ECOLAND News

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One stop shop and environmentally equipped industrial area

The Province of Ferrara, as part of the development and implementation of the Ecoland Project, is examining a series of new procedures to simplify the introduction of new businesses to environmentally equipped industrial areas. One such procedure involves One Stop Shops, i.e. local public offices that assist the formation of "Single Management Structures" and SME settlement within industrial areas.

The permit and preliminary documentation issued by One Stop Shop to the Single Management Structure should include:

1) Urban planning measures
2) Authorisation for water dischar ge and waste water treatment
3) Authorisation for waste disposal and recycling
4) Monitoring and preventative measures for possible industrial accidents

The initial evaluation highlighted that the One Stop Shop permit procedure, through which licences were issued to the Single Management Structure, required particular improvements.
More innovative procedures aimed at individual enterprises, resulted in envisaging the creation of a

Conference for Project Services. This would consist of a collaboration between a One Stop Shop, a Single Management Structure and innovative third-party institutions. The Members of the Conference for Project Services would analyse each application and decide if it was possible to issue a permit pertaining to their specific area of responsibility. This would allow them to exchange views on the issuing of permits and speed up the entire process considerably. As a theoretical model, its feasibility would need to be assessed as each project was being drafted.

This would include the following aims:

1)Accelerating the settlement of enterprises with "simple structures". Permits issued by the Single Management Authority would not be required by each individual settlement.
2)Procedural simplification and form standardisation for "Single authorisations" issued to individual enterprises.
3)Reinforcement of the One Stop Shop network in the northern Province of Ferrara and the strengthening of relationships with other institutions.

In September 2004, the Region Emilia Romagna presented the Final Draft Regulation for Integrated Environmental Authorisation (IEA). This identifies many different kinds of enterprises that should adhere to the IEA. A significant effort will be required to obtain a single environmental permit which would include all the following individual authorisations:

a)Authorisation for emissions - Art. 6, 12, 15, e 17 of D.P.R. 203/88 and Art. 122 of L.R. 3/99;
b)**Authorisation for water discharge in surface and underground water**- Art. 45 and 46 D.Lgs. 152/99 and Art. 111 L.R. n. 3/99;
c)**Authorisation for water discharge in the sewerage system** - Art. 45 and 46 D.Lgs. 152/99 and art. 111 L.R. n. 3/99;
d)**Authorisation for the creation or conversion of waste disposal or recycling plants**- Art. 27 and 29 D.Lgs. 22/97 and art. 131 and 132 L:R: 3/99;
e)**Authorisation for waste disposal and recycling operations** - Art. 28 and 29 D.Lgs. 22/97 and art. 131 e 132 L:R: 3/99;
f)**Authorisation for the disposal**

on the ground of liquid waste from zootechnical enterprises- Art. 3, 4, 5, 5 a, 6, 12, 13, 14 and 14 a L.R. 50/95.

Due to this new law, the SMSs will adhere to a completely different procedure.

In order to adapt the project to this new legal framework, the Province of Ferrara has pursued two routes as follows:

1)In co-operation with the department of the Environment of the Province of Ferrara, it has studied possible amendments to the IEA, while establishing a common simplified procedure (this amendment was then approved by the Region and allows the provision of One Stop Shop through IEA).

2)To implement a preliminary inquiry conference in which each public body involved can express its own aspirations.

This simplification allows all preliminary procedures to be included into one single settlement procedure, consequently streamlining and accelerating the entire process. In the meantime, the Province of Ferrara is refining a draft procedure, proposed by the Provincial Department of the Environment, to improve dialogue among all the institutions involved in the IEA procedure.

A final IEA procedure, including all relevant forms, should be created in co-operation with the Department of the Environment of the Province of Ferrara. In addition, it will be considered an opportunity to allow institutions and/or offices, that are not directly responsible for issuing permits included in the IEA but which are involved in setting up new enterprises, such as the Town Planning Department or the Fire Brigade, to become involved in the preliminary inquiry conference. This would expand the dialogue between all institutions involved in the general settlement procedure, consequently avoiding further applications and accelerating the complete process.

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The industrial area of Pomarance used as a pilot study to plan Technological and Environmental Equipped industrial Areas (TEEAs)

This traditionally geothermal area is inhabited by several small towns and contributes, quite substantially, to the energy requirements of the region.
Italian law favours the use of geothermal energy sources due to its reduction in the unit cost of the energy extracted, to practically zero levels. Also new techniques used, to return the geothermal steam to the shafts, yields a closed cycle, resulting in the recycling of the entire geothermal fluid. In addition, the new AMIS machinery used by ENEL (Italian agency for the production of energy) allows a reduction of up to 98% of the gases dispersed in the area during the production process for the extraction-utilisation of geothermal steam.
So the introduction of technological innovations has resulted in the closure of the extraction-utilisation-reinjection cycle of geothermal steam, rendering it a self-sufficient, renewable energy source, while also providing assurances that the entire process doesn't produce climate-altering emissions.

