

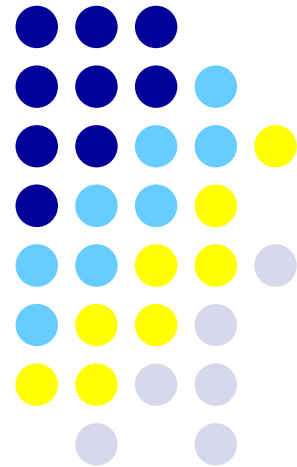
Waste Management Policy in Japan

Koji Hayashi Kenji Oshima

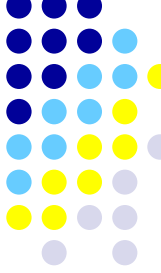
Shino Sasagawa

Kentaro Nara

Kaito Hosoyamada

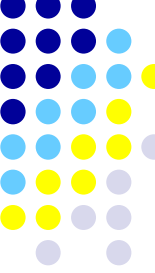


Purpose of presentation



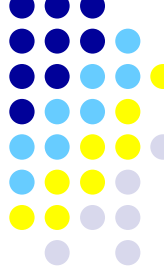
- Japan has adopted EPR in waste management policies.
(EPR ··· Extended Producer Responsibility)
- We'd like to **introduce** to you **EPR** and **Japanese laws** based on it.
- We'd like you to **know EPR** and **its effects**, and to **think about them**.

Before our presentation



- Although we presented about waste (EPR) before, 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

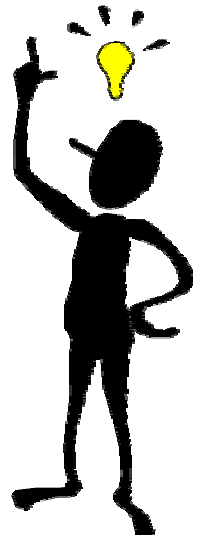
—3 examples of laws based on EPR—



3, Impacts on China by EPR



4, Conclusion

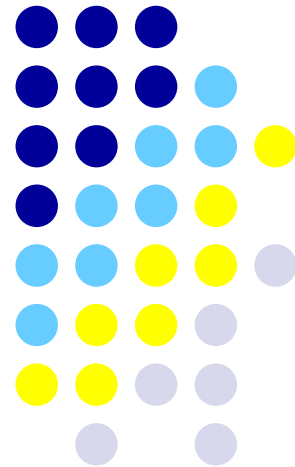


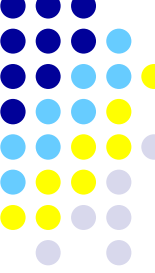
Chapter 1

Background

— Why did Japan adopt EPR? —

Kaito Hosoyamada

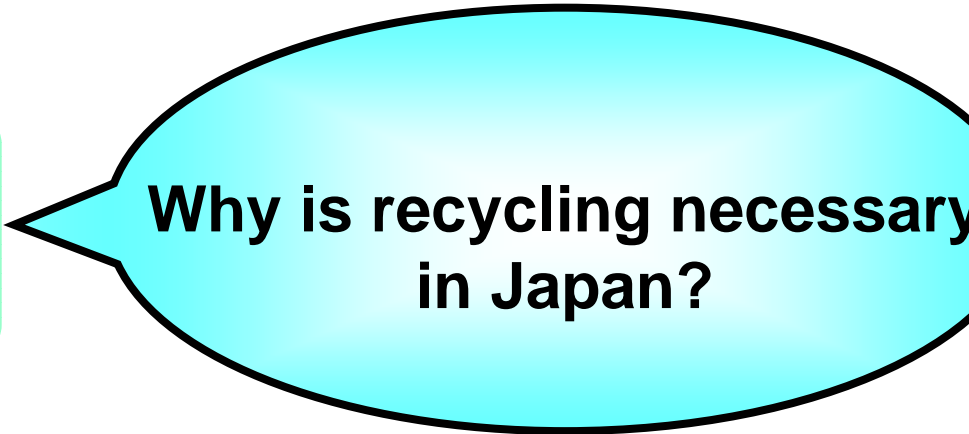




1, Why did Japan adopt EPR?

Because . . .

Recycling is necessary
in Japan

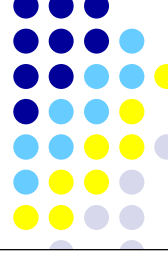


and

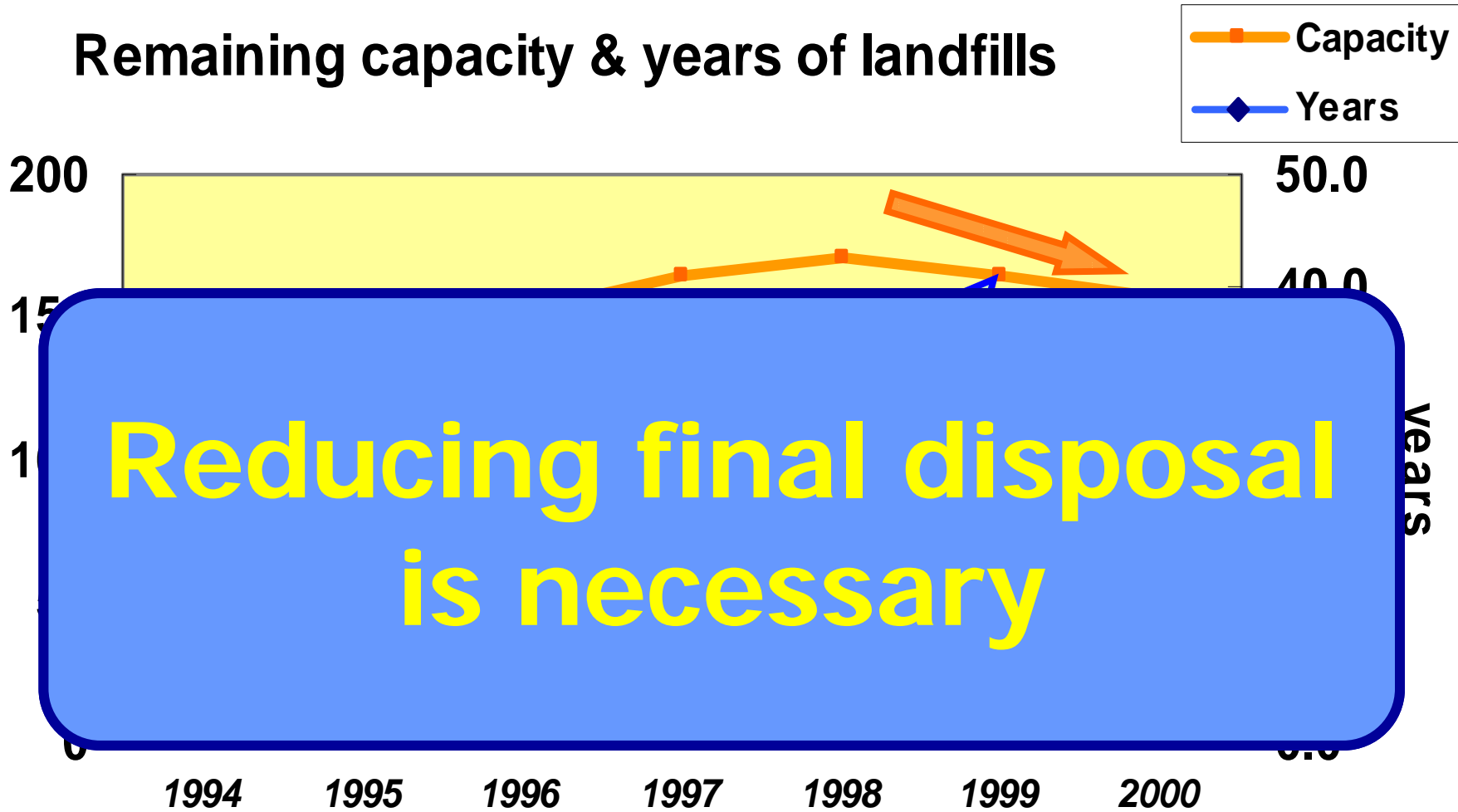
EPR promotes
recycling



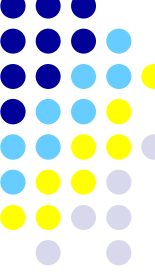
Why is recycling necessary in Japan?



Remaining capacity & years of landfills

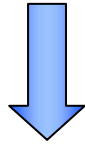


Why is recycling necessary in Japan?



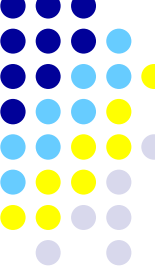
There are 2 reasons . . .

Shortage of landfills



**Reducing final disposal
is necessary**

**Limited
natural resources**



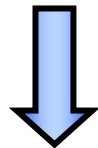
Why is recycling necessary in Japan?

- **Natural resources are limited.**

Remaining years

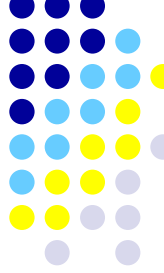
oil (43 years), copper (49 years),
lead (22 years)

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



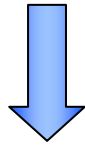
It is necessary to use them more effectively !

Why is recycling necessary in Japan?

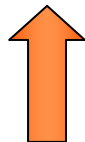


There are 2 reasons . . .

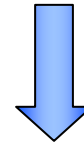
Shortage of landfills



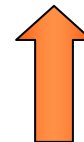
Reducing final disposal is necessary



Limited natural resources



Using resources effectively is necessary



Recycling leads to them !

What is 3R ?

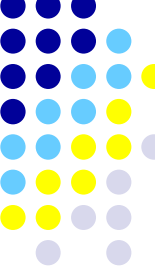
- It means . . .

