

Promoting the Removal of Environmentally Harmful Subsidies

~focusing on climate change~

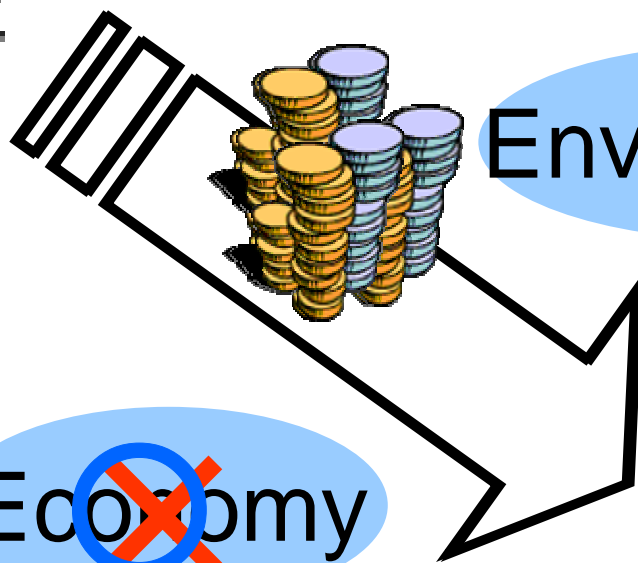
Subsidy group

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Government

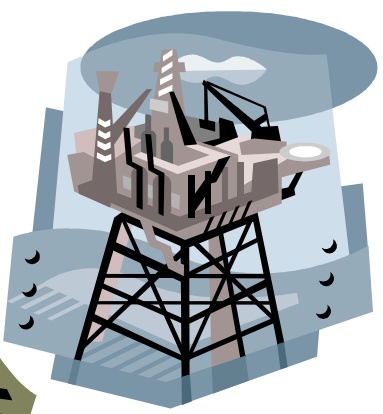


For social purposes!!



~~Environment~~

~~Economy~~



Fossil fuels

Flow of Presentation

- 1) **Introduction**
- 2) **Nature of subsidy**
 - Economic effect
 - Environmental impact
- 3) **Social Purposes**
 - Energy security
 - Poverty reduction
 - Preventing unemployment
- 4) **Conclusion**

Serious Impacts of Climate Change

According to TAR,

- Average temperature → $1.4^{\circ}\text{C} \sim 5.8^{\circ}\text{C}$ ↑
- Sea level → $0.09 \sim 0.88\text{m}$ ↑

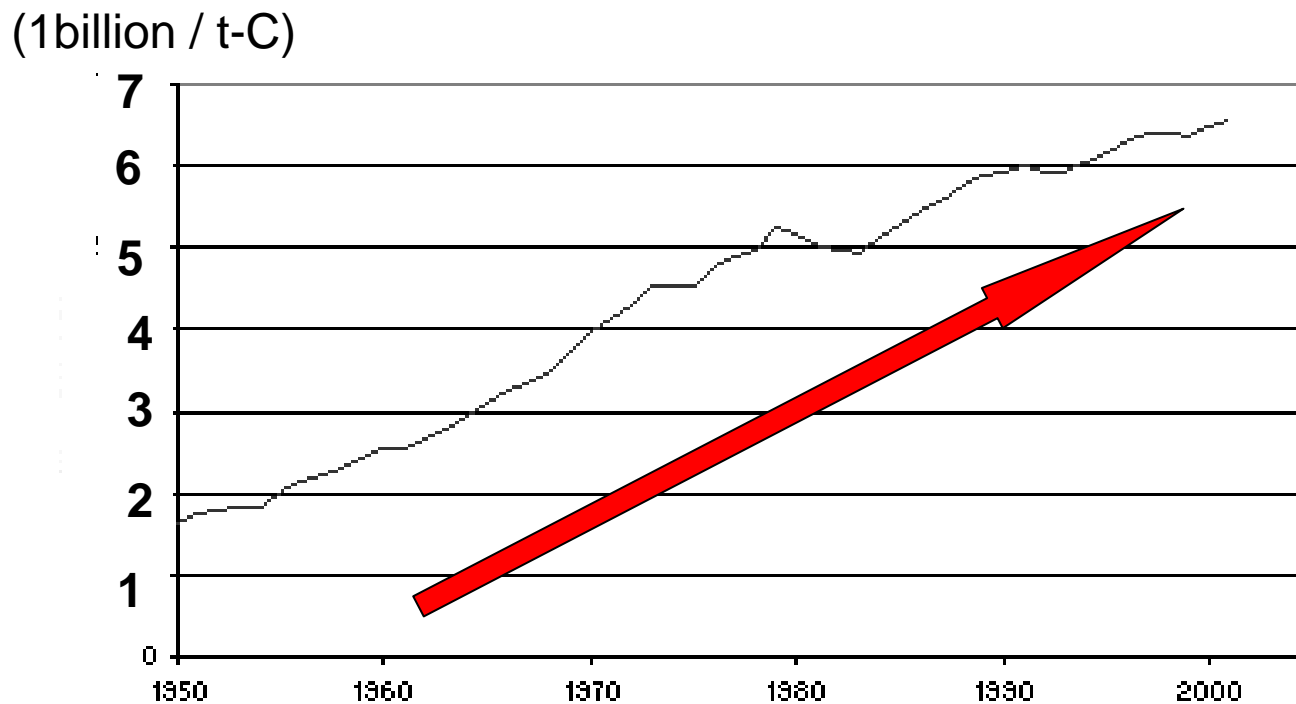
...etc...

- Worse influences to Vulnerable areas than rich areas

Global Warming

About **three-quarters** of the anthropogenic emissions of CO₂ to the atmosphere during the past 20 years is due to **fossil fuel burning**. *WG1 SPM (IPCC TAR)*

Carbon emission transition by Fossil Fuel burning in the world



Source: Worldwatch Institute

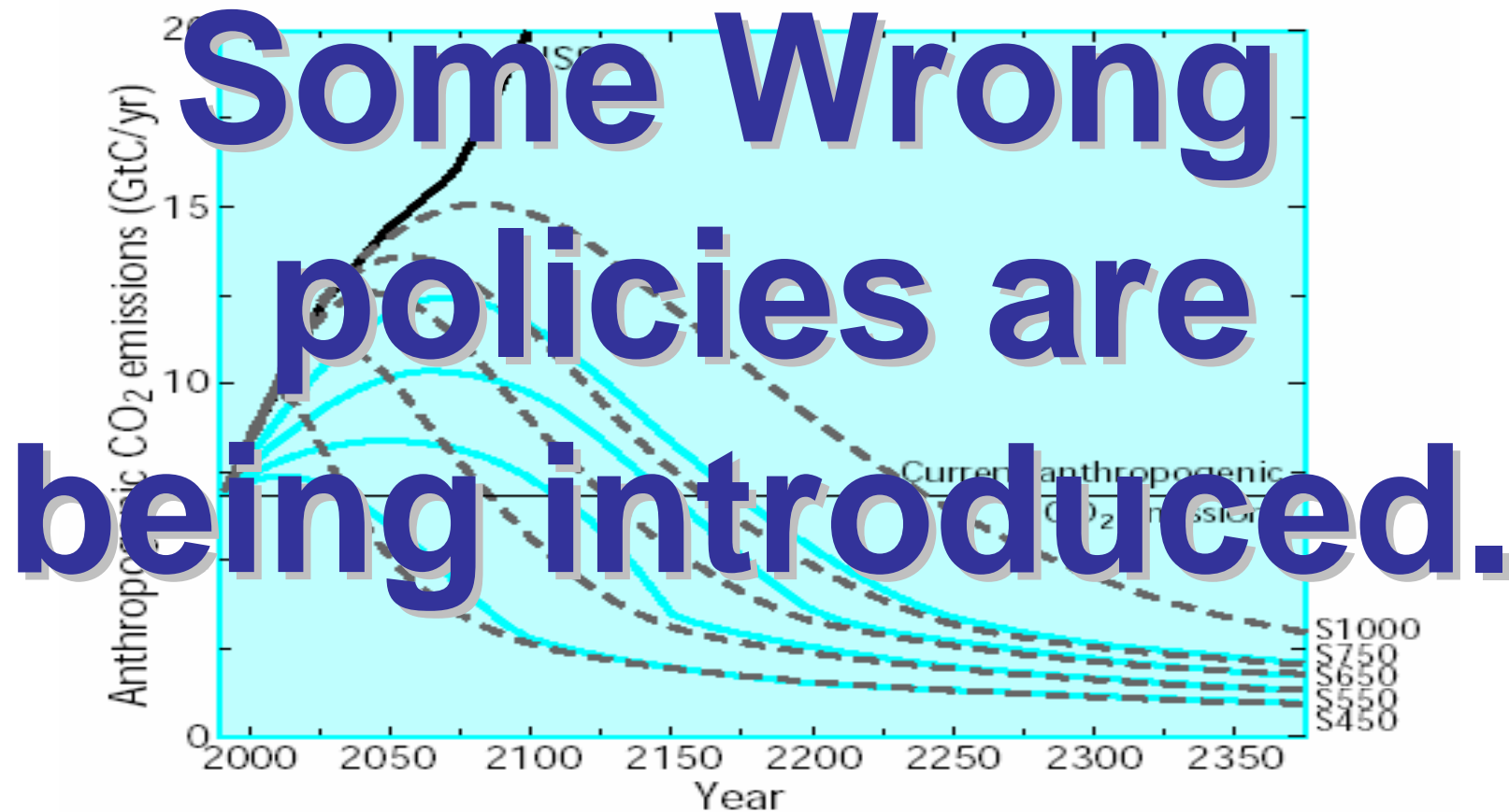
The Energy Issue

(CO₂ emission from Fossil Fuel)

is at the **core concern** of
Global Warming problems.



