

Environmental Management System (EMS)

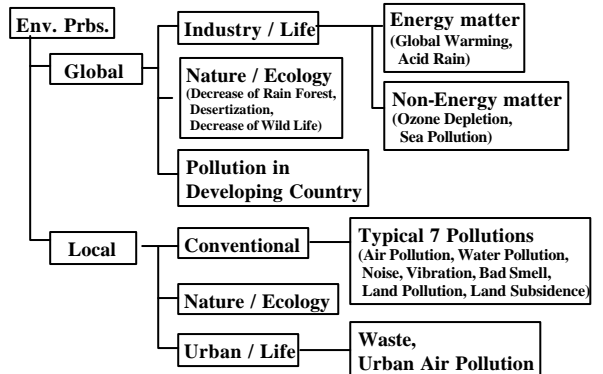
May 13, 2003
 NEC Corp.Env. Dep. Division
 UGO, Ryosuke

Points of the Lecture

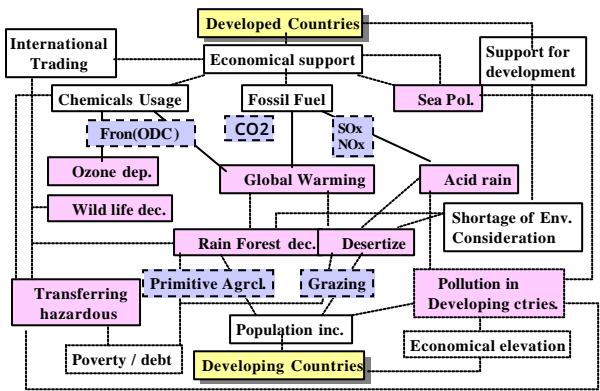
1. What is (the Essentials of) the Environmental Problems ?
 Complication in Environmental Problems
 Variety or countermeasures
2. Necessity for Environmental Management in company
 - (1) What is a company ?
 - (2) What is management ?
 - (3) What is Environmental activities in company ?

1. What is (the essentials of) the Environmental Problems ?

Categories of Env. Prbs.



Rough Sketch of Global Env. Prbs.



