

Itineraries of on-the-spot survey teams

1) Advance team

Team members ① Teruo Nakagawa Deputy leader
 ② Kenichi Kurita Electricity management technology

No.	Date	Day of week	Itinerary
1	July 22, 1991	Mon	Departure from Tokyo
2	July 23	Tue	Arrival in Budapest
3	July 24	Wed	Confirmation of packing conditions of research equipment and materials
4	July 25	Thu	Unpacking of research equipment and materials
5	July 26	Fri	Unpacking of research equipment and materials
6	July 27	Sat	Preparations for research
7	July 28	Sun	Preparations for research
8	July 29	Mon	Confirmation of operation of research equipment, indicator calibration
9	July 30	Tue	Confirmation of operation of research equipment, indicator calibration
10	July 31	Wed	Confirmation of operation of research equipment, indicator calibration
11	Aug. 1	Thu	Confirmation of operation of research equipment, indicator calibration
12	Aug. 2	Fri	Confirmation of operation of research equipment, indicator calibration
13	Aug. 3	Sat	Preparations for research
14	Aug. 4	Sun	Preparations for research, join first team

2) First team

Team members	① Mitsuo Iguchi	Leader
	② Teruo Nakagawa	Deputy leader (joins from advance team)
	③ Toshiyuki Ochi	Energy management technology
	④ Koichi Inaba	Process control (dyeing)
	⑤ Taro Ihara	Process control (tyre)
	⑥ Tatehiro Tanabe	Process control (alumina)
	⑦ Kenichi Kurita	Electricity management technology (joins from advanceteam)

No.	Date	Day of week	Itinerary
1	Aug. 3, 1991	Sat	Departure from Tokyo
2	Aug. 4	Sun	Arrive in Budapest, join advance team
3	Aug. 5	Mon	Explanation of study method
4	Aug. 6	Tue	Explanation of study method
5	Aug. 7	Wed	Explanation of study method
6	Aug. 8	Thu	Explanation of study method
7	Aug. 9	Fri	Explanation of study method
8	Aug. 10	Sat	Preparations for study
9	Aug. 11	Sun	Preparations for study
10	Aug. 12	Mon	Survey of dyeing factory
11	Aug. 13	Tue	Survey of dyeing factory
12	Aug. 14	Wed	Survey of dyeing factory
13	Aug. 15	Thu	Survey of dyeing factory
14	Aug. 16	Fri	Survey of dyeing factory
15	Aug. 17	Sat	Preparations for study
16	Aug. 18	Sun	Preparations for study
17	Aug. 19	Mon	Preparations for study
18	Aug. 20	Tue	Preparations for study, Move from Budapest to Nyiregyhaza
19	Aug. 21	Wed	Survey of tyre factory
20	Aug. 22	Thu	Survey of tyre factory
21	Aug. 23	Fri	Survey of tyre factory
22	Aug. 24	Sat	Preparations for study, Move from Nyiregyhaza to Budapest, Team member Ihara departs from Budapest
23	Aug. 25	Sun	Preparations for study, Move from Budapest to Almasfuzito
24	Aug. 26	Mon	Survey of alumina plant, Team member Ihara arrives in Tokyo
25	Aug. 27	Tue	Survey of alumina plant
26	Aug. 28	Wed	Survey of alumina plant
27	Aug. 29	Thu	Survey of alumina plant
28	Aug. 30	Fri	Survey of alumina plant, Move from Almasfuzito to Budapest
29	Aug. 31	Sat	Survey work taken over by 2nd team, Depart from Budapest
30	Sept. 1	Sun	En route home
31	Sept. 2	Mon	Arrive in Tokyo