Geothermal steam is also economically efficient, not only in relation to unit cost, but also due to its versatile nature because it functions as both a heat and cold source generator. It therefore represents a real potential for entrepreneurial development and more generally, for qualitative growth in the social, economic and environmental framework according to technological trajectory linked to stringent sustainability criteria. Geothermal power may be used as follows; for civil use, production use, to develop heat and to supply refrigeration plants, to eradicate climate-altering emissions and as an energy source, but above all in the technological innovations on the length of the steam ducts and on the environmentalisation of these and the extraction shafts. Geothermal power is perceived as an ancient source of energy production, this is the centenary of the lighting of the first "geothermal lamp" (1904-2004), but it should also be considered a modern research resource, for the purpose of improving its use and reducing its visual impact.

The municipality of Pomarance is located in the geothermal territory of Tuscany. Eight municipalities local to this geothermal territory (together with the technical instrument for economic development that is the consortium for the geothermal development, COSVIG), on November 2004, agreed with the Tuscany region to create a district for renewable and alternative energy sources. The main aim of this project is to define an economic development model that, through applied research, technological transfer and territorial marketing will improve renewable energy source applications for production processes throughout this territory. The application of renewable energy sources to the socio-economic and productive system of the entire area would enable the creation of a solid economic structure thus demonstrating that environmental criteria, eco-sustainability and economic development are compatible. Territorial marketing permits would encourage sustainable development in the region and attract experienced private enterprise to strengthen the economic structure of the area.

The municipality of Pomarance is preparing a Structural Plan to create new industrial areas (PIP). These regions will benefit from a geothermal energy source. The PIP of Pomarance will be analysed, through the Life Cycle Assessment (LCA) and the Global Energetic Analysis (GEA). These procedures aim to identify environmental parameters and indicators which would define the productive area as an "Environmental Equipped Area".

Advanced instruments of analysis like LCA and GEA will highlight environmental and energetic weaknesses of production processes, consistent with development policies of the "district of alternative and renewable energy" and in addition, the possibility to identify technical methods and technology to transcend weaknesses in this process.

Finally, this area represents an attempt to demonstrate the possibility of setting up a pilot development system, completely sustainable in environmental and socio-economic terms and with an ability to attract competent entrepreneurs to this new district and the municipality of Pomarance as a whole.

Establishing an Environmental Management Network Solution for Small to Medium size Enterprises (SMEs) within the Shannon (Mid-West) Region with the objective of developing an Eco-Industrial Park

Description: The research question that will be answered by this project is 'How do we solve problems faced by SMEs in implementing innovative management and technological innovations to improve environmental performance based in the principles of industrial ecology?' SMEs are important sources of growth and employment in Ireland and the EU. However, they exert quite significant impacts on the environment. It is estimated that in total SMEs are responsible for 70% of all industrial pollution across the EU and provide two thirds of the 122 million jobs in private enterprises. The promotion of an environmental management system (EMS), whether formal or adapted in character, may help address these impacts while also improving the socio-economic performance of the companies. However, the performance of individual SMEs in relation to sustainable development can be further enhanced by analysing opportunities for network solutions to environmental and socio-economic problems. Clusters of SMEs can integrate either vertically (along the supply chain) or horizontally (by geographic area) to identify opportunities and synergies for developing an Eco-industrial park. To date, there has been significant interest in this research with 15 SMEs formally committing to this project, all located in the Shannon region and such a research project is unique in Ireland. Researchers will work with the SMEs to establish a plan for an Eco-industrial park in the Shannon Region to initiate operationalisation. Eco-industrial development is a sub-set of sustainable development in which the critical elements of the cluster's interactions amongst its members, the community as well as policy makers, are explored and optimised. Eco-Industrial development is characterised by closely co-operating manufacturing and service industries working together to improve their environmental and socio-economic performance by improving their energy, resource use and waste disposal efficiency through identification of options for reuse, recycling or regenerative reuse of resources across areas of integrity. This may be as simple as identifying one SMEs waste which could be used as a raw material by another business, or as complex as rethinking the transport and supply logistics for the entire cluster to,

for example, implement common transport for raw materials and products or establish car pooling amongst employees. Each would reduce environmental impacts while having significant socio-economic benefits. This research will identify the 'push' and 'pull' factors that influence this type of development in Ireland using case studies such as Kalundborg, Denmark and Styria, Austria as bench marks for best practice. Co-operation from SMEs, researchers, community groups and policy makers is necessary for this project to be successful and commitment has been secured; SMEs approached the University of Limerick for help with this project. This research is particularly timely, as the EU Best Project on Public Policy Initiatives to Promote the Uptake of EMSs by SMEs has just been published.

