



Policy issues and challenges in formalizing the e-waste recycling sector -- A case of Thailand

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Outline of the Presentation

- Extended producer responsibility
- Issues in non-OECD countries
- Policy development in Thailand
- Challenges ahead

Panate Manomaivibool

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Advancing the Frontier of Extended Producer Responsibility

The management of waste electrical and electronic equipment
in non-OECD countries



Doctoral Dissertation

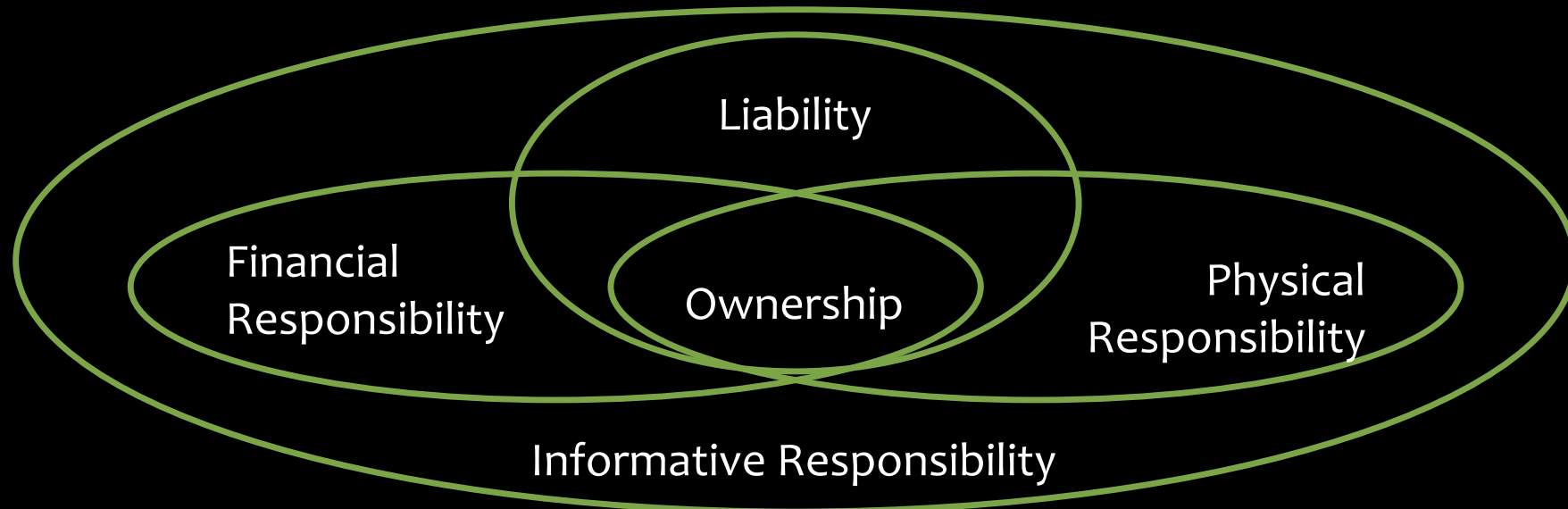
the international institute for industrial environmental economics

Lund University, Sweden

Extended Producer Responsibility

“an environmental policy approach in which a producer’s responsibility for a product is extended to the post-consumer stage of a product’s life cycle.”

Organisation for Economic Co-operation and Development (2001),
Extended Producer Responsibility: A Guidance Manual for Governments



Source: (Lindhqvist 1992)

