

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

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- 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 :



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'

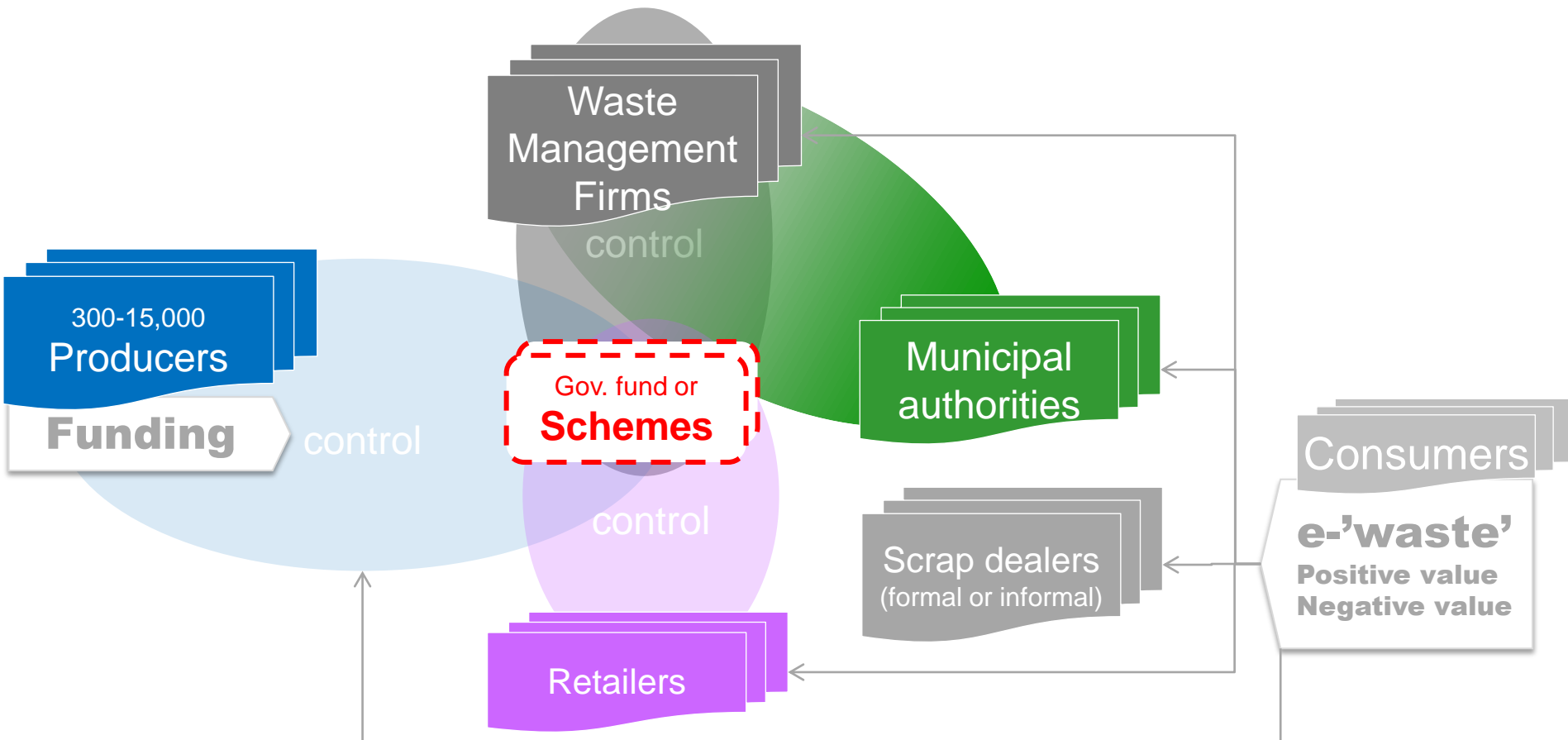
Reduction of red tape, improving legal certainty