Methodology:

•Set up a Steering Group for the project with representatives from the SMEs, policy makers, local community groups and researchers.

•Conduct environmental (energy, waste, etc.) audits of collaborating companies with a view to creating an environmental checklist for these companies. SMEs are providing access to privileged information and their premises for this research.

•Using the principles of Industrial Ecology and Process Integration identify synergies between collaborating SMEs which would result in enhancing the environmental performance of the companies while identifying and targeting opportunities for socio-economic benefits.

•Provide 6-monthly reports to the individual SMEs on opportunities to highlight areas for possible improvements and cost savings and to the Steering Group regarding the progress of the SME-UL linkage programme.

•Develop a framework for the development of an eco-industrial park which would minimise environmental impacts, improve resource use efficiency and maximise socio-economic benefits.

•Develop a plan for accreditation (individual and group) to formal EMSs, environmental reporting and benchmarking.

•Develop and publish a 'Blueprint for Sustainable Development in SME Clusters' for use by other groups of SMEs in Ireland and across the EU.

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An Innovative Region in Hungary

In the beginning of 2003, when the prospect of implementing the project "EcolAND" was raised, a Hungarian member, the South Transdanubian Regional Development Agency was also involved in the preparatory works. Later, during the first year of the project's implementation, the Agency acted as an observer partner; but since September 2004, due to grant-aid obtained from the INTERREG IIIC Phase Project Fund, the Hungarians finally became active EcolAND project partners.

The South Transdanubian Regional Development Agency represents the South-West Hungarian region: South Transdanubia. The region comprises of an area of 14 thousand km2 with 993,000 inhabitants. The area itself concentrates primarily on agriculture and tourist based activities, however, several newly established industrial parks are also now located throughout 17 areas in the region. Although there are some modern entrepreneurial sites in existence, a large number of poorly equipped areas, from an environmental and technological perspective, are still present. This is partly as a legacy to the socialist economy era and also due, in some measure, to recently established inadequate facilities. Assisting the SME sector in Hungary is currently at an introductory stage and the attraction of investors by local municipalities, to support industrial parks, has only recently become a common development tool. The results of this strategy may only become evident over a 7-10 year timeframe.

South Transdanubia promotes itself as an environmentally aware region. In mid 2004, a Regional Innovations Strategy was completed by the Agency and its external experts. (More information: www.ris.ddrft.hu). This strategy stressed the role of the environment in industry, as well as the further establishment of environmentally and technically well-equipped industrial sites. Our participation in the EcolAND project will serve as a useful tool to develop further in this direction.

The main objective of the Hungarian partner's project part is to reveal the need for environmental services in the SME sector. As part of this aim, an eco-mapping tool will be used within 100 SMEs throughout South Transdanubia. Eco-mapping involves scanning environmental impacts, problems and practices within SMEs of all types, but primarily those in the production and service sectors. It is a participatory process which involves a hands-on approach, systematically accumulating useful environmental information from an industrial location. A variety of maps (water, energy, air, soil, noise, waste) provide a useful multi-layer set of graphical information which in turn assists the creation of environmental action programs. The tool itself is widely known and has been further enhanced by the Belgian founder Werner Engel. To fully complete the project, two Hungarian project partners will be involved: the R-Quality Kht. and the KÖVET-INEM Hungária (Hungarian Association for Environmentally Aware Management), whose experts have previous experience in eco-mapping.

The first phase of the project involves the development of the methodology. The training will then commence and enable mapping to be conducted. Those mapping experts will be delegated by STRDA and R-Quality, while training will be carried out by KÖVET-INEM Hungária. Meanwhile, a promotional campaign will be organised, to overcome the resistance of SMEs towards eco-mapping. To complete this process, an SME will be provided with assistance in obtaining EMAS certification, thus enhancing its competitiveness throughout the domestic and international markets.

The Hungarian project launch was held at the end of October 2004. Partner representatives agreed on a work-flow and the realisation, including the elaboration of the methodology, commenced at the end of November 2004.

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