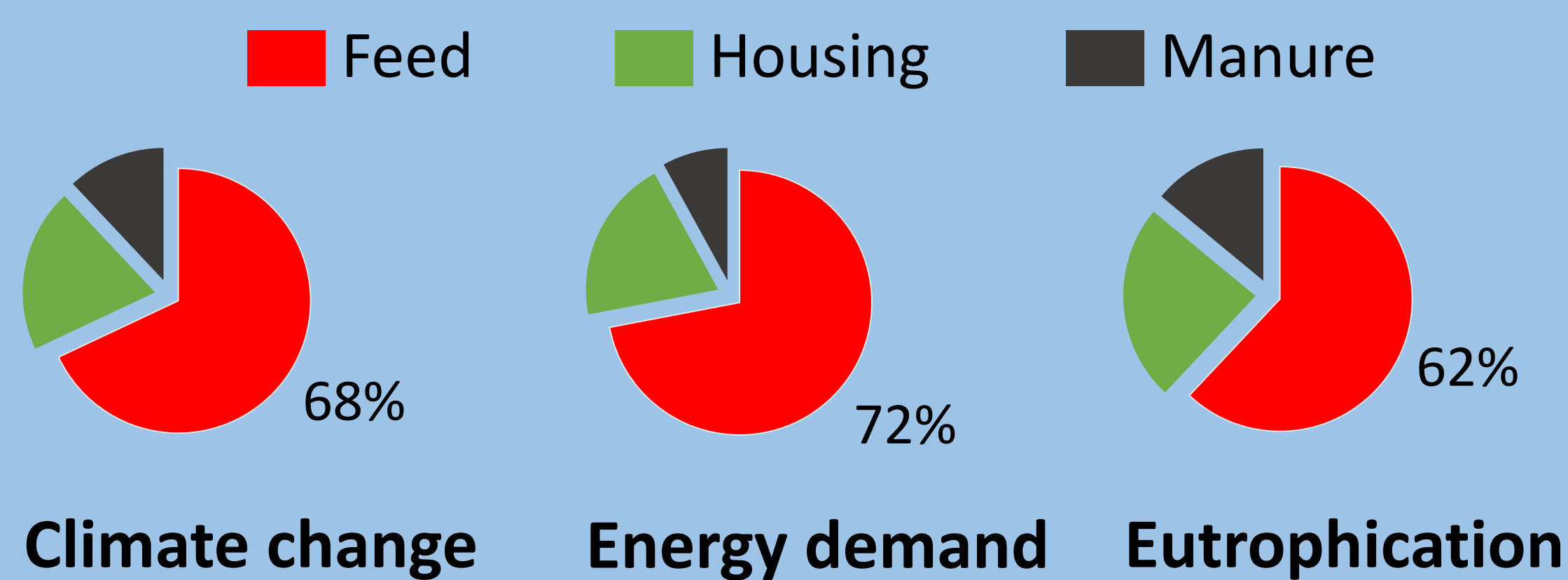


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Introduction & Objectives

Feed production has a major contribution to most environmental impacts of pig farming systems¹.