To mitigate Global Warming,
Nevertheless,
We have to produce CO₂ in a more
efficiently in the long term.



Source: IPCC1995 SAR

These are
Energy Subsidies



distort the Price and Efficient Use
of Fossil Fuel



Increased CO2 emissions



Environmentally Harmful Subsidies

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Nature of Subsidy

- **One of economic methods**

- **Public Acceptance**
- **Various methods**

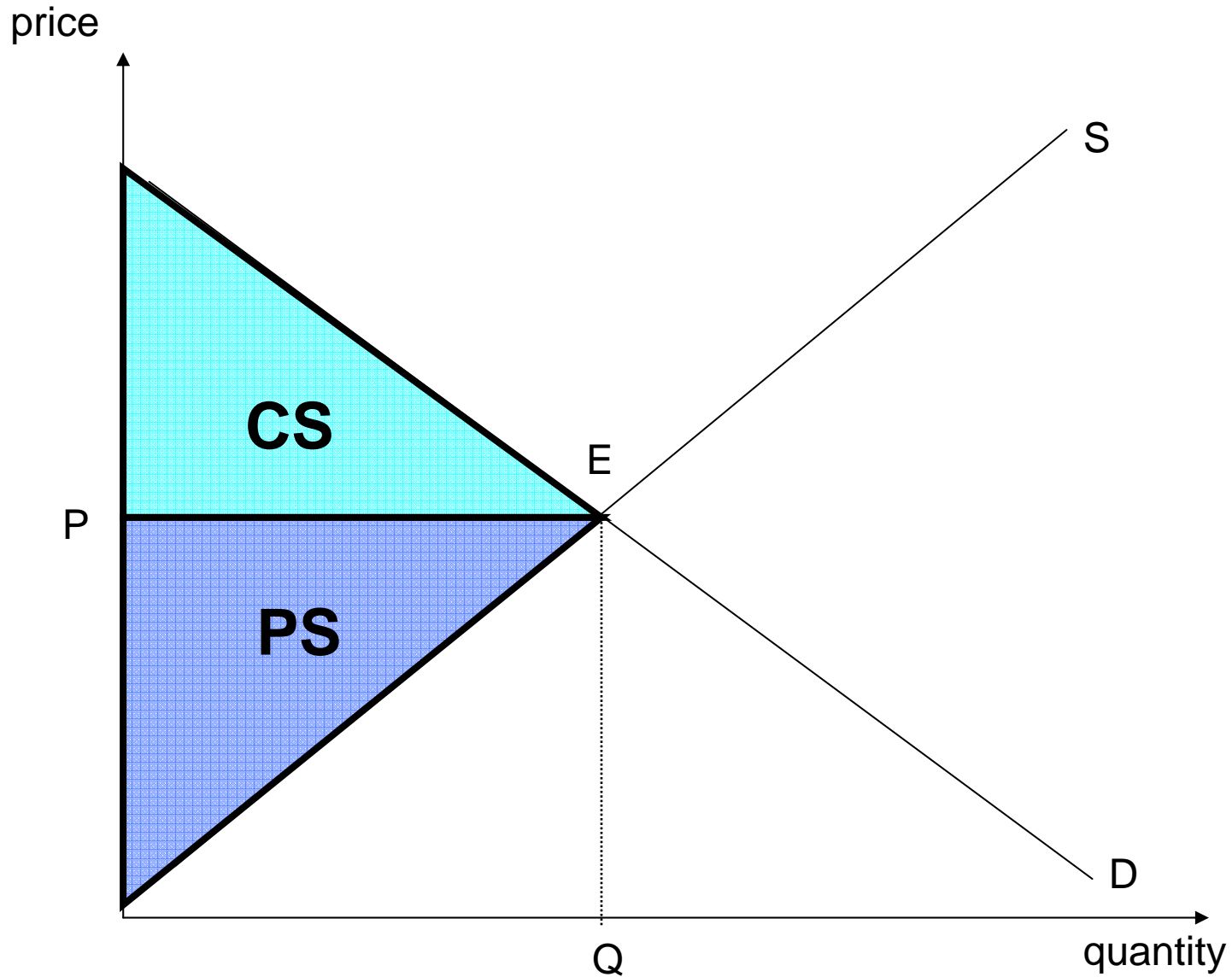
(such as tax cuts, duty exemption)



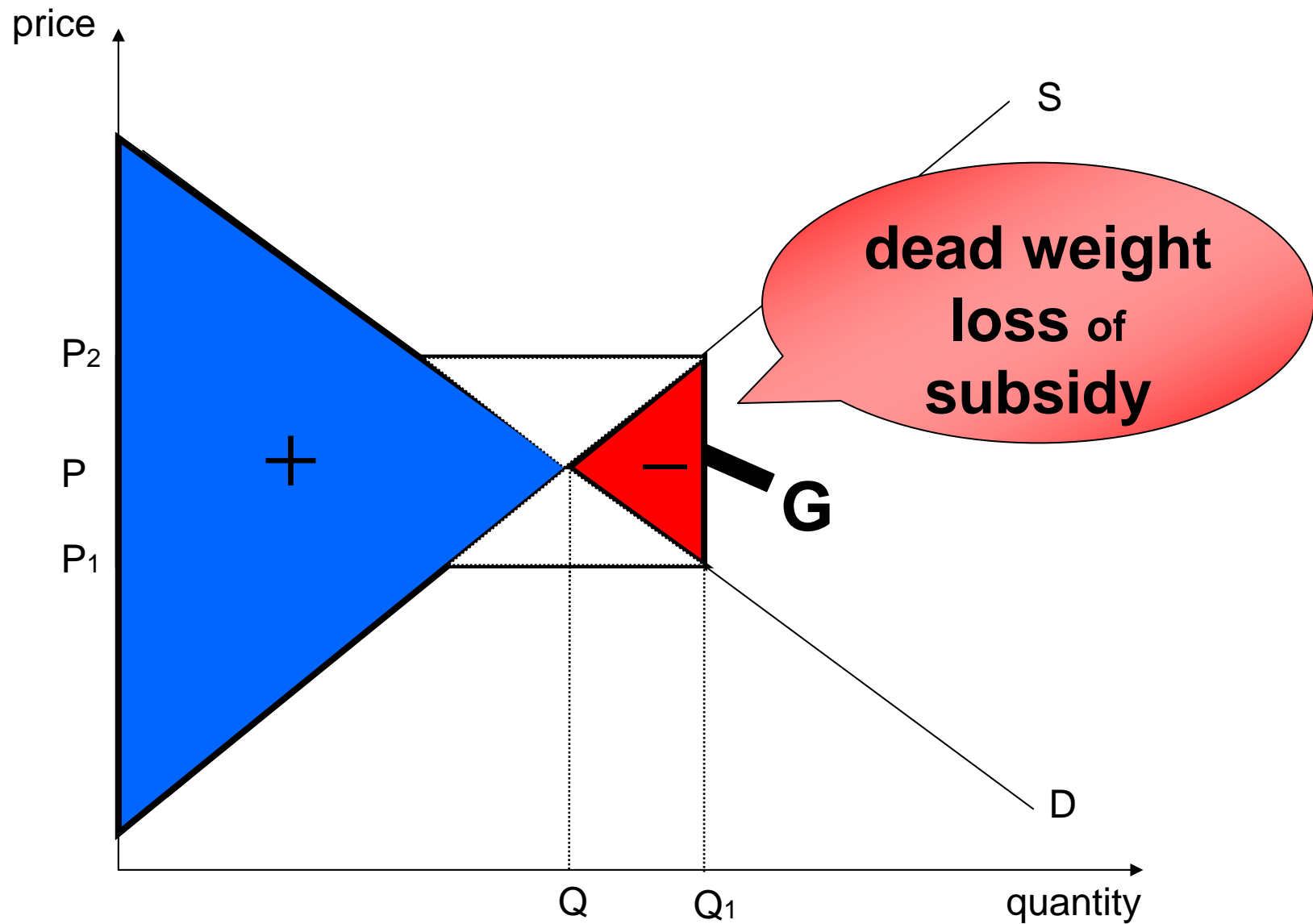
- **Loss of economic welfare
(Dead Weight Loss)**

