



ASEAN Energy Business Forum 2007

Meetings – Conference – Exhibition

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Energy Managers Accreditation Program and Energy Audit Activities in Japan

Shuichi KAWANO, President ECCJ



ECCJ

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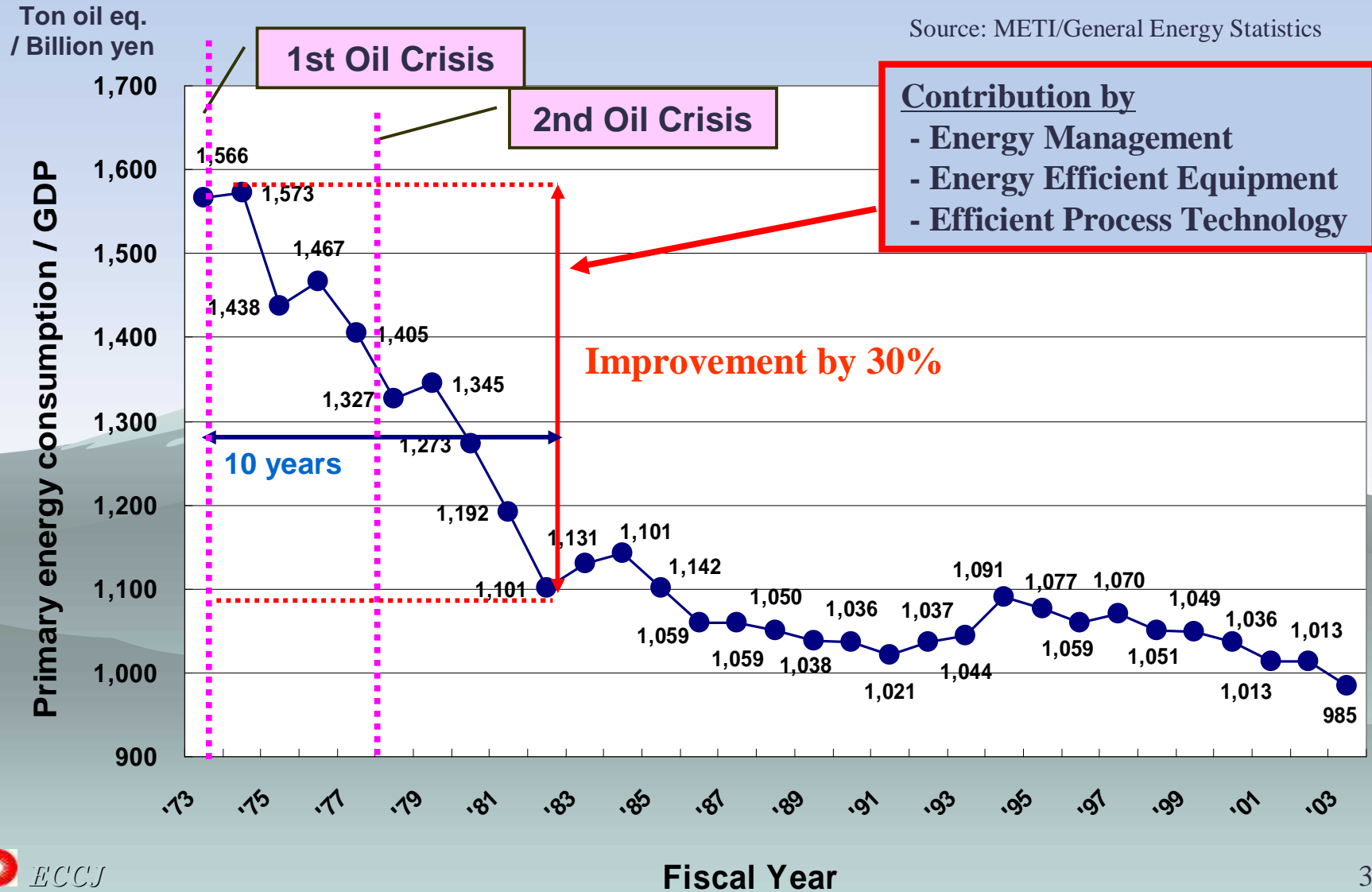


COTENS

- 1. How Japanese Industry Cuts Energy**
- 2. Regulative Measure by Law**
- 3. Role of Energy Managers**
- 4. Qualification System of Energy Managers**
- 5. Factory Energy Audit for Energy Conservation**

1. How did the Japanese Industry Succeed in Energy Conservation

Changes in Primary Energy Intensity per GDP in Japan



How the manufacturing industry of Japan succeed
in the energy conservation after the Oil Crisis?

1. International cost competitiveness enforced enterprises to do *QC activity, **Kaizen by small group activities**, and TQM Energy conservation investment and technological innovation.*
2. Regulation measures by Government
Energy Conservation Law
3. Support and subsidy system by Government
tax, subsidy, soft lone

Mutual effect, synergy effect

Energy conservation is to minimize *energy loss* and
to maximize *energy efficiency* at energy utilizing site.

