

添 付 資 料

平成14年度 国別特設「中近東・東欧地域エネルギー管理」研修コース
実施要領（案）

1. 研修期間：2003年3月3日～5月28日
技術研修期間：3月17日～5月23日
2. 定員：8名
3. 言語：英語
4. 協力期間：5年間実施予定（2002年度～2006年度）
5. 対象者：エネルギー管理経験を有する企業の技術者及び中央・地方
政府の技官
6. 実施機関：財団法人 北九州国際技術協力協会
7. コースの目的

昨今の各国経済発展に伴い、エネルギー消費量は世界的に増加の一途をたどりつつあり、その供給は極めて重要とされている。その中でエネルギー管理は「合理的・効率的エネルギーの選択、調達、使用」を推進することを基本とし、生産コストの引き下げにより最終的には国全体の経済発展に寄与するものである。

とりわけ中近東地域においては、環境を意識したエネルギーの効率的利用及び品質レベルの向上が必要であり、また EU 自由経済圏入り達成にも環境分野の条件を満たす必要がある。東欧地域においては EU 加盟達成に向け、共産国時代の施設・設備を環境基準値に抑えることが求められている。

本コースでは、過去の公害を克服してきた北九州地域において今まで蓄積されてきたエネルギー管理に関する基本的知識及び技術を参加研修員に学習してもらい、各国のエネルギー管理・省エネルギーの指導者としての視野・識見を身につけ、帰国後のエネルギー管理の推進に役立ててもらうことを目的とする。

8. コースの到達目標

このコースの終了までには、研修員は下記の事項の習得が期待される。

- (1) エネルギー管理に必要な管理能力
- (2) エネルギー管理、省エネルギーのための計画能力と運営能力
- (3) 工場見学、実習によるエネルギー管理、省エネルギー手法
- (4) エネルギー管理指導者としての考え方、知識

9. 応募資格要件：

- ・ 所定の手続きに基づき、自国政府から推薦のある者
- ・ 民間企業または中央・地方政府に勤務し、エネルギー管理分野で 5 年以上の経験を有する者
- ・ 工学分野を専攻した大学卒業者
- ・ 年齢 45 歳以下の者
- ・ 十分な英語力を有する者
- ・ 主要なコンピュータソフトウェアを使用できる者
- ・ 心身共に健康であり、妊娠していない者

以 上

INFORMATION ON AREA FOCUSED TRAINING COURSE IN

***ENERGY MANAGEMENT FOR MIDDLE
EAST AND EASTERN EUROPE***

JFY 2002

国別特設：中近東・東欧地域エネルギー管理

COURSE NO. : J-02-20327

March 3, 2003 - May 28, 2003



THE GOVERNMENT OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY

Preface

The Japanese Government extends official development assistance (ODA) to developing countries to support self-help efforts that will lead to economic progress and a better life for the citizens of those countries.

Since its foundation in 1974, the Japan International Cooperation Agency (JICA) has implemented Japan's technical cooperation under the ODA programme.

Currently, JICA conducts such activities as training, dispatch of experts, provision of equipment, project-type technical cooperation, development study, dispatch of cooperation volunteers (JOCV), survey and administration of capital grant aid programmes.

The training programme for overseas participants is one of JICA's fundamental technical cooperation activities for developing countries. Participants come from overseas in order to obtain knowledge and technology in a wide variety of fields.

The objectives of the JICA training programme are:

- (1) to contribute to the development of human resources who will promote the advancement of developing countries, and
- (2) to contribute to the promotion of mutual understanding and friendship.

Kyushu International Centre (KIC) is one of JICA domestic centres located in Kitakyushu City to conduct various JICA schemes of training programmes and others in Kyushu area. KIC's training programmes cover a wide variety of specialities from agriculture to mechatronics with special priorities on 1) industrial technology, 2) environmental issues, and 3) health and medicine.

KIC also conducts briefing, general orientation of Japanese life and culture, Japanese language training and programme orientation.

Area Focused Training Course in *Energy Management for Middle East and Eastern Europe* is designed for managers and engineers in order to upgrade their knowledge and skills in energy management and administration.

