



CEEV ENVI MEETING
Madrid, 22nd May 2013



SUSTAINABILITY IN THE
ITALIAN VITICULTURE

V.I.V.A. Sustainable Wine



MINISTERO DELL'AMBIENTE
E DELLA TUTELA DEL TERRITORIO E DEL MARE

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Prof. Ettore Capri

www.viticolturasostenibile.org



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IN ITALIA



The Italian Ministry for the Environment, Land and Sea launched in July 2011 a National pilot project in order to evaluate the wine-sector sustainability performance, based on **4 indicators**:
Water & Carbon Footprint calculation, Territory and Vineyard with the participation of some large Italian wine-producing companies.



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Scientific Committee

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Approach "Bottom-Up"



VENICA & VENICA



PLANETA



MASI[®]
AGRICOLA





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End-user communication



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V.I.V.A. SUSTAINABLE WINE

TERRITORIO ARIA VIGNETO ACQUA

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Territory



The landscape and other important aspects of sustainability are not measurable through the assessment of the carbon footprint, or with the environmental impact of vineyards agronomic management.

Therefore, in order to integrate them in the assessment of sustainability it has been built a tool box kit of **qualitative** and **quantitative** indicators, that are in some way able to evaluate the actions undertaken by the companies and their impact on the territory.

The subject of evaluation are biodiversity, landscape, local communities, and the economic impact on the territory and on the local communities.



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Why?

Community: social and economic consequences on workers, local communities, producers and consumers

Environment: Biodiversity protection and enhancement of the landscape



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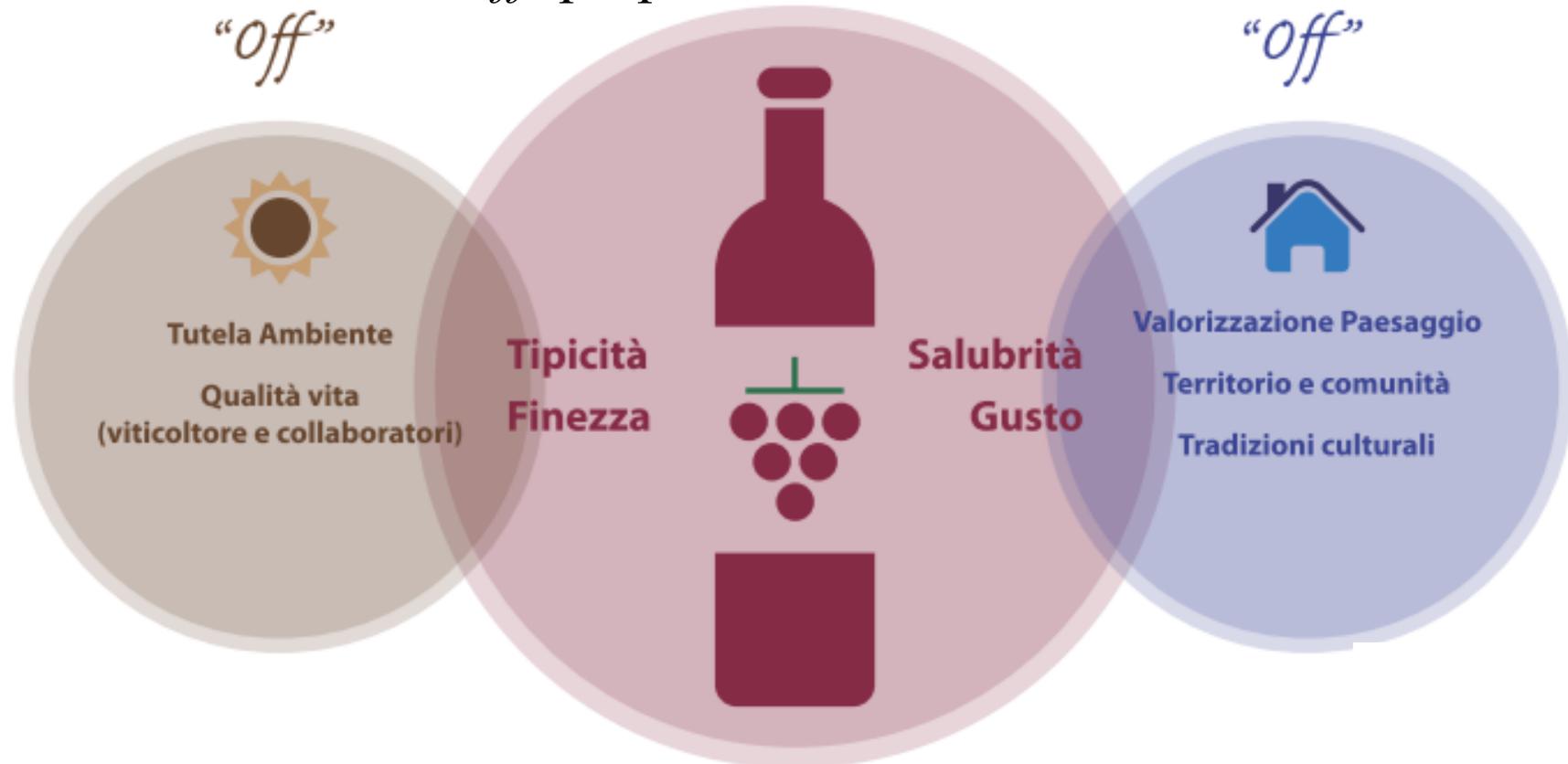