3) Second team

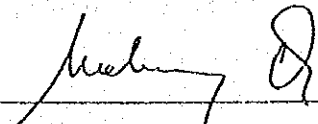
Team members	① Mitsuo Iguchi	Leader (join from 1st team)
	② Teruo Nakagawa	Deputy leader (join from 1st team)
	③ Tetsuo Ohshima	Energy management technology
	④ Toshio Ohnishi	Process control
	⑤ Toshio Noda	Process control
	⑥ Kazuo Usui	Process control
	⑦ Hirokazu Hirata	Energy measures
	⑧ Motoo Hori	Energy conservation measures

No.	Date	Day of week	Itinerary
1	Aug. 29, 1991	Thu	Depart from Tokyo
2	Aug. 30	Fri	Arrive in Budapest, Join 1st team
3	Aug. 31	Sat	Take over survey work from 1st team
4	Sept. 1	Sun	Preparations for research Move from Budapest to Beremend (factory team)
5	Sept. 2	Mon	Survey of cement factory Survey of measures in Budapest (measures study team)
6	Sept. 3	Tue	Survey of cement factory Survey of measures in Budapest (measures study team)
7	Sept. 4	Wed	Survey of cement factory Survey of measures in Budapest (measures study team)
8	Sept. 5	Thu	Survey of cement factory Survey of measures in Budapest (measures study team)
9	Sept. 6	Fri	Survey of cement factory Move from Beremend to Budapest Survey of measures in Budapest (measures study team)
10	Sept. 7	Sat	Preparations for study
11	Sept. 8	Sun	Preparations for study Move from Budapest to Dunaujvaros (factory team)
12	Sept. 9	Mon	Survey of steel factory Survey of measures in Budapest (measures study team)
13	Sept. 10	Tue	Survey of steel factory Survey of measures in Budapest (measures study team)
14	Sept. 11	Wed	Survey of steel factory Survey of measures in Budapest (measures study team)
15	Sept. 12	Thu	Survey of steel factory Survey of measures in Budapest (measures study team)
16	Sept. 13	Fri	Survey of steel factory Move from Dunaujvaros to Budapest Survey of measures in Budapest (measures study team)
17	Sept. 14	Sat	Preparations for progress report
18	Sept. 15	Sun	Preparations for progress report
19	Sept. 16	Mon	Confirmation of contents of progress report
20	Sept. 17	Tue	Confirmation of contents of progress report
21	Sept. 18	Wed	Progress report signed and submitted Departs from Budapest
22	Sept. 19	Thu	En route home
23	Sept. 20	Fri	Arrive in Tokyo

SCOPE OF WORK
FOR
THE STUDY
ON
THE RATIONAL USE OF ENERGY
IN
THE REPUBLIC OF HUNGARY

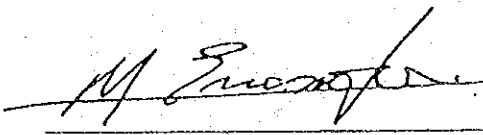
AGREED UPON BETWEEN
STATE AUTHORITY FOR ENERGY
MANAGEMENT AND SAFETY
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Budapest, August 6, 1990



Dr. Árpád Bakay

Deputy Undersecretary of State
Ministry of Industry and Trade



Mr. Masayoshi Enomoto

Leader of the Preliminary
Survey Team
Japan International Cooperation
Agency

1. Introduction

In response to the request of the Government of the Republic of Hungary (hereinafter referred to as "Hungary"), the Government of Japan decided to conduct a study on the rational use of energy in industry in Hungary (hereinafter referred as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA") the official agency responsible for the implementation of the technical cooperation programmes of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of the Government of Hungary.

This document sets forth the scope of work with regard to the Study.

2. Objective of the Study

The objective of the Study is to contribute to the promotion and strengthening of rational use of energy in the field of industries in Hungary by studying the technical and managerial applicability of rational use of energy and formulating the report for the promotion of rational use of energy in the representative industries stated below:

- (1) Alumina manufacturing industry
- (2) Textile industry
- (3) Rubber industry
- (4) Cement industry
- (5) Iron and steel industry

3. Scope of the Study

In order to achieve the above objective, the Study will cover the following items.