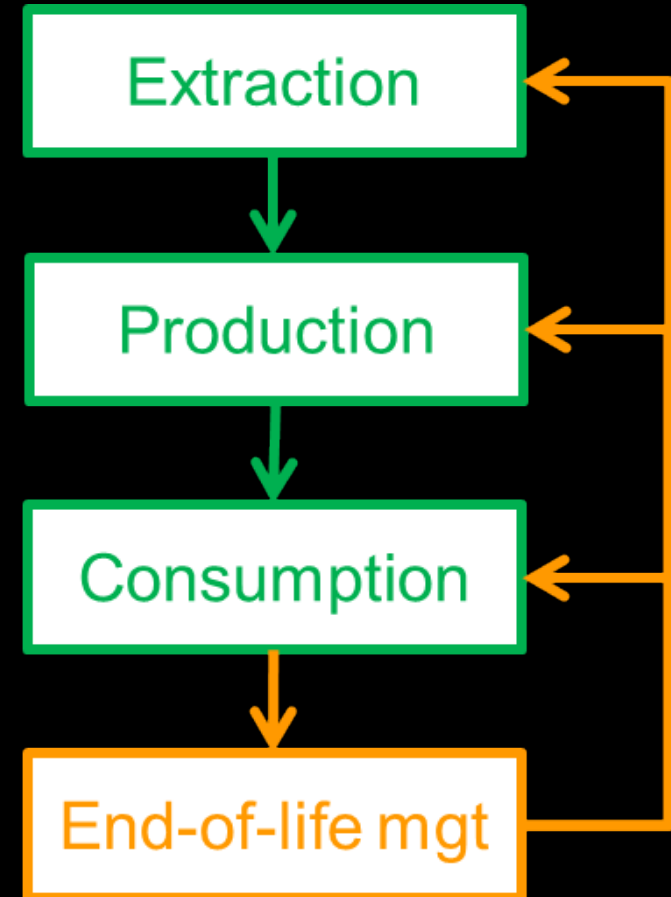
Policy Objectives

1. Upstream improvements

- Product design
- System design

2. Downstream improvements

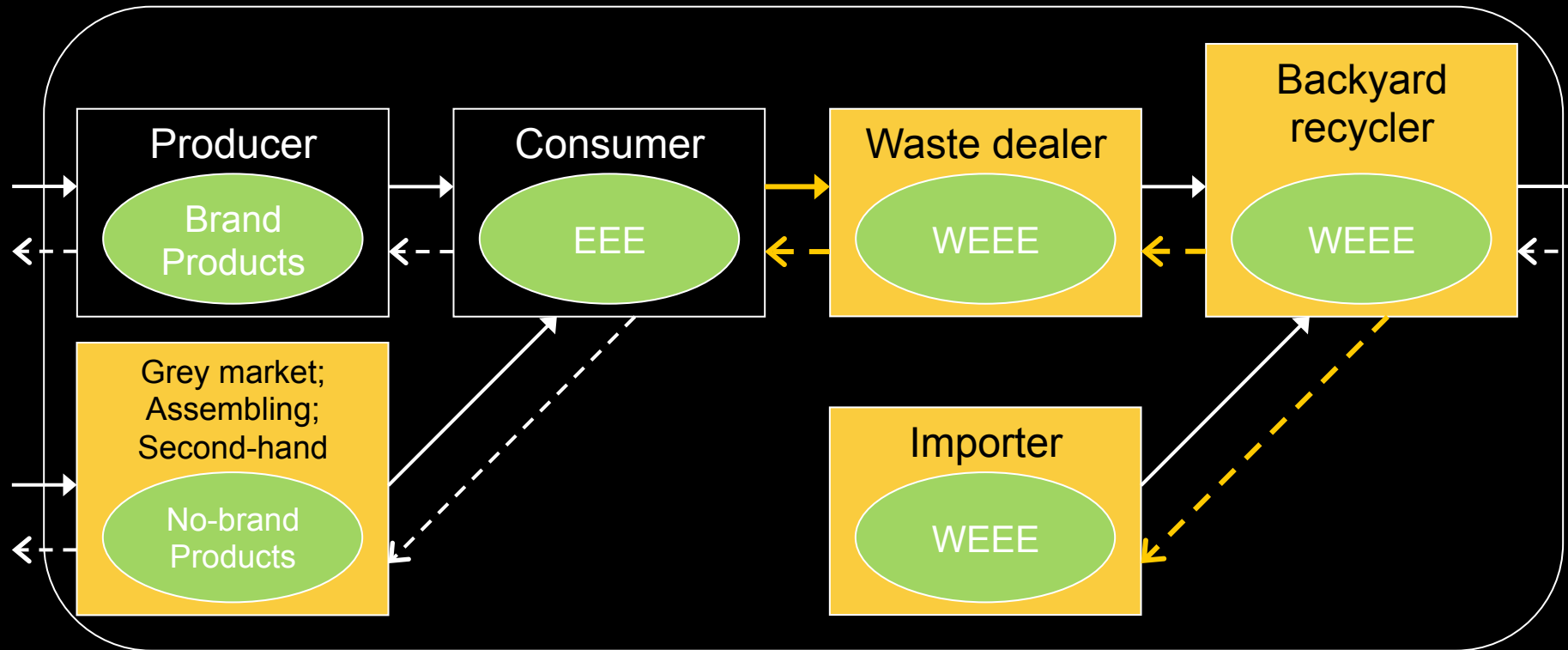
- Collection
- Treatment
- Resource conservation



EPR Implementation in OECD Countries

- Restrictions of Hazardous Substances (RoHS)
- Producer Responsibility Organization (PRO)
- Take-back Obligations , e.g. free (EU) or end-user-pays (Japan)
- Collection & Recycling Targets , e.g. per capita or %
- Recycling Standards (mandatory and voluntary)
- Financial Mechanisms , e.g. market or return shares

EPR and Non-OECD Countries ?



