

Text No.1

**JAPAN'S INTERNATIONAL COOPERATION
IN ENERGY CONSERVATION**

省エネルギー と国際協力活動

May 19, 2003

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JICA Group Training Course on Energy Conservation

Japan's International Cooperation in Energy Conservation

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Contents

- 1. International Cooperation by Japanese Government --- p.2~**
 - ODA Policy of Japanese Government --- p.3 ~**
 - ODA Scheme and Implementation --- p.4 ~**
- 2. Promotion of Energy Conservation --- p.9~**
- 3. International Cooperation by ECCJ --- p.15~**

1. International Cooperation by Japanese Government

<Back Ground of International Cooperation>

Japanese Official Development Assistance

ODA policy of Japanese government is this:

As the world second largest economy and the largest donor of ODA, Japan shoulders the important responsibility of contributing of sustainable and environmentally sound social and economic development in developing countries.

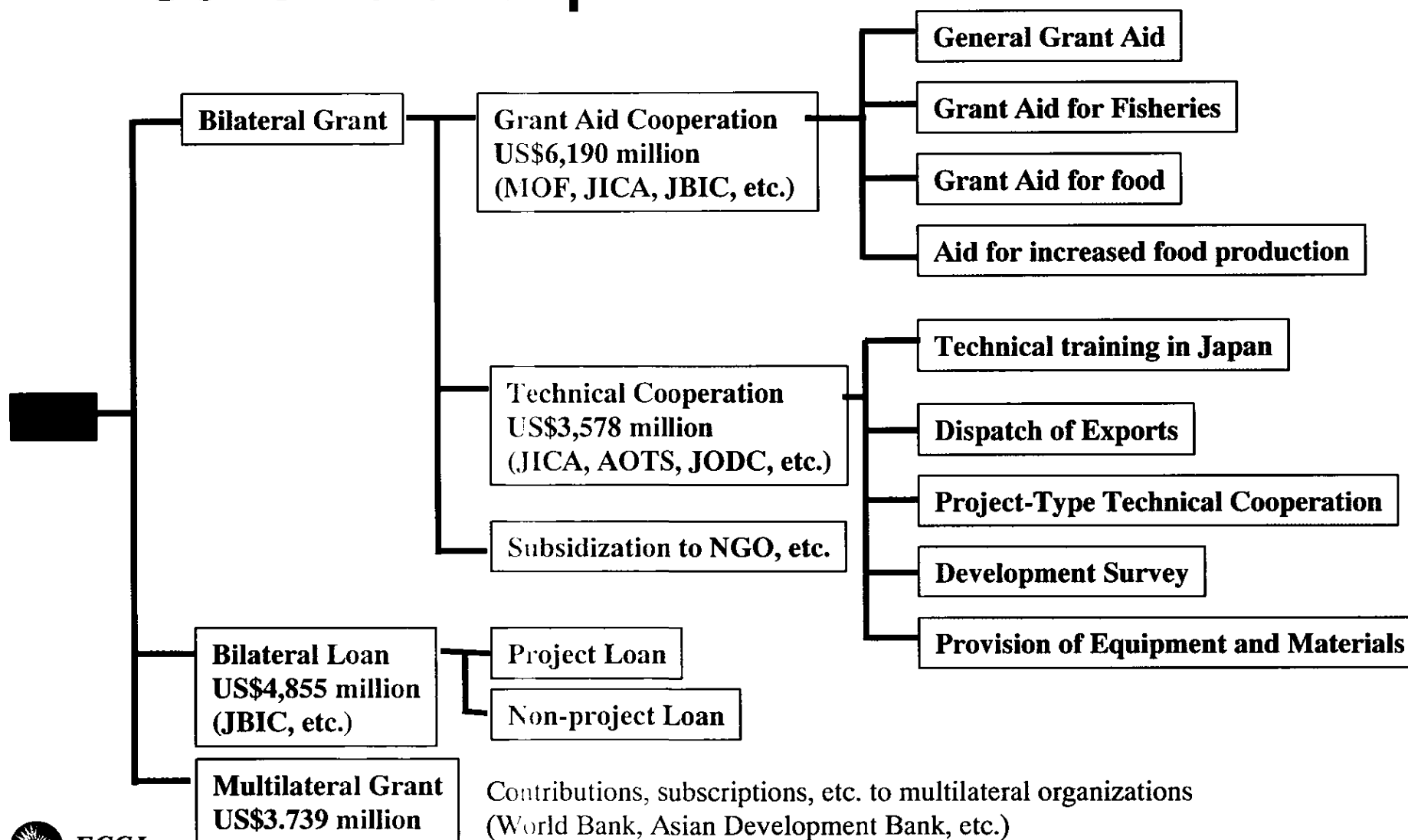
Additionally, this is a role through which Japan can win the confidence and appreciation of the international community, and that ODA plays a very significant role in ensuring Japan's own stability and prosperity by promoting Japan's best interests, including the maintenance of world peace and the importation of resources, energy, food, and other basic materials.

We should remember that when Japan lay almost in ruins immediately after the last world war half a century ago, foreign aid helped Japan to rebuild and lay the foundations for the prosperity it enjoys today.

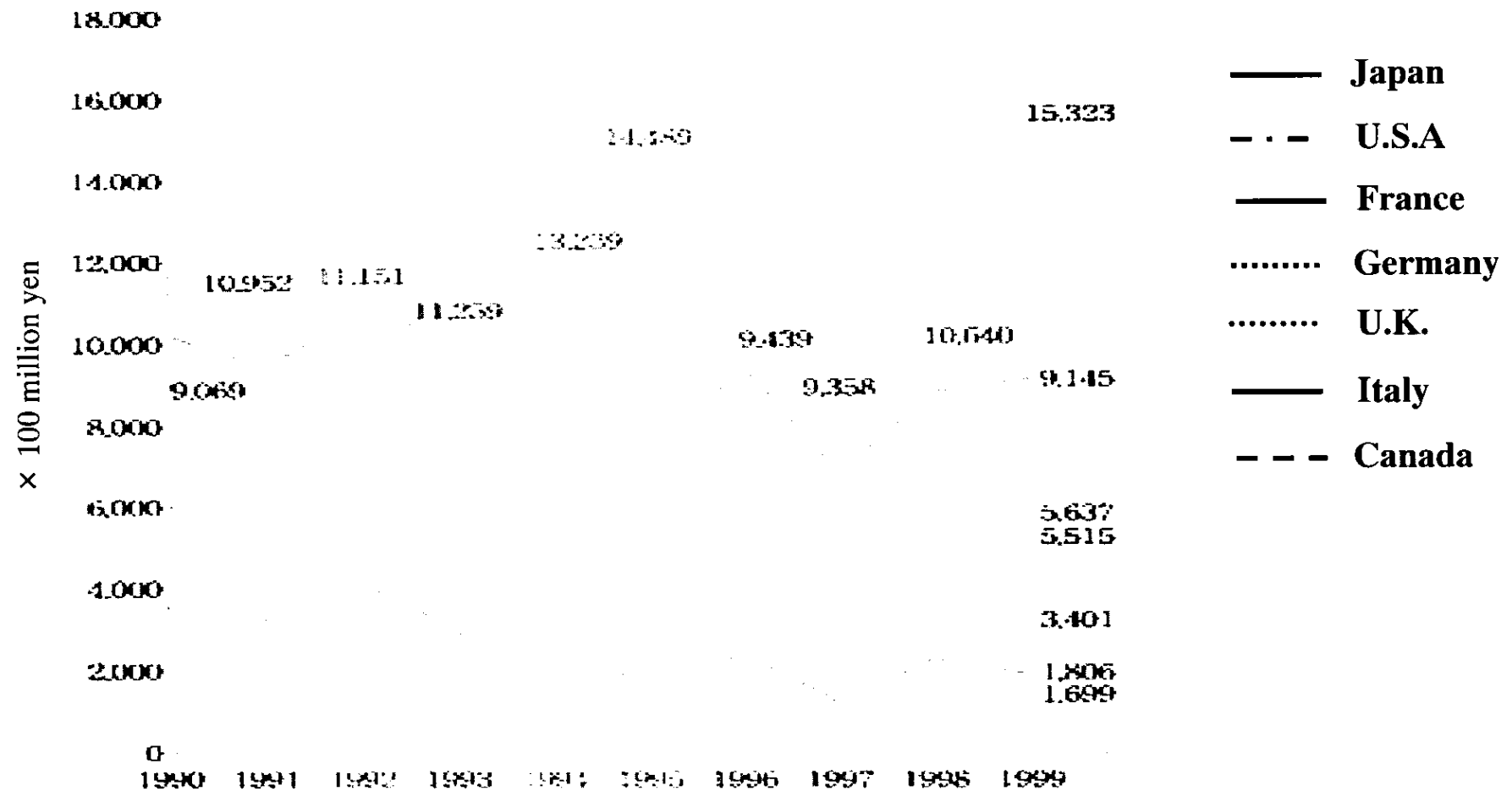
<Back Ground of International Cooperation>

