



Transforming matter, renewing circularity.



To redesign matters

Caviro Extra is a Circular Economy driving innovation in the design of bio-based ingredients and products with high added value, derived from valorising waste from the wine-making and agri-food industries.

The Caviro Group and the wine industry



The Caviro Group



The Caviro Group

593

EMPLOYEES

€417

MILLION IN
REVENUE

7

PRODUCTION SITES

83

COUNTRIES, WHICH
CAVIRO EXPORTS
WINE TO

The heart of our model

Our membership base is the result of over 50 years of activity, starting from our beginning in Faenza until today.

37.300 hectares of vineyard

11.650 vine growers

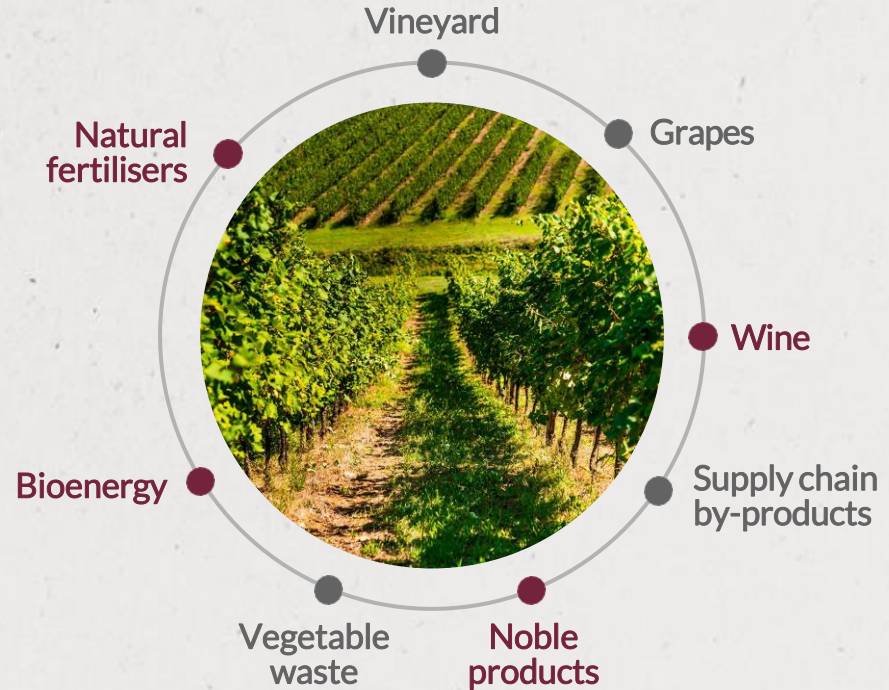
29 members, which include **27**
wineries



The Groups and Caviro Extra's circularity

From wine production waste, Caviro Extra receives marc and lees and transforms them into second-generation raw materials for the industry:

