



# Advanced systems for the enhancement of the environmental performance of WINeries in Cyprus



The WINEC project (LIFE08 ENV/CY/000455) is co-financed by the LIFE financial instrument of the European Commission and aims at identifying the major environmental problems specifically associated with the operation of wineries and establishing environmentally friendly and effective solutions in order to effectively deal with those problems.

## Beneficiaries:

- ◆ GAIA- Laboratory of Environmental Engineering, University of Cyprus
- ◆ Technical University of Crete
- ◆ RTD Talos Ltd
- ◆ S.K. Euromarket Ltd
- ◆ Department of Environment, Ministry of Agriculture, Natural Resources and Environment
- ◆ Tsiakkas Winery

Newsletter

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## WINEC PROJECT

WINEC project that will be implemented from February 2010 until October 2012 has the following objectives:

- ◆ Review of the wine industry in Europe and in Cyprus.
- ◆ Identification of all actors involved in the wine sector in Cyprus.
- ◆ Collection and recording of the legislation related to the operation of wineries (European and local).
- ◆ Identification of the main environmental impacts of the wine production process (via a questionnaire review targeting all the wineries of the country).
- ◆ Review of selected wineries in Europe that have established successful Environmental Management Systems and practices.
- ◆ Set up of an Environmental Management System by following the “EMAS-easy” approach in Tsiakkas winery.
- ◆ Set up of a pilot plant for advanced Winery WasteWater Treatment (WWWT) with the use of photocatalysis.
- ◆ Further dissemination of the project’s results through internet, relevant publications, dissemination events and encouragement of wineries for the application of environmental management practices.

## Eco-Management and Audit Scheme (EMAS)

The EU Eco-Management and Audit Scheme (EMAS) is a management tool for companies and other organizations in order to evaluate, report, improve and communicate their environmental performance.



“EMAS-easy” offers a simple and cost effective way to implement EMAS in small enterprises like wineries.



## The problem

During the **wine making process** large amounts of wastewater and solid waste are produced, the quantity and the quality of which depend on the type of wine and the production techniques that are used.

**Wastewater** is produced through the various cleaning activities during the crushing and destemming of grapes as well as the washing of fermentation tanks, barrels and other elements of equipment.

Wastewater effluents as well as **solid waste** are characterized by a high organic content and they must be appropriately treated before their final disposal or reuse. Consequently, there is an urgent need for the use of an advanced treatment process for the treatment of winery wastewater. Additional environmental problems resulting from the wine production process are related to the water, energy and natural resources consumption as well as the possible production of air emissions.

## Actions of the project

The actions of the project can be summarized as follows:

- ◆ Review and analysis of the existing situation (varieties, wine production, wine production methods, characteristics and geographic distribution of wineries, wine consumption) in Europe and in Cyprus.
- ◆ Identification of the actors involved in the wine production sector in Cyprus as well as collection and record of the existing European and Cyprus legislation that is related to the operation and management of wineries.
- ◆ Determination of the main environmental impacts that are related to the wine production processes (e.g. water and energy consumption, use of natural resources, wastewater and solid waste production). This will be implemented by the University of Cyprus through a questionnaire review targeting all the wineries of the country.
- ◆ Identification of and visit to a number of wineries that have established successful Environmental Management Systems (EMS) as well as successful environmental practices and wastewater treatment systems.
- ◆ Promotion of EMAS implementation at 'Tsiakkas' winery in Pelendri, Limassol: An environmental review will be undertaken, the objectives, actions and environmental indicators will be identified while the environmental policy of the winery will also be determined.
- ◆ Construction and operation of a pilot winery wastewater treatment plant with photocatalysis. Analysis and treatment of wastewater in order to reduce the organic content and ensure safe disposal to the environment and reuse.

## PROJECT PROGRESS

With regard to the progress of the project during the first five months, the following activities were undertaken:

### FIRST MEETING OF THE PROJECT

The WINEC kick-off meeting took place in Limassol on 22 February 2010 with the participation of all project beneficiaries. The project's Steering Committee was established and the first actions of the project were planned.

### VISIT TO TSIAKKAS WINERY

On April 28, 2010 University of Cyprus and S.K. Euromarket Ltd visited the winery premises in order to understand and discuss the issues of wastewater production volume and water consumption and better plan wastewater sampling.



### INITIAL ENVIRONMENTAL REVIEW



On May 21, 2010 University of Cyprus and RTD TALOS Ltd visited Tsiakkas Winery in order to carry out the initial environmental review. In specific, the environmental impacts of the winery were determined as related to the following: Air Pollution - Energy Consumption - Soil Pollution - Impact on society - Production of solid waste - Water consumption.



During the stage of Environmental Review a number of visits to other wineries in Cyprus also took place with the purpose of identifying their main environmental impacts resulting from their activities and processes and encourage them to implement an Environmental Management System through the "EMAS-easy" approach.

### ENVIRONMENTAL MANAGEMENT SYSTEM LAUNCH

The Environmental Management System (EMS) in Tsiakkas winery was launched on June 8, 2010 where a number of environmental objectives and actions set were discussed and agreed. The initial employee awareness training on issues related to the EMS will be conducted at the end of June 2010.

### MEETING WITH THE MONITORING TEAM OF 'LIFE' PROJECTS

On May 26, 2010 the LIFE Monitoring Team visited the WINEC project at Tsiakkas Winery premises. During this meeting the undertaken project actions were presented, while the technical and financial management of the project were also discussed.



## PROJECT BENEFICIARIES



With the  
contribution of  
the LIFE  
financial  
instrument of  
the European  
Community



## WINEC PROJECT

### CURRENT STAGE - REVIEW OF THE CURRENT SITUATION

During this stage of the project implementation, the current situation of the wine industry in Cyprus and in Europe is reviewed and recorded. This action is related to the identification of the characteristics of the wine industry, wine production in countries, wine production methods, stakeholders, relevant legislation as well as the environmental impacts related to the wine production process.

### FUTURE ACTIONS

Regarding the progress of the project the following actions are planned to take place within the next time period:

- \* The second meeting between the project beneficiaries will take place in Cyprus in **September 2010** in order to assess the progress of the project and plan next project actions.
- \* Site visits to a number of EMAS certified wineries in Europe and wineries that operate successful wastewater management systems will be conducted in **autumn 2010** with the participation of all project beneficiaries.



For further information on the WINEC project  
please visit our website:

[www.eng.ucy.ac.cy/winec](http://www.eng.ucy.ac.cy/winec)

Contact Details: Dr. Despo Fatta-Kassinou

tel: +35722892275, Email: [dfatta@ucy.ac.cy](mailto:dfatta@ucy.ac.cy)