

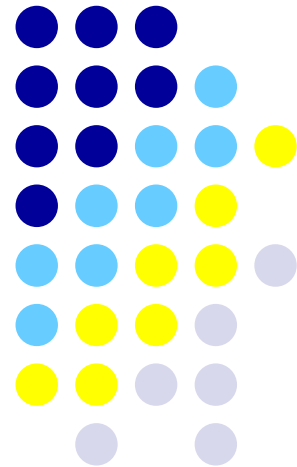
Waste Management Policy in Japan

Koji Hayashi Kenji Oshima

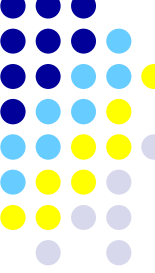
Kentaro Nara

Keisuke Shiinoki

Kaito Hosoyamada

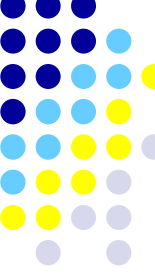


Purpose of presentation



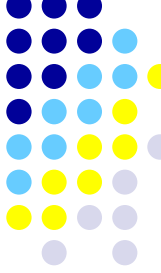
- We'd like to **introduce** to you **EPR**, the concept of waste management policy in Japan, and **Japanese laws** based on it.
(EPR · · · Extended Producer Responsibility)
- We'd like you to **know** **EPR** itself and **its effect**.

Before our presentation



- Although we presented about waste (EPR) last year, we will present again for persons who has never participated in the past symposiums.
- Basically, the word “Waste” will be used as **municipal waste** (such as household appliances, containers, and packaging).

Structure



1, Background

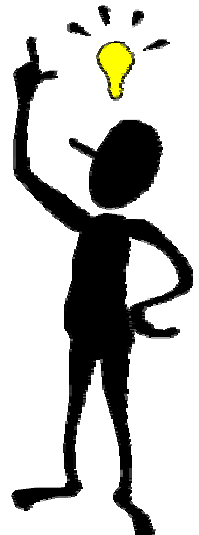
—Why did Japan adopt EPR?—

2, Effects of EPR

—3 examples of laws based on EPR—

3, Impacts on China by EPR

4, Conclusion

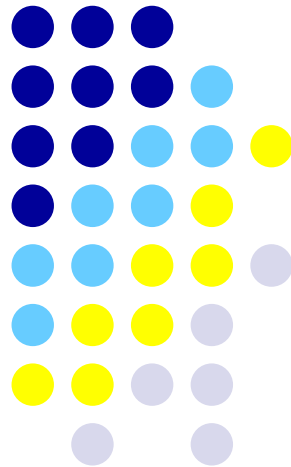


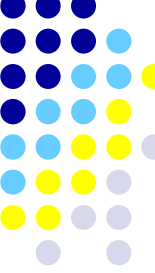
Chapter 1

Background

— Why did Japan adopt EPR? —

Kaito Hosoyamada





1, Why did Japan adopt EPR?

Because . . .

Recycling is necessary
in Japan

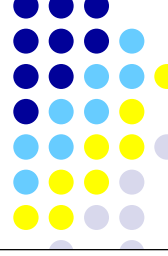
Why is recycling necessary
in Japan?

and

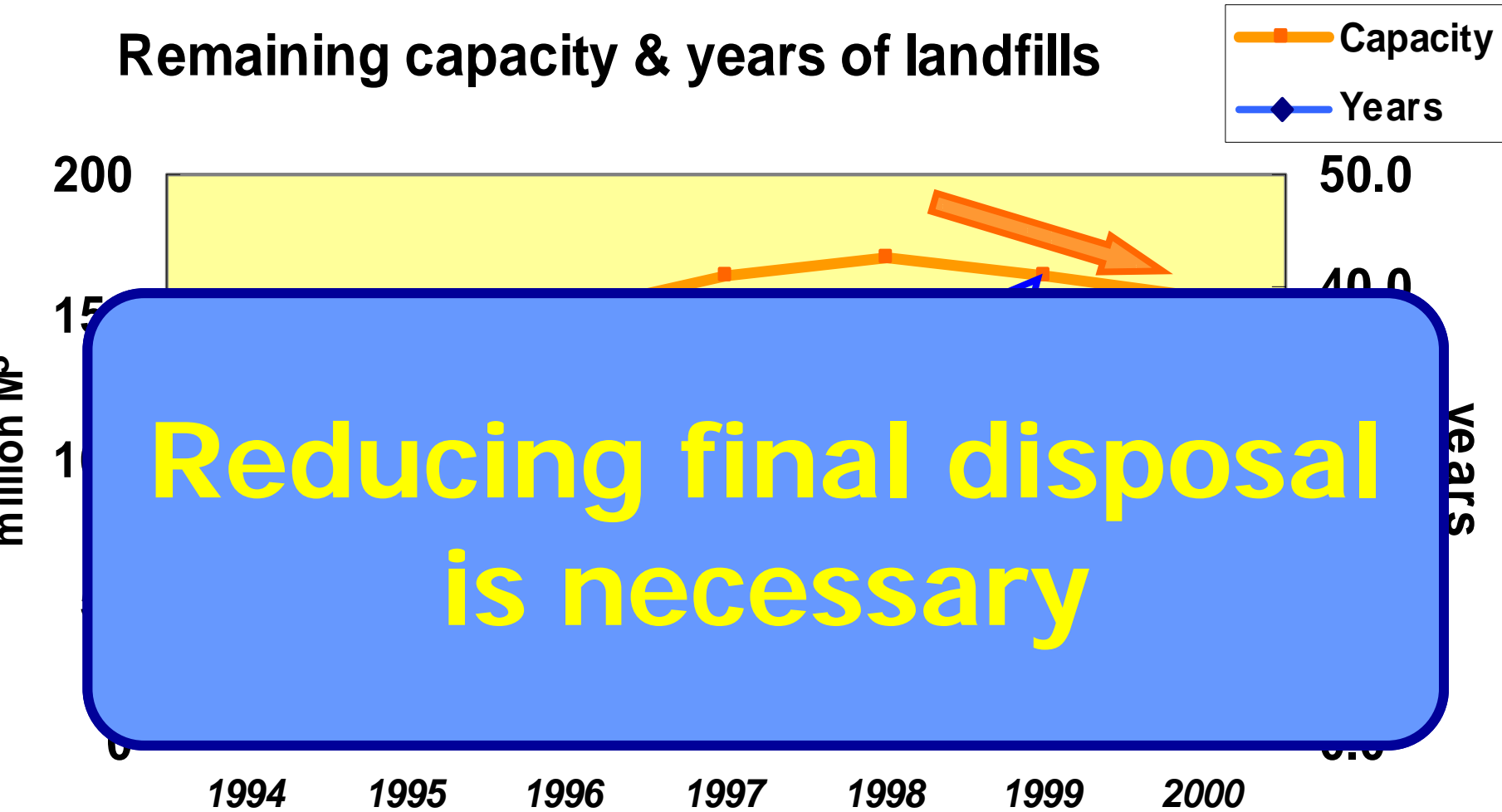
EPR promotes
recycling

Why does EPR promote
recycling?

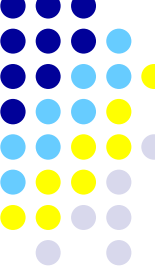
Why is recycling necessary in Japan?



Remaining capacity & years of landfills



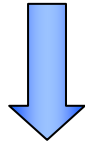
Why is recycling necessary in Japan?



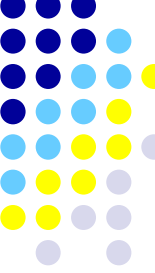
There are 2 reasons . . .

Shortage of landfills

**Limited
natural resources**



**Reducing final disposal
is necessary**



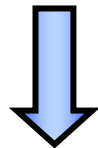
Why is recycling necessary in Japan?

- **Natural resources are limited.**

Remaining years

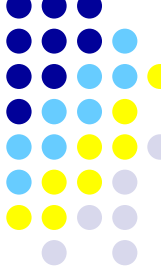
oil (43 years), copper (49 years),
lead (22 years)

- **Japan has little natural resources and has to import them a lot**



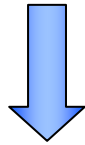
It is necessary to use them more effectively !

Why is recycling necessary in Japan?

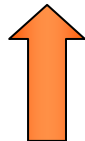


There are 2 reasons . . .

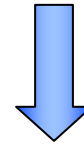
Shortage of landfills



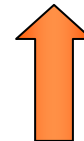
Reducing final disposal is necessary



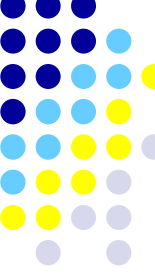
Limited natural resources



Using resources effectively is necessary



Recycling can achieve them !



What is 3R ?

- It means . . .

