



**Bioethanol from grape waste,
a treasure for decarbonization goal**

The Caviro Group and the wine industry



The Caviro Group



The Caviro Group

585

EMPLOYEES

€423

MILLION IN
REVENUE

7

PRODUCTION SITES

87

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.

37.500 hectares of vineyard

11.100 vine growers

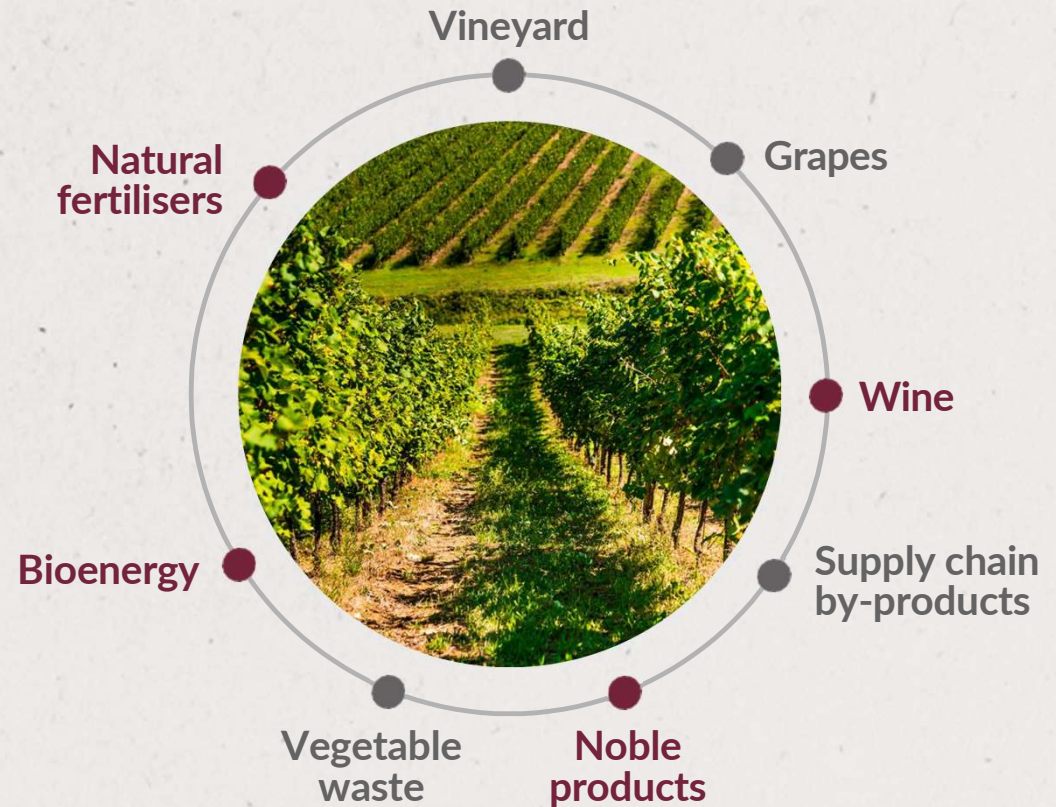
28 members, which include **26** wineries