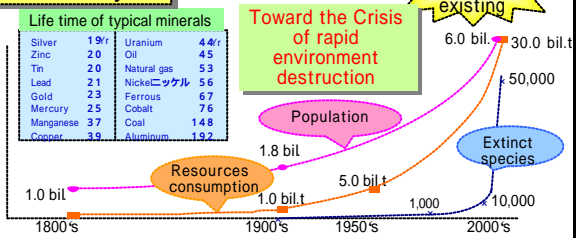
Toward the Sustainable Society

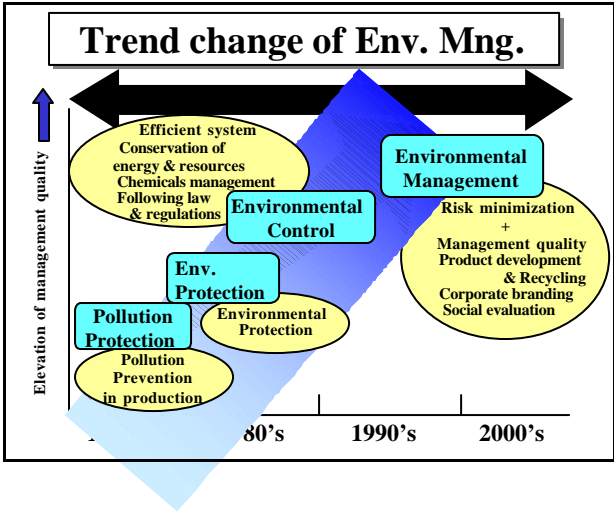
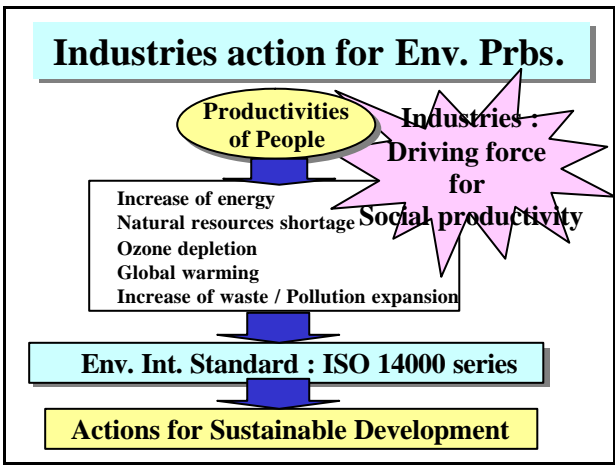
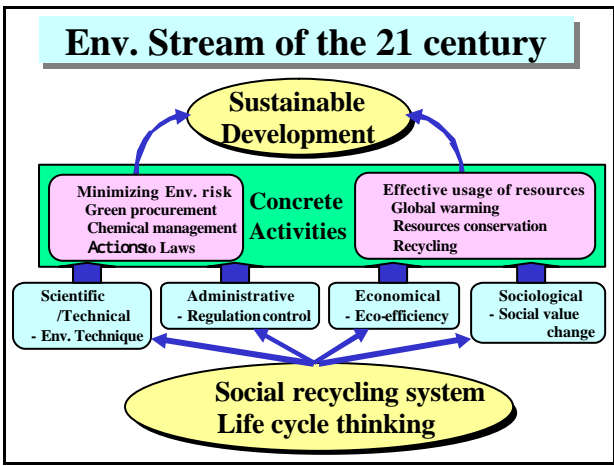
Resources Consumption & Growth oriented Society

Revolution

Sustainable Society

Crisis of Human race existing





Short Break 1

Definition of the "Env. Prbs."

"Democratic Politics" ?

Politics **by** the people
for the people
of the people

Lincoln's speech in Gettysburg

"Environmental Problems" ?

→ Problems in the Environment
by the '???'
for the '???'
of the '???'

Please, fill in '???' by using the best terms :
(Ex.) earth, society, people, Gaia, nature, environment, ecology, and so on

Short Break 1-Ans.

Definition of the "Env. Prbs."

"Democratic Politics" ?

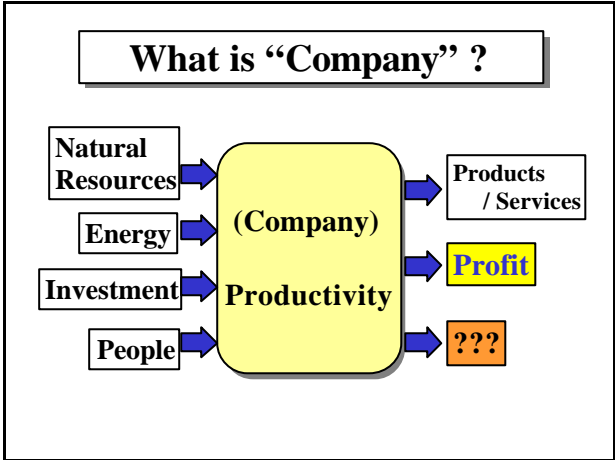
Politics **by** the people
for the people
of the people

Lincoln's speech in Gettysburg

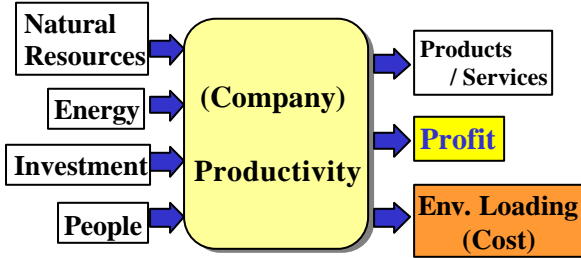
"Environmental Problems" ?