Reduce, **R**euse and **R**ecycle

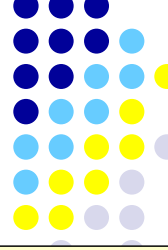
3R leads to

**the reduction of
final disposal**

**the effective use of
natural resources**

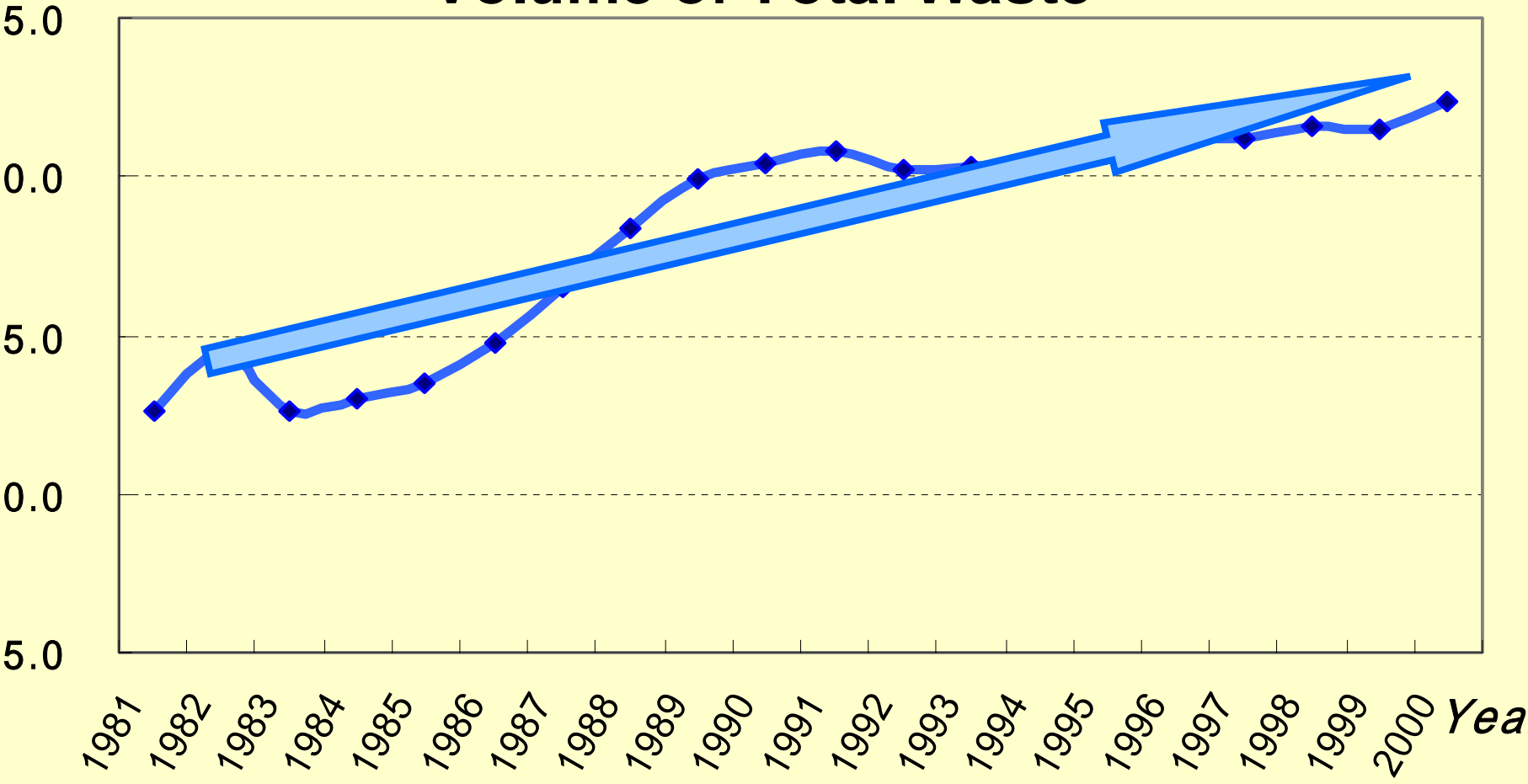
no
m

Reason(1) Shortage of landfills

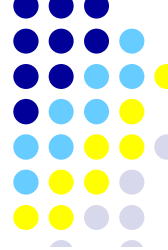


Million ton)

Volume of Total Waste



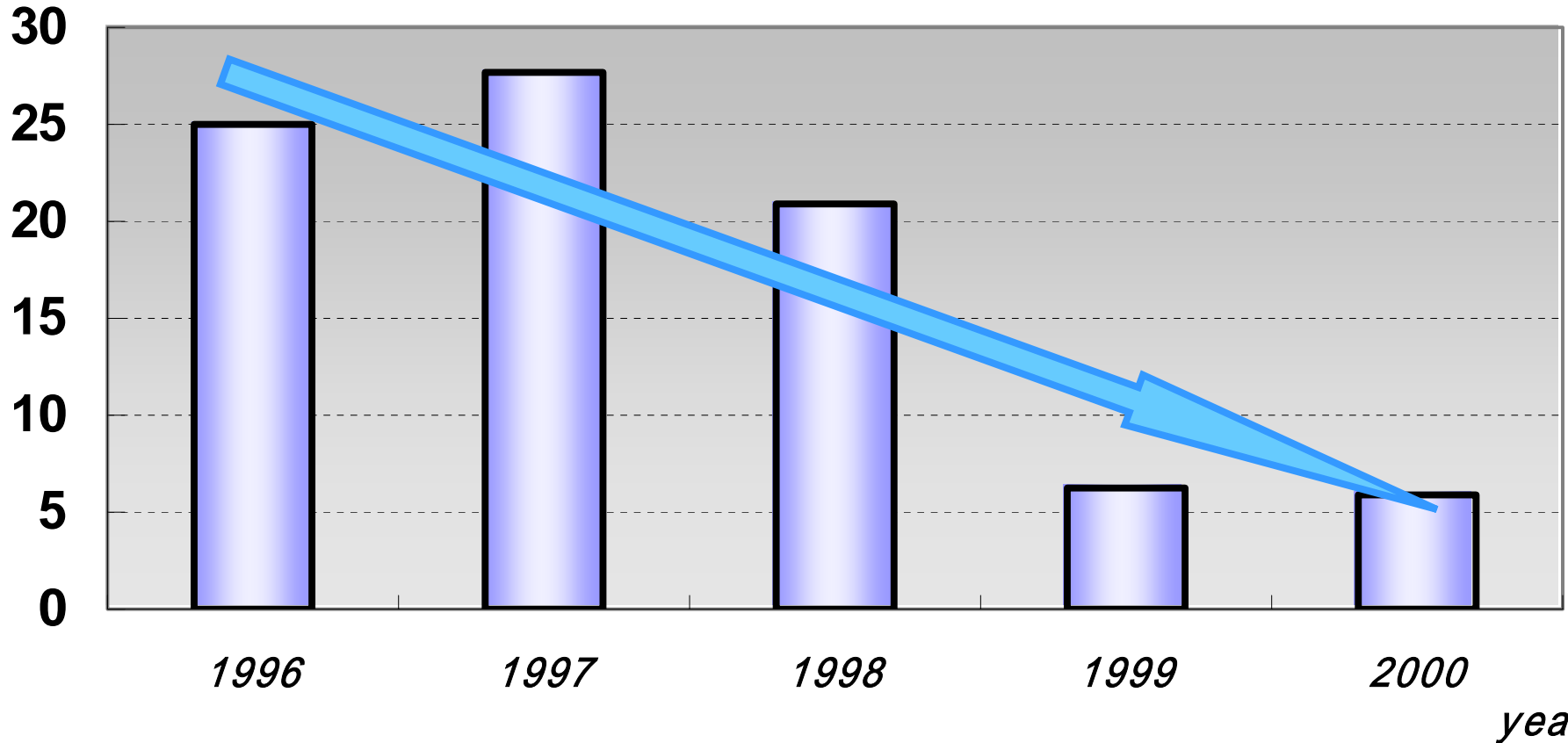
Source: Ministry of Environment (2003) Environmental Statistics



Reason(1) Shortage of landfills

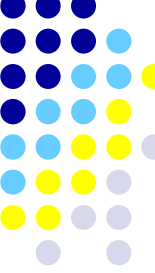
million M³

Capacity of newly built landfills



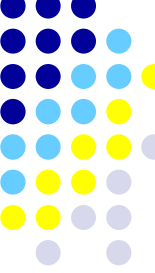
Source: Made from Ministry of Environment (2003) Environmental Statistics

Why does EPR promote recycling?



- (1) **What** is EPR?
- (2) **How** does EPR promote recycling?
- (3) **Kinds** of responsibilities

(1) What is EPR?

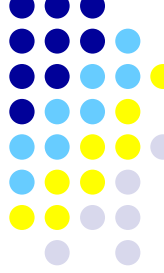


EPR

||

Extended Producer Responsibility

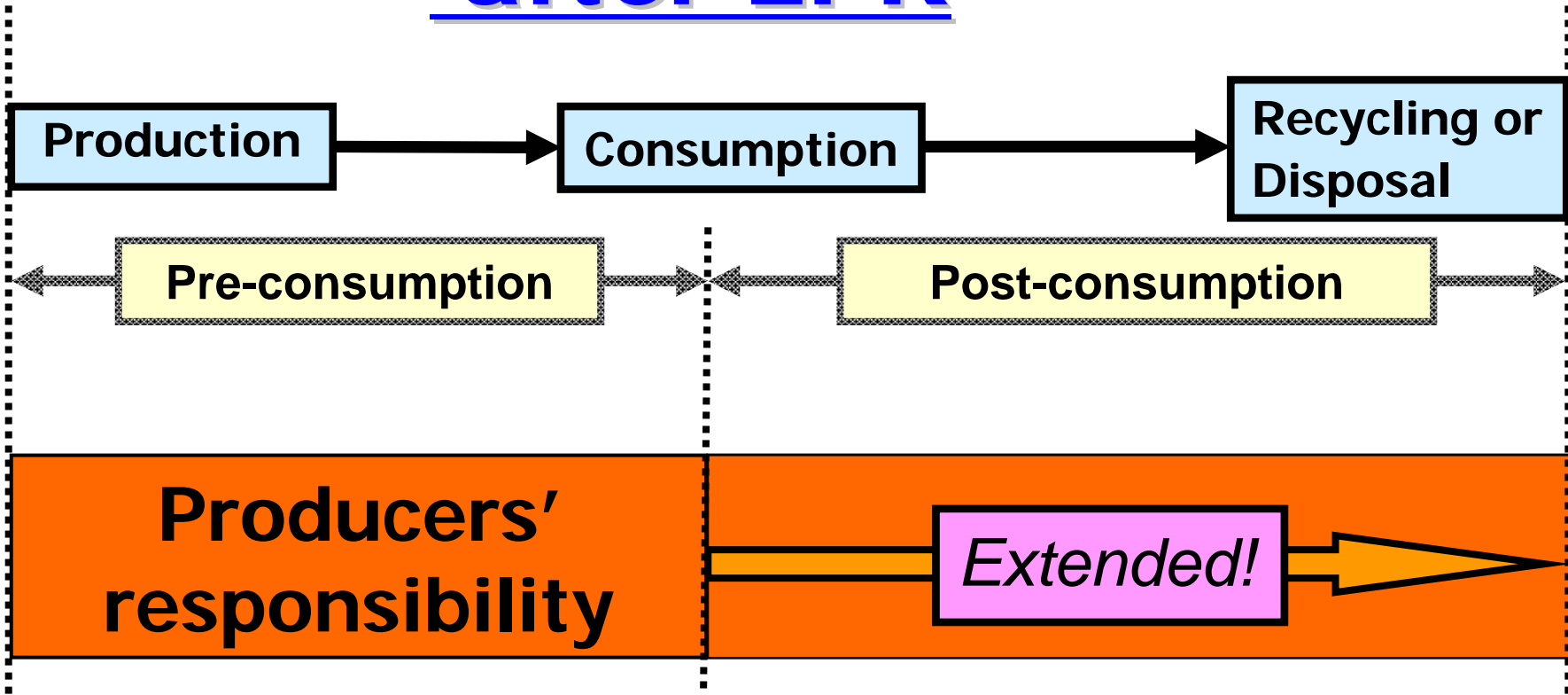
To **extend** producers' responsibility for their products **to the post-consumption stage**

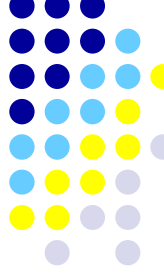


(1) What is EPR?