I. ESSENTIAL FACTS

Course Title (No.)	Energy Management for Middle East and Eastern Europe (J-02-20327)
Duration	March 3, 2003 – May 28, 2003
Deadline for Application	December 27, 2002 *for acceptance of JICA office (or the Embassy of Japan)
Number of Participants	8
Language	English
Target Group	Person who has energy management experience, or will be in charge of energy management in the near future
Course Objectives	<p>Upon successful completion of the course, participants are expected to master the view and knowledge necessary for a leader and a promoter of their organisation, improving,</p> <ol style="list-style-type: none"> (1) management ability necessary for proceeding with the energy management, (2) planning ability necessary for a promoter to accelerate the energy conservation, and (3) knowledge and way of thinking as a leader, and the latest trend of countermeasures against loss of energy practically applied to local enterprises. <p>Note) Matters falling under company classification will remain confidential and inaccessible during the training.</p>
Training Institution	<p>Kitakyushu International Techno-cooperative Association (KITA) Address : 1-1-1, Hirano, Yahata Higashi-ku, Kitakyushu-shi, Fukuoka 805-0062, Japan TEL : 81-93- 662-7171 FAX : 81-93- 662-7177 (81: country code for Japan, 93: area code) URL : http://www.kita.or.jp/index_e.html</p> <p>KITA [kaita] was set up in 1980 for the purpose of promoting friendship between developing countries and Kitakyushu City in merits of transferring industrial technology accumulated in the City to these countries.</p>
Accommodations	<p>Kyushu International Centre (KIC) Address : 2-2-1 Hirano, Yahata Higashi-ku, Kitakyushu-shi, Fukuoka, 805-8505 Japan TEL : 81-93-671-6311 FAX : 81-93-671-0979 (81: country code for Japan, 93: area code) URL: http://www.jica.go.jp/branch/kic_e/index_e.html</p> <p>If no room is available at KIC, JICA will arrange accommodation for participants at other appropriate places.</p>
Allowances & Expenses	<p>The Government of Japan provides the following allowances and covers the following expenses through JICA in accordance with relevant laws and regulations.</p> <p><u>Details:</u> Round-trip air ticket between an international airport designated by JICA and Japan, accommodation allowance, living allowance, outfit allowance, book allowance, shipping allowance, expenses for JICA study tours, free medical care for participants who become ill after arrival in Japan (costs related to preexisting illness, pregnancy and dental treatment are not included), etc.</p>

II. CURRICULUM

The following subjects will be covered in the course.

Syllabus of Energy Management Course (Tentative)

(L = Lecture, P = Practice, exercise or plant visit, T = Study tour)

Subject	Aims and targets of training	Specific contents and remarks	Hours		
			L	P	T
Course orientation and Job Report presentation	Explanations on the aim of the course, and Job Report presentation by participants	Explanation by KITA how the training is carried out	3	3	
Interview regarding Job report, and introduction of the surrounding area	Participants to explain their jobs and problems related to energy management	interview by Course Leader, and field trip in Kitakyushu City (Mt. Sarakura and other places)	3	9	
Energy situation and environmental issues	Recent energy situation and environmental issues in Japan and in the world	Various topics about recent energy situation, environmental issues	12		
Energy policy	Philosophy, history, laws and system of energy management in Japan	Lecture by administrative officer	6		
Energy management	An outlook of energy and energy management	Basic philosophy and knowledge on energy management	18		
Environment and energy system	Relations between environment and energy system	Lecture on worldwide topics	6		
Environment issues	Environmental problems and measures in the world	Lectures and discussions, and visit to exhibitions	12		
Cleaner production and maintenance	importance of maintenance in relation to energy management	Historical considerations to maintenance and engineering	12		
Fuel and combustion	Lectures and practices of fuel, combustion and heat balance	Explanation of town gas industries, exercises of heat balance calculation	6	12	
Energy management in power company	energy management in power company and power generating station	Lectures and plant visit including LNG plant	15	9	
Thermal measurement	Study of thermal measurement for heat balance calculation	Lectures and exercises, arrangements of measuring devices	3	9	
Electrical energy saving	Basis of electrical motors and inverters for energy saving	Lectures on motors and inverters, practices with simulators	3	3	
Energy saving in industrial furnaces	Various furnaces in steel industries, and energy saving	Consideration of energy saving in design and operation	6		
Training in various industrial plants in Kitakyushu local area	Learning of energy management through plant visits	-Automobile plant -Chemical plant -Thermal power plants -Train maintenance Plant -Iron and steel plant -Incinerating plant -Ceramic plant	21	21	
Study tours outside Kitakyushu area	Lectures, practices of energy management, and plants visits in areas outside of Kitakyushu area	-Nuclear power station -Shipyard and machinery works -Geothermal plant -Power distribution center -Machinery plant -Ceramic company -Instrument plant -Steam trap manufacturing plant			66
Training evaluation	Evaluation and review of training	Opinions of participants on training, JICA, KITA		6	
Preparation and presentation of Action Plan	Participants to present their Action Plan as final reports	Action Plan to make practical use of what participants have learned during training course		24	
Total hours			288	126	96
			[%]	[44]	[33]
					[23]

