

# WEEE policy implementation models: Key lessons learned and pitfalls to avoid

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India Habitat Centre, New Delhi



- Spread of e-waste legislation 2012
- Policy objectives
- Stakeholders and key challenges
- Six types of e-waste models
- Evolution of these models in key countries
- Considerations for India



# Spread of e-waste legislation 2012

- In force in 77 jurisdictions, planned in 24.
- Over e-waste 220 compliance systems for producers (excl. systems by individual producers)

For details, see [www.sagisepr.com](http://www.sagisepr.com) :



# Policy objectives of e-waste legislation



1990

1995

2000

2005

2010

2015

**Environmental protection, labor safety**

**Resource recovery**

**Modernizing waste sector**

Breaking up historical (uncompetitive or informal) structures, 'adaptation to technical progress'

**Reduction of red tape, improving legal certainty**

**Social fairness** (beneficiary of product pays, not society at large)

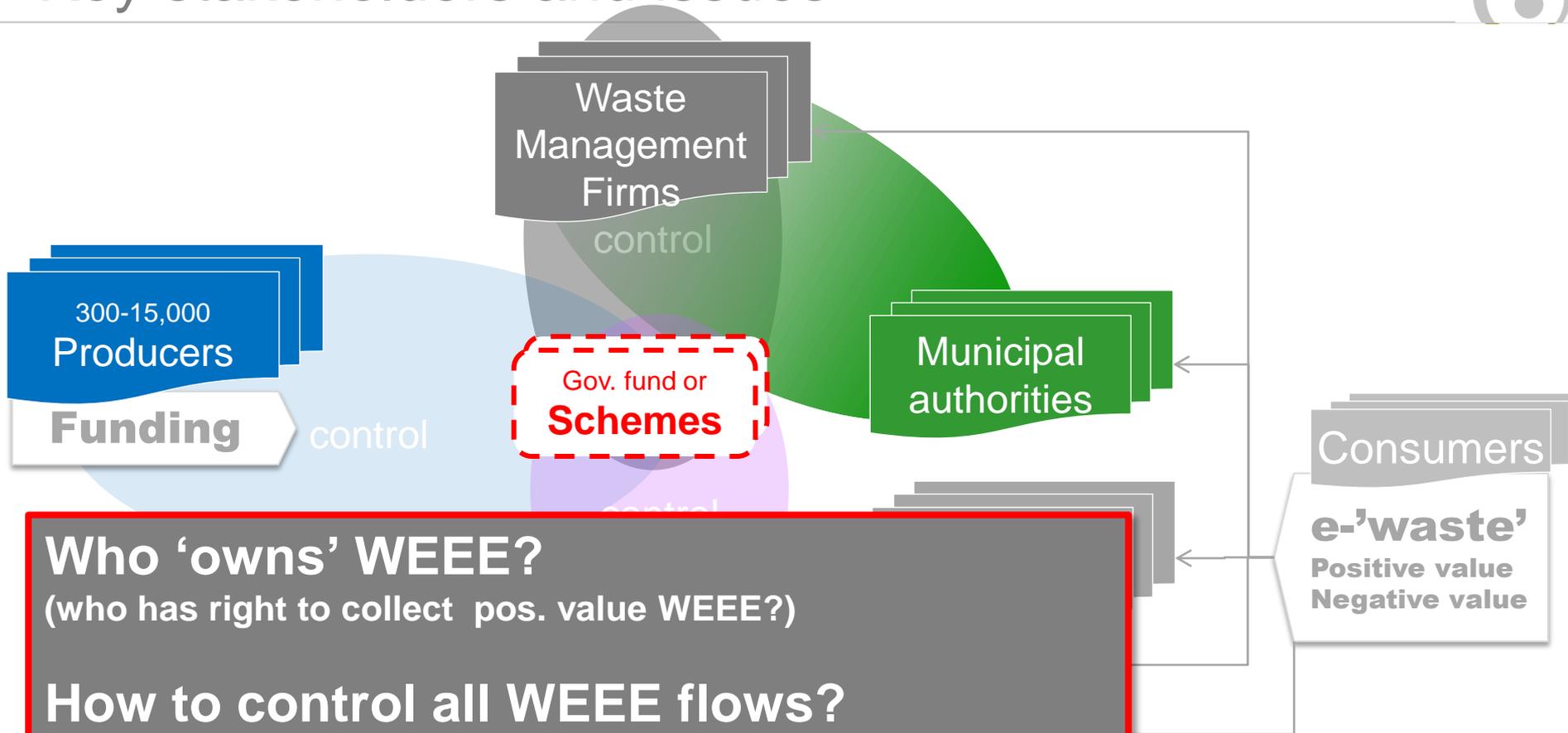
**Reducing pressure on local authority budgets**

**International 'pressure'** (obligations, trends, 'policy envy')

# Key stakeholders and issues



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## Who 'owns' WEEE?