→ Problems in the Environment
by the 'People'
for the 'People'
of the 'People'

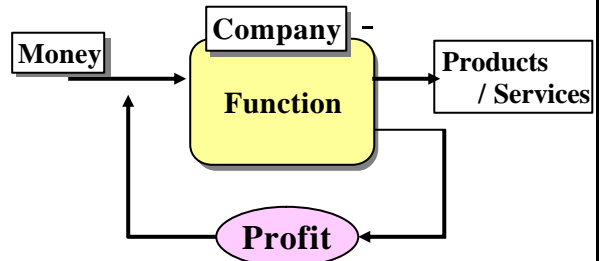
"Environmental Problems" are human's subjects in relation between any human activity and the environment



What is "Company" ?

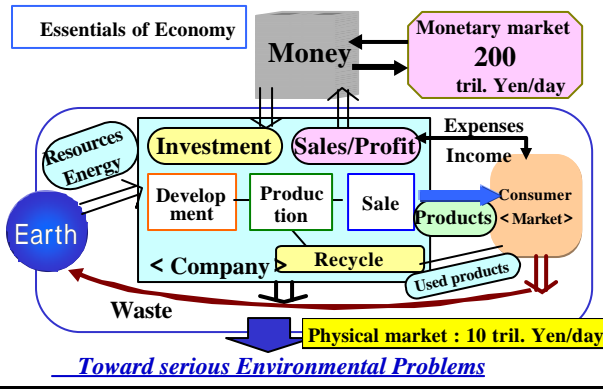


What is "Company" ?

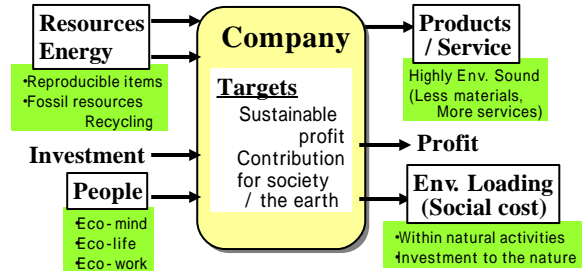


A company is a "Growing organization", which makes "Profit" and absorbs it as nourishment by circulating "Money" in society like "blood" in body.

Review of the modern economic system



Env. Mng. Vision for sustainability in company



To compete Disclosure Contribution for society / the earth
Techs. / know-how information for Env.

Short Break 2

Resources Consumption

How much food do you have a year in Japan?

Food self-sufficiency of Japan ?

?? %

Waste of meal a day ?

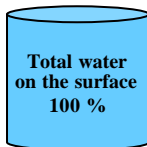
??
dishes

Volume of food a person a day ?

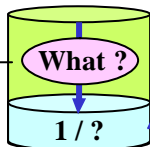
?? tons



Usable water ?



Fresh water



Usable fresh water :
about ?? % of total water
Over ?? %: unusable

Short Break 2-Ans.

Resources Consumption

How much food do you have a year in Japan?

Food self-sufficiency of Japan ?

30 %

Waste of meal a day ?

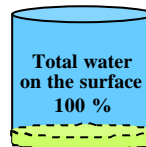
20 mil.
dishes

Volume of food a person a Year ?

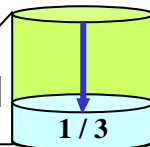
1.0 ~ 1.5 tons



Usable water ?



Fresh water

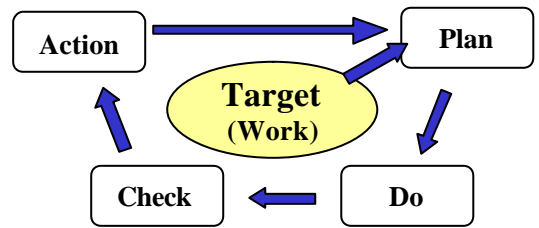


Usable fresh water :
about 0.8 % of total water
Over 99%: unusable

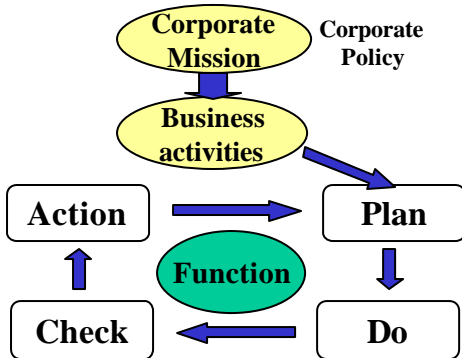
2. Necessity for Environmental Management in company

What is the "Management (System)" ?