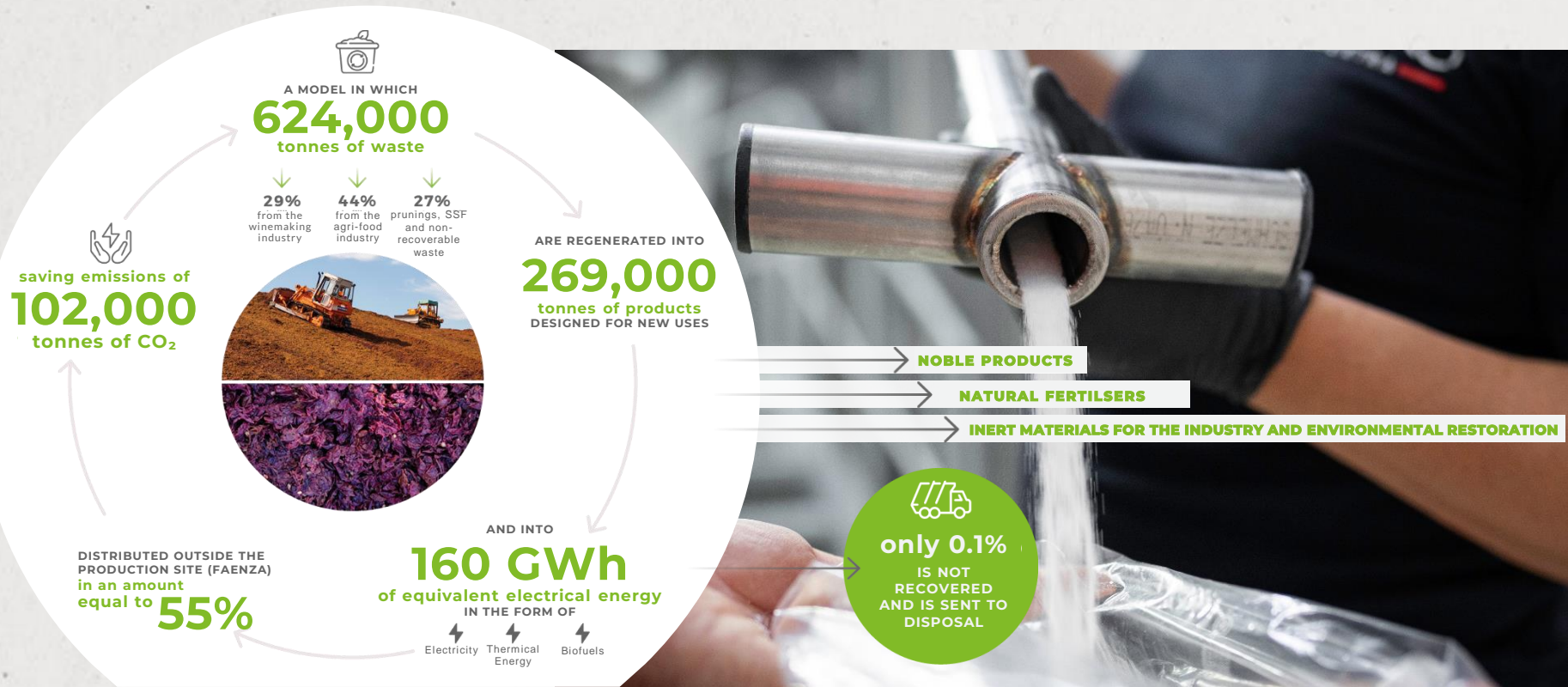
- noble products
- bioenergy
- natural fertilisers



• Incoming raw materials

• Outgoing finished products

In the Faenza site 99.9% of waste is recovered



Awards and certifications



Gold Medal on Circular Economy given by the Sustainable development Award 2022, which was established by the Sustainable Development Foundation, and by the Italian Exhibition Group with the patronage of MITE.



Award «**Best Management for Sustainable Development for medium and large enterprises**», thanks to the combination of environmental, economic and social aspects.



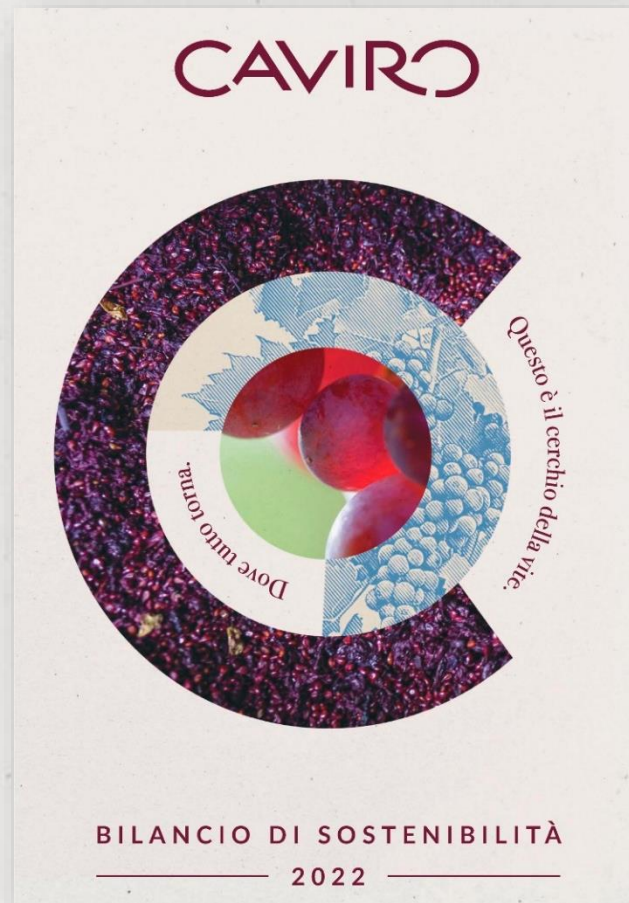
Equalitas certification as Sustainable Winery (Caviro Sca), awarded by Valoritalia, the most important Italian certification society in the wine sector.



SA8000 Ethical Certification International standard on social responsibility.

The Caviro Group's sustainability report

It has been 4 years since the Group has started publishing its sustainability report. Its purpose is not only to document the goals achieved, but also to define future objectives and to present key events in the year under review – such as the EQUALITAS certification.