Energy Conservation Philosophy

- Energy Conservation should be **achieved at “on-site”**.
- Energy Conservation is to be **practical** and **steady** activities.

2. Regulative Measure by Law

Designated Energy Management Factory under the Energy Conservation Law 2005 revised

Annual Energy Consumption	Classification	
	Manufacturing , Mining , Electricity Supply , Gas Supply , Heat Supply ,	All industries (e.g. office buildings, department stores, hotels, schools, hospitals, government offices) except those listed left,
	Type 1 Designated Energy Management Factory	Type 1 Designated Energy Management Factory
3,000 kL		Type2 Designated Energy Management Factory
1,500 kL		
0 kL		

**Obligations of Type 1
Designated Energy Management Factories
(7,433 factories as of Aug.2006)**

- 1. To implement energy conservation according to the judgment standards**
- 2. To appoint energy managers**
- 3. To submit a periodical report (every year)**
- 4. To design and submit a mid & long term plan for energy conservation (every year)**

Obligations of Type 2
Designated Energy Management Factories
(5,860 factories as of Aug.2006)

- 1. To implement energy conservation according to the judgment standards**
- 2. To appoint an energy management officer**
- 3. To have the officer participate a designated training course on energy conservation (once per 3years)**
- 4. To submit a periodical report (every year)**

3. Role of Energy Manager

Top Management

Submission of

- **Periodical report on energy consumption**
- **Medium-to-long term improvement plan**



Government

Energy Conservation Law

- Advising on**
- Improvement plan of Energy Efficient equipment and facilities
 - Organization for Energy Efficiency and conservation

Authorization of the competency and position of the Energy Manager

Registered Energy Manager



- Making the **periodical report**
- Keeping the energy consuming facilities in sound condition
- Carrying **“energy audit”**

- **Instruction** to the employees for energy conservation activities
- Technical advice for energy efficient operation of the facilities



Engineers (middle management)

