Now

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Circular value chain for the valorisation of spent coffee grounds as an ingredient for animal feed and biocide production



From circular solutions to industrial scale

CIRCULOOS Workshop

30th September 2026 - Barcelona

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This project has received funding from the European Union's "Horizon Europe" programme under grant agreement 101092295

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Consortium

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Coordinator & research centre (ES). Leads scientific coordination, value chain design, by-product characterisation, animal feed ingredient development and the GRETA life cycle assessment.

Logistics & processing partner (ES). Coffee supplier and vending operator running the reverse logistics collection pilot, centralised sorting and the traceability data feed to RAMP.

Biocidal product developer (ES). Certified SME formulating bio-based biocidal and phytosanitary prototypes from spent coffee grounds, plus raw material conditioning and regulatory pathways.

Dissemination, policy & circular economy (BE). Leads communication and awareness actions across Spanish regions, EU policy engagement in Brussels, and the exploitation and market readiness strategy.

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Challenges

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Challenge 1: Logistic

Management protocol
Collection system

Challenge 2: Dehydration

Stabilization of the coffee grounds

Challenge 3: Animal feed

Nutritional value of coffee grounds

Challenge 4: Biocides

Biocides production

Business aspects

Value proposal
CANVAS model

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ECOFFEE — Value proposition & Circularity

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Idea Scoping:

HORECA and Vending operators generate ***large, continuous volumes of spent coffee grounds*** and need a by-product route that is:

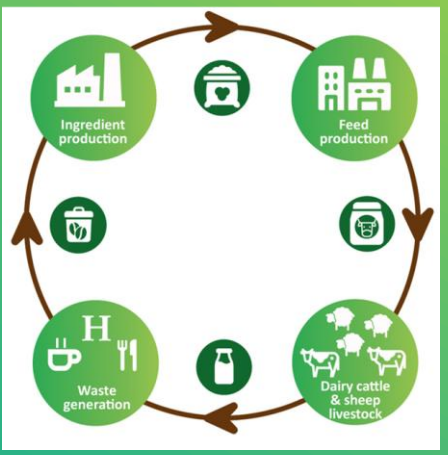
- Greener than current disposal
- Value-generating, not cost-generating
- Reliable all year round

The ***animal feed*** industry needs alternative ingredients that are:

- Constant and non-seasonal at scale
- Competitively and stably priced
- More sustainable than current ones: cereals,…

The ***biocide sector*** needs alternatives to synthetic formulations:

- Spent coffee grounds are antimicrobial and repellent — an ideal base for natural larvicides



Value proposal:

ECOFFEE turns spent coffee grounds into a ***feed ingredient and a bio-based biocide*** in one circular value chain: more sustainable and 15 % cheaper than cereals and synthetic ingredients, with RAMP traceability and LCA-validated benefits.

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ECOFFEE — Business potential

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ECOFFEE turns a disposal cost into ***two revenue streams***: an alternative feed ingredient and a bio-based biocide, both derived from spent coffee grounds collected through EUSKOVAZZA's existing delivery network.

The business model rests on ***low-cost raw material***, ***reverse logistics*** that reuse routes already in operation, and buyers in ***two sectors*** actively seeking sustainable alternatives.

- **Customers:** **feed producers** (livestock, aquafeed, petfood) and **biocide manufacturers**, plus licensees of the turnkey valorisation plant.
- **Offer:** nutritious, safe and traceable ingredients, up to **15 % cheaper** than current raw materials and available year-round without seasonality.
- **Key activities:** **collection** and sorting, **drying and stabilisation**, product formulation, and commercialisation into feed and biocide markets.
- **Partners:** HORECA and vending operators as **raw material suppliers**, food-safety regulators, and local authorities supporting waste reduction and tax incentives.
- **Economics:** processing **OPEX** and plant **CAPEX** are cancelled each other out by **ingredient sales** and **avoided waste-management costs**, with licensing as a scale-up revenue stream.

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