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○ PROJECT POWERED BY COFFEE

# ecobean-

**Upcycling coffee waste into useful  
raw materials and products**





# Opportunity

**34%**

global coffee consumption in EU

**3,3 mln**

tons of coffee waste yearly





# Circular Economy process

Disruptive BioRefinery technology for spent coffee grounds in ongoing process.

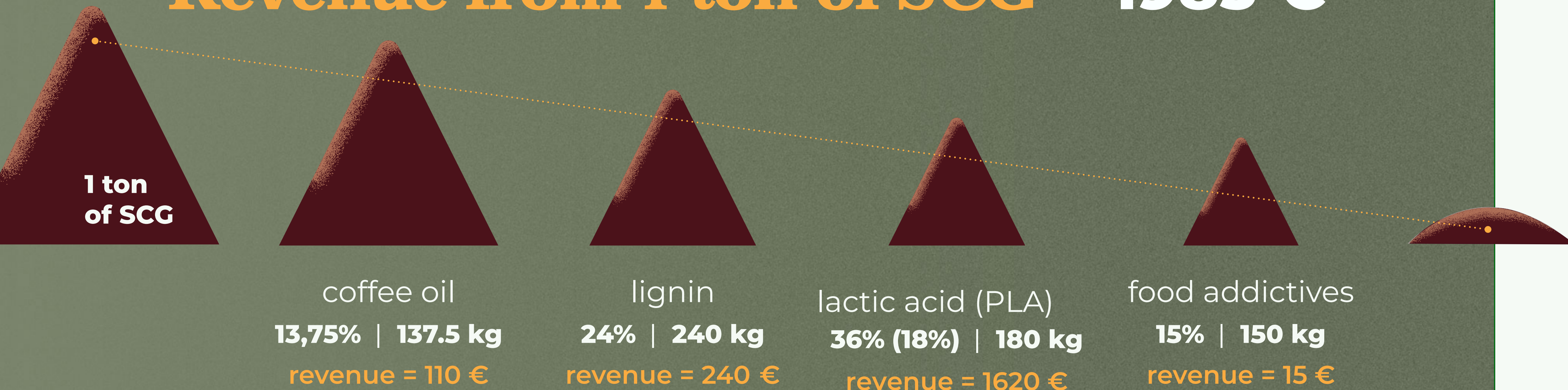
Extracted raw materials:

- coffee oil - **13,75%**
- lignin - **24%**
- lactic acid (PLA) - **18%**
- protein food additives - **15%**





# Revenue from 1 ton of SCG = 1985 €



Poland - **235 000 ton** - revenue = 46,6 mln €

Europe - **3,3 mln ton** - revenue = 6,55 bln €

## = 7 bln €



# Who needs EcoBean?



HORECA



Petrol stations



Office parks



Transportation  
hubs



Coffee  
roasteries



Instant coffee  
producers



Coffee  
plantations

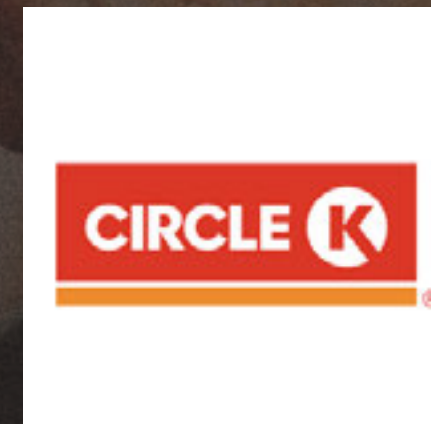


# Value Chain creation

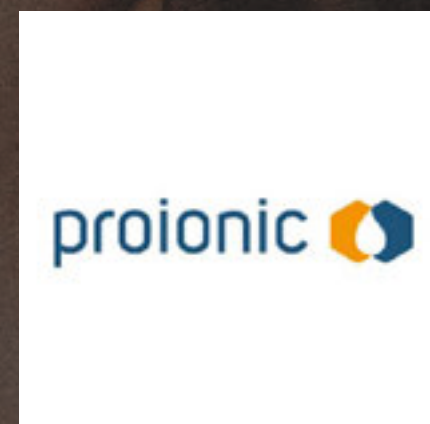
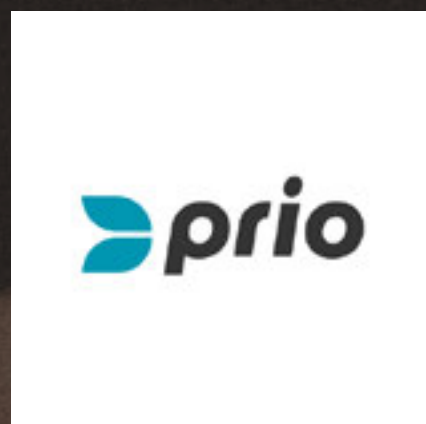
**Boost for industry sectors: HoReCa, biotechnology, bioplastics, petrochemical, logistics, agriculture and horticulture.**