Figure: As of 2000

Scheme of Japanese ODA

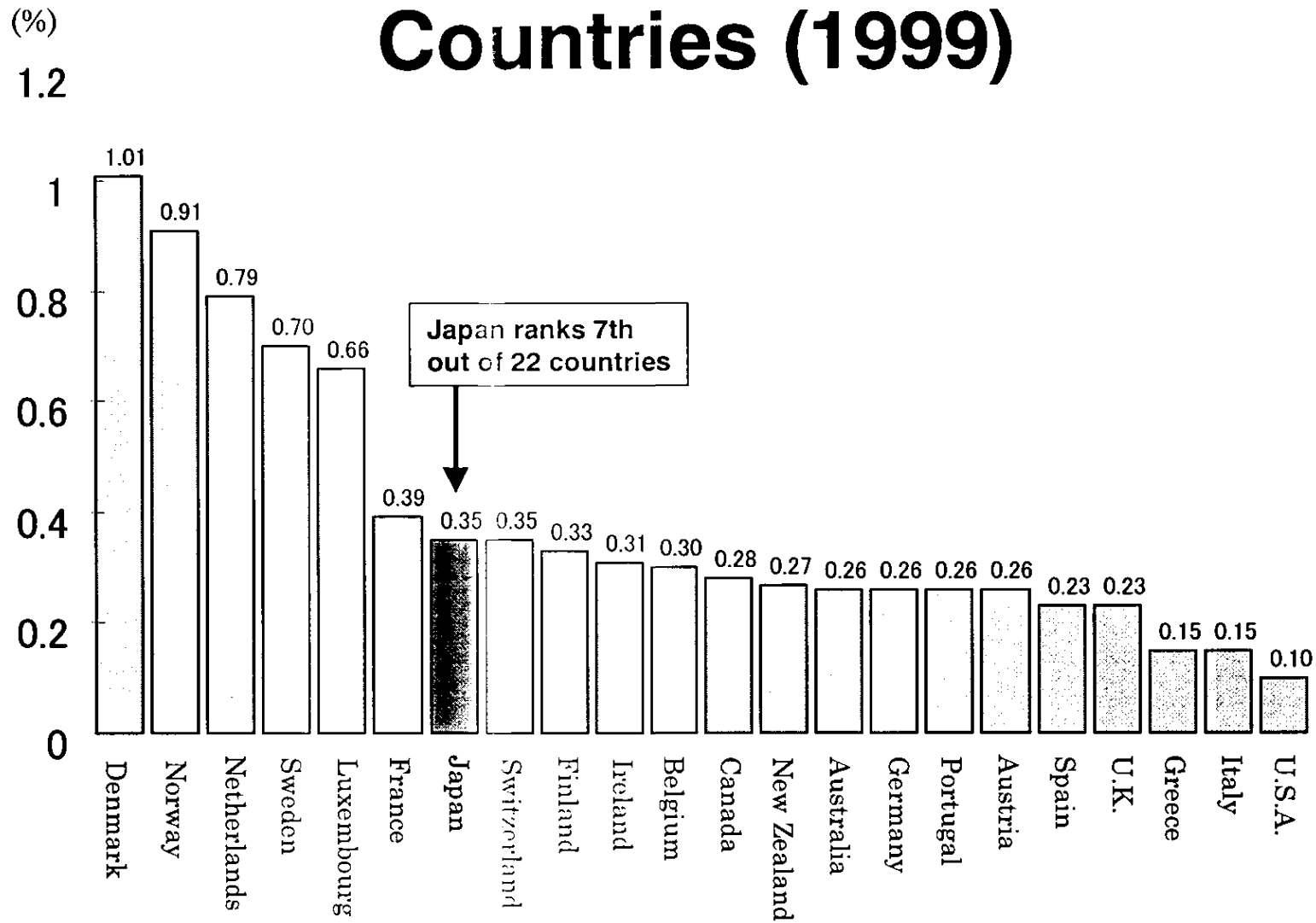


Trends in Major DAC Countries' ODA (Net disbursement basis)

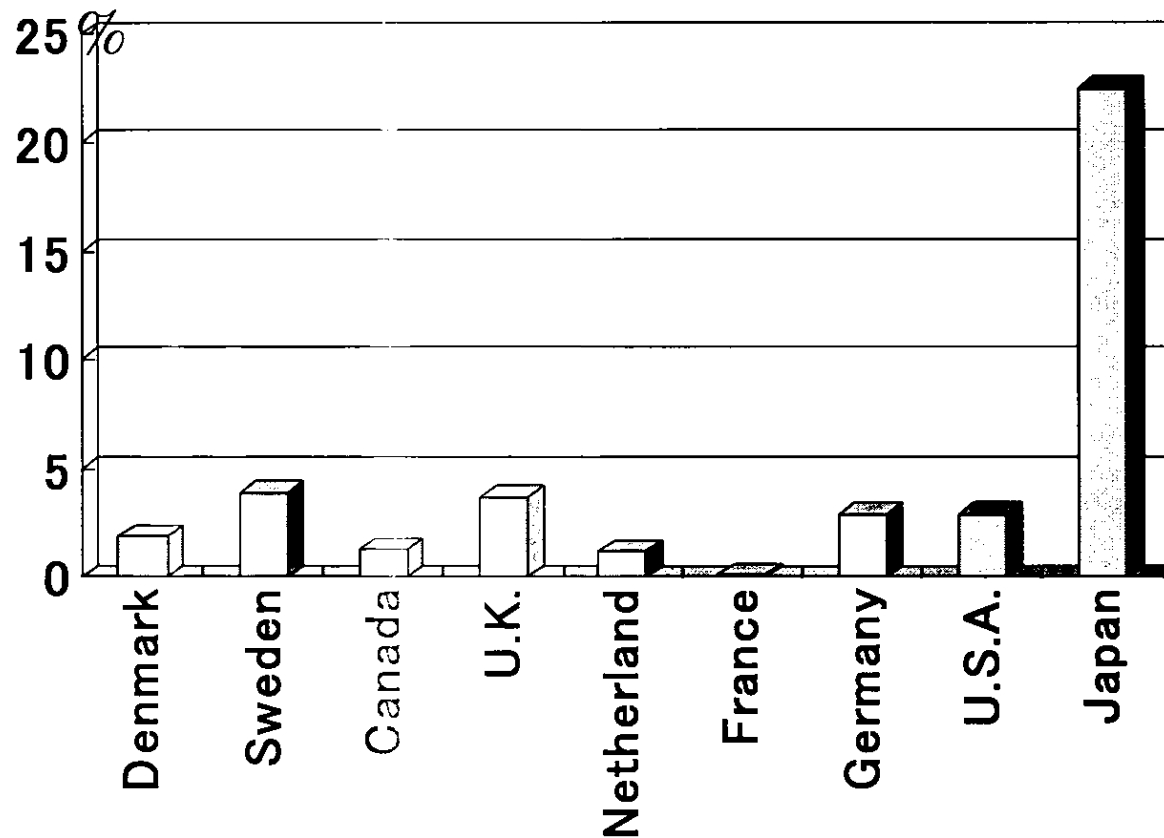


- Source : 1999 DAC Press Release
- Note : Excluding aid to Eastern Europe

ODA/GNP Ratios of DAC Member Countries (1999)