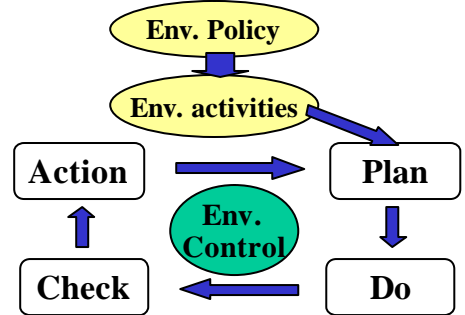
Tool for accomplishing the targets
Efficient business process



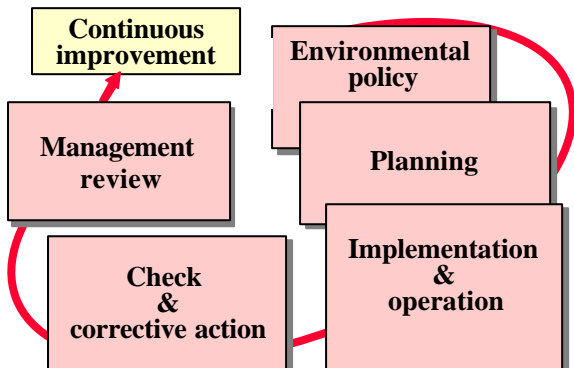
"Management System" in company



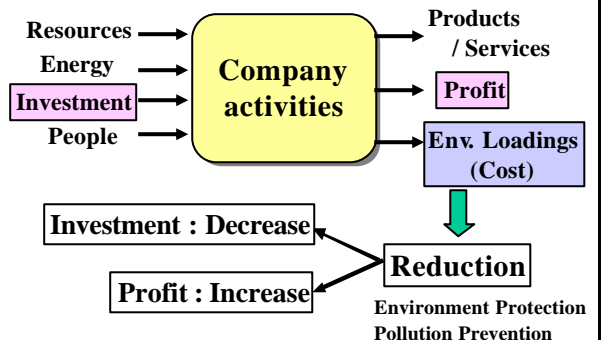
Environmental Management System (EMS)



Elements of PDCA-cycle in ISO 14001



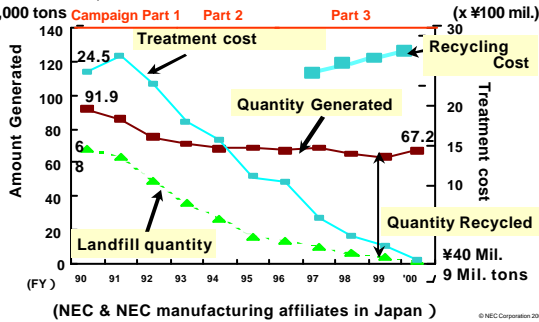
Reduction of Env. Loadings



Zero Landfill and Recycling = Zero Waste Emissions =

Zero Waste Campaign started in 1985

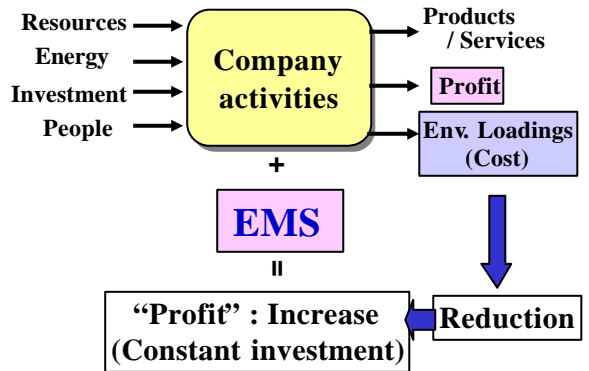
(As of end of March, 2000)



(NEC & NEC manufacturing affiliates in Japan)

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Significance of EMS



Short Break 3

Physical sense of the amount of "money"

1, 2, 3, ... :

If you count a number per one second,

How long (time) for counting 100 mil.

