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LUIKOV HEAT AND MASS
TRANSFER INSTITUTE
BSSR ACADEMY OF SCIENCES

**FINAL REPORT ON THE SEMINAR ON ENERGY
CONSERVATION AND ENERCOST TRAINING.**

held in Minsk, USSR, 9-13 April 1990

by

Oleg G. MARTYNEKO
Director of the LUIKOV HEAT AND MASS TRANSFER
INSTITUTE BSSR ACADEMY OF SCIENCES

6/71

EO: Mr. Ishchenko

Purpose of the subcontract

The purpose of the subcontract is to organize and conduct a five [5] day Workshop on Computer-based methodology of Energy Conservation Projects Financing (ENERCOST), by providing all necessary logistics, premises and organizational support, including related local expenses for 12 to 15 participants from Europe and selected Asian Countries.

The seminar was held from 9 to 13 April 1990 at the Luikov Heat and Mass Transfer Institute (Luikov HMTI).

UNIDO had selected 15 participants to attend the Seminar. A total of 14 attended the Workshop at UNIDO's expense, 4 participants from Czechoslovak Republic (Pilsen arrived one day late). One more person Mr. Soares (Portugal) didn't arrive.

The list of participants is given in Annex I. Almost all the participants arrived on the day preceeding the opening day as forseen.

All the participants were of highly acceptance technical level. (This opinion was shared by the Byelorussian Director of the Seminar, Mr. S. Levtchenko).

All the participants were been on getting as much information as possible out of the lecturers, visits and demonstrations. None had any difficulty in expressing himself in English.

Programme of the Seminar:

The programme of the Seminar is given in Annex II. It consists of 12 hours (40%) lectures, 10 hours (33%) of demonstrations in laboratories and computer room of the Minsk Institute of Heat and Mass Transfer, 4 hours (13%) of backgroud information, opening ceremonies and administrative matters, 2 - (7%) of panel discussions and 2 (7%) hours of presentation at Seminar assignments.

The lectures were all of the appropriate standard. Whenever appropriate they were complemented with computer demonstrations and visits to the laboratories of the Minsk Luikov HMI. The ENERCOST demonstration and tutorial (based on Special Demo Diskette) were deemed to be very popular and used by most participants. From the replies received, no lectures could be identified as having been found least valuable. A possibility was given to participants to visit laboratories of particular importance to them. They could have visited laboratories as outlined in the following list:

- Dispersed Media lab;
- Energy Efficiency lab;
- Convection Waves Process lab;
- Thermodrying lab;
- Energy Transfer lab;
- Physical Chemistry lab;
- Rheological Physics lab.

The participants attended several demonstrations: "Energy recovery by heat pipes," "Effective energy utilization in planar drying kiln", "Infra-red technology application in energy audit", "Enercost-demo version on PC-AT/286".

The lecture on application of dispersed media in energy conservation technology" by Prof. Antonishin was deemed to be very popular and useful by most participants. From the replies received, no lectures could be identified as having been found less valuable.

Documentation:

The participants were given the text of a selection of the lectures totalling 130 printed pages. These were complemented by the text of lectures not yet in their publication which were handed out to them. Other background material consisted of UNIDO's 1990; Energy Conservation Economic and Financial Analysis Manual; ENERCOST User's Guide. These were

complemented by the text of lectures not included in the above publications, which were handed out to them.

Workshop Library:

Some relevant books, catalogues of equipment, etc. in English at the HMTI's library, as well as relevant UNIDO documents formed the "Seminar Library" which operated during the entire Seminar. Participants made full use of it, mainly by browsing through the books and catalogues during the breaks and ordered the photocopies of different articles.

Workshop Assignments:

At the beginning of the Seminar, the participants were requested to indicate their interest in the following main fields:

- 1). Energy conservation policy's legal contents (2)
- 2). Energy conservation and environment (2)
- 3). Energy audit (4)
- 4). Energy conservation captions identification (2)
- 5). Energy conservation monitoring and results (2)

The numbers in brackets indicate the number of participants in each group and also reflects their relative interest in various topics.

Administrative Matters

Local Arrangements

The Byelorussian organizers maintained high standards and had thought of practically everything in advance. Everything was efficient by carried out.

Financial Matters

The entire cost of the Seminar, except participants travel were covered by the UNIDO under subcontract placed with HMTI of Byelorussian SSR/USSR. The travel of participants was

covered by their respective governments. The travel of the UNIDO Staff Member was financed by UNIDO from its Division's Regular Budget travel funds. Furthermore, a consultant from Yugoslavia attended the Workshop and his travel and per diem was arranged through UNIDO Regional Project Fund.

The Subcontractor's fee totalled US \$ 10,000 (6000 roubles).

Hospitality

All participants had been accommodated in two well-furnished hotels in Minsk. Daily transportative to and from the Workshop was provided. At the end of the Workshop informal reception has taken place.

Documentation

UNIDO documents were shipped and arrived in time for the Workshop. Four of ECE documents were photocopied in HMTI.

Travel Arrangements

A tentative reservation was made in time for all participants to arrive on the same flight and proceed to the hotels directly, most of them arrived in time.

Press Coverage

The Byelorussian press gave ample coverage to the Seminar on the opening day. The local paper having an article, and the TASS correspondent was sent to interview the Director for an article.

Evaluation

UNIDO's forms for the evaluation of the Workshop were

handed over to all the participants during the special evaluation session and collected duly filled. It is quite clear from the replies that the course's contents met the needs of the participants, and that the local arrangements were deemed by all to be more than nearly satisfactory. It must also be pointed out here that the positive attitude of the management and the staff of HMTI (both during formal and informal contacts) were greatly appreciated by all participants.

Assessment of the Programme

All lectures were of expected standard and depth. Those given by distinguished staff members at HMTI Prof.O.Martynenko and Prof.Antonishin were of the expected standard and depth. The organizational abilities of Doc.S.Levtchenko were of high standard; this being due to his experience as a researcher, his knowledge of the subject of the Workshop, and the interest he showed in making the course a success.

Other Matters

A meeting was arranged on 12 April 1990 at the Minsk City Council to discuss the Workshop. It was chaired by Mr.A.Machovets, Head Department at Informational cooperation and

Annex I.

Country Names	Position Present	Full Address
Egypt		
Dr. Eng. Hashem Aly Hassan	Prof. Dr. Eng. & member of ECEP in El-Tabbin Institute of metall. Industries	El-Tabbin Institute of metall. Industries: Cairo Egypt, post. code 11913 tel. 790642, 790383
Romania		
Dr. Eng. Poiana Cristian Danut	Senior Researcher	Research Institute for Electrical Industry (ICPE) 76134-Bucurest-Romania B -dul T: Vladimirescu 45- 47 Tel. 216034 Tx. 10486
Tunisia		
Guetari M. Habib	General Director	C. T. M. C. C. V. Centre Technical of Building Material Ceramics and Glass, Street 8201 #5 Cite Elkhadra - Tunis. Tel. 285034
Bulgaria		
Mr. Lubomir Banchev	Deputy Director	Research and Technological Institute "Promishlena Energetica" 1407 Sofia 5, Philip Kovtev Str. Tel. 681235 Telex 24276

Mr. Valentin Stankov	Research Worker	same
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Czechoslovakia

Vladimir Novy	Senior Research Officer, UNIDO Czechoslovakia joint Program Non-Metallic Industries, Pilsen	Res. Inst. for Ceramics, Refractors and Non Metallic Raw Materials, Prazska Str. 14 CS-30511 Pilsen Phone: 0042-19-35781-8 Telex: 154522
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Jiri Zalovdek	Head of INTIB and DBA	
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Milan Novy	Senior Expert UNIDO Czechoslovakia Joint Programm, Non-metallic Industries, Pilsen	P.O. Box 211 Prazska Str. 12, 30511 Pilsen Telex 154485 UNCS Tel. 0042-19-34687
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Vaclav Raspl	Engineer (software specialist)	Res. Inst. for Ceramics, Ref. and Non-metallic Raw Materials, Pilsen
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Ceslav Karpetic	Head ENERCOST Secretariat	Power Research Institute 7a, Partyzanska Str. 17084 Prague 7 Czechoslovakia
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FOND SU

Serge
Konyaev

Ph. D., Senior
Scientists

same

BSSR

Vladimir
Kuzmitch

Ph. D. Head
of Energy Sector

Byelorussian Scientific
Technical Information
Institute, BSSR, Minsk
9, Masharov Aven. Tel.
(0172) 236789

Annex II.

**Programme of the Workshop
9-13 April 1990**

L - Lectures
D - Demonstrations
E - Exercises
CS - Case Studies

Monday, 9 April 1990

9.30-11.00

Opening Ceremony
Mr. O. Martynenko
Mr. A. Vassiljev
Mr. A. Machovets

11.00-13.00

Energy Conservation
Integrated Approach

L

V. Shackalees

14.00-15.30

Financing Mechanisms
for Energy
Conservation Projects

L

M. Vukсанovitch

Tuesday, 10 April 1990

9.30-11.00

Effective Energy
Utilization in Planar
Drying Kiln

L+D

Prof. M. Antonishin

11.30-13.00

Energy Audit Practice
in Byelorussia

L+D

Prof. O. Martynenko

14.00-15.30

Finance and Production Costs

L+D

V. Shackalees

Wednesday, 11 April 1990

9.30-11.00

Total Investment Costs

E

V. Shackalees

11.30-13.00

Source of Financing
Debt Repayments

L+D

V. Shackalees

14.00-15.30

Cash Flow Tables and

Investment (Discounted
Cash Flow)
L+E

M. Vuksanovitch
V. Shackalees

Thursday, 12 April 1990
9.30-15.30

C o m p r e h e n s i v e
C a s e S t u d i e s o n
E N E R C O S T
(analysis of inputs and results)
ENERCONET Case
Philippines Case
Yugoslavia Case

Friday, 13 April 1990
9.30-11.00

Individual Work
M. Vuksanovitch

11.30-13.00

Evaluation & Discussion
V. Shackalees

14.00-15.30

Closing Ceremony