←----- Financial flows
 →----- Material flows

Source: Manomaivibool, P. 2009. Extended Producer Responsibility in a non-OECD Context: The management of waste electrical and electronic equipment in India. *Resources, Conservation & Recycling*, 53(3): 136-144.



Thailand as a Global Producer

A target of Extended “Producer” Responsibility ?

Thai Electrical & Electronic Industries

- USD 55 billion exports to ASEAN (17%), EU (14%), China (14%), US (13%), Japan (11%)
- World largest producer of HDD; 2nd of AC; 4th of refrigerators; a global assembly base for electronic components
- Most of 800 electrical appliance factories were direct foreign investments and joint ventures

Source : Thailand Board of Investment

HDD prices rise with floodwaters

Updated: 2011-11-02 10:38

By Gao Yuan and Tuo Yannan (China Daily)

Comments(5) Print Mail Large Medium Small

Share 1



A vendor at an IT mall in Jiaxing, Zhejiang province, holds up hard disks that made in Thailand. [Photo/China Daily]

Source:

http://www.chinadaily.com.cn/bizchina/2011-11/02/content_14020400.htm

Concerns over Competitiveness

EU Integrated Product Policy

WEEE Directive

RoHS Directive

EuP Directive



Thai E&E Industries

Issue No. 1 – New Drivers for E-waste

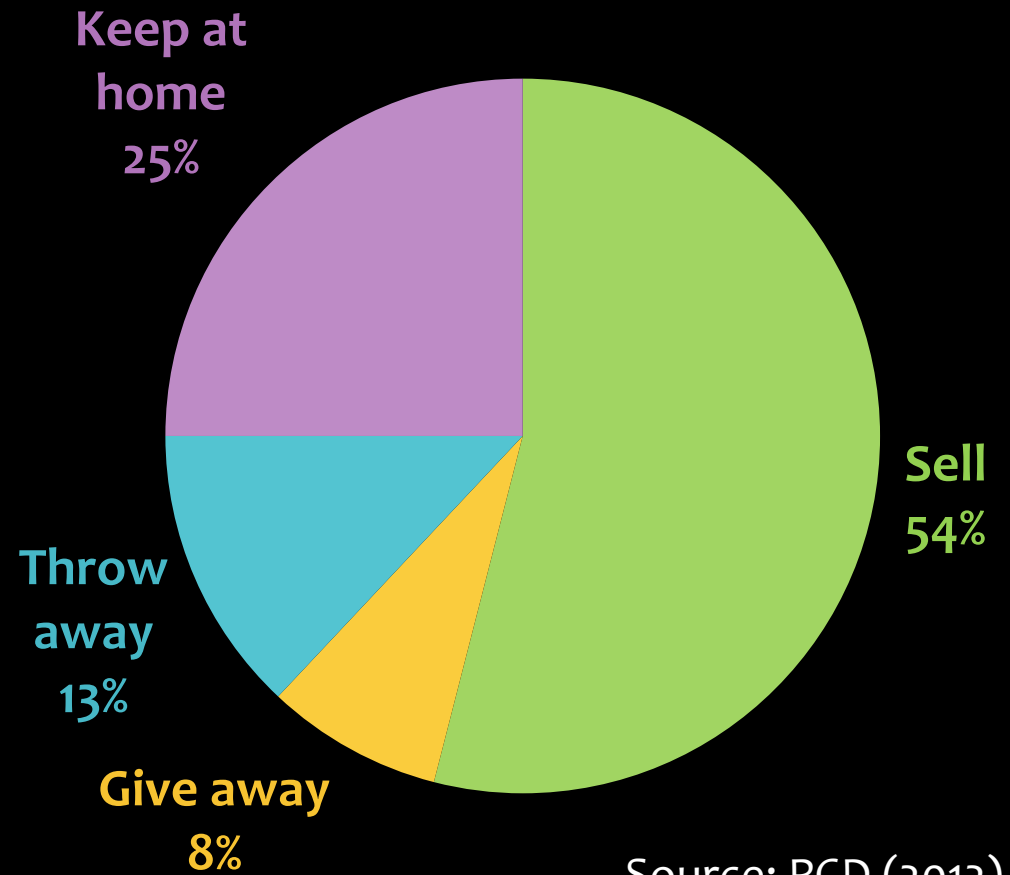
Digital Thailand
ทีวีดิจิทัล
กับอนาคตประเทศไทย