- **Negative environmental impact**

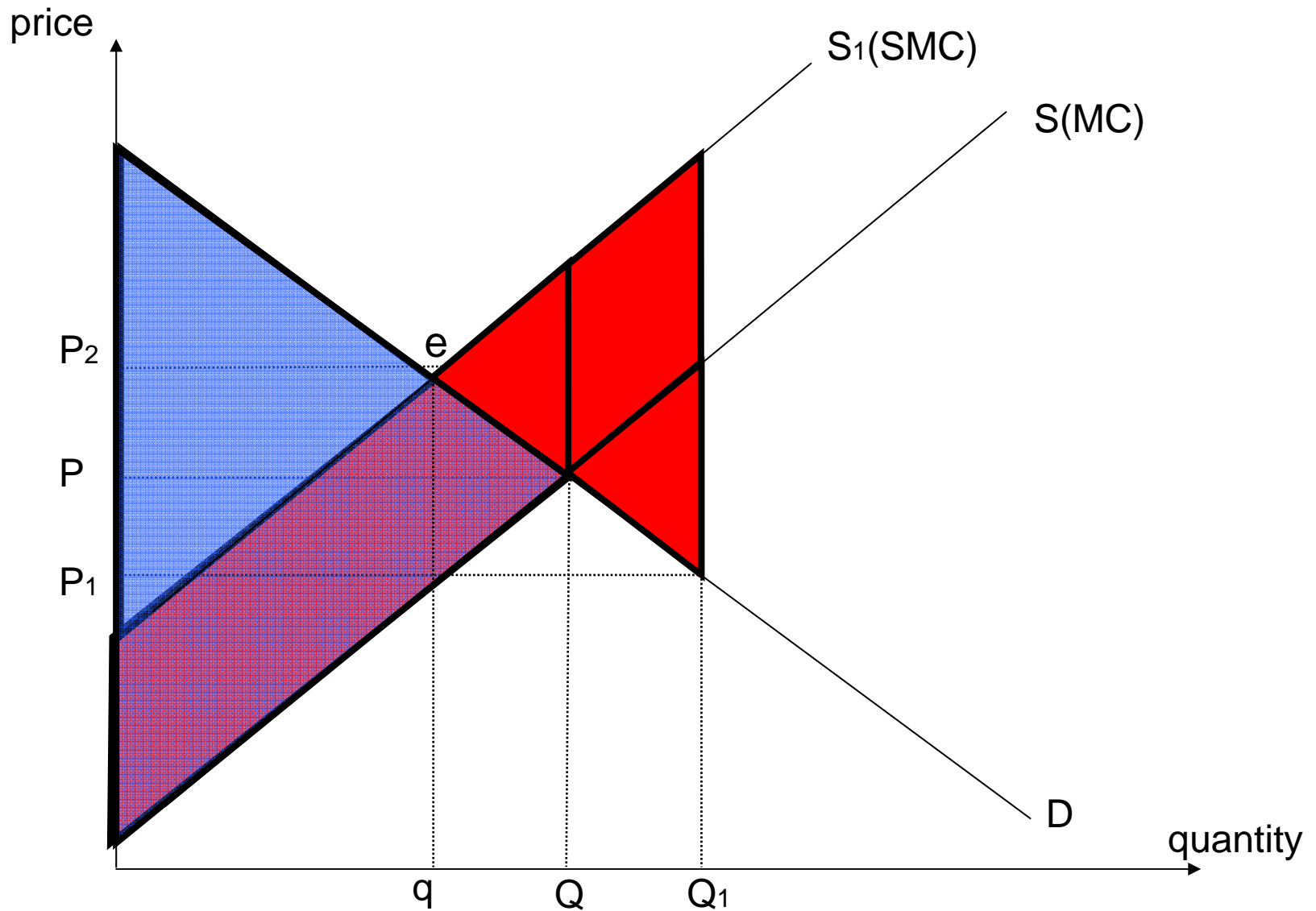
Economic theory of social welfare

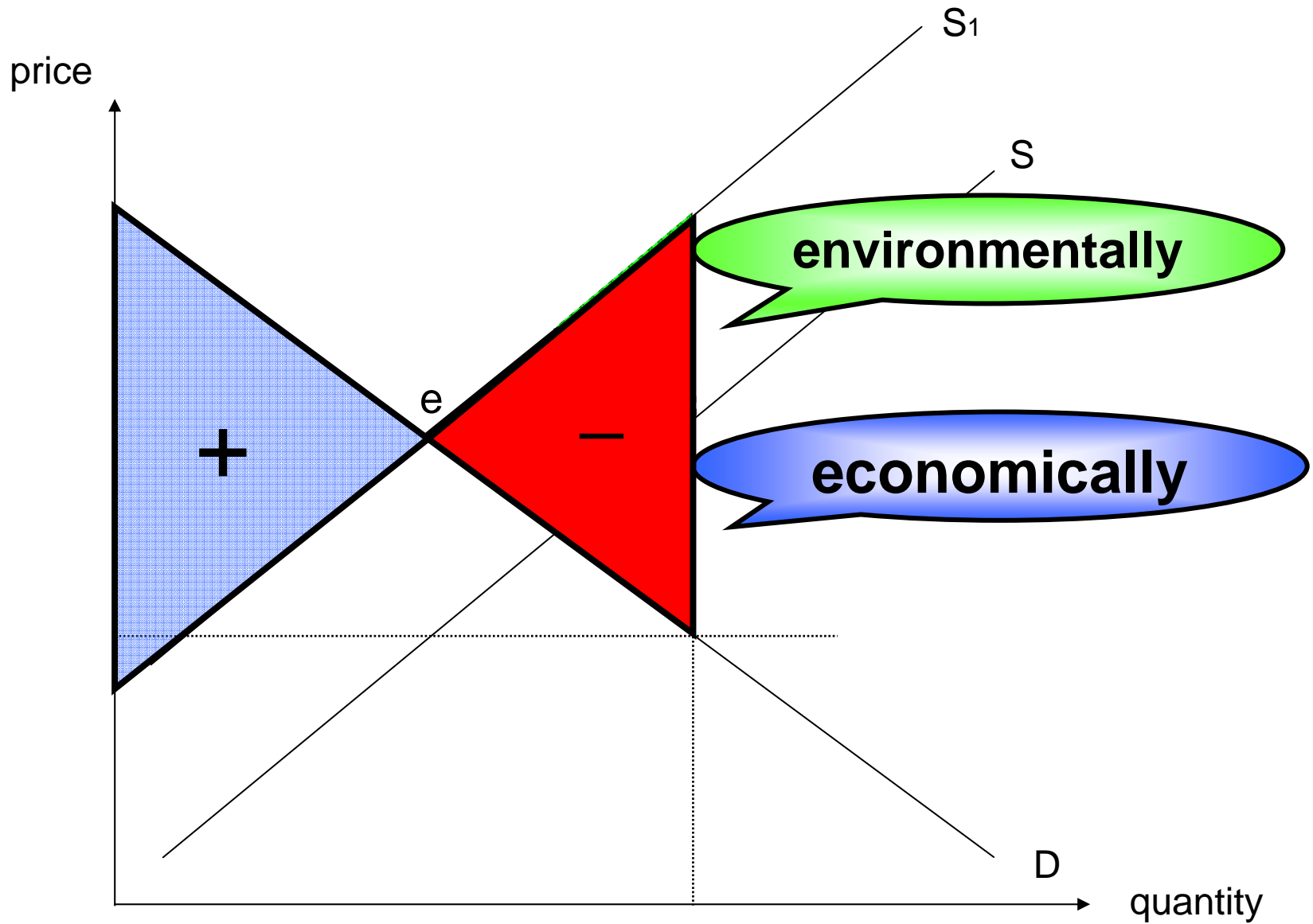


Economic theory of subsidy



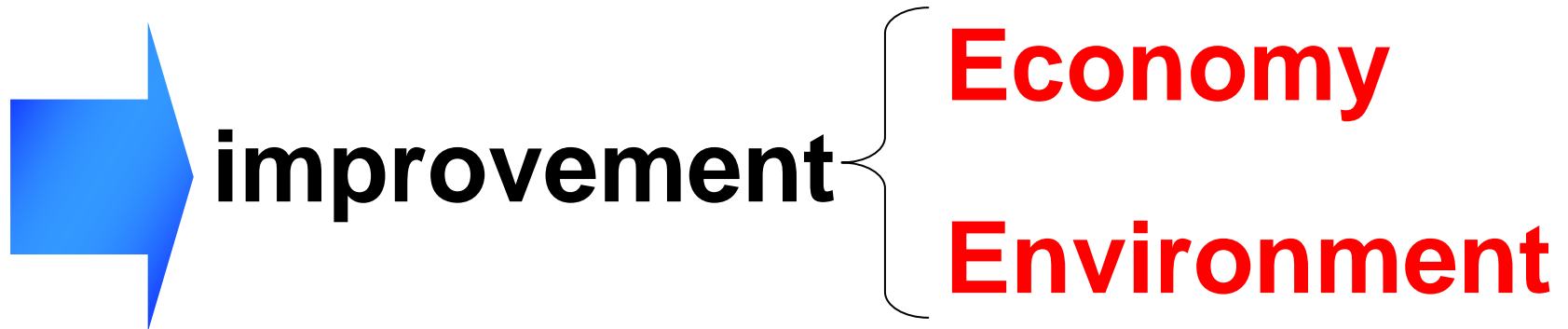
Subsidy in polluting sectors with external costs