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

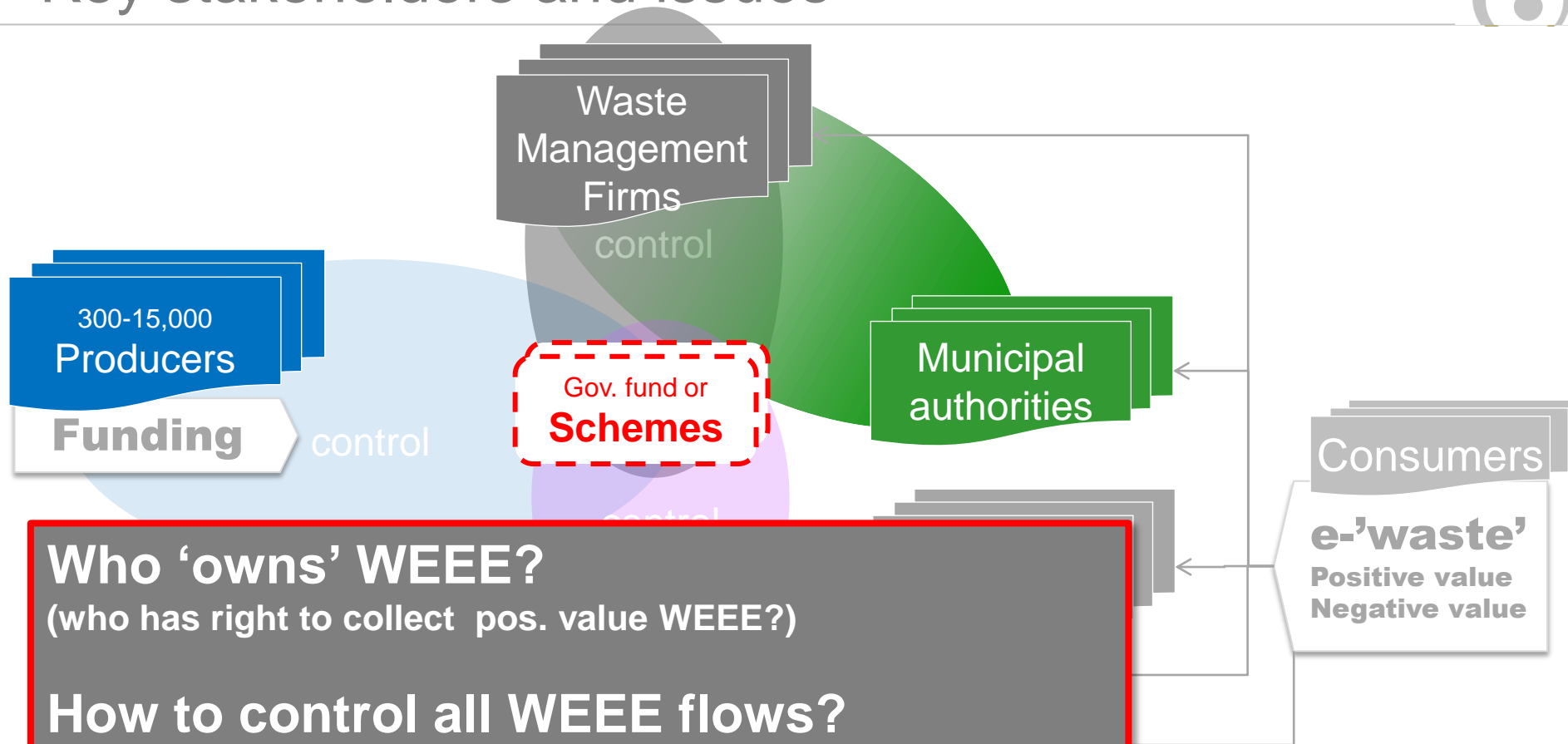
Reducing pressure on local authority budgets

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

Key stakeholders and issues



Key stakeholders and issues



Who 'owns' WEEE?

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

How to control all WEEE flows?

(municipal and scrap dealers)

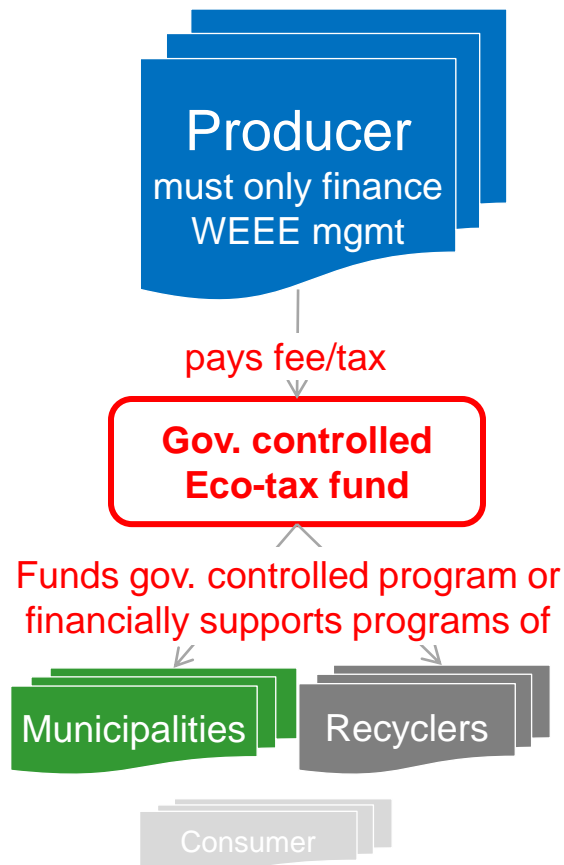
Who controls the 'schemes'?