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

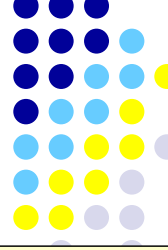
3R leads to

**the reduction of
final disposal**

**the effective use of
natural resources**

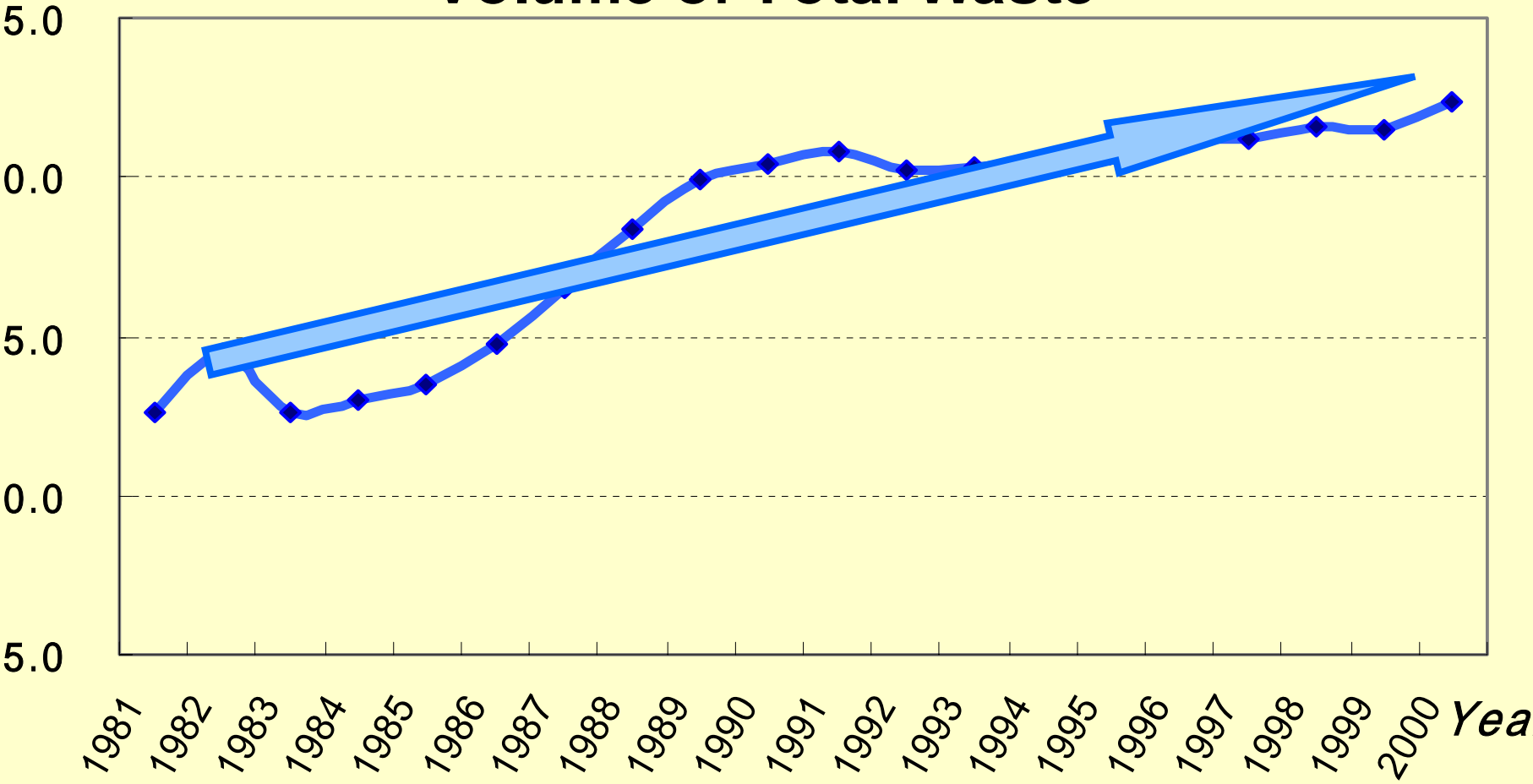


Reason(1) Shortage of landfills

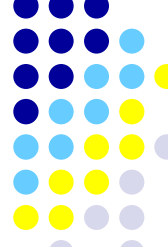


Million ton)

Volume of Total Waste



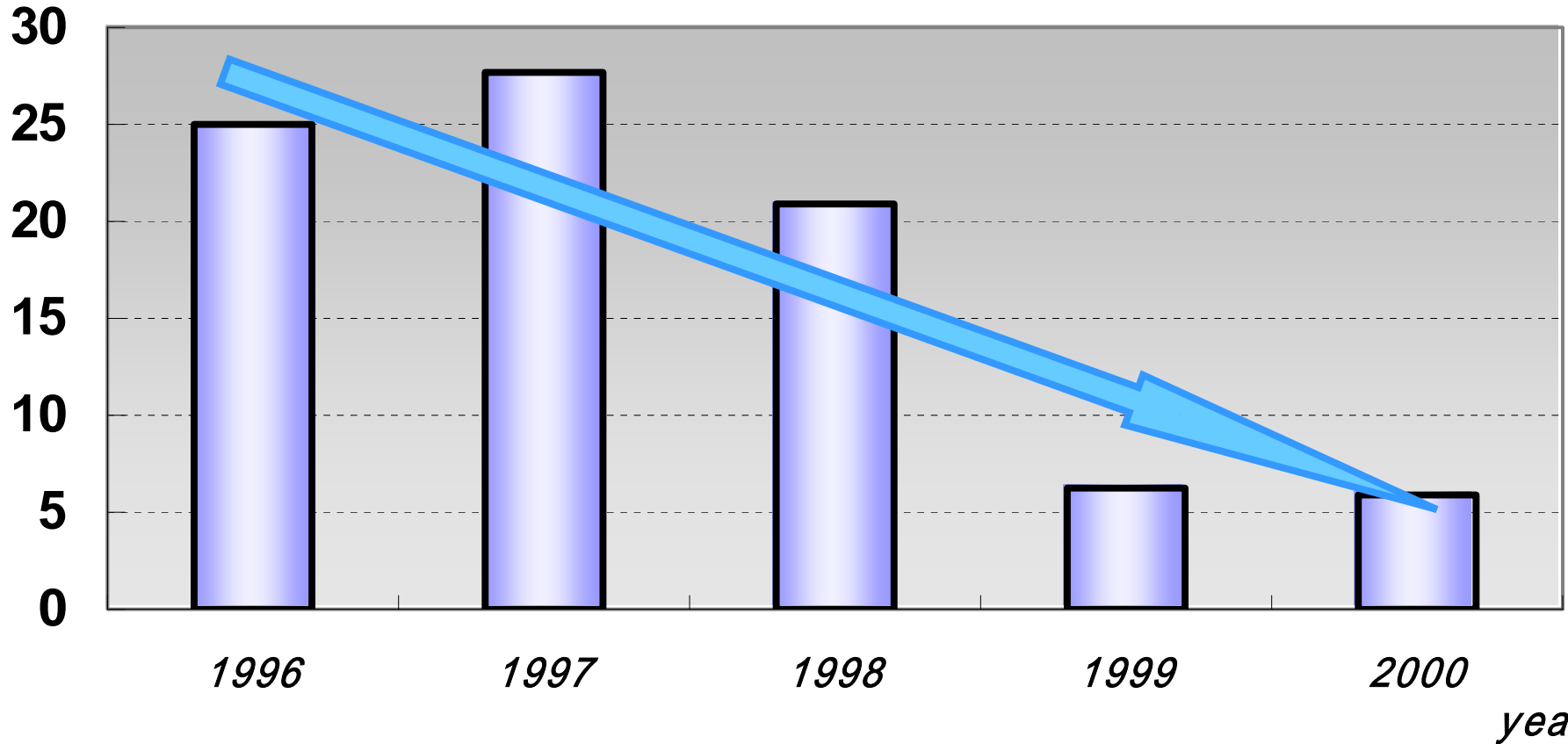
Source: Ministry of Environment (2003) Environmental Statistics



Reason(1) Shortage of landfills

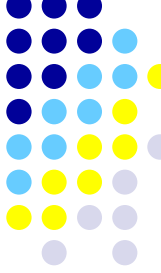
million M³

Capacity of newly built landfills



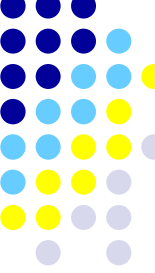
Source: Made from Ministry of Environment (2003) Environmental Statistics

Why does EPR promote recycling?



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

(1) What is EPR?

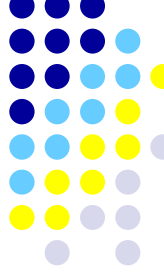


EPR

||

Extended Producer Responsibility

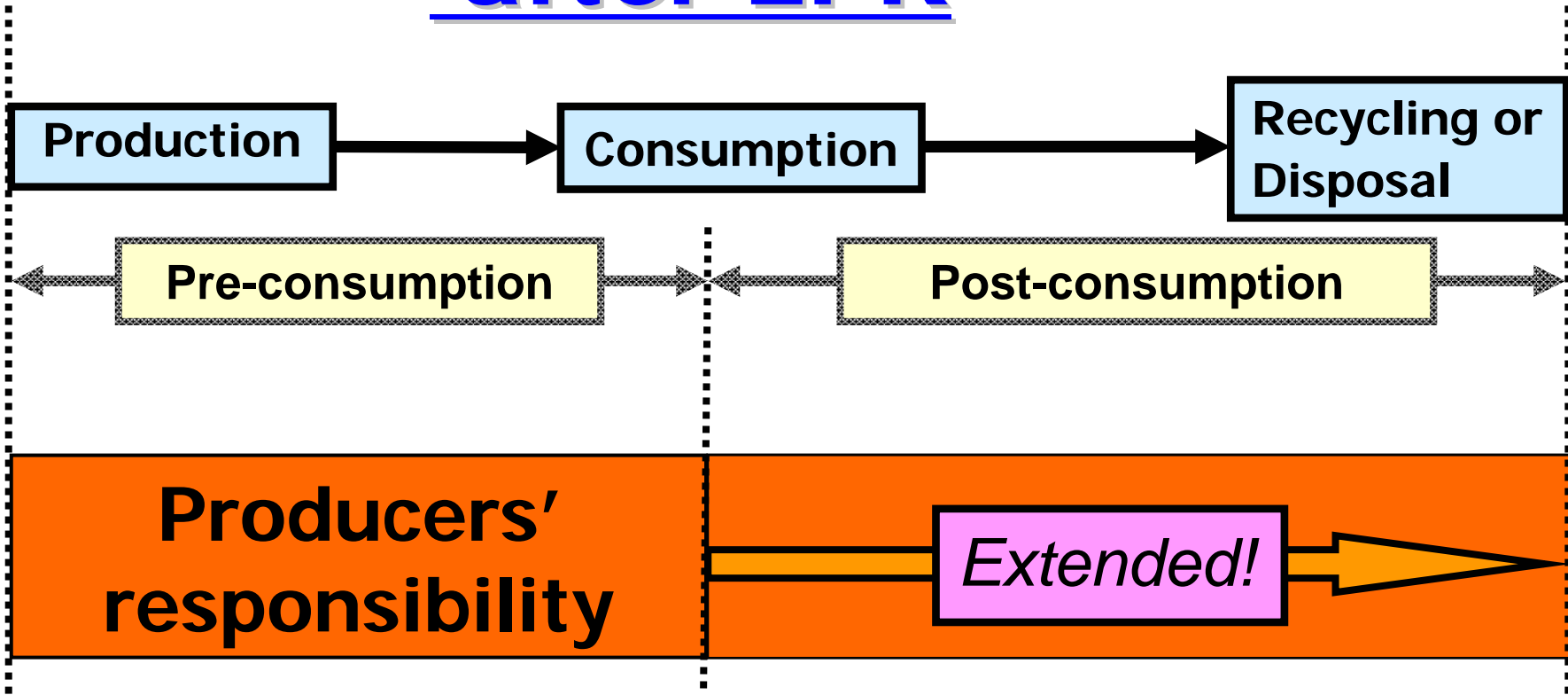
To **extend** producers' responsibility for their products **to the post-consumption stage**

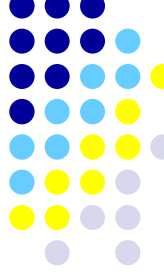


(1) What is EPR?