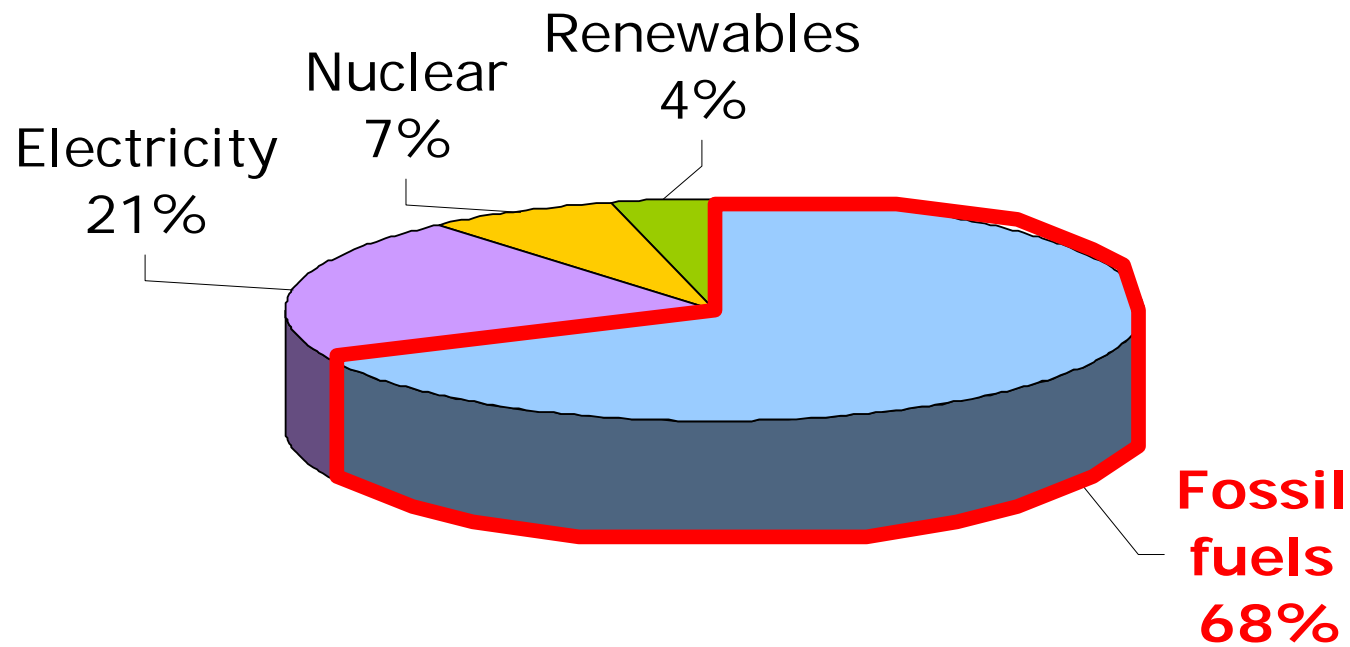


Double Benefits

Removal of EHS



World Energy Subsidies



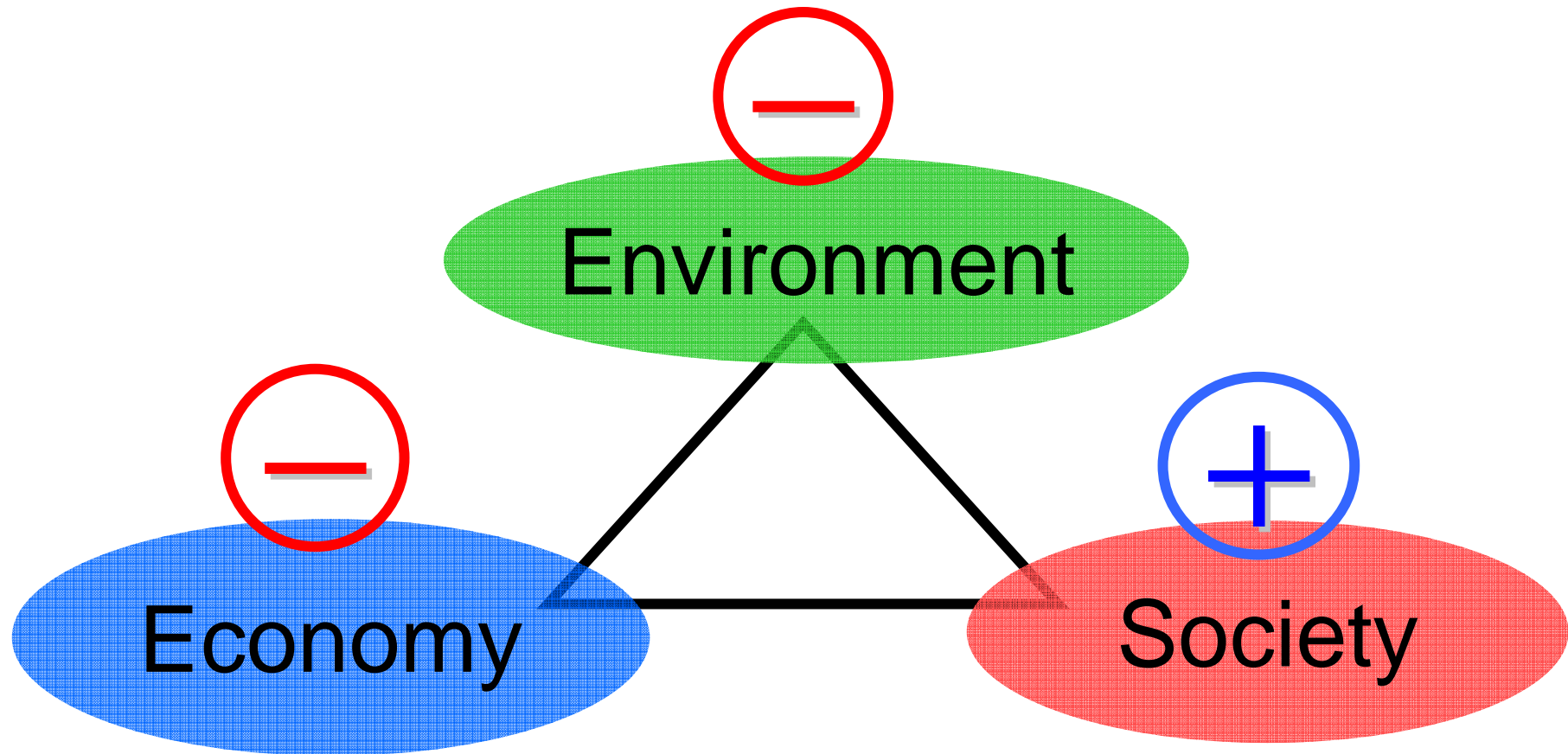
Total: 224bn USD

Source: Van Beer and de Moor (2001)

*What are the reasons of
the persistence?*



Policymakers' decision-making factors



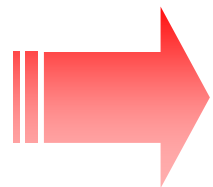
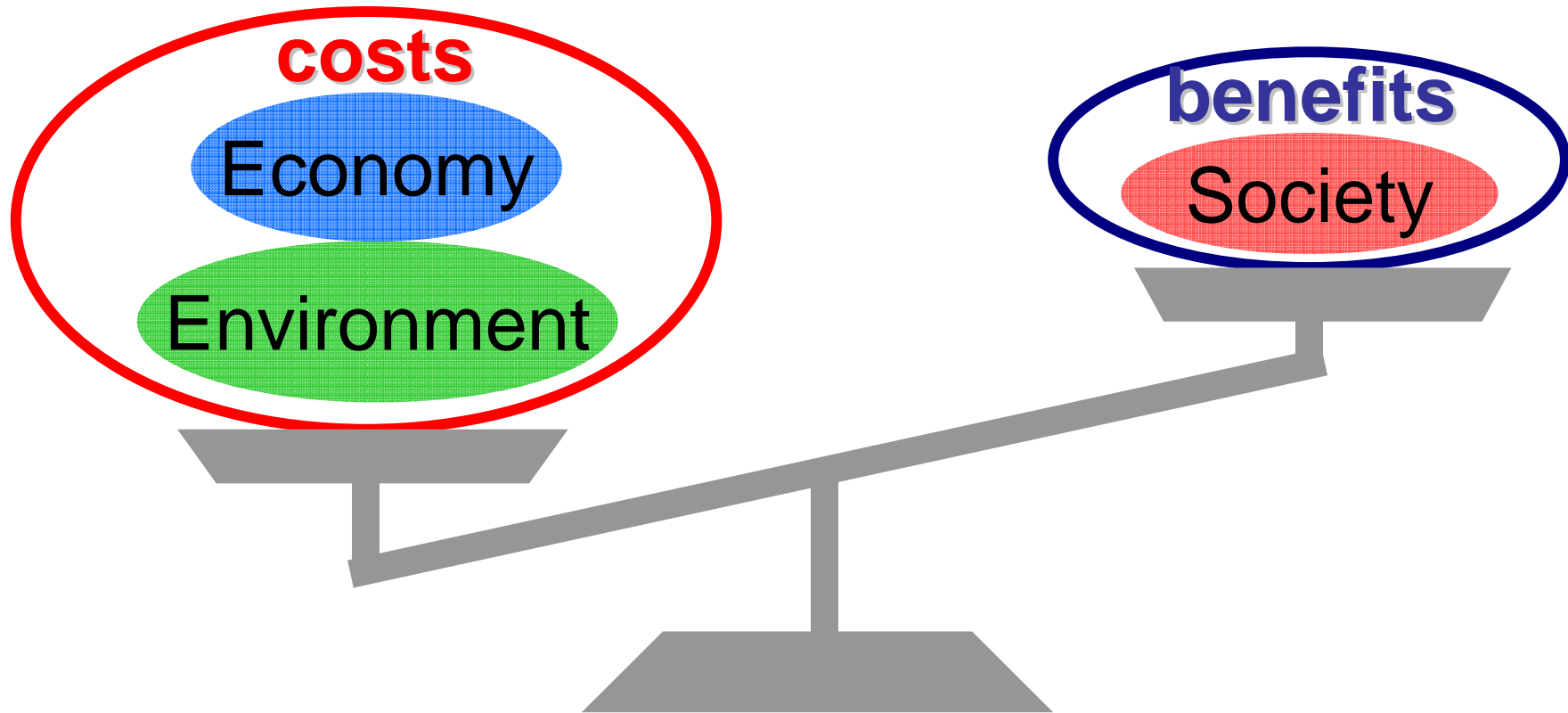
Social Purposes

