



# CAVIRO



# Here, where it all comes back.

By product transformation  
in Circular Economy  
11/10/2022

# Our Group

Together we cultivate values,  
from the roots up





# Our mission

Founded in 1966, Caviro is a winegrowers' cooperative which **processes the grapes produced by its winegrower partners**, who in turn receive advice and guidance on the best types of grape to produce for the various markets. These days the focus is on **quality and reduced environmental impact**.

Ever since its foundation, Caviro has supplemented its core business of **wine production** with **agri-food by-products** and **energy** from the recovery, recycling and transformation of these by-products. This cuts down on process waste and reduces the environmental impact of its operations to almost zero.

# Caviro Group

577 employees - 7 production sites - 390 MIO € annual turnover



## Caviro Sca

Caviro Sca produces and markets Italian wines, IGT, DOC and DOCG, for mass consumption and the catering sector. Caviro Sca has two subsidiaries:

- **Gerardo Cesari Sca**, producers of fine Veronese wines
- **Leonardo da Vinci Spa**, a Tuscan wine producer.



## Caviro Extra

Caviro Extra leads **innovation in research and development in high added-value products** derived from agro-industrial waste.



## Enomondo

Enomondo is Caviro's subsidiary in charge of the **innovative biomass combustion plant** of the **thermal and electric energy** and the production of **fertilizers** through the recovery of organic matter

# Revenue by sector



Wine

65%



Noble products

20%



Bioenergy

15%



# The heart of our business model

Our company is built on over 50 years of history, from our foundation in Faenza in 1966 down to the present day.

*35,200 hectares of vineyards*

*12,000 winegrowers*

*29 partners, of which 27 are wineries*



**Vineyards** *Here, where it all comes back*

Composted soil improves from the agri-food chain, to enrich the vineyards from which it all began with organic substance

