



Water2REturn

REcovery and REcycling of nutrients TURNING wasteWATER into added-value products for a circular economy in agriculture

WHY?

Why Water2REturn?

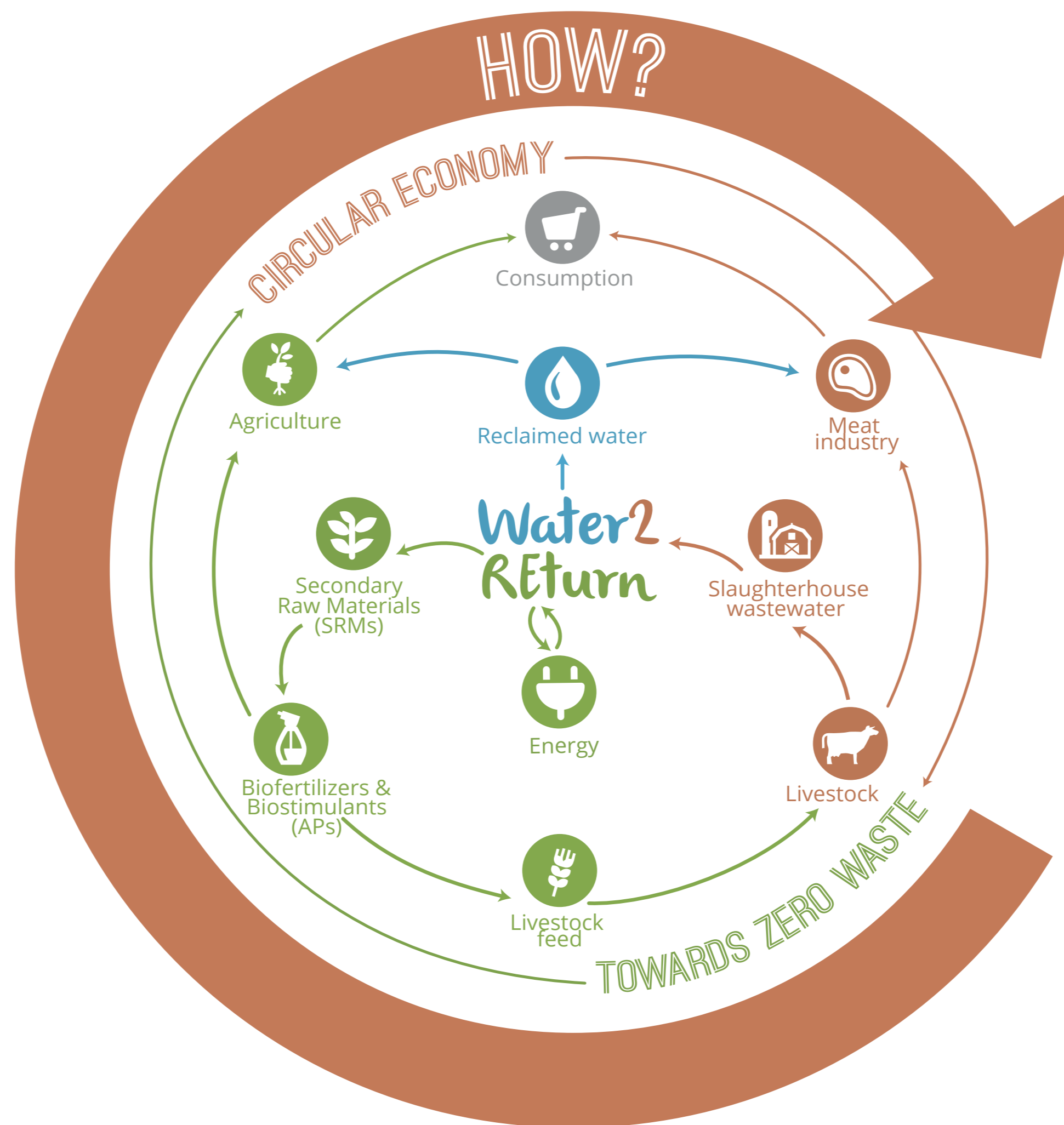
Resources recovery is a very important topic nowadays, and the demand of nutrients' sources continuously grows. The **EU slaughtering sector**, characterised by its **high water and energy consumption**, produces large amounts of wastewater (~750,000 m³/year), containing relevant nutrients that are daily discarded.

Ununderstandably, the **current approach** with regards to the treatment of these wastewaters tends to **nutrient's removal** instead of nutrients' recovery and recycling. Not only the existing nutrients are not upgraded, but the discharged wastewater entails environmental risks as well.

In addition, there is another growing sector experiencing an **unstoppable increase: chemical fertilisers** (containing mainly nitrogen, phosphorous and potassium) (consumption rate ~ 13.6 Mt/year). However, their extensive use also causes environmental problems.