- Energy security
- Poverty reduction
- Preventing unemployment
-etc

These are important issues but

 These do not immediately justify the existence of EHS

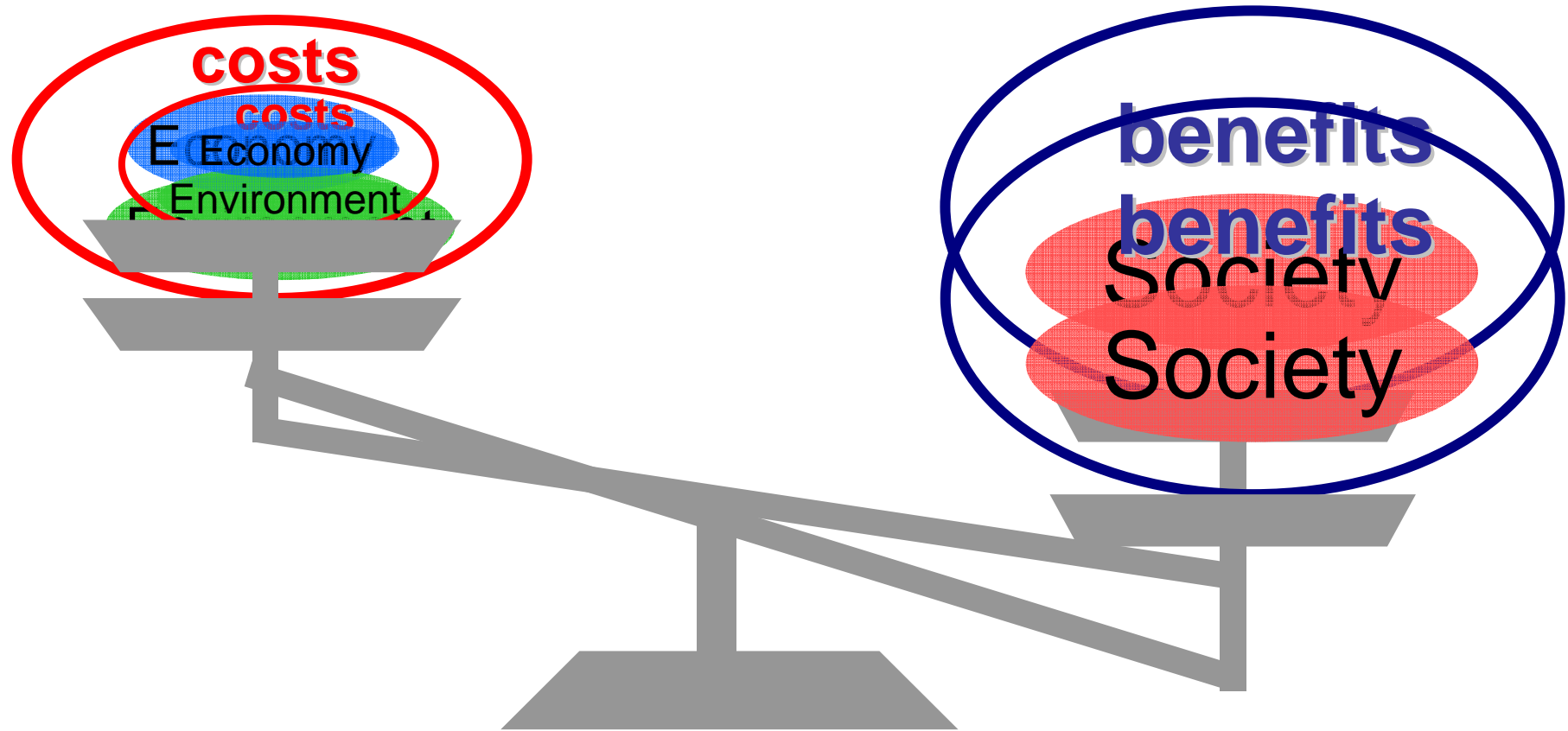
① **environment + economy** > **society**



shall be removed immediately

② **environment + economy** < **society**

Other measures



If introducing EHS,
Governments must prove...