**Natural fertilizers**

Electric energy and thermal, Biomethane, Bioethanol

**BIOENERGY**

Mowing, pruning of public green areas and overvalues

**Plant waste**



**Grapes**

We vinify 660 thousand tons of grapes, equal to 9.4% of the total Italy

**WINE**

2 million hectoliters of packaged wine, equal to 4.5% of the total for Italy

**Supply chain derivatives**

Marc, grape seeds, lees, stalks

**NOBLE PRODUCTS**

Alcohols, tartaric acid, enocyanine polyphenols, musts and other extracts

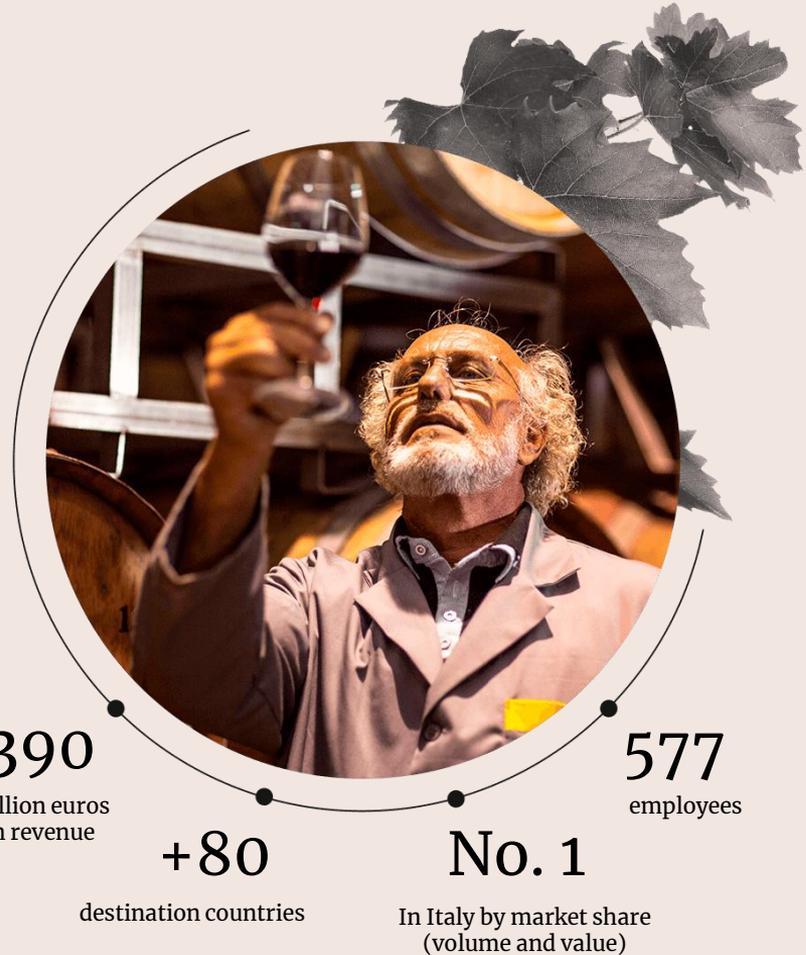
# Sustainability

Our unique model,  
a circular economy



# Economic sustainability

Economic sustainability is the cornerstone of our ethical approach to expansion. An immediate cost, but a priceless investment in the long run: for informed choices can only be made thanks to the ability to generate value and revenue in a lasting way. For over 50 years, our cooperative has stood as a beacon of security for the thousands of families who bring all their commitment and passion for Italian wines to their jobs - and pass their passion on to others.



# Social sustainability

Looking after and respecting the places we live in is essential to our well-being. Every single gesture makes a difference. Working in harmony with nature means respecting the environmental balance, striving to keep it unchanged and, where possible, enriching it. Our work comes from the earth, and we must protect its resources by reducing water consumption and climate-changing emissions, and by producing more energy from renewable sources.



