

Sustainable Construction in Public and Private Works through IPP approach



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Software towards sustainable construction

SUSCON is a LIFE – Environment project (LIFE 05 ENV/GR/000235) aiming at the adoption and application of “sustainable construction” concept in the practices of construction industries, engineering consulting companies which draft technical specification of civil works, public authorities which issue technical tenders, suppliers of construction materials and other stakeholders involved in this field.

Project Partners:

- National Technical University of Athens (School of Chemical Engineering)
- EDRASIS C. PSALLIDAS S.A.
- EPTA Ltd. – Environmental Consultants Engineers
- University of Cyprus (Department of Civil and Environmental Engineering)
- CYBARCO Ltd.
- Technical Chamber of Cyprus



In the framework of the SUSCON project, a software tool has been developed in order to evaluate the environmental performance of construction works. The tool is designed in a way that it can be easily adapted to the specific environmental, social and economic status of the construction area.

The assessment is based on two main axes: the Environmental and the Economic. The Environmental axis is divided into five main environmental issues, which implicate Natural Resources (divided into Land use, Energy efficiency, Material Resources efficiency and Water conservation) and Health & Safety which enters the sphere of Social Performance of a building. Economic Performance is defined by five main parameters as well, which include the contribution to the Local Economy, the Efficiency, the Adaptability, the Operational Costs and the Capital Costs.

Having defined the axes and criteria that evaluate the environmental performance and economical feasibility of a building, a need emerges for determining the significance of each criterion. In order to weigh the environmental criteria within the tool, the parameters of spatial scale, duration of effects and intensity of the effects have been selected. Each parameter is defined within a scale of 3 levels. In the case of the economic performance criteria, the weights are assigned by the user himself, based mainly on the goals he wishes to set.

The performance is presented through six axes (5 for environmental performance and 1 for economic performance) and is automatically compared to the maximum available scores. In this way the user can decide whether the results are satisfactory, and if not reconfigure the weights, the design or the goals set.

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Editorial

The Directive 2002/91 for the energy performance of buildings aims to improve the performance of the buildings within the E.U., setting the framework for the development of National methodologies of calculation of the integrated energy performance of buildings. According to the Directive, the member-states must develop an energy performance certificate scheme, a gradation of the energy performance (A, B, C..), the level of energy performance that new buildings must comply with etc. The member-states had to transpose the Directive in their National legislations by January 4th, 2006. However, in Greece the transposition procedure is not yet finalized and Greece might face a conviction by the European Court, as well as a financial penalty, until the necessary laws, regulations and administrative provisions are brought into force, so that the National legislation complies with the Directive's requirements.



Cypriot Competition for Sustainable Construction

In Cyprus, the competition commencement was announced on November 1st, 2007 and the submission deadline was set for January 18, 2008.

The project categories included in the competition are: Building and Infrastructure works. The final criteria dimensions for the Sustainable Building Award are: Environment Dimension, Energy Dimension, Social Dimension, Economic Dimension and Unified Design Dimension.

Criteria dimensions for the Sustainable Infrastructure Work Award include: Environment Dimension, Energy Dimension, Social Dimension, Economic Dimension, Aesthetics and Setting Dimension, and Innovation Dimension.

In support of the competition, funding will be provided by the following sponsors: the Electricity Authority of Cyprus, the Cyprus Telecommunication Authority, the Renewable Energy Sources and Energy Conservation Special Fund of the Ministry of Commerce, Industry and Tourism and Cybarco PLC.

The Sustainable Construction Competition Assessment Committee is comprised of representatives from Cyprus Environment Service, Energy Service of the Ministry of Commerce, Industry and Tourism, Department of Public Works, Department of Civil and Environmental Engineering from the University of Cyprus, Programme of Architecture from the University of Cyprus, Scientific and Technical Chamber of Cyprus, Cyprus Association of Civil Engineers, Cyprus Association of Architects and Cyprus Civil Engineers and Architects Association.