III. REQUIREMENT FOR APPLICATION

Applicants should:

- (1) be nominated by their government in accordance with the procedures mentioned in IV-1 below,
- (2) be those who work in private companies or governments (both central and local) with **at least 5 years of energy management experience**,
- (3) be graduates of university, who have **majored in engineering or the equivalent**,
- (4) be 45 years of age or younger,
- (5) have sufficient command of spoken and written English - equivalent to TOEFL score 500 and above or the Cambridge First Certificate,
- (6) have basic knowledge of major application softwares of personal computer,
- (7) be in good health, both physically and mentally, to undergo the training (As training over a long period may pose risks to pregnant women, pregnancy is regarded as a disqualifying condition for participation in this training course.), and
- (8) not be serving in any form of military services.

ATTENTION

Participants are required :

- (1) not to change course subjects or extend the course period,
- (2) not to bring any members of their family,
- (3) to return to their home country at the end of their course according to the international travel schedule designated by JICA,
- (4) to refrain from engaging in political activities or any form of employment for profit or gain, and
- (5) to observe the rules and regulations of their place of accommodation and not to change accommodations designated by JICA.

IV. PROCEDURES FOR APPLICATIONS

1. Government desiring to nominate applicants for the course should fill in and forward one(1) original and three (3) copies of the Nomination Form (Form A2A3) for each applicant, to JICA office (or the Embassy of Japan) **by December 27, 2002.**
2. JICA office (or the Embassy of Japan) will inform the applying government whether or not the nominee's application has been accepted **no later than February 3, 2003.**
3. **Job Report**
Applicants are requested to make a "Job Report" in reply to the format attached as ANNEX-I. Job Report is used for selecting participants and applied to your training as profitable information. **Application without the Job Report will not be accepted.**
4. **Questionnaire**
Each applicant should fill in the "Questionnaire" which is used for selecting participants (format attached as ANNEX-II). **Application without the Questionnaire will not be accepted.**

V. OTHER MATTERS

1. Pre-departure orientation is held at JICA overseas offices (or the Embassy of Japan) to provide the selected candidates with details on travel to Japan, conditions of training, and other matters. Participants will see a video, "TRAINING IN JAPAN", and will receive a textbook and cassette tape, "SIMPLE CONVERSATION IN JAPANESE". A brochure, "GUIDE TO TRAINING IN JAPAN" will be handed to each selected candidate before (or at the time of) the orientation.
2. Participants who have successfully completed the course will be awarded a certificate by JICA.
3. **International Exchange Programme with Local Communities**
JICA encourages international exchange between JICA participants and local communities. Participants may have a chance to visit elementary schools or junior high schools. Therefore, participants are recommended to bring their national costumes or crafts and materials such as cassette tapes and photographs that will make the exchange programme more fruitful.

**Energy Management for Middle East and Eastern Europe
(JFY 2002)**

Job Report

Name of Applicant: _____

Name of Country: _____

Name of Organisation and Present Post: _____

To the following questions, please itemise your answers and make them specific.