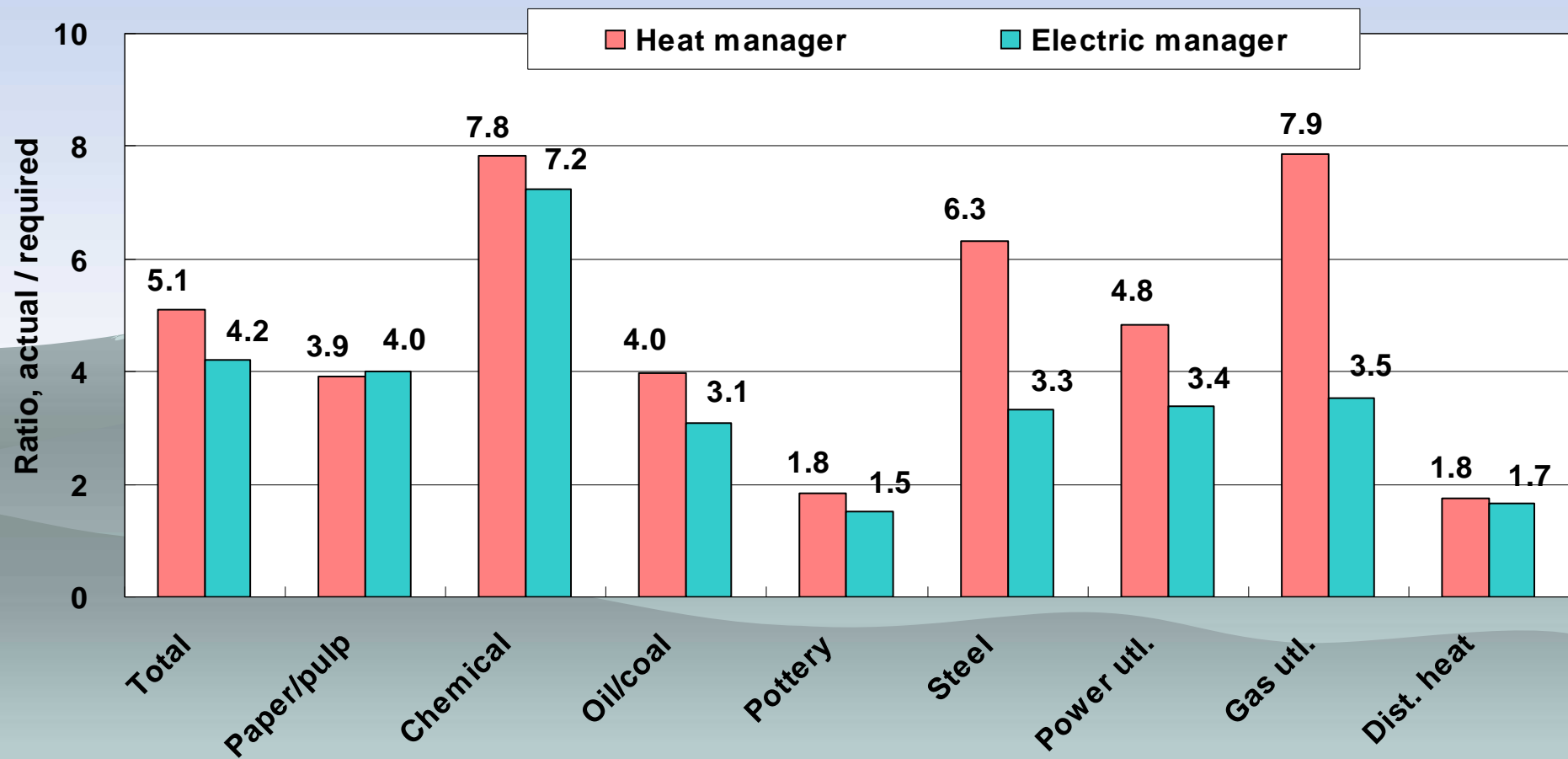
< Energy Conservation Activities >

employees

Responsibility and Authorization for Energy Manager & Energy Management Officer under the Energy Conservation Law

- ◆ **Energy Manager and Energy Management Officer shall be responsible for**
 - ❖ **Maintaining energy consumed facilities**
 - ❖ **Improving & monitoring energy usage**
 - ❖ **Conducting every business toward energy efficiency and conservation**
- ◆ **Top management shall respect his/her opinions**
- ◆ **Employees shall follow his / her instructions**