Greek Competition for Sustainable Construction



Regarding the Greek Competition, the following actions have been realized:

In Greece, the sustainable construction competition has been succeeded to get integrated in the Hellenic Business Awards for the Environment, which are organized by the Greek Association of Environmental Protection Companies (PA.S.E.P.PE). The effort of the Greek partners to combine the two competitions focused on ensuring a wider publicity for the SUSCON initiative and establishing a permanent award category in the Greek Awards for the Environment, called "Sustainable Construction".

The construction project sub-categories included in the competition are: Building and Road construction.

The criteria for the Sustainable Building Award are environmental benefit (such as use of sustainable and environmental friendly construction materials), energy efficiency (e.g. use of bioclimatic principles and RES), social benefit (e.g. satisfaction of operational needs of the users), financial benefit (e.g. reduced operation and maintenance costs), aesthetics and planning (such as rehabilitation of construction site).

Criteria for the Sustainable Road Award include environmental benefit (e.g. use of recycled material), social benefit (e.g. health and safety of workers, ensuring high level of road safety), financial benefit (such as increased lifetime of the project), aesthetics and planning, and innovation.



The competition commencement was announced on October 9th, 2007 and the submission deadline was set for December 10th, 2007. In the end of the submission deadline, an extension was given until February 15th, 2008 for the building sub-category.

The SUSCON initiative attracted the interest of the European Commission DG for Environment. For this reason a meeting was organized in September 2007 by DG for Environment in order to discuss the possible introduction of sustainable construction in the European Business Awards for the Environment (EBAE).

The meeting took place in Brussels and a representative of the SUSCON consortium was invited to present the experience regarding development of criteria for sustainable construction competition in Greece. The meeting was also attended by members of the Steering Committee for the European Business Awards for the Environment and representatives from DG Transport & Energy and DG Enterprise & Industry.

The SUSCON initiative and the minutes of the meeting that was held in Brussels were further discussed in the annual meeting of the Steering Committee for the EBAE that was held in December 2007 in Sweden. There it was decided that the sustainable construction category should be first tested at national level with the voluntary support of the National Coordinators, before discussing its introduction in the European scheme, depending on the results and the experience gained.

Future Actions

The action plan of the project for the next months includes many actions, among which are the following:

Award Ceremony

The Award Ceremony of both the Greek and Cypriot Competitions will take place in May 2008. In Greece, the Ceremony for the Greek Awards for the Environment, in which the sustainable construction category is included, will be held in Athens Music Hall. The awarding in Cyprus will be combined with the organization of a one-day informational event around the project activities.

Advisory Board Meeting

The Advisory Board Meeting in both countries will take place in March 2008 (third meeting for Greece and fourth for Cyprus), in order to discuss the structure and results of the software for the assessment of buildings' environmental performance. The recommendations regarding national institutional arrangements will also be discussed.

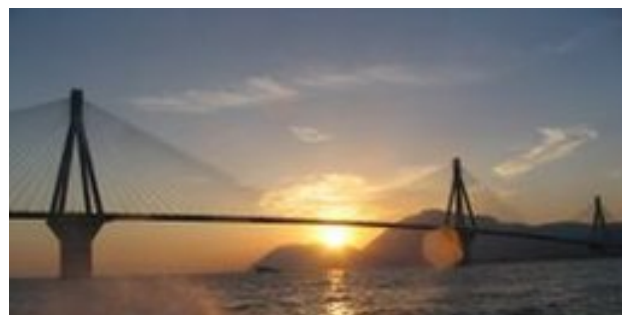
Project Meeting

The fourth project meeting between the project partners will be held in Cyprus in February 2008 in order to discuss the progress of the project and the actions that will be taken.

Pilot application of the software

The two construction companies involved in the project, EDRASIS and CYBARCO, will apply the software developed to construction projects of their choice. The results from the pilot application will comprise the basis for further revision of the tool. Furthermore, the two construction projects will be assessed with regard to their environmental performance and useful results will arise for corrective actions that should be implemented by the companies.

Following the amendments that will be taken through the pilot application, the software will be disseminated to the construction sector of both countries.



For more information, you can visit the project website:

www.uest.gr/suscon/