(power to generate funds, control WEEE supply)

Key EPR models (simplified): Traditional models

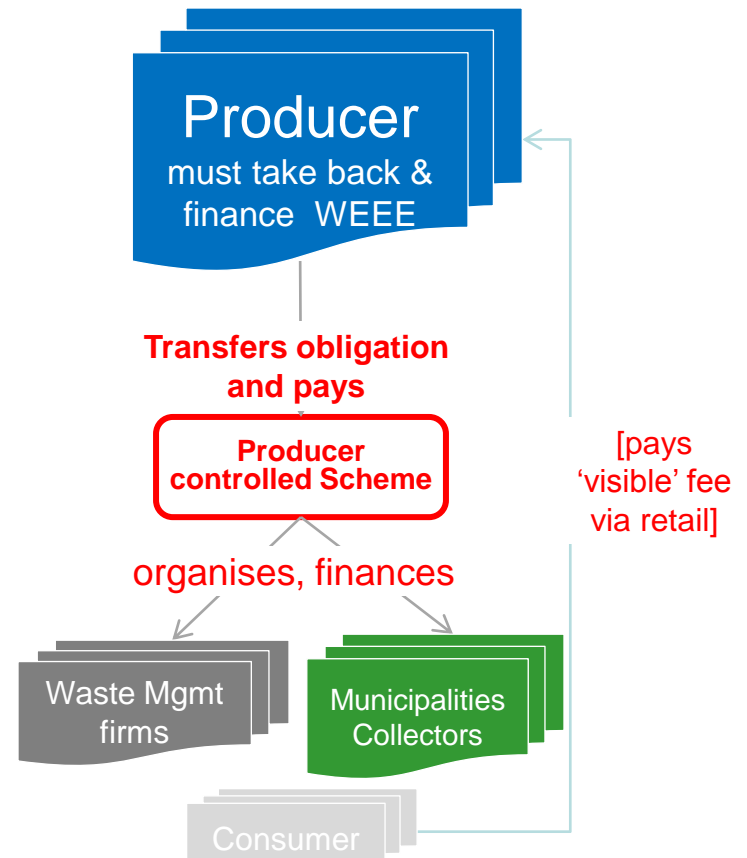


Eco-fee/tax fund



e.g. China, Taiwan, Hungary

Single scheme



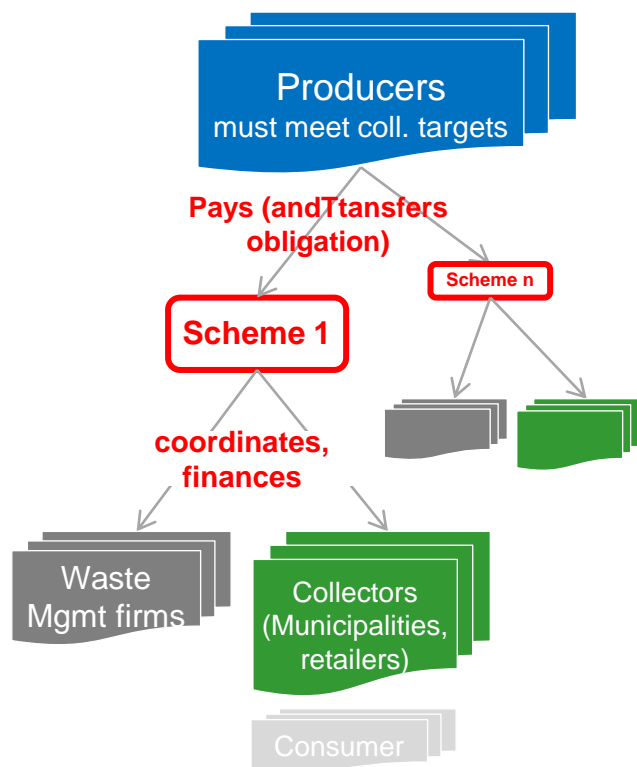
e.g. Belgium, Netherlands, Switzerland

European 'standard' competing schemes models



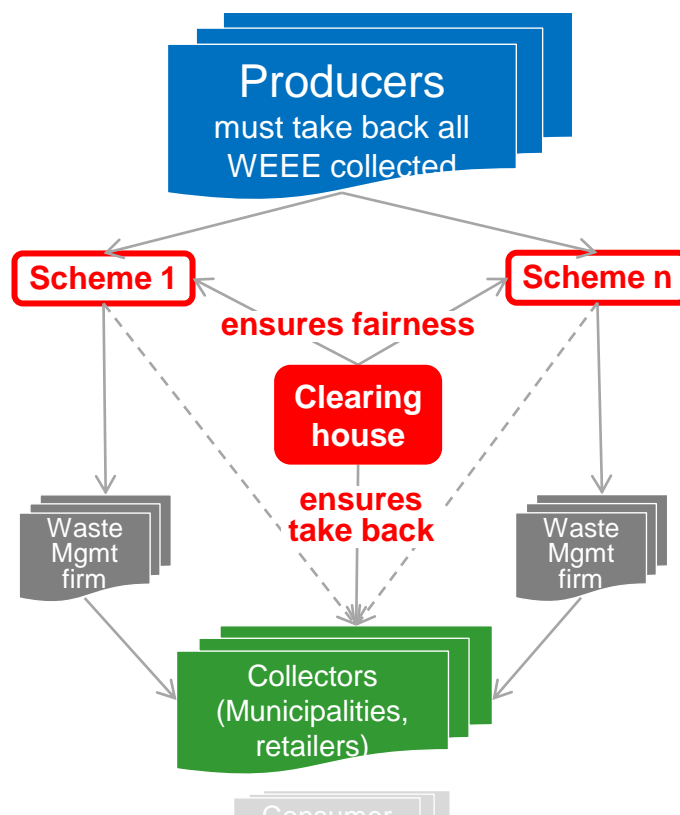
Competing schemes with collection targets