Employment Situation of Energy Managers by Industry



4. Qualification System for Energy Managers

4.1 License of Energy Manager

* ECCJ is assigned to implement the state examination & training seminar by the government.

A. National qualifying examination

- ❖ Once a year
- ❖ 1 day, 4 subjects
- ❖ 1 year experience

Applicant	8,950
Succeeded	2,290 (22.5%)

(in 2005 year)

B. Training seminar

- ❖ Once a year
- ❖ 6 day training & 1 day examination
- ❖ Background : 3 year experience

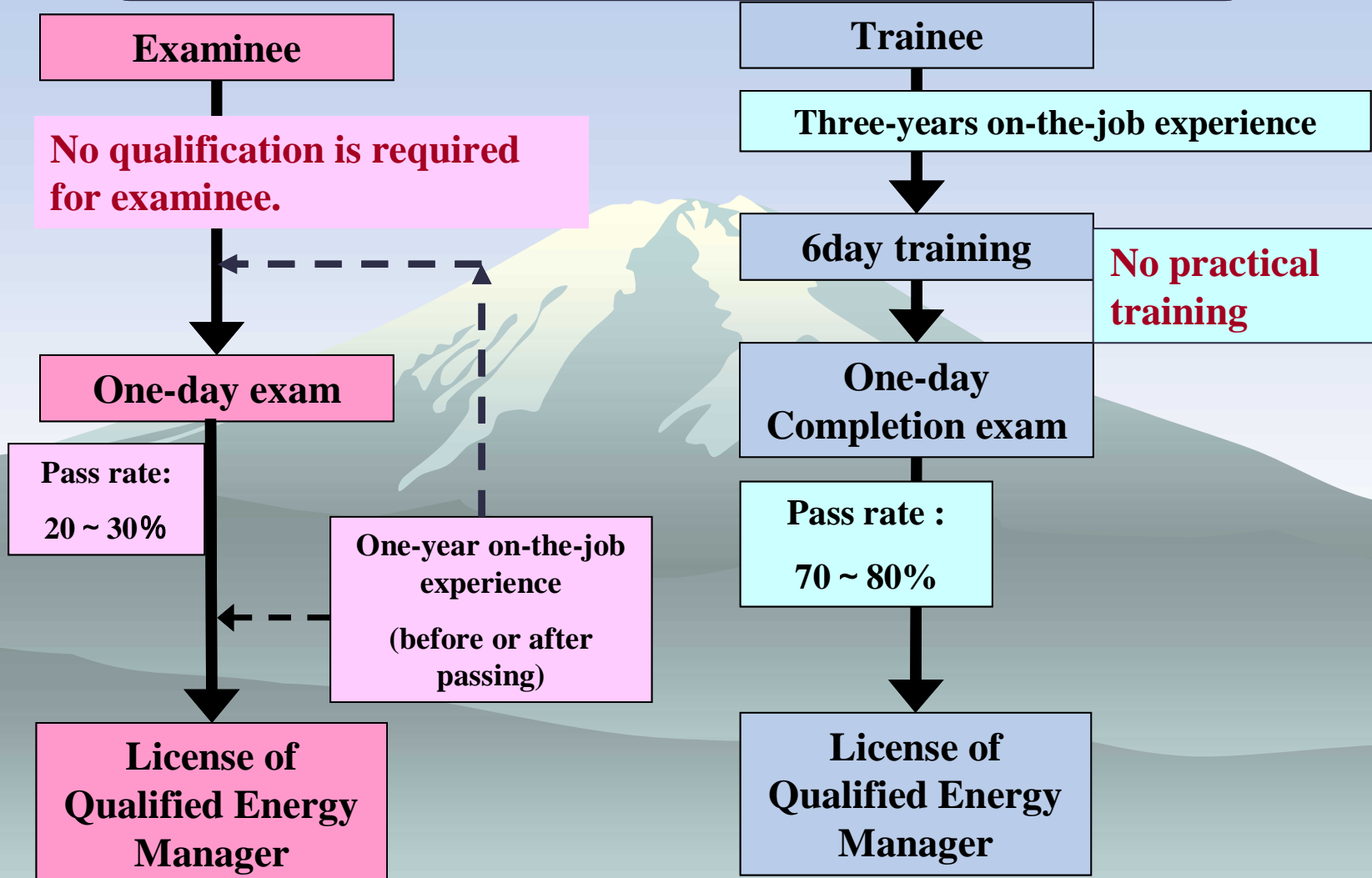
Applicant	about 2,700
Succeeded	about 65%