Case1: general case

after EPR

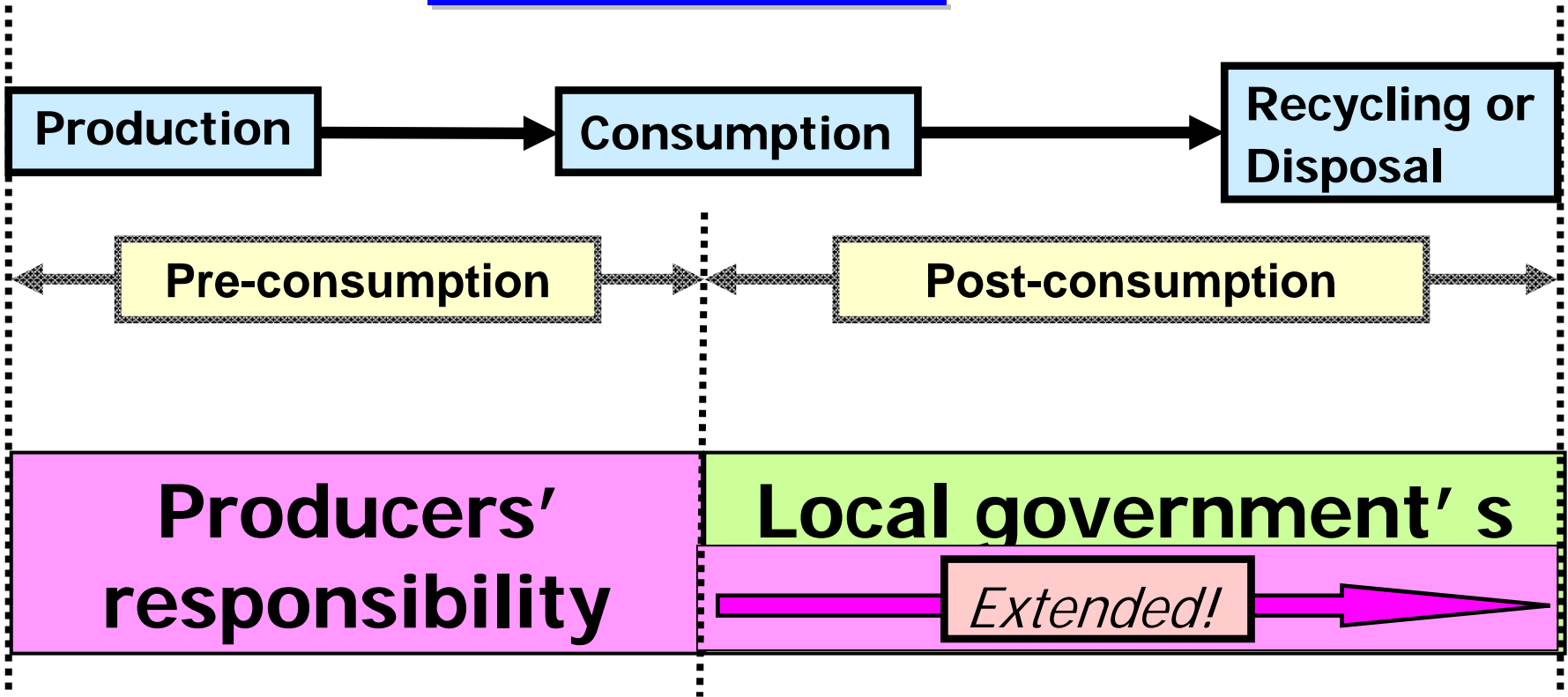


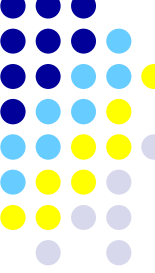


(1) What is EPR?

Case2: non-general case

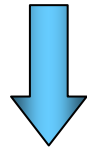
after EPR



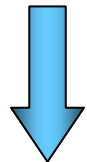


(2) How does EPR promote recycling?

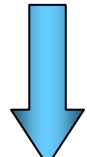
Producers are responsible for recycling or disposal.

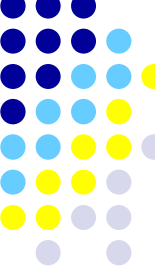


They have to bear recycling or disposal costs.



Products may have a rise in price.



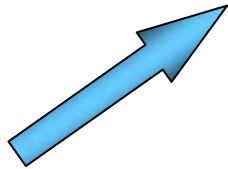
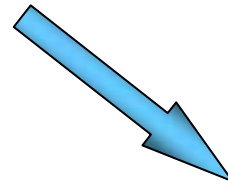


To sum up . . .

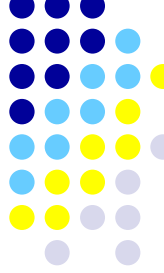
Recycling is necessary
in Japan

and

EPR promotes
recycling



**Japan
adopted EPR**



(3) Kinds of responsibilities

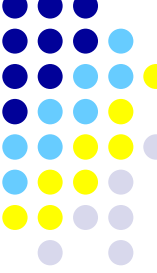
Physical responsibility

Producers must collect and recycle their used products themselves .

Financial responsibility

Producers must finance systems to collect and recycle their used products.

How do producers bear the “responsibilities” ?

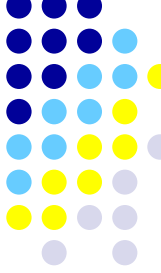


cases

1 : **Physical** and **Financial** responsibility

**The most efficient way
to bear the responsibility
depends on characteristics of products**

e.g. ELV law in Japan



Sammary of chapter 1 . . .

Please keep in mind 3 things

1. Japan needs to **recycle** waste,

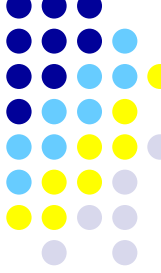
in order to { **reduce final disposal**
use resources effectively.

} Japan
adopted
EPR

2. EPR promotes **recycling**.

3. The most efficient form of responsibility
depends on characteristics of products.

Structure



1, Background

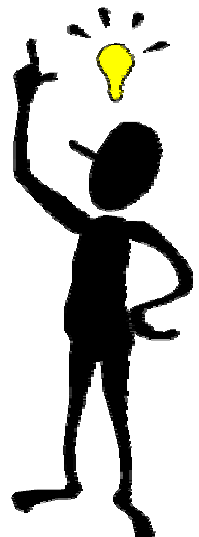
—Why did Japan adopt EPR?—

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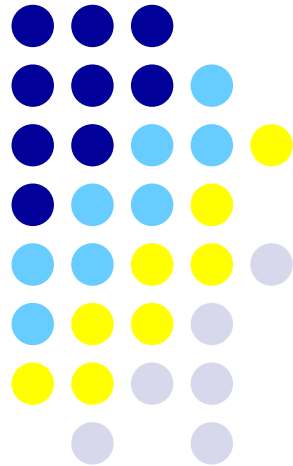
4, Conclusion



Effects of EPR

— 3 examples of laws based on EPR —

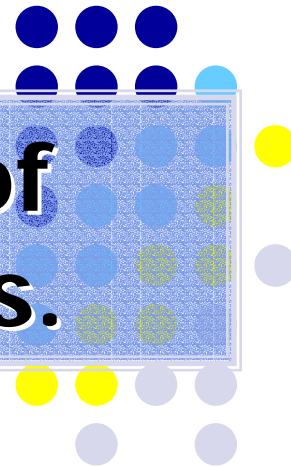
- Home Appliance Recycling Law
- Containers and Packaging Recycling Law
- ELV recycling Law

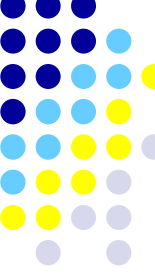


Home Appliance Recycling Law

**This law obliges recycling of
waste household appliances.**

Kenji Oshima

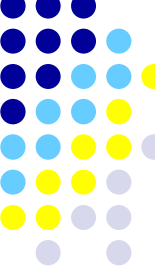




1. The relationship between Household Appliance Recycling Law and EPR

2. Results of the last two years

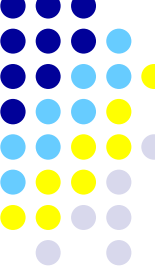
3. Conclusion



Outline of the law

- The law has come into force in **April 1st, 2001**
- **Targets**
TV, refrigerator, washing machine, air conditioner
- **Purpose**

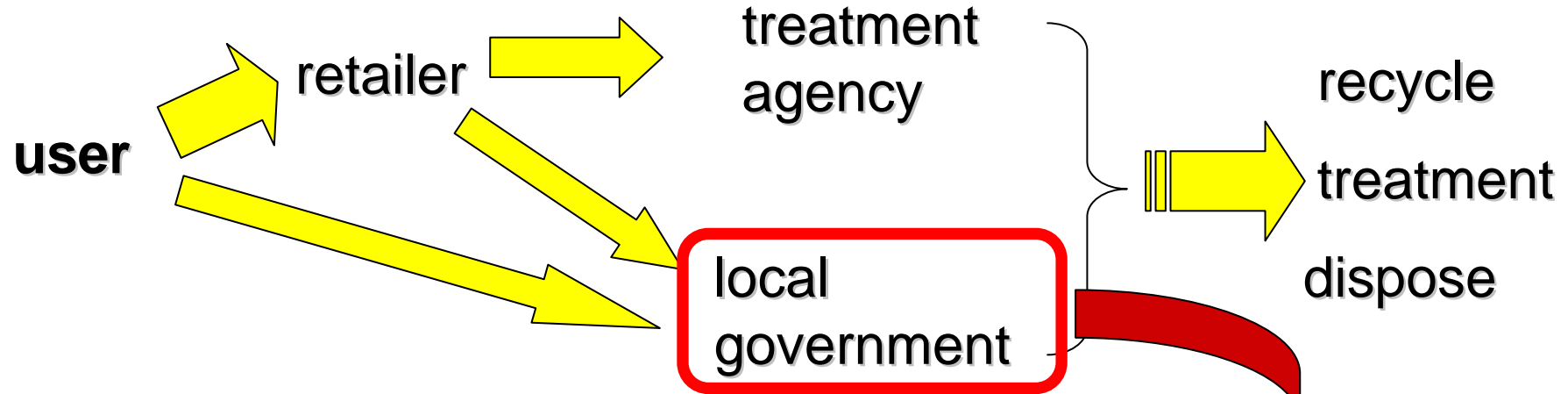
mitigate the shortage of landfills
efficient use of resources



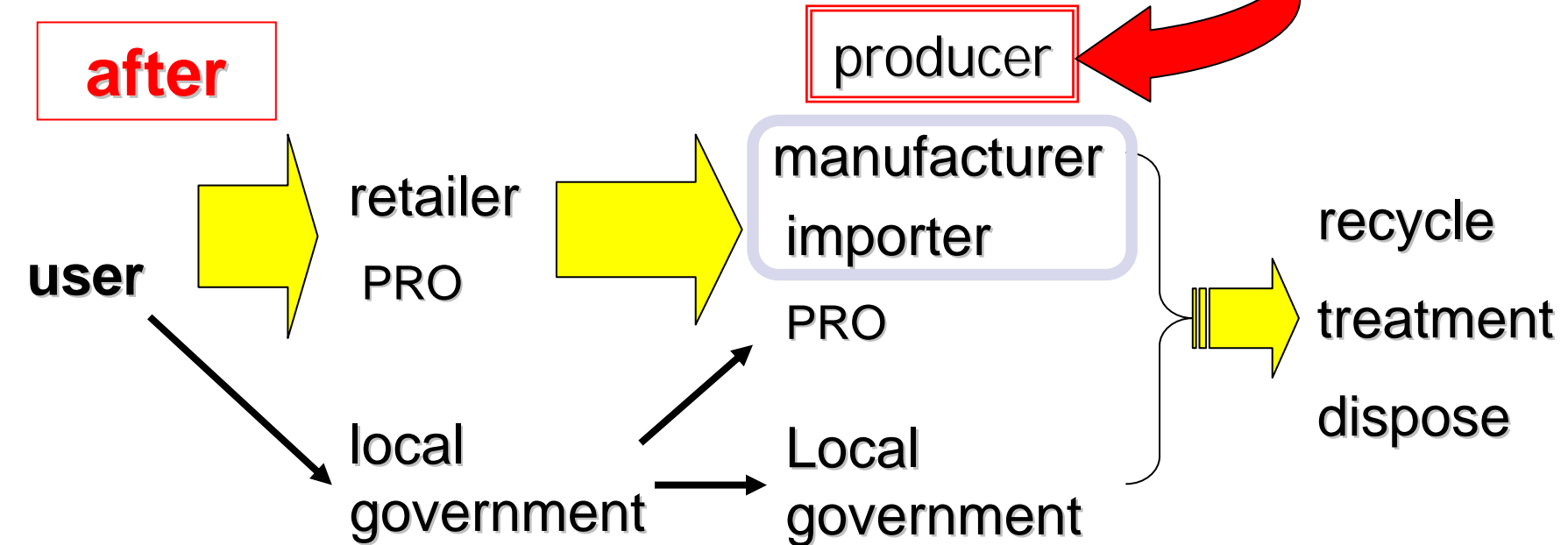
	Air Conditioner	TV	Refrigerator	Washing Machine
Recycling rate	60%	55%	50%	50%