- (1) Literature survey on the energy situation in Hungary
 - ① To survey the energy situation in Hungary
 - ② To survey the situation of energy use in the field of whole industries

in Hungary.

(2) Study on the promotion of rational use of energy in the industry

- ① To investigate current program for rational use of energy
- ② To study and evaluate the activities of State Authority for Energy Management and Safety
 - Ⓐ the current activities for promotion of rational use of energy
 - Ⓑ the achievements of past activities
 - Ⓒ the future plan/program for promotion of rational use of energy

(3) Study on the situation of energy use in the following five(5) factories of each industry

1. Alumina Plant of Almásfüzitő
2. Budaprint Secotex Textilfesto Rt
3. Curing machine of Taurus Hungarian Rubber Works
4. Cement Factory, Bélapátfalva
5. Reheating furnace of Hot Rolling Mill in Dunaferri Duna Vasmű

- ① To survey the situation of energy use in each factory
 - Ⓐ outline of the factory
 - Ⓑ situation of energy management
 - Ⓒ energy flow chart
 - Ⓓ situation of major energy consuming equipment
 - Ⓔ problems found in each factory and countermeasures without changing the existing production process
 - Ⓕ estimated effects of the countermeasures

(4) Recommendation for the promotion of the rational use of energy in Hungary

- ① To recommend measures to promote rational use of energy in the field of industries
- ② To recommend activities of State Authority for Energy Management and Safety for rational use of energy

③ To recommend countermeasures without changing the existing production process and to estimate their effects

④ To prepare the reference of the technical guideline for the promotion of rational use of energy in industries

4. Steps and Schedule of the Study

(1) Steps

Step 1: Procurement of Equipment and carrying-vehicle in Japan

Step 2: Shipment of Equipment and carrying-vehicle

Step 3: Home office work in Japan

Step 4: Field work in Hungary

Step 5: Home office work in Japan

Step 6: Presentation of and discussion on the Draft Final Report in Hungary

Step 7: Home office work for completion of the final report in Japan

Step 8: Submission of the final report

(2) Schedule

Schedule of the Study is shown in Annex.

5. Reports

JICA shall prepare and submit the following reports written in English to the Government of Hungary within the time periods indicated below:

(1) Inception Report at the commencement of Stage Step 4 : 10 copies

(2) Progress Report at the end of Step 4 : 10 copies

(3) Draft Final Report and its summary within 5 (five) months

after the commencement of Step 4 : 15 copies

(4) Final Report and its summary within 2 (two) months

after the receipt of comments on the Draft Final Report

from the Government of Hungary : 30 copies

6. Undertaking of the Government of Hungary

(1) To facilitate smooth conduct of the Study, the Government of Hungary shall take necessary measures:

- ① To secure the safety of the Study team
- ② To permit the members of the Japanese study team to enter, leave and sojourn in Hungary for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees.
- ③ To exempt the members of the Japanese study team from taxes, duties and other charges on equipment, machinery and other materials brought into Hungary for the conduct of the Study.
- ④ To exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study.
- ⑤ To provide necessary facilities to the Japanese study team for remittance as well as utilization of the funds introduced into Hungary from Japan in connection with the implementation of the Study.
- ⑥ To secure permission for the members of the Team to enter into private properties and restricted areas for the conduct of the Study.
- ⑦ To secure permission for the Japanese study team to take all data and documents (including photographs and maps) related to the Study out of Hungary to Japan.
- ⑧ To provide medical services as needed. Its expenses will be chargeable to the members of the Japanese study team.

(2) The Government of Hungary shall bear claims, if any arises against members of the Japanese study team resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or wilful misconduct on the part of the members of the Japanese study team.

(3) State Authority for Energy Management and Safety shall act as counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organization concerned for the smooth implementation of the Study.

