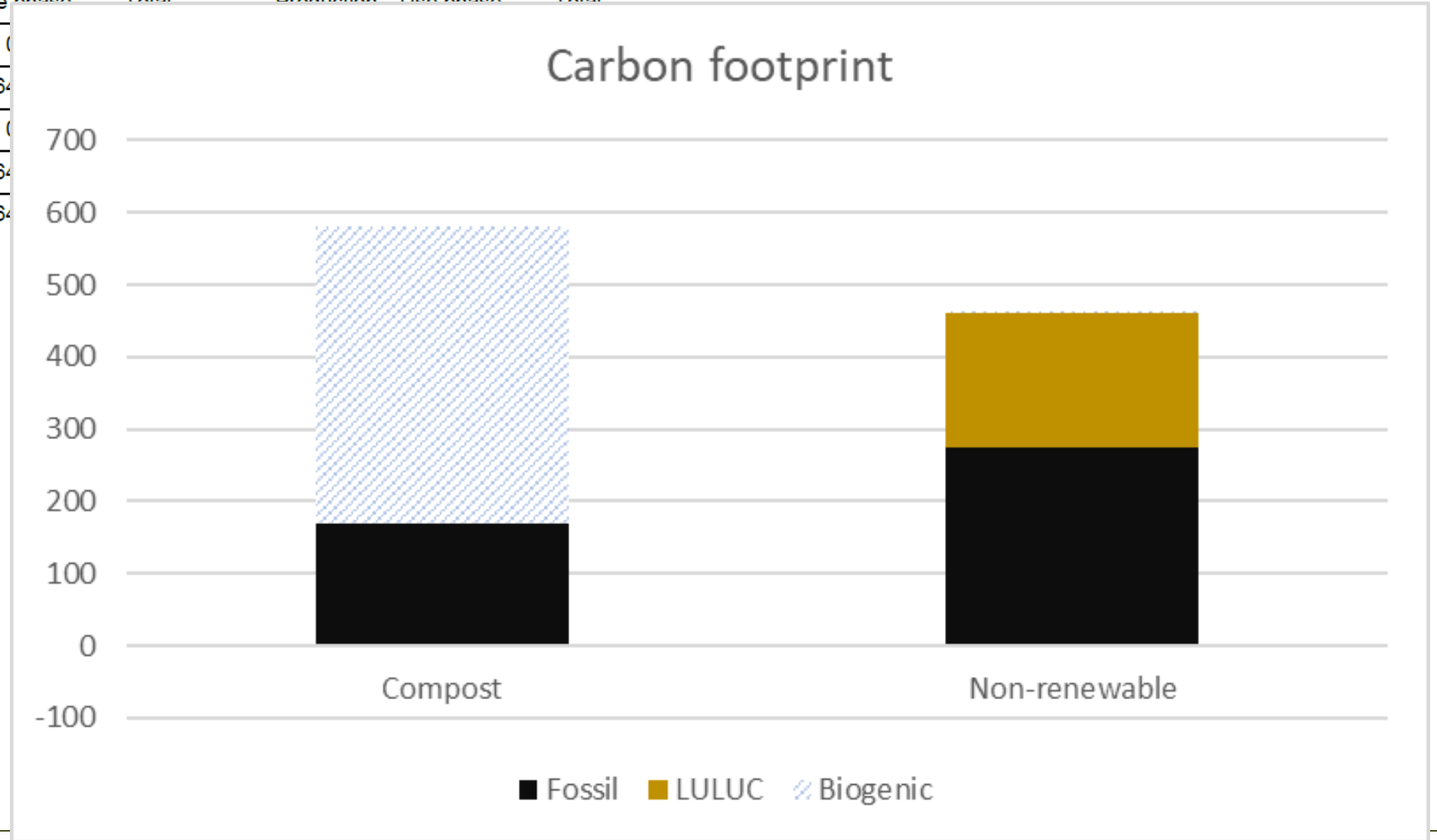
## Distribution of impact categories Composted biowaste