4.2 Execution System of the “National Qualifying Examination”

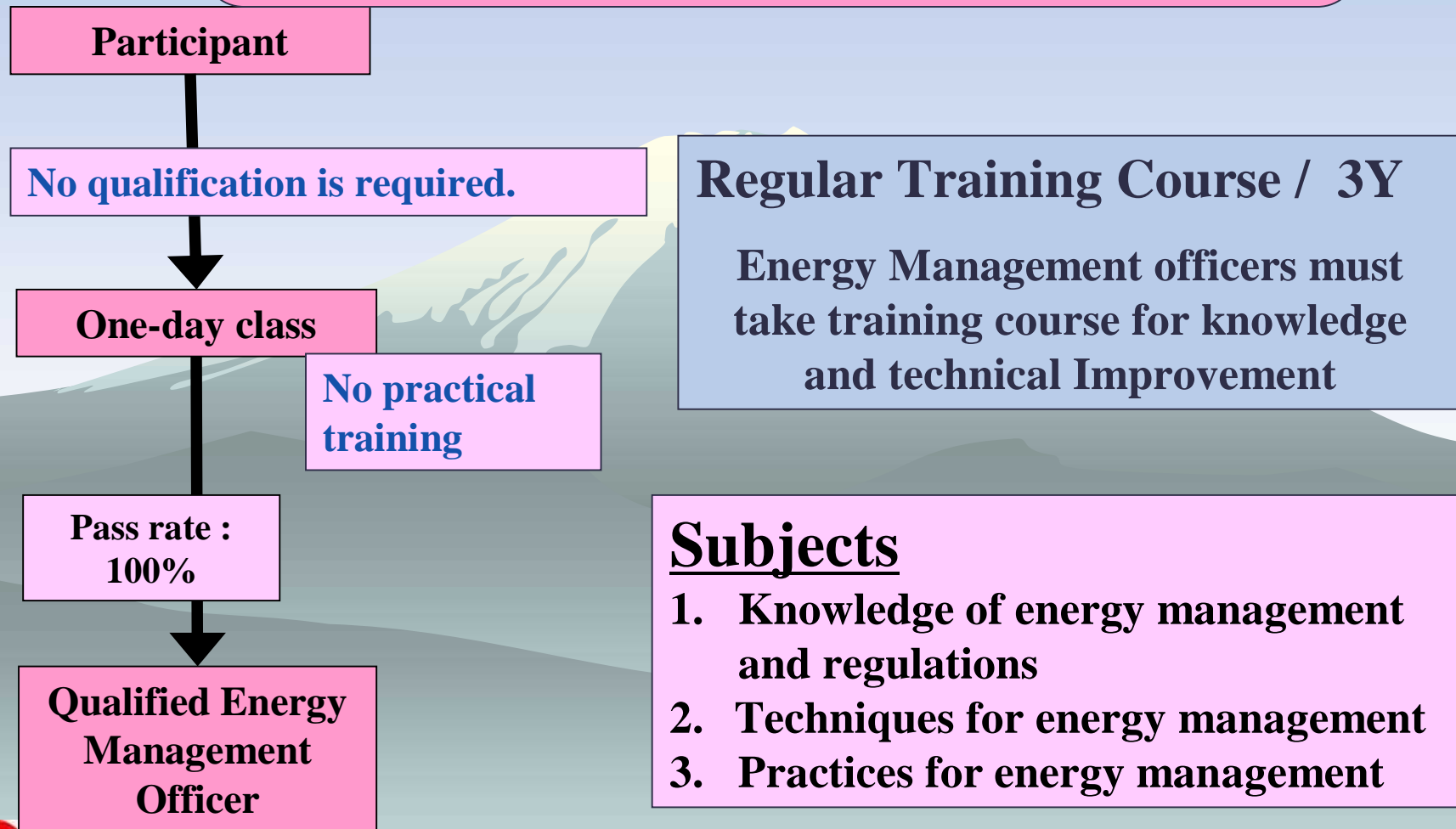
Examination & Training Center



4.3 Examination & Qualification Course for Qualified Energy Managers



4.4 Qualification Course , & Regular Training Course* for Energy Management Officers



5. Factory Energy Audit for Energy Conservation

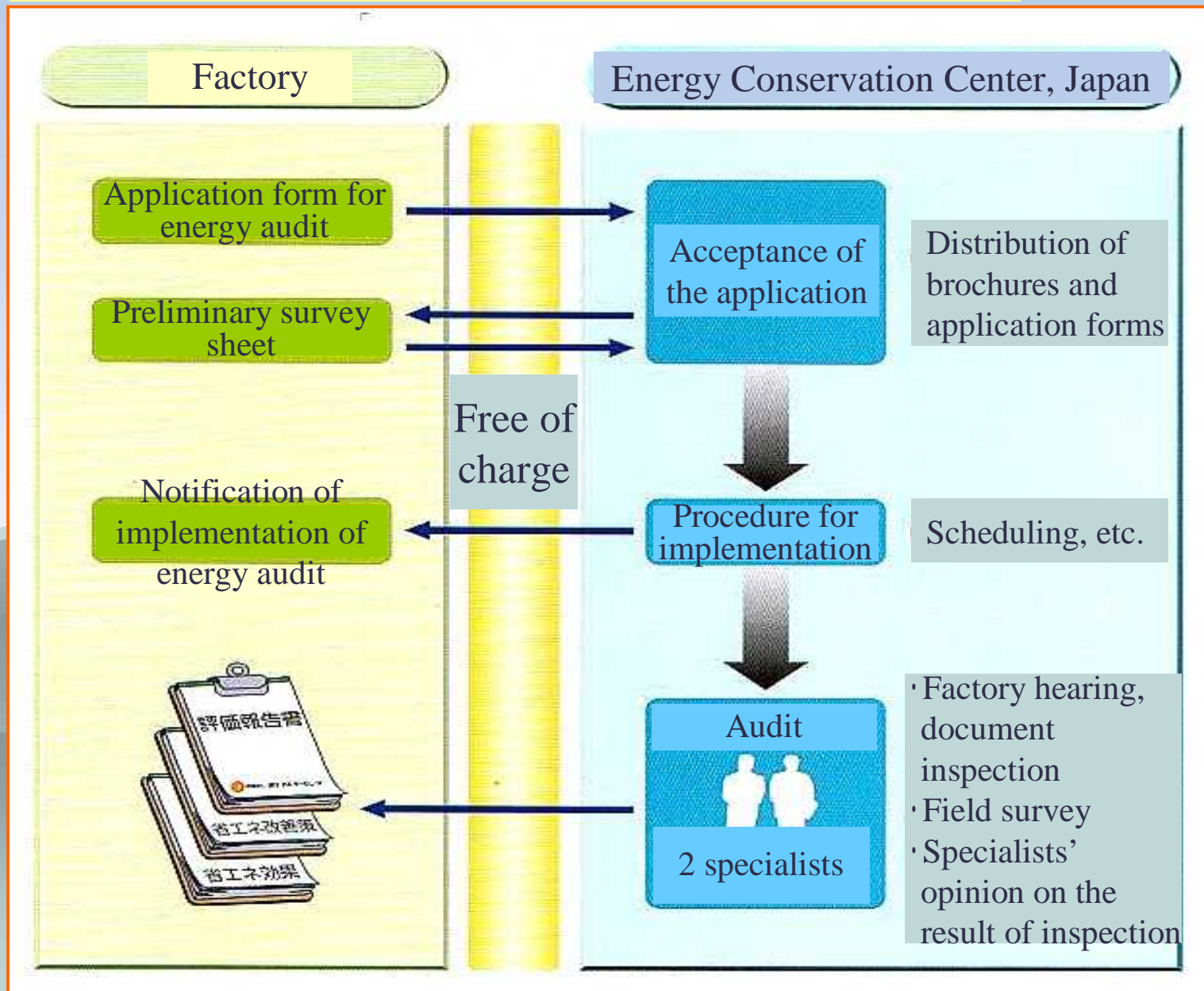
Energy audit is one of very effective tools for energy conservation activity in a factory.

