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Operational Programme Italy-Malta 2007-2013

IN THIS 8TH ISSUE

Minimizing environmental impact and safeguarding land and marine ecosystems while producing energy is a challenge that can be overcome, as the research work and actions undertaken in the projects presented in this newsletter will show.
*The **Biodivalue** project has created operational instruments in support of local administrators and maritime traffic operators which are useful in limiting the damaging effects of pollution generated by industrial, commercial, fishing, and pleasure vessels in the Strait of Sicily. The **Vienergy** project has shown how the use of winery by-products is an economically viable and eco-sustainable way to produce clean energy benefiting the winery itself and finally we will see how, the Italian-Maltese research centre for environmental sustainability and renewable energy sources – set up by the **Crim-Safri** partnership project – has assisted and guided several Italian and Maltese SMEs and PAs in developing new eco-friendly products, in their use of renewable energy sources and in strengthening the Green Public Procurement strategy.*

>> SAFEGUARD THE ENVIRONMENT AND MEASURE THE LOSS IN BIODIVERSITY

Jointly limiting the harmful effects of sea traffic in the Strait of Sicily: the **BIODIVALUE** *project*

>> CLEAN ENERGY FROM THE WINERY'S BY-PRODUCTS

Study, research and innovation in producing energy "from the vine for the vineyard": the **VIENERGY** *project*

>> ENVIRONMENTAL SUSTAINABILITY AND ECONOMIC DEVELOPMENT

have hit the mark in Sicily and Malta: the **CRIM-SAFRI** *project*

Italia-Malta Programme-Cohesion Policy 2007-2013
A sea of opportunities for the future
Project part-financed by the European Union
European Regional Development Fund (ERDF)
Co-financing rate: 85% EU Funds; 15% National Funds
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BIODIVALUE

CREATING *operational instruments in support of local administrators and maritime traffic operators that are useful in limiting the negative effects caused by pollution generated by industrial, commercial, fishing and yachting traffic in the Strait of Sicily.*

The **BIODIVALUE** project's geographical reference area is the south-eastern basin of the Strait of Sicily, between the south-east coast of Sicily, the Pelagic Island archipelago, Malta, Gozo and Comino. The area has heavy sea traffic thanks to commercial exchanges between Sicily and Malta, the international sea routes that cross this are together with several fishing boats and pleasure craft.

The assorted impact on air, water, marine and coastal ecosystems create negative consequences that fall upon the coastal communities: damage associated with accidental events; the operational (not accidental) discharge of solid and liquid substances; the discharge of water used for cleaning holds and containing oily deposits; the discharge of water ballast containing animal, vegetable and bacterial species harmful to the local habitat; refuse in the land based disposal cycle generating negative external effects.

The **BIODIVALUE** project has fine-tuned a **system for measuring the biophysical risks in biodiversity loss** in the Strait of Sicily and an **economic evaluation system of the consequences effecting the coastal communities.**

More specifically, the project carried out a study and analysis of sea traffic in the Strait of Sicily, as well as the polluting emissions caused by this traffic and the biophysical consequences of these emissions on the flora, fauna, and air quality.

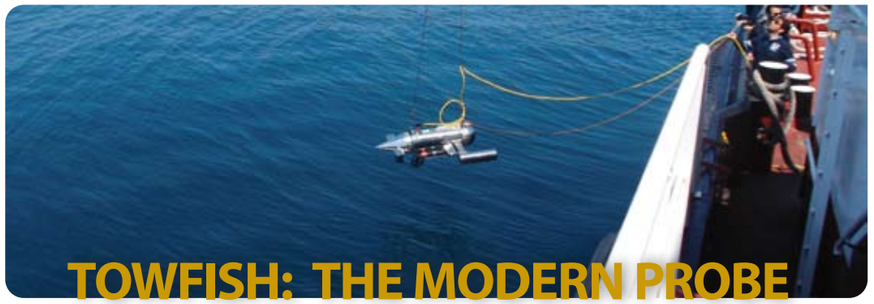
At the same time, **BIODIVALUE** carried out an economic cost assessment of the damage caused to the marine and coastal ecosystems by operational sea traffic pollution. Such instruments can sustain choices made by those involved in managing marine traffic and render efficacious the principle endorsed – though rarely applied – in international law, EU and national legislation that, « the polluter pays! »

THE PLACES - THE PARTNERS

The places: *Palermo, Siracusa, Agrigento, Catania e Malta.*

The partners: *ARPA - Agenzia Regionale per la Protezione dell'Ambiente (lead partner); Consorzio Plemmirio - Area Marina Protetta; University of Malta; ISPRA Ambiente - Istituto Superiore per la Protezione e la Ricerca Ambientale; Area marina protetta "Isole Pelagie"; Fondazione GAL Xlokk; Green Life S.c.a.r.l.; Università di Catania - Dipartimento di Ingegneria Industriale Meccanica.*