(who has right to collect pos. value WEEE?)

## How to control all WEEE flows?

(municipal and scrap dealers)

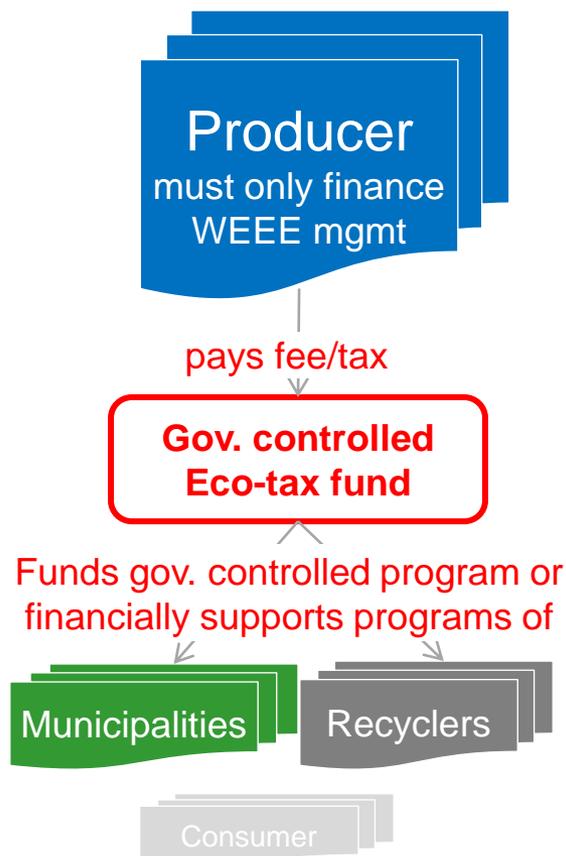
## Who controls the 'schemes'?

(power to generate funds, control WEEE supply)