7  
million  
consumer  
households

12,000  
winegrowers

SA8000

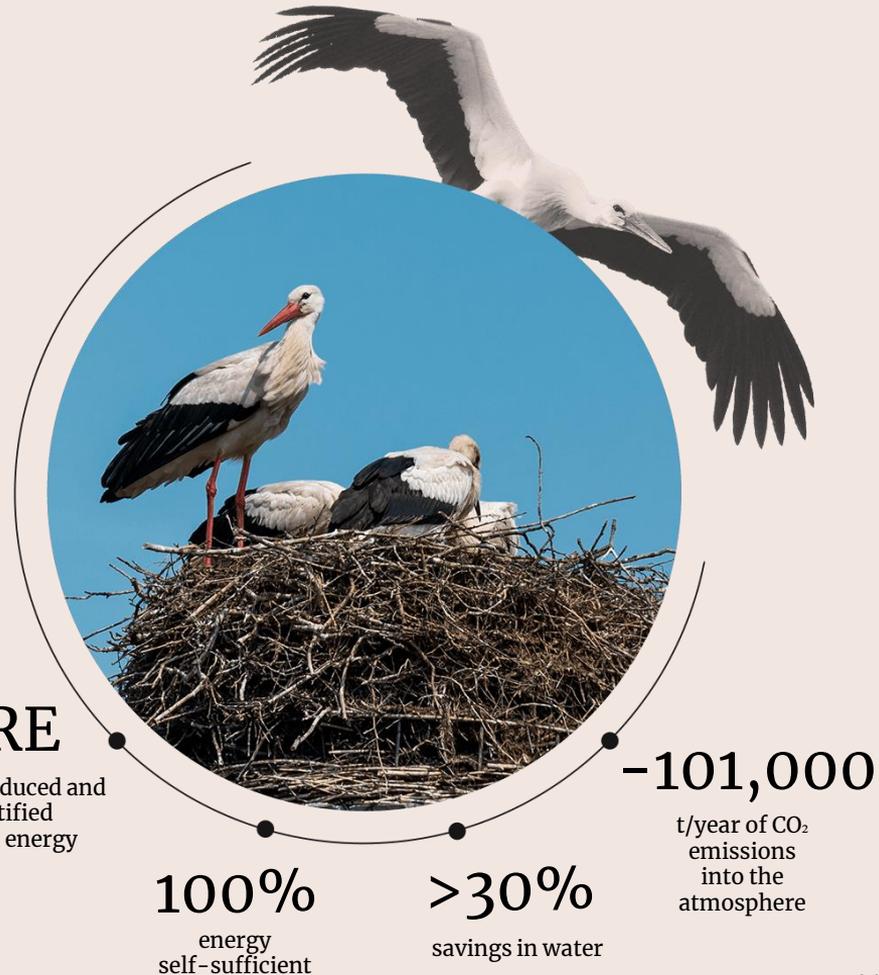
Ethical certification

35,200

Hectares in 7 regions  
of Italy

# Environmental sustainability

Looking after and respecting the places we live in is essential to our well-being. Every single gesture makes a difference. Working in harmony with nature means respecting the environmental balance, striving to keep it unchanged and, where possible, enriching it. Our work comes from the earth, and we must protect its resources by reducing water consumption and climate-changing emissions, and by producing more energy from renewable sources.



# Working with the UN for sustainable development

**Respect for the environment, improving the safety and well-being** of employees and consumers, and the adoption of **sustainable and circular production models** are the fundamental values of our Group. Every day we dedicate energy and resources to the pursuit of the goals outlined by the UN in its 2030 Agenda for the sustainable development of our planet. The **7 Sustainable Development Goals (SDGs)** on which we take concrete action, via tangible and wide-ranging initiatives and projects, are listed opposite.



3 Good health and well-being



7 Affordable and clean energy



8 Decent work and economic growth



9 Industry, innovation and infrastructure



12 Responsible consumption and production



13 Climate action



16 Peace, justice and strong institutions

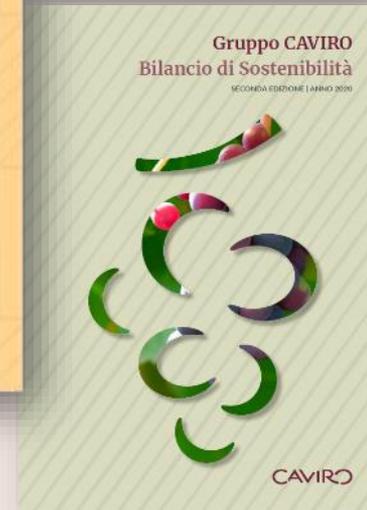
# New values in business

## [TAKE A LOOK AT OUR SUSTAINABILITY REPORT](#)

Our commitment to a sustainable future is evident in the **THIRD EDITION** of our Sustainability Report.

The purpose of this report is not only to document the goals achieved, but also to define targets for the coming years and to relate the key events in the year under review – such as EQUALITAS certification.

[www.caviro.com](http://www.caviro.com)



# Sustainability E-MAG

INNESTI (powered by CAVIRO) is an e-magazine which showcases ideas with the potential to lead us forward to an environmentally-aware future.

Inside you'll find news about people and places, projects and research, good practice and industry trends. But INNESTI also celebrates our commitment to creating something that doesn't yet exist.

History as a whole, in all its complexity, is made of an infinity of micro-narratives whose strength resides in their ability to elicit a sense of identification and closeness to our own stories and lives.

INNESTI examines a few of these stories, each a strand in a bigger story.

[www.innesti.com](http://www.innesti.com)



# Oasis of the Storks

For over 20 years, Caviro has supported the "oasis of the storks" – official name **Centro didattico Carlo Gulmanelli** – a reinstated nature zone adjacent to the Caviro Extra plant on via Convertite, Faenza.

**The land occupied by the oasis was donated to the association in charge of it**, together with the storks who make their homes there: they live on insects and small animals, and have plenty of space and twigs etc. to make their nests.