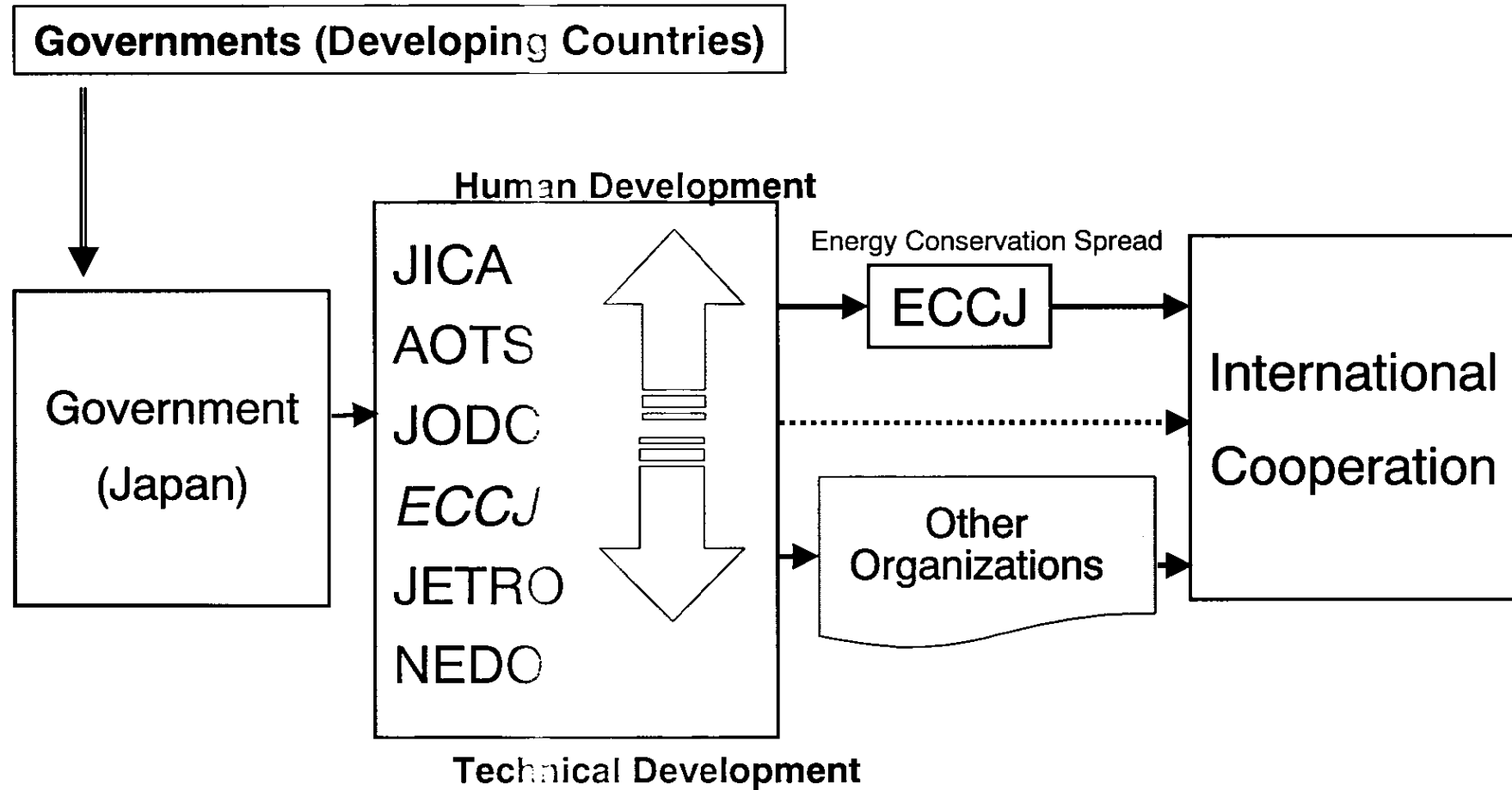


Ratios of ODA applied to arrest measures for global warming against to ODA total amount by countries

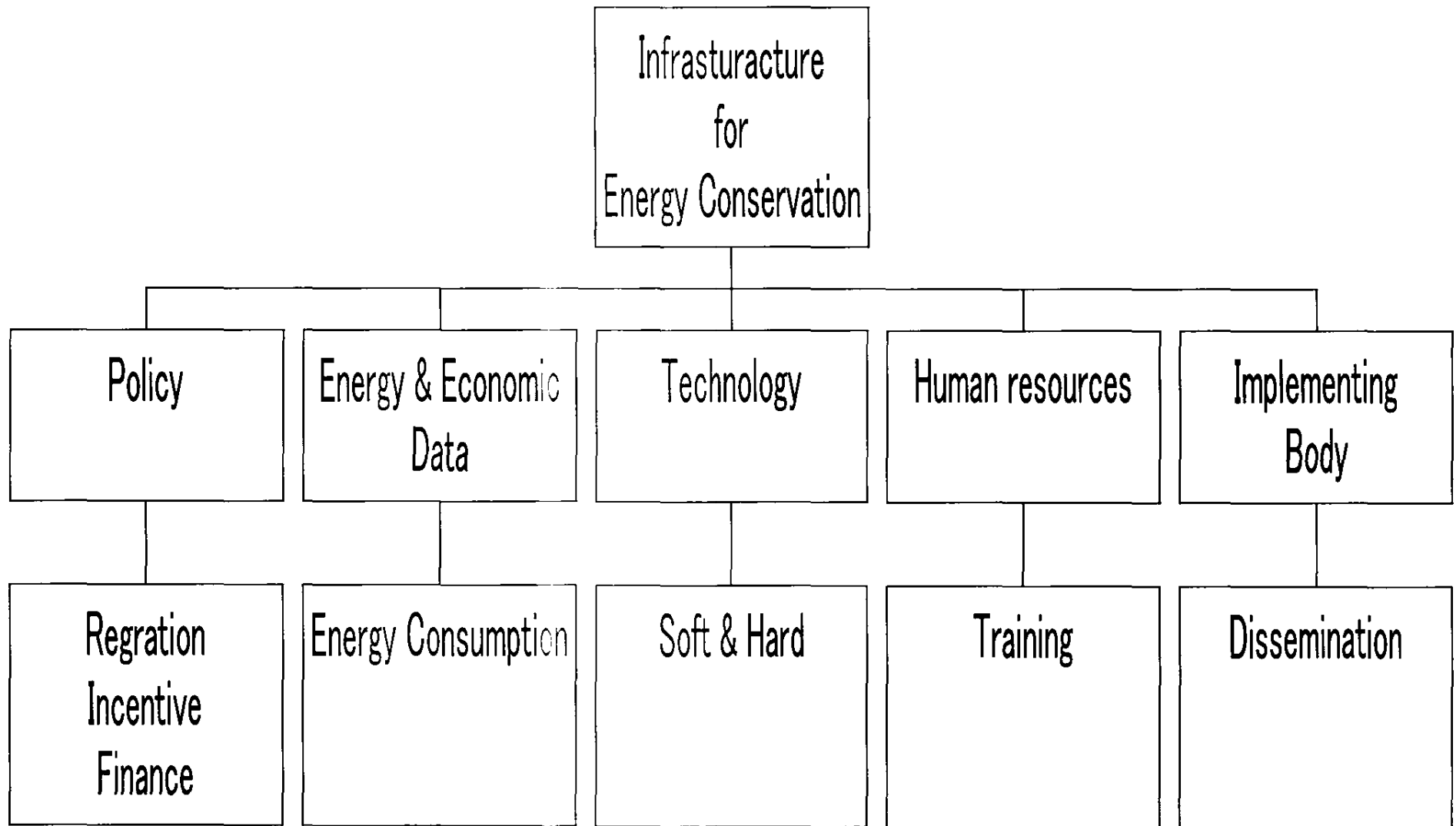


<Reference: the report on ODA concerning Global Warming Arrest, by MOFA & Mitsubishi Research Institute, March 2002>