1. Organisation and main tasks (up to 1 page)

(1) Main tasks of the Organisation.

(2) Organisation chart:

Please draw a chart of your organisation including the department (section) names with the number of staffs in it, point out specifically the department (section) executing the energy management, and mark where you are positioned.

(The chart should be attached and not be counted in this page limit.)

(3) Brief description of your assignments: What kind of important role are you playing now?

2. Existing problems in your section (up to 1 page)

- (1) Current problems and issues you are facing.

- (2) Countermeasures for those problems.

- (3) Obstacles in the process of solving those problems.

3. Expectations for the training course (up to 1 page)

- (1) Most interesting subjects or topics in this training course:
What do you want to learn more on the course raising yourself in the organisation?

- (2) How do you expect to apply skills and knowledge according to listed items in Curriculum (in section II., page 2) after you return to your home country?

- (3) Other matters you are expecting for this course, if any.

Remarks: The report should be typewritten in English (12-point font, appropriately spaced, A4 size paper), and total pages of the report should be limited to 3 pages plus pages of the organisation chart.

**Energy Management for Middle East and Eastern Europe
(JFY 2002)**

Questionnaire

Name of Applicant: _____

Name of Country: _____

Name of Organisation and Present Post: _____

To the following questions, please itemise your answers and make them specific.

1. Have you ever studied the following subjects? (Please tick either "Yes" or "No".)

	Yes	No
Thermodynamics -----	()	()
Heat Transfer -----	()	()
Heat Balance -----	()	()
Hydrodynamics -----	()	()
Combustion of Fuels -----	()	()
Measurement Technology -----	()	()
Electrical Engineering -----	()	()
Air Pollution -----	()	()

2. Regarding the current situations of energy management in your country;

Please answer the following questions.

a. What sort of industry is regarded as the "key industry(ies)" in your country at present?

b. What kind of energies are used in your organisation (country)?

- c. How about quantities of energies?

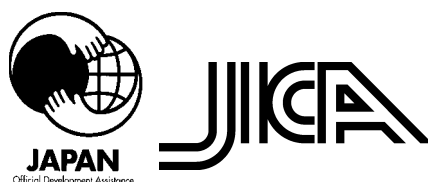
- d. What percentage of the production cost is occupied by energy charge in your organisation (country)?

- e. What is the dependence upon imported energy in your organisation (country)?

- f. Does your organisation (country) have enough engineers and managers who are skilled in energy management and energy conservation?

- g. Are there any training systems to improve the effective energy use in your organisation (country) ?

Remarks: The questionnaire should be typewritten in English (12-point font, appropriately spaced, A4 size paper).



CORRESPONDENCE

For enquiries and further information, please contact JICA office or the Embassy of Japan. Further, address correspondence to:

**Kyushu International Centre (KIC)
Japan International Cooperation Agency (JICA)**

Address: 2-2-1, Hirano, Yahata Higashi-ku, Kitakyushu-shi, Fukuoka,
805-8505 Japan

Tel : 81^(*) -93^(**) -671-6311 (* : country code for Japan)

Fax : 81^(*) -93^(**) -671-0979 (** : area code for Kitakyushu)