# Wine

By people,  
for people





9%

OF WHOLE ITALIAN  
GRAPE  
PRODUCTION

No. 1

IN ITALY BY  
MARKET SHARE

193

MILLION LITRES  
OF WINE SOLD

232

MILLION OF  
BOTTLES, BRICKS  
AND BAG IN BOX  
PRODUCED

7

MILLION  
CONSUMER  
HOUSEHOLDS IN  
ITALY

80

DESTINATION  
COUNTRIES  
FOR PRODUCTS



# Partner wineries

## And wines produced in the different regions

REGION	HECTARES	WINERIES	PRINCIPAL GRAPE VARIETIES (RED GRAPES)	PRINCIPAL GRAPE VARIETIES (WHITE GRAPES)
Abruzzo	8,685	9	Montepulciano, Merlot	Trebbiano, Pecorino, Chardonnay
Emilia	4,446	5	Lambrusco, Ancellotta	Pignoletto
Romagna	11,968	4	Sangiovese, Merlot, Cabernet	Trebbiano, Albana, Chardonnay, Pignoletto, Famoso, Pinot Bianco
Veneto	4,941	1	Merlot, Cabernet	Pinot Grigio, Glera Chardonnay, Sauvignon
Marche	416	2	Sangiovese, Montepulciano	Verdicchio, Bianchetto
Puglia	1,452	4	Primitivo, Negroamaro, Malvasia nera	Chardonnay, Bombino, Verdeca
Sicily	2,618	1	Nero d'Avola, Syrah	Grillo, Cataratto Inzolia, Viognier, Grecanico
Tuscany	670	1	Sangiovese, Merlot	Trebbiano, Vermentino
<b>TOTAL</b>	<b>35,199</b>	<b>27*</b>	*27 partner wineries + 2 other members (1 subsidizing member, 1 member from the agri-foods processing sector)	

# Our main brands

ON AND OFF TRADE



**TAVERNELLO**



**CASTELLINO**



**BOTTE  
BUONA**

**BRUMALE**

**VIGNETI  
ROMIO**



**CASTELLI MODENESI**  
CANTINA DAL 1968



**FATASCIÀ**

**FEUDO  
APULIANO**

# Our main brands

ON AND OFF TRADE

Leonardo da Vinci  
VINI ISPIRATI DAL GENIO

APRIMONDO

  
CESARI  
FINE WINES OF VERONA



TF  
TERRE FORTI  
RADICI D'ITALIA

  
ROMIO  
VINI D'ITALIA

X  
B O L É

CANTINE  
CAVIRO

# Wine industry awards



Our Group is a leading name in the wine sector, but it's the people who work with us that make Caviro so unique and authentic. We have won over **840 awards** in recent years alone, including prizes at the most prestigious **national and international competitions**, such as Mundus Vini, Gambero Rosso, Wine Spectator and Migliori Vini Italiani.

