

Project acronym

WINEC

Project title

Advanced systems for the enhancement of the environmental performance of WINERies in Cyprus

Start and end date

1/2/2010 – 31/10/2012

Funding programme

LIFE+ Environment Policy and Governance

The overarching topics the project addresses:

- 4. Waste water treatment
- 16. Irrigation
- 17. Water consumption

A short summary of the project:

Under the coordination of GAIA- Laboratory of Environmental Engineering of the University of Cyprus and with the involvement of five more beneficiaries, WINEC 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.

This will take place through the record of the current situation, relevant legislation, identification of the environmental impacts related to the operation of wineries and identification of success stories and practices of good environmental performance. An initial environmental review, set up of environmental objectives and actions and of an environmental policy will be conducted for a specific winery in Cyprus (Tsiakkas winery) and an Environmental Management System (EMS) will be created and audited. The most significant action that will take place within the framework of this EMS will be the design, construction and operation of a pilot Winery Waste Water Treatment Plant for the winery that will be followed by advanced solar-driven oxidation (SOLAR) for the polishing of the wastewater in order to ensure sustainable management and reuse. A significant part of this project is also dedicated to the dissemination and communication of the project's outcomes.

The main objectives of the project:

The project will identify the environmental impacts associated with wine production, and will set up an EMS for Tsiakkas Winery that is located to the mountain area of Cyprus. Specifically the project shall:

- Conduct an analysis of the European and Cypriot wine industries, as well as of EU and local statutory provisions relating to the operation of wineries, and identify good practice examples.
- Conduct an Environmental Analysis for wineries in Cyprus.
- Conduct a detailed Environmental Review, set up an environmental policy and establish an EMS for Tsiakkas winery.

All factsheets are available at:

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- Design, develop and construct a pilot Winery Waste Water Treatment (WWWT) plant.
- Develop mechanisms for frequent internal control and reporting of the winery's environmental performance, including the operation of the WWWT.
- Suggest solutions to overcome any constraints identified during the establishment of the EMS and WWWT.
- Develop a good practice guide for the improvement of the environmental performance of wineries, and specifications for WWWT plants, to be disseminated to a number of stakeholders, including wineries, waste water engineering companies, environmental consultants and public authorities.

Link to EU Water Policy:

1. Water Framework Directive
2. Groundwater Directive
9. Nitrates Directive
11. Urban Waste Water Directive

The project is focused to these stakeholders:

1. Non-governmental organizations
2. Research sector
3. Policy sector
4. Private sector – business
5. End users and General public

The main results the project already achieved:

- Review of the wine industry in Cyprus and in Europe.
- Report on the actors involved in the sector of wine in Cyprus including public bodies, relevant associations, committees and stakeholders from the private sector have been identified.
- Relevant legislation related to the operation of wineries in Europe and in Cyprus.
- Environmental impacts related to the wine production process as winery waste water, solid waste, air emissions, noise, water consumption, energy consumption, chemicals and environmental awareness were investigated via questionnaires.
- Identification of success stories out of site visits to a number of wineries in Italy that have implemented successful environmental practices with the participation of all beneficiaries.
- The “ecomapping” procedure has been used for the identification of the environmental hot spots of the winery. This procedure has also been applied in a number of additional wineries in Cyprus.
- The EMS in Tsiakkas winery was launched in June 2010. An Environmental Policy Statement for Tsiakkas Winery has also been prepared and signed.
- Following the initiation of the EMS the initial employee awareness training took place. This included presentations and discussion on WINEC, the EMS for Tsiakkas Winery, the “EMAS easy” approach and relevant environmental legislation.
- The first internal audit for Tsiakkas Winery took place in January 2011.

- Physical and chemical characterisations of the waste water were done. And engineering and technological parameters were developed.
- The preliminary design of the pilot winery waste water treatment plant has been completed, a membrane bioreactor (MBR) system will be followed by advanced solar oxidation (SOLAR) for the polishing of the waste water.

The main deliverables, available dissemination material and education material from the project:

- Reports on wine sector including European legislation and environmental performances.
- Documents about Environmental Action Plan and Environmental Policy statement.
- Engineering Study for waste water treatment plant (WWWT) with detailed design.
- Training material (general introductory section and specific employee training) for wineries and WWWT.
- Evaluation of the long term performance of the WWWT system
- Reports on the exploitation potential of the studied techniques.
- Best Practice Guide, also on CD.
- Technical specifications for winery wastewater treatment manual, also on CD.
- Scientific publications and press articles.
- Leaflets (at least three different series, in Greek), Layman's report, newsletters (English and Greek)
- After-LIFE Communication Plan

All these materials, apart from the press article prepared in May 2010, are available on our website in the [results page](#).

Dissemination activities and events planned within the project:

- Organisation of a workshop, in Cyprus. Until 31/10/12.
- Organisation of a Final Conference, in Cyprus. Until 31/10/12.
- A guided tour will be organised after the initiation of the EMS and the construction and operation of the pilot plant. This will take place in Tsiakkas winery until 30/9/2011
- Special meetings and/or presentations of the beneficiaries working groups with those interested in being informed on the project outcomes (whenever required).

Contacts

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Organisations in the consortium

Name of institution	Country	Type of institution	Role
University of Cyprus	CY	University	Coordinator
RTD TALOS LTD	CY	Private Sector	Associated Beneficiary
Technical University of Crete	GR	University	Associated Beneficiary
S.K. EUROMARKET Ltd	CY	Private Sector	Associated Beneficiary
Tsiakkas Winery	CY	Private Sector	Associated Beneficiary
Department of Environment (DoE) Ministry of Agriculture, Natural Resources and Environment	CY	Public Sector	Associated Beneficiary

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