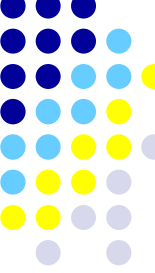
Flow of waste appliances

before

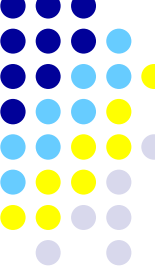


after





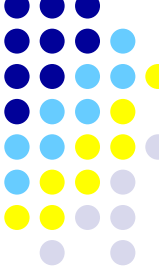
Responsibility (collection & recycling) was
physically and financially
transferred to private sector!



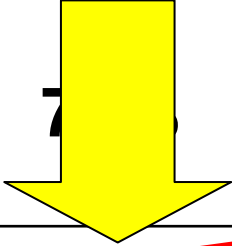
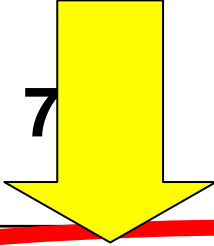
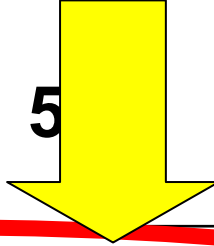
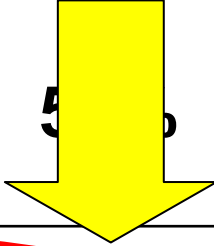
1. The relationship between Household Appliance Recycling Law and EPR

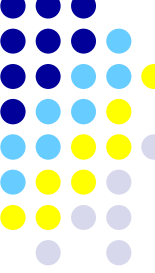
2. Results of the last two years

3. Conclusion



Result of Recycling Rate

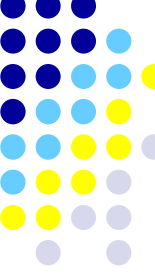
	Air Conditioner	TV	Refrigerator	Washing Machine
law	60%	55%	50%	50%
2001	70% 	70% 	55% 	55% 
2002	78%	75%	61%	60%



1. The relationship between Household Appliances Recycling Law and EPR

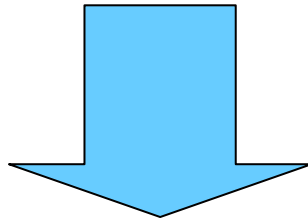
2. Results of the last two years

3. Conclusion



Conclusion

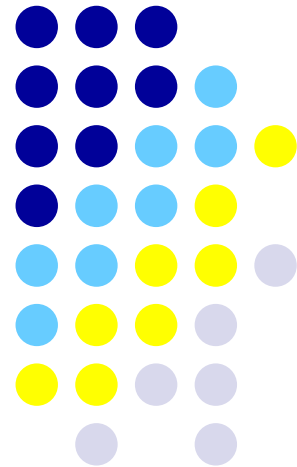
The two purpose has achieved

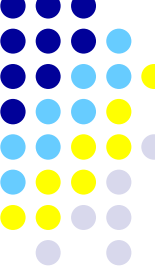


**mitigate the shortage of landfills
efficient use of resources**

Containers and Packaging Recycling Law

Kentaro Nara



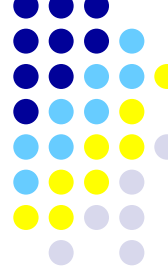


Out line

By the Law...

- **The volume of recycled is increasing**
- **Growth of the volume of waste is mitigated**

EPR is effective in recycling

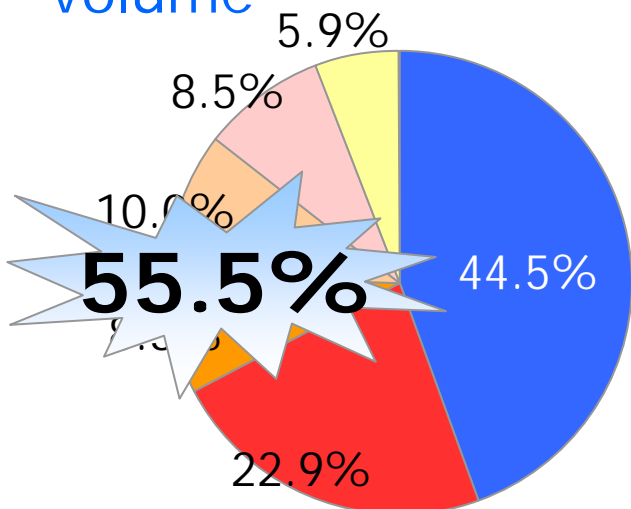


Background

- **55%** of municipal waste in Japan consists of containers and packaging

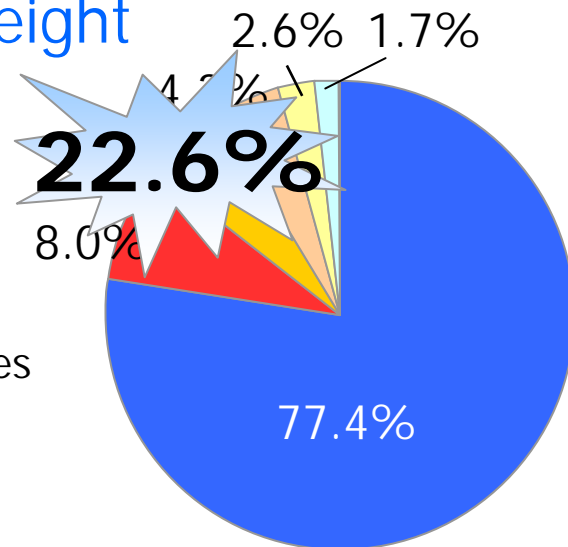
ratio of "Containers and packaging" in Waste

Ratio of volume



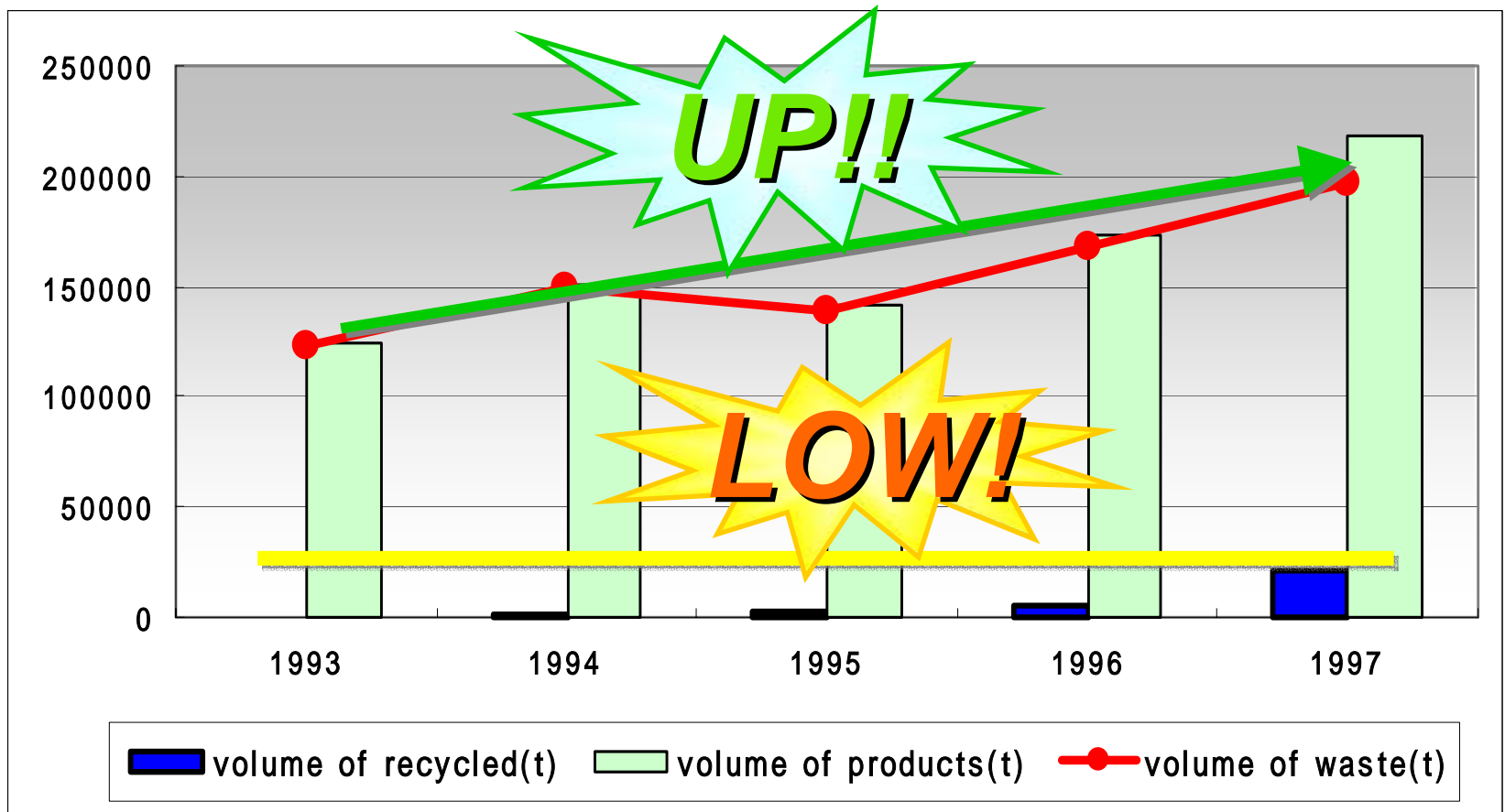
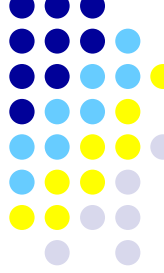
Ratio of weight

- expect containers and packaging
- containers for food
- containers beverage and commodities
- containers for
- others