**Tavernello** continues to be among the world's **Top 10 Wine Brands** by sales (Data Impact 2020).



**Table 10-3**  
**World's Top 25 Wine Brands**  
(millions of nine-liter cases)

Rank	Brand	Company	Origin	Type	2005	2010	2015	2019	2020	Percent Change <sup>1</sup> 2019-2020
1	Franzia <sup>2</sup>	The Wine Group	United States	Table	23.5	26.0	25.4	26.0	27.0	4.0%
2	Barefoot Cellars <sup>3</sup>	E. & J. Gallo Winery	United States	Table	0.8	8.6	18.2	19.5	21.5	10.0
3	Don Simon <sup>2</sup>	J Garcia Carrion SA	Spain	Table	8.5	16.6	20.0	19.5	19.0	-2.5
4	Concha y Toro	Vina Concha y Toro SA	Chile	Table	8.7	13.2	15.2	14.1	16.0	13.7
5	Robert Mondavi <sup>4</sup>	Constellation Brands	United States	Table	7.0	8.5	12.0	12.8	12.4	-2.8
<b>Total Top 5</b>					<b>48.5</b>	<b>72.9</b>	<b>90.7</b>	<b>91.9</b>	<b>95.9</b>	<b>4.4</b>
6	Yellow Tail <sup>3</sup>	Casella Wines	Australia	Table	10.0	10.7	12.5	11.0	11.5	5.0
7	Sutter Home	Trinchero Family Estates	United States	Table	7.8	10.9	10.6	11.0	11.0	-0.5
8	De Bona	Dalmeida Family Wines	United States	Table	0.8	0.0	0.0	0.4	14.1	11.0
9	Tavernello	Caviro Societa Cooperativa ar	Italy	Table	12.3	10.6	9.6	8.7	9.7	10.6
10	Solo Rossi <sup>2</sup>	E. & J. Gallo Winery	United States	Table	12.7	18.9	11.0	9.9	9.6	-0.6
<b>Total Top 10</b>					<b>91.4</b>	<b>119.9</b>	<b>138.2</b>	<b>140.2</b>	<b>148.5</b>	<b>5.9</b>
11	J.P. Chenet	Les Grands Chais de France	France	Table	6.1	8.0	9.0	8.5	8.5	-
12	Martini	Martini & Rossi IRLAS SpA (Bacardi)	Italy	Vermouth	14.1	12.6	9.4	8.8	8.5	-3.7
13	Black Box <sup>6</sup>	E. & J. Gallo Winery	United States	Table	0.4	1.9	4.3	6.9	7.9	14.0
14	Beringer	Treasury Wine Estates	United States	Table	8.6	9.0	9.0	8.0	7.5	-6.5
15	Freixenet	Freixenet SA	Spain	Sparkling	6.5	7.2	7.2	7.0	7.0	0.5
<b>Total Top 15</b>					<b>127.0</b>	<b>158.6</b>	<b>177.1</b>	<b>179.4</b>	<b>187.9</b>	<b>4.7</b>
16	Gallo Family Vineyards <sup>7</sup>	E. & J. Gallo Winery	United States	Table	11.1	9.5	9.0	8.0	7.0	-12.5
17	Riunite	Cantine Cooperative Riunite Scrl	Italy	Table	6.4	6.1	5.9	5.5	5.5	1.5
18	Cono Sur <sup>8</sup>	Vina Concha y Toro SA	Chile	Table	1.6	4.4	4.8	5.1	5.5	8.4
19	Peter Vella <sup>2</sup>	E. & J. Gallo Winery	United States	Table	5.1	6.2	6.1	5.3	5.5	4.0
20	Blossom Hill	Treasury Wine Estates	United States	Table	5.4	6.1	5.7	5.3	5.5	3.5
<b>Total Top 20</b>					<b>156.6</b>	<b>190.9</b>	<b>208.5</b>	<b>208.6</b>	<b>216.9</b>	<b>4.0</b>
24	Stella Rosa	Riboli Family Wine Estates	Italy	Table	0.1	0.3	1.1	2.7	5.5	100.0
21	Jacob's Creek	Pernod Ricard	Australia	Table	7.4	7.1	6.3	5.5	5.1	-6.0
22	Rotkappchen	Freijung Rotkappchen	Germany	Sparkling	4.6	4.7	4.9	5.1	5.0	-2.0
23	Josh Cellars	Deutsch Family Wine & Spirits	United States	Table	*	*	1.0	3.4	4.5	34.7
25	Hardys	Accolado Wines	Australia	Table	8.2	3.7	4.2	4.4	4.5	2.5
<b>Total Top 25<sup>9</sup></b>					<b>176.8</b>	<b>206.7</b>	<b>225.9</b>	<b>229.6</b>	<b>241.5</b>	<b>5.2%</b>
World Share of Top 25 Brands					6.6%	7.8%	8.4%	8.6%	9.3%	

# Premium products

Natural ingredients  
and sustainable innovation



A photograph of several large, vertical, stainless steel distillation columns in an industrial setting, likely an ethanol production plant. The columns are arranged in a row, and the background is a clear blue sky. The image is used as a background for the infographic.

