



**eco-innovation** |   
WHEN BUSINESS MEETS THE ENVIRONMENT

**PROJECT NO.**

239045

**PROJECT ACRONYM**

WINENVIRONMENT

**PROJECT TITLE**

ENVIRONMENT SAVINGS FOR VINEYARD CULTIVATION AND WINE PRODUCTION

**CIP-EIP-Eco-INNOVATION-2008****START DATE OF PROJECT:** 11 MAY 2009**DURATION:** 36 MONTHS

## D3.4 Booklets, training materials concerning the Qualenvi methodology

**DUE DATE OF DELIVERABLE:** 15 JULY 2010**ACTUAL SUBMISSION DATE:** 30 JULY 2010**ORGANISATION NAME OF LEAD CONTRACTOR FOR THIS DELIVERABLE:** EUROQUALITY

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### **PURPOSE OF THIS DOCUMENT**

This document aims to present documents and booklets needed to implement the Qualenvi method for the 15 QUALENVI demonstrations in cellars in the frame of the WINENVIRONMENT Eco Innovation project.

## 1 - INTEREST OF THE QUALENVI METHODOLOGY IN THE PROJECT

The methodology has been created to be fully adapted to wine estates. It is replicable for all kind of European wine production structure.

This is a global methodology which includes an environmental management system and system documentation. Only this environment part will be used for the Winenvironment project. That is a voluntary method which appeals every domains of activity: the vineyard, the cellar, the packaging and the marketing.

The method goes through 4 steps:

- Identify the environmental aspects specified to a cellar (work already done in Qualenvi documents)
- A specific diagnosis carried out by an expert and the person in charge of the environmental management. This diagnosis is completed thanks to an interview based on a questionnaire and a cellar visit.
- Analysis of the environmental risks; it consists in evaluating the impact of the enterprise having consequences on environment (water, soil...).
- Prioritize the different risks and define the objectives of improvement with the cellar. That is the preventive and corrective action plan (PCAP). That document plans actions, responsibilities, resources, and timescales for reaching objectives and targets.

These objectives and targets will be followed and a traceability system will be put in place in order to assess and reduce the environmental impact of the wine exploitation.

Besides, the efficiency of the Qualenvi method is also due to a group dynamic which favours the motivation and the idea exchange. In order to create this interaction within the Eco-innovation Winenvironment project, cellar tips will be shared with the others cellars in the form of a fortnightly e-letter (photos and information taken with the cellar's agreement). This e-letter written by IFV and RTD centers will also tackle environment subject so that, wine estates will be aware of their potential improvement to reduce their impact upon the environment.

## 2- QUALENGI TRAINING SESSION PROGRAMME

The training session lasts one day. That is the programme of the day:

### MORNING

- Presentation of the cellar
- Presentation of the Winenvironment method
- Presentation of the Qualengi method
- The environmental diagnosis-questionnaire
- Time to process data on the computer to give the results of the environmental diagnosis
- Visit of the cellar

### AFTERNOON

- Presentation of the environmental diagnosis results, list of the “improving points” of the cellar and choose of the actions they would like to plan to do in the cellar (Preventive and Corrective Action Plan)
- Check the traceability system to follow the cellar progress

(See the appendix for Spanish, Portuguese and Italian translation)

### 3- QUALENVI METHOD PRESENTATION


(see appendix for French translation)

Slide 1



## Slide 2


## Table of contents



- Qualenvi method
- Environmental management
- Diagnosis
- Environmental risk analysis

## Slide 3

## Qualenvi method History



In 1998, Qualenvi has been initiated to respond to:


- the evolution of needs and society expectations
- the regulations
- make known and increase the status of the independent winegrower profession

Method developed by the VIF in numerous vineyards of France: Languedoc Roussillon, PACA, Rhône Alpes, Midi Pyrénées, Aquitaine, Alsace and Champagne .