Case1: general case

after EPR

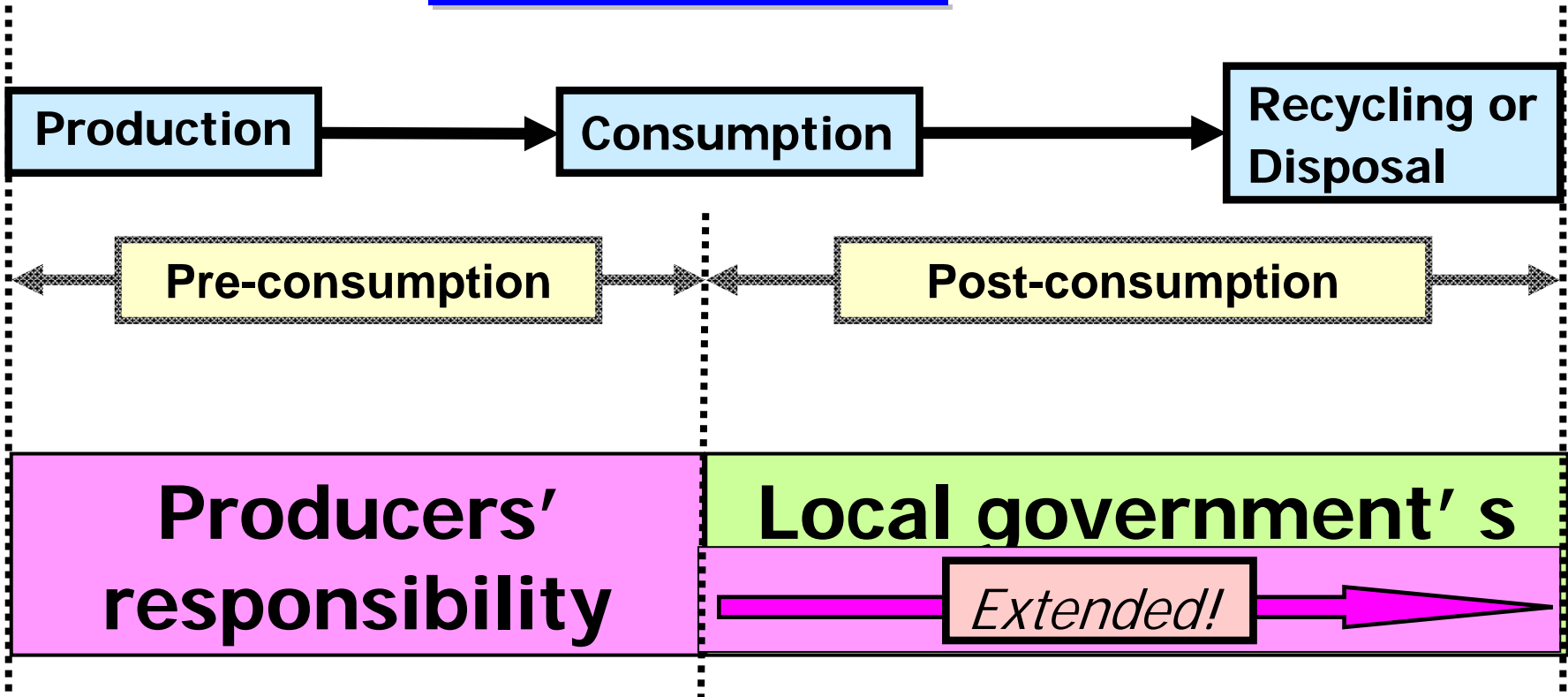


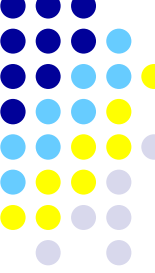


(1) What is EPR?

Case2: non-general case

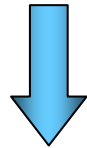
after EPR



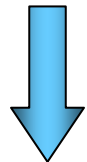


(2) How does EPR promote recycling?

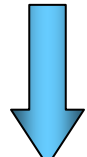
Producers are responsible for recycling or disposal.

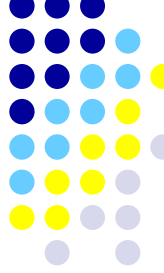


They have to bear recycling or disposal costs.



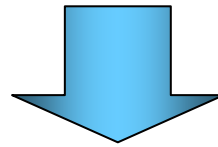
Products may have a rise in price.





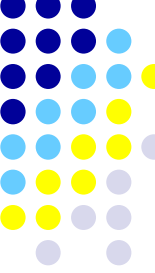
↓

Producers want to cut { recycling
disposal } costs.



Producers
begin producing ... { **easily-recycled** products
long-lived products }

More Recycling and Reduction!

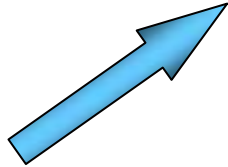
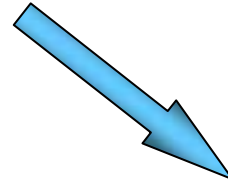


To sum up . . .

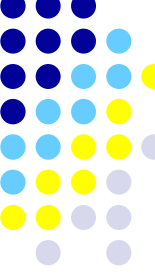
Recycling is necessary
in Japan

and

EPR promotes
recycling



**Japan
adopted EPR**



(3) Kinds of responsibilities

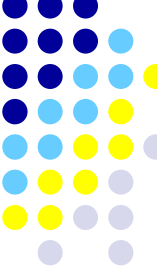
Physical responsibility

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

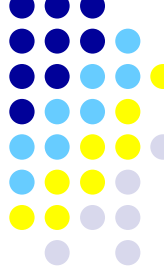
1 : **Physical** and **Financial** responsibility

e.g. Specific Household Appliances Recycling Law in Japan

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

Sammary of chapter 1 . . .

Please keep in mind 3 things



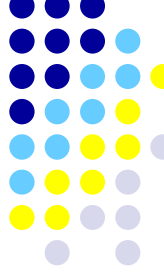
1. Japan needs to **recycle** waste,
in order to { **reduce final disposal**
use resources effectively.

Japan
adopted
EPR

2. EPR promotes **recycling.**

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

Structure



1, Background

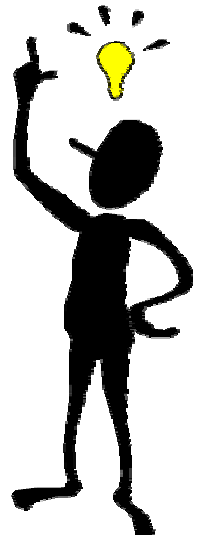
—Why did Japan adopt EPR?—

2, Effects of EPR

—3 examples of laws based on EPR—

3, Impacts on China by EPR

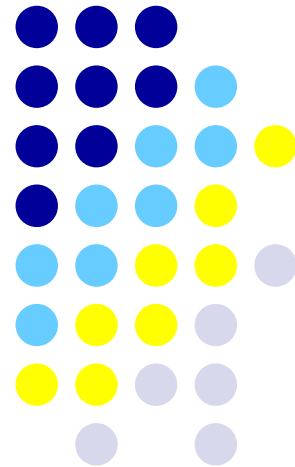
4, Conclusion



Effects of EPR

— 3 examples of laws based on EPR —

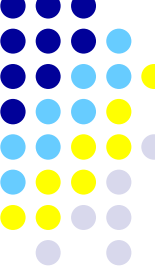
- Home Appliance Recycling Law
- Containers and Packaging Recycling Law
- ELV recycling Law