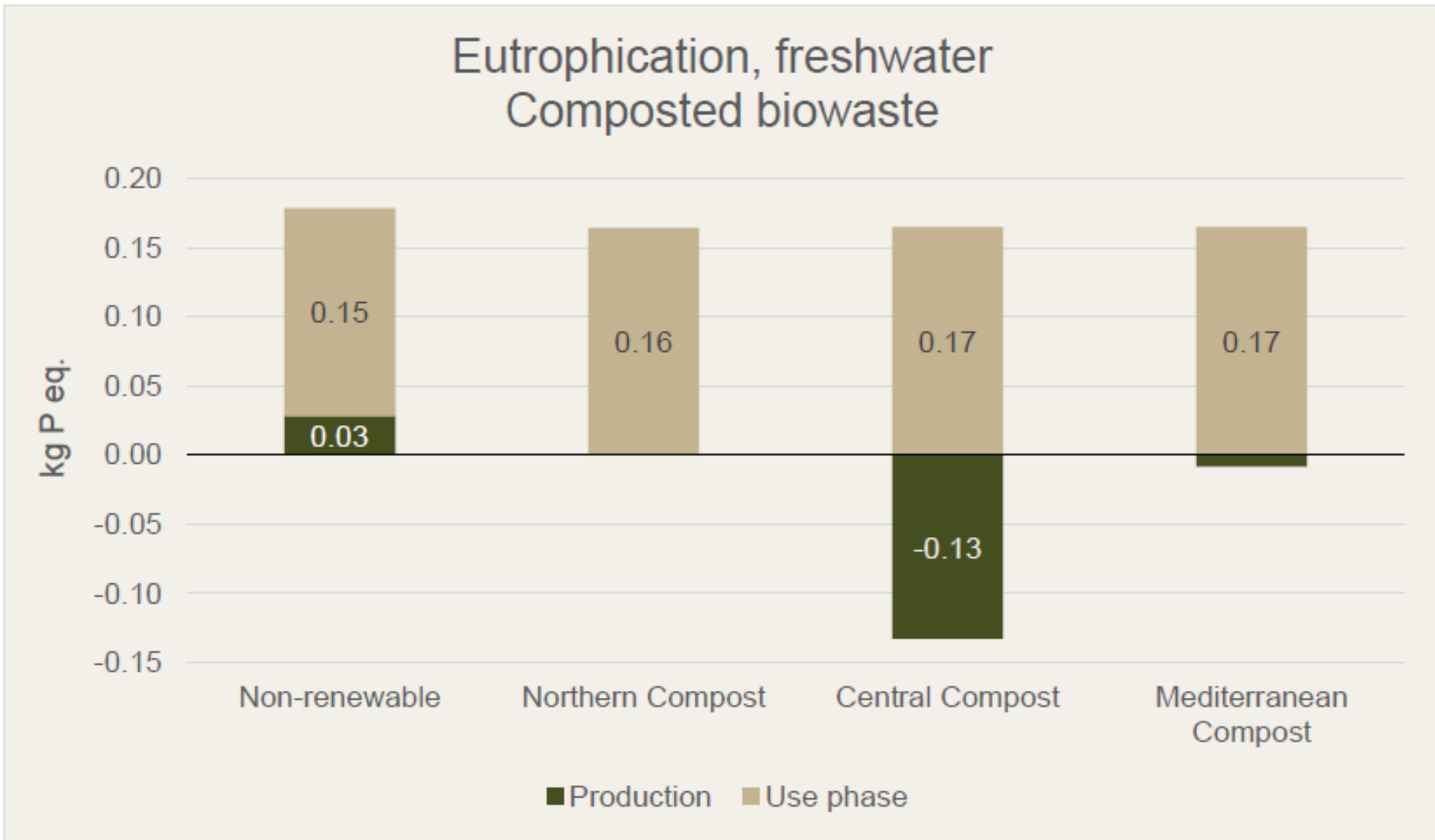


Distribution of impact categories accounting for 99.98% of the impacts of compost and its non-renewable counterpart.

