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EFFICIENT AND NOVEL WASTE STREAMS CO-PROCESSING TO OBTAIN BIO-BASED SOLUTIONS FOR PERSONAL CARE AND AGRICULTURAL SECTORS

# CHALLENGE

The efficient use of natural resources and the valorisation and management of the increasing volume of waste generated allow to reduce EU ecological footprint, preserve biodiversity and minimise the negative effects on the environment. In this regard, the transition from a linear to a circular economy including resource recovery, reuse and recycling is essential.

# SOLUTION

**ELLIPSE project addresses the valorisation of two heterogeneous waste streams, slaughterhouse (bellygrass) and paper & pulp sludge, to produce cost-efficient polyhydroxyalkanoates (PHAs) for agricultural and personal care applications, by the coprocessing with other organic wastes (OW) such as glycerol from the biodiesel industry and sludge from the dairy industry, as well as recovering nutrients to produce bio-based fertilisers (BBFs). The integration of these waste streams as biorefinery feedstocks allows reducing the volumes of landfilled waste, opening new avenues for platform chemicals and bioplastics production while creating additional revenue for the related industries generating them, with added advantages of water recycling, decreased soil degradation, groundwater pollution and methane emissions.**

## PILOT 1

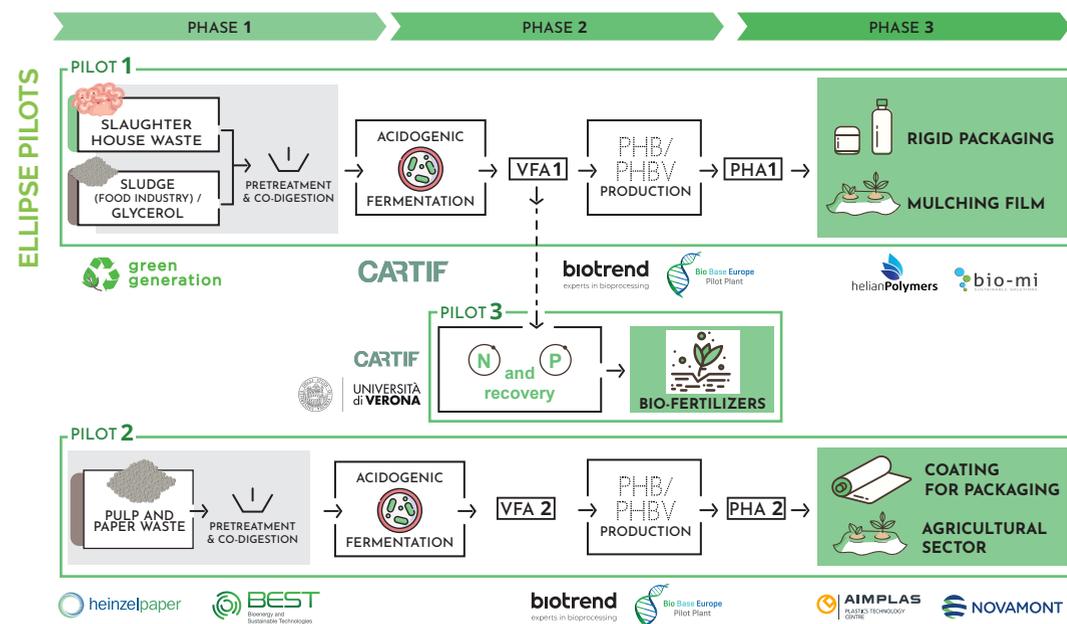
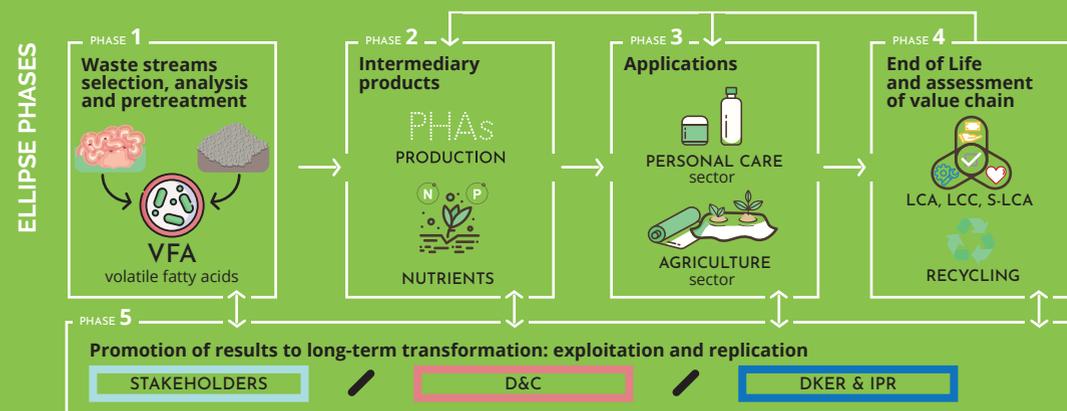
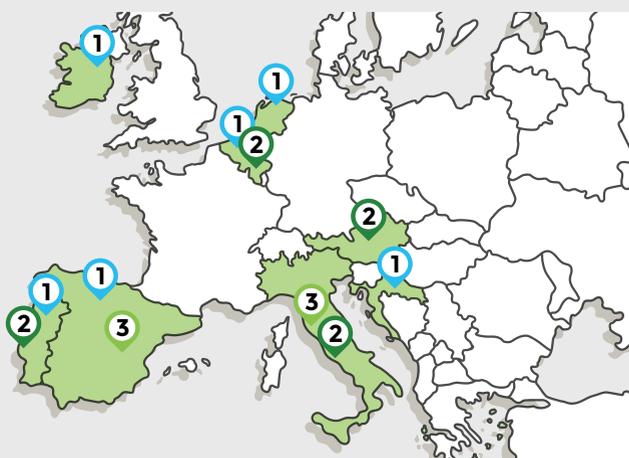
GG (Ireland), CARTIF (Spain), BIOTREND (Portugal), BBEPP (Belgium), HP (Netherlands), BIOMI (Croatia).

## PILOT 2

AIMPLAS (Spain), HP, BEST (Austria), BIOTREND (Portugal), BBEPP (Belgium), NOVAMONT (Italy)

## PILOT 3

CARTIF (Spain), UNIVR (Italy).



# OUTCOMES

- Increase share of treated heterogeneous OW stream;
- Increase market share of biobased products from OW streams;
- Increase acceptance of bio-based valorised solutions in the personal care and agriculture sectors;
- Increase knowledge about the use of digital tools for modelling and data management;
- Interest from stakeholders, consortium partners and end users to boost bio-based solutions production up to higher TRLs, due to the demonstration that the new bio-based ELLIPSE solutions are feasible with available technologies.