Home Appliance Recycling Law

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

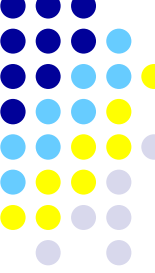
Kenji Oshima



1. The relationship between Specific Household Appliances Recycling Law and EPR

2. Results of the last two years

3. Conclusion



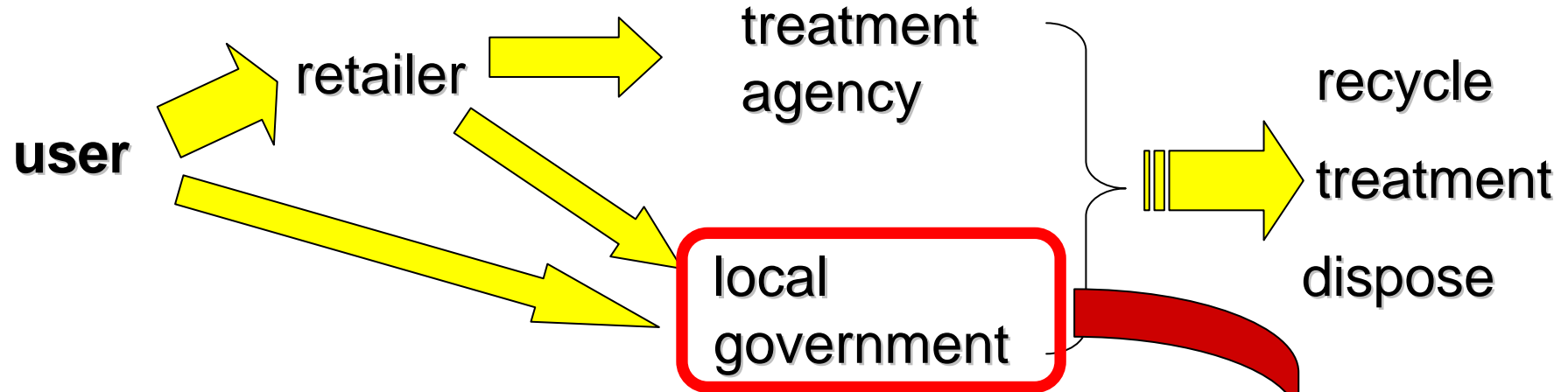
Outline of the law

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

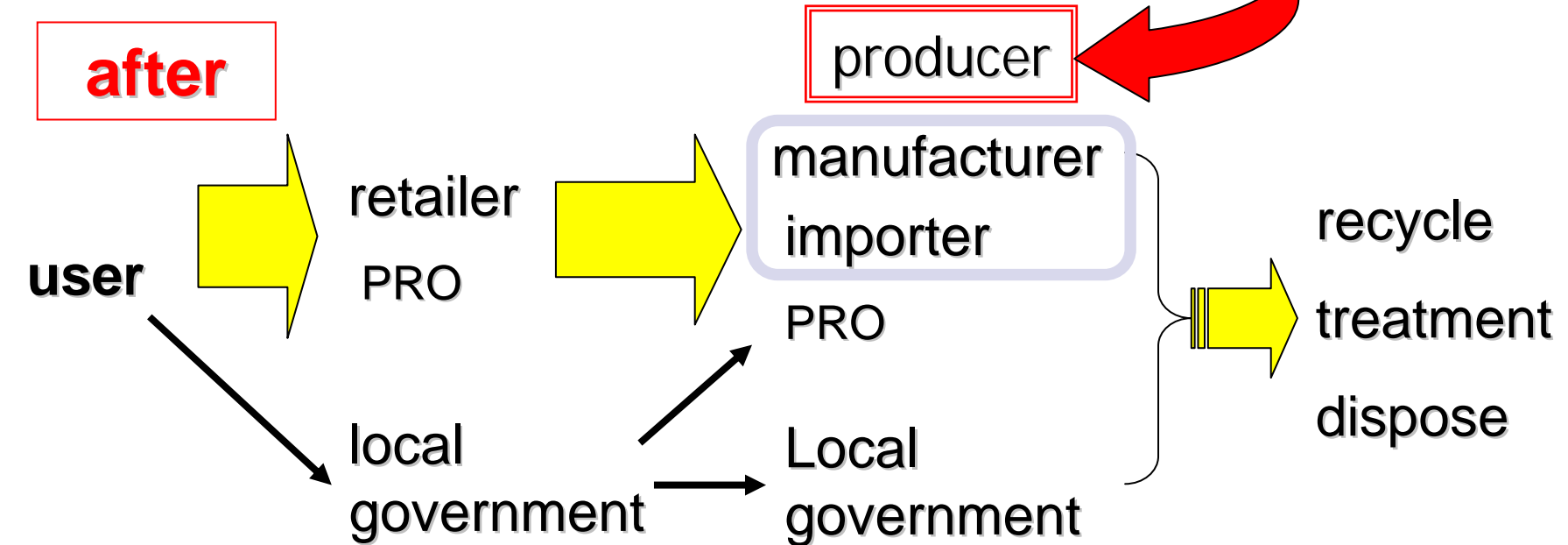
reduction of wastes
efficient use of resources

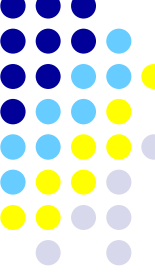
Flow of waste appliances

before

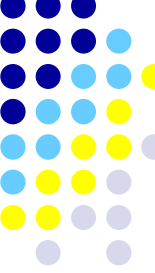


after





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

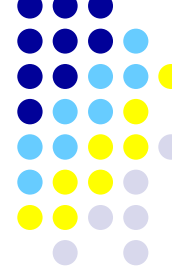


1. The relationship between Specific Household Appliances Recycling Law and EPR

2. Results of the last two years

3. Conclusion

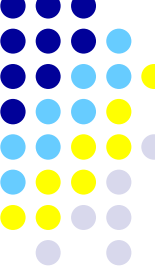
Number of withdrawn Home Appliances



(thousand appliances)

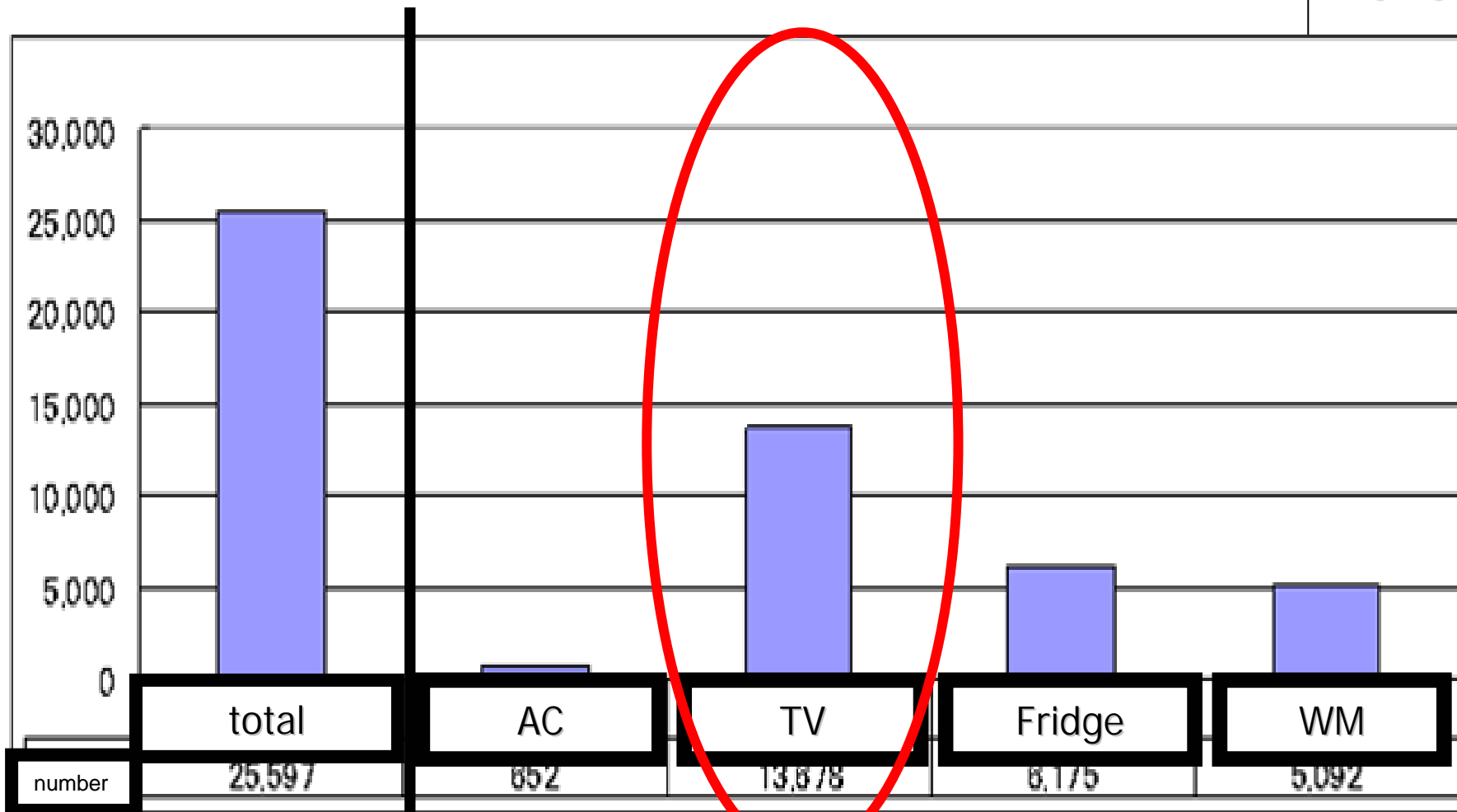
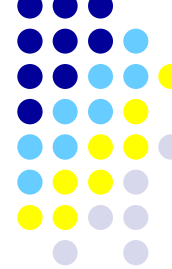
	2001	2002
Number of withdrawn Home Appliances (total)	8,549	10,150

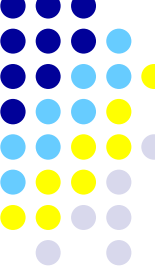
Recycle Rate



	Air Conditioner	TV	Refrigerator	Washing Machine
law	60%	55%	50%	50%
2001	78%	73%	59%	56%
2002	78%	75%	61%	60%

Illegal Dumping (comparing 2001 and 2002)





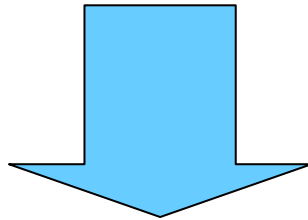
1. The relationship between Specific Household Appliances Recycling Law and EPR

2. Results of the last two years

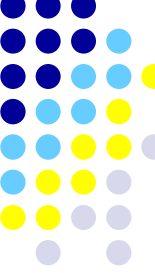
3. Conclusion

Conclusion

The two purpose has achieved

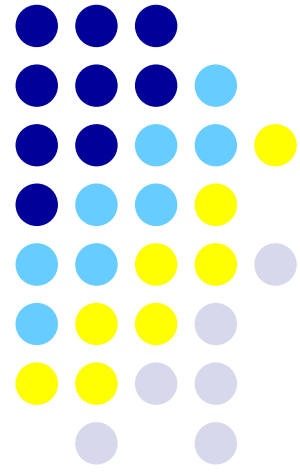


reduction of wastes
efficient use of resources

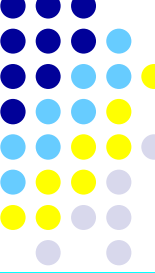


Containers and Packaging Recycling Law

Kentaro Nara



Out line



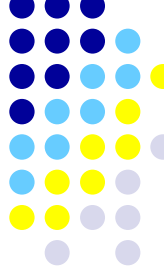
By the Law...

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

EPR is effective in recycling

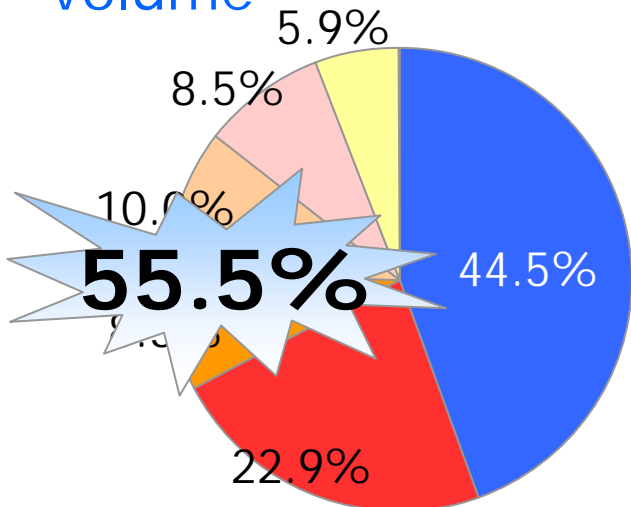
Background

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



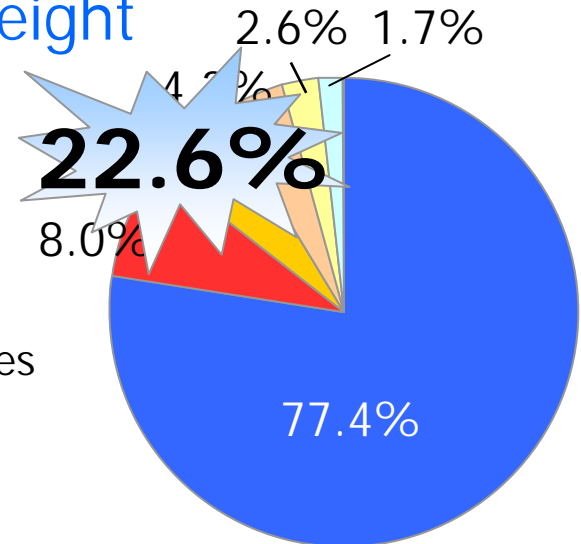
ratio of "Containers and packaging" in Waste