① **Benefits** are **larger** than the
Damages

and

② **EHS** is the **most rational** measure

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Energy security

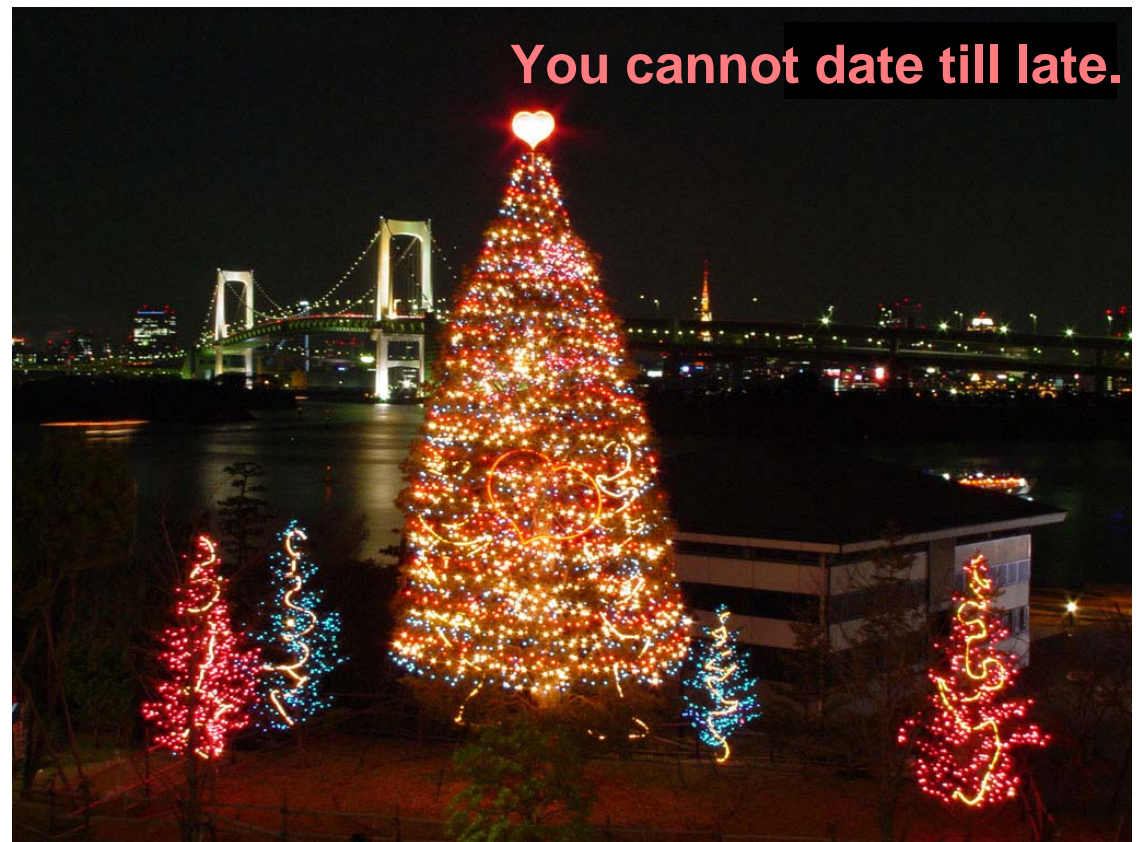
Energy: Basic human need



Lack of energy supply



Confuse
our society



In the future,

Import dependency

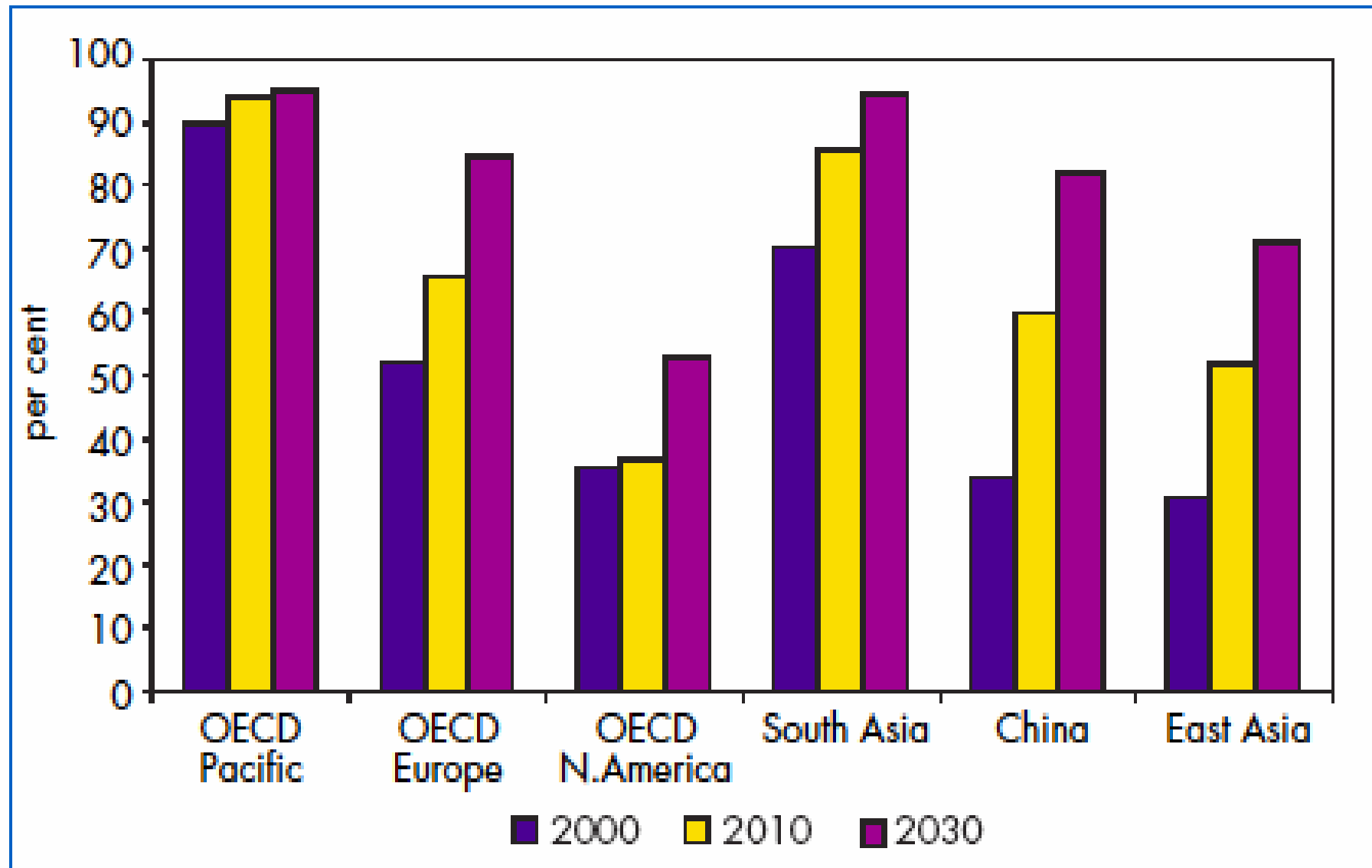
of



increase!

each country

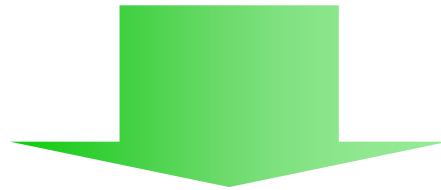
Figure 3.7: Oil Import Dependence by Region



Source: World Energy Outlook 2002 p108

Forthcoming resource constraints

⇒ fear of lowered energy security



“Improvement of energy security”

becomes more and more **important!**

**What should be done to secure energy?
(Are EHS' needed or not?)**

General ways to improve energy security

- **stockpiling**
- **Improvement of efficiency**
- **Increase of domestic supply**
- **.....etc**

stockpiling

- IEA ⇒ 90days of oil stockpiling
- When **supply disruption** occurs
⇒ **release** oil stock into markets

✘ works as

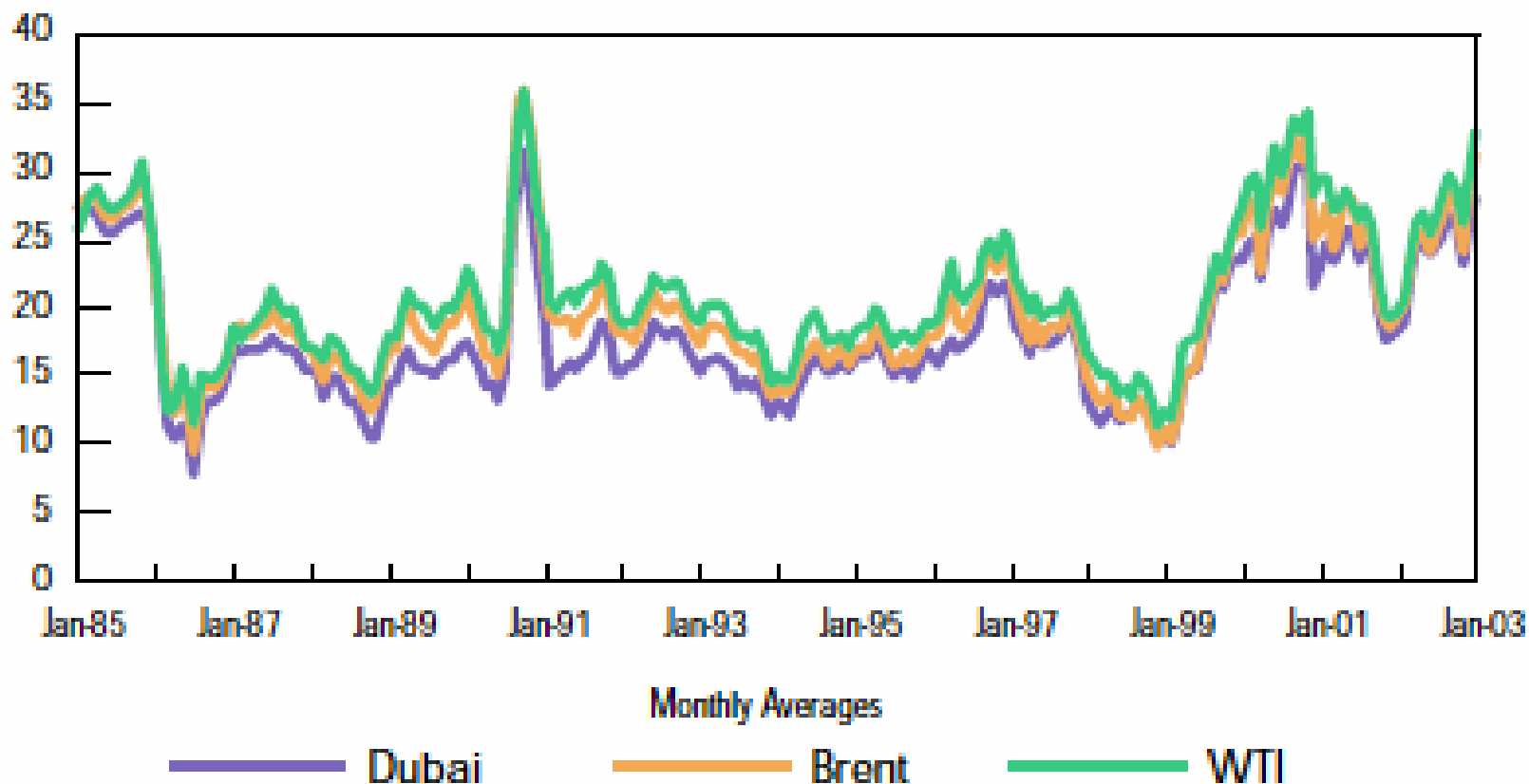
safety valve

of market price



Crude Oil

Key Crude Oil Spot Prices in US Dollars/barrel

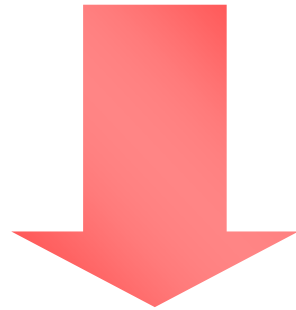


source: "Key world energy statistics2003", IEA

stockpiling

Economy

Environment



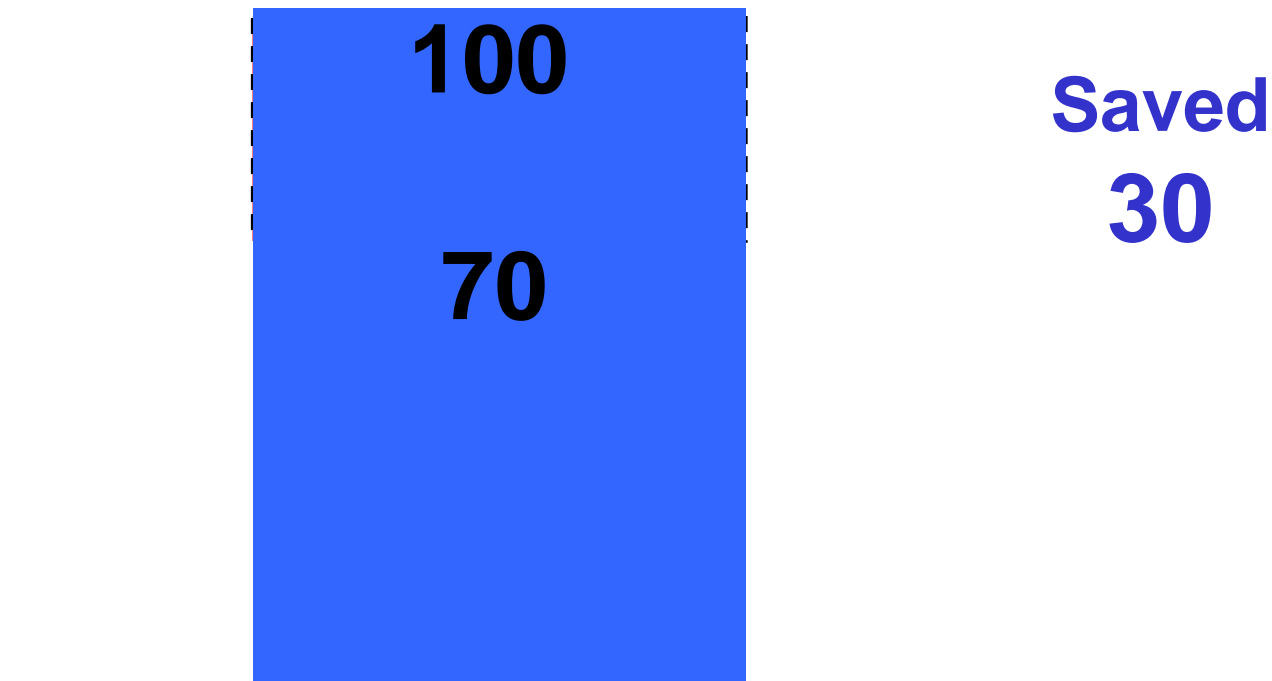
small costs

small impacts

Improvement of efficiency

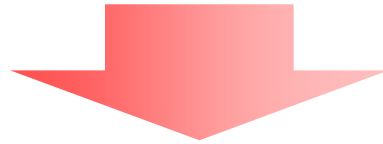
Improvement \Rightarrow same electricity with less fuels