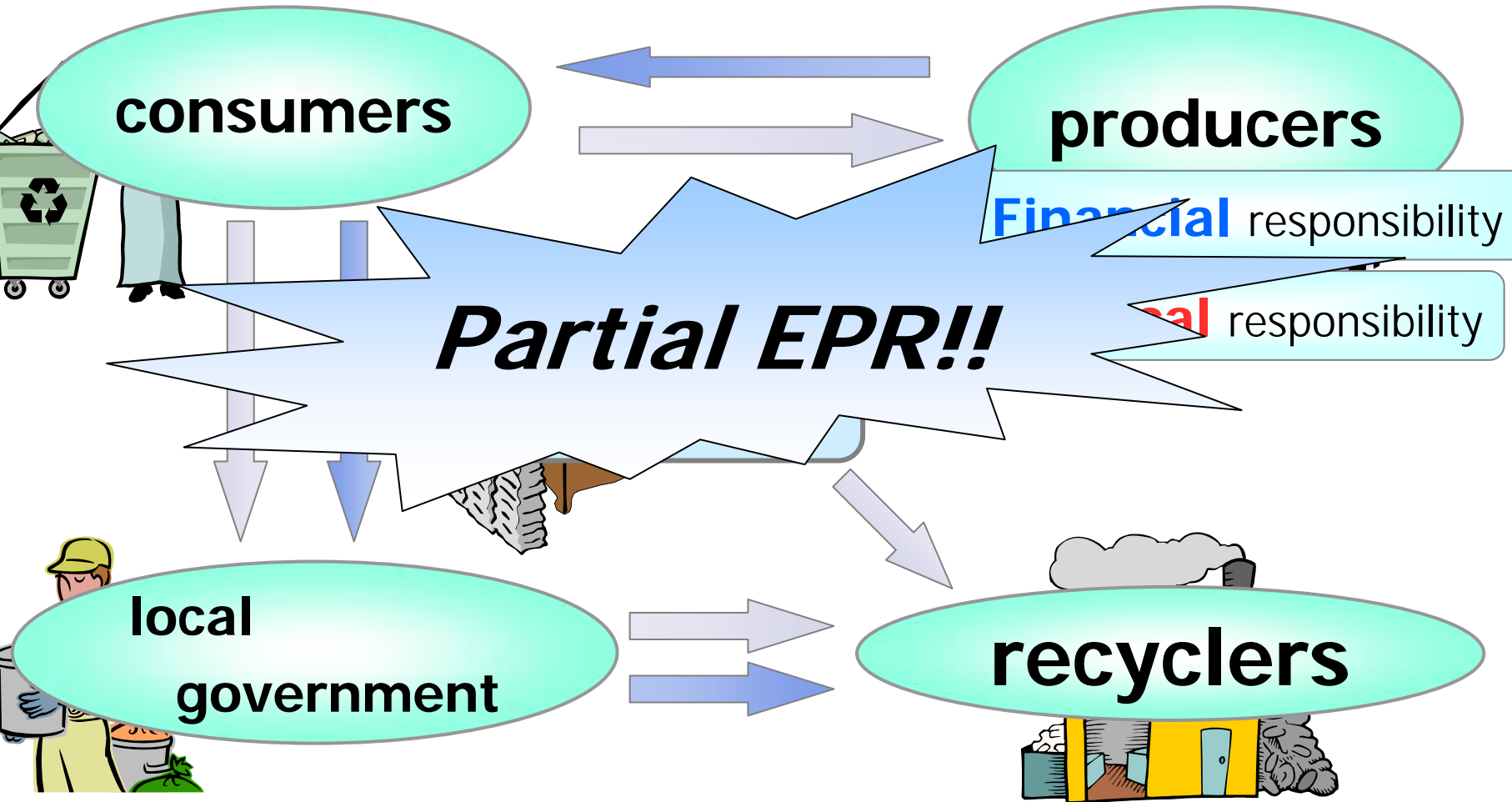
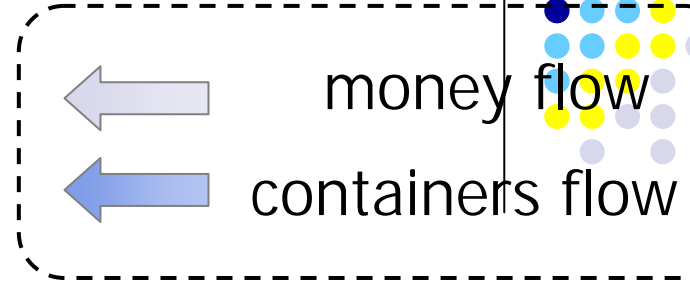


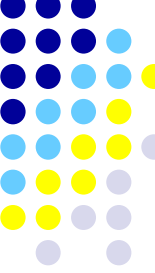
Background

volume of containers (PET bottles)



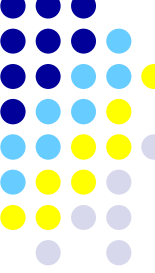
Flow chart





effect of EPR

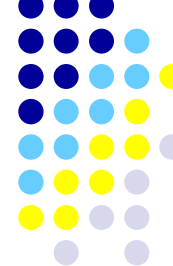
***EPR is
effective in recycling !***



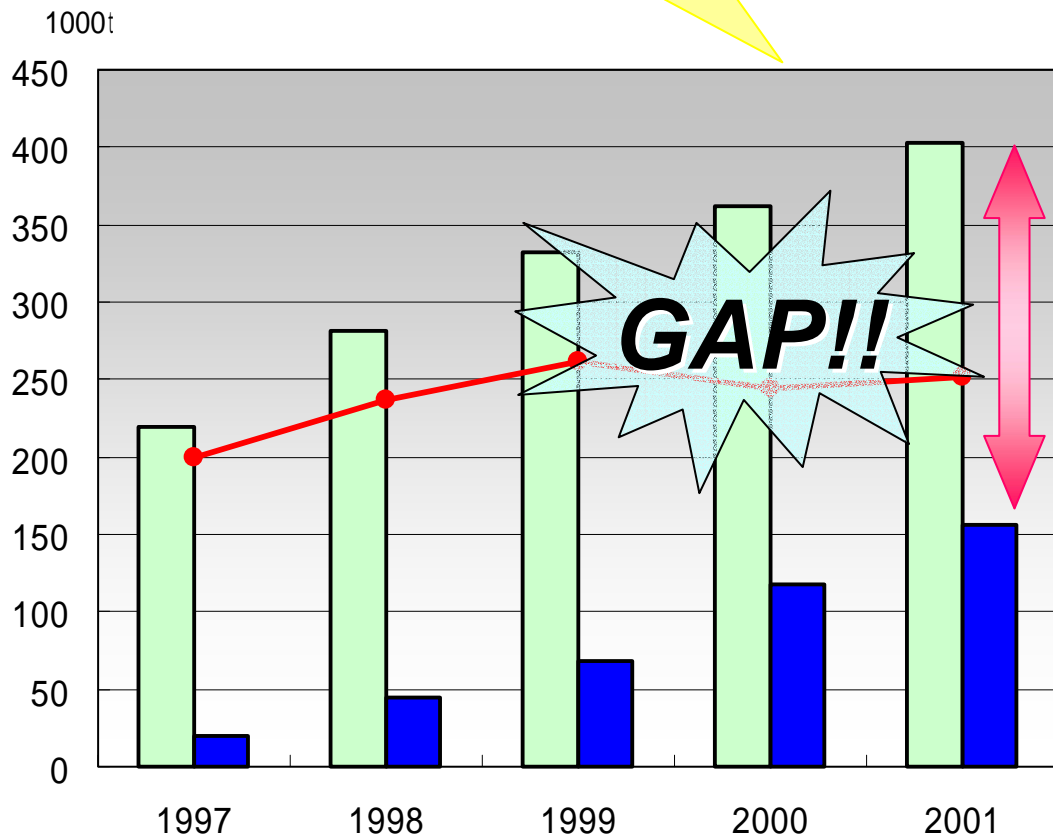
Is EPR perfect?

- The volume of waste is still increasing
- WHY??
 - * Producers are doing nothing? **NO!**
(redesigning for easy recycling, resource saving, etc)
 - * Local governments are ... ? **NO!**
(collecting, transporting, etc)
 - * Consumers are ... ? ? **???**
(separating waste??)