??? Unit ?

Japanese GDP recently ? ??? Tril. Yen

If you stack 10 thousand bills for GDP,

What is the height ? ??? Unit ?

Short Break 3-Ans.

Physical sense of the amount of "money"

1, 2, 3, ... :

If you count a number per one second,

How long (time) for counting 100 mil.

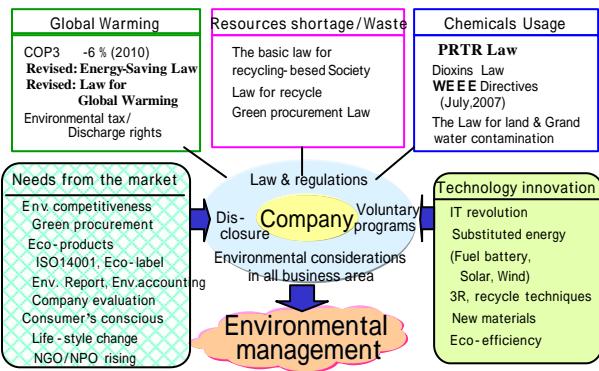
3 Years

Japanese GDP recently ? 500 Tril. Yen

If you stack 10 thousand bills for GDP,

What is the height ? 50 km

Relation between Global Env. Probs. and Management



1. Law for Sustainable Society

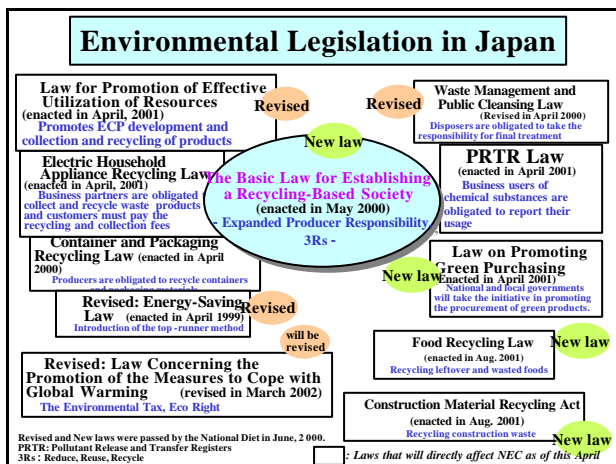
Recycling-based Society (government, company, citizen)

Domestic law

- The Basic Law for Establishing a Recycling-Based Society
- Law for Promotion of Effective Utilization of Resources
- Law on Promoting Green Purchasing
- Revised: Energy-Saving Law
- PRTR Law etc.

Over sea

- Eco-label for mercury usage in products : in Vermont state of USA
- WEEE Directive
- RoSH Directive etc.



International Movement for Env. law & regulations

Reinforcement of regulation for hazardous materials in EU region

European Union committee
“Waste Electrical and Electronic Equipment amending Directive” (WEEE)

Abolition of the following materials by July 1, 2006
Lead, mercury, Cadmium, Chromium, and PBB & PBDE

Rapid countermeasures are necessary.

Lead free, Non-halogen-flame retardant

Large impact on cost and technology

The Basic Law for Establishing a Recycling-Based Society

Goal : To build the Recycling-Based Society

Abstract:
To make clear the responsibility of government, local government, nation and manufacture.

- 1) Manufacture’s responsibility :
Classification and Recycling of waste
- 2) **Extended Producer’s Responsibility (EPR) :**
Management for used products
- 3) Implementation of 3R (prioritization of 3R)
Reduce Reuse Recycle

Green Procurement Law

(enacted in April 2001)

● **Outline:**

- 1) National Government promotes to procure ESPs and disclose the its results
- 2) Local Government makes efforts to procure ESPs
- 3) Producers provide useful information for customers’ purchasing ESPs
- 4) Scope : 101 products, 14 product categories

National and Local Governments shall consider “environmental aspect” in selecting products.

