

La Sostenibilità del Vino

VIVA SUSTAINABLE WINE: THE ITALIAN LABEL ON SUSTAINABILITY PERFORMANCE

The Project

Wine production is a relevant sector of the Italian economy and it is recognized as one of the best identified components of Italian “culture” in the management and protection of rural areas and agricultural landscapes, associated with the product safety and consumers’ health protection.

In 2011, the Italian Ministry for the Environment, Land and Sea launched the National pilot project **VIVA "Sustainable Wine"**. The purpose of the project is to improve the performance of sustainability in vineyards and wine production through a holistic approach, that considers the impact of wine production on the Environment, Economy and Society¹. The sustainability performance is assessed using four **indicators**: Air, Water, Vineyard and Territory.

The pilot phase, conducted with the scientific collaboration of the Research Center on Sustainable Development in Agriculture OPERA, involved a number of major Italian wineries, selected on the base of their geographical location and production. This phase, completed in 2014, led to the definition of **technical specification** for a more sustainable wine production, that now serve as a reference for companies who want to achieve the validation foreseen by the project.

Four indicators to assess the sustainability performances

- **Air**: it evaluates the greenhouse gas emissions directly and indirectly related to the life cycle of a product (CFP) or to an organization (GHGI)
- **Water**: it reveals the total volume of fresh consumed and polluted water both referred to company activities or to the production of a wine bottle (0,75 l)
- **Vineyard**: it takes into account the agronomic management practices in the vineyards (reference unit: the entire company’s vineyard surface or only the vines used for a specific product)
- **Territory**: a set of qualitative and quantitative indicators, to evaluate the socio-economic impact of company’s activities on the territory

The results of the analysis are communicated to the final consumers through a **label**, that summarizes the results and improvements, in terms of sustainability, achieved by the company.



Read the label with your smartphone.



Focus

Climate Change

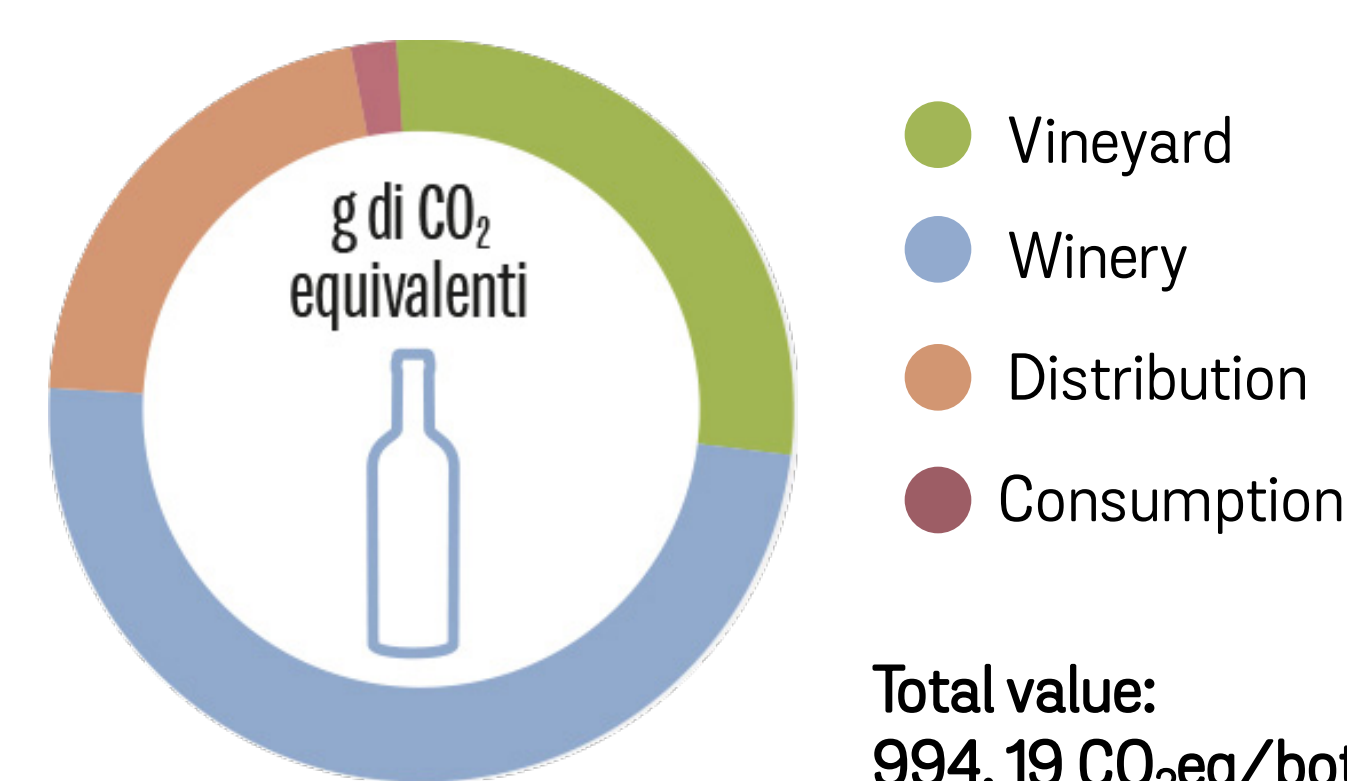
The indicator **AIR** evaluates the **greenhouse gas emissions** directly and indirectly related to the life cycle of a product or to an organization.