# Key EPR models (simplified): Traditional models

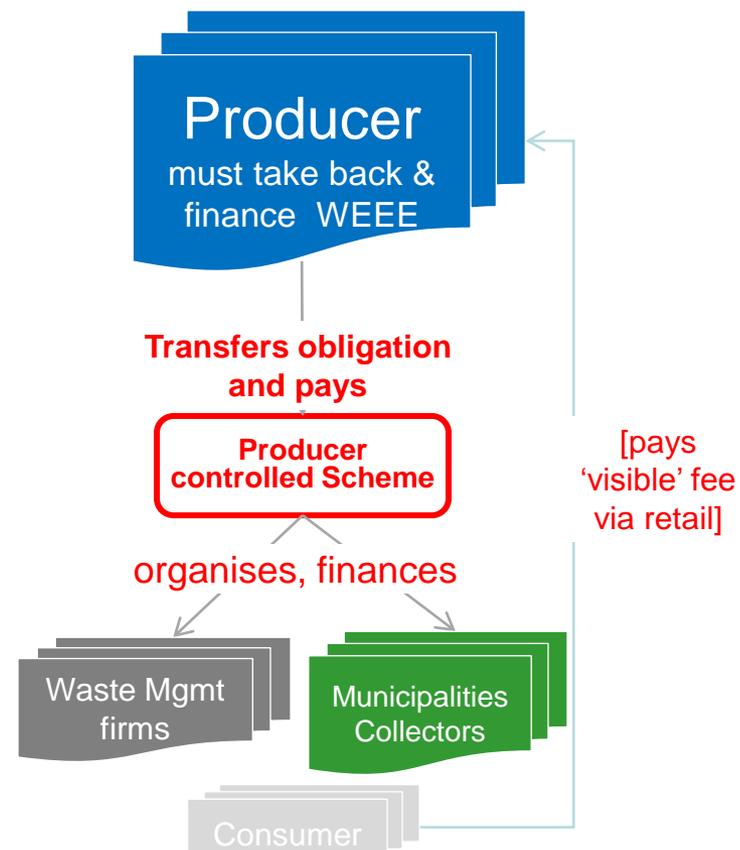


## Eco-fee/tax fund



e.g. China, Taiwan, Hungary

## Single scheme



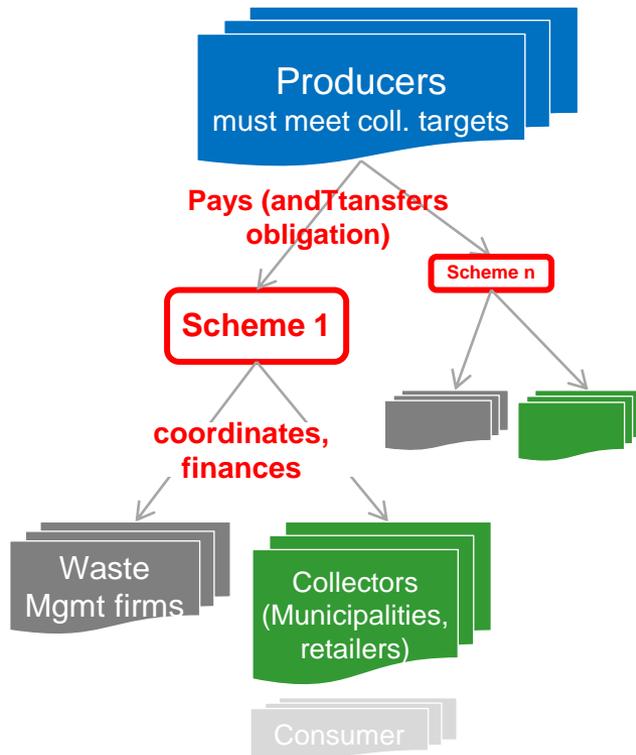
e.g. Belgium, Netherlands, Switzerland

# European 'standard' competing schemes models



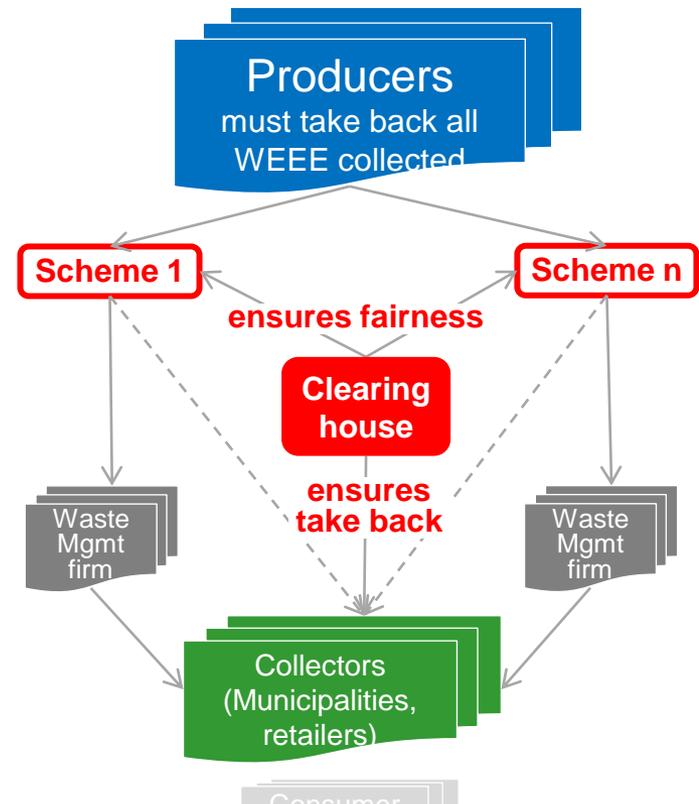
## Competing schemes with collection targets

(incl. approved individual plans by producers)



e.g. Bulgaria, Poland, Lithuania, Latvia, Slovakia

## Competing schemes with clearing house

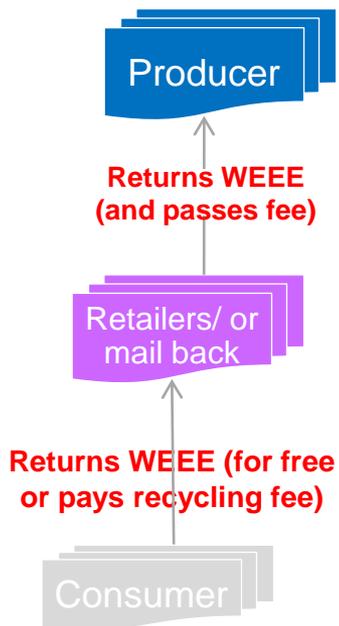


e.g. Italy, France, (UK)

