

Re-use coffee grounds

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement GA101037053



01 BASIC PROJECT INFORMATION

Project name Re-use coffee grounds

Partners involved

Brussels Airport Company
Autogrill by Avolta
Grounds up

Implementing airport / site

Brussels Airport

Period tested

June-Aug 2025

Project lead / contact

Project lead: BAC

02 OBJECTIVE

What are we trying to solve or tackle with this project?

Test whether coffee grounds generated in the Brussels Airport terminal can be diverted from the standard organic waste stream and reused in a higher-value circular pathway. The project addresses selective sorting, closed-loop logistics, resource reuse and the feasibility of circular practices in an operational airport environment.

Success criteria (optional):

Selective sorting of coffee grounds and setup a parallel closed-loop logistics flow.

Demonstrate qualitatively increase of circularity level.

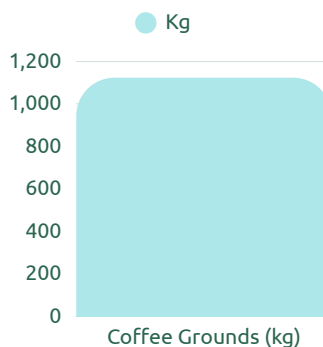
03 APPROACH (HOW WE TESTED)

Test set-up & method

Coffee grounds were selectively collected from different locations in our office buildings as well as the terminal, instead of being treated as organic waste for biogas.

A parallel logistics flow was set up: the material was dried, pressed to extract oil and reused as input material for durable an reusable travel mugs that were brought back into the airport community.

Data & measurement



KPI's

Coffee grounds collected: 1,123 kg
Durable travel mugs created: : 1200

Risks & mitigations

Main risks were added logistics, separate collection and handling, stakeholder coordination, space and resource needs, and higher cost than mature downstream organic waste treatment.

Mitigation relies on clear procedures, communication, ownership and coordinated roles across the value chain.

Limitations

Economic viable. Existing organic waste treatment is mature and cost competitive.

Scaling needs a a durable business model and strong ownership.

04 RESULTS & IMPACT

Key results

The project collected 1,123 kg of terminal coffee grounds over three months, roughly equal to 40,000 cups of coffee.

Instead of remaining in the organic waste stream for biogas, the grounds were selectively collected, dried, processed, pressed for oil and reused as material for reusable travel mugs.

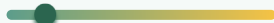
The project proved that a circular coffee-ground process can be organised in the airport context. Scaling will require dedicated logistics, space, resources, procedures, stakeholder management and a viable business model.



05 RATINGS (QUICK ASSESSMENT)

Deployment Approach

How standardised is the solution: can it be deployed off the shelf, or does it require extensive customization?

Off The Shelf  Custom-Built

Investment Magnitude

From low-cost deployment to major investment.

Low Investment (less than €10k)  High Investment (more than €15mio)
OPEX  CAPEX 

Sector Readiness

From non-existing or emerging standards, regulations, and certification pathways to fully established industry practices.

Emerging Framework  Established Framework

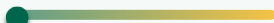
Innovation Maturity

How does the solution score in terms of maturity, from low TRL experimental/pilot-stage to high TRL market-ready.

Experimental  Market-Ready

Operational Impact

Does the innovation deliver targeted improvements or rather drastically transform processes and/or operations.

Incremental Improvement  Transformational Change

Notes

The project qualitatively increased circularity by creating procedures for selective sorting and a closed-loop coffee grounds process.

It showed that airport waste streams can be converted into reusable products, while also highlighting barriers around logistics, cost, ownership and stakeholder coordination.

06 NEXT STEPS / RECOMMENDATION

Recommendation:

Adapt and continue: keep the circular coffee grounds concept, but scale only after ownership, procedures, logistics and a viable business model are defined.

Next steps:

- 1) Assign value-chain ownership and responsibilities.
- 2) Validate full-scale collection logistics, space and resource needs.
- 3) Build a business model and roadmap for airport-wide circular coffee grounds collection, including stakeholder roles and costs.