URL http://www.jica.go.jp/branch/kic_e/index.e.html

帰国研修員リスト

<チュニジア>

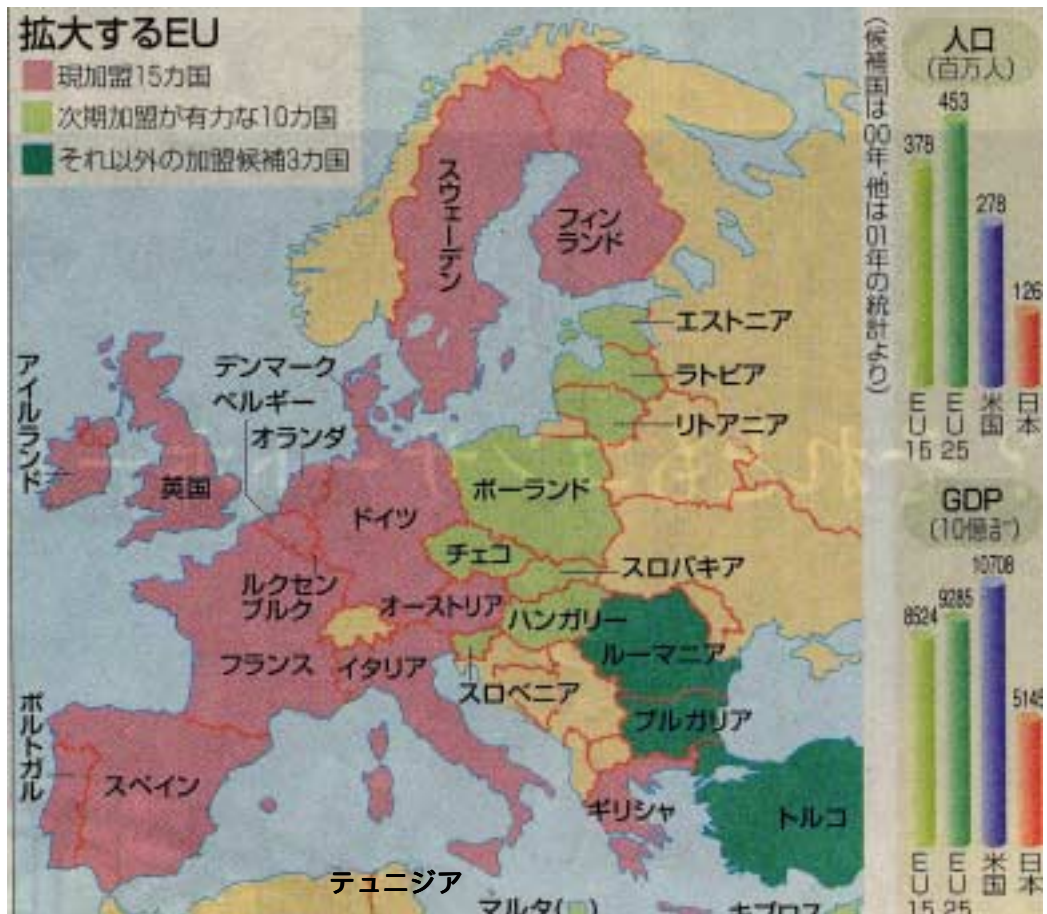
氏名	研修期間	参加研修コース名	現役職	現所属
Mr. Jameleddine LAZREG	1988/8/28～1988/11/2	地熱エネルギー	Manager Exploration Division Promotion & Marketing Department	Enterprise Tunisienne des Activites Petrolieres ETAP
Mr. Alaya BETTAIEB	1988/10/1～1988/12/7	省エネルギー	Director General, Sodicab Venture Capital S.A.	Enterprise Tunisienne des Activites Petrolieres ETAP
Mr. Bechir MOAKHAR	1989/10/1～1989/12/6	省エネルギー	Manager Training Chemical Fertilizer	Ministry of High Education Groupe Chemical Tunisian
Mr. Jaafar KAROUJ	1989/10/12～1990/2/1	自動制御	Instructor Training Section Center	Tunisian Vocational Training Agency
Mr. Kamel KALLEL	1992/10/19～1993/3/6	生産性向上技術	Vice Director Productivity Department	Ministry of Social Affairs
Mr. Abdelhak KHEMIRI	1994/1/24～1994/6/11	エネルギー管理	Director Department of Society	Company Assistance & Maintenance Industry
Mr. Moncef GASMI	1994/7/4～1994/1/24	自動制御	Associate Professor	Ecole Nationale d'Ingenieurs de Tunis