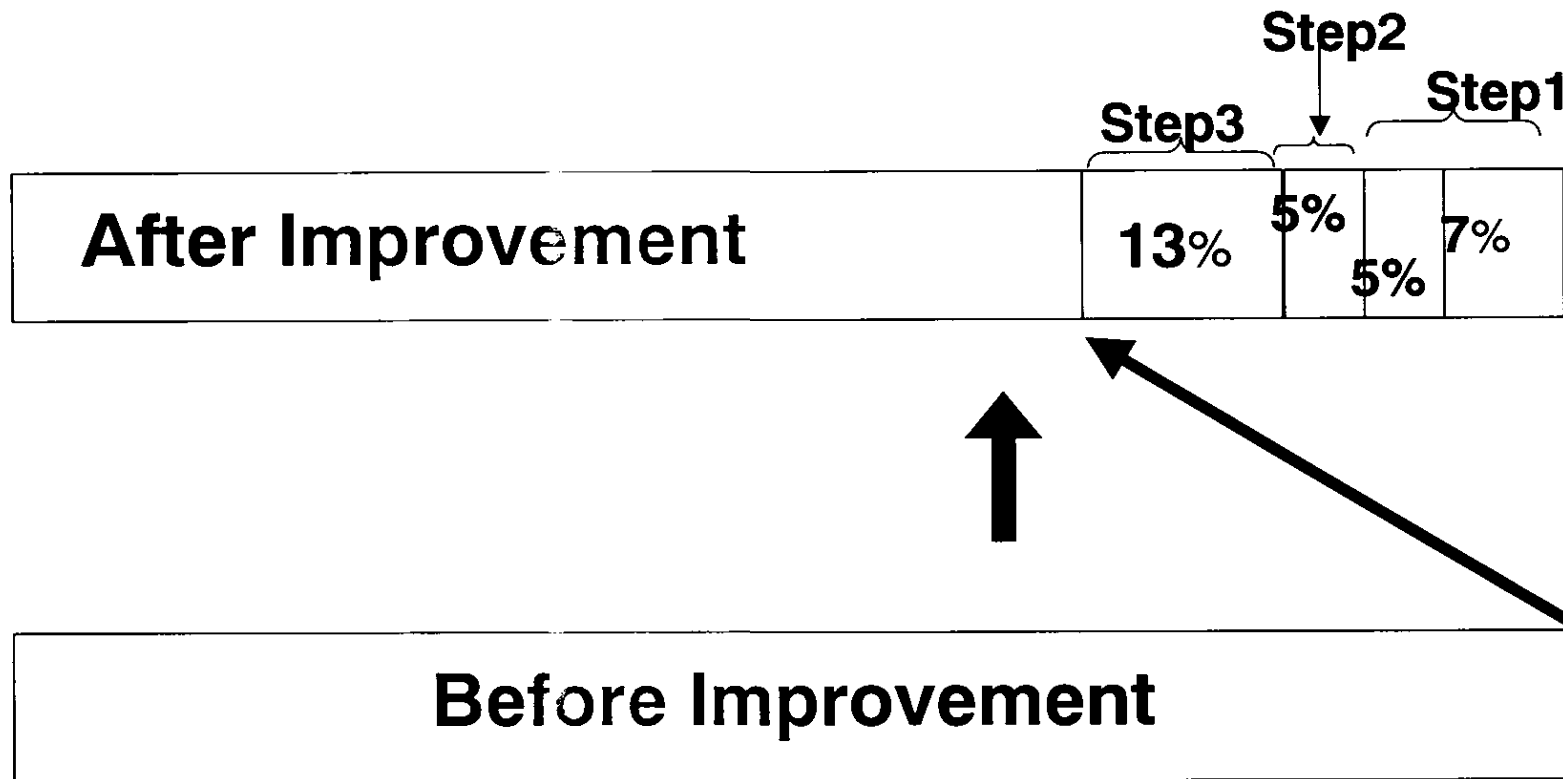
Cooperation Scheme through ECCJ



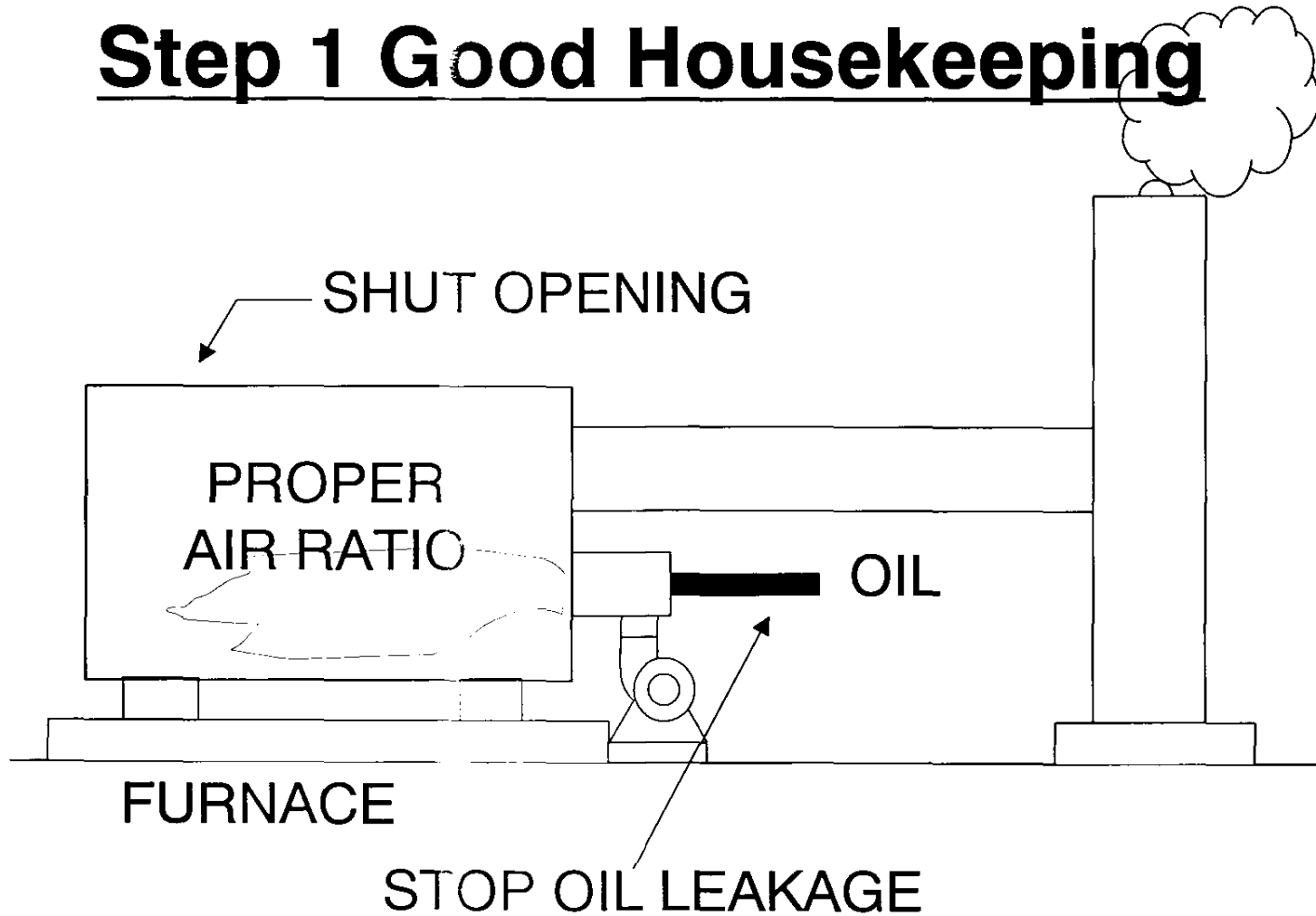
2. Promotion of Energy Conservation



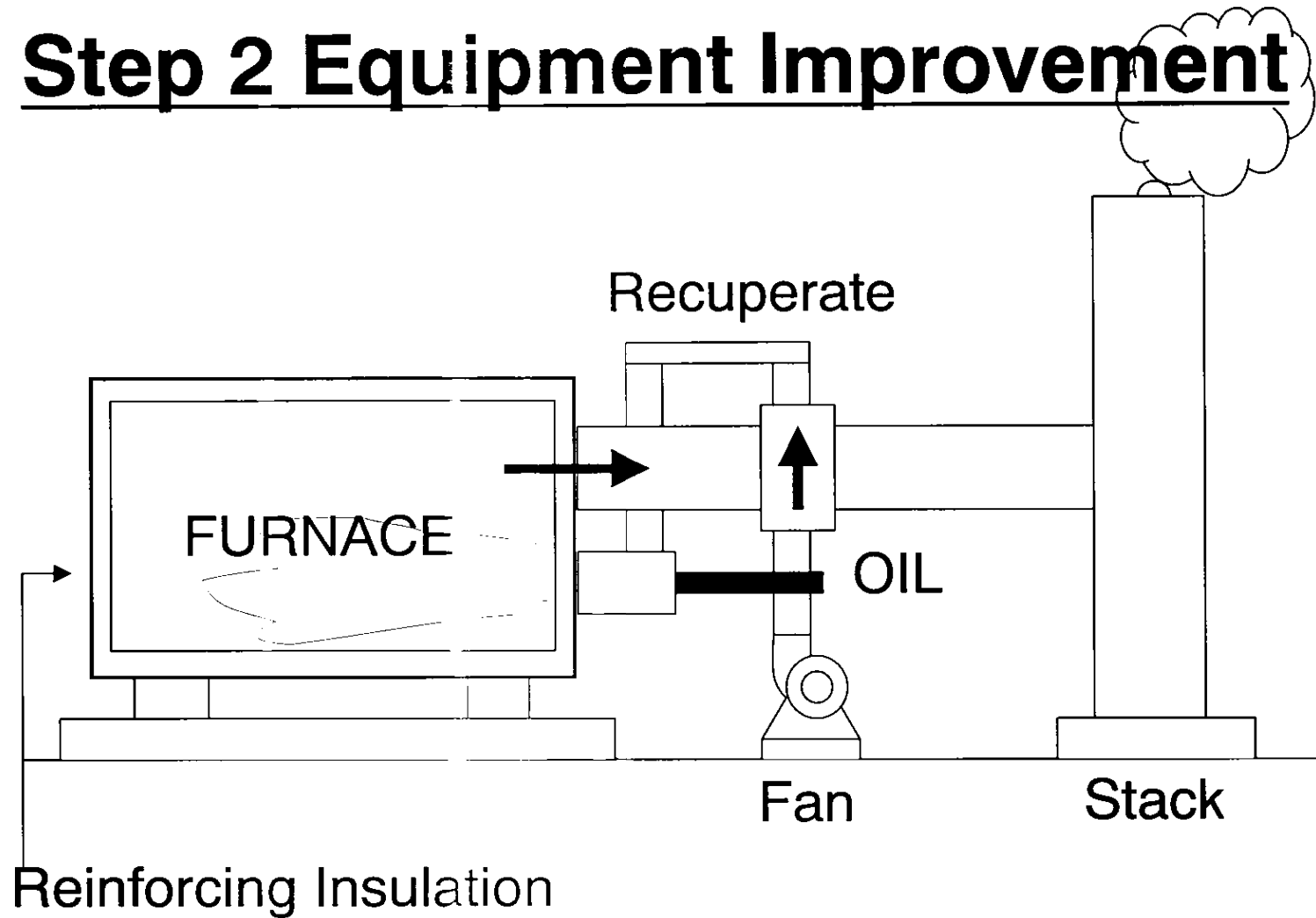
Effect of Energy Conservation



Step 1 Good Housekeeping

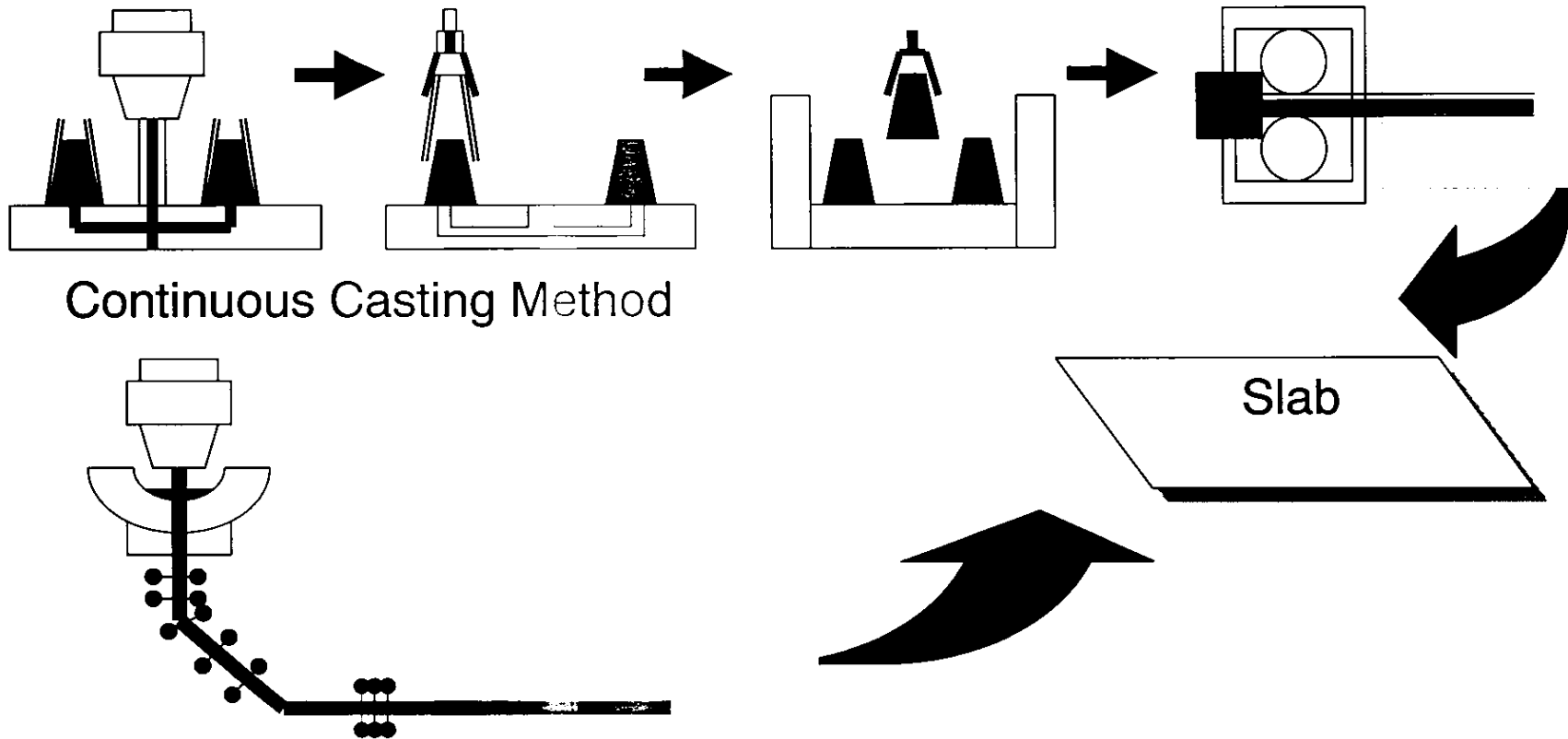


Step 2 Equipment Improvement



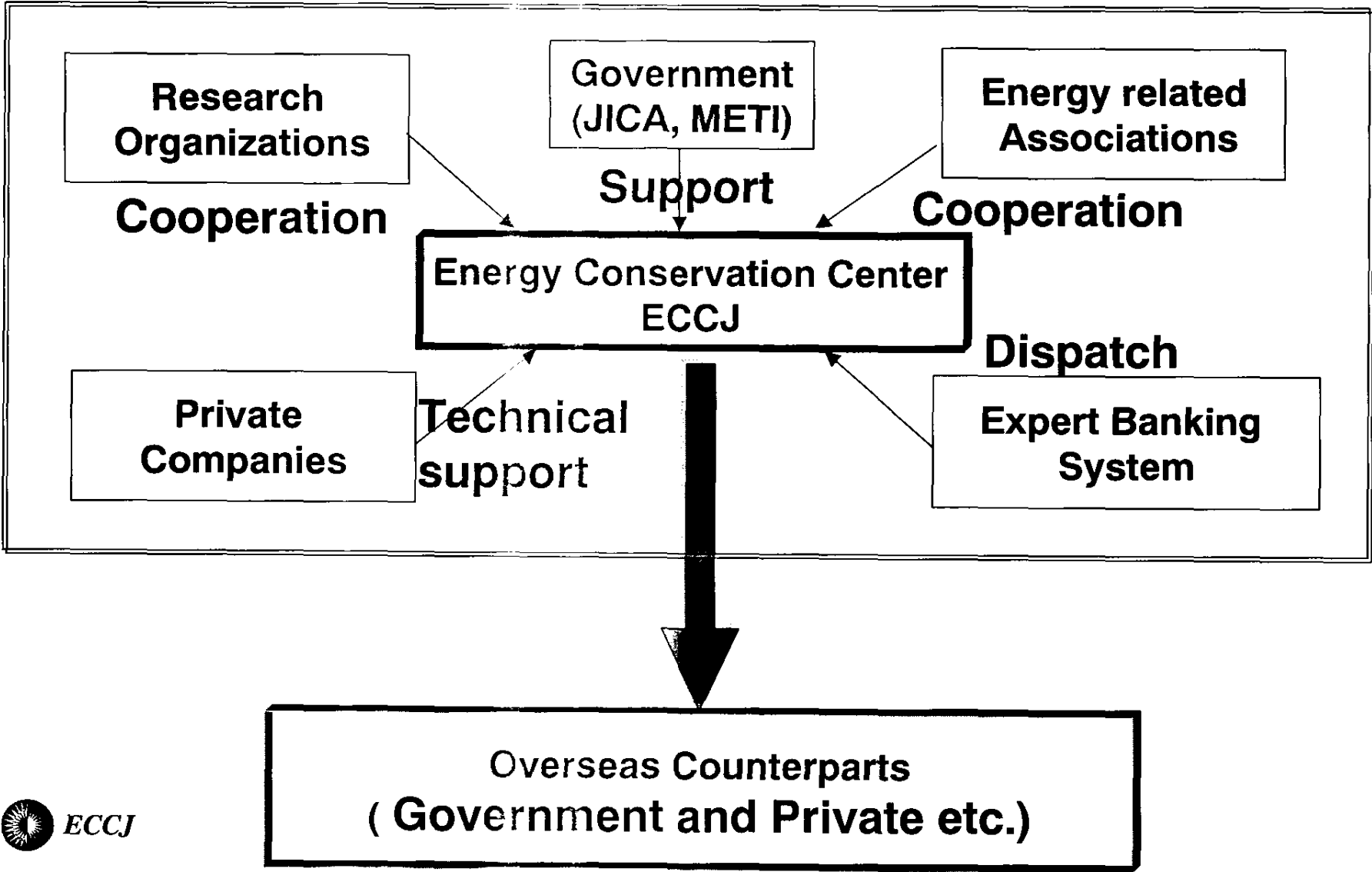
Step 3 Production Process

Ingot Casting & Slabbing Method



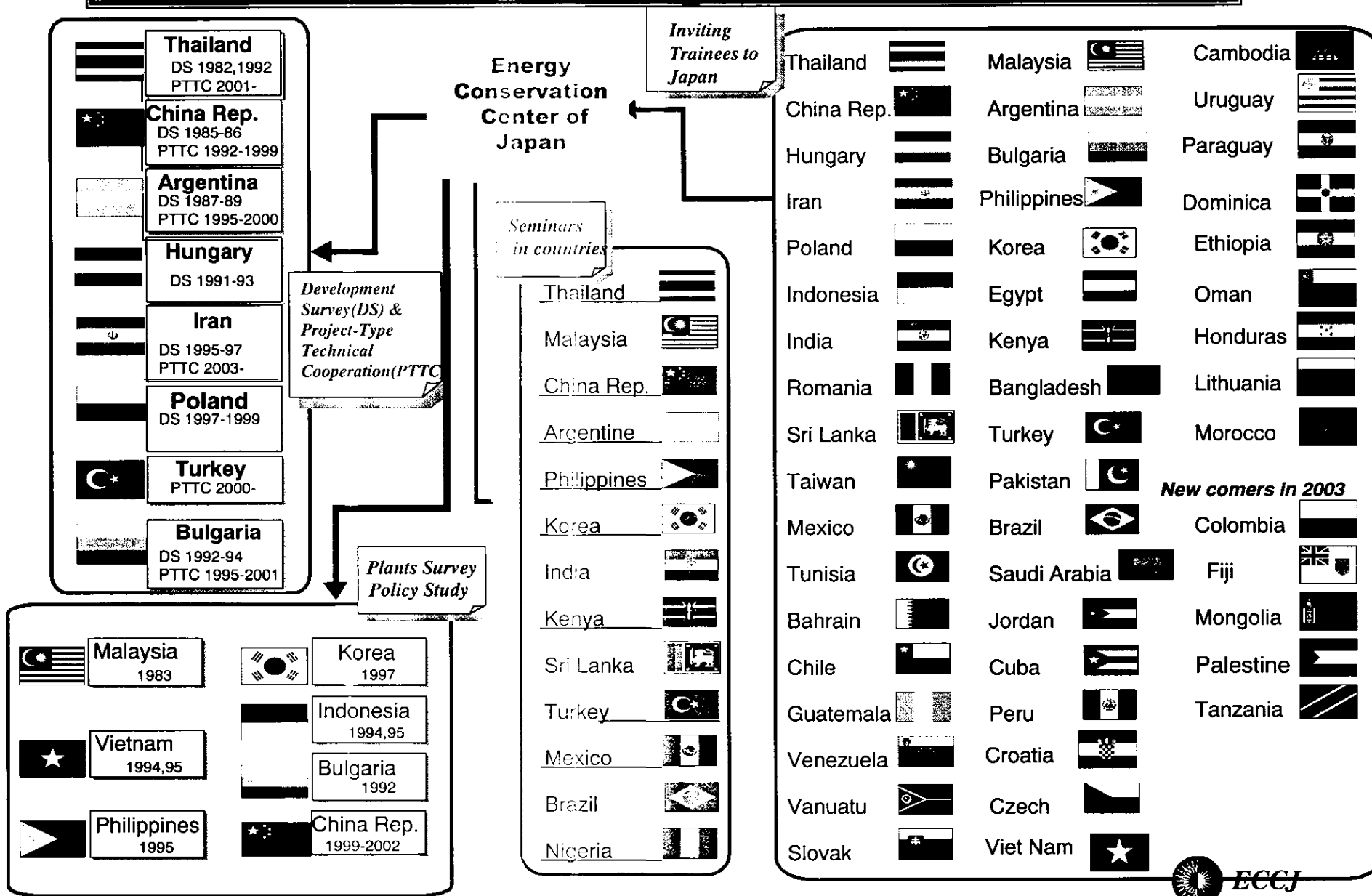
3. International Cooperation by ECCJ

Cooperation Network of ECCJ



International Cooperation of ECCJ

May 2003



Main Fields of ECCJ's International Cooperation

<Policy Proposal>

- *Investigation of energy use and energy conservation policy.
- *Potential survey and feasibility study on energy conservation and reduction of GHG emission .

<Capacity-Building>

- *Training course at home and abroad.
- *Dispatching experts to overseas for seminars.

<Technical Cooperation>

- *Factory energy audit and improving advise based on measurements (plant survey, energy conservation audit)