So...what if we make use of **industrial symbiosis**, turning wastewater treatment facilities like those installed in slaughterhouses into **nutrients' bio-refineries**?

HOW?



WHAT?

What is Water2REturn?

Real technological breakthrough based on a **Circular Economy approach**. It aims to treat **slaughterhouses' wastewaters** and **recover nutrients** with high market value that can be injected back into the economy as new raw materials, **becoming a resource and not a waste anymore**. Thus, maximum value from slaughterhouse waste extraction, supply security increase and landfilling/emissions avoidance are achieved.

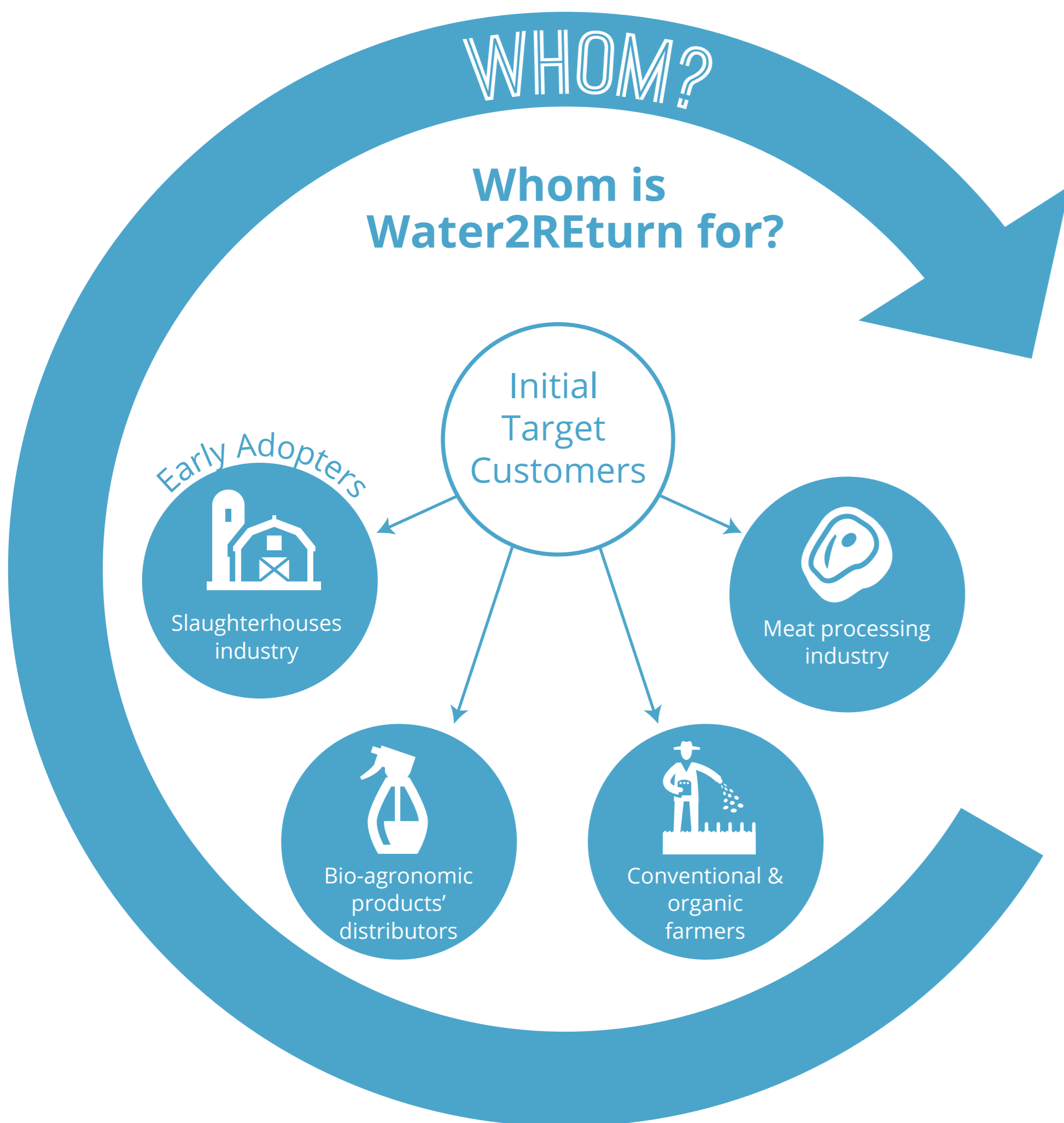
W2R proposes an **integrated full-scale demonstration process** (treatment capacity: 50 m³ wastewater/day) in cascade using biochemical and physical technologies and a positive balance in energy footprint to be implemented in a **real case study**, the slaughterhouse "Matadero del Sur" (Salteras, Spain).