▶ วันเสาร์ที่ 30 พฤศจิกายน 2556 09.00 - 12.30 น.
ณ ห้องแกรนด์บอลรูม โรงแรม เอส 31 ถนนสุขุมวิท กรุงเทพมหานคร

เตรียมความพร้อมรูปแบบใหม่ด้าน Media และ Broadcasting



Issue No. 2 – Consumer Behaviors



Source: PCD (2012)



Issue No. 3 – Polluting Recycling



Photo credit: Asian Foundation (2009)

The Road to Thai WEEE Legislation

- 2000: An inter-ministerial committee was formed to monitor impacts of the EU policies on the Thai industries
- 2004: Pollution Control Department (PCD) proposed "(draft) Act on the Management of Hazardous Waste from Used Products"
- 2008: Thai Industrial Standards Institute (TISI) issued RoHS-like Standards
- 2008: Cabinet approved "Integrated WEEE Strategy, Phase I"
- 2010: PCD re-drafted its proposal as a Royal Decree under the Ministry of Finance's "(draft) Act on Fiscal Measures for the Environment"
- 2014: PCD proposed "(draft) Act on the Management of WEEE and Other End-of-life Products"
- 2015: Cabinet approved "Integrated WEEE Strategy, Phase II"



Prayut Chan-o-cha
2014-



Yingluck
Shinawatra
2011-2013



Abhisit Vejjajiva
2008-2011



Somchai
Wongsawat
2008-2008



Samak Sundaravej
2008-2008



Surayud Chulanont
2006-2008

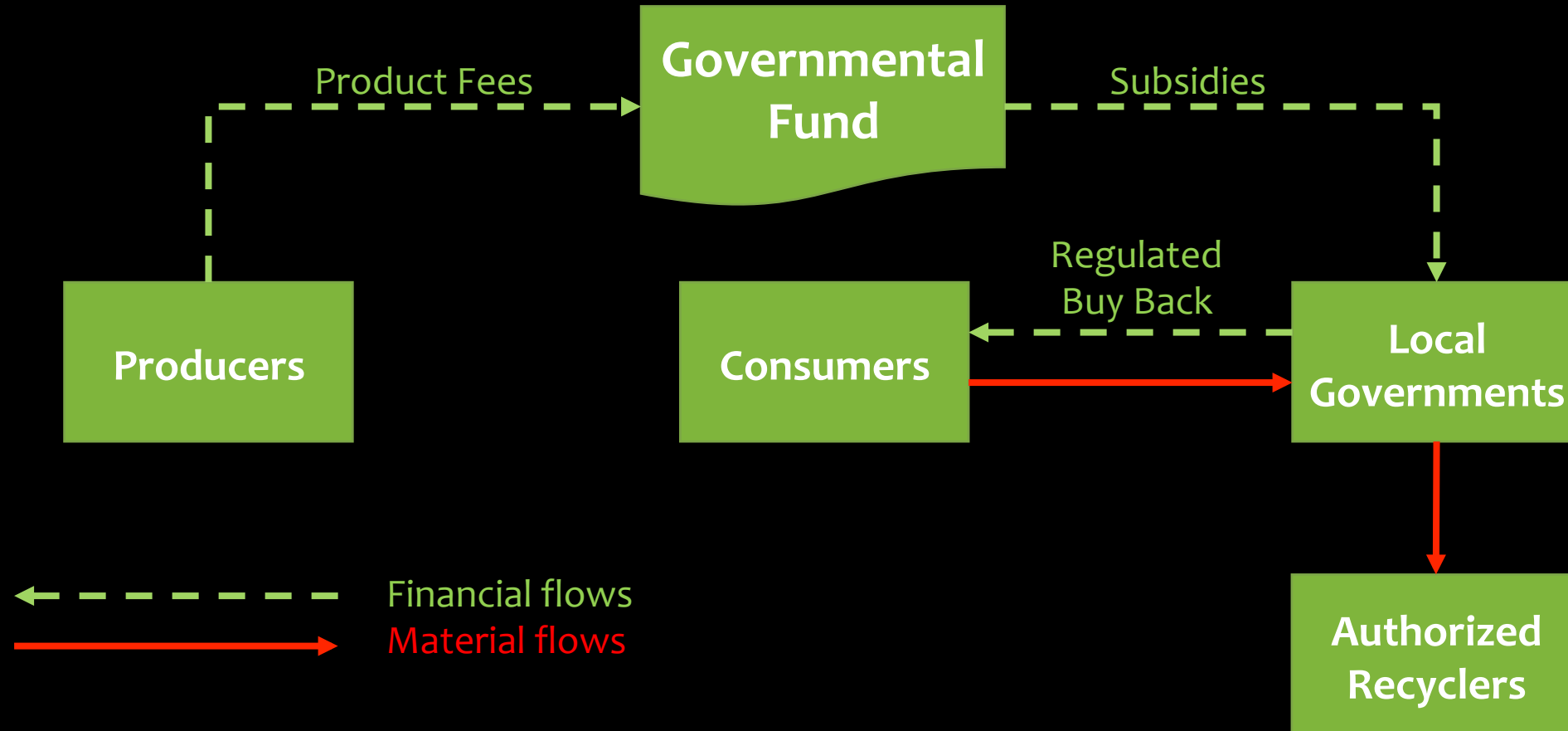


Thaksin
Shinawatra
2001-2006



Chuan Leekpai
1997-2001

Buy-back Model (2004 Draft Law)

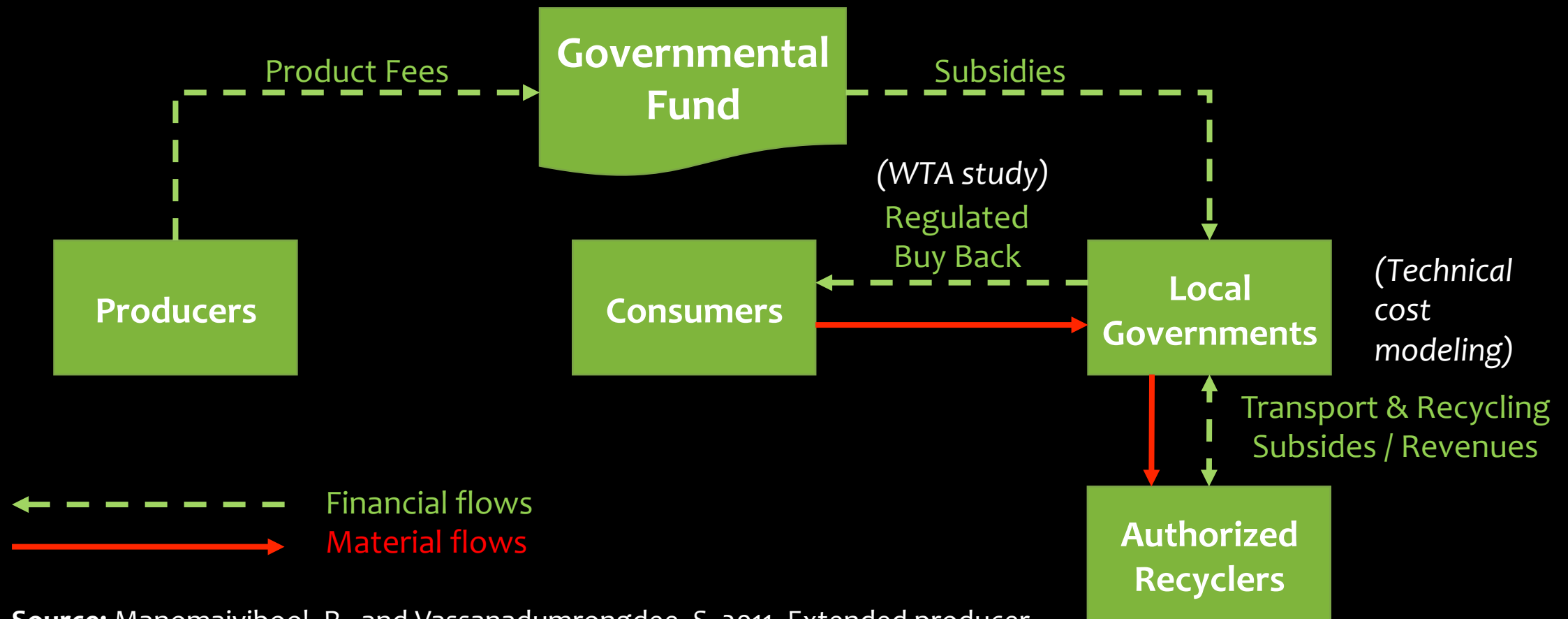


Aspirations from Taiwan's Fund Model

- Experience sharing from the planning and implementation of the 4-in-1 Recycling System in Taiwan
 - Producers paid recycling fees to a state fund
 - Subsidies were paid to authorized recyclers
 - Standards, third-party auditing and certification
- Key lessons learnt :
 - An alternative EPR model with financial responsibility
 - Subsidies drove formalization of the recycling system
 - Recycling costs dropped when system matured
 - Effectiveness and transparency could be achieved (albeit high administrative cost)