- Creation of a Quality and Environment Management System specific to the vine cultivation and wine production

## Slide 4

## Qualenvi method



Qualenvi is:


- A **voluntary** approach focused on the quality of the business organisation
- A mean to upgrade the regulation level
- A tool to improve business performance

Qualenvi = organisational tool

→ philosophy of the method : group work to promote the exchange of ideas

## Slide 5

## Qualenvi manual




Organisational procedures covering every activities from vineyard to marketing gathered in 4 managements:

- technical
- environmental
- marketing
- general

Winenvironment project → Environmental management only

## Slide 6

## Qualenvi method and Winenvironment project




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- A Qualenvi training session per cellar with :
  - a diagnosis
  - an environmental risk analysis
  - an help to put in place the action plan
- A traceability of environmental data
- A follow-up of the commitments
- A « Virtual » work group thanks to:
  - Good ideas collected on site (photos,...)
  - An e-letter (other cellars ideas, environmental news , trials progress...)
  - A presentation of the whole partners cellars
  - An anonymous situation analysis to report the progress of every cellar and group

## Slide 7

## Qualenvi method and Winenvironment project



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### Supporting plan

The aim is NOT to **control** or to **impose** new practices,

but to **explain** why some of these actions have impacts on the environment and **make known** the solutions to limit these impacts.

## Slide 8

## Environnemental management



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### Definition


Whole of organisational and technical choices integrated in the enterprise strategy, permitting to:

- Know
- Monitor
- Minimize

the activity effects upon the environment and measure the efficiency of the management.

## Slide 9

## Environnemental management



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### The 7 Key-points to master


**1- waste**

- Definition : waste = Substance or object generated during the processing of raw material and which the holder not aims to use as a commercial product

Each enterprise is responsible of waste treatment:

- either they are able to ensure that possible treatment (very rare case for the independent winegrower limited to the reuse of pallets or glass bottles)
- or they entrust the waste treatment of waste to an authorized provider (transport and waste treatment)

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**Environmental management** 

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The 7 Key-points to master

**2- Air**

3 sources of pollution identified:

- thermic installations
- cooling system (compressing installations) with gaz having impact on the air and upon the ozone layer
- transports

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**Environmental management** 


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The 7 Key-points to master

**3-Soil and subsoil**

- Soil pollution is related to water contamination and ground water
- Principle actions concerning cultural practices and everything which goes with the retention system (phytosanitary products, fuel, etc.)

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**Environmental management** 


The 7 Key-points to master

4- Water

2 aspects :

- supplying = natural resources exploitation
  - Impoverishment risk of the natural resources
  - Water network pollution risk by water return
- liquids waste = effluents = water loaded with pollutants which will have different impact depending on the pollutant type

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**Environmental management** 

The 7 Key-points to master


5- Energy

- Environmental aspects  
Energies don't have the same environmental impact: carbon footprint, natural resource, radioactive waste
- Very important economic aspects  
Natural awareness of energy in the enterprises because of the cost: determining factor of competitiveness

Difficulty: initial investments needed which depreciation made after a long time...

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**Environmental management**



The 7 Key-points to master

**6-Noise**

There are:


- the « internal » noise which involves comfort and work security
- the « outside » noise heard by the neighbourhood

- regulation: limits for night and day

- CAREFUL , there is a subjective aspect with the noise: physiological and psychological factors, attacking perception and impression can be very strong in the neighbourhood => **relational commitment** with neighbourhood = first prevention to put in place

Slide 15

**Environmental management**



The 7 Key-points to master

**7- Landscape**

- Natural environment and patrimony respect
- Landscape promotion for brand and cellar commercial image, region, Appellations
- Regulation aspects

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**Environmental management** 

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**Waste**

**By-products**

In enology, by-products means a product coming from the process recovered most of the time:

- Pomace, sediments and lees distillation
- Collect and recovery of tartaric acid crystal

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**Environmental management** 

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**Waste qualification**

**Non hazardous waste**

- coming from craft, commercial, industrial activities and household waste
- do not present any toxicity
- can be treated in the same installations than the household waste (landfill)