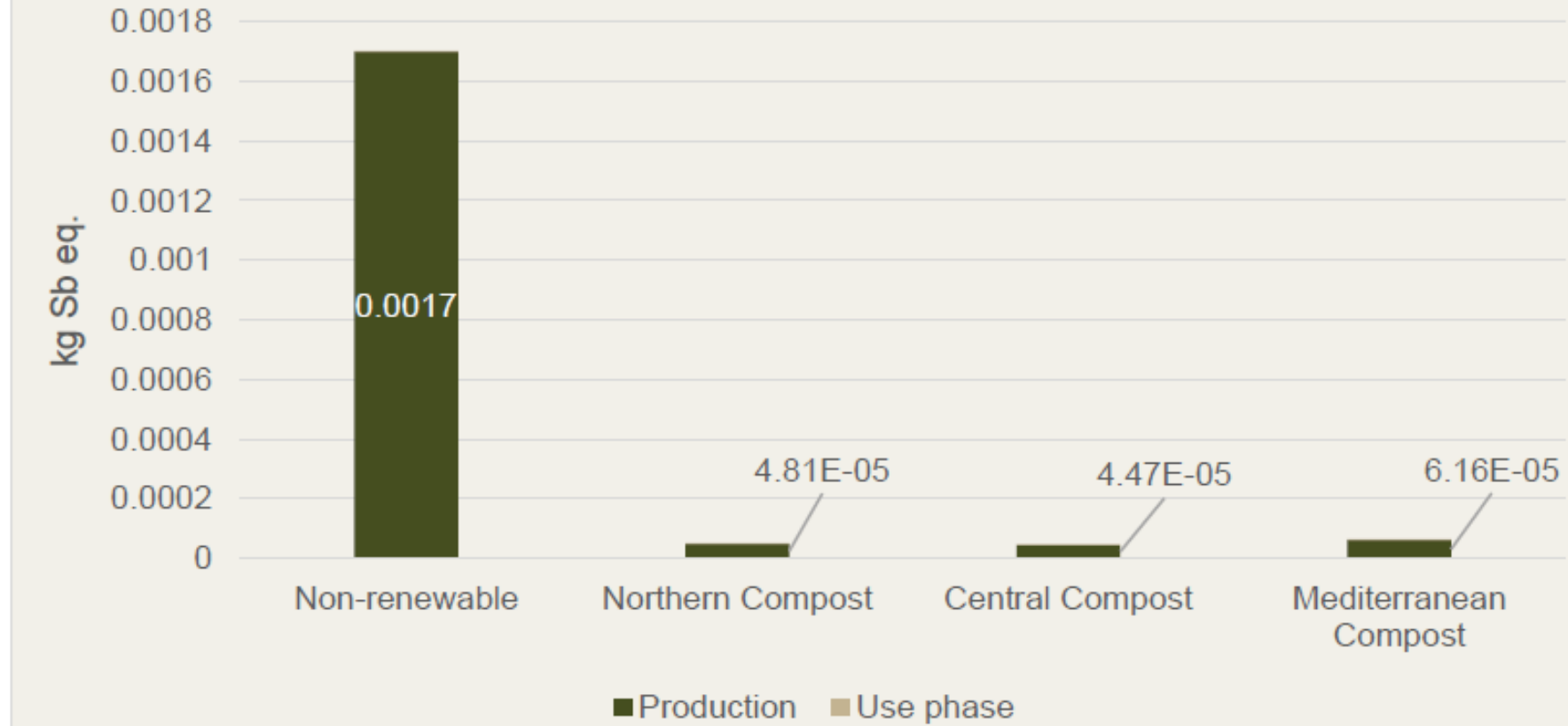


[ kg CO <sub>2</sub> eq.]	Compost		Non-renewable			
	Production	Use phase	Total	Production	Use phase	Total
<b>Biogenic</b>	411.05	(				
<b>Fossil</b>	105.97	64				
<b>LULUC</b>	-0.23	(				
<b>TOTAL</b>	516.79	64				
<b>TOTAL without biogenic</b>	105.74	64				