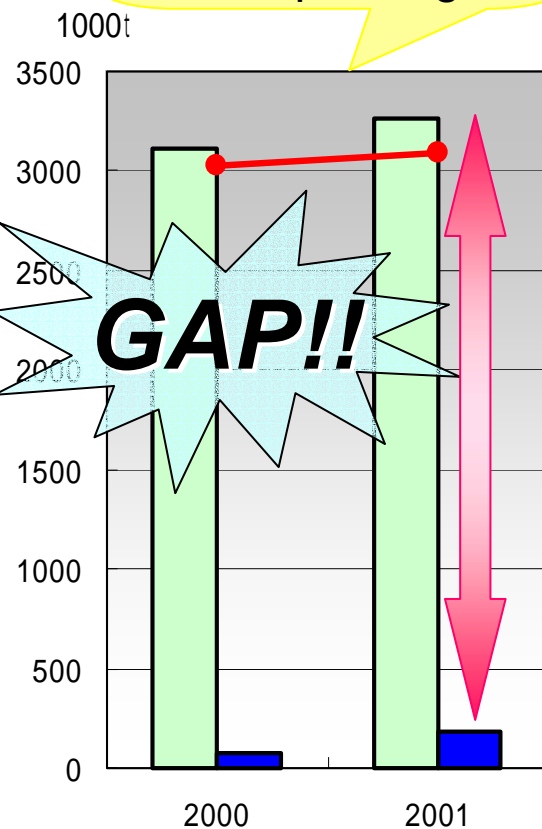
Present condition



PET bottles



Plastic containers and packing

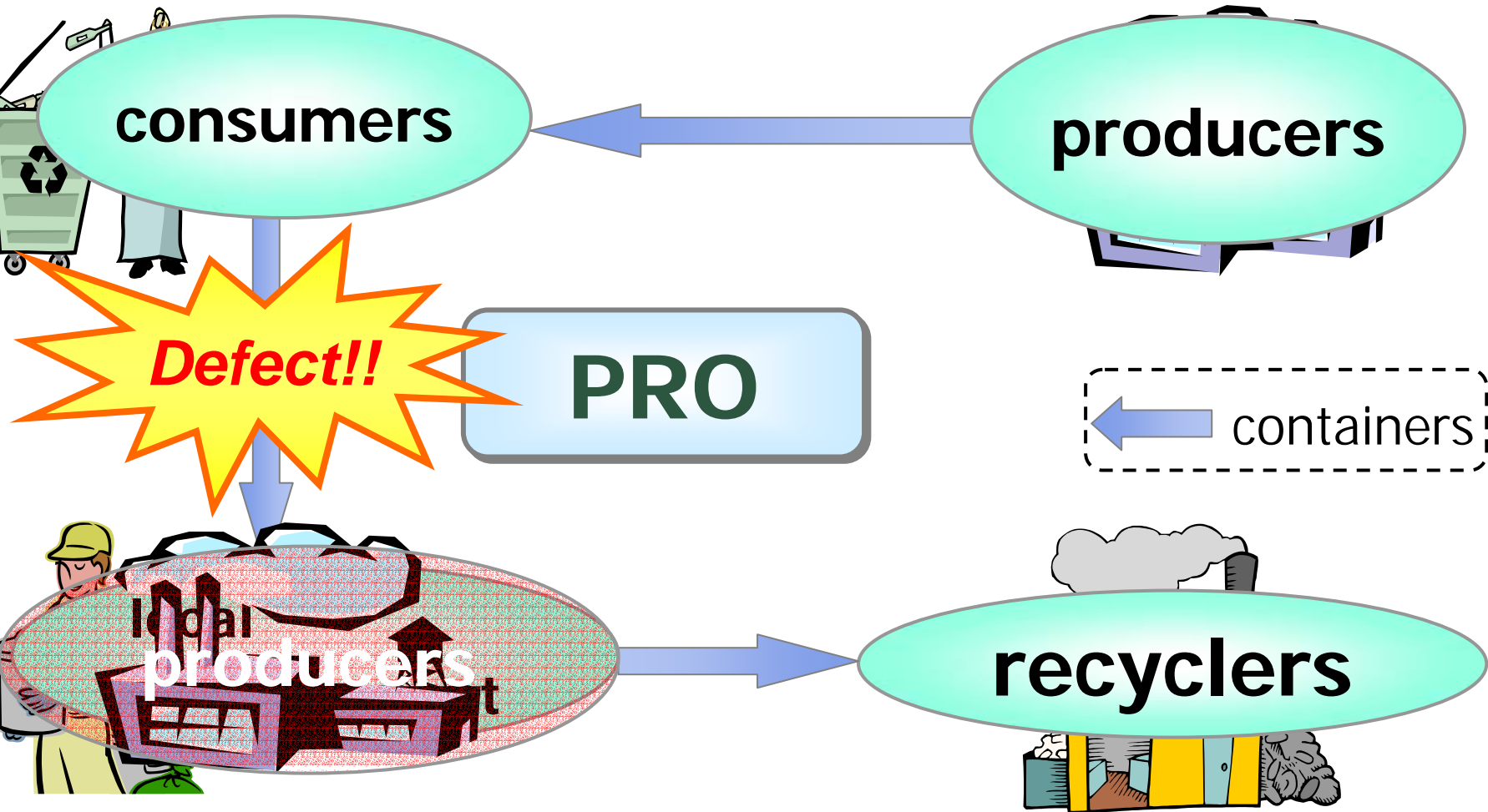
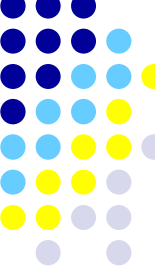


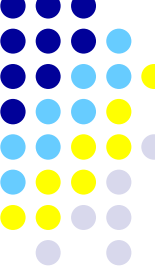
Volume of recycled

production

Volume of waste

Does it come from Partial EPR?





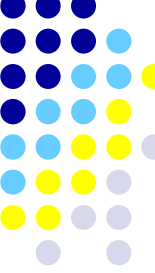
EPR's defection

- **EPR can't influence on Consumers!**

Waste separating is **not enough!!**

It can be a big problem.

It depends on the **products property!**



Complement measures

- Charge for garbage collection

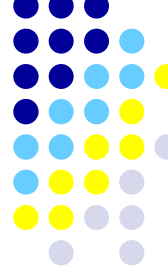
- Consumers will buy the product with a few package.
- Consumers will separate garbage strictly.

- Deposit

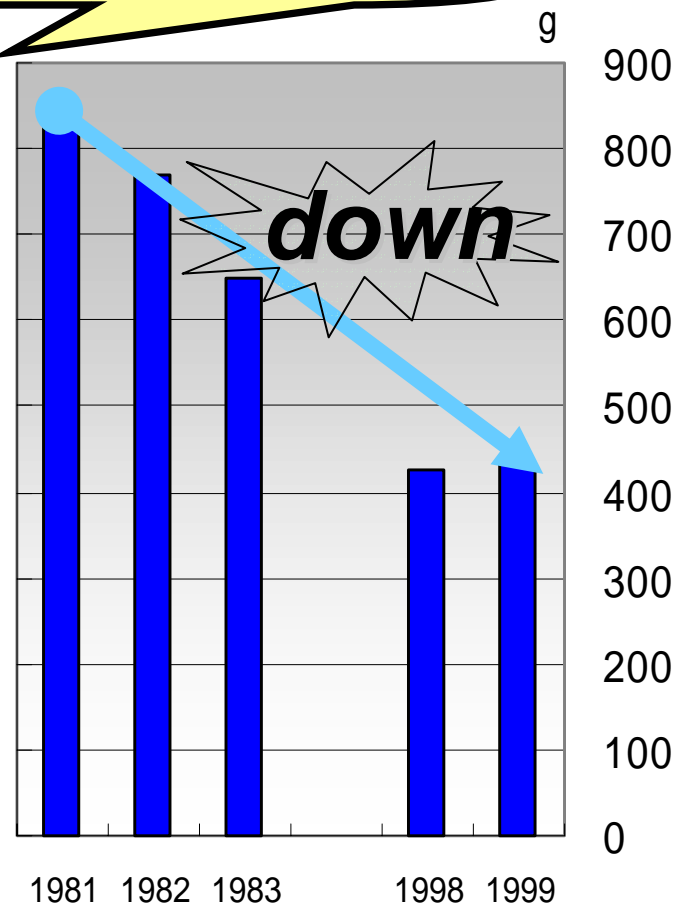
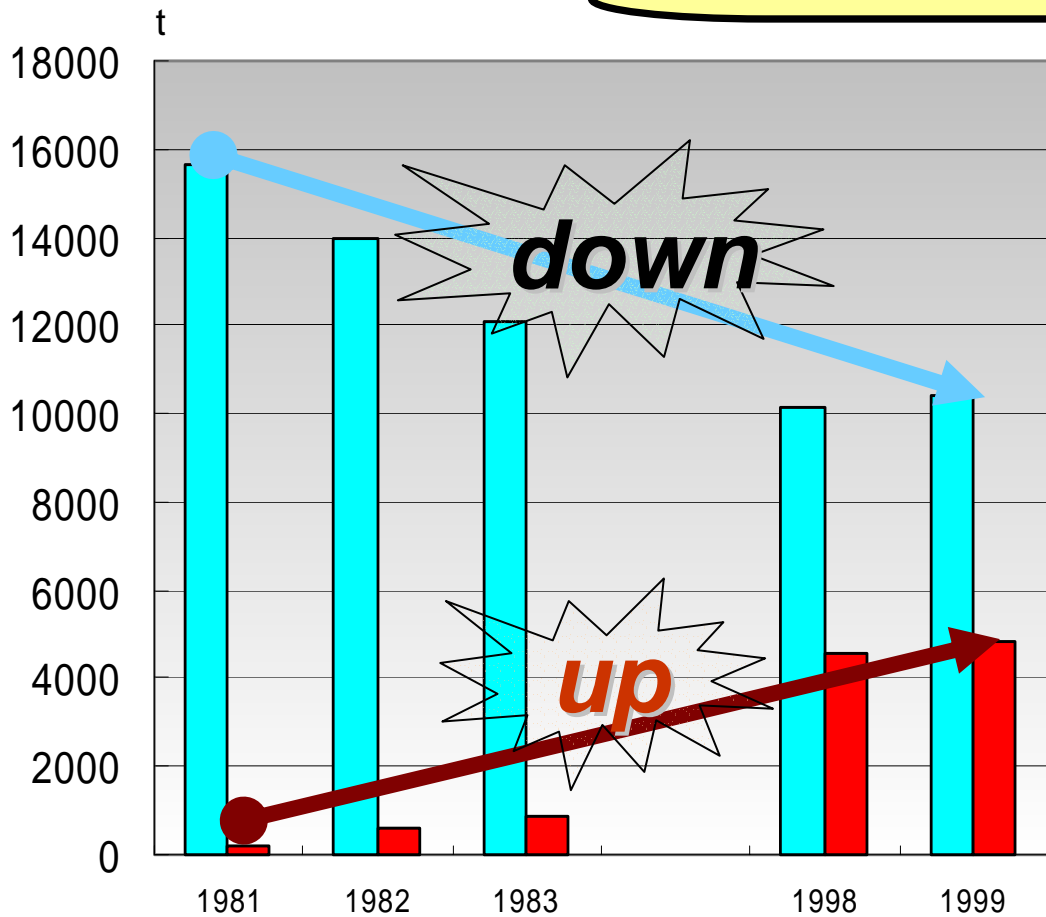
- Consumers will return cans or bottles.
- The rate of recycling will be high.