To get 20 units of electricity



Saved fuels

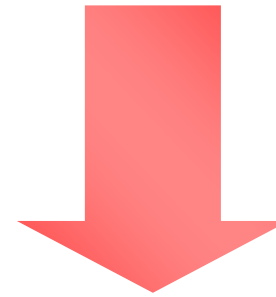
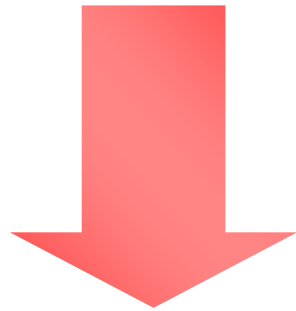
- unnecessary for additional import



improvement of energy security

Economy

Environment



small costs

Emission reduction

Increase of domestic supply

Promotion of {
▪ nuclear energy
▪ renewable energy

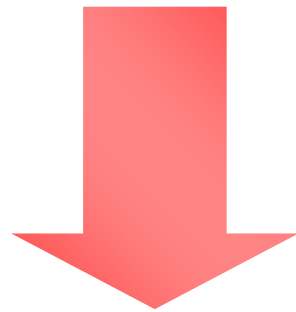


steady acquisition of clean energy

Increase of domestic supply

Economy

Environment



**Insignificant costs
In the future**



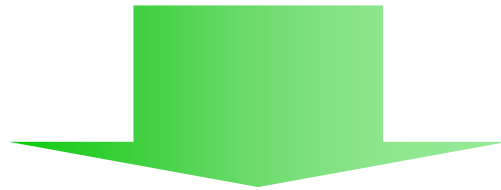
Emission reduction

Improvement of energy security

Other measures:

◆ **Economy= better**

◆ **Environment= better**



Environmentally harmful subsidies

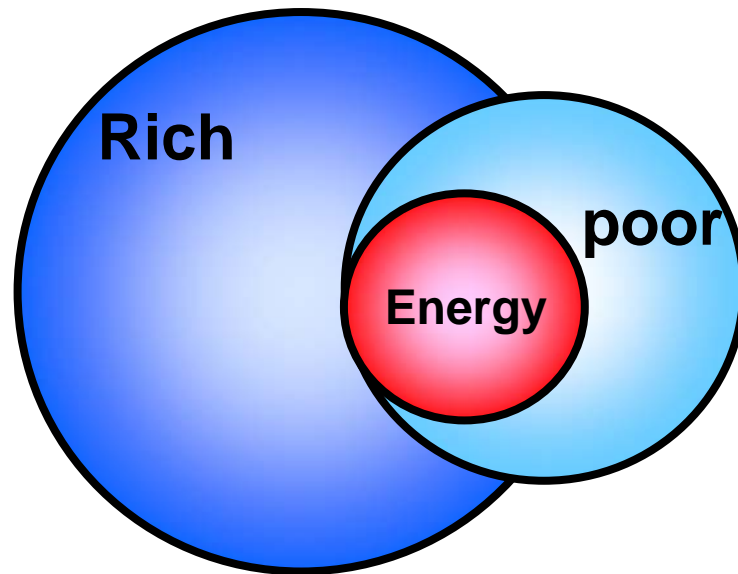
shall not be justified

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Poverty reduction

Energy \Rightarrow essential for life



Share of energy expenditure in income of poor households is larger than those in the richer households

\Rightarrow actually...

Share of energy expenditure in household budgets(%)

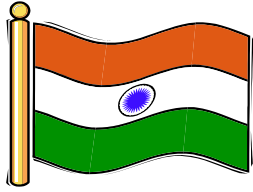
	Uganda	Ethiopia	India	South Africa	UK
Poverty	15.0	10.0	8.5	7.2	6.6
Wealthy	9.5	7.0	5.0	5.5	2.0

Source: "World Energy Outlook 2002 ~Energy and Poverty~", IEA

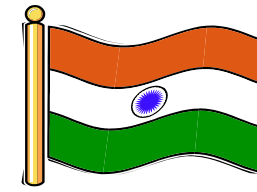
Subsidies are given to reduce poverty

But

**Subsidies actually do not solve
poverty problems**



Case study LPG subsidy in India



Subsidies to

small cylinders of LPG

for cooking and water heating

Support rate of 31.6%

(source: IEA World Energy Outlook 1999)

Purposes of LPG subsidy

- ① Expanding access to modern energy



- ② Wood fuels \Rightarrow indoor air pollution



high infant mortality rate

① failure to expand access to modern energy



only richer households benefited from the subsidy
(causing expansion of income inequality)

② failure to improve Infant Mortality Rate

(per 1000 live birth)

	1998	2000	2002
India	69	68	65
Japan	4	3	3

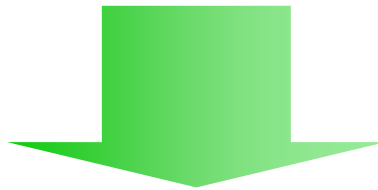
(source: United Nations homepage <http://www.un.org/>)

No substantial improvement seen

Implications from case study

LPG subsidy did not contribute to...

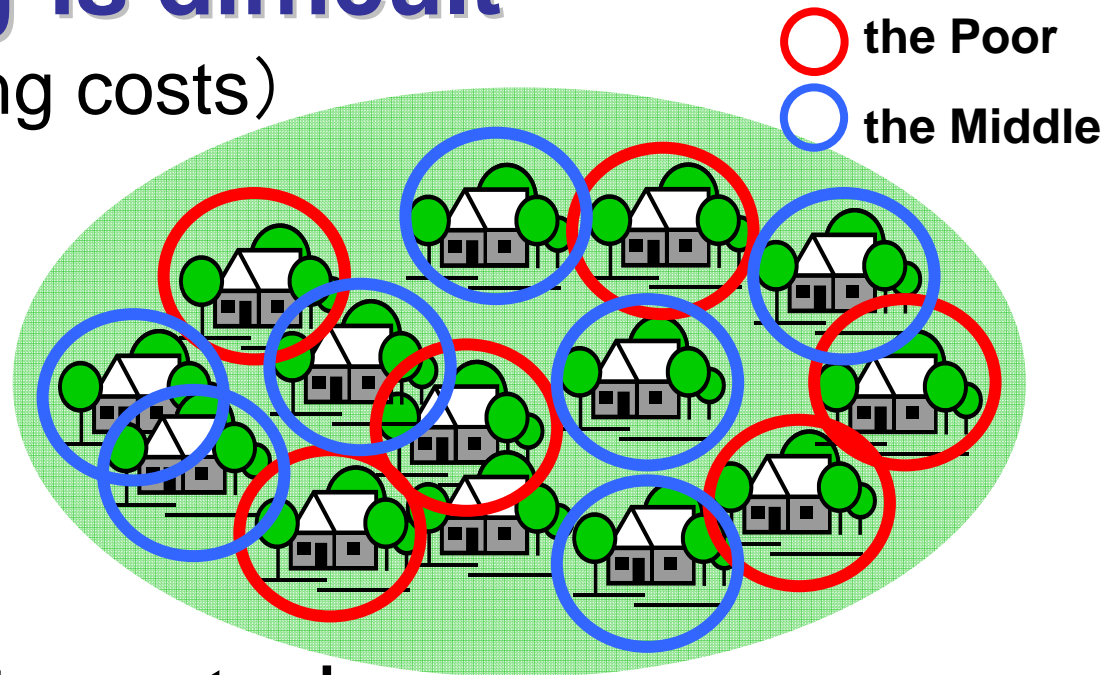
- ① expansion of access to modern energy
- ② improvement of infant mortality rate



Failure to fulfill social purposes

Is **targeting** the problem?

...But **targeting is difficult**
(large monitoring costs)



Even if properly targeted

***Increase of access to energy
can not always reduce poverty***

To reduce poverty . . .