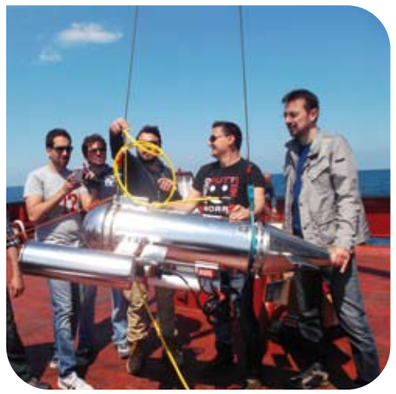
BIODIVALUE - Biodiversity and Sustainable Development in the Strait of Sicily



TOWFISH: THE MODERN PROBE THAT SEARCHES THE STRAIT OF SICILY.

*The Industrial Engineering Department, Catania University and the Department of Mechanical Engineering, Malta University jointly developed, within the **Biodivalue** project, the **towfish** probe to analyse the sea water in the Strait between Malta and Sicily.*
*The **towfish** is a UTV (Underwater Towed Vehicle) containing three oceanographic sensors: a CTD multi-parametric sensor (measuring conductivity, Temperature, Depth, Salinity and pH), a hydrocarbon sensor and a nitrate sensor.*
*The **towfish** is shaped much like an aeroplane, consisting of a a cylindrical body with a rounded front end and conical back end, two front wings, two rear stabilizers and a rear fin. Two pods house the sensors and a hook-up system attaches it to the towing cable.*

*The **towfish** sea trials have gathered information on water composition, the shape of the sea bed, man made structures, and areas of sea-bed sediment distribution.*
This information updated in real time is available to the authorities safeguarding the coastal marine environment and regulating maritime traffic (Coast Guards, port authorities, customs and excise).



Web site:
www.biodivalue.eu
Lead partner: Gaetano Valastro
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Jointly limiting the harmful effects of sea traffic in the Strait of Sicily.

viEnergy

TO REDUCE *dependence on traditional energy sources through the development of new technologies that use by-products from the production cycle of a winery.*

The scenario in which **VIENERGY** moves is that of excellence in wine production, innovation, and environmental protection.
Through applied research the project has demonstrated that it is possible to attain energy efficiency from the vineyard and create alterative earnings through the use of leftover biomass.
In this regard, **VIENERGY**'s experimental model proposes a new approach focusing on sustainability and innovation throughout the whole production chain, whilst also reducing polluting emissions.
The effective use of potential energy production from vine pruning and vinification material (marc), but also the phytotreatment of oenological water for irrigation and experimenting an additive of agricultural origin for the production of e-diesel and its use in public-service vehicles was heavily researched and encouraged through this project.
Through the involvement of different actors in the viniculture industry – **VIENERGY** has put forward a range of solutions that have reduced the environmental impact of wine production and valorised business choices in adopting and maintaining over time the useful innovations while improving vineyard environmental sustainability levels on both islands.

THE PLACES: Palermo, Catania, Trapani, Malta.
THE PARTNERS: IRVO - Istituto Regionale del Vino e dell'Olio (lead partner); CoRiSSIA - Consorzio di Ricerca per lo Sviluppo di Sistemi Innovativi Agroambientali; CSEI Catania - Centro studi di Economia applicata all'Ingegneria; ABE srl - Alternative Bio Energy; MSDEC - Ministry for Sustainable, Development, the Environment and Climate Change; University of Malta.

THE BUSKETT CENTRE

VIENERGY has created a permanent information centre – for disseminating the project's results and for raising awareness with the general publicand among local producers on energy saving and production methods in viniculture – by renovating a historical farmhouse known as ir-Razzett Tal-Ghorof *in Buskett near the Oenological and Vineyard Research Centre (in the 19th c. it had already been a school for agricultural good practices).*

The building has been set up as an education and information centre on alternative energy in agriculture, the use of by-products for energy production, the reutilization of waste water and the exploitation of carbon dioxide deriving from the fermentation process.

VIENERGY - Vine Energy

Web site:
www.progettovienergy.eu
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From the vineyard to the vineyard: a new track to produce energy and added value.

CLEAN ENERGY... YOU GROW IT, YOU COMPACT IT, YOU USE IT.