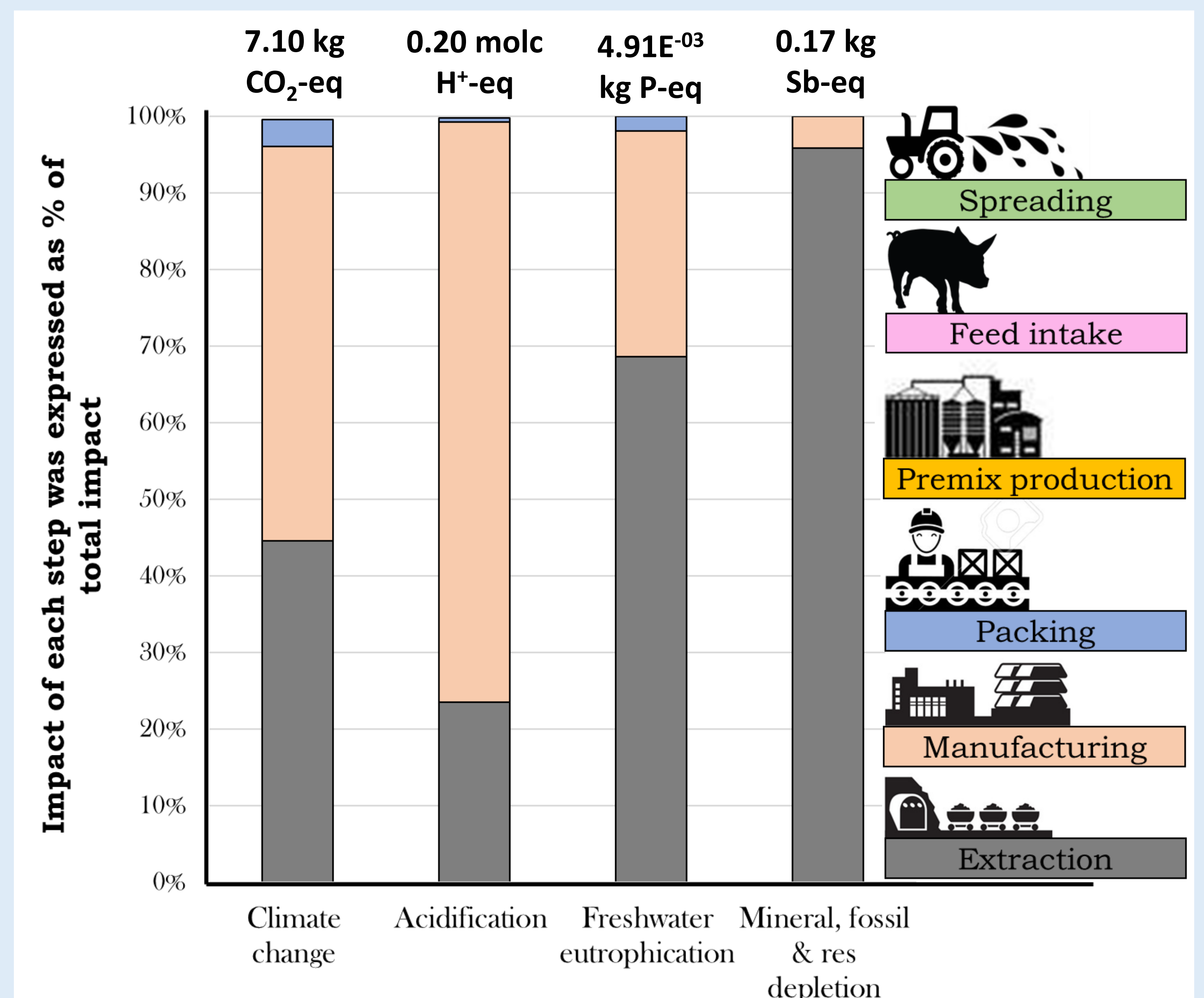


Life cycle assessment (LCA) studies are useful to identify the hotspots associated with feed production.