Policies that raise their *income*

Income support policy

⇒ Compensates basic income



Opportunities to education, health care, etc

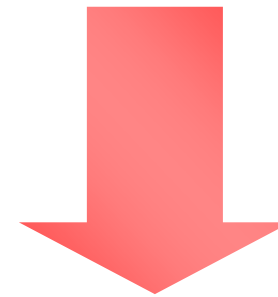
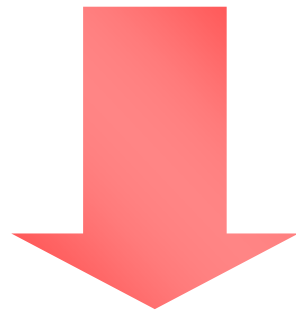


Incentive for economic activities

Income support policy

Economy

Environment



**Insignificant costs
In the future**

Small impacts

But

Some governments have no money to carry out such policy

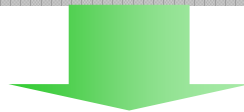


Protective policies in developed countries

(ex. subsidies (agricultural products))

The removal

⇒ reduce the competitiveness in developing countries



Trade liberalization



Poverty reduction

Economy ↑

Effects on environment

Ex.) the removal of agricultural subsidies

Agricultural production

More environmentally-friendly

Developed countries ⇒ Developing countries

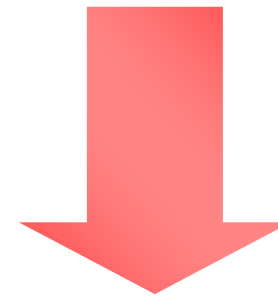
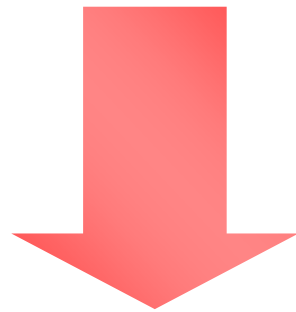
More polluting

Environment ↑

Removal of protective measures in developed countries

Economy

Environment



benefits

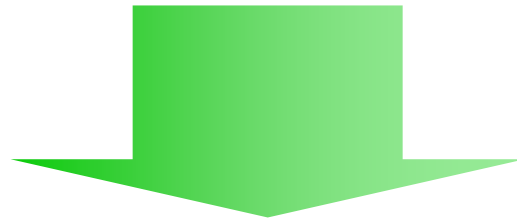
Improvements

Poverty reduction

There are policies

that do not damage

{ economy
environment



***Environmentally harmful subsidy
is not justified***

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Preventing unemployment

Unemployment = big public concern

leads to poverty

distrust of governments \Rightarrow Riots !

vicious circle

Unemployment issue cannot be neglected!

State supports to weakening industries

maintain the existing employment

Question:

**Does supporting unproductive
sector really help
unemployment problem?**

Causes of Unemployment

2 major causes:

① **Depression of Economy**

② **Changes in the industrial structure**

① Depression of Economy

Economy decline



Decreased revenues



Restructuring



Dismissals

For this type of unemployment...



-Macroeconomic measures

{ monetary policy
fiscal policy

-Active investments in the development of growing, promising sectors

EHS to prevent unemployment

EHS = supporting **weakening** sectors

- Retrograde, conservative support
- Obstacle to economic recovery

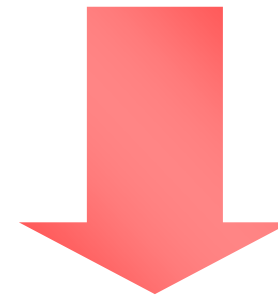
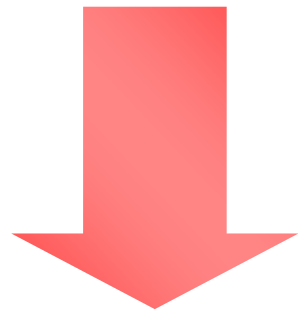
In the broad view, not a good measure

Economy ↓ Environment ↓ Employment ↓

Recovery of Economy =more rational measure

Economy

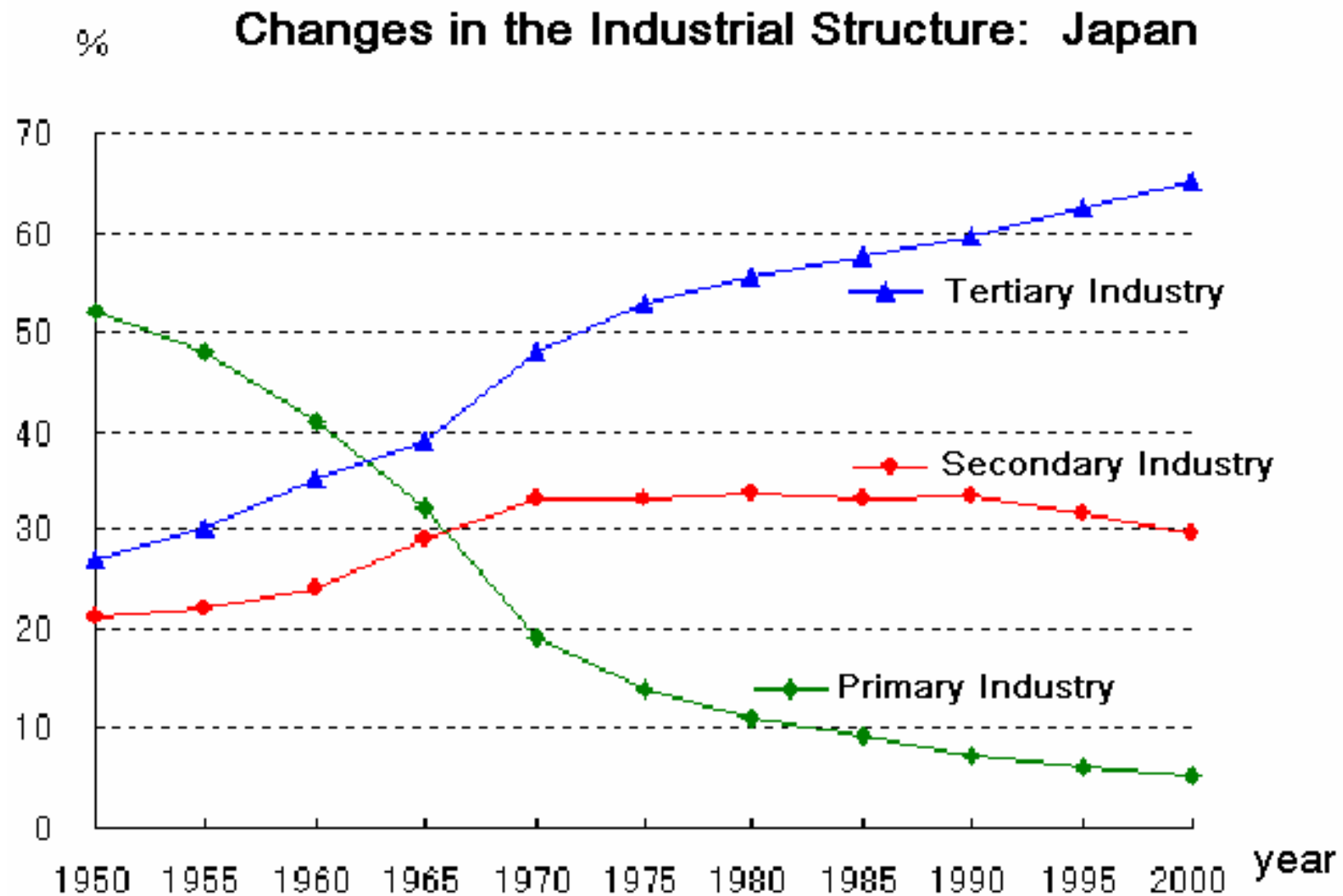
Environment



better

Less polluting

② Changes in Industrial Structure



Source: Ministry of International Affairs and Communications: Census

② Changes in Industrial Structure

Demands for labor force shift accordingly

⇒ Unemployment results
in diminishing sector

**If transfer of labor force is stagnant,
unemployment increases!**

For this type of unemployment...



Lack of information
Mismatch of conditions } ⇒ obstacles

Therefore, effective measures are:

- Broader access to employment agencies
- Strengthen carrier education

EHS to weak sectors =

obstacle for smooth transfer

The world is now moving towards
Greener, Sustainable Society

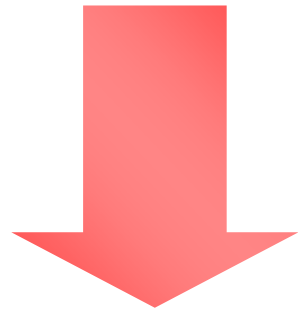


**Industrial Structure is shifting towards
sustainable society**

EHS will hamper this stream

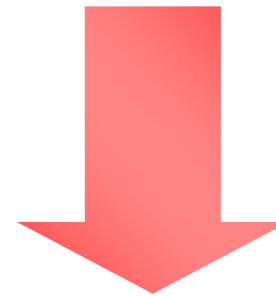
Smooth Transfer of Labor Force =more rational measure

Economy



better

Environment



Less polluting

EHS

Economic Welfare ⇒ harmful
Environment ⇒ harmful
Unemployment ⇒ unsuitable

Cannot be justified in introducing
as employment policy!

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Conclusion

EHS can not
be justified



Our Study Group Aims to...

- 1. Inform the citizens of the world about the hidden harmfulness of EHS to acquire their acceptance**
- 2. Suggest policymakers to reform EHS and to analyze the losses and the benefits of all 3 factors to choose more rational policies**

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