(incl. approved individual plans by producers)



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

Competing schemes with clearing house

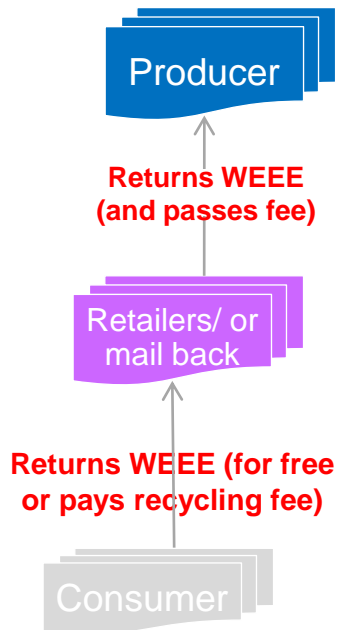


e.g. Italy, France, (UK)

Key EPR models (simplified):

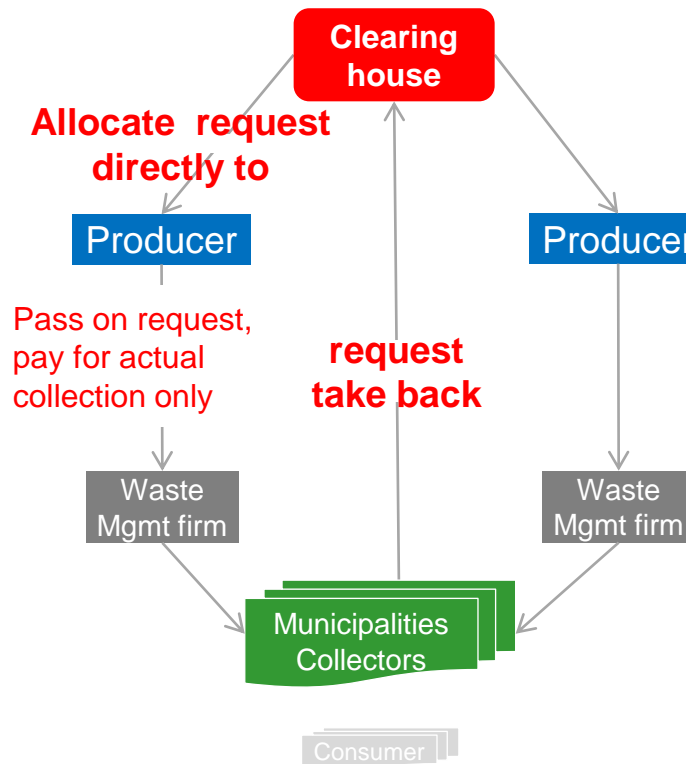
Rare models

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



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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.