**520,000**

TONNES OF WASTE  
NOT DANGEROUS  
VALUED

**No. 1**

FOR ETHYL  
ALCOHOL  
PRODUCTION  
CAPACITY IN ITALY

**100%**

BIOBASED  
PRODUCTS

**+99%**

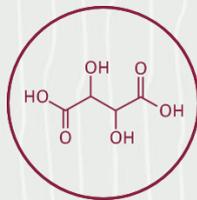
RECOVERED  
WASTE

# Business units



## Extra Alcohols

Ethyl alcohol of agricultural origin



## Extra Musts and extracts

MCT and MCR, musts and grape juices, grape seeds, oenocyanin



## Extra Tartarica

Natural tartaric acid, produced in Treviso plant



## Extra Eco-Energia

purification, biomethane, natural fertilizers

# EXTRA Alcoli

The quality of **Caviro Extra alcohol**, which is **100% bio-based**, derives from its vinous origin, linked to **Gruppo Caviro's wine-making industry**



## FOOD

### Neutral Alcohol (min 96°)

alcoholic beverages  
flavourings,  
essences, baking



## PHARMACEUTICAL

### Ethyl Alcohol

Excipient,  
denaturant, solvent  
and etherifier.



## COSMETICS

### Ethyl Alcohol

Perfumes, hair  
lacquer, mouth  
washes, and  
generic cosmetics.



## INDUSTRIAL CHEMISTRY

### Ethyl Alcohol

solvent for grease, resins,  
esters, organic substances,  
varnishes for the preparation  
of inks



## DOMESTIC USE

### Denatured Alcohol

common usage in  
domestic  
detergents.



## ENERGY

### Bioethanol

natural heating  
fuel for bio-stoves  
fuel for the  
transport sector

# EXTRA Mosti ed estratti

All the ingredients for a high-quality industry  
from grape pressing



## FOOD

### Rectified Concentrated Must and Oenocyanin (E163)

yoghurt, ice cream, desserts,  
drinks, fruit juices, baking  
products



## OENOLOGY VINEGARS

### Traditional Concentrated Must Cooked Must

production of high quality still  
and sparkling wines  
Balsamic vinegar Modena IGP

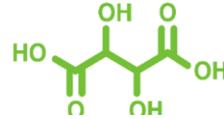


## PARAPHARMACEUTICALS COSMETICS

### Polyphenols

From a selection of fresh **unfermented marc**, the  
seeds are extracted, so that they can then be used  
to extract **polyphenols, which are natural  
antioxidants**, used in many sectors as  
fundamental ingredients of innovative products.

# EXTRA Tartarica



## Natural Tartaric Acid: from baby food to its use in the construction industry through Caviro's direct production chain



### FOOD INDUSTRY

Acidifying substance  
natural preservative,  
emulsifier in  
industrial baking  
products



### PHARMACEUTICAL

Excipient and adjuvant  
of the active  
substances, used in  
syrups, capsules,  
effervescent powders...



### CHEMICALS

It is used in cosmetics, for the  
production of cremes, powders,  
production of surfactants,  
electronic devices, and used in  
printing.



### CONSTRUCTION

For the production  
of plaster and  
cements for  
renderings.

# Bioenergy

Energy and environment,  
working in unison



# Energy from renewable sources



Energy

ELETTRIC AND THERMAL  
to be self-sufficient



Sustainable  
mobility

BIOETHANOL, BIOMETHANE,  
ELECTRICITY for automotive from  
renewable sources



CO<sub>2</sub> saved

-101,000 t/year of CO<sub>2</sub>  
emissions  
into the atmosphere

# Natural Fertilizer



75,000  
t/year produced



GREEN COMPOST FINE  
from mowing and pruning of public green



MIXED COMPOSTED FINE  
added vegetable waste and food industry by-products



FINE COMPOST WITH SLUDGE  
coming from the Caviro EXTRA anaerobic digestion plant