Together with the UN for sustainable development

The respect of the environment, the promotion of safety and well-being of employees and consumers, and the implementation of sustainable and circular production models are all fundamental themes for our Group.

Every day, we devote energy and resources in line with the goals outlined by the UN in the 2030 Agenda for the sustainable development of our planet.

Here are the **9 Sustainable Development Goals (SDGs)** on which we take concrete action, through tangible and wide-ranging initiatives and projects.



Caviro Extra's Business Units

We transform waste from the wine and food production chains into noble ingredients and energy.



Extra Alcohols

ethanol of agricultural origin



Extra Musts and Extracts

TCM and RCM, grape musts and juices, grape seeds, oenocyanin



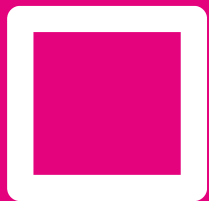
Extra Tartaric

natural tartaric acid



Extra Eco-Energia

purification, renewable energy, natural fertilisers



Extra Alcolohols

ethanol of agricultural origin



Mission and products

Food alcohol
Absolute alcohol
Denaturated alcohol
Special denaturants
Industrial blends
Bioethanol for biofuel



The Extra Alcohols division works exclusively on formulations of alcohol of agricultural origin.

Extra Alcohols meets the requirements of all the areas of application of ethanol, while also managing almost fifty customized recipes.



Extra Alcohols
Ethanol of agricultural origin

Fields of application



Extra Alcohols
Ethanol of agricultural origin



FOOD PRODUCTS

Neutral alcohol (min 96°)

Alcoholic beverages, flavourings, essences, confectionery spirits, vinegar-making and food preservation.



PHARMACEUTICALS

European Pharmacopoeia ethanol

Absolute alcohol

Excipient, solvent and etherifying agent. Absolute alcohol reaches an alcohol content of 99.9%.



COSMETICS

Ethanol

After special denaturation, it is used for perfumes, deodorants, hairsprays, mouthwashes, sanitising gels, and generic cosmetics.



CHEMICAL, INDUSTRIAL AND DOMESTIC

Ethanol General denaturated alcohol

Special denaturated alcohol

Solvent for fats, resins, esters, organic substances, paints, applications as a reagent or solvent, alcohol content ranging from 90.1° to 99°.



ENERGY AND BIOFUELS

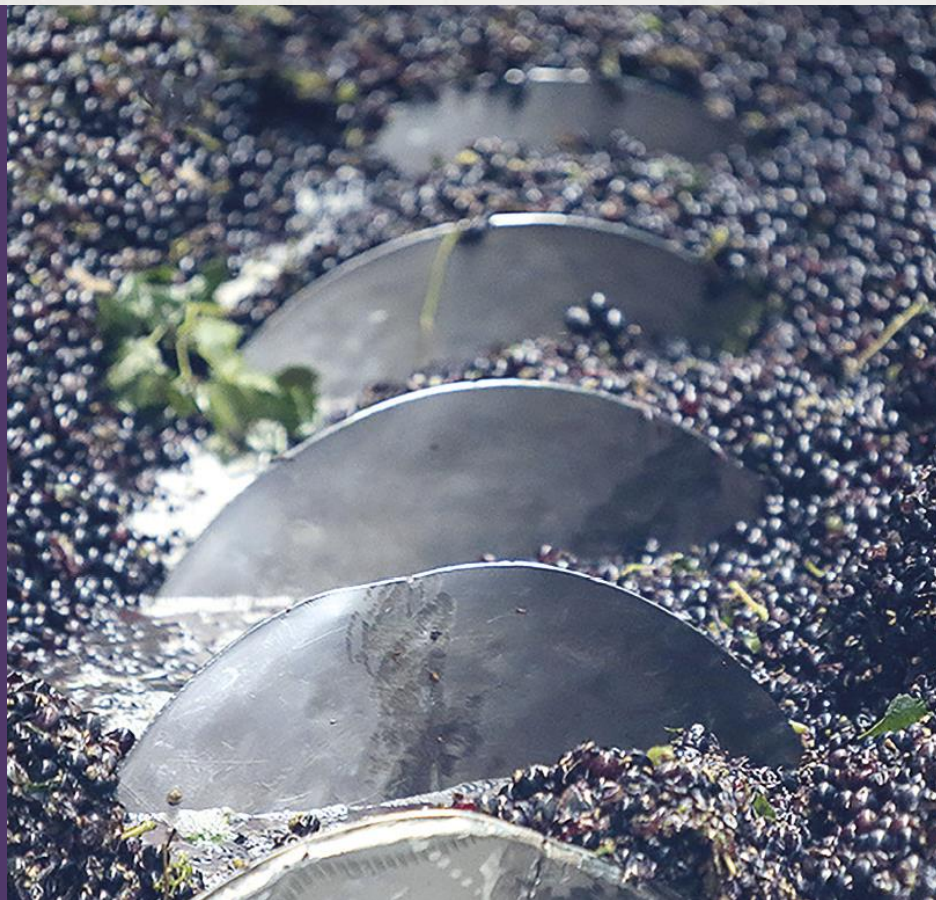
1st generation bioethanol Advanced 2nd generation bioethanol

Renewable automotive fuel, directly blended in petrol or for the production of ETBE.



Extra Musts and Extracts

Traditional Concentrated Must,
Rectified Concentrated Must,
grape musts and juices, grape seeds,
oenocyanin



Mission and products



Rectified Concentrated Must
Concentrated Must
Cooked Must
Concentrated White and Red Grape Juice
Grape Sugar
Tannins
Oenocyanin
Grape seeds for polyphenols
Grape seeds for oil



Caviro Extra uses musts and juices coming from crushing the grapes of the Group's associated wineries to obtain concentrated, rectified or cooked musts.

Thanks to intensive research, **grape seeds** in peak condition are extracted from the marc, which are highly valued by the food industry for the production of oil and pharmaceuticals, being rich in **polyphenols**. **Oenocyanin**, a natural, deep red food colouring, is also extracted from the marc of red grapes.



Extra Musts and Extracts
TCM and RCM, grape musts and juices, grape seeds, oenocyanin

Fields of application



OENOLOGY AND VINEGAR

Concentrated Must Cooked Must

Production of fine wines, balsamic vinegars from Modena PGI, certification to treat organic products.



FOOD PRODUCTS

Rectified Concentrated Must Oenocyanin

Yoghurt, ice cream, desserts, fruit drinks and juices, baking products, sweet and sour condiments, fruit in syrup.



PHARMACEUTICALS, NUTRACEUTICALS, COSMETICS

Polyphenols

Grape seeds with the highest polyphenol content are extracted from a selection of fresh marc. They are, then, used for the extraction of tannins – natural antioxidants.





Extra
Tartaric
natural tartaric acid



Mission and products

Natural tartaric acid



Caviro Extra produces natural tartaric acid, derived from the processing of lees and marc from the wine industry.

A highly reliable, 100 % bio-based tartaric acid, free of impurities and extra-white in colour, is obtained by processing calcium tartrate from the by-products of wine-making.



Extra Tartaric
natural tartaric acid

Fields of application



FOOD PRODUCTS

Natural tartaric acid

Acidifier and natural preservative, emulsifier for baking products, baby food preparations.



OENOLOGY

Natural tartaric acid

Acidity corrector in wine.



PHARMACEUTICALS, COSMETICS

Natural tartaric acid

Excipient and adjuvant of active ingredients: syrups, capsules, effervescent powders, time-release patches, production of creams and powders.



CHEMICAL AND BUILDING INDUSTRIES

Natural tartaric acid

Production of surfactants, plasters and cements for plasters, electronic processes, printing products.



Extra Tartaric
natural tartaric acid



Extra Eco-Energy

purification, renewable energy,
natural fertilisers



Mission and products



Biomethane for automotive use
Bio LNG for heavy vehicles
Electricity
District heating
Liquified CO₂
Composted soil improvers



The Extra Eco-Energy division is located downstream of the recycling cycle and transforms waste, effluent and digestates into energy and soil improvers for agriculture.

In the anaerobic digestion plant, biogas is generated from waste and, when further purified, it is separated into two components: advanced biomethane and CO₂.



Extra Eco-Energy
purification, renewable energy, natural fertilisers

Fields of application



Extra Eco-Energy
purification, renewable energy, natural fertilisers



AFRI-FOOD WASTEWATER

Wastewater collection
Italy's leader in the recovery of agri-food industry wastewater.



BIOFUELS

Advanced Biomethane Bio LNG
Production capacity **12M Nm³** corresponding to fuelling **18.000 cars** for one year*.

* (small car, 1400cc: 17 km with 1 cubic meter of methane, average mileage per year 11.200 km: source *Quattroruote*)



ENERGY

Electricity and Thermal Energy
Electricity equivalent to **160 GWh** in the form of: electrical energy, thermal energy, biomethane, bioethanol.



