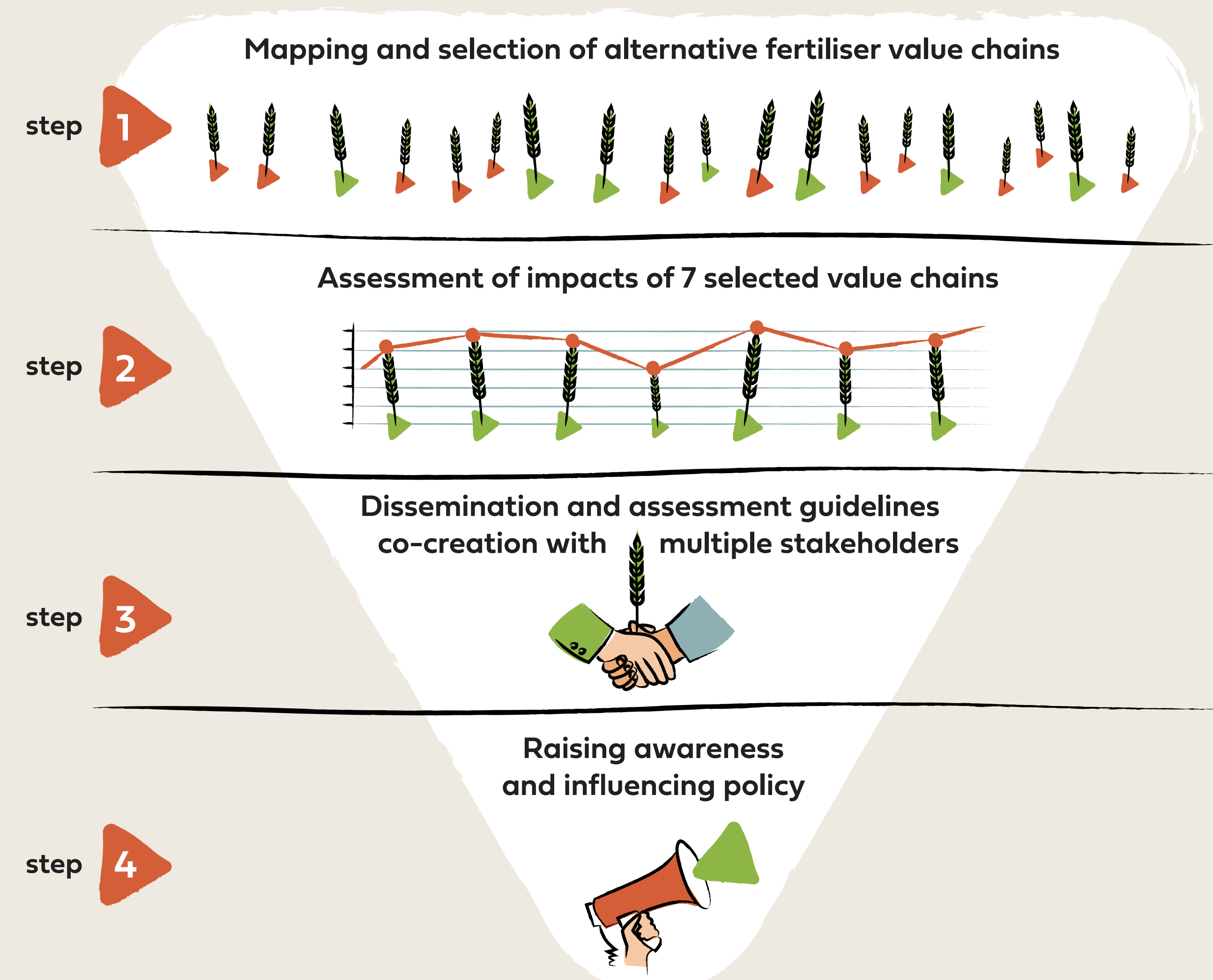


FER-PLAY is facilitating the uptake of alternative fertilisers to **protect ecosystems, decrease EU dependence on fertiliser imports, foster circularity, and improve soil health.** The project maps and assesses alternative fertilisers made from secondary raw materials, such as manure, and highlights their multiple benefits in order to promote their widescale production and use on field.



FER-PLAY steps



Step 1

In a first step, partners analysed 61 different alternative fertilisers value chains. Then, we narrowed down the selection to 30 value chains through a go/no-go approach. It verified the data availability, their nutrient content and soil improvement capacity, toxicity, technical viability, versatility to comply with legislation in different EU countries and potential for replication at industrial scale.

Following the initial selection process, the value chains were then subjected to a new analysis and scoring process. It included ten new parameters such as the marketability, the use around the EU, the type and ease of transport and storage, or their application or not in organic agriculture.