COFFEE WASTE SUPPLY AND SUBSCRIPTION PARTNERS:

LOGISTIC PARTNER:



TECHNOLOGY PARTNERS AND RAW MATERIAL RECEIVERS





# Projects

## Biodiesel add-ins



**250 gas stations in Portugal**

PRIO is a distributor of biodiesel and liquid fuels. EcoBean helped PRIO find a way to manage coffee waste from mini-markets at gas stations ecologically and to develop coffee oil add-in to biodiesel.

## Biodegradable



**50 000 flower pots used weekly.**

EcoBean conducts research on biodegradable flower pots for a Polish company, Econti. The created pots are made mainly of coffee grounds and are 100% biodegradable.

## Eco Straws



**The world's largest coffee shop chain.**

EcoBean supports Starbucks in acquiring its goal – „giving more than we take from the planet”. We develop the technology that helps obtain natural polymers from coffee grounds. They can successfully replace plastics and create disposable straws or coffee stirrers.

## Eco Gadgets



**7 000 convenience stores in Poland**

EcoBean developed biotechnological solutions that give coffee grounds, produced in Żabka Cafés a second life. The plan is to return them to customers as useful eco-gadgets.

## Waste Utilization



**Volume leader in the coffee market in Poland**

Tchibo focuses on sustainable development of products that save raw materials and protect the environment. EcoBean supports the company in the ecological management of coffee post-production waste.