- The **Product Carbon Footprint (CFP)** is a life cycle analysis referring to a wine bottle of 0.75 l. The life cycle of wine bottle includes four major phases: vineyard management (vineyard), transformation of grapes into wine and bottling (winery), distribution of bottles (distribution), refrigeration and disposal of glass (consumption).
- The **Greenhouse Gas Inventory (GHGI)** is an analysis referred to a wine company and it measures the emissions related to the organization activities^{3,4}.

In accordance with the Kyoto Protocol, the greenhouse gas that should be included are: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), sulphur hexafluoride (SF₆) and perfluorocarbons (PFCs).

Assessment of Product Carbon Footprint

- Functional unit: one bottle of wine (0.75 l.).
- 4 phases analysed: vineyard, winery, distribution and consumption
- For each phase, values are expressed as percentage on the total greenhouse gas emissions
- In the label, this value is expressed in the circle as percentage of the total CO₂ equivalent grams.



Assessment and mitigation strategies: an example

MV Zero VerdeVero – Castello Monte Vibiano Vecchio

MV Zero Verdevero is a red wine produced by Monte Vibiano, the 1st farm worldwide to achieve “Zero Greenhouse Emissions”, in accordance with international standard ISO 14064 (certified by a leading certification bodies). The Carbon Footprint of the entire life cycle of this product has been evaluated within the project. The picture shows the results related to the indicator “Air”.

Mitigation strategies

- Planted over 10,000 trees in the farm in an effort to boost overall **GHG absorption**.
- **Clean energy** generated by solar panels installed on the rooftops of existing structures on the farm (250 kw). The solar panels are replacing the existing roofing material and convert sunlight into electricity that will ultimately power the entire company.
- Use of first-generation **biofuels** for a part of the tractors
- Replacement of the cork with a **new biopolymer cap** from sugarcane
- Replacement of the bottles with new **thin glass bottles**

References

¹Corbo C., Lamastra L., Capri E., 2014. From Environmental to Sustainability Programs: a Review of Sustainability Initiatives in the Italian Wine Sector. Sustainability, 6(4), 2133–2159

²Lamastra L., Capri E., 2012. Calcolo dell'impronta carbonica in viticoltura. L'Informatore Agrario, 30, 43

³UNI EN ISO/TS 14067 – Principles, requirements and guidelines for the quantification and communication of the carbon footprint of a product

⁴UNI EN ISO 14064-1 – Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals