



**Sustainable Construction in Public and Private Works
through IPP approach**

Minutes of the First Advisory Board Meeting held in Nicosia
on the 13th of April 2006



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1. Organisation

The meeting was organised by the University of Cyprus and it was held in amphitheatre ΧΩΔ 01-109 at the new campus of the University.

2. Participants

SUSCON PARTNERS

Organisation	Participants
University of Cyprus (organiser)	Dr. Despo Fatta Dr. Ioannis Ioannou Mr. Marios Avraamides Ms. Margarita Vatyliotou Mr. Yiangos Papanastasiou
Cybarco (partner)	Mr. Takis Palekyhritis
Cyprus Scientific and Technical Chamber - ETEK (partner)	Mr. Linos Chrysostomou

ADVISORY BOARD MEMBERS

No	Organisation	Participants
1	Federation of the Building Contractors Associations of Cyprus	Mr. Nikos Kelepehis
2	Cyprus Association of Mechanical Engineers	Mr. Sotiris Konstantinou
3	Cyprus Association of Mechanical Engineers	Mr. Kiriakos Tsiiftes
4	Cyprus Association of Architects	Mr. Christos Theodorou
5	University of Cyprus, Department of Civil and Environmental Engineering	Mr. Ioannis Ioannou
6	Cyprus Energy Regulatory Authority (CERA)	Mr. Panayiotis Keliris
7	Public Works Department	Mr. Stelios Kallis

	(Tenders and Contracts Section)	
8	Public Works Department (Buildings Section)	Ms. Stella Fylaktidi
9	Union of Cyprus Municipalities	Ms. Sotiria Kokkinou
10	Cyprus Scientific and Technical Chamber	Mr. Linos Chrysostomou
11	Cyprus Association of Limestone Aggregate Producers	Mr. Ioannis Kyriakides
12	Ministry of Agriculture, Natural Resources and Environment (Environment Service)	Ms. Ioanna Konstantinidou
13	Union of Cyprus Municipalities	Mr. Aris Konstantinou
14	Geological Survey Department	Dr. Polis Michaelides
15	Cyprus Association of Civil Engineers	Mr. Panikos Nikolaidis
16	Ministry of Education and Culture (Technical Services)	Mr. Andreas Pattichi
17	Department of Town Planning and Housing	Mr. Kypros Pafitis
18	Cybarco (private construction company)	Mr. Chrysanthos Petousis
19	Cyprus Chamber of Commerce and Industry	Mr. Petros Samanis
20	Association of Chemical Engineers	Mr. Giannis Fesas
21	Water Development Department	Ms. Panayiota Hadjigeorgiou
22	Cyprus Association of Geologists and Mineralogists	Mr. Christodoulos Hadjigeorgiou
23	Cyprus Association of Environmental Scientists and Engineers	Mr. Costas Hadjipanayiotou
24	Cyprus Research Centre	Mr. Marios Papadimitris

3. Meeting Agenda

17:00 – 17:15	Arrival and Registration
17:15 – 17:30	Welcome / Objectives of SUSCON Programme by Dr. Despo Fatta, Lecturer, Department of Civil and Environmental Engineering, University of Cyprus
17:30 – 17:50	The Construction Sector in Cyprus by Mr. Linos Chrysostomou, ETEK
17:50 - 18:10	The Role of the Construction Industry in Sustainable Development by Mr. Takis Palekythritis, Cybarco
18:10 – 18:30	Life Cycle Analysis as a tool for Integrated Product Policy (IPP) in the Construction Sector by Mr. Marios Avraamides, Department of Civil and Environmental Engineering, University of Cyprus
18:30- 18:50	Break
18:50 - 19:10	Actions for the implementation of the SUSCON programme by Dr. Ioannis Ioannou Department of Civil and Environmental Engineering, University of Cyprus
19:10 - 20:00	Discussion coordinated by Dr. Fatta, Dr. Ioannou and Mr. Avraamides

4. Arrival - Registration

All the contact details were checked and supporting material, including the first issue of the Newsletter as well as the day programme, were distributed to all participants.