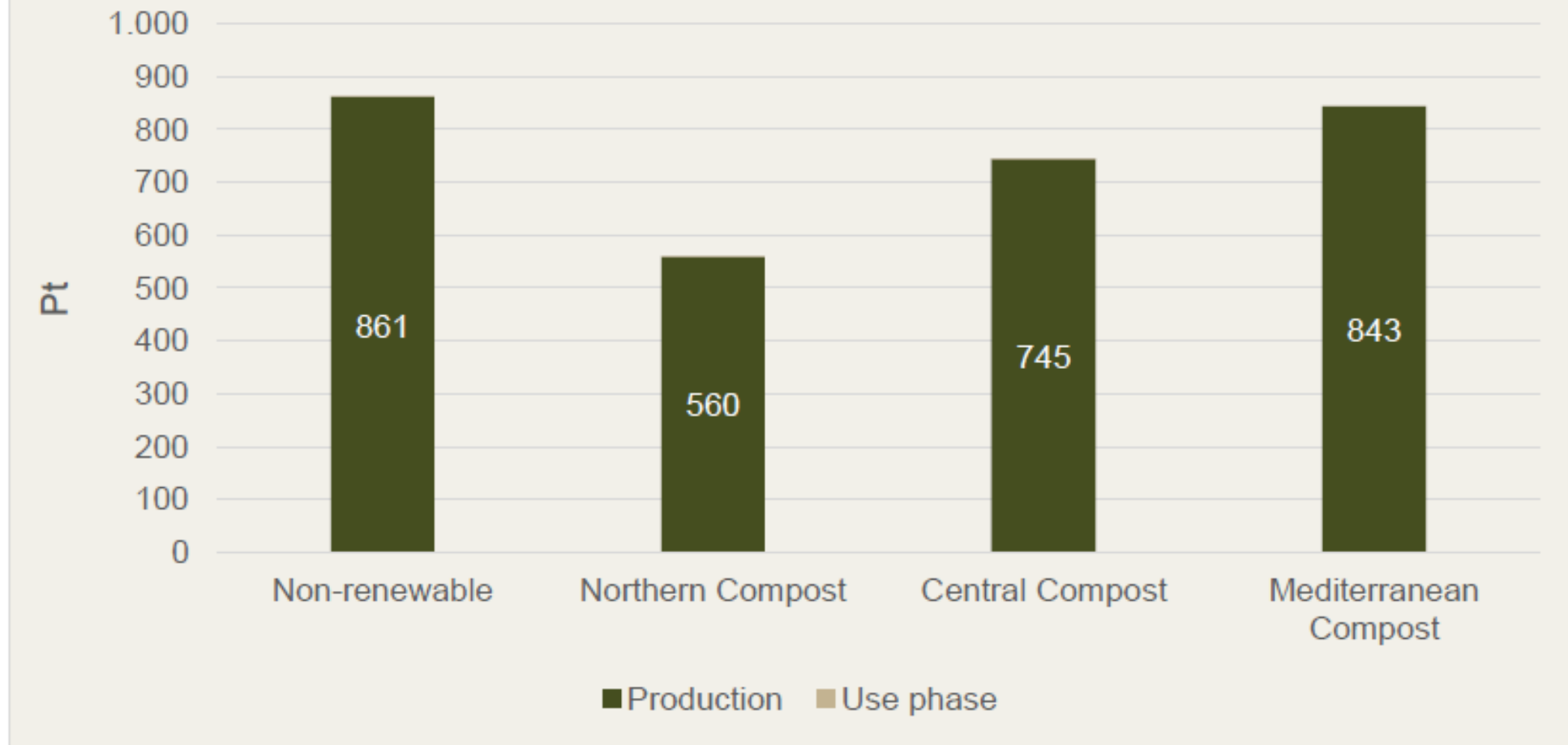




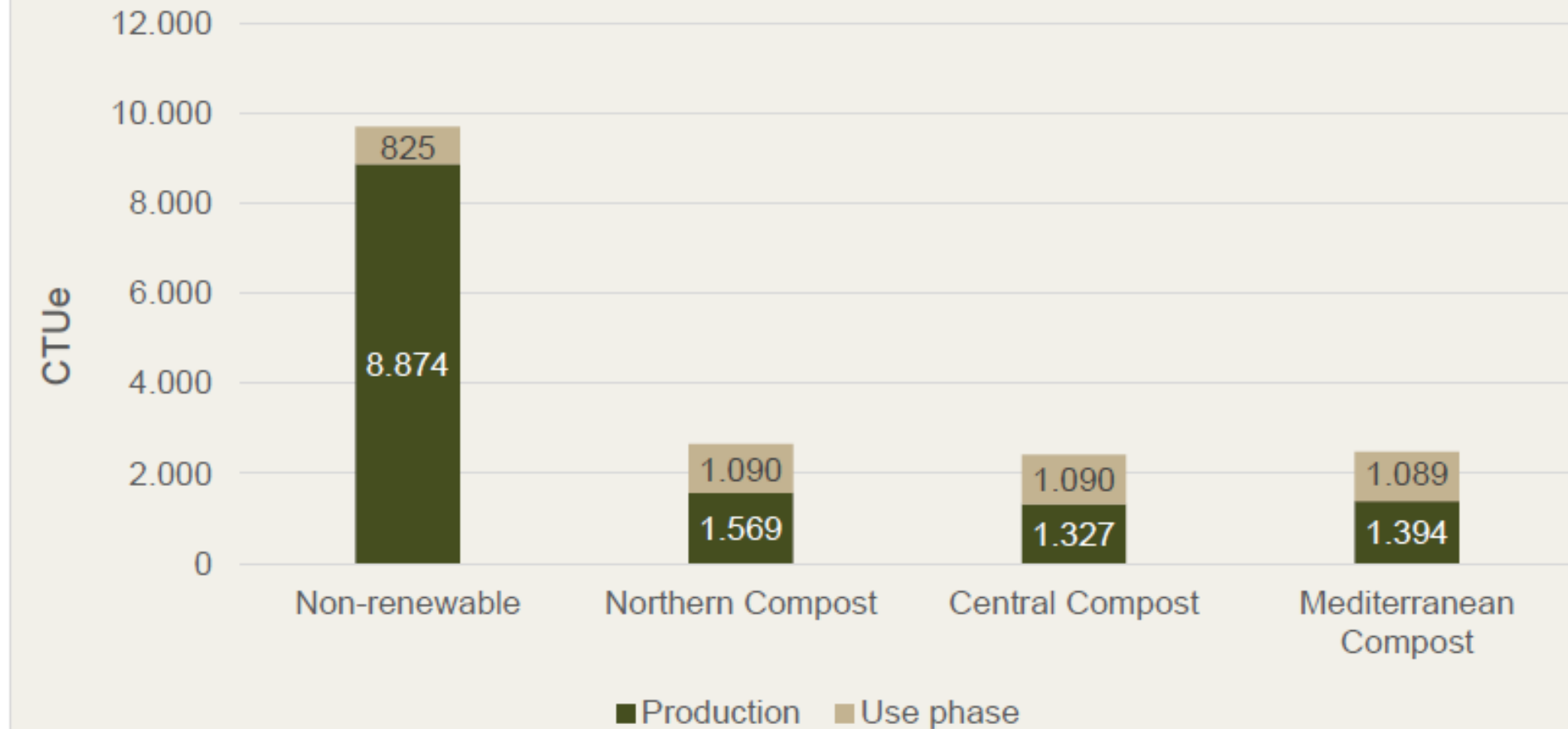
## Resource use, minerals and metals Composted biowaste



## Land use Composted biowaste



## Ecotoxicity, freshwater Composted biowaste



# Conclusions:

- ❖ **Limitation of the Environmental LCA:**
  - **Effects on soil**
  - **Avoided alternative management/disposal of bio-waste**
- ❖ **Upcoming S-LCA**
- ❖ **Upcoming LCC**

**Thank you for your attention**



## About FER-PLAY

FER-PLAY is working to protect ecosystems, decrease EU dependence on fertiliser imports, and improve resource efficiency through the promotion of alternative fertilisers. The project will map and assess alternative fertilisers made from secondary raw materials and highlight their multiple benefits to foster their wide-scale production and application.

## Get in touch

**Ambrogio Pigoli**  
Consorzio Italiano Compostatori  
[pigoli@compost.it](mailto:pigoli@compost.it)

**Martín Soriano**  
Project Coordinator | CETENMA  
[martin.soriano@cetenma.es](mailto:martin.soriano@cetenma.es)

**Angela Sainz**  
Communication Lead | European Biogas Association  
[sainz@europeanbiogas.eu](mailto:sainz@europeanbiogas.eu)

## Social Medias

 [@FER\\_PLAY\\_eu](https://twitter.com/FER_PLAY_eu)

 [FER-PLAY EU](https://www.linkedin.com/company/fer-play-eu)



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement N° 101060426.