5.1 Objectives: Fact-finding for Energy loss or Management, study of causes & measures, and advice for improvement

< Auditing items >

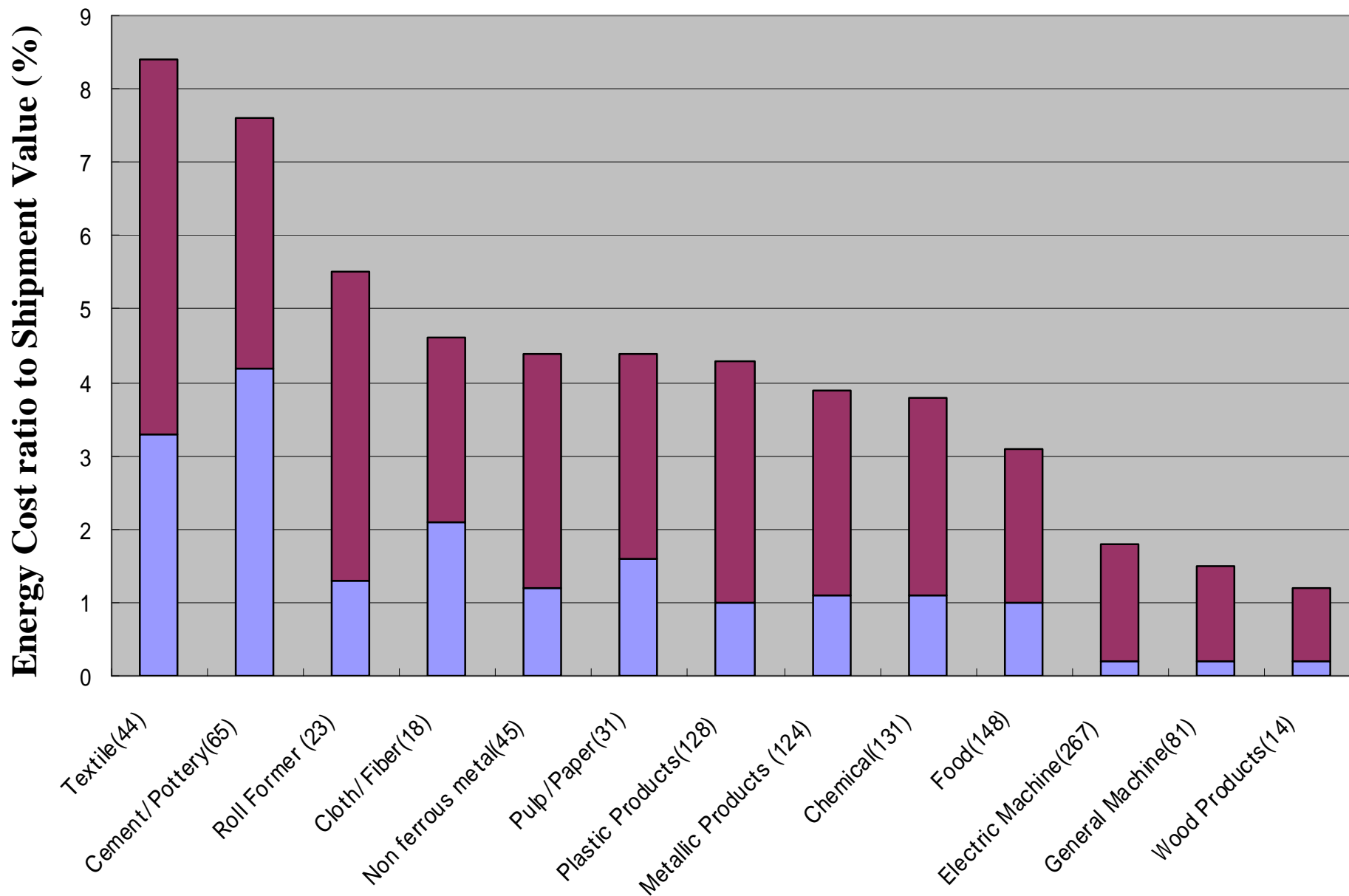
- **Management**
organization, target, standard, operation-manual, maintenance, measurement, record, etc.
- **Energy loss**
heat, steam, electricity, compressed air, etc.,
idling time, shut-down time, etc.
- **Energy efficiency**
energy unit consumption, total energy efficiency etc.
--- by equipment, by line, by factory