5. Presentations

1. Dr Fatta's (UCY) presentation started with a brief overview of the University of Cyprus and its departments. Special reference was made to the Department of Civil and Environmental Engineering of the School of Engineering of the UCY and the Laboratory of Environmental Engineering "Gaia". Her presentation then introduced the LIFE-Environment programme and focused on SUSCON project with reference to the concept of Integrated Product Policy. Information on the stream of construction and demolition waste was provided. Finally, the role of the Advisory Board in the implementation of the programme was outlined. According to Dr Fatta, establishing the Advisory Board is very important for the following reasons:
 - The participation of the Advisory Board representatives will be the starting point for the construction industry to take into consideration the environmental dimension of the construction works.
 - All involved organisations will become familiar with the issue of assessing the environmental performance of the construction works.
 - Each member of the Advisory Board will have the opportunity to observe, express opinions and give advice at all stages of the programme.
2. Following, Mr. Chrysostomou (E TEK) gave a brief overview of the construction sector in Cyprus. It was mentioned that Cyprus lacks regards innovation as far as the construction sector is concerned and there is a need for changing the existing systems and the characteristics of the construction industry towards more environmentally friendly solutions. Currently, private construction works are not environmentally friendly, whereas, as far as the public sector is concerned, not all the departments follow environmentally friendly practices. It was mentioned that currently there is a general belief that environmentally friendly practices are not affordable and, thus, it needs to be proved that in the long term these practices will be cost viable. Closing, Mr Chrysostomou mentioned that there is a good potential for heading towards a more sustainable construction. He added that communication and dialogue between the Advisory Board representatives, in accomplishing this aim, is very important.
3. Mr Palekythriti's (Cybarco) presentation focused on the role of the construction industry in promoting sustainable development. Initially he talked about the

importance of the construction industry in Cyprus economy as it comprises about 10 percent of the Gross National Product. He introduced Life Cycle Analysis (LCA) as a tool for achieving sustainable development in the construction sector and he outlined the benefits of planning construction works in order to achieve more environmentally friendly results. He mentioned specific issues to be undertaken by the contractors such as upgrading the construction quality or implementing Environmental Management Systems. Closing he pointed out that SUSCON programme will encourage the efforts towards a more sustainable approach by the construction industry.

4. Mr Avraamides (UCY) made an introduction, with historical references, to the Integrated Product Policy (IPP) and he proceeded with a more technical presentation of the Life Cycle Analysis (LCA) as a tool of the IPP, which he said, will be one of the core techniques used in achieving the objectives of the programme. His presentation on the LCA included a brief introduction to the concepts of Life Cycle and Life Cycle Analysis, and demonstrated the framework of the methodology as prescribed in the relevant ISO standards. Finally, Mr Avraamides talked about the applicability of Life Cycle Analysis in a construction project.
5. Following, Dr. Ioannou (UCY) described the actions planned for the implementation of the SUSCON programme. His presentation started with an overview of the results of the first action of the programme, i.e. the analysis of the construction sector in Greece and Cyprus and the environmental impact assessment of the existing practices, which has already been completed. Dr. Ioannou mentioned the problems and difficulties faced regarding the collection of reliable data, the lack of data in specific sectors and the selection of literature sources for the environmental impact assessment. The Advisory Board representatives were invited to express their opinions and support with additional data to the ones collected. He proceeded by mentioning the future actions of the project including:
 - The Life Cycle Analysis of two construction works
 - The development of eco design criteria for the construction sector
 - The creation of an online database for the construction industry.

In regards to these issues it was mentioned that the cooperation with the Advisory Board representatives is essential. Closing he made a reference to the programme management and the dissemination of the results.

6. Discussion

1. Mr Papadimitris (Cyprus Research Centre) asked on which projects the eco-design criteria developed will be applied. Mr Ioannou (UCY) clarified that the criteria will be applied to projects implemented by the two construction companies, Cybarco and Edrasis, which participate in the programme as partners, provided that the consent of the owners of the projects is given. He added that two different types of construction will be selected (possibly a road construction and a building construction). Mr Avraamides (UCY) added that the LCA, which will be undertaken prior to the development of the criteria, will not affect the construction procedures, as it will be implemented on current practices with a view to identify areas with potential for improvement. Mr Palekythritis (Cybarco) added that the objective of these two case studies is to examine the criteria in order to conclude whether the specific construction works are properly designed. Mr Ioannou (UCY) pointed out that these case studies will set an example for other future construction works.
2. Ms Hadjigeorgiou (Water Development Department) asked whether the software that will be created for assessing the environmental performance of the specific construction types could be used for works of different nature, such as wastewater treatment works. Mr Avraamides (UCY) replied that the effort will be to develop criteria applicable to a wide range of construction projects, possibly with the use of mandatory-general criteria and optional-sector specific criteria.
3. Mr Nikolaidis (Association of Civil Engineers) stated that it is essential to demonstrate the long term economic benefit of environmental practices. He suggested that the software could be connected with economic parameters expressing the economic benefit. He stated that initially it is not always easy to estimate the economic benefit as, in a number of cases, what seems to be inexpensive in the long run, is later proved to be affordable.