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Benefits

- ✓ Enhancement of the 'off' properties of wine



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Results

The fulfillment of the indicator and its aspects is a key requirement for VIVA

All companies are already in compliance with the indicator territory



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Water

The water footprint is an explicit indicator of the fresh water consumption in the vineyard and in the cellar related to the wine production . This indicator reveals the total volume of fresh water, consumed (evaporated or incorporated into a product) and polluted for the production of one wine bottle (0,75 l).

The overall calculation of the *water footprint* is the sum of three components:

- ✓ **Blue Water**
- ✓ **Green Water**
- ✓ **Grey Water**



The three components of virtual water have a different impact on the hydrological cycle



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Why?

Water is a resource: *precious, renewable and limited*

To identify strategies for sustainable use of water resources in terms of *quantity and quality*



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Benefits

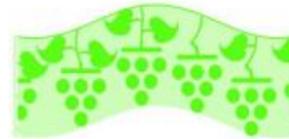
How much water is "really" used

Proper weight to the "different" waters

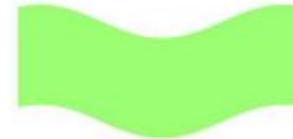
A new model for the calculation of the water footprint of Italian wine



ACQUA
VERDE



ACQUA
BLU

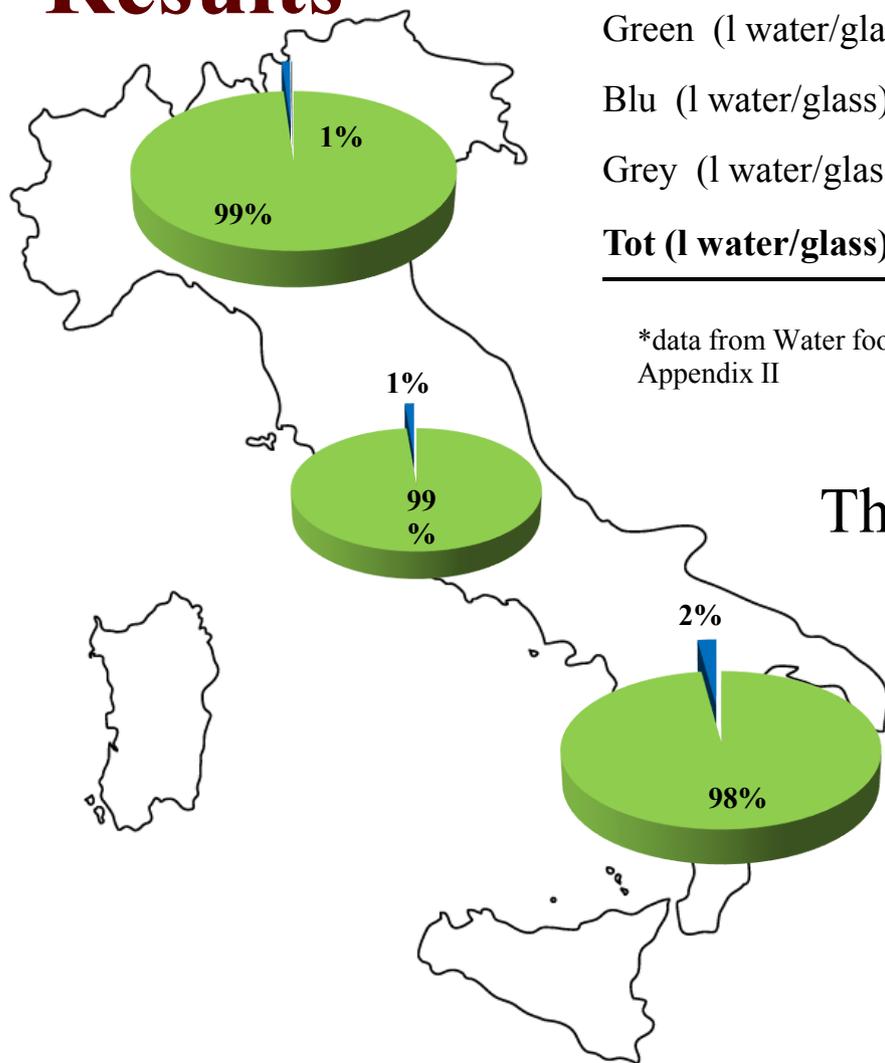


ACQUA
GRIGIA





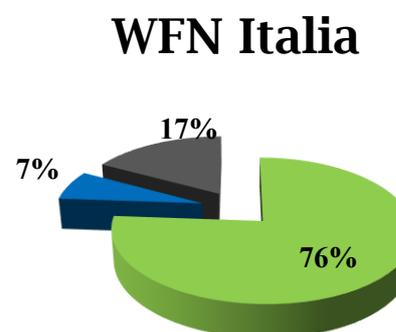
Results



WF glass (0,125 l)	WFN Italia*	Center	South	North
Green (1 water/glass)	67	73	91	117
Blu (1 water/glass)	6	1	2	1
Grey (1 water/glass)	15	0	0	0
Tot (1 water/glass)	88	74	93	118

*data from Water footprints of crops and derived crop products (1996-2005). Report 47. Appendix II

The green water is the water of Italian wine





Air



The indicator ARIA evaluates the total greenhouse gas emissions directly and indirectly related to the life cycle of a wine bottle (0.75 l).