FOOD PRODUCTS

CO₂ capture
Production capacity **7.000 tonnes of liquified CO₂** for the carbonated drinks industry.



AGRICULTURE

Fertilisers
Production of 3 types of fertilisers – Mixed Composted Soli Improver (ACM), Green Composted Soil Improver (ACV) and Composted Soil Improver from Agri-food Chain Waste (ACFA) – for a total of **137.000 tonnes per year**.

Sustainability and Environment



Leader in the recycling of agri-food industry wastewater

Leader

IN ITALY TO PRODUCE
BIOMETHANE FROM
THE AGRO-
INDUSTRIAL SECTOR

137.000

TONNES OF FERTILISER
PRODUCED PER YEAR

Leader

IN ITALY IN THE
RECYCLING OF AGRI-
FOOD INDUSTRY
WASTEWATER

160

GWh OF SELF-
PRODUCED
EQUIVALENT
ELECTRICAL ENERGY



Complete energetic self-sufficiency

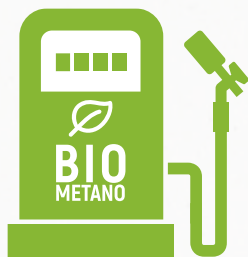
Enomondo, founded in 2010 as a joint venture between Caviro Extra and Herambiente, is the company that manages the innovative biomass combustion and composting plant.



100% of the electricity used by the Caviro Group is green: self-produced from renewable resources, certified by GSE (Gestore Servizi Energetici) and distributed through the Hera Comm.



Advanced biofuels certification



Energy Source for Automotive use:

Bioethanol and Biomethane

Certified by RINA for savings in greenhouse gas emissions compared to fossil fuels: **GHG Saving** (Green House Gas Saving).

Electrical Energy

The electric outlets present in Caviro's plants supply energy deriving from renewable resources.

The logo for RINA, consisting of the letters "RINA" in a bold, blue, sans-serif font. The "I" is stylized with a blue triangle pointing upwards.

PRODOTTO CERTIFICATO
Decreto 14/11/19
Sostenibilità Biocarburanti e
Bioliquidi Certificata



Water resource, water footprint reduction

- FAENZA SITE -



of the site's water requirements met by reusing purified process water



Million litres not collected from aquifers



Reduction of extractions from aquifers – baseline 2019 (first year of non-financial reporting)



- Streamline processes
- Reduce waste
- Recover wastewater for further use, via advanced processing plants

Innovation

Doing old things in a new way. This is innovation.

Joseph Alois Schumpeter



New CO₂ recovery plant

CO₂
recovery



CO₂ gas, obtained during the biomethane purification process, is captured for various industrial applications.

New District Heating plant

TLR District Heating



Thermal energy produced from biomass is distributed outside the plant for industrial and civil use.

New production of Composted Fertiliser from Agri-food Industry Waste (ACFA)



ACFA



The new plant created to produce ACFA (*Ammendante Compostato da scarti della Filiera Agroalimentare*) aims at increasing the amount of organic substance given back to the soil in the form of compost.

New photovoltaic system

Photovoltaic
system



Above the ACFA composting plant, which is about 10.000 mq, a photovoltaic system of **500 KW** has been installed

(Not only energy from biomass, but also solar energy...)

Advanced biomethane



Advanced
biomethane



Thanks to the anaerobic digestion of agri-food industry waste, every year

12M Nm³

of advanced biomethane are produced, corresponding to fuelling 18,000 cars for one year.

(small car, 1,400cc: 17 km with 1 cubic metre of methane, average mileage per year 11,200 km: source *Quattroruote*)

**1 truck of waste
fuels 1 small car**

for 1 year

New biomethane liquefaction plant



Biomethane, produced by agri-food industry waste, is brought to liquid form in order to optimize its use in the heavy vehicle sector.

Annual production:
9.000 tonnes of BioLNG,
equivalent to a heavy vehicle covering a
distance of 20M kilometres.

EXTRA
is the place

where waste is transformed
and enhanced.

EXTRA
is the process

that shows the infinite value of wine
and food products.

EXTRA
**is the natural
ingredient**

that the industrial world needs.

EXTRA
is innovation

that creates new energy without
depleting natural resources.

EXTRA
**is the circular
economy**

of Caviro, Italy's largest
wine-making industry.

Thank you for your attention



Caviro Extra S.p.A. s.u. · Via Convertite, 8 · 48018 Faenza (RA) Italy · Ph. +39 0546 629111

E-mail: caviroextra@caviroextra.it · pec: caviroextra@legalmail.it

www.caviroextra.it