*The **VIENERGY** project has demonstrated that **the use of vine and wine by-products** represent a **source of alternative income** for vineyards and wineries. It has also demonstrated the possibility of processing by-products from the winery **to produce "clean" fuel for public use.***

*As regards alternative income, the VIENERGY project has identified the possibility and effectiveness of **extracting polyphenols** from by-products of some local and international grape varieties cultivated in Sicily and Malta for **their use in the pharmaceutical, cosmetic and nutraceutics industry.** Furthermore, the use of photo bioreactors in the winery has shown that it is possible **to convert the CO_2** produced in the working process into algae mass, that is, a product that the pharmaceutical, cosmetic and food industries are interested in. Lastly, through a process of capturing the CO_2 produced in the winery, Vienergy has shown the possibility of using it for the production of carbonates and bicarbonates to be used in drinking water and as a fizzy soft drink additive or even in the **food industry.***
*With regards to the public sector, Vienergy experimented a mix of ethanol and diesel with a specially developed ad hoc vegetable additive. The project worked closely with the European Commission's **Joint Research Centre** and tested the **fuel mixture in bus engines** both in Sicily and Malta. The JRC installed devices measuring emissions and engine performance. The trial results show that it was possible **to reduce exhaust particulate emissions** by up to 30% and this could, in an urban context, considerably improve air quality.*

CRIM SAFRI
Programma di Cooperazione Transfrontaliera Italia-Malta 2007-2013

CRIM-SAFRI - Setting up an Italian-Maltese Research Centre for environmental sustainability and renewable energy sources

BUILDING TOGETHER AN ENVIRONMENTALLY FRIENDLY COMPETITIVENESS.

Environmental sustainability and economic development have hit the mark in Sicily and Malta.

Web site:
www.crim-safri.eu
Lead partner: Regione Siciliana - Assessorato del Territorio e Ambiente - Dipartimento di Urbanistica
contact@crim-safri.it

THE SETTING UP *of a research centre studying sustainable environmental policy and renewable energy sources to assist Small, Medium Enterprises and Public Administrations in Sicily and Malta.*

Present-day European policy aims at reducing greenhouse gases, increasing energy efficiency, using renewable energy sources and reducing the environmental impact of products and services to steer markets towards greener solutions and, at the same time, improve business competitiveness.
The demand for low environmental impact products and services represents for the European Union an opportunity to define a new green economy, stimulating both the use of renewable energy sources and improving energy saving and efficiency.
The SMEs and PAs are priority sectors for the spread of innovative products and services, for improving energy and environmental efficiency, for the reduction in energy demand and the exploitation of technologies fed by renewable sources.
In this context, **CRIM-SAFRI** – with offices both in Agrigento and Malta – is among the very first in the Mediterranean to pioneer a support centre for SMEs and PAs to carry out environmentally friendly production and consumer strategies.
The activities addressed private enterprises with the aim to develop new greener products, exploit renewable energy sources, and green design, as well as support them along the road to obtaining environmental certifications.
As regards the role of advisor to the PA, the project partnership defined the *Green Public Procurement* strategies and two Sicilian town councils and two Maltese public bodies were chosen to introduce green criteria in competitive public tender bidding, in accordance with EU directives.

Furthermore, action was taken in the energy re-qualification of public buildings and systems for environmental and energy management was implemented.

THE PLACES - THE PARTNERS

The places: *Palermo, Catania, Agrigento e Malta.*

The partners: *Assessorato del Territorio e Ambiente - Dipartimento di Urbanistica (lead partner); Università di Palermo - Dipartimento dell'Energia; CNR IBIM - Consiglio Nazionale delle Ricerche Istituto di Biomedicina ed Immunologia Molecolare "Alberto Monroy"; Assessorato dei Beni Culturali e dell'Identità Siciliana; CCIAA - Camera di Commercio Industria Artigianato Agricoltura di Agrigento; MCAST - Malta College of Arts, Science and Technology; Med.O.R.O. - Organizzazione per la ricerca, l'occupazione e lo sviluppo territoriale nel Mediterraneo; MIEMA - Malta Intelligent Energy Management Agency.*

*The **CRIM-SAFRI** project mainly targeted the building sector which represents the industry with the highest environmental impact in Europe, and the project's work will produce a positive fall-out on the environment by reducing the emission of polluting substances, increasing efficiency in the use of resources, and increasing the use of renewable resources in place of those non-renewable.*
Those companies involved in the project will benefit directly through developing their expertise and gaining know how that will allow them to build at a lower cost with less environmental impact so as to better compete in a market increasingly characterized by a growing demand for greener products and services.
The companies not involved directly in the project will, however, be able to use the results attained as their dissemination is already taking place so as to develop sustainable models of production and consumption in the building sector.
Furthermore, having developed the project in two different territories allowed the creation of an interface between the public bodies in Sicily and Malta who sought to pool resources and appraise the exchange of ideas, skills and experiences.
The activities carried out together with the local councils has caused a big push towards growth in the eco-friendly building market that fits in the European economic context, increasingly directed toward the green economy and environmentally friendly solutions decarbonising the building industry.