● **Impact to NEC:**

- 1) **Environmental Sound Design** is needed.
- 2) **Providing Useful Information** is a Must.

NEC’s products subject to the law:
317 products, 10 products categories

Examples) PCs, Servers, FDs, FAX, Printers, multi-purpose machines, fluorescent light tubes, lighting equipments, paper for office machines

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2. Env. Mng. For business strategy

Env. consideration in all processes
Decrease of Env. loading & cost
(Design – Procurement – Production – Sales – Logistics – Recycle)

Competitiveness from Env. aspects
Products/Services
Recycle (3R)
Disclosure

↓

Harmonization between Business & Env. Mng.

ISO 14001 accelerates green purchase

Relation between ISO and GPN member

ISO14001

Green purchase

Year	GPN member	ISO 14001 certification
1996	73	41
1997	192	242
1998	205	277
1999	1772	983
2000	2057	3548

Year

Rapidly increase of ISO 14001 certification : 3548 (March, 2000)

Accelerative green purchase
GPN member : 2057 org. (March, 2000)

Global Warming Impact (Estimation)

* IPCC: International Panel for Climate Change

2-times of the previously estimated temperature increment (100 years later)

1.0 ~ 3.5 → 1.4 ~ 5.8 (IPCC-Report : Dec, 2000)

Abnormal weather & disaster expansion (2035)

Shortage of water, Sea surface rise, Flood, Iceberg melting, Crisis of food shortage, Frequency of typhoon, etc.

Average temperature in Tokyo area :

2.9 up in the last 100 years (1.8 up in last 10 years)

Estimation of sea surface rise (Japan)

Temp. increase: +1.0 ~ 2.5 by 2030

Sea surface rise: 0.5 m

Vanished coast area : 82 %

Vanished assets : 49 tril. Yen



Melting Iceberg in South Pole region

Revised: Law Concerning the Promotion of the Measures to Cope with Global Warming

Legal force for -6% of 1900 level

Two new committees

in the Central Environmental Council

“The committee for the domestic system”

- Environmental tax, trading of discharge rights

“The committee for the goal scenario”

- Introduction of new technologies and its effects

Env. tax or discharge right

CO2 is the cost

(3,000 ~ 10,000 Yen / ton)

3. Env. Mng. is one of IR matters

Environmental activities

Actively disclosing

To maintain **transparency & reliability**

Environmental report
Disclosure through the internet
Publicity, Promotion
Risk management

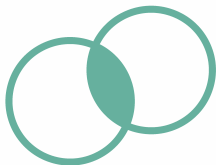
Evaluation of company

Activated Social evaluating for companies

~ Typical social rating for NEC of 2002 ~

	Assessor	NEC's Rank	Rank (2001)
Env. Mng. Level	Nikkei Newspaper	3 / 703	10 (2001)
Env. Branding rank	#	5 / 703	4 (2001)
Env. Branding survey	Nikkei BP		
	Consumers	32 / 559	12 (2001)
	Business-men	16 / 559	18 (2001)
Env. Rating	Tohmatsu Evaluation and Certification Organization	A	
Sustainability Index	Switzerland: Sam research	58 %	Industry average 38%
Social investment research	UK : Morley fund mng	C3*	
Corporate responsibility	Germany Oekom research	C+ 3 / 8	

C3*) C: Average for sustainable business
3: Average of Environmental policy, activities