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

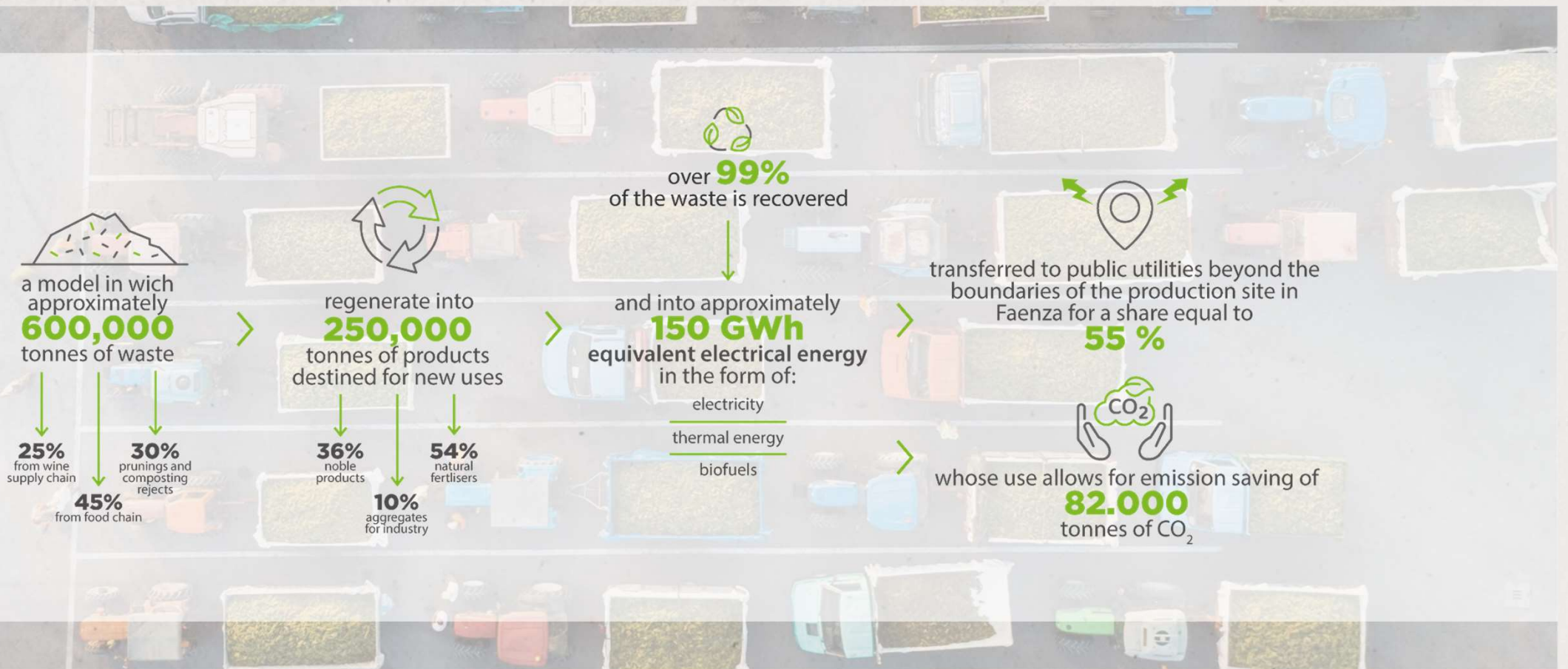
• Outgoing finished products



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.

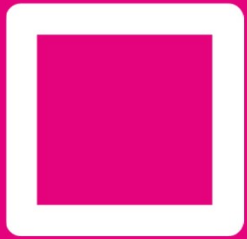
Caviro Extra regeneration matter



Caviro Extra's Business Units

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





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.

Bioethanol for transport sector

Regulatory framework

DIRECTIVE (EU) 2018/2001 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2018 on the promotion of the use of energy from renewable sources – RED II

In EU **14,3%** quantity of energy made from renewable fuel at 2030 – obligation on fuel suppliers

EU Directive is implemented in Italy by legislative decree nr 199/2021.

In Italy **16%** the quantity of energy made from renewable fuel at 2030 – obligation on fuel suppliers

- the share of **gas and liquid biofuel** is equal to at least 13,3 %
- starting from 2023, the share of biofuels blended with gasoline is at least equal to 0.5 % and starting from 2025 it will be at least equal to 3 % of the total gasoline consumption



Extra Alcohols
Ethanol of agricultural origin

Bioethanol for transport sector

Advanced
biofuel

- synonymous of 2nd generation fuel
- produced by not dedicated crops
- benefits from double counting – 1 CIC per 5 Gcal instead
1 CIC per 10 Gcal

Annex VIII DL 199/2021 – raw material for double counting

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k) Grape marc and wine lees

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Extra Alcohols
Ethanol of agricultural origin

Bioethanol for transport sector

Sustainable
biofuel

GHG saving

$$\frac{(\text{CO}_2\text{e ref. fuel} - \text{CO}_2\text{e biofuel})}{\text{CO}_2\text{e ref. fuel}}$$

- 50% for plants in operation at 5th October 2015 or before
- 60% for plants in operation from 6th October 2015 to 31st December 2020
- 65% for plants in operation from 1st January 2021



Extra Alcohols
Ethanol of agricultural origin

Bioethanol for transport sector

Sustainability
certification

National Scheme for Italian market



Voluntary Scheme for European market



Extra Alcohols
Ethanol of agricultural origin

Bioethanol for transport sector

GHG saving
Caviro's bioethanol

dehydrated bioethanol 99% degree

- from grape marc → GHG saving ≈ 80% (>> 50%)
- from wine lees → GHG saving ≈ 73% (>> 50%)

+ transport emission to the final user/customer

used to produce ETBE with different percentage of biofuel
for example E5 or E15



Extra Alcohols
Ethanol of agricultural origin

The Caviro Group's sustainability report

It has been 5 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.

BROSWE ONLINE THE LAST EDITION OF
OUR SUSTAINABILITY REPORT.



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



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.

Thanks for your attention



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