Ratio of
volume



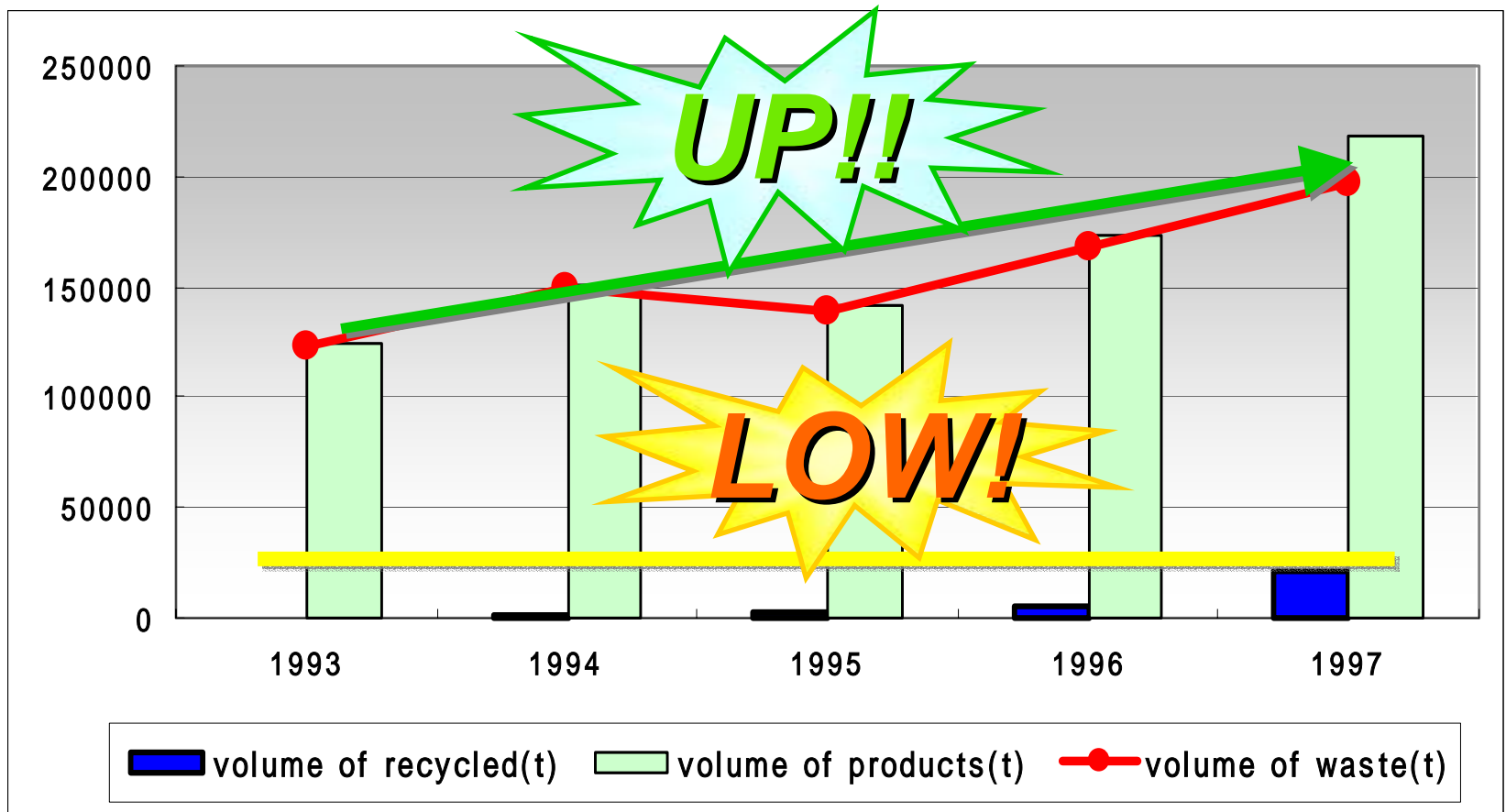
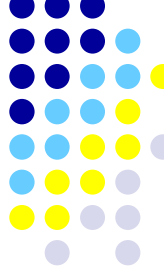
- expect containers and packaging
- containers for food
- containers beverage
- and commodities
- packaging rs
- others

Ratio of
weight

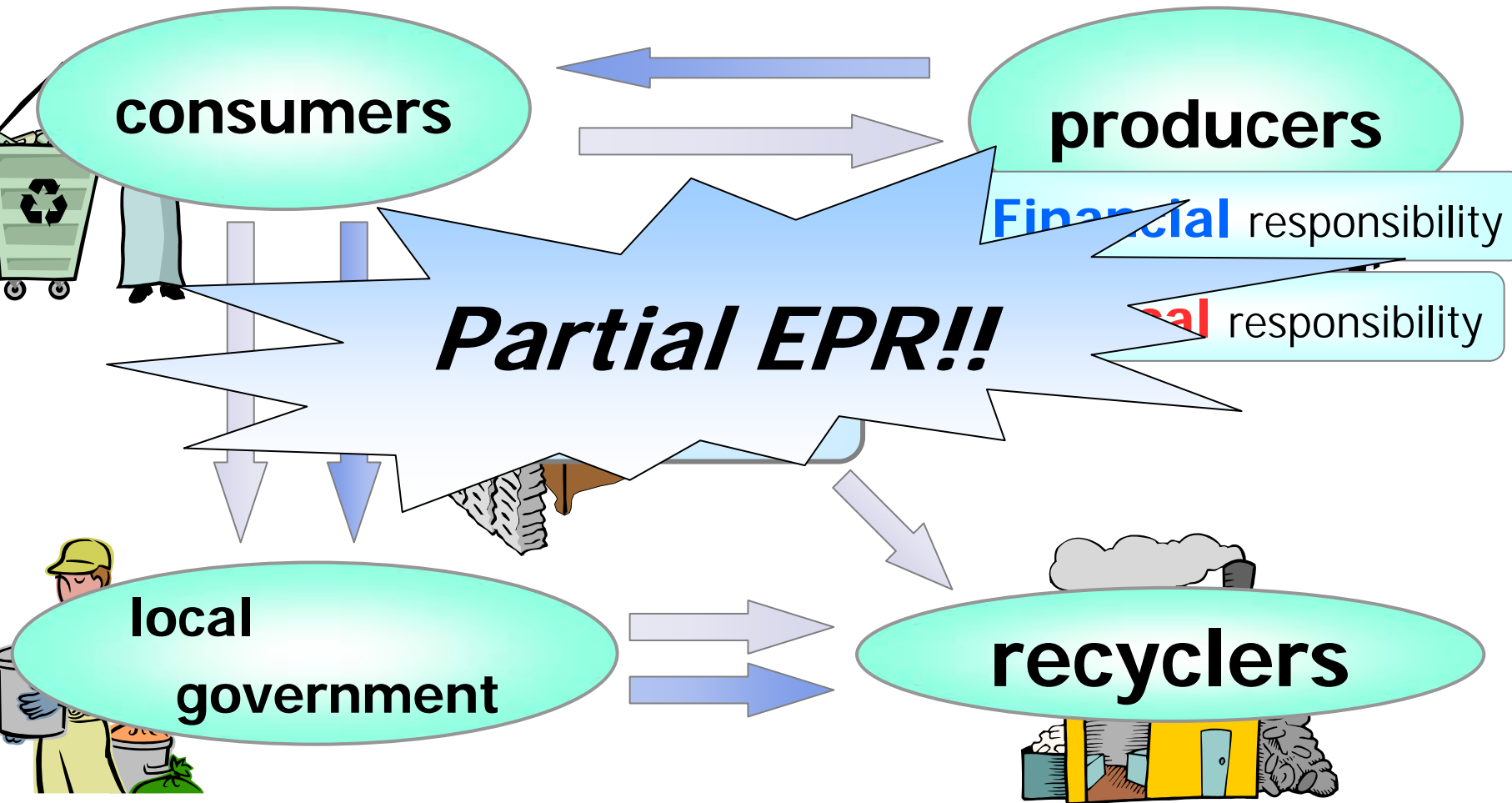
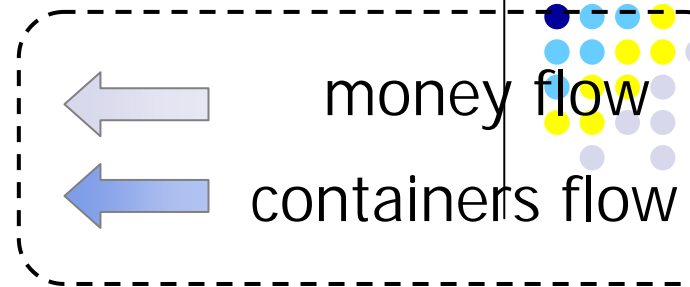


Background

volume of containers (PET bottles)



Flow chart



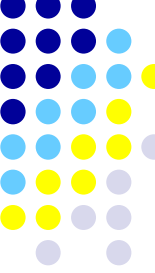
Flow chart : Role

- **consumers**: separated discharge
- **local government** : separated collection
 - physical responsibility
- **producers** : recycling
 - financial responsibility



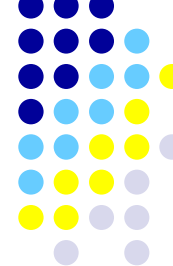
Partial EPR!!