*Ex: wood, glass, cardboard packaging, plastic packaging...*

Slide 18

## Environmental management



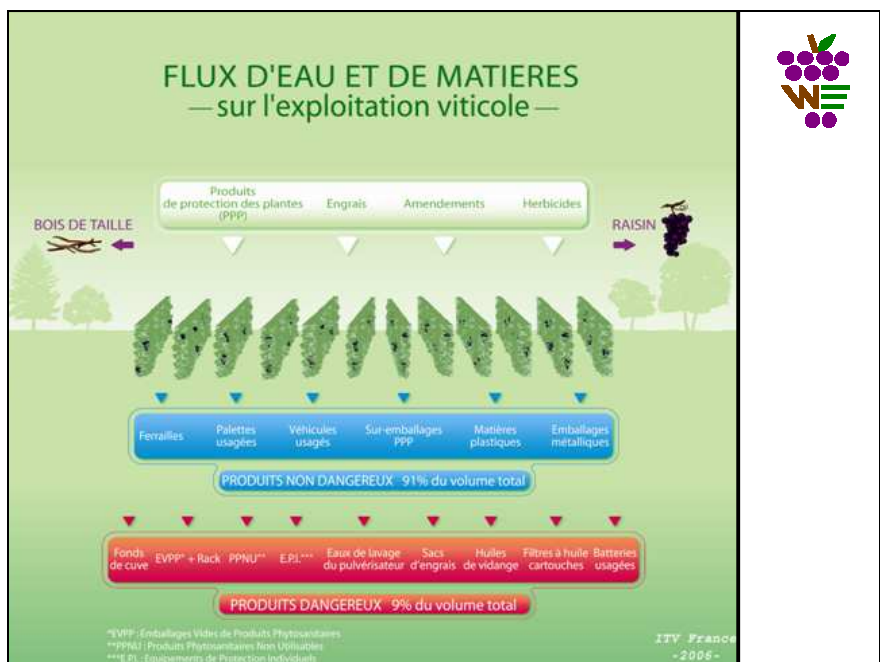
### Waste qualification

#### Hazardous waste

- poses substantial or potential threats to public health or environment
- management including the treatment, storage, and disposal of hazardous waste must follow strict requirements

*Ex: phytosanitary remainder, alkaline solutions, used oils,...*

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## Environmental management

○

### Principle waste treatment

#### Matter recovery

- **Reuse**  
New use for a similar use => paletts, empty bottles for bottling  
Or for a different use => corrugated pads for empty bottles used for full bottles
- **Recycling**  
Direct reintroduction in production cycles, replacing total or partial of a new raw material => full bottles


#### Spreading

Spreaded waste water purification by the soil-plant system

#### Composting

Decomposition of by-products organic components and waste in a stable product rich in organic compounds called compost

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**Environmental management** 

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**Energetic recovery**


Incineration with energy recovery:

- electricity production
- hot water production

**No recovery**

Landfill site  
Open air burning

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**Environmental management** 

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**Management of waste and potential impacts**

**Abandonment**

- harmful effect with the quality of the landscapes
- risk of wounds
- pollution of soils, surface and ground waters
- releases unpleasant smell