Buy-back Model (2009 Draft Law)



Source: Manomaivibool, P., and Vassanadumrongdee, S. 2011. Extended producer responsibility in Thailand: Prospect for policies on waste electrical and electronic equipment. *Journal of Industrial Ecology*, 15(2): 185-205.

Challenge 1 : Cost of Policy Intervention

Priority Product	Fee Rates	Buy-back Rates
1. Television	389-730	150-250
2. Computer	306-453	250-300
3. Air conditioner	900-1200	600-750
4. Refrigerator	325-1000	300-450
5. Printer / Fax	253	50
6. Digital camera	69-71	60
7. Portable player	33	30
8. Mobile phone	66-72	60
9. Fluorescent lamp	2-4	1-2
10. Dry-cell battery	1-3	1

Source: PCD. 2010. Final report: The study project on rules, procedures, and fees of Thailand's WEEE management.
 NB: USD1 = THB 33 ; CNY 1 = THB 5

Agency Activation

- Ministry of Commerce (MOC)
 - Department of Foreign Trade
- Ministry of Natural Resources and Environment (MONRE)
 - **Pollution Control Department (PCD)**
- Ministry of Industry (MOI)
 - Office of Industry Economics (OIE)
 - **Department of Industrial Works (DIW)**
 - Thai Industrial Standards Institute (TISI)
 - **Electrical and Electronics Institute (EEI)**
- Others
 - National Metal and Materials Technology Center (MTEC)
 - Thailand Environment Institute (TEI)



Challenge 2 : Inter-ministerial Conflicts

The State of Council

Legality and traditions ; clarity ; specificity ; predictability

Ministry of Finance

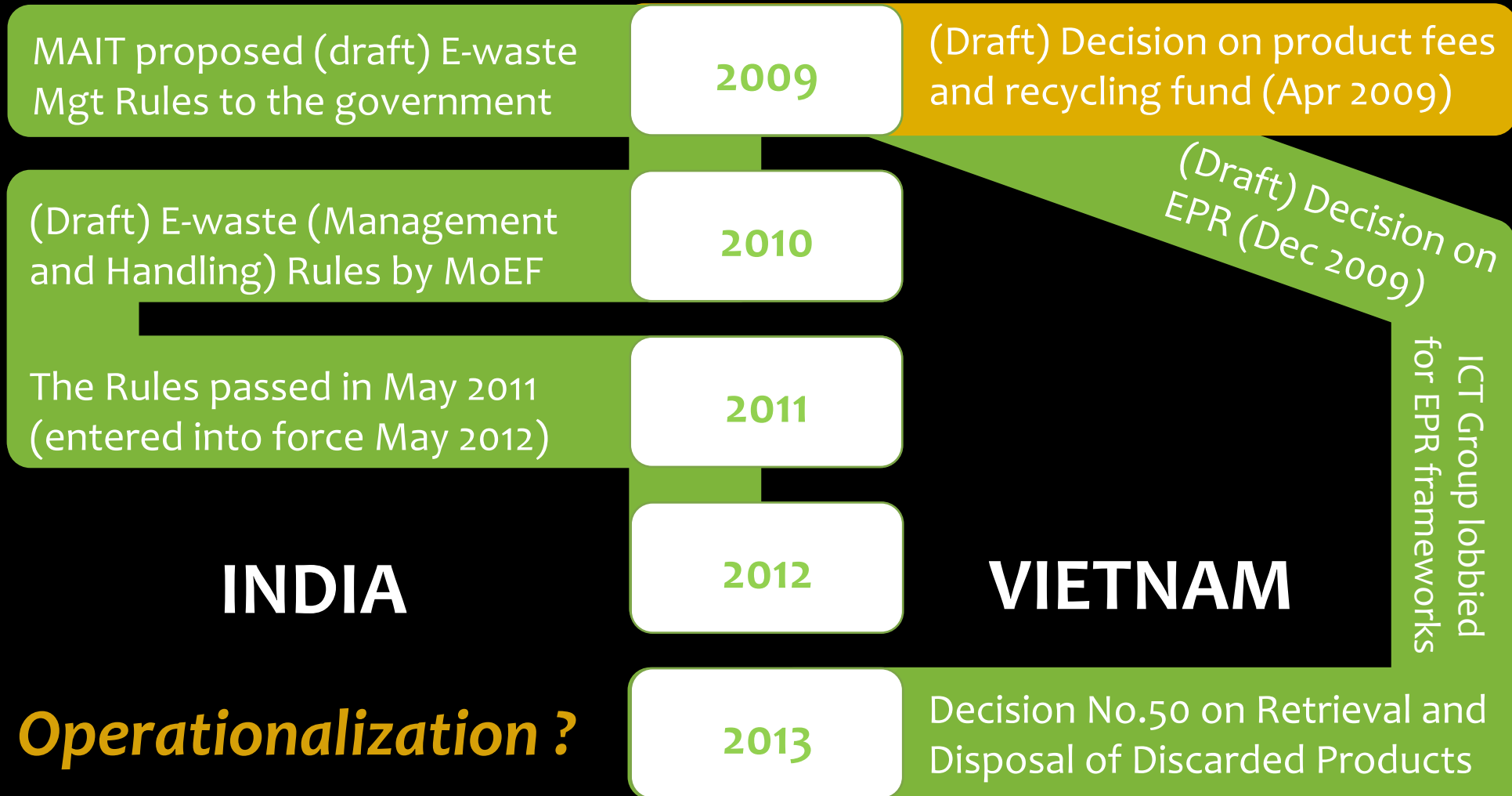
Unity and fiscal discipline ; efficiency in resource allocation ; flexibility (instruments)