4. Mr Tsiftes (Cyprus Association of Mechanical Engineers) mentioned that the major cost of a construction work is the labour cost. Mr Ioannou (UCY) added that, according to the analysis of the construction sector in Cyprus, labour costs are higher than material costs and the trend during the last years is a higher rate of labour cost increase than a material cost increase. However, it is the role of the Advisory Board to judge whether the data taken by the statistical service are representative. In respect to this, Mr. Chrysostomou (E TEK) stated that data taken by the Department of Public Works could be representative of the public construction works. Mr. Pattichis (Ministry of Education and Culture) said that after 2003 the labour costs regarding contract works have fallen, however, according to Mr. Chrysostomou (E TEK) the demand has increased.
5. Mr. Theodorou (Cyprus Association of Architects) asked whether the surface area per resident could be estimated for works such as buildings and roads. This parameter could later be correlated with environmental issues such as energy consumption. Mr. Ioannou (UCY) replied that, based on the data collected so far, this could be easily estimated by considering the various areas in Cyprus.
6. Mr. Fesas (Association of Chemical Engineers) outlined the existing situation in Cyprus regarding construction and demolition waste and he mentioned that appropriate areas are currently detected for the future management of these waste products. Dr Fatta (UCY) highlighted the issue of sound management of renovation material and material resulting from demolition of old buildings. Mr. Fesas also mentioned a programme that is currently funded by the Cyprus Research Promotion Foundation concerning the production of raw mud brick and the existence of the website of the Green Building Council.
7. Mr. Hadjipanayiotou (Cyprus Association of Environmental Scientists and Engineers) asked from which stage of the construction cycle the LCA of the two case studies will commence. Mr. Avraamides (UCY) replied that the boundary of the LCA system will be defined in such a way so that, based on any conclusions drawn from the results, actions will be feasible in order to accomplish improvement.
8. Mr. Papadimitris (Cyprus Research Centre) stated that public's attitudes towards environmental matters also need to change and that the majority of people only

care about the short-term benefit. In addition there is no obligation for people to act in a more sustainable way and, thus, informing the general public on these matters is also important. Dr. Fatta (UCY) replied that in the context of the SUSCON programme, the general public is and will be informed by newspaper articles, by the programme's website already running, by the on-line sustainable construction database that will be developed and by various other dissemination activities.

9. Ms. Konstantinidou (Environment Service) asked if the SUSCON programme could be linked to the "Green Public Procurement" scheme and, with regard to this, whether it would be useful also to consider the building materials. Dr. Fatta (UCY) agreed that it would be useful to correlate SUSCON with the Green Public Procurement scheme and, as regards the second comment of Ms. Konstantiniou, Dr. Fatta mentioned that for this reason material suppliers were also selected as members of the Advisory Board.
10. Mr. Kyriakides (Cyprus Association of Limestone Aggregate Producers) mentioned that concerning mining the situation has improved, with the introduction of a £0,20/tonne quarry green tax. He emphasised the need for the development of new legislation as well as the implementation of the existing legislation. He also made a point about the need for more frequent meetings of the Advisory Board.
11. Mr. Kelepeshis (Federation of the Building Contractors Associations of Cyprus) pointed out that the Federation he represents is in possession of various up-to-date statistical data in relation to the constructor industry in Cyprus and he will be pleased to provide them for use in the programme.
12. Ms. Vatyliotou (UCY) talked about the structure of the online database that will be created in order to raise the environmental awareness of the construction industry and other stakeholders. The opinion of the Advisory Board members was requested concerning the contents and structure of this database. Mr. Papadimitris (Cyprus Research Centre) stated that it would be very useful if the structure of the database was such that its use by specific professional groups e.g. architects, contractors, civil engineers etc, is easy.

7. Closing Remarks

Dr. Fatta (UCY) concluded that this first meeting of the Advisory Board was mainly informative. She added that in future meetings, specific issues on the implementation of the programme will be on the agenda and the Advisory Board Members will be asked to express their opinions on important issues of the project. Dr Fatta also emphasised that communication between members can be enhanced through emails.

The main issues raised during the discussion stage of the meeting are summarised in the following table.

No	Issue	Raised by
1	Interest for the development of software for specific types of construction projects	Ms. Hadjigeorgiou/ Water Development Department
2	Include the economic cost/benefit parameter in the software	Mr. Nikolaides/ Association of Civil Engineers
3	Provide effort to change public attitude on environmental issues	Mr. Papadimitris/ Cyprus Research Centre
4	Correlate SUSCON with Green Public Procurement scheme	Ms. Konstantinidou/ Environment Service