effect of EPR

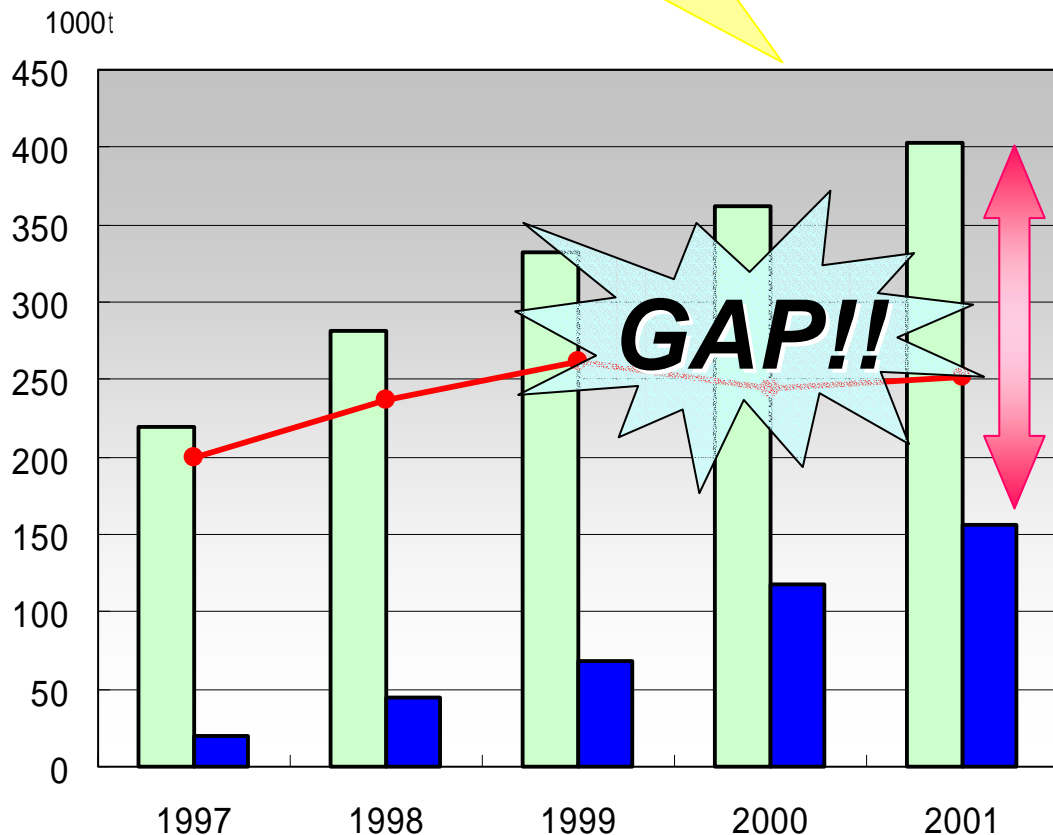


***EPR is
effective in recycling !***

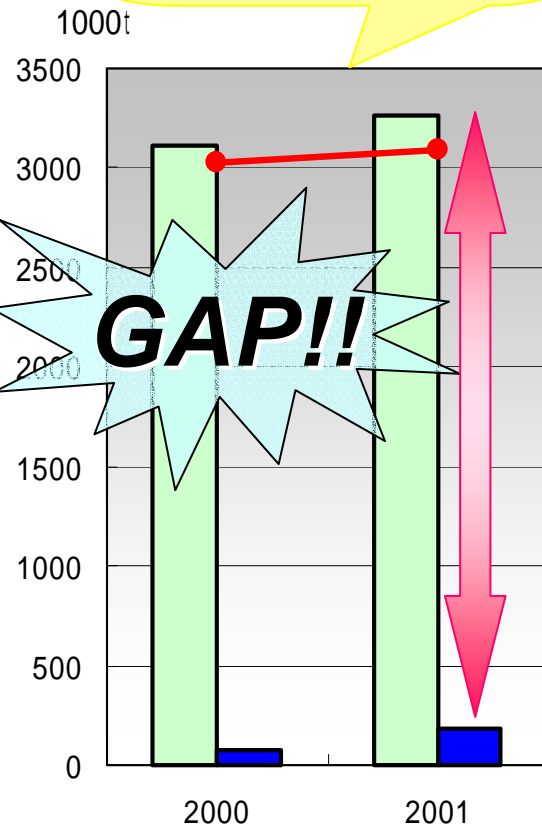
Present condition



PET bottles



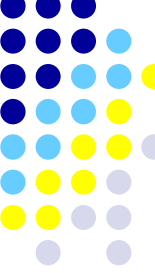
Plastic containers and packing



Volume of recycled

production

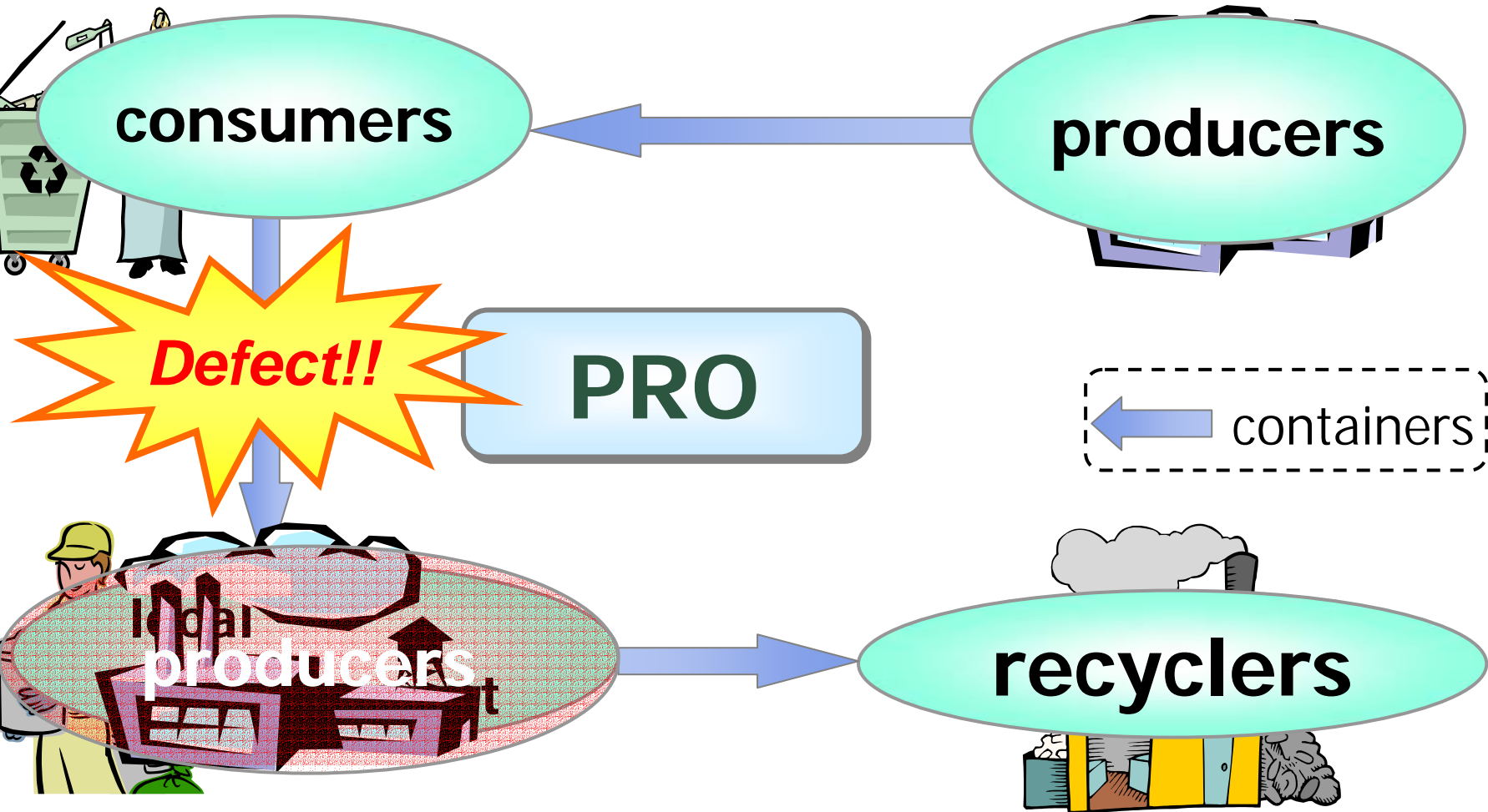
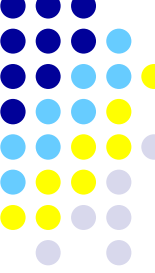
Volume of waste

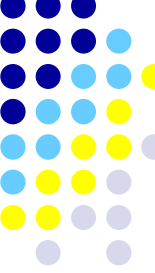


Is EPR perfect?

- 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??)

Does it come from Partial EPR?





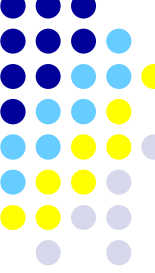
EPR's defection

- **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

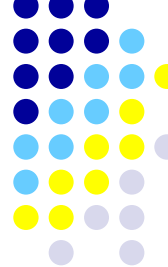
- Consumers will buy the product with a few package.
- Consumers will separate garbage strictly.

- Deposit

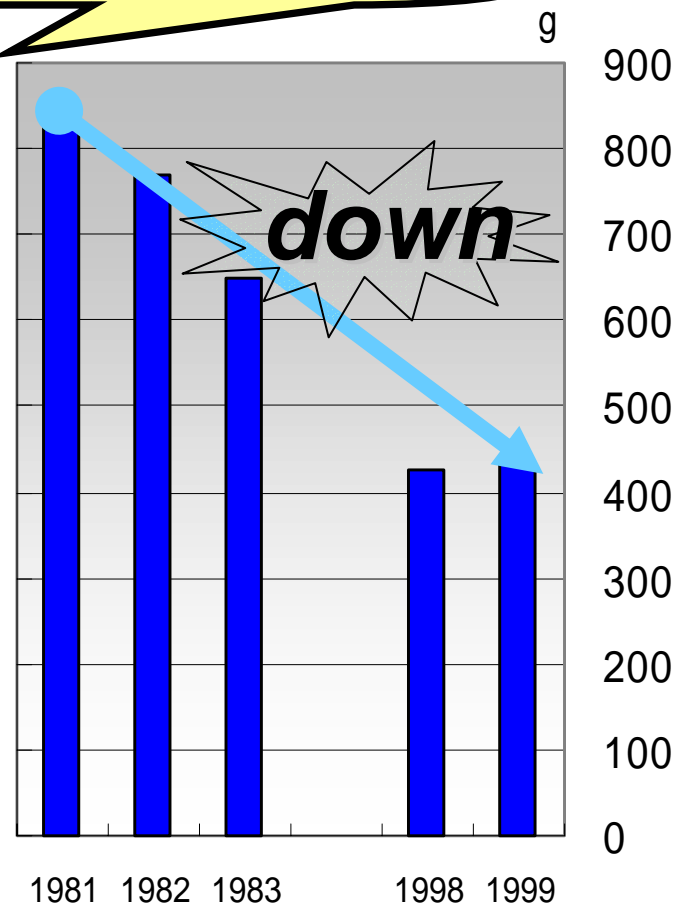
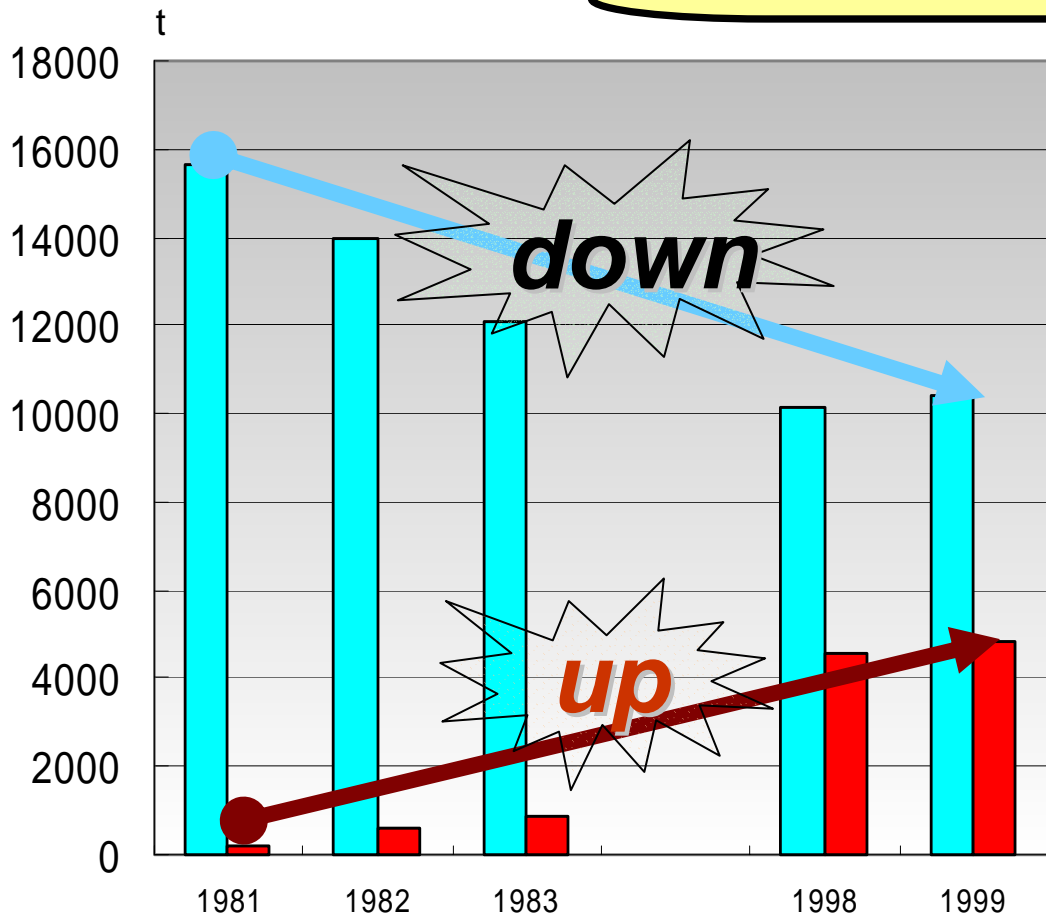
- Consumers will return cans or bottles.
- The rate of recycling will be high.