IT、で、エコ

その変わるところにNECのソリューション

We have something to do
for the Earth

参考資料

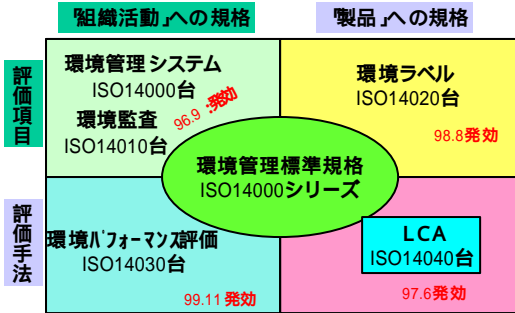
環境マネジメントに関する
国際標準規格
ISO14001シリーズ
~概要~

環境 ISO制定の歴史

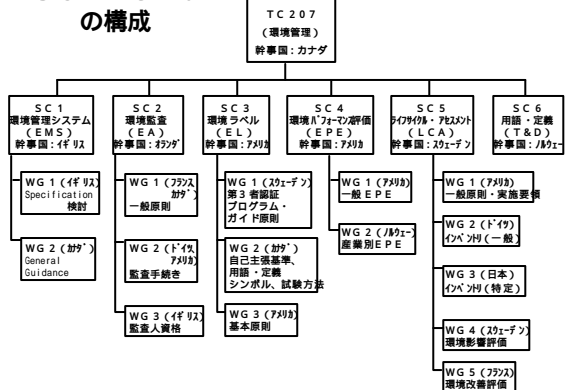
- 92年 : 英国の環境管理システム規格 (BS7750)発行
管理システムの国際規格化を提唱
「国連環境会議 地球サミット」
WBCSDが「持続可能な開発」
- 93年 : ISOにTC207を設置
欧州規則「EMAS」発効
- 95年 : 日本において認証登録が開始される
- 96年 : ISO14001、14010発行
(JISQ14001、14010)

EMAS : Eco-Management and Audit Scheme (EU理事会規則「環境管理 審査システム」) WBCSD : 世界環境経済人協議会 TC207 技術委員会207

環境国際規格 (ISO-14000シリーズ) の体系



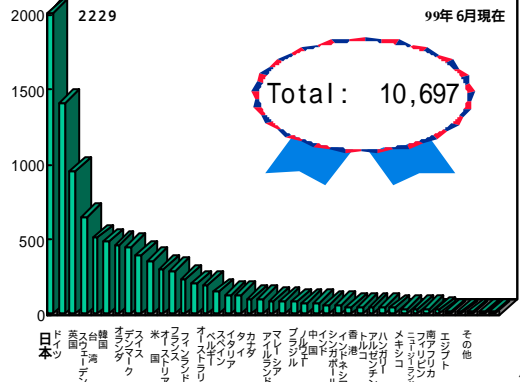
ISO/TC207 の構成



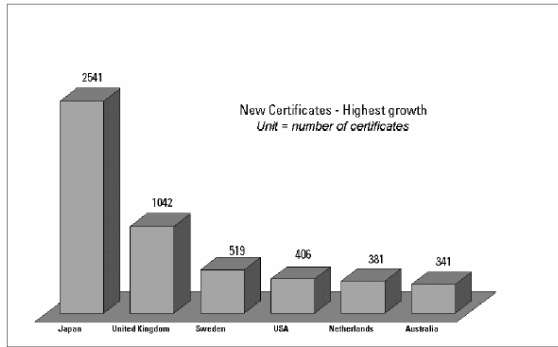
ISO/TC207の作業分野と規格化時期

SC番号	SC (分科会)名称	幹事国	規格化時期
SC 1	環境管理システム (EMS) ISO 14000番台	イギリス	1996年9月
SC 2	環境監査 (EA) ISO 14010番台	オランダ	1996年10月
SC 3	環境ラベル (EL) ISO 14020番台	オーストラリア	1998年8月
SC 4	環境パフォーマンス (EPE) ISO 14030番台	アメリカ	1999年11月
SC 5	ライフサイクルアセスメント (LCA) ISO 14040番台	フランス	1997年6月
SC 6	用語と定義 (T&D)	ノルウェー	1998年5月