# Pilot Products





# Competition

**biobean** - recycler of coffee grounds for consumer and industrial markets

**earthkind** - keeps pests away

**ecobean** - SCG collection, biofabrics, biorefinery

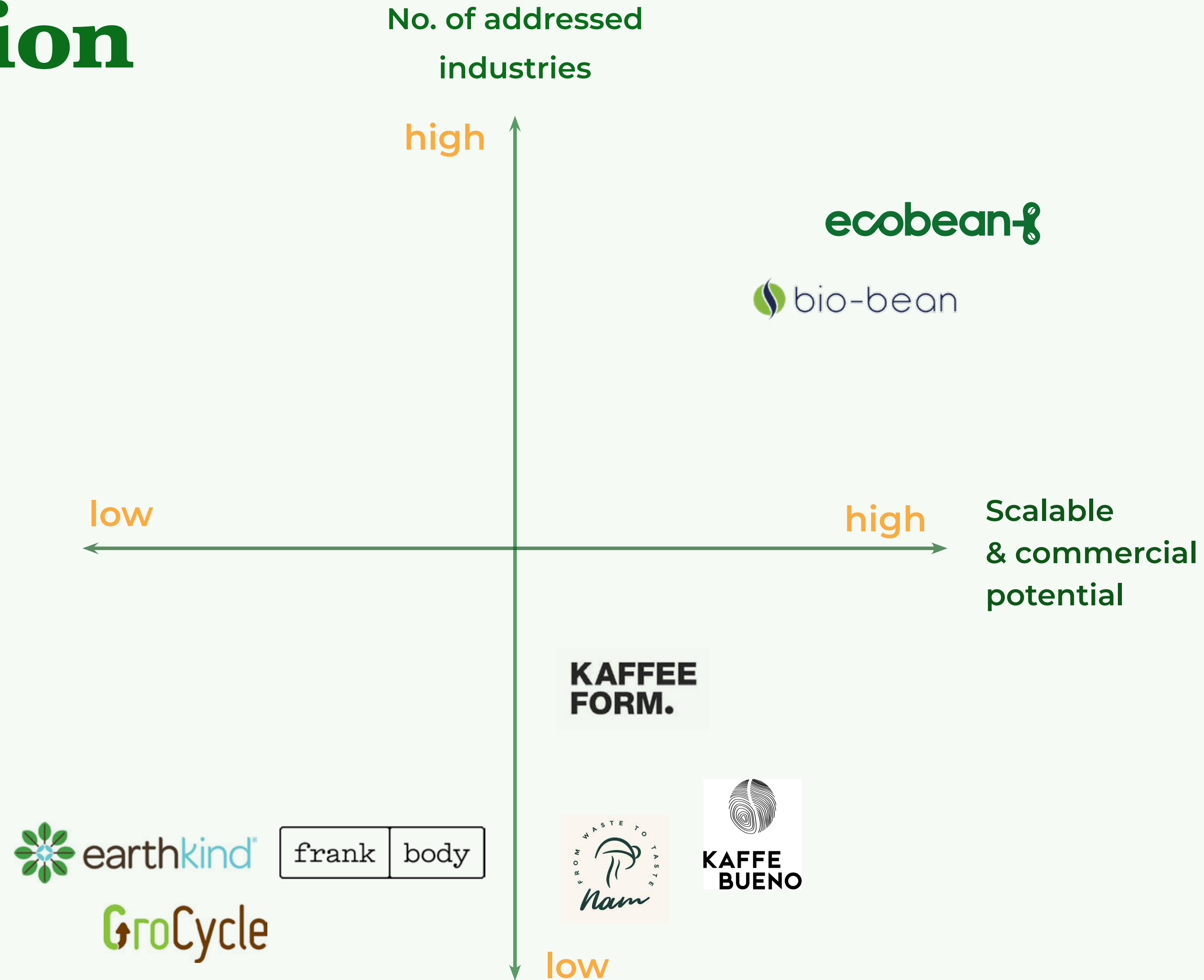
**frank body** - skincare

**GroCycle** - mushroom farming

**Kaffe Bueno** - ingredients for cosmetics and functional foods

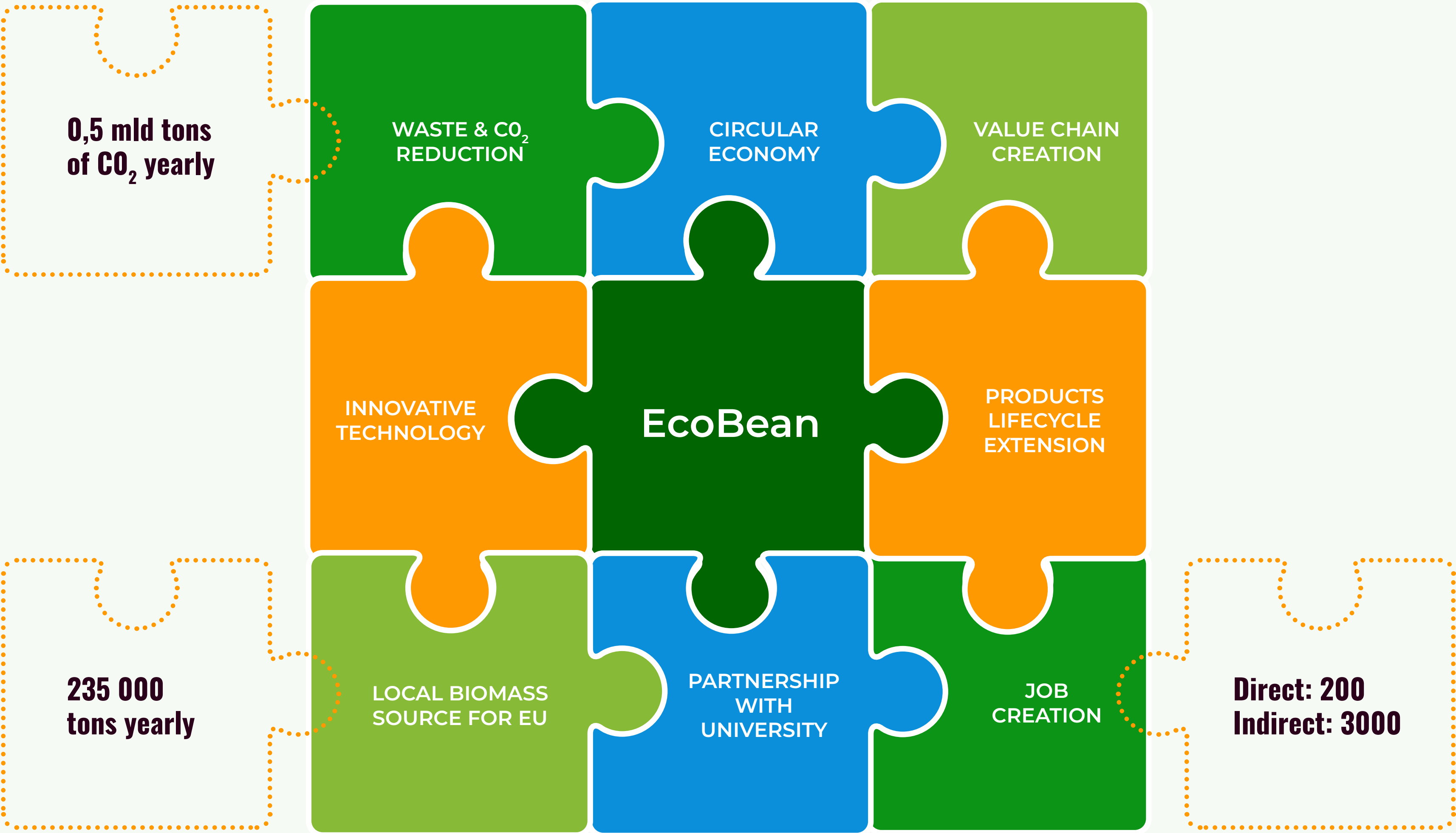
**Kaffe Form** - reusable cups

**nam** - mushroom farming





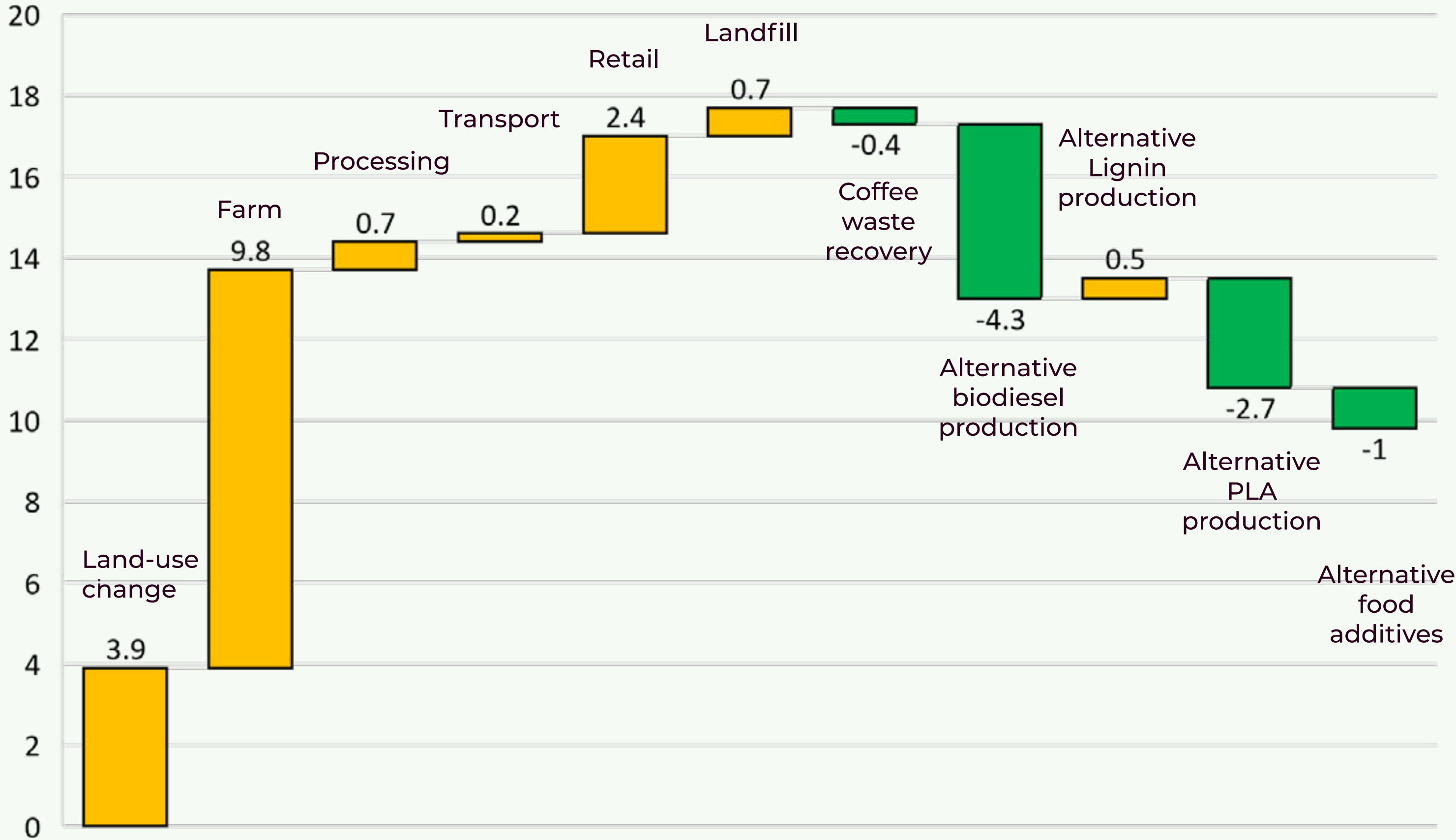
# Project impact





# Decreasing coffee CO<sub>2</sub> footprint

Thanks to the use of waste biomass to obtain many products, Ecobean is able to reduce the carbon footprint in the entire coffee chain by up to 45%, valorizing spent coffee grounds for green products





# Why now?

## **“Climate Neutral by 2050” strategy**

EU’s long-term strategy set to achieve the economic transformation and sustainable development goals, as well as to move towards the goal set by the Paris Agreement.

## **Single-Use Plastic Directive (SUP)**

Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment.

## **Renewable Energy Directive (RED II)**

Directive (EU) 2018/2001 (recast) on the promotion of the use of energy from renewable sources. In RED II, the overall EU target for Renewable Energy Sources consumption by 2030 has been raised to 32%.