**Burning**

- unpleasant smoke
- fire hazard, burn and offence against fauna

**Discharge of wastes with municipal waste**


- disruption of the station operation
- water pollution

**Discharge of hazardous waste with the household waste**

- risk for the personnel of collection and waste treatment plant

Slide 24

## Diagnosis



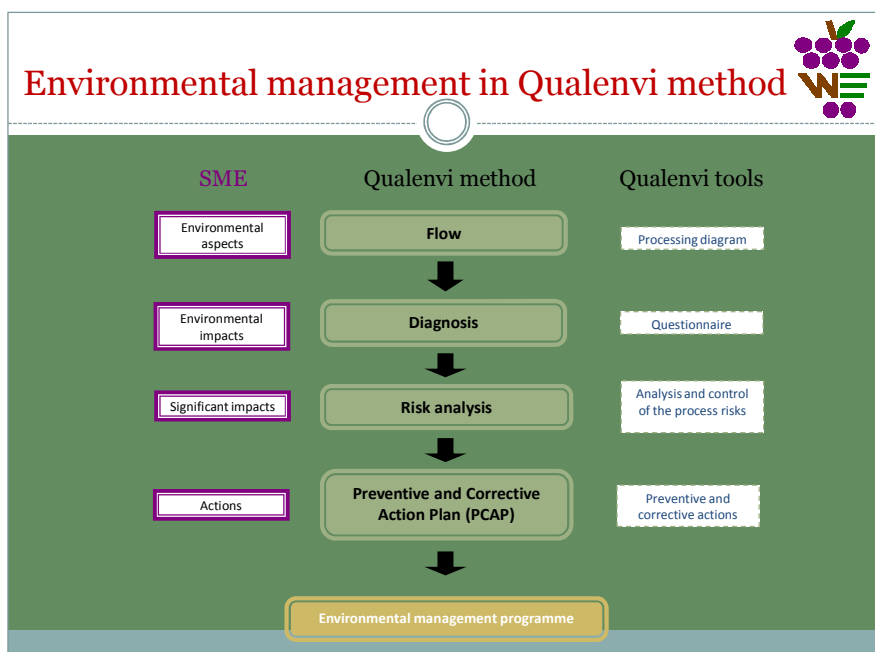
In collaboration with the person in charge of environmental protection (director and/or cellar master...)

- 1- **Interview** for 2h approximatively (questionnaire)
- 2- **Visit of the cellar** to identify more precisely possible points of improvements

**Objectives:**


- make an inventory of practices and fixtures of the cellar from an environmental point of view
- assess existing organization
- raise awareness of issues

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## Diagnosis



1- Evaluation of the receiving environment through information already requested

➔ *Few means of actions*


2- Review the environmental aspects which can change the characteristics of the natural environment in all areas of environment

- water management
- effluent management
- management of the air and the odors
- energy management
- waste management
- landscape
- management of the environment

➔ *Various means of actions*

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## Environmental risk analysis



### Significant risk analysis

"Significant impacts" scoring according to:

- **Operational control:**  
Determined by the existence of a practice, a control, a monitoring, a procedure, a recording, adapted equipment
- **Frequency:**  
Probability of appearance according to the frequency of realization of the task
- **Severity:**  
Importance of the impact and depends on the sensitivity of the site (=estimation of the vulnerability and the brittleness of reaction of the environment (ground, air, water, noise, odour, landscape))


**Threshold of significativity**

Risk regarded as:

- controlled when the value is at least equal to 0
- significant when the value is strictly lower than 0

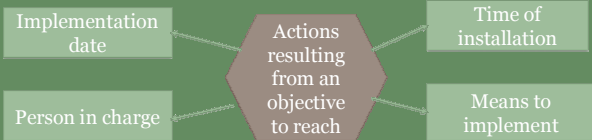
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## Environmental risk analysis



### Action plan


- Organise the risks into a hierarchy
- Choice of improvement points
- Set up an Preventive and Corrective Action Plan = PCAP