5.2 Scheme and procedure

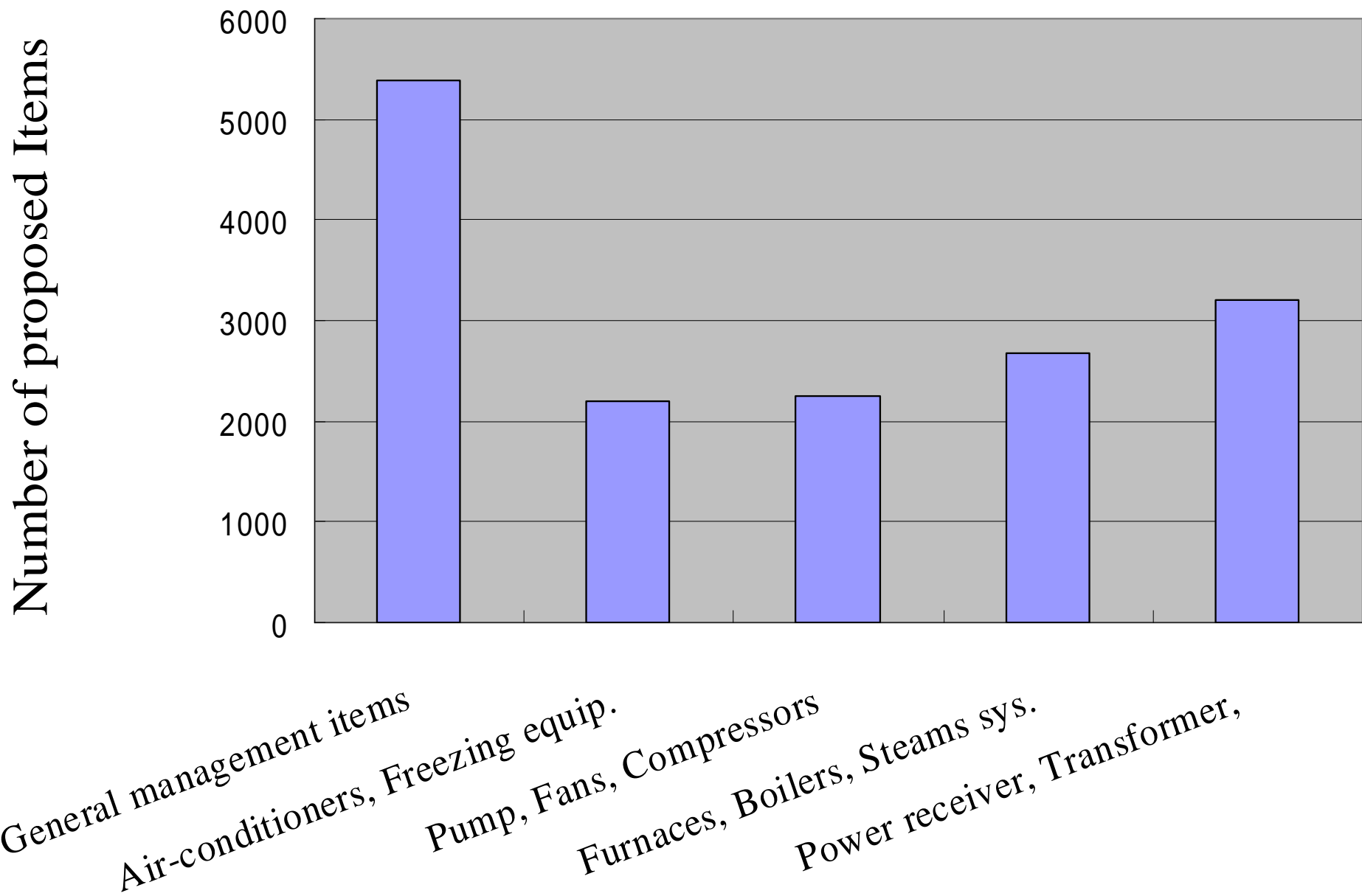


Energy Cost Ratio by Industry Sectors

Electricity Cost
Fuel Cost

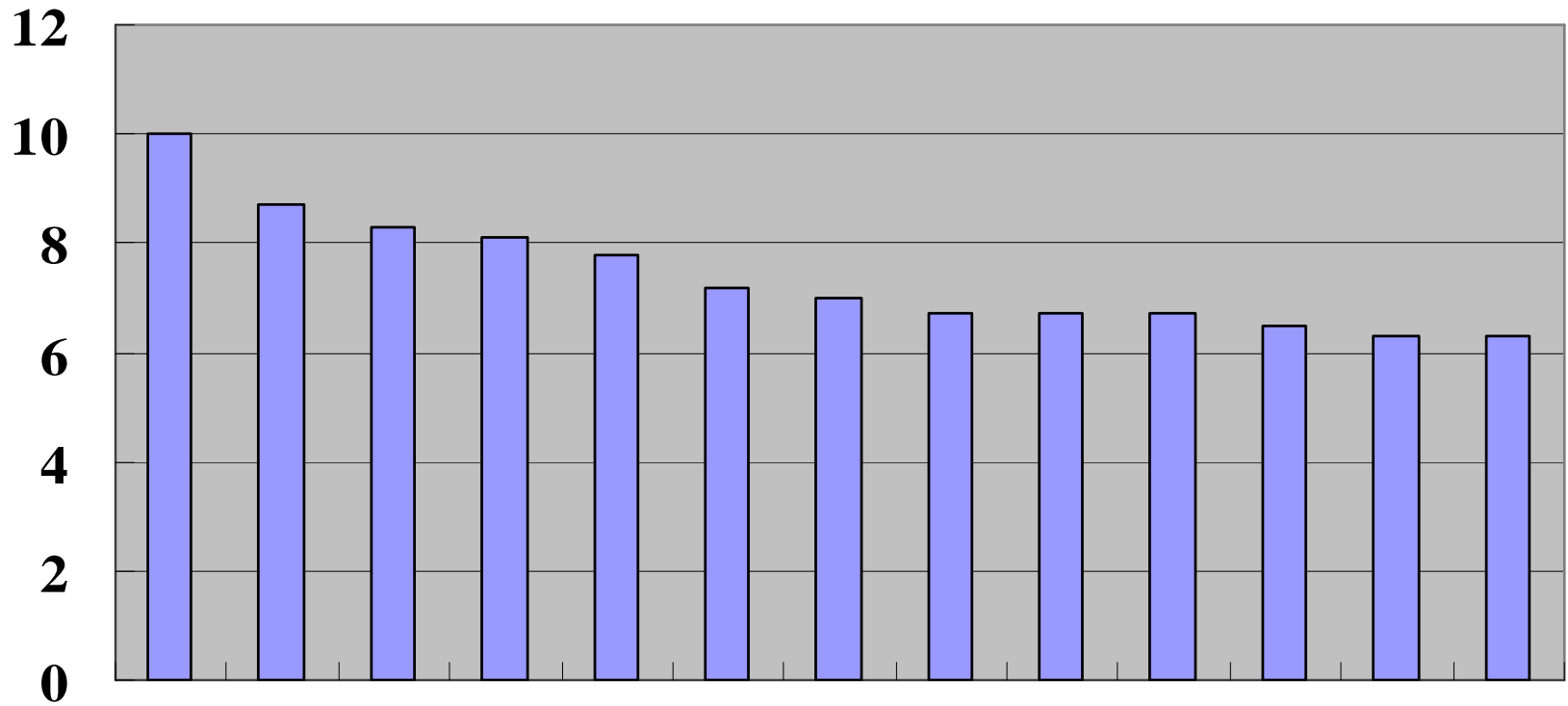


Number of Proporsed Improvement Items by sectors



Average Energy Saving Ratio by Sectors

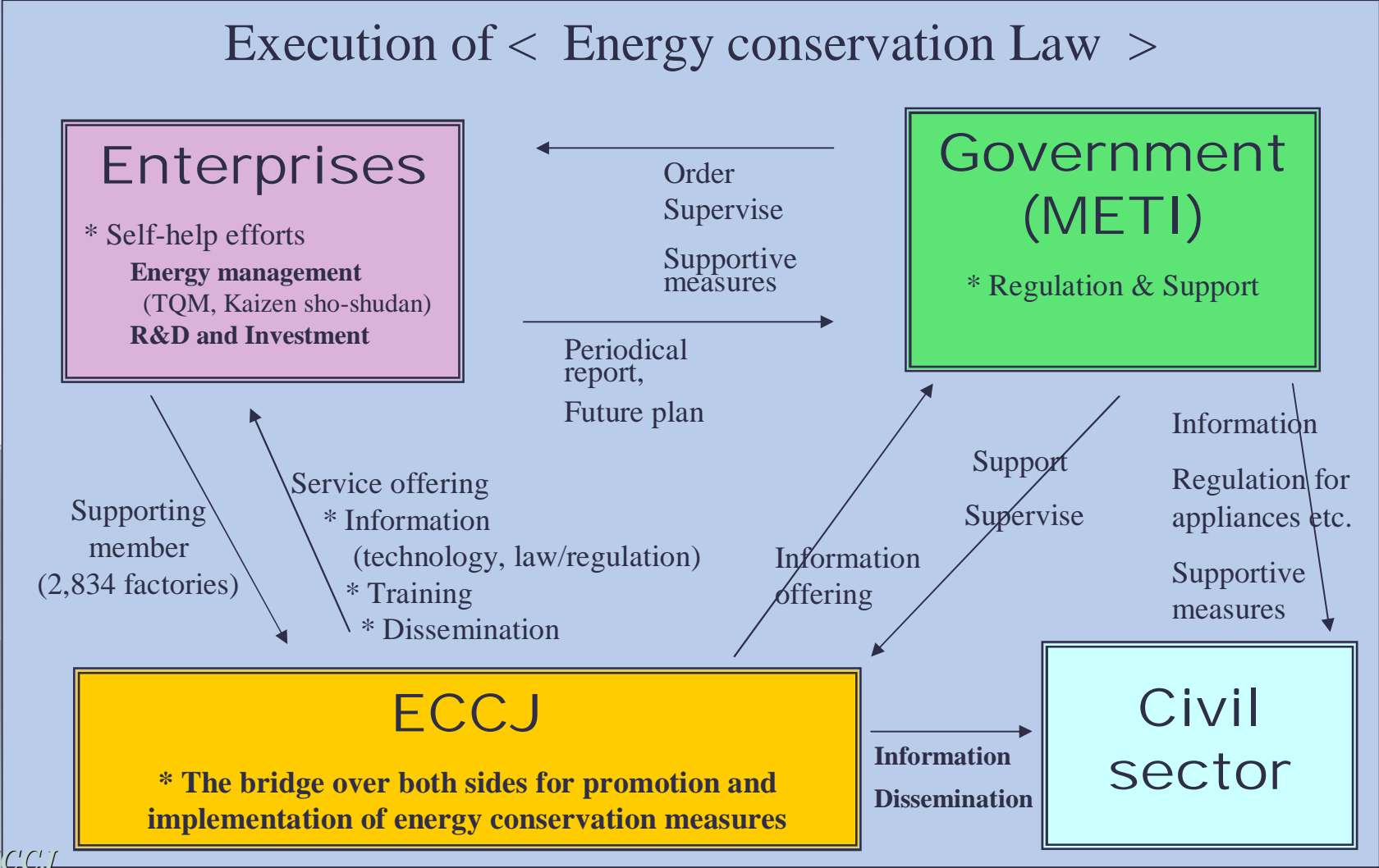
Average Energy Saving Ratio (%)



Textile(47)
Chemical(134)
Cloth/Fiber(33)
Wood Products(13)
General Machine(84)
Metallic Products (121)
Food(155)
Cement/Pottery(70)
Pulp/Paper(31)
Plastic Products(132)
Roll Former (27)
Non ferrous metal(44)
Electric Machine(283)

Role of ECCJ

ECCJ is the core organization responsible for promotion of energy conservation. Its activities were authorized by the Diet when the Energy Conservation Law was enacted.



Thank you very much
for your Attention

Energy Conservation Center Japan

<http://www.eccj.or.jp>