To return to the earth as much organic matter as possible

# Innovative projects



# Innovative projects

## - Wine -

### Sustainable winegrowing

**making winegrowing more sustainable** by changing cultivation and crop protection techniques in conjunction with our partner winegrowers and Italy's leading research institutes

### Oenological innovation

driving qualitative improvement in wines and finished products via **improvements in winegrowing and winemaking management techniques and systems;**

### EIT Food KIC

Knowledge and Innovation Communities (KIC): partnerships created by the EU to facilitate **collaboration between business and research centres** with the objective of driving technological innovation. Caviro is an active partner of 2 KICs specializing in: climate/environment and agri-foods;

### New packaging

**Packaging is even lighter** (which means a smaller carbon footprint) and **recyclable**, made from FSC paper or renewable sources.

# Innovative projects

## - Environment and Circular Economy -

### Reducing our environmental impact

**Recovery of CO2** via the purification of biomethane. **Advanced methane and biofuels** obtained from the bio-digestion of agri-food waste. Reducing water table pollution by using the latest technologies for the **recovery of process water**.

### Soil preservation

Recycling waste for use as fertilizer is a way of recovering carbon and fixing it in the soil, thereby reducing the risk of desertification and **improving soil health**. The objective: **to constantly increase the amount of organic matter** returned to the soil in the form of **soil improvers** for the agri-food sector.

### Turning waste into bioplastic

Transforming waste into new plastic products for use as innovative and sustainable packaging. Our BPLAS facility is the first experimental plant for the production of **PHA** (polyhydroxyalkanoate), an **organic, biodegradable plastic** made from **food waste and sludges** produced by the agri-food sector.

### Improving logistics

Caviro operates a freight pooling agreement with CHEP to share freight space with other agri-food companies. This cuts down on empty mileage, which **reduces the environmental impact of transport operations**. And by using CHEP pallets as part of this pooling agreement, **we also reduce our environmental impact in terms of CO2 emissions**. These emissions will fall even further with the introduction of LNG-powered vehicles.

# Focus R&D Projects

## - Packaging -



From the **Wine Waste Chain**, all avenues for developing these by-products into new second-generation materials were evaluated, among them bioplastics.



The **USABLE PACKAGING** project established a new value chain for bioplastics. This will be based on the use of low-cost and widely available resources, such as by-products or waste from the food industry. Substrates will be converted into PHAs, which can be made into specific packaging.



Thanks to the VALSOVIT project, the strand of obtaining **PHA from Sludge** has yielded such interesting results that it could be turned into a DEMO project funded by Climate KIC, which downstream of 3 years of the project now moves to engineering

# Focus R&D Projects

## - EIT Food -



**BLACK TO THE FUTURE**  
Develop a mix of biochar and compost (CBmix) in order to reduce soil consumption, increase carbon storage, and improve agricultural yields, with a circular vision in which farmers are both producers of biomass and end users.



**PROSEED**  
Focused on the production and commercialisation of one circular-based environmentally and economically sustainable new protein product.



Co-funded by the  
European Union

# Focus R&D Projects

## - Life project -



Promoting one circular-based industrial process, environmentally and economically sustainable and technically feasible, **finalized at the extraction of proteins from grape seeds** (currently considered as waste and destined to fertilization and fuel purposes) to be re-valorized as **fining agent** in the **wine clarification** in place of raw materials currently used, such as the traditionally-used protein gelatins of animal origin and proteins extracts from food crops.

# CAVIRO

Our business model generates real **value** that's shared by people, communities, and the environment. Not only in the wine sector, which is the preserve of Caviro Spa: through our subsidiaries Caviro Extra and Enomondo we transform waste into precious resources via a "virtuous cycle" which unites present and future.



UNIONE EUROPEA  
Fondo Europeo Agricolo  
per lo Sviluppo Rurale



Regione Emilia-Romagna

L'Europa investe nelle zone rurali

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