FER-PLAY concluded that the most promising value chains were:

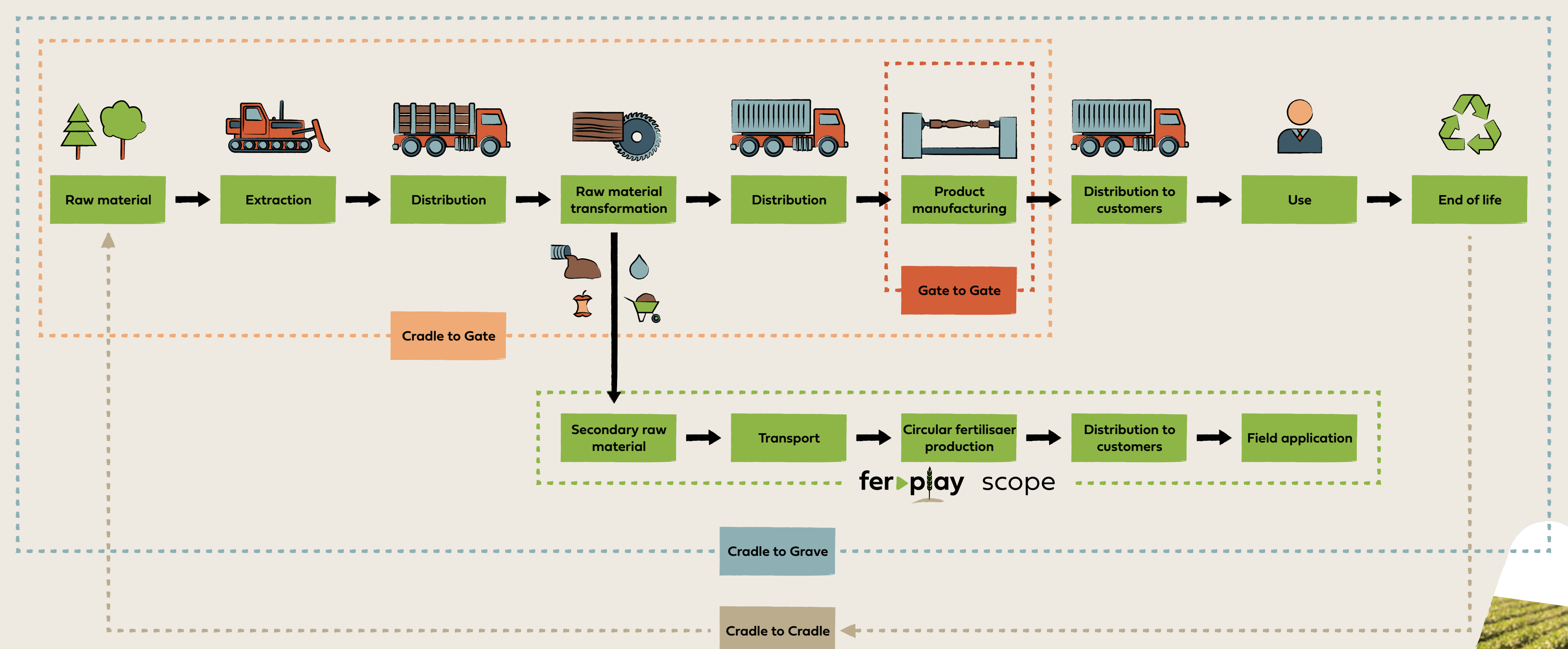
Urban waste water	Struvite
Industrial waste water	Struvite
Sewage sludge	Stabilised sludge
Biowaste	Composted biowaste
Biological by-products	Feather meal
Digestate	Solid fraction of digestate
Treated manure	Spent Mushroom Substrate

Where we are now

Step 2

An LCA accounts for all inputs and outputs that a "product system" incurs along its life cycle. FER-PLAY is evaluating the consumption and emission of materials and energy (E-LCA), the costs at every stage (LCC) and the social risks to be addressed (S-LCA) linked to the 7 circular fertilizer value chains in every stage of their life cycle as shown in Figure (right). The three-dimension evaluation encompasses the Life Cycle Sustainability Assessment (LCSA) to be performed in FER-PLAY as well.

The LCSA will be conducted for three European regions (northern, central and Mediterranean countries), considering the technology and energy mix, as well as the different waste management mechanisms and cost levels.



Step 3 and 4

Horizontally, spaces for dialogue and participation have been created with key stakeholders in the value chains with the aim to involve their perspectives in Step 2 as well as co-develop input to Step 4 (guidelines and recommendations targeted at the key stakeholders).

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