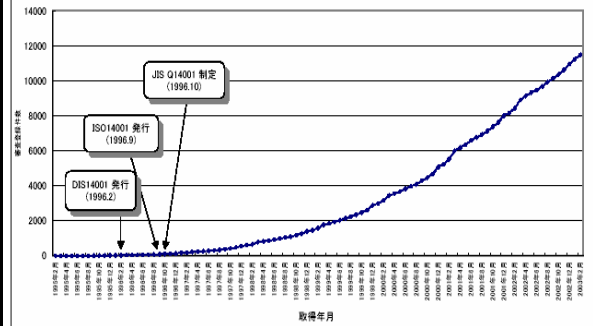
各国のISO14001認証登録件数



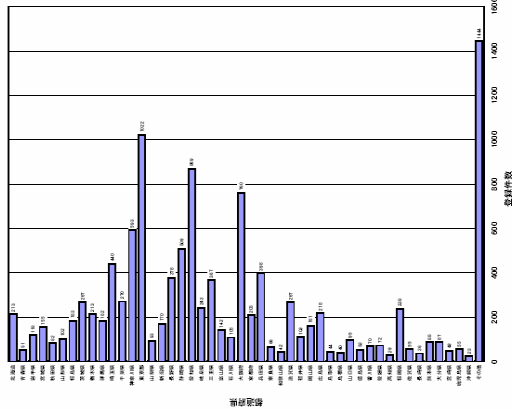
2000年における登録件数の伸び



ISO14001審査登録件数推移
(平成15年2月末現在 11,477件)
(財)日本規格協会(環境管理規格審議委員会事務局)調べ

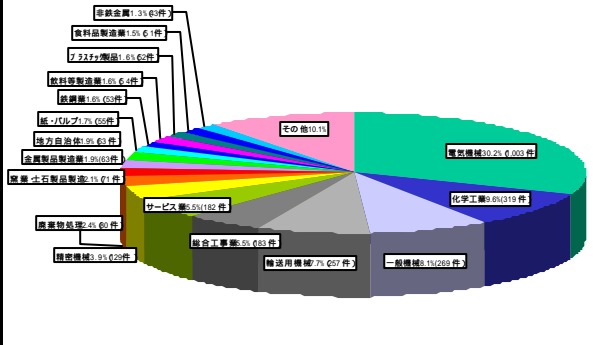


製造業種別ISO14001審査登録状況
(平成15年2月末現在 総数11,477件)
(財)日本規格協会(環境管理規格審議委員会事務局)調べ



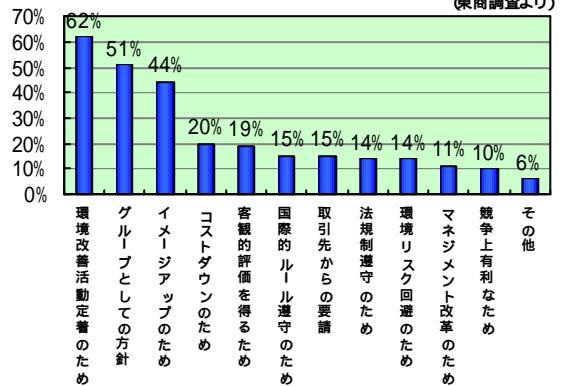
業種別ISO14001審査登録状況 (平成12年2月末現在) 総数3,318件

(財)日本規格協会(環境管理規格審議委員会事務局)調べ

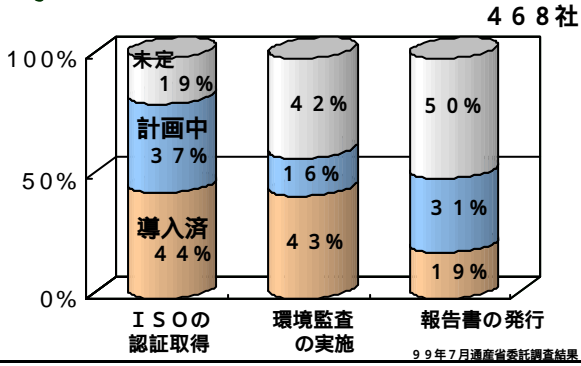


ISO14001 認証取得の理由

(東商調査より)



環境活動の取り組み状況



ISO導入企業の監査と情報開示の実施状況