**Ministry of Natural Resources
and Environment**

Earmarked revenues for recycling ; limit cross subsidization ; flexibility (rates)

Source: Vassanadumrongdee, S. & Manomaivibool, P. 2014. The Challenge of Promoting Greater Use of Economic Instruments in Thailand: Lessons Learned from the Draft Act on Economic Instruments for Environmental Management. *Applied Environmental Research*, 36(3): 39-51.

Challenge 3 : Lobbying from the industries



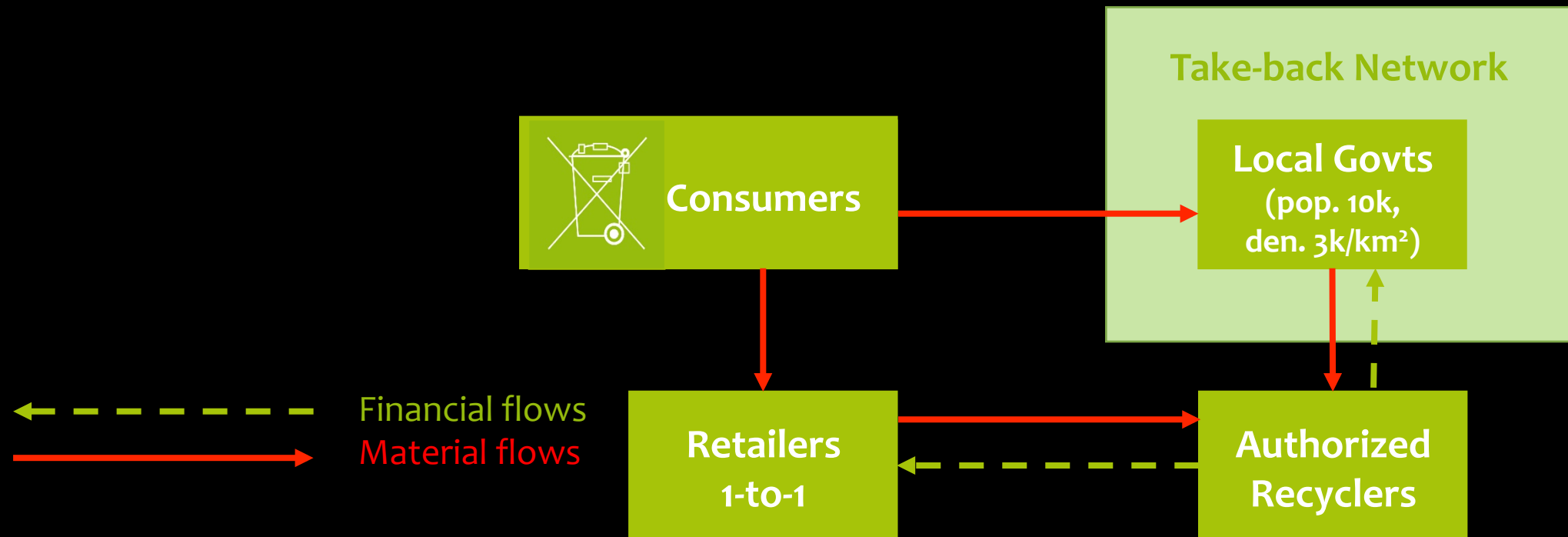
A Hybrid Model (2015 Draft Law)