Actual result in Japan

~Moriyama city~



Change of the volume of waste



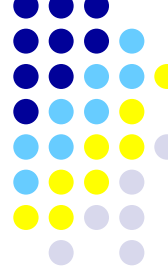
Volume of waste

Volume of recycled

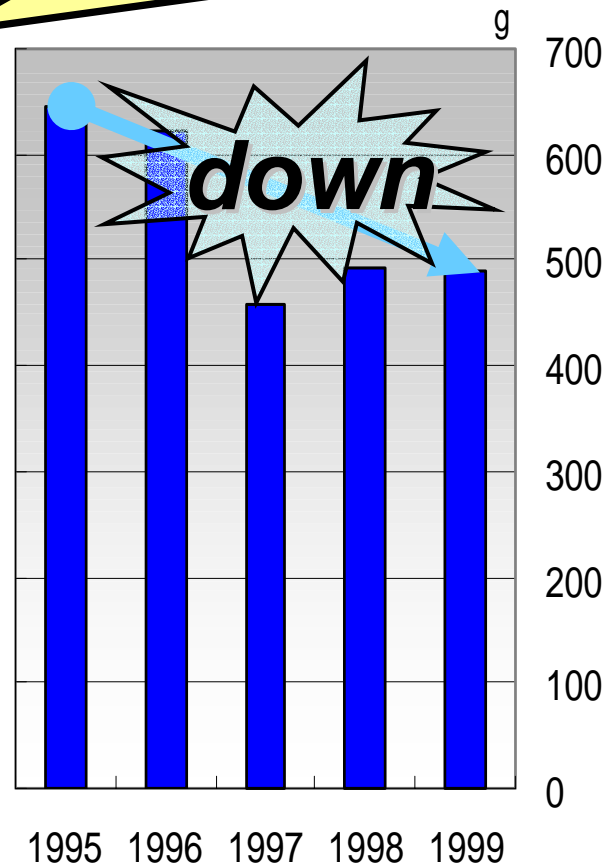
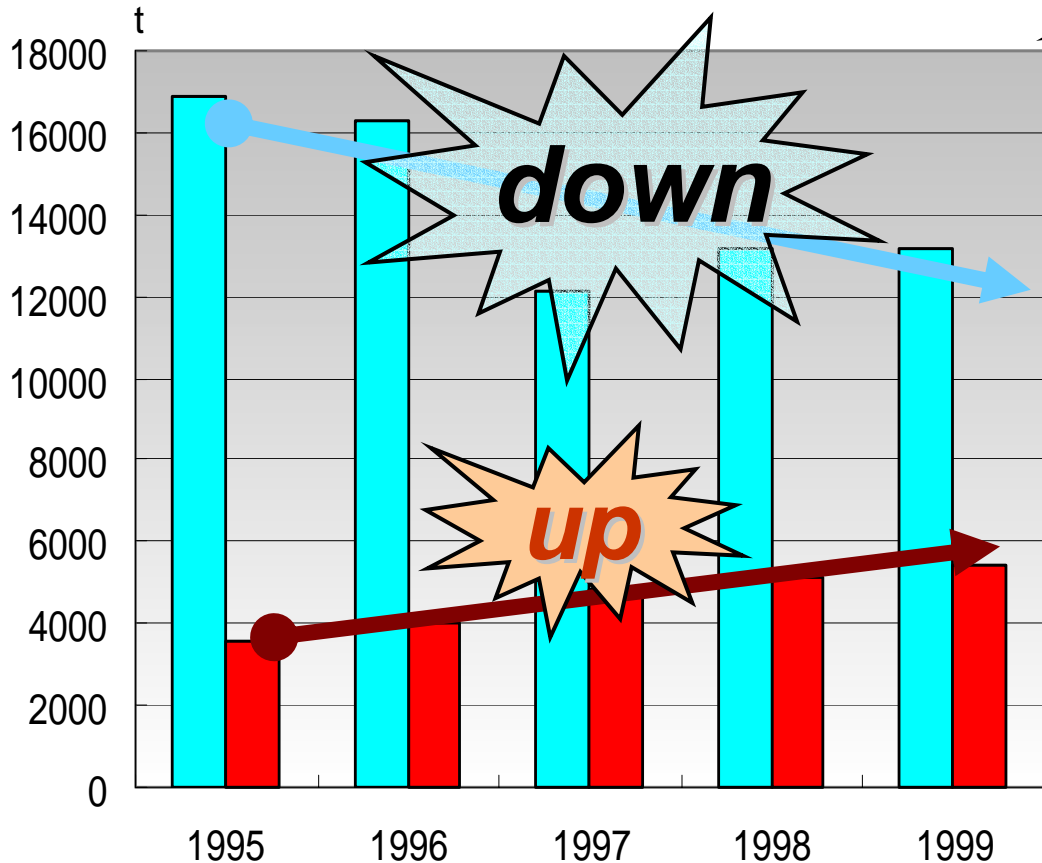


Actual result in Japan

~Seki city~



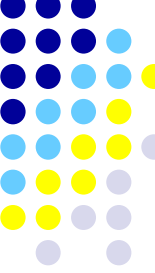
Change of the volume of waste



Volume of waste

Volume of recycled

Volume of waste per capita / day



Conclusion

- EPR is not always perfect!

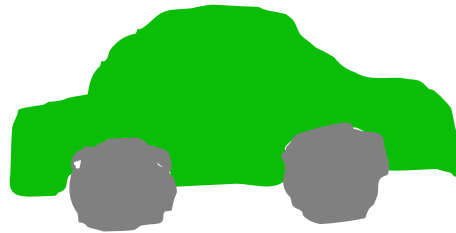
Complement measures are necessary !!

Some cases...

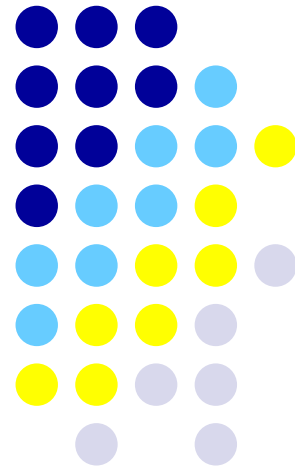
EPR needs Complement measures!

We have to consider the product's property!

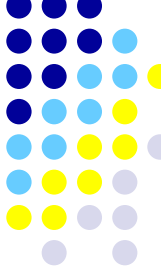
ELV Recycling



Koji Hayashi

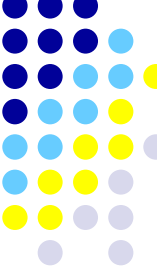


ELV (end of life vehicle)



Why is ELV recycling law necessary?

No. 1



- ELV (end of life vehicle) is 4million per year

- In the past, ELV was recycled/deposited through market

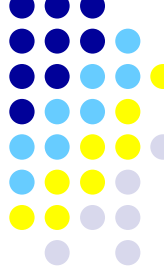
- The car recycling system has gone bankrupt

What is ASR?

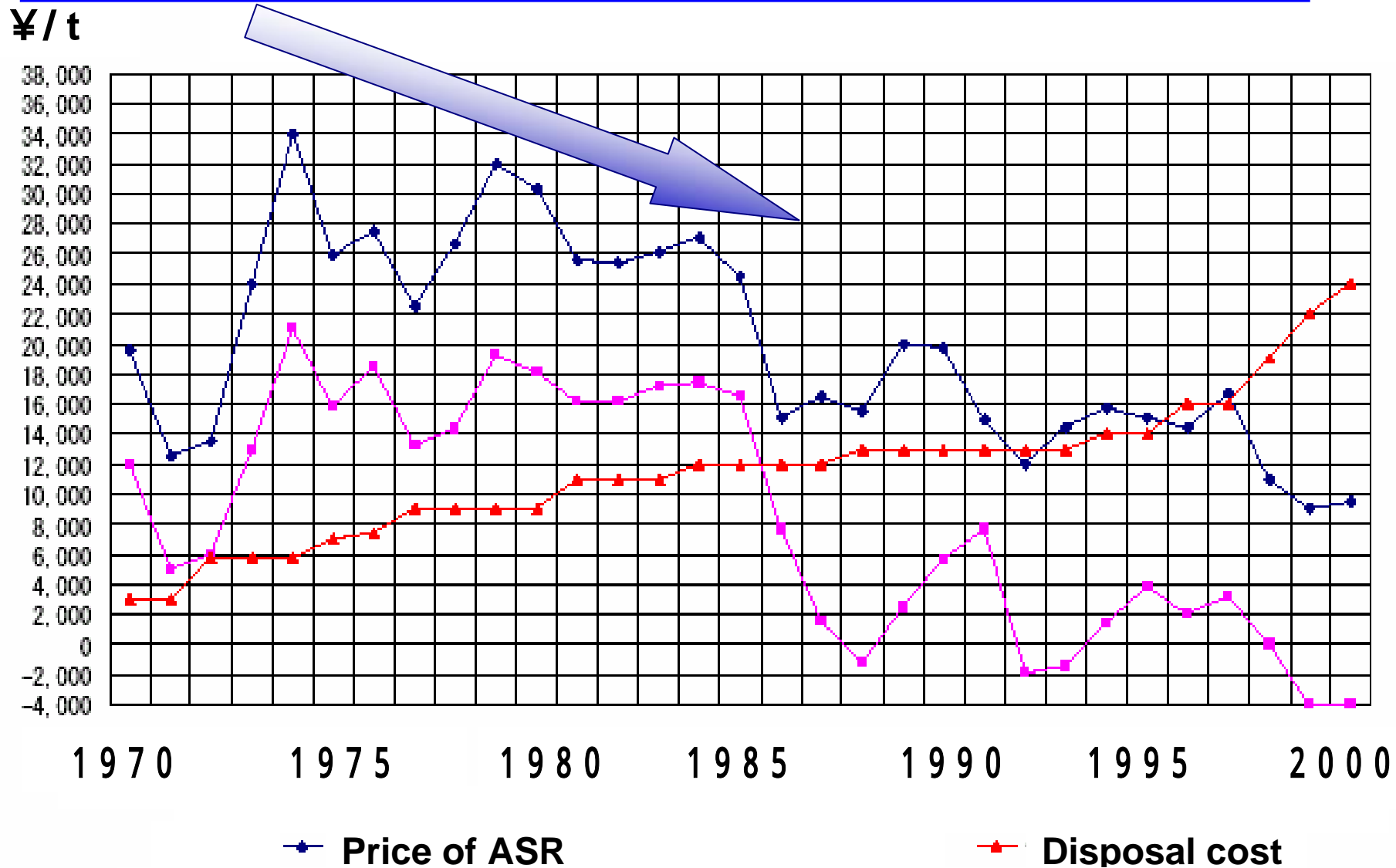
- ASR → **Automobile Shredder Residue**
- Mainly contains iron scrap
- Constitute about 25% of ELV

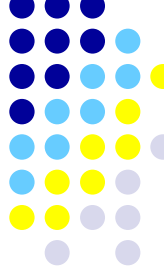


[return](#)



price of ASR is keeping down



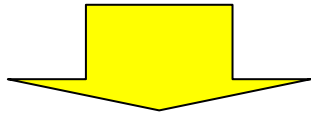


Why is ELV recycling law necessary?

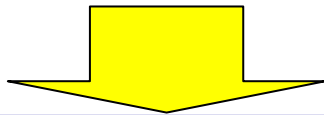
No.2

Final disposal cost	→	<u>up</u>
the price of A S R	→	<u>down</u>

ASR lost **its worth**



illegal dumping / Improper disposal

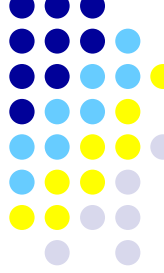


recycling system had been *out of control*

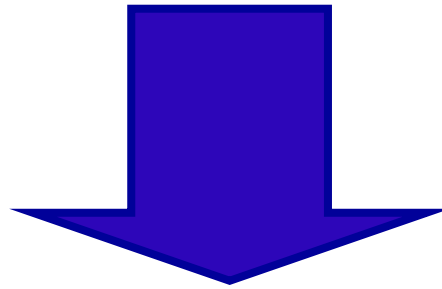
To decrease quantity of ASR is necessary

Why is ELV recycling law necessary?

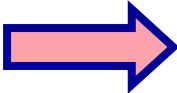
No.2



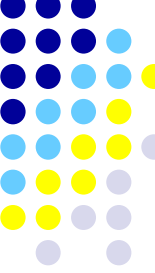
Revenue - cost +



Revenue - cost -

ASR lost its worth  recycling system collapsed

Reducing ASR is necessary

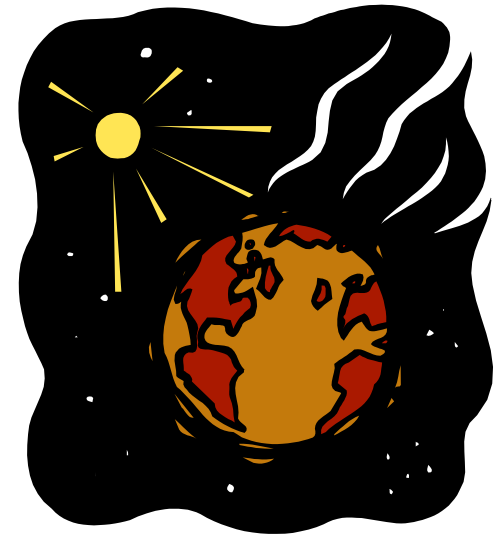


Why is ELV law necessary ?