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



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Netherlands (non ITC EEE)

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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

Greece 2004 WEEE Decree

Austria: UFH

1991 lamps and cooling equipment ordinance

Competing systems:

2005 AG Ordinance

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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

1990

1995

2000

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2010



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.

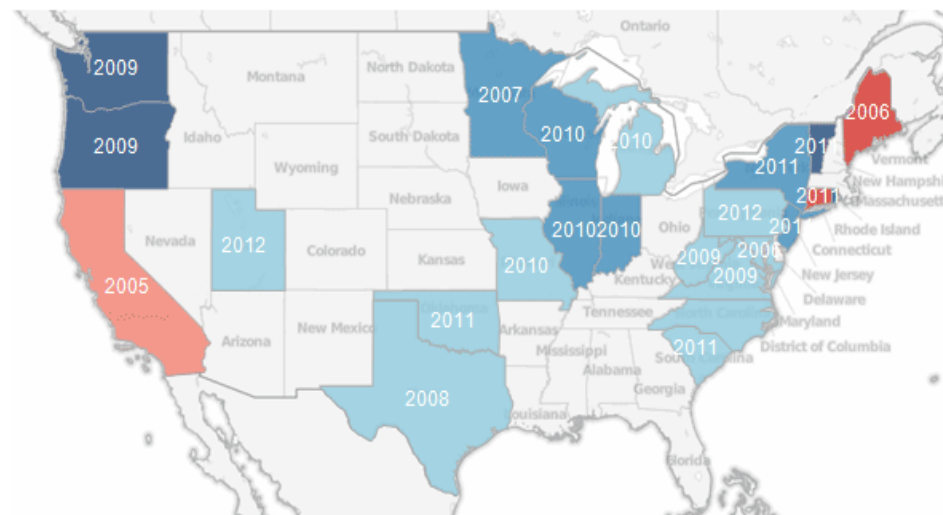
Will work if: enforcement can keep informal sector in check

USA



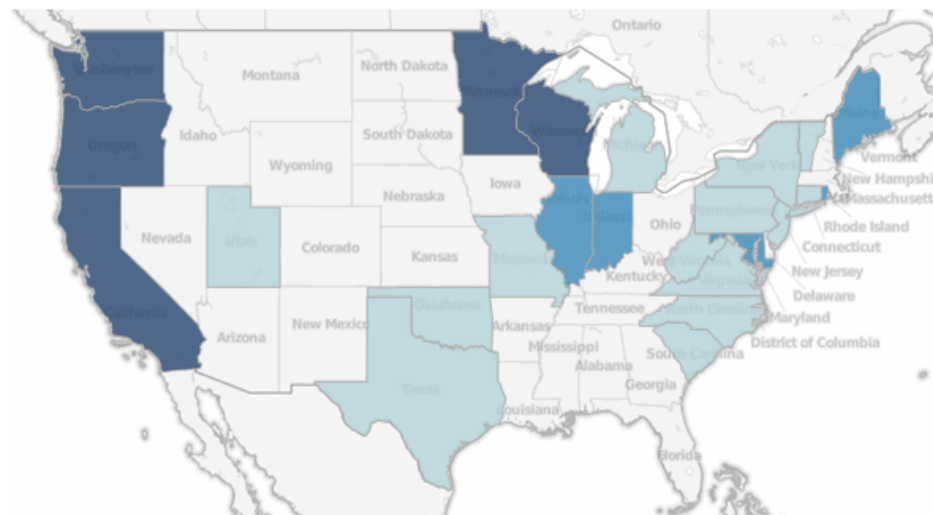
Financing and organisational responsibility, year of system start

SagisEPR.com graphic



E-waste collection (kg / capita / year, 2010 or 2011, as available)

SagisEPR.com graphic



kg/cap.



Since 2005 testing ground for different models;

State programs, or systems with collection targets, or recycler-organized collection appear to outperform producers programs without collection targets.



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.

Conclusions III – increase collection



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.



Conclusions IV – control and practicability

- ▶ 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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