# Key EPR models (simplified): Rare models

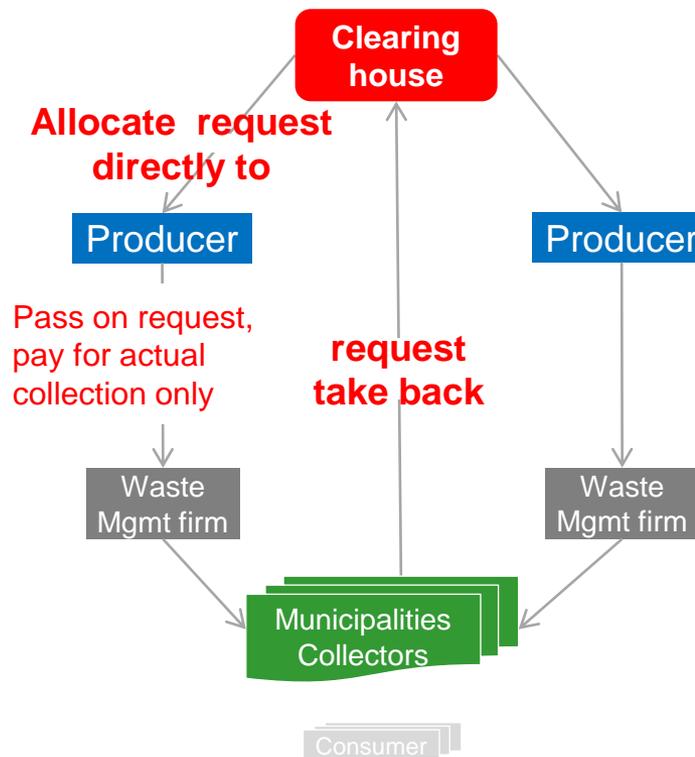


## Producers w/o municipal collection



e.g. Japan

## Clearing house, no schemes



Germany

## Recycler centric models



Connecticut, Maine

# Taiwan

1990

1995

2000

2005

2010



## Producers responsible

Waste Disposal Act 1988

Producers of products designated as '**mandatory recyclables**' responsible for their recycling.

**Key pitfalls:** no targets on producers, limited enforcement

## State operated system:

Waste Disposal Act 1997

EPA allowed to operate '4-in-1' program (recycling fund, recyclers, municipalities as collectors, consumers).

EPA sets Recycling Fees charged to producers in view of balancing fund and pays recycling subsidies to recyclers.

**Works because:** Uniquely powerful EPA as manager of the program

**Remaining challenge:** EEE not covered by the program

# South Korea

1990

1995

2000

2005

2010

privatisation

## State fund:

1992 Act on the Promotion of Saving and Recycling of Resources

Producers paid 'deposit' on TVs, washing machines, air cons which was returned if they met collection targets.

Gov. agency KORECO operates recycling plants.

**(Desired?) pitfall:** Lack of financial incentive for producers to run systems (deposit cheaper than recycling)

## EPR system:

2003 revised Act

Government's operational role in WEEE management removed; In practice implemented as single system similar to BE, NL.

However, producers responsible for meeting collection targets or pay fines.

## Works because:

Annually adjusted collection targets; effective fines; Same system for all EPR products.

## Key remaining challenge:

Controlling WEEE management by municipalities, scrap sector

# Non-competing schemes AT, NL, BE, SE, NO



1990

1995

2000

2005

2010

Fees tumble (due to Directive, neighbours); reserves used up over 10-20 years

## Belgium: Recupel

2001 Producer Responsibility Decrees

## Netherlands (non ITC EEE): NVMP (Wecycle)

1998 Decree established take-back obligations

## Switzerland: (non ITC WEEE): SENS

1998 Ordinance on the Return, Take-back and Disposal of EEE

**Czech Republic** 2005 WEEE Decree

**Greece** 2004 WEEE Decree

## Austria: UFH

1991 lamps and cooling equipment ordinance

## Competing systems:

2005 AG Ordinance  
After attempts to return fees paid to consumers, reserve largely confiscated by gov.

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## Switzerland: (non ITC WEEE)

1998 Ordinance on the Return, Take-back and

+ Build up consistent waste collection infrastructure

+ System powerful enough to impose standards on recyclers

- Consumers paid high, usually visible fees > massive reserves with potential for market distortions, ensuring monopoly for decades