- *Cooperation and support for establishment and operation of Energy Conservation Centers or such organizations.

International Cooperation

Energy & Environment Training Course of ECCJ

		in Japan	overseas			in Japan	overseas
Asia	Bangladesh	6	90	Europe	Poland	21	-
	China	49	30		Hungary	14	-
	Indonesia	26	60		Czech	10	-
	Korea	24	-		Bulgaria	30	-
	Malaysia	16	30	Middle East & Africa	Egypt	13	90
	Philippines	19	35		Turkey	20	30
	Thailand	51	160		Kenya	13	-
South America	Argentina	29	60	Other countries		91	-
	Brazil	16	-	Total		460	615
	Mexico	12	30			1,075	

<Example of Training Course in Japan>

JICA /ECCJ

Energy Efficiency and Conservation (general course)

<every year from 1986>

Duration: May 14, 2002 – July 4, 2002 (52 days)

Number of Participants: 12 (10 Countries)

Course Objectives: to understand

- 1. The energy situation and energy policy in Japan**
- 2. The promotion policy for EE & C and its enforcement procedure**
- 3. EE & C measures in the industrial, commercial and residential, and transport sector.**
- 4. Energy management methods in buildings and factories.**

Program: Lecture, Plant visiting to understand successful cases, Practical work (measurement of energy consumption), and Workshop (discussion and presentation).



<Example of Training Course in Japan>

JICA /ECCJ Turkey Energy Conservation Project <Project: Aug. 2008 – July 2005>

Duration: November 17, 2002 – December 14, 2002 (28 days)

Number of Participants: 2 counterparts (experts)

Course Objectives: 1. Understanding the energy conservation policy and the Law, and energy management methods in Japan.

2. Skill-up for the expert (auditor, trainer).

3. Plant visiting to understand successful cases .

Program: Lecture & observation on measuring instruments and training facilities (i.e. boiler, furnace, inverter-controlled system, lighting etc.).

Training for audit technique (heat and electricity measurement, calculation, reporting etc.)

Participation to the practical on-site audit by Japanese experts (at manufacturing factories).