• General Provisions	5	Articles
• 1. National Committee on Eol Management	7	Articles
• 2. Product Designation and Control (EPR)	8	Articles
• 3. End-of-life Management	11	Articles
• 4. Target Setting	2	Articles
• 5. Revenue Management and Fund's Supports	2	Articles
• 6. Inspection and Control	6	Articles
• 7. Penalties	11	Articles
• Transitory Provisions	2	Articles
	54	Articles

Draft Thai WEEE Legislation

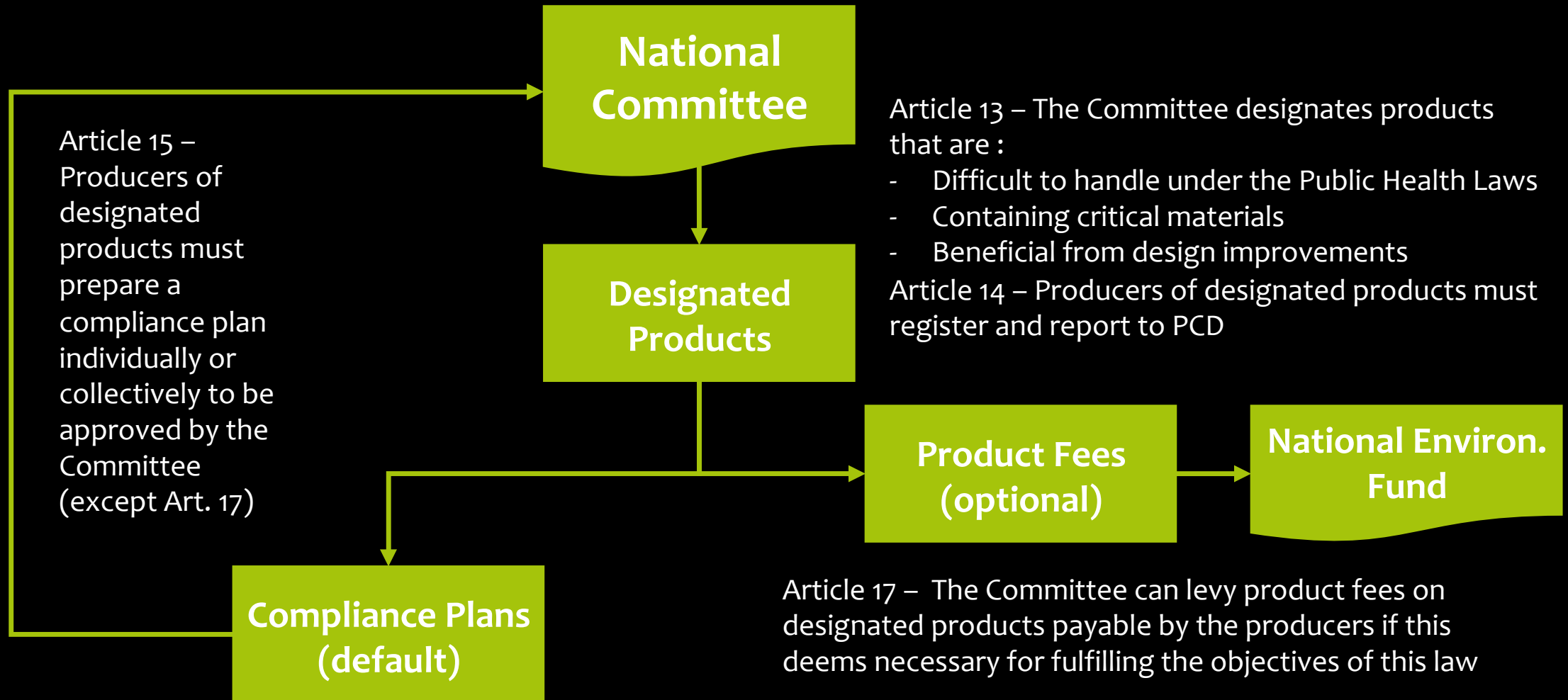
Chapter 3 : End-of-life Management

How to make it happen?



Draft Thai WEEE Legislation

Chapter 1 & 2 : National Committee & Product Designation