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)
- ✓ perfluorocarbons (PFCs)

To define the contribution of the different GHG on the global warming phenomenon the international community recognize the GWP (Global Warming Potential). The GWP is the radioactive power of a kilogram (Kg) of gas accumulated in a given time lapse (usually 100 years) compared to the power accumulated, for the same time, by a kg of carbon dioxide.

The life cycle of the wine bottle includes four major phases: vineyard management; transformation of grapes into wine and bottling; distribution of bottles; refrigeration and disposal of glass (called respectively the vineyard, wine cellar, distribution and consumption).



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Why?



The agricultural sector contributes globally to approximately 13.5% of total GHG emissions

The production and distribution of wine represent the 0.08% of global GHG emissions.

Growing interest by consumers for the terms "organic, sustainability, carbon neutral or wine miles"



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Benefits



More efficiency in the production process (the possibility of energy and cost savings)

Competitiveness in an increasingly sustainable economy

Increasing awareness of the “sustainable” consumer



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Results



- ✓ 45-72% packaging;
- ✓ 13-46% distribution;
- ✓ 0.2-28% cellar;
- ✓ 0.5-18% vineyards





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Vineyard

This indicator takes into account the agronomic management practices in the vineyards, and is based on:

- ✓ **Directive 2009/128/EC** (*sustainable use of pesticides*)
- ✓ **OIV guidelines** (*CST 2008 guide*)



The use of pesticides and their effects on water bodies and soils, soil management practices, fertility and biodiversity issues.

The indicator is divided into three sections:

- ✓ **Use of plant protection products**
- ✓ **Soil**
- ✓ **Biodiversity**



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Why?