The project outcomes will be:

- 1 Integrated system to treat wastewater** → Novel combination of technologies and processes maximising the extraction of valuable products
- 3 Slaughterhouse Raw Materials (SRMs)** → The basis for further producing the agronomic products
- 3 Agronomic Products (APs): 1 fertiliser & 2 biostimulants** → Free of pathogens and pollutants ready to commercialise

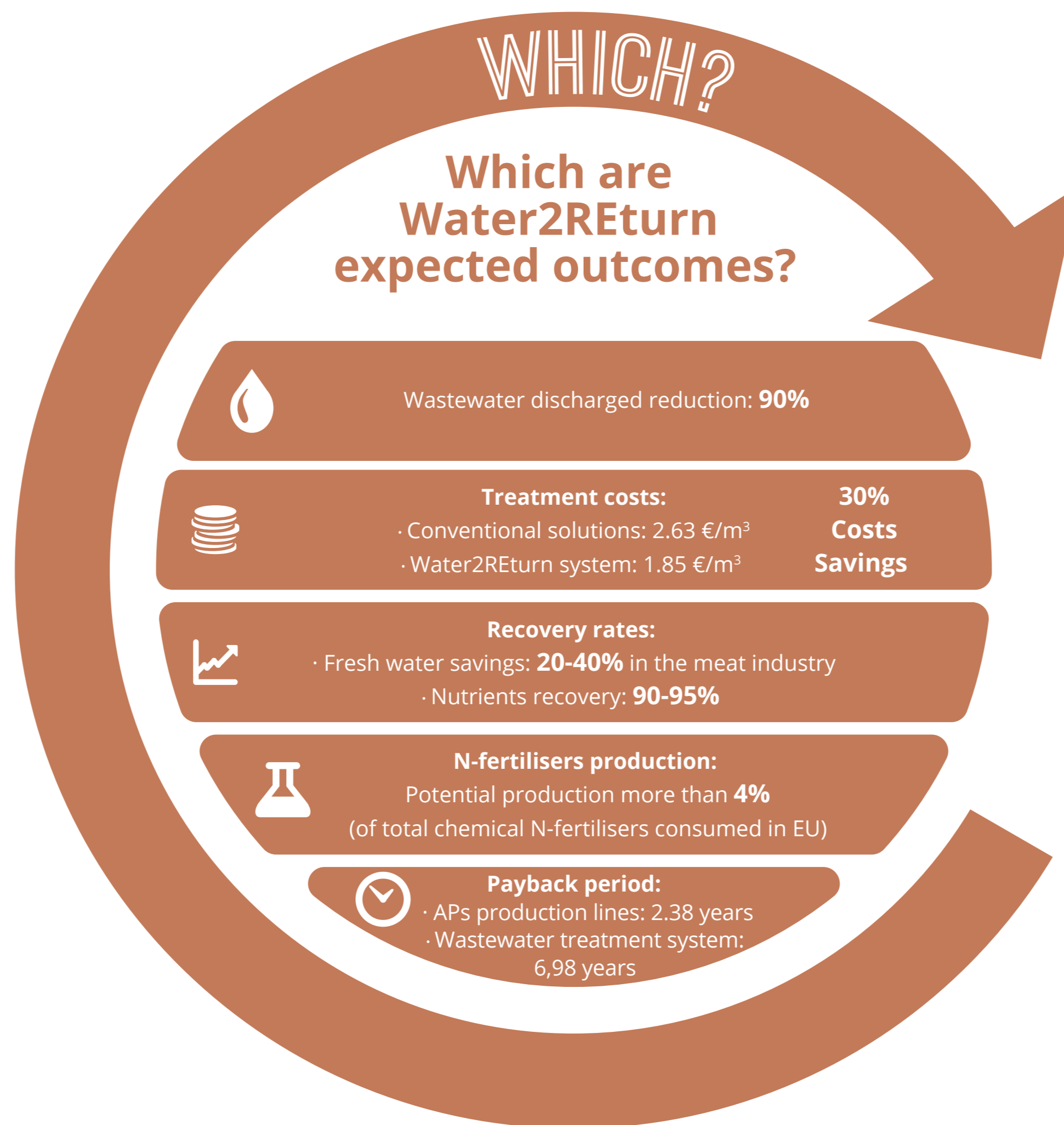
WHOM?

Whom is Water2REturn for?



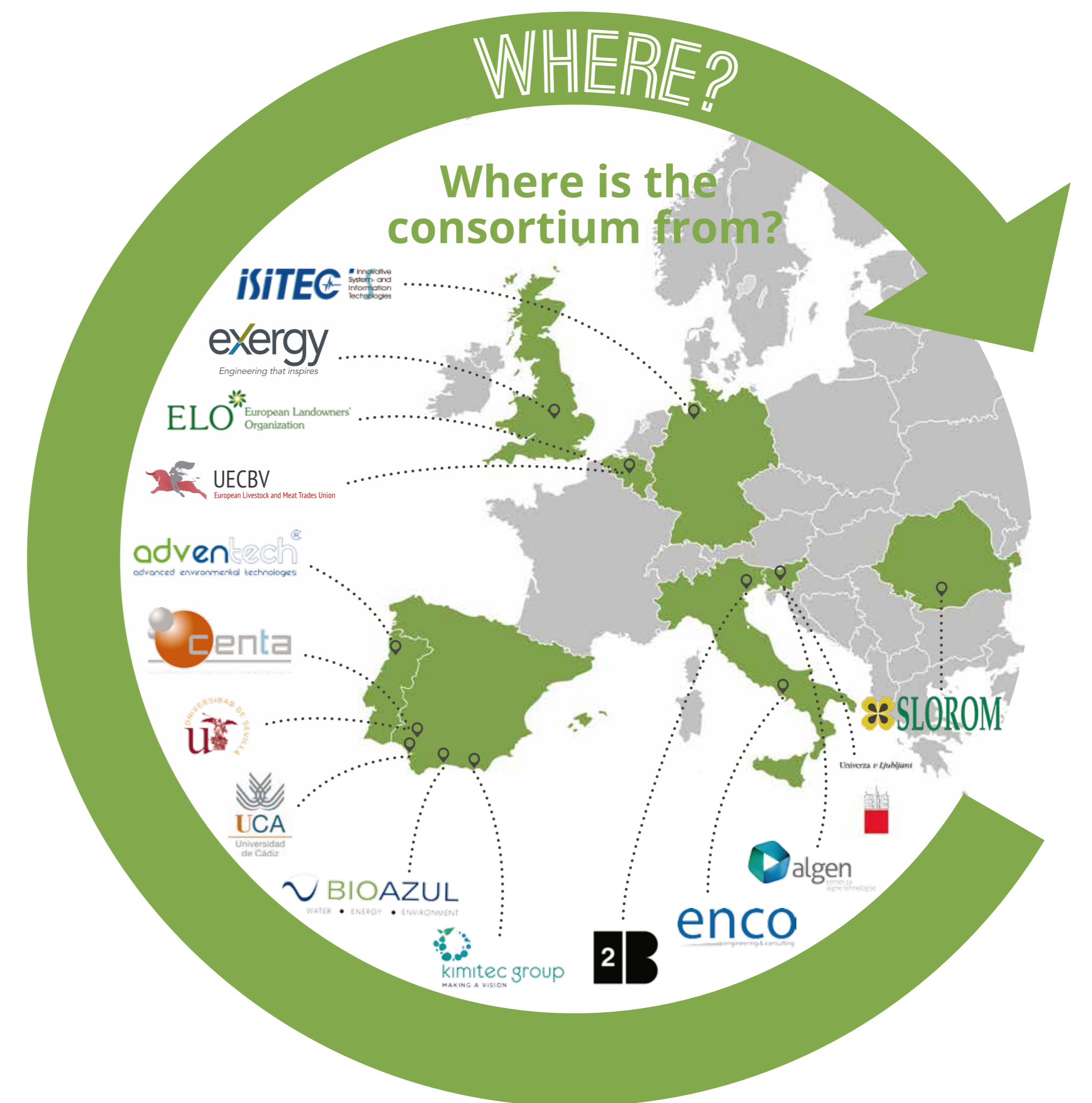
WHICH?

Which are Water2REturn expected outcomes?



WHERE?

Where is the consortium from?



WHO?

Who makes Water2REturn possible?



- General Coordinator: Bioazul S.L. (BIOAZUL), Spain.
- University of Seville (USE), Spain.
- University of Cadiz (UCA), Spain.
- Foundation Centre for the New Water Technologies (CENTA), Spain.
- Agroindustrial Kimatec (KIMITEC), Spain.
- Adventech, Advanced Environmental Technologies Lda (ADVENTECH), Portugal.
- AlgEn, Algal Technology Centre, d.o.o. (ALGEN), Slovenia.
- University of Ljubljana (UL), Slovenia.
- Slorom Srl (SLOROM), Romania.
- Enco Consulting Srl (ENCO), Italy.
- 2B Srl (2B), Italy.
- European Livestock and Meat Trading Union (UECBV), Belgium.
- iSITEC GmbH (ISITEC), Germany.
- Exergy Ltd (EXERGY), United Kingdom.
- European Landowners Organization (ELO), Belgium.

Who can you contact?

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