International Cooperation

Establishment of Energy Conservation Center

**ECC,
Japan**

Master
Plan

Dispatch of
experts

Training in
Japan

Provision of
equipment

CHINA : ECTC (1992.7~)

ARGENTINA : CIPURE (1995.7~)

BULGARIA : EEC (1995.11~)

TURKEY : NECC (2000.8~)

THAILAND : ECCT (2002.4~)

IRAN : NTCEM (2003.4~)

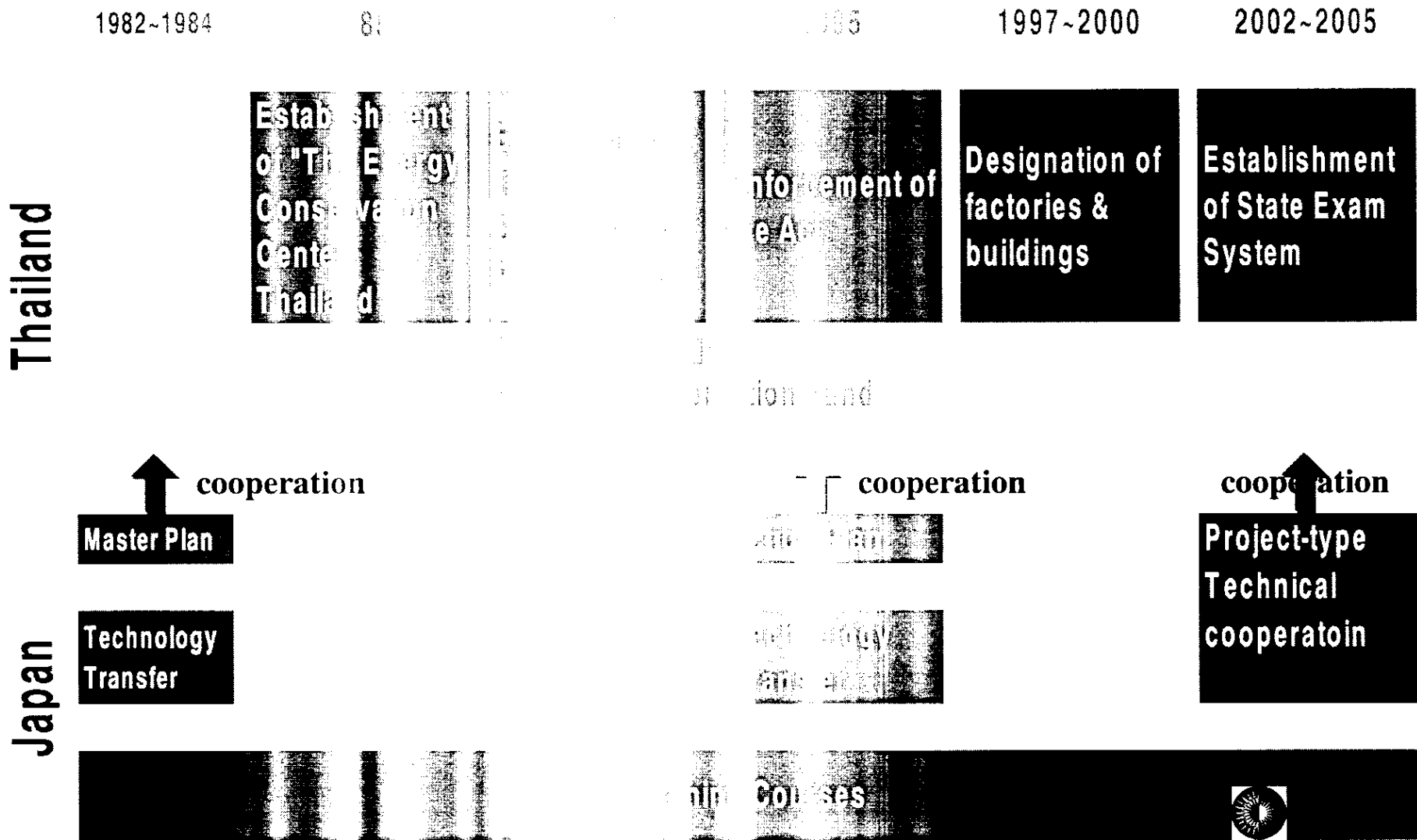
- ECC** : The Energy Conservation Center
- ECTC** : Dalian China Energy Conservation Training Center
- CIPURE** : The Rational Use of Energy Center
- NECC** : The National Energy Conservation Center
- ECCT** : The Energy Conservation Center ,Thailand
- NTCEM** : The National Training Center for Energy Management

In preparation

Poland (2003.?~)



Example of Cooperation for Energy Conservation in Thailand



<Example of Establishment and Management of EE&C Center >

JICA/ECCJ Thailand Energy Conservation Project

Object: Establishment of State Training and Examination System for License of Energy Manager

Duration: April 2002 – March 2005

Counter part: ECC Thailand (ECCT)

Department of Alternative Energy Development and Efficiency (DEDE)

Program: * cooperation to establishment of State Training and Examination System.

- * preparation of training texts and instruments & facilities.**
- * cooperation to start up the training course and state examination.**
- * cooperation to establishment of the supportive system for activities of Energy Managers.**
- * Training of counter parts in Japan.**
- * Seminar in Thailand.**



Energy Conservation Center in the Overseas

Country	Organization Name	Upper Organization	Budget			Main activity
			Personnel	Operation	Governmental support	
China	China Dalian Energy Conservation Training Center	Dalian City	Self	Self	Have not	Training
Argentina	The Rational Use of Energy Center	National Institute of Industrial Technology	Public	Self	Have not	Training Audit
Bulgaria	Energy Efficiency Center	Ministry of Industry	Public	Self (Public)	Have not	Audit
Turkey	The National Energy Conservation Center	Ministry of Energy, Energy Efficiency Office	Public	Public(Self)	Have	Training Audit Policy, PR
Poland	Energy Conservation Technology Center	National Energy Conservation Agency	Self	Self	Have not	Training Audit
Malaysia	Malaysia Energy Center	Ministry of Energy, Communication & Multimedia	Public	Self	Have	Training Audit Policy, PR
Thailand	The Energy Conservation Center, Thailand	Ministry of Energy, DEDE	Self	Self	Have	Training Audit Policy, PR
Iran	Energy Efficiency Office / Azarbaijan Center(AIHER)	Ministry of Energy	Public	Public	Have	Training Audit Policy, PR

<Example of abroad factory diagnosis and improving advise
based on measurements (plant survey, energy conservation audit)>

**NEDO/ECCJ Survey Project on the Energy Conservation in the Industrial Sector in
the Republic of China** **<started in 2001>**

Objectives: to evaluate the energy saving potential in the chemical industry sub-sector.
to find the energy conservation counter measures by carrying out energy audit.
to offer the above mentioned measures and to make them to be disseminated
over the sub-sector.

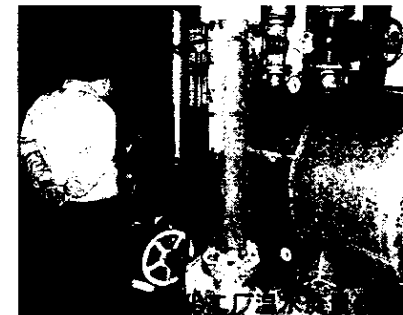
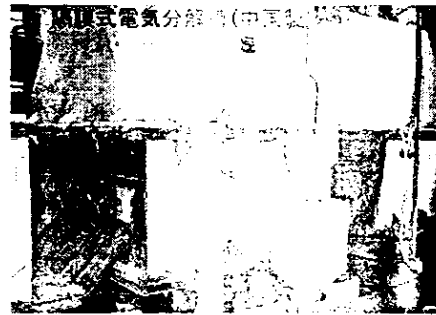
Duration: July 22, 2002 – January 25, 2003 (1st step:10 days, 2nd step:3 weeks,
3rd step:10 days)

Factories for auditing survey: 天津大沽化工厂、沈陽化工厂

Program: 1st step: pre survey (general information on energy consumption, preparation for the full-scale audit)

