



BIOHEC-LIFE - Advanced Biodiesel in circular economy for low carbon public transports

GECCO is a social and solidarity economy enterprise active for almost 11 years in the Hauts de France region (France). **11 employees** work daily for the **ecological and solidarity transition**, notably thanks to **technical and social innovations**.

GECCO collects more than **1 000 tonnes** of Used Cooking Oils (UCO) per year across **1 800 collection points**: restaurants, caterers, agro-food factories and municipal waste collection points. Collection is made using cargo-bikes in Lille and lorries in the rest of the territory.



What is BIOHEC-LIFE?

BIOHEC-LIFE is a European Union project financed through the **LIFE Programme** helping transnational European projects related to environmental protection to take shape.

Why BIOHEC-LIFE?

The European Union has set a target for every Member State to have at least **10% of transport fuel derived from renewable sources by 2020**. First generation biofuels lower GHG emissions, but they also have a number of drawbacks: Pollution of water and soil as well as competition with food crops.



By 2013, the EU strategy was re-oriented towards “advanced” biofuels, made from waste or agricultural and forestry residues (second generation) or algae (third generation). UCOs are processed from food industry and catering waste; cheap and widely available, they play an increasing role in the development of advanced biofuels.

Why GECCO?

Besides its expertise in the collection and processing of UCOs, GECCO has received recognition for the model that it has implemented in Lille. What differentiates GECCO in this market is its “short cycle” philosophy where the resource is consumed, collected, processed and re-used in the **same territory**.



GECCO developed a partnership with the municipality of Lille which uses the biodiesel produced from processed UCO to fuel its fleet vehicles (public transportation, waste collection, cleaning vehicles, etc.).

What will be the objectives of this project?

The thinking behind this European project is to develop the model created by GECCO not only in France, but also in other European cities.

To reach this target, GECCO partnered with the [University of Lille](#) and [Neo-Eco](#), an SME which engineers circular solutions for waste management, to validate an eco-designed, compact and flexible demonstrator in order to produce competitively-priced advanced biofuels derived from UCO and bioethanol. This technology would make it easier to develop such an activity.



To help reaching new partners beyond France, GECCO also partnered with two international associations: [RREUSE](#), an association of European social economy enterprises active in re-use, repair and recycling and [Pour la Solidarité](#) (For Solidarity), a European think & do tank committed to promoting solidarity and sustainability in Europe

Why are we contacting you?

Given the information that we collected about your organisation, we think that GECCO’s business model may be of interest to you. Your current ongoing activities related to **waste management** and your dedication to **social and solidarity values** are two criteria which are at the core of our partner research.

In addition, your country has been shortlisted as having a favourable legal framework and available sources of UCO following a market study developed by Pour la Solidarité.

What benefits can you get from this project?

A 4-year progressive development based on your existing structures, human resources and budget will be shared with you. Based on its experience in France, GECCO will also help you assessing the potential partners from private and public sector, as well as the legal requirements linked to waste management and biofuels use.

Economic impact

GECCO estimates that **5 years** would be sufficient for you to **fully amortize your investment**. 400€ - 650€ potential gain¹ for selling a ton of filtered and treated waste cooking oil!

GECCO can also help you to diversify and stabilise your activities, notably by merging the collection and the processing of UCOs with other resources related to the catering activities: coffee ground and fermentable products.

Social impact

GECCO's activity helps create 1,5 local and non-transferable jobs per 100 tonnes collected and processed. This activity creates ten times more jobs than for the same amount of diesel produced!

Biodiesel environmental impact

For 1kg of UCO collected, 3kg of CO₂ are avoided (95% reduction compared with gasoline). Other environmental benefits compared with gasoline are 86% less consumption of non-renewable energies, 97% less photochemical oxidation, 98% less human toxicity and 46% less eutrophication.

Contacts

RREUSE – Mathieu Rama
mathieu.rama@rreuse.org
+32 (0)2 894 46 14

PLS – Mathilde Mosse
mathilde.mosse@pourlasolidarite.eu
+32 (0)2 535 06 86

GECCO – Michel Millares
michel.millares@gecco.fr
+33 (0)642 96 41 15



¹ Based on market prices, subject to cyclical variations.

GECCO business model

This table describes the whole ecosystem in which GECCO is able to create economical, social and environmental value

<p>Dense and diversified network:</p> <ul style="list-style-type: none"> - Producers of waste - Researchers - Agro-food Industries - Local authorities - Chamber of Commerce and Industry - Financers 	<p>4 core activities:</p> <ul style="list-style-type: none"> - Valorisation of catering waste - Expertise / training (diagnosis and settlement of the processing chain) - R&D / innovation - Replication <p>Key resources:</p> <ul style="list-style-type: none"> - Collected waste - Skills and complementarity of the staff (collection, R&D, support) - Integrated R&D / biotechnology - Collection vehicles / Production units 	<p>Values:</p> <ul style="list-style-type: none"> - Improve the energy self-sufficiency of municipalities - Build a local chain of catering waste valorisation - Local transformation (biofuel, biolubricants, heat logs) - Local use (municipal fleet vehicles, heaters, wood sector professionals) 	<p>Relationship with the clients:</p> <ul style="list-style-type: none"> - B2B relations with the restaurants, the agro-food industries and the waste collection points - Co-building relationships with the local authorities and the project leaders - B2B and B2C relationships for the trading of the end products (biodiesel, biofuel, heating logs) <p>Canaux:</p> <p><u>Communication / prospection:</u></p> <ul style="list-style-type: none"> - Participation to waste related events - Commercial canvassing (sales force, mailings, web, network) <p><u>Distribution:</u></p> <ul style="list-style-type: none"> - Selling of UCOs and fermentables to valorisation professionals - Diagnosis of the territories - Direct and indirect sales of end products 	<p>Client base:</p> <p><u>The supplier clients:</u></p> <ul style="list-style-type: none"> - Catering - Agro-food industries <p><u>The consumer clients:</u></p> <ul style="list-style-type: none"> - Local authorities - Valorisation industries - Wood sector professionals (biolubricants)
<p>Costs: Collection / R&D / Facilities / Commercial development / Trades / Production</p>			<p>Revenues: Trade of waste / Sale of services / Settlement of local chains / Selling of end product</p>	
<p>Negative impact:</p> <ul style="list-style-type: none"> - Use of non-renewable energy - Need for gasoline to make the biofuel (blending) and need for diesel vehicles 			<p>Positive impact:</p> <ul style="list-style-type: none"> - Development of an economical, environmental and social model - Eco-designed products emitting low amounts of greenhouse gas 	