## **The European Green Deal**

New growth strategy that aim transform the Union into a modern, resource-efficient and competitive economy.

## **Regulation of Air Pollution**

EU Council adopted regulations reducing CO2 emissions from passenger cars. By 2030, passenger car emissions must be reduced by 37.5%, and vans by 31% compared to 2021.

## **Waste Framework Directive**

EU Directive 2008/98/EC requires all Member States to select of bio-waste and ensure that it is re-used.



## 2019 Idea

EcoBean launched in 2018 in Poland with a goal to give second life to Spent Coffee Grounds (SCG) which nowadays are sent to landfill. SCGs are responsible for continually growing landfill size as well as high methane and CO2 emissions thus polluting the environment.

## 2020 Expansion

First final EcoBaan product was developed and facility ramped up and first investor KIC InnoEnergy was gained.

Pilots with Partners such as Starbucks, Costa, Circle K were carried out.

EcoBean won two startup competitions guaranteeing POC implementation in Portugal.

## 2021 Proof of Concept

POC program aims to determine what a successful EcoBean business model looks like and to define optimization processes which will satisfy Partners needs and meet environment mission.

POC will allow to measure and assess performance in following areas:

- Environmental Impact
- Logistics
- CSR & Marketing
- Production

## NEXT Building a Biorefinery

EcoBean aims at building first in Europe Spent Coffee Grounds Biorefinery.

Continuous R&D works are focused on development of products designed for:

- Food Industry
- Pharma
- Biofuels
- HoReCa
- Animal Feed / Supplements
- Cosmetics Industry

# EcoBean story



# Team

## Managment

**Kacper Kossowski**  
Co-founder

**Marcin Koziorowski**  
Co-founder & CEO

## R&D

**Prof. Ludwik Synoradzki**  
Head of R&D

**PhD Jerzy Wisialski**  
CTO

**PhD Sławomir Safarzyński**  
Chemical Engeniering

**Łukasz Wysocki**  
R&D Specialist

**Prof. Joanna Cieśła**  
BIO Technologist

**PhD Marcin Śmiglak**  
Ionic Liquids

**Prof. Andrzej Chwojnowski**  
BIO Engeniering

## Operations

**Alicja Murphy**  
Creative Director

**Ewa Kowalczyk-Szostak**  
Operations Manager

**Katarzyna Tarka-Chmielecka**  
Supply & Logistic Manager

**+100**

Combined  
years of  
experience

**+40**

Implemented  
chemical  
technologies

**PLN +175 mln**

Value of co-founded companies



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**Enjoy your coffee and help  
us turn waste into energy!  
Cup after cup, after cup.**

Thank You.