Actual result in Japan

~Moriyama city~



Change of the volume of waste



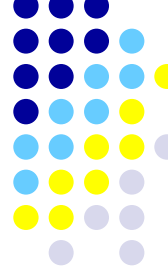
Volume of waste

Volume of recycled

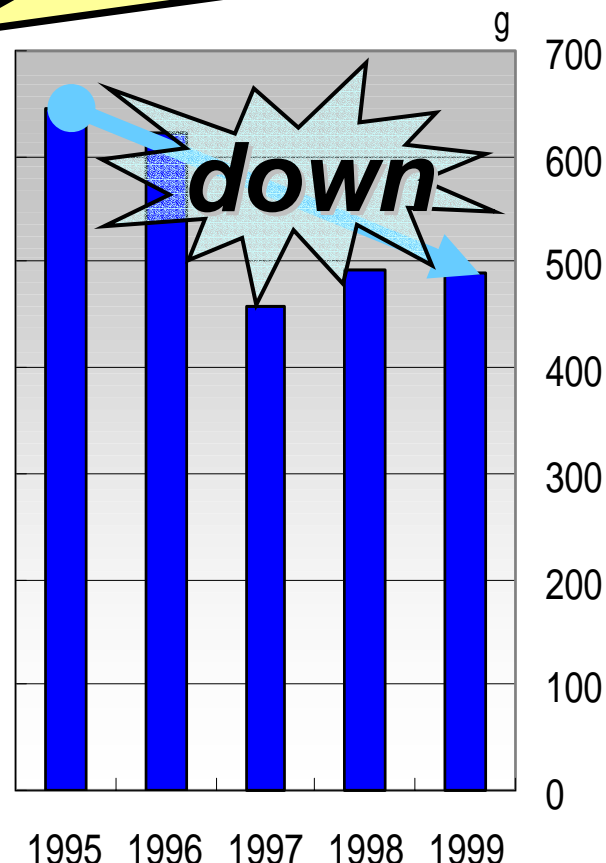
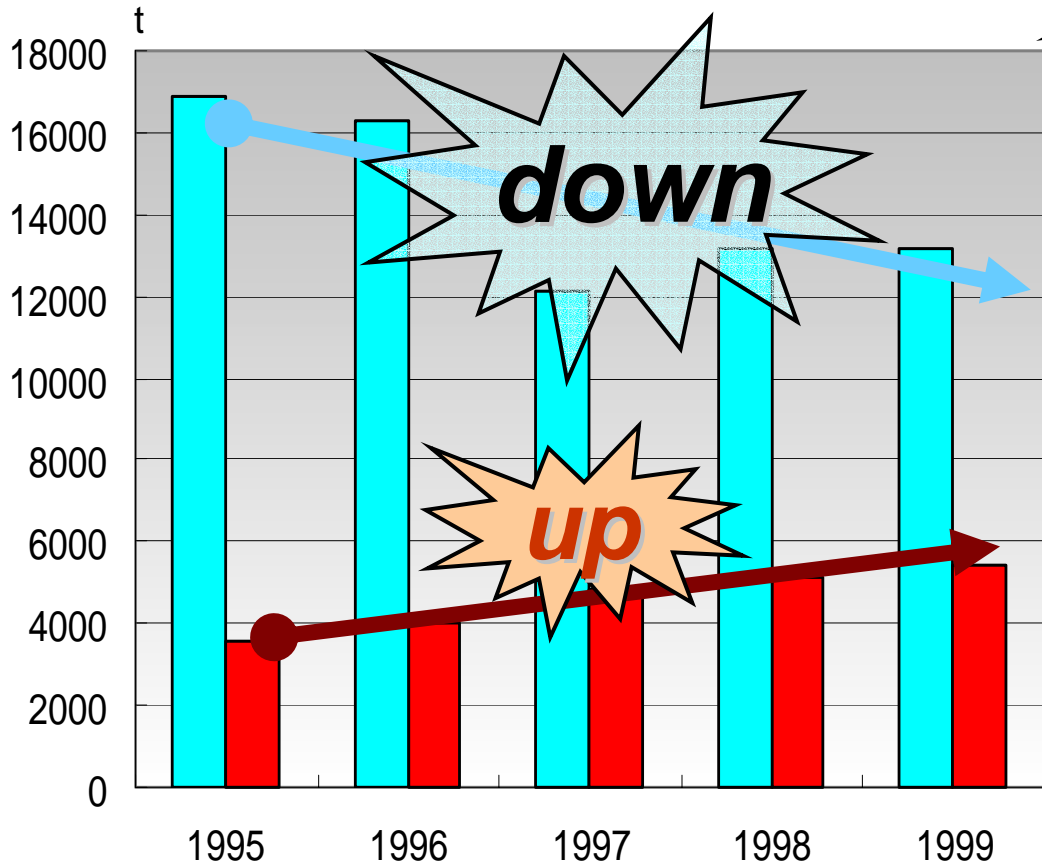


Actual result in Japan

~Seki city~



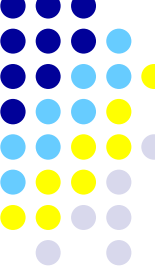
Change of the volume of waste



Volume of waste

Volume of recycled

Volume of waste per capita / day



Conclusion

- EPR is not always perfect!

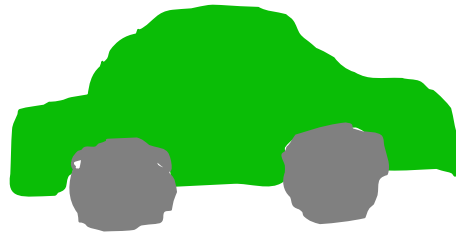
Complement measures are necessary !!

Some cases...

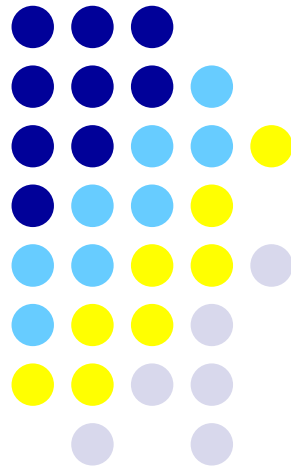
EPR needs Complement measures!

We have to consider the product's property!

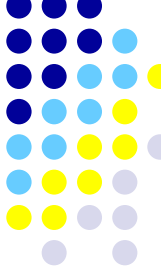
ELV Recycling



Koji Hayashi

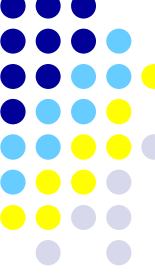


ELV (end of life vehicle)



Why is ELV recycling law necessary?

No. 1



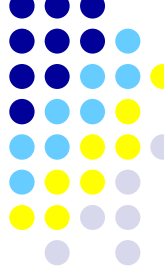
- The amount number of ELV (end of life vehicle) is 4million per year
- In the past, ELV was recycled/deposited through market
- The car recycling system has gone bankrupt

What is ASR?

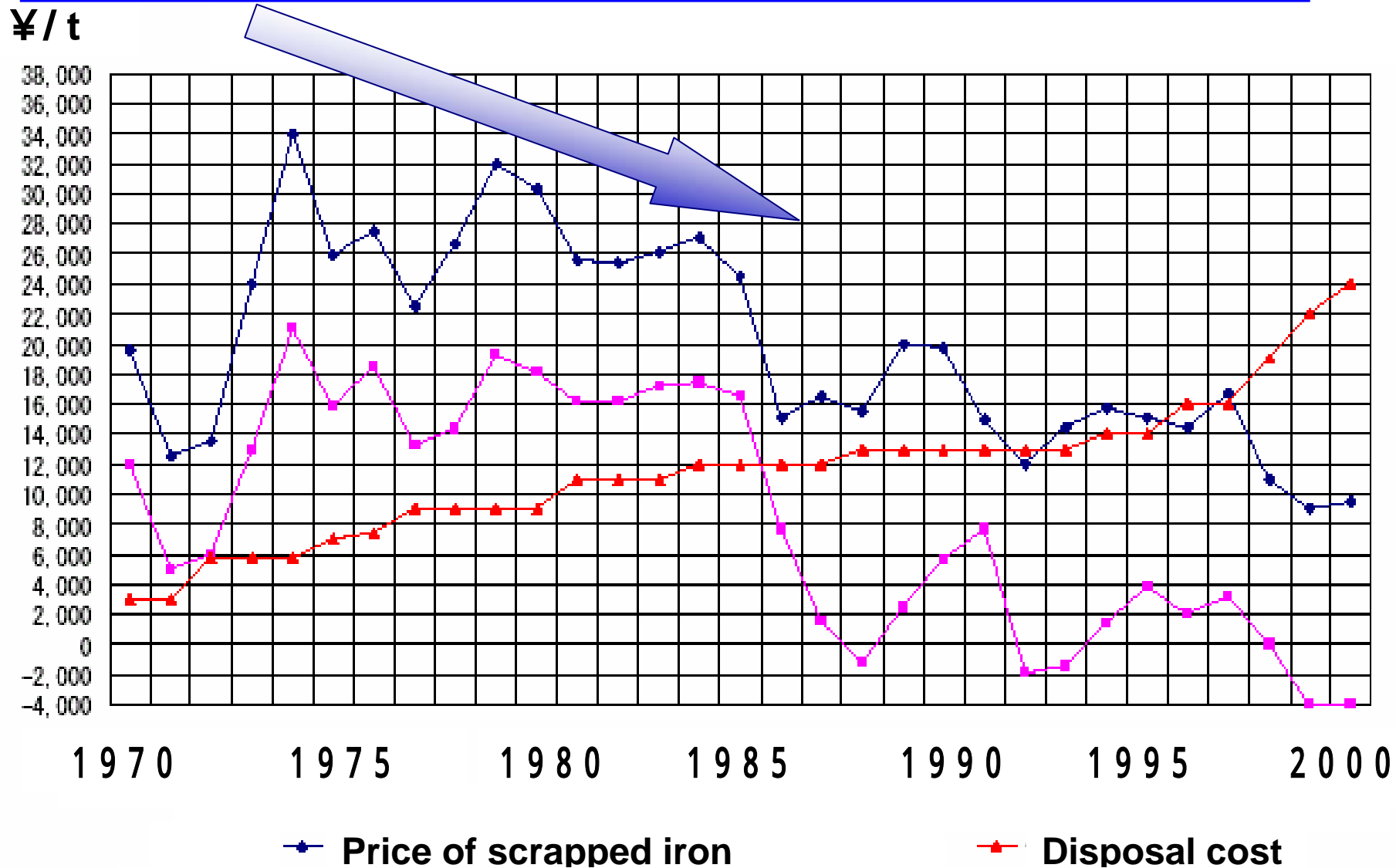
- ASR → Automobile Shredder Residue
- Mainly contains iron scrap
- Constitute about 25% of ELV



[return](#)

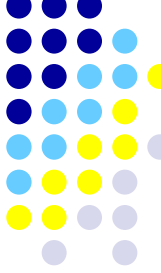


price of ASR is keeping down



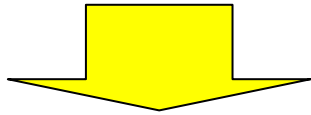
Why is ELV recycling law necessary?

No.2

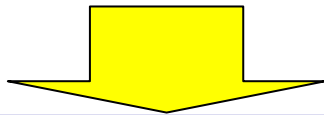


Final disposal cost  up
the price of A S R  down

ASR lost **its worth**

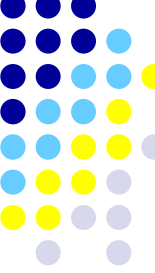


illegal dumping / Improper disposal



recycling system had been *out of control*

To decrease quantity of ASR is necessary

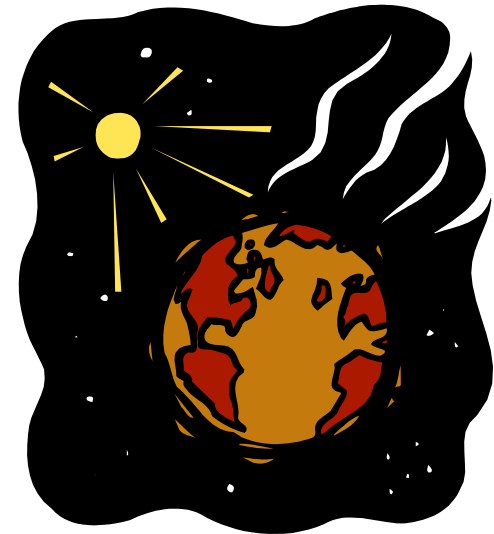


Why is ELV law necessary ?

~Consideration of the environment~

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

Treating it properly is necessary



Why is ELV law necessary ? danger

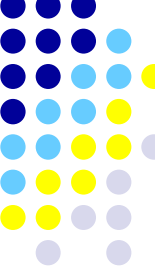
Shredding Air-bags, it sometimes explode

Treating it carefully is
necessary



ELV law as EPR

The role of Car producers



Collect chlorofluorocarbon /air bag /ASR and recycling them

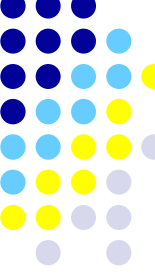


To help 

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

EPR



<EPR>



a local government



Private sector

<ELV law>

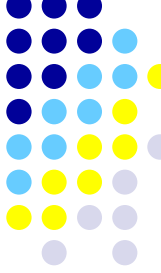
Nobody but market



car manufacturers
(Car manufacturers)

ELV law is Partial EPR

Structure



1, Background

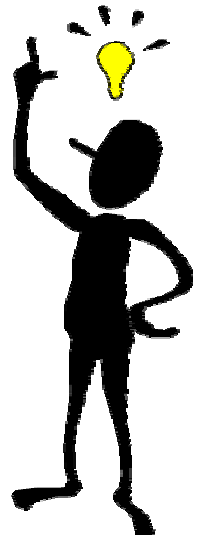
—Why did Japan adopt EPR?—

2, Effects of EPR

—3 examples of laws based on EPR—

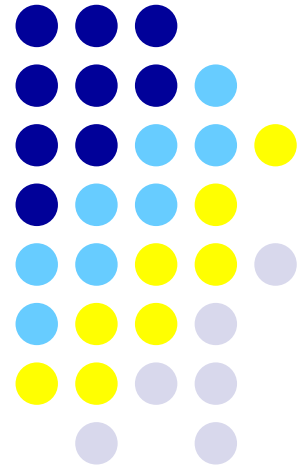
3, Impacts on China by EPR

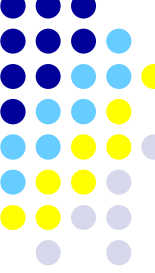
4, Conclusion



Chapter 3

Impacts on China by EPR



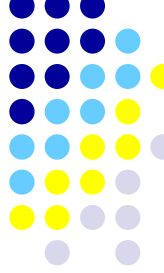


Introduction of EPR in Japan

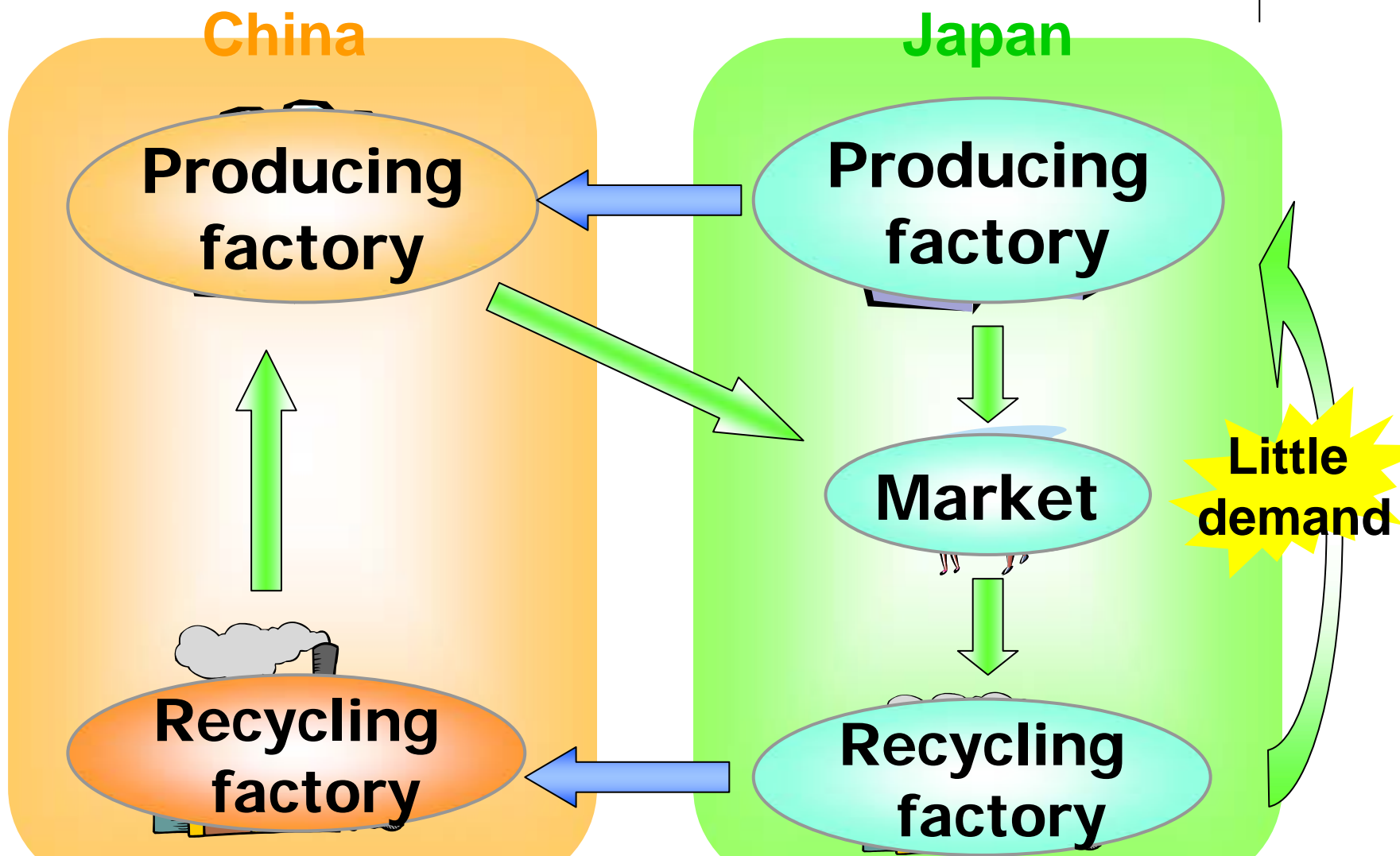
may cause . . .



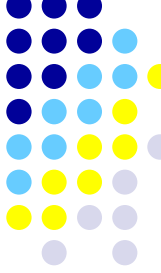
The transfer of recycling factories
from Japan to **China**



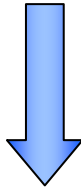
Why may the transfer happen by introducing EPR?



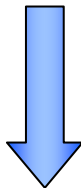
What will the transfer bring to China?



Building recycling factories in China

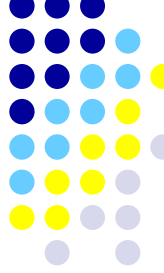


Transfer of technique for recycling to China



This transfer may contribute to { **reducing final disposal**
using resources effectively

Structure



1, Background

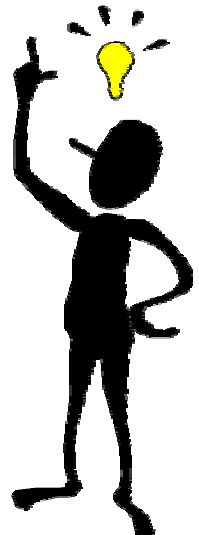
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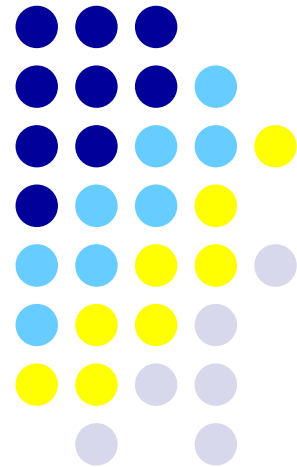
3, Impacts on China by EPR

4, Conclusion

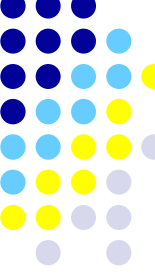


Chapter 4

Conclusion



Conclusion



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

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

Fin

Thank you for listening !!