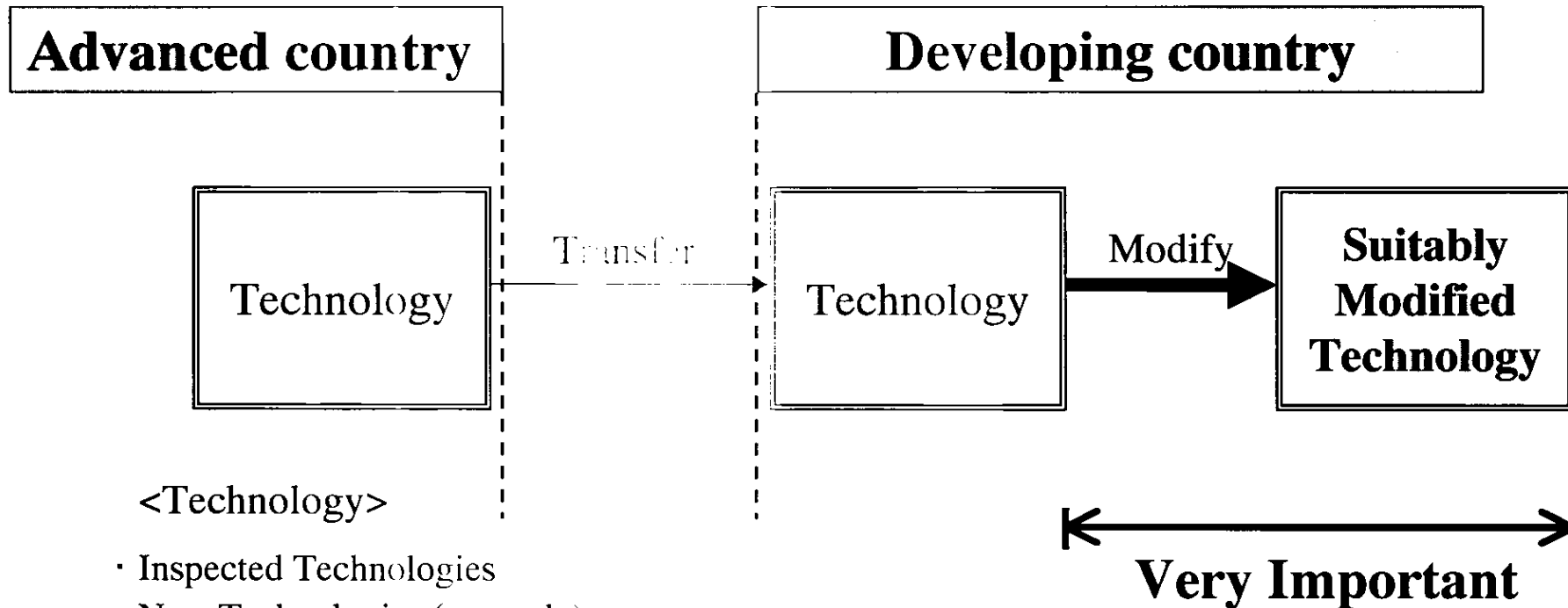
2nd step: The auditing survey with measurement. Discussion of the measuring
data and audit results and tentative measures.

3rd step: Submission and presentation of the study report to the Chinese Government.
Following up the implementation of the tentative counter measures, and
recommendation of the final measures at the surveyed factories.



Technology Transfer

“ Transferred technology should be modified suitably ”



- Inspected Technologies
- New Technologies (example)
 - Regenerative Burner (Industry)
 - Monitoring System (Residential)
 - Direct Injection (Transportation)
 - Measuring & Control System (General)

Best Approach

1. Public Information & Education Activities

Holding Seminar, pamphlets

2. F/S for Energy Conservation Program

Energy Audit, Technology Transfer

3. Regulatory Measures & Incentives

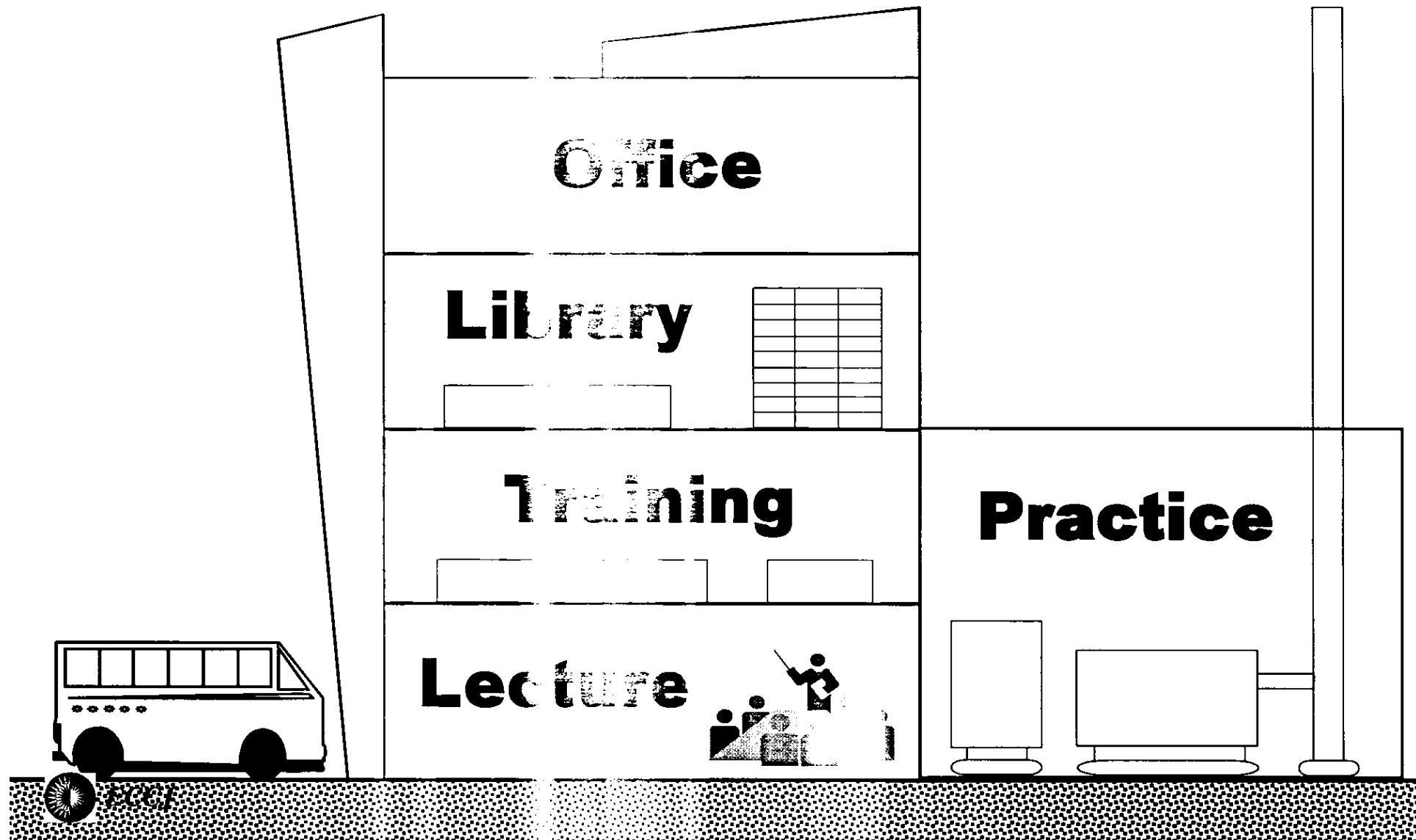
4. Implementing Body

Public Information, Education, Consultation

5. Human Resource Development

6. Demonstration Project

Energy Conservation Research/Training Center



ECCJ International Chronicle ----- some extracts

1. Dispatch of Survey Team

1)	Thailand	Energy Conservation Project	1982. 8-1985. 1	JICA
2)	Malaysia	Factory Energy Conservation Project	1983. 3-1983.12	UNIDO
41)	Bulgaria	Expert Survey on Energy Conservation Center Project	1995. 5	JICA
42)	China	Survey on Energy Conservation Training Center Project	1995. 6	JICA
45)	Indonesia, Malaysia	FS on the Efficient Use of Municipal Solid Waste in ASEAN Countries	2000.11-2002. 3	NEDO

2. Dispatch of Experts

1)	Thailand	Energy Conservation Project	1981. 3	JICA
87)	Turkey	Short Term Expert on Public Relation of Energy Conservation /Energy Conservation Project	2002. 3	JICA

4. Reception of Overseas Trainees

1)	Thailand	National Energy Administration (NEA)	1982.11 - 6W	JICA
90)	Cambodia	Ministry of Industry, Mines and Energy	2001. 6 - 0.2M	NEDO

5. Training Course in Overseas

11. Model Project for Energy Conservation in Overseas

2)	India	Demonstration Project on Direct Reduction Iron	1995.12-	NEDO
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Others \longrightarrow **You can see in ECCJ's Web site**

Thank you