~Consideration of the environment~

- Used in portion of Air-control
- Chlorofluorocarbon destroys ozone

Treating it properly is necessary



Why is ELV law necessary ? danger

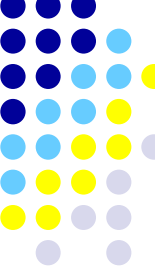
Shredding Air-bags, it sometimes explode

Treating it carefully is
necessary



ELV law as EPR

The role of Car producers



Collect chlorofluorocarbon /air bag /ASR and recycling them



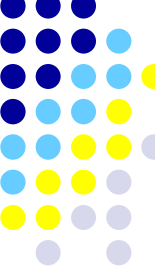
To help 

decreasing disposal waste
preventing illegal dumping
protecting environment
reducing danger in shredding air-bag

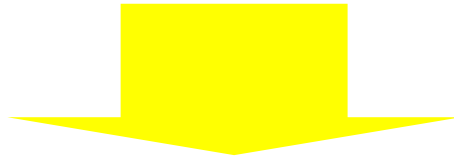
Collect treatment fee from final user at the time of delivery

ELV law as EPR

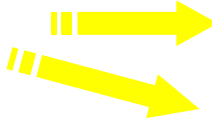
The role of Car producers



Collect ASR and recycle them

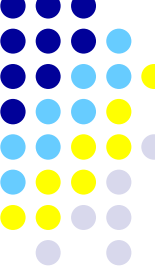


To help



decreasing disposal waste
preventing illegal dumping

Collect treatment fee from final users when they buy



EPR

<EPR>



Responsibility

a local government



producers

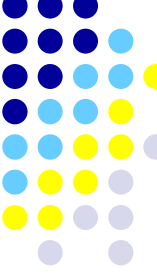
<ELV law>

Nobody but market



car producers

ELV law is Partial EPR



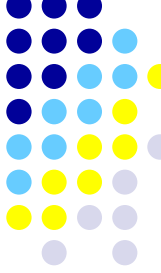
summary

- Adaptation of EPR into ELV recycling law will lead to

recovery of collapsed ELV recycling law

reduce disposal waste, and prevent illegal dumping

Structure



1, Background

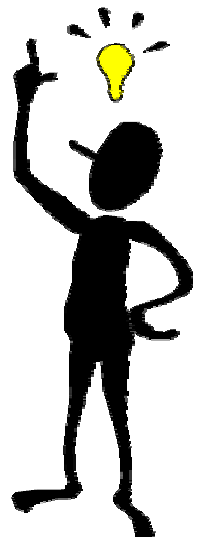
—Why did Japan adopt EPR?—

2, Effects of EPR

—3 examples of laws based on EPR—

3, Impacts on China by EPR

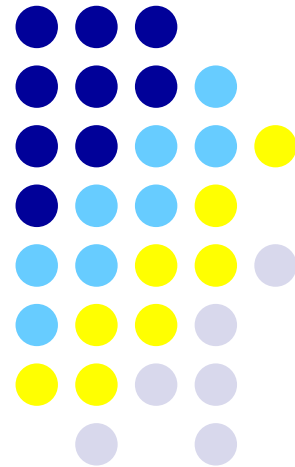
4, Conclusion



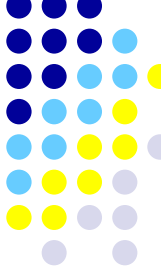
Chapter 3

Impacts on China by EPR policies in Japan

Keisuke Shiinoki

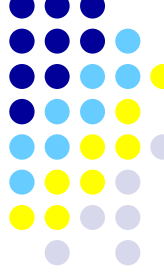


Expected impacts on China



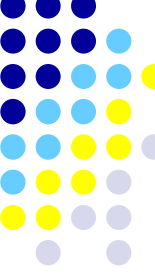
- **1, Improvement in technology to produce environmentally compatible parts**
- **2, Improvement in technology for recycling**

Improvement in technology to produce environmentally compatible parts



Japanese producers have responsibility for

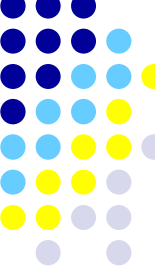
Improving technology to produce environmentally compatible parts



2, Improvement in technology for recycling

Most of the Home appliances producing

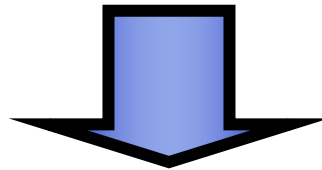
**Improvement in technology for
recycling in China!**



Expected impacts on China

1.Improving technology to produce environmentally compatible parts

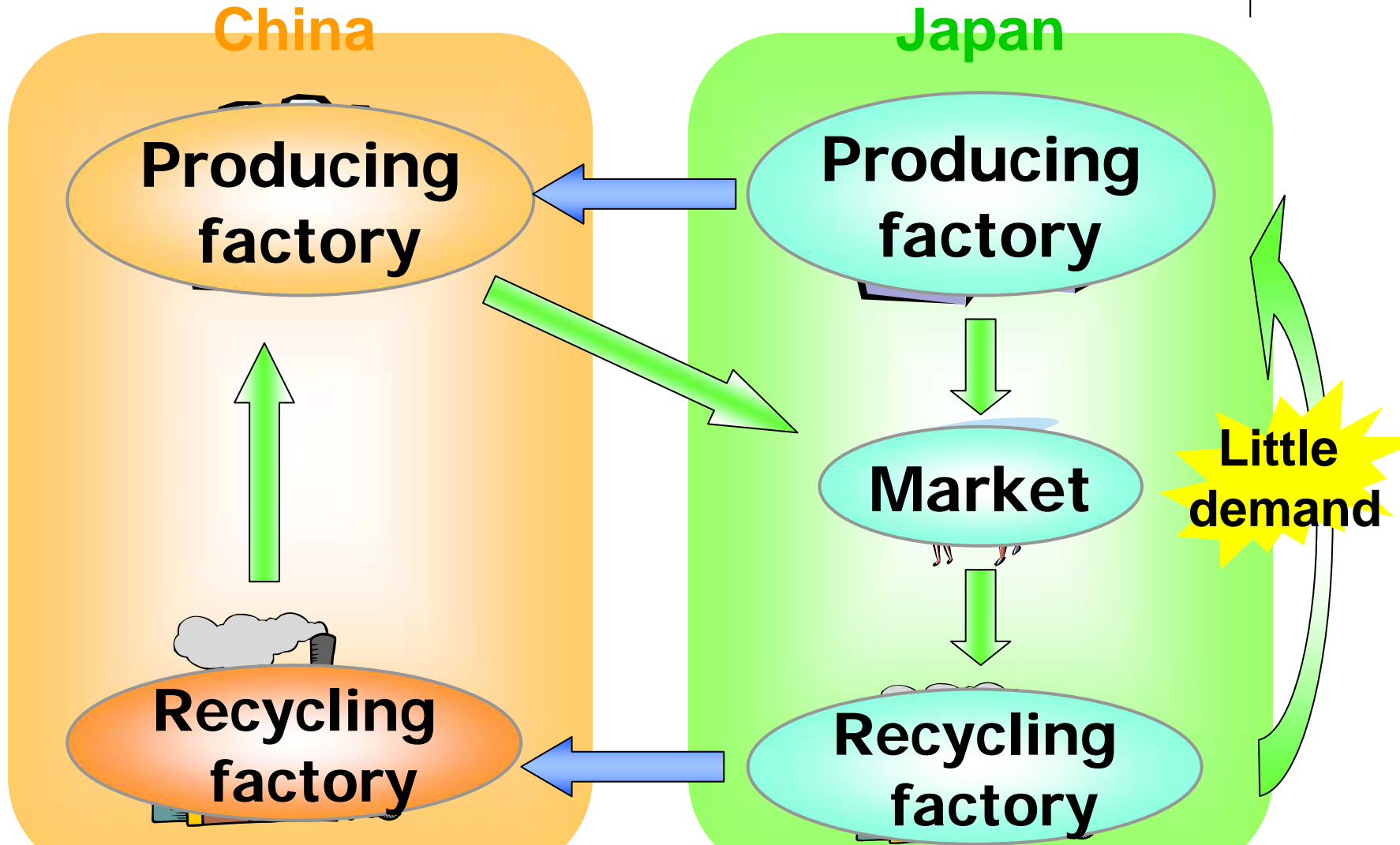
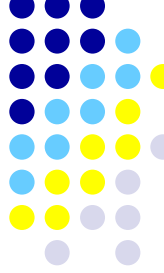
2.Improving technology for recycling



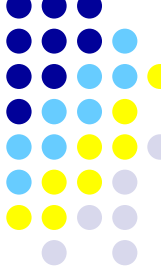
These may be effective for China to **cope with predicted waste management problems in the future.**

have market power in the world

Why may the transfer happen by introducing EPR?



Structure



1, Background

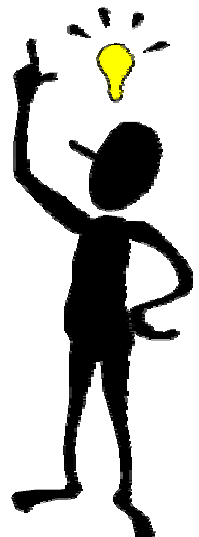
—Why did Japan adopt EPR?—

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3, Impacts on China by EPR

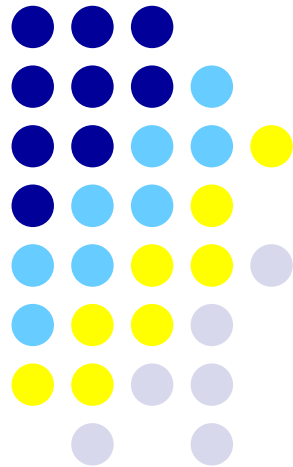
4, Conclusion



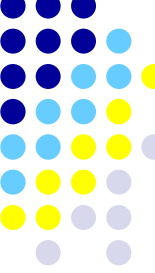
Chapter 4

Conclusion

Kenji Oshima



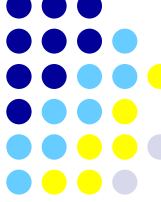
Conclusion



- Home Appliance Recycling Law
- Containers and Packaging Recycling Law
- ELV Law

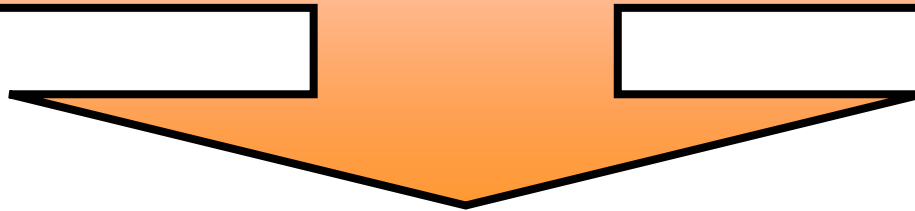
**EPR is an effective policy to
promote recycling and
reduce waste!**

Conclusion



The positive impacts on China by Japanese EPR policies are . . .

- 1, Improving technology to produce environmentally compatible parts**
- 2, Improving technology for recycling**



cope with waste management problems
have a market power!

Fin

Thank you for listening !!