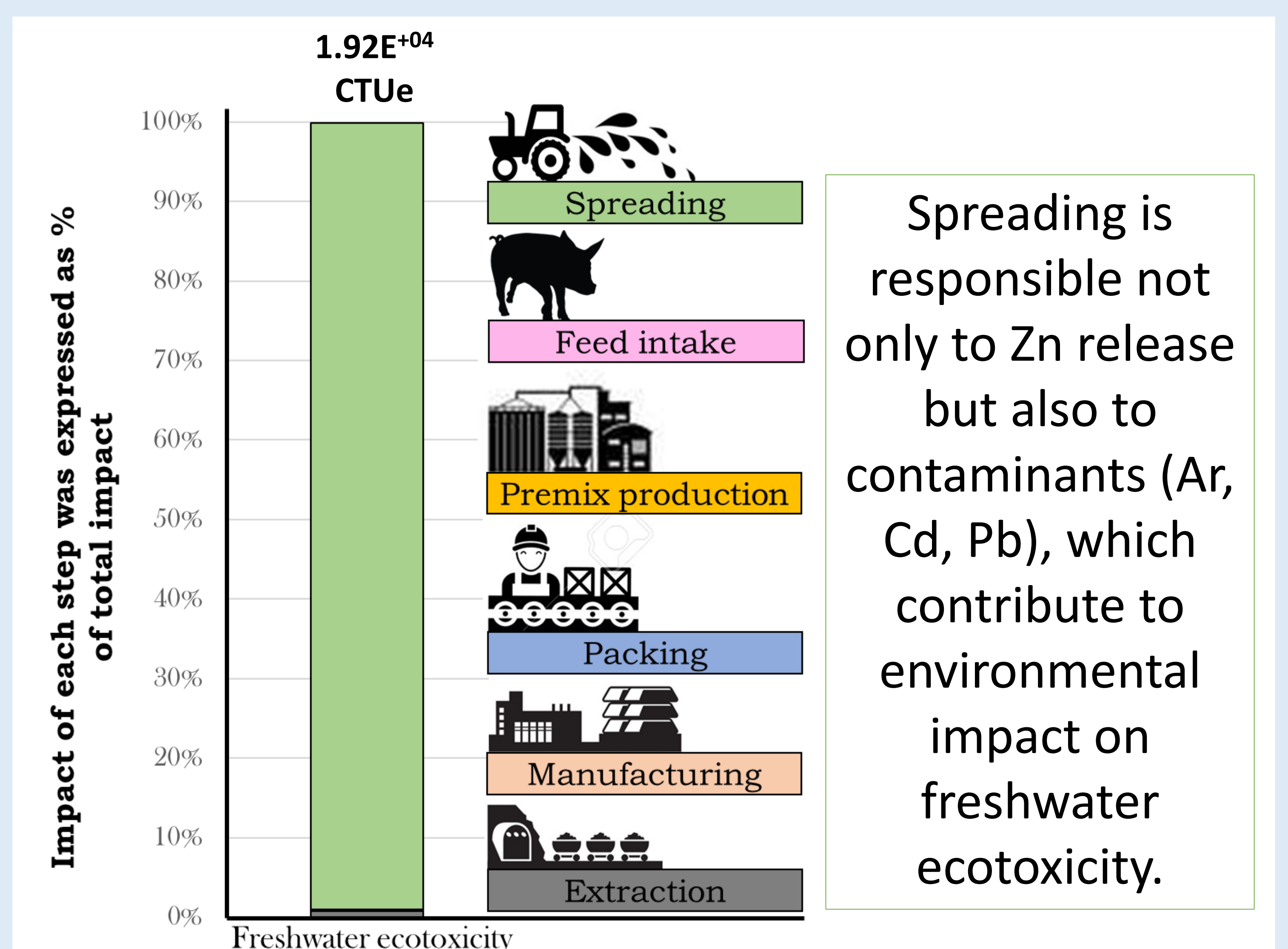
The objective was to calculate the LCA of a zinc (Zn) oxide source used in piglets feeding.

Results

Environmental impacts of supplementing 1 kg of dietary Zn.



High contribution of extraction (Zn is a non-renewable mineral resource) and manufacturing (several dissolution and purification steps).



Spreading is responsible not only to Zn release but also to contaminants (Ar, Cd, Pb), which contribute to environmental impact on freshwater ecotoxicity.

Materials & Methods

• Cradle-to-gate LCA

Potentiated zinc oxide source (HiZox[®]; Animine) used in pig production in Europe.

• Functional unit

1 kg of Zn supplemented in piglet diets.

• Life cycle inventory

- ✓ Extraction
- ✓ Manufacturing
- ✓ Packing
- ✓ Premix production
- ✓ Feed intake by piglets
- ✓ Slurry spreading

• Primary data

Survey to manufacturer (2015).

• Method

ILCD 2011 Midpoint as implemented in SimaPro software V8.2.

Conclusions & Perspectives

The high contribution of TM sources to ecotoxicity demonstrates the importance of their sustainable use in terms of source and dose used in animal nutrition. The LCA of TM may provide high quality industry data to international standardization of the PEF methodology, ensuring more environmental friendly products on the EU market.

¹ Dourmad et al. 2014. *Animal* 8, 2027-2037.