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graph TD; A[Implementation date] --- B{{Actions resulting from an objective to reach}}; C[Time of installation] --- B; D[Person in charge] --- B; E[Means to implement] --- B;
```

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## Environmental risk analysis



### Diagnosis results/ analysis

- Diagnosis report with:
  - Possible improving points
  - Strong points
  - Diagnosis mark
- Risk analysis
- Preventive and corrective action plan

#### 4- DIAGNOSIS QUESTIONNAIRE

##### 4.1- GENERAL INFORMATION



### General information

Presentation of the establishment

Name:		
Address:		
Country:		
Setting-up date:		
Company staffing:	permanent:	temporary:
Tel:	Fax:	
Email:		
Environment manager:		
Environment: Urban / Industrial / Rural area		

Last investment:
Last building:

Name of the wine produced	Annual Volume (hL)	Number of bottles produced

**Activity**

Subcontracted activities:

Activities of cellar: sale/ wine tasting /cellar visit

Harvest: Manual or mechanical

*Exploited surface:*                    *ha*

Organic viticulture surface:                    ha

Quality system/traceability/environment put in place:

Environmental politic?

Carbon footprint assessment?

**Cost**

Water cost:                    €/m<sup>3</sup>

Electricity cost:                    €/kWh

Waste management cost (/collecting company):

Waste water treatment cost:

## 4.2- ENVIRONMENTAL QUESTIONNAIRE

(See Appendix for French, Hungarian and Italian translation)



# Environmental diagnosis – Questionnaire

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In the framework of the Qualenvi method, this document is in line with the first step of the internal analysis of the business situation in relation to environment. The aim is to assess, exhaustively, the existing organization and guide the new strategy. That implication has to set up new environment respectful practices as maintaining business competitiveness to guarantee a sustainable development of the cellar. As the regulations are different in every country, this document is inspired from good practices adapted to people protection, water and environment quality conservation.

### *Table of contents*

#### **Receiving environment sensibility**

##### **Water management**

- Water resources
- Water consumption
- In the cellar

##### **Wastewater management**

- Viticultural wastewater (sprayer wastewater)
- Cellar wastewater

##### **Air and smell management**

- Polluting emission

##### **Energy management**

##### **Waste management**

- Waste identification
- Waste packaging
- Waste management chains
- Storage management

##### **Landscape**

##### **Environment management**

- Environment in the vineyard
- Responsibilities definition
- Staff awareness
- Spending related to the environment

## 5- CHECKING LIST FOR CELLAR VISIT

# Checking list for cellar visit

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### Visit in the logic way of production

#### Vine

- Phytosanitary product storage reserved for this use, closed, airy, dry and cool, non freezing
- Filling and washing sprayer area:
  - Concrete area
  - Waste water recovery system
  - Anti-return system
  - Anti-overflowing system

#### Cellar

- Pomace storage so that to avoid flow and water points pollution
- Devices to stop water at the end of hoses
- State of the soil (washability)
- Cleanliness
- Waste water collecting layed out with solid part filters
- Waste sorting well identified
- Insulation :
  - building
  - hoses
  - tanks (for tartaric stabilization at least)
- Liquid products storage (waste oil, cleaning oil, petrol, cleaning products, enological products)
  - closed
  - leaktight
  - or if flow zone existing : - retention tank
    - waste water recovery system
- Landscape integration of wastewater storage or treatment system
- Landscape integration of waste storage area
- Landscape integration of buildings

## 6- ENVIRONMENTAL RISK ANALYSIS

That is a method to identify risks which can have an impact upon the environment, and determine means to put in place to master them. That is based on the principles used to develop a HACCP system. The identification of environmental impacts is carried out for each activity and each step of this activity. The impact assessment takes into account:

- Operational control:

Determined by the existence of a practice, a control, a monitoring, a procedure, a recording, adapted equipment. This point is assessed during the diagnosis.

- Frequency:

Probability of appearance according to the frequency of realization of the task

- Severity:

Importance of the impact and depends on the sensitivity of the site. That is an estimation of the vulnerability and the brittleness of reaction of the environment (ground, air, water, noise, odour, landscape).

There is a threshold of significativity. Risk is regarded as:

- controlled when the value is at least equal to zero
- significant when the value is strictly lower than zero

**7- PREVENTIVE AND CORRECTIVE ACTION PLAN**

N°PCAP	Activity vineyard, cellar, bottling, commercial	Problem	Causes analyse (Origin of the problem)	Actions to implement ( In order to avoid the apparition of the problem)	Respons ible and Impleme ntation delay	Efficiency		
						Imple ment ation date	Effici ency Yes / No	E-Q Res pon sibl e visa
1								
2								
3								
4								
5								
6								
7								