Stargate
within EU Green Deal

UCO collection

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	UCO collection
Partners involved	Quatra led the project with support from Uhasselt
Implementing airport / site	Belgium, focused on households around Brussels Airport and beyond via the OlioBox collection network
Period tested	Baseline 2021/2022; measured results reported for 2025, with further growth expected in 2026
Project lead / contact	Quatra

02 OBJECTIVE

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

Increase recovery of used cooking oil from households and airport surroundings so this waste stream can become sustainable feedstock for SAF production. The project tackles low citizen awareness, oil disposal in sinks/residual waste and the need for efficient collection models.

Success criteria

Increase household UCO collection by 50% over the five-year project period (equivalent to an average of 10% per year), improve collection efficiency, raise awareness of UCO-to-SAF circularity and provide scalable collection lessons for airports and municipalities.

03 APPROACH (HOW WE TESTED)

Test set-up & method

The project used Quatra's OlioBox network of 24/7 recycling bins and specialised trucks. During implementation, focus shifted from simply adding more collection points to selecting higher-potential sites and improving collection quantity per stop. A public awareness and survey component supported behaviour insight.



Data & measurement

KPIs:

- UCO collected (ton) - baseline (2021): 1,392 ton
- Collection efficiency (%) - baseline (2022): 223 kg per stop
- Fossil fuel replaced (L) - baseline: 857,179L

Risks & mitigations

- More bins do not automatically mean more volume
- Underperforming sites can reduce efficiency
- Citizens may not link UCO recycling to SAF
- Conversion-to-fuel savings are based on assumptions rather than direct fuel-production tracking.

Limitations

The project measures collection and estimated SAF/feedstock potential, not direct SAF production or aviation fuel use. Continued communication is needed because household disposal behaviour changes slowly and depends on convenience and awareness.

04 RESULTS & IMPACT

The UCO collection project strongly overachieved its target.

The following **key findings** can be mentioned:

- Collected household UCO increased from 1,392 tons to 3,797 tons by 2025, a rise of about 173%, more than three times the five-year target of +50%.
- Collection efficiency improved from 223 to 318 kg per stop (+42.6%).
- Using the report's conversion assumptions, the potential fuel equivalent increased from 857,179 L to 2,338,153 L.

The key lesson is that collection-point quality matters more than quantity: strategic locations and recurring citizen communication are essential.



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

For airport operators, this is a strong circularity example: airports can help connect citizens, municipalities and recyclers around local waste-to-SAF narratives.

The main operational lesson is to optimise collection locations and awareness, not just install more bins.

06 NEXT STEPS / RECOMMENDATION

Recommendation

Continue and scale: keep expanding UCO collection through targeted locations and recurring citizen-awareness campaigns.

Next steps

1. Select sites based on expected collection potential.
2. Relocate underperforming bins.
3. Keep public communication active with municipalities, schools and airport partners.
4. Improve traceability between collected UCO and SAF/feedstock claims.

Links: www.oliobox.be