To *develop* and implement the directions of the **OIV** on the environmental risk assessment and anticipate the requirements of the new EU legislation on the sustainable use of pesticides

The *defense* of the vineyard, the management of organic matter, preventing erosion and soil compaction are integral parts of the "**Sustainable Development**" in the wine sector

To *create* a tool that can be used in all types of wine business management (Organic, Biodynamic and Integrated)



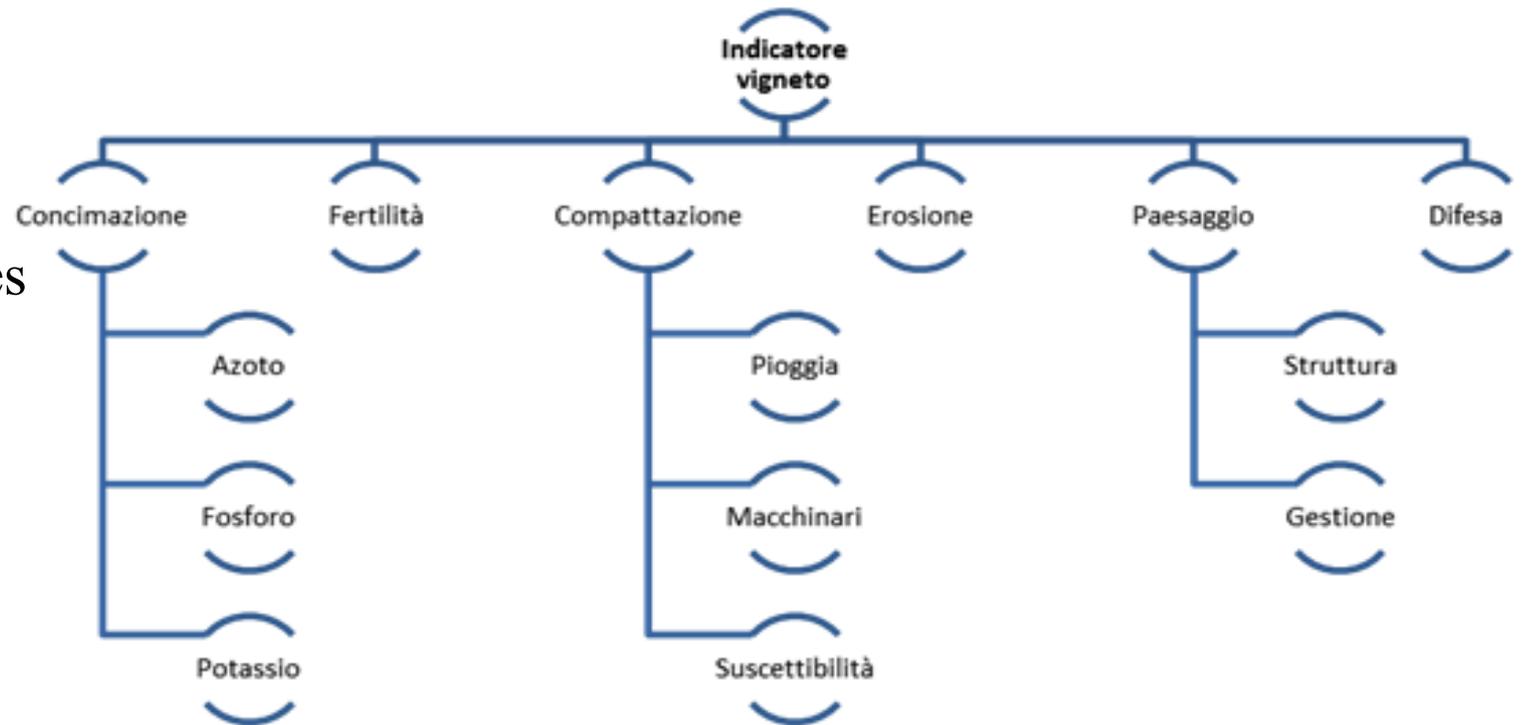


Benefits

✓ Integration of impacts due to agricultural practices

✓ Location of the point and non-point impacts

✓ Archive, traceability, transparency



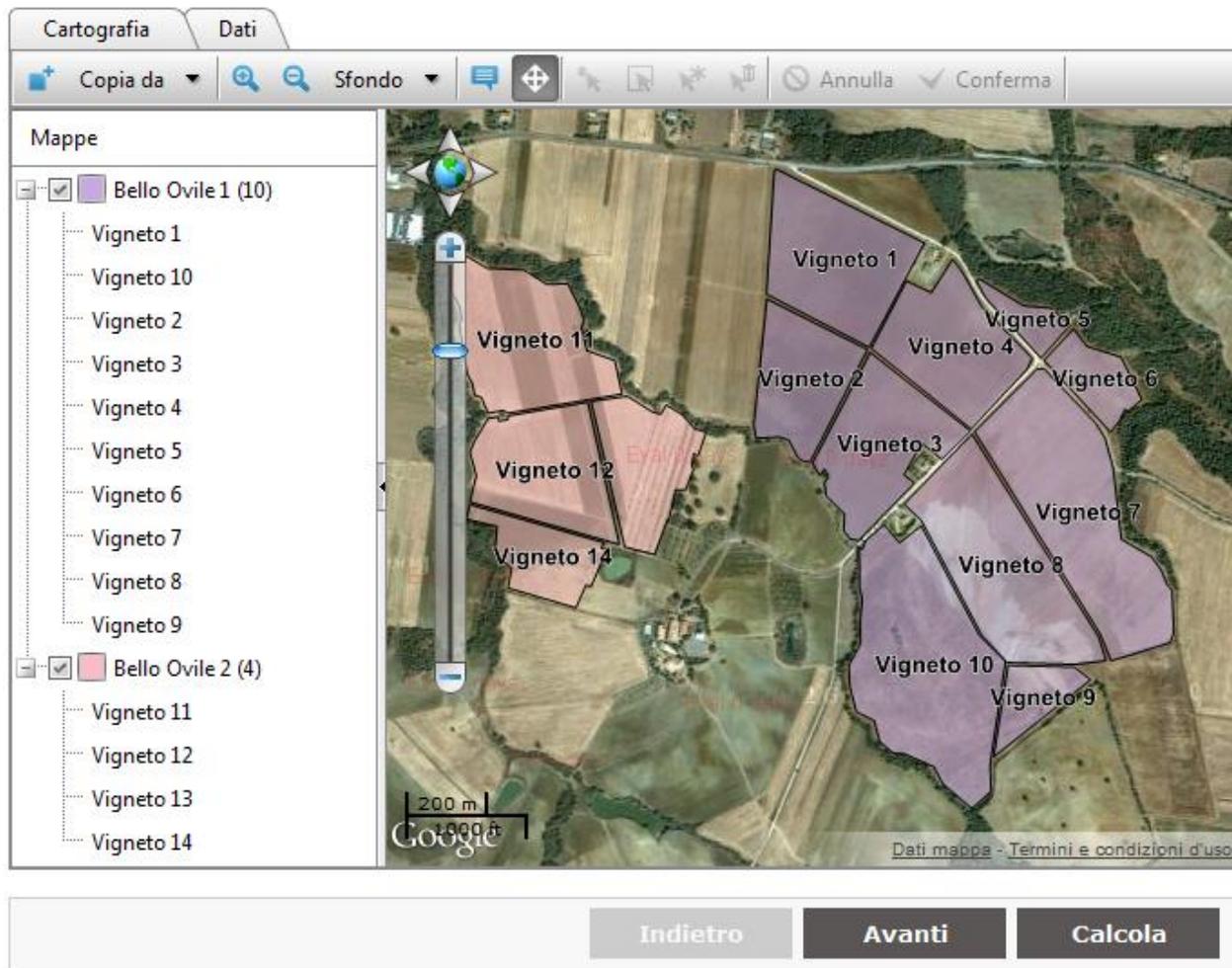


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Benefits

Indicatore Vigneto

- 1** Difesa
- 2** Concimazioni
- 3** Lavorazioni
- 4** Paesaggio



GIS Modeling



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Results

- ✓ It is possible to compare the values obtained from the individual indicators thanks to the *fuzzy method*
- ✓ The various indicators are combined to obtain the final assessment
- ✓ **A – E:** The final value is translated in a judgment of sustainability



Valutazione Complessiva

Tenuta: Mastroberardino s.p.a. [2013]



Indicatore VIVA: 0,01





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Indicators are...

A tool to give a direction to the journey toward sustainability and to measure "the distance" with respect to the starting point

It is the beginning of the improving path, that will have to be continuous in time!





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Training technicians able to implement
the proposed sustainability protocols
in the wineries



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The Project



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...for your attention and....
thanks to the working group



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