<ルーマニア>

氏名	研修期間	参加研修コース名	現役職	現所属
Mr. Sorin BIRSAN	1999/10/1～1999/11/1	東欧省エネルギー対策	Energy Counselor Head of Energy Licensing Department	Agency for Energy Conservation (ARCE)
Ms. Anca GOLITA	1999/10/1～1999/11/1	東欧省エネルギー対策	Project Director	Energy System Consult
Ms. Cristina STEFANCIUC	2000/10/1～2000/11/1	東欧省エネルギー対策	Energy Expert International Cooperation Division	Agency for Energy Conservation (ARCE)
Ms. Lusine CARACASIAN	2000/10/1～2000/11/1	東欧省エネルギー対策	Head of Public Information & International Cooperation Office	Romanian Electricity and Heat Regulatory Authority (ANRE)

欧州連合 EU (European Union) 15 カ国

- 1951 欧州石炭鉄鋼共同体 (ECSC)
- 1957 欧州共同体 (EC)
- 1958. 1. 欧州経済共同体 (EEC) 6カ国で発足
- 1993.11. 欧州連合条約発効 EU 12 カ国で発足
- 1995. 6. **ル - マニア** 加盟申請
- 2001.12. 10 カ国加盟案 (4.5 億人の単一市場へ)
- 2002. 1. Euro 流通開始 (EU 15 カ国のうち12 カ国)
(英、スウェーデン、デンマークは不参加)
- 2002.10. EU 首脳会議 13 カ国との加盟協議総括
- 2002.12. EU 首脳会議 新加盟国決定 (最大10カ国)
- 2004. 春 「大欧州」 実現 加盟条約署名、批准を経て



テュニジア、ルーマニア、日本の主要項目比較表

(項目)	Republic of Tunisia	Romania	Japan	備考
1) 面積 (10 ³ km ²)	164	238	378	世界 135,641
2) 人口 ['00] (10 ³)	9,459	22,438	126,919	世界 6,056,715
密度 (人/km ²)	58	94	340	世界 45
3) 首都	Tunis	Bucharest	東京	
都市部人口 (10 ³)	674 ['94]	2,028 ['97]	7,969 ['01]	
位置	36°50'N 10°13'E	44°25'N 26°09'E	35°41'N 139°46'E	
4) 都市人口率 (%)	61.0 ['94]	54.9 ['98]	78.1 ['95]	
5) 産業人口率 一次 (%)	21.6 ['94]	40.0 ['98]	5.3 ['98]	
二次 (%)	33.5	27.2	31.5	
三次 (%)	42.5	32.8	62.7	
6) 土地利用率 農地 ['94] (%)	30.3	41.6	11.7	
牧場 (%)	19.0	20.4	1.7	
森林 (%)	4.1	28.0	66.2	
7) 国民総所得 ['99] (10 ⁹ US\$)	19.8	33.0	4,054.5	
(US\$/人)	2,090	1,470	32,030	
8) エネルギー消費 ['97] 石油相当 (10 ⁶ t)	5.70	39.07	460	
(kg/人)	618	1,733	3,634	
9) 発電量 ['97] (10 ⁹ kwh)	8.4	57.1	1,040.1	
水力 (%)	0.5	30.6	9.7	
割合 (%) 火力 (%)	99.5	59.9	59.3	
原子力 (%)	—	9.4	30.7	
10) 鉄鋼消費 ['99] (10 ⁶ t)	0.64	2.59	70.63	
(kg/人)	68	115	557	
11) 輸入 ['98] (10 ⁹ US\$)	8.3	11.8	280.6	
依存度 ['99] (%)	39.8	30.5	7.1	
12) 輸出 ['98] (10 ⁹ US\$)	5.8	8.3	388.1	
依存度 ['99] (%)	27.6	25.0	9.6	
13) 観光客 ['97] (10 ³ 人)	4,260	2,960	4,220	
収入 (10 ⁹ US\$)	1.4	0.53	4.3	
14) 通貨 ['01.11] (US\$ equivalent)	Tunisian Dinar 1.4211	Lei 31,053	Yen 120.8	
15) 合計特殊出生率 (人)	2.550 ['95~'00]	1.320 ['97]	1.388 ['97]	

注：世界各国要覧でデータブック 2002 VOL14 (二宮書店 平成14年1月20日発行)による。

TUNISIAN OIL & GAS INFRASTRUCTURE



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