- Gov. agency find difficult to change

2004 WEEE Decree

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# Germany

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## **Packaging: DSD producer controlled monopoly**



1991 German Packaging Ordinance

too much collection too fast > massive funding gap > waste exports  
distorting neighbouring markets > EC Packaging Waste Directive  
Recyclers on board I

**Pitfalls:** very ambitious policy goals; no *regular* government  
intervention adjusting targets to capacity

Monopoly  
abolished;  
  
systems no  
longer controlled  
by producers

Municipalities'  
role  
strengthened

## **WEEE: no schemes, clearing house assigns take back of WEEE by municipalities to producers directly**

2005 WEEE Law

**Works because:** 17 Laender (states) give up authority for WEEE producer register;  
Producer controlled register cum clearing house (EAR) assigned with governmental powers;  
EAR not involved in commercial decisions

**Remaining challenge:** Improving WEEE treatment by municipalities

**Batteries: Support of 'joint scheme'** 2008 Batteries Law

# Japan

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## **Packaging: Government controlled system JCPRA:**

1995 Law for the Promotion of Sorted Collection and Recycling of Containers and Packaging

The Ministry of Economy, Trade and Industry defines annually an amount of waste packaging that producers must recycle in the next year based on existing recycling capacity and planned collection volumes by municipalities, whichever is lower.

## **Large appliances: Producer oligopoly, without municipal involvement**

1998 Home Appliance recycling Law (in force 2001) air conditioners, TVs, refrigerators, washing machines, clothes dryers

**Works because:** End users' willingness to pay on disposal; convenient return channel (retail)

## **PCs: Individual, voluntary producer programs**

LPEUR enforcement orders computers, monitors and portable batteries (since 2003 from households)

**Pitfall:** mail back too cumbersome for consumers, no targets

## **Small appliances: No producer responsibility**

2012 Small Home appliances recycling law

Aims at improving quality of (municipal) recycling programs

**Challenge:** Incentive for municipalities if raw material prices low

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## Control of the WEEE treatment sector

2007: 'Management Regulation of Electronic Waste Pollution to the Environment'  
Since 2004, WEEE recycling pilot programs and facilities set up.  
End 2012: Real time monitoring system of WEEE processing

## Massive WEEE buy-back program

2009 - 2011: "old for new appliances" regulation  
To stimulate domestic demand *and* direct WEEE into authorized treatment channels, deprive informal sector of materials.

**Worked because:** Massive \$ gov. funding; IT systems to ensure fraud prevention (id cards, serial numbers...)

## State fund coordinates WEEE management

2012 Regulation on the WEEE Treatment Fund, 2009 WEEE Ordinance  
Fund fed by fees charged to producers, provides treatment subsidies to authorized recyclers.

**Will work if:** enforcement can keep informal sector in check



# Conclusions I - concentration, fairness



- ▶ **One or a few central organisational scheme(s)**
  - whether run by government or producers –
  - is more effective than individual programs**
  - whether by producers or municipalities
  
- ▶ The key precondition for involving producers financially is a **robust mechanism to share burden fairly**  
e.g. national register or tax or customs authorities

## Conclusion II - leveraging producers' potential



Government is best able to successfully leverage producers' funding, market power and organisational experience if it **continuously enforces the delicate balance between the stakeholders:**

- ▶ If a **mono collective scheme** emerges, it should be regularly and tightly controlled, e.g. regulator could have at least observer position on board
- ▶ If **competing collective schemes** are mandated or emerge, they should be required to join a 'clearing house' body that i.a. provides for framework contracts between the schemes and municipalities. Schemes should be authorized, monitored, their number limited to avoid excessive transaction costs.



To increase e-waste collection, **incentives are needed:**

- ▶ These can be either **collection targets** on producers, respectively schemes, **and fines** or
- ▶ **incentives for municipalities to collect WEEE** (e.g. by guaranteeing compensation through a framework agreement with the schemes), **and mandating producers to take back all** that municipalities collect.



- ▶ Not all e-waste needs to go through schemes but ALL parties collecting and treating e-waste should be subject to reporting obligations to a CENTRAL authority so that e-waste can be controlled and its performance be measured.
- ▶ Financing principles should be simple (e.g. by default collective but IPR and ind. programs rewarded; IPR discussions on orphan waste, financial guarantees etc can easily distract from main issues)



# Thank you

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