(4) State Authority for Energy Management and Safety shall, at the expense of Hungarian side, provide the Japanese study team with the following, in cooperation with other organization concerned:

- ① Available data and information related to the Study
- ② Counterpart personnel
- ③ Suitable office space with necessary equipment in Budapest
- ④ Credentials or Identification cards

7. Undertaking of JICA

For the implementation of the Study, JICA shall take the following measures:

- (1) To dispatch, at its own expense, the Study team to Hungary
- (2) To pursue technology transfer to the Hungarian counterpart personnel in the course of the Study.

8. Consultation

JICA and State Authority for Energy Management and Safety shall consult with each other in respect of any matter that may arise from or in connection with the Study.

TENTATIVE SCHEDULE OF THE STUDY

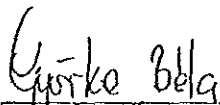
	1990								1991								1992				
	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
STEP1: PROCUREMENT OF EQUIPMENT							[Bar from 2 to 3]														
STEP2: SHIPMENT OF EQUIPMENT								Δ													
STEP3: HOME OFFICE WORK IN JAPAN										□											
SUBMISSION OF IC/R										Δ											
STEP4: FIELD WORK IN HUNGARY											[Bar from 7 to 8]										
SUBMISSION OF P/R													Δ								
STEP5: HOME OFFICE WORK IN JAPAN														[Bar from 10 to 12]							
SUBMISSION OF DE/R																		Δ			
STEP6: DISCUSSION OF DE/R																					□
STEP7: COMPLETION OF F/R																					□
STEP8: SUBMISSION OF F/R																					Δ

IC/R : Inception Report P/R : Progress Report DF/R : Draft Final Report F/R : Final Report

MINUTES OF MEETING
ON
SCOPE OF WORK
FOR
THE STUDY
ON
THE NATIONAL USE OF ENERGY
IN
THE REPUBLIC OF HUNGARY

Budapest, August 6, 1990

For the Government of the
Republic of Hungary

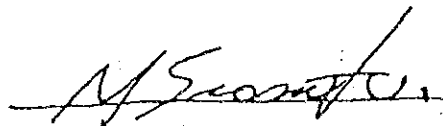


Mr. Béla Györke

Deputy Director of National
Authority for Energy Economy

Ministry of Industry and
Trade

For the Japan International
Cooperation Agency



Mr. Masayoshi Enomoto

Leader of the Preliminary
Survey Team

Japan International
Cooperation Agency

MINUTES OF MEETINGS
ON DISCUSSIONS
FOR
THE STUDY ON THE RATIONAL USE OF ENERGY

The JICA Preliminary Survey Team made a visit to Hungary from July 31 to August 7, 1990 to discuss with the relevant Hungarian authorities concerned about the Study on The Rational Use of Energy.

Meetings were held at the Ministry of Industry and Trade from August 1 to 6, 1990 between the Hungarian officials chaired by Mr. Bela Gyorke, Deputy Director, National Authority for Energy Economy, Ministry of Industry and Trade on the Hungarian side, and the Preliminary Survey Team headed by Mr. Masayoshi Enomoto on the Japanese side (attendance as shown in the lists of Hungarian and Japanese delegations).

This Minutes of Meeting complements the Scope of Work agreed and signed by both sides and is intended for the smooth conduct in the whole course of the Study.

Following were confirmed by the Hungarian side and Japanese delegation during discussion:

1. Both sides recognized the importance of close cooperation in due course of the Study in order to make the Study fruitful, and that sufficient efforts should be made by both sides at every particular stage of the Study based on the Scope of Work.
2. The Hungarian side requested the Japanese side to provide the equipment listed in the attached paper upon the completion of the said study, and the Japanese side agreed to it.
3. The Hungarian side requested the Japanese side to bear the cost of transportation of the above equipment from Japan to Budapest, and the Japanese side agreed to it.
4. The consignee of the above equipment shall be as follows:

Mr. Tamás Láng-Hiticzky

State Authority for Energy Management and Safety

Állami Energetikai és Energiabiztonságtechnikai Felügyelet

Budapest,

Köztársaság tér 7.

1081

HUNGARY

5. Both sides agreed on that Hungarian side assigns counterpart engineers for Japanese study team while their field survey in Hungary for technology transfer, and numbers of Hungarian counterparts are as follows:

(1) 4 (four) engineers (3 (three) heat engineers, 1 (one) electric engineer) from State Authority for Energy Management and Safety, who shall be assigned for the whole study period of Japanese team in Hungary.

(2) 4 (four) engineers (2 (two) heat engineers, 2 (two) electric engineers) from each factory, who shall be assigned for nearly one week only when Japanese team makes field survey at the factory.

6. The Japanese side requested the Hungarian side to provide a driver of the equipment carrying vehicle, and the Hungarian side agreed to it.

7. The Japanese side requested the Hungarian side to provide a working room both at State Authority for Energy Management and Safety and at each factory, and the Hungarian side agreed to it.

Equipment List

No.	Name	Set(s)
1	Equipment carrying vehicle with antishock rack and lifter	1
2	Ultrasonic flow meter for fuel oil or water	1
3	High temperature anemometer for gas	1
4	Steam condensate flow meter	1
5	Pitot type flow meter	1
6	Differential pressure transmitter for orifice	2
7	Oxygen meter for exhaust gas	1
8	Carbon dioxide and monoxide meter for exhaust gas	1
9	Pretreatment unit for sampling exhaust gas	1
10	Sampling tube for exhaust gas	10
11	Thermometer for surface	2
12	Thermocouple with compensate cable for gas (K type)	20
13	Infrared radiation thermometer (low range)	1
14	Infrared radiation thermometer (high range)	1
15	Glass thermometer	5
16	Hygrometer	5
17	Thermal video system	1
18	20 channel recorder with data memory and reader	3
19	Personal computer (desk top type) for analysis	1
20	Personal computer (book type) for field work	2
21	Water conductivity meter	1
22	Water pH meter	1
23	Water hardness meter	1
24	Pressure gauge with transmitter for furnace gas	1
25	Pressure transmitter for steam	3
26	Steam trap checker	1
27	Watt-power factor meter	5
28	Watt-hour meter	1
29	Power meter	1
30	Tachometer	1
31	Lux meter	1
32	Circuit tester	1
33	Voltage detector	5
34	Heat resisting gloves	5
35	Cobalt glass for eye protect	5
36	Camera	1
37	Power insulation gloves	5
38	Extension power cord with tools	3
39	Stop watch	2
40	Wagon desk for field work	4
41	Training unit for measurement of temperature and power	1
42	Training unit for measurement of water flow and power	1
43	Training unit for measurement of gas pressure and power	1

LIST OF ATTENDANCES

Japanese Side

Preliminary Survey Team

Mr. Masayoshi Enomoto
(Leader)

Director of Industry Division
JICA

Mr. Hikio Takasima
(Policy for Development
Cooperation)

Development Cooperation Division
ECB, HFA

Mr. Shigenori Nakauchi
(Administration for
Rational Use of Energy)

Energy Conservation Policy Planning
Office ANRE, MITI

Mr. Toshinori Isogai
(Planning and Coordination)

Industry Division, JICA

Mr. Teruo Nakagawa
(Energy Auditing Technology)

The Energy Conservation Center

Embassy of Japan Budapest

Mr. Motokichi Aoyama

Second Secretary

Hungarian Side

Ministry of Industry and Trade

Mr. Béla Györke - Deputy Director
National Authority for Energy
Economy

Mr. Sándor Hidas - Head of Section
Department of External Economic
Relations

State Authority for Energy Management and Safety

Mr. Dénes Rácz - Chief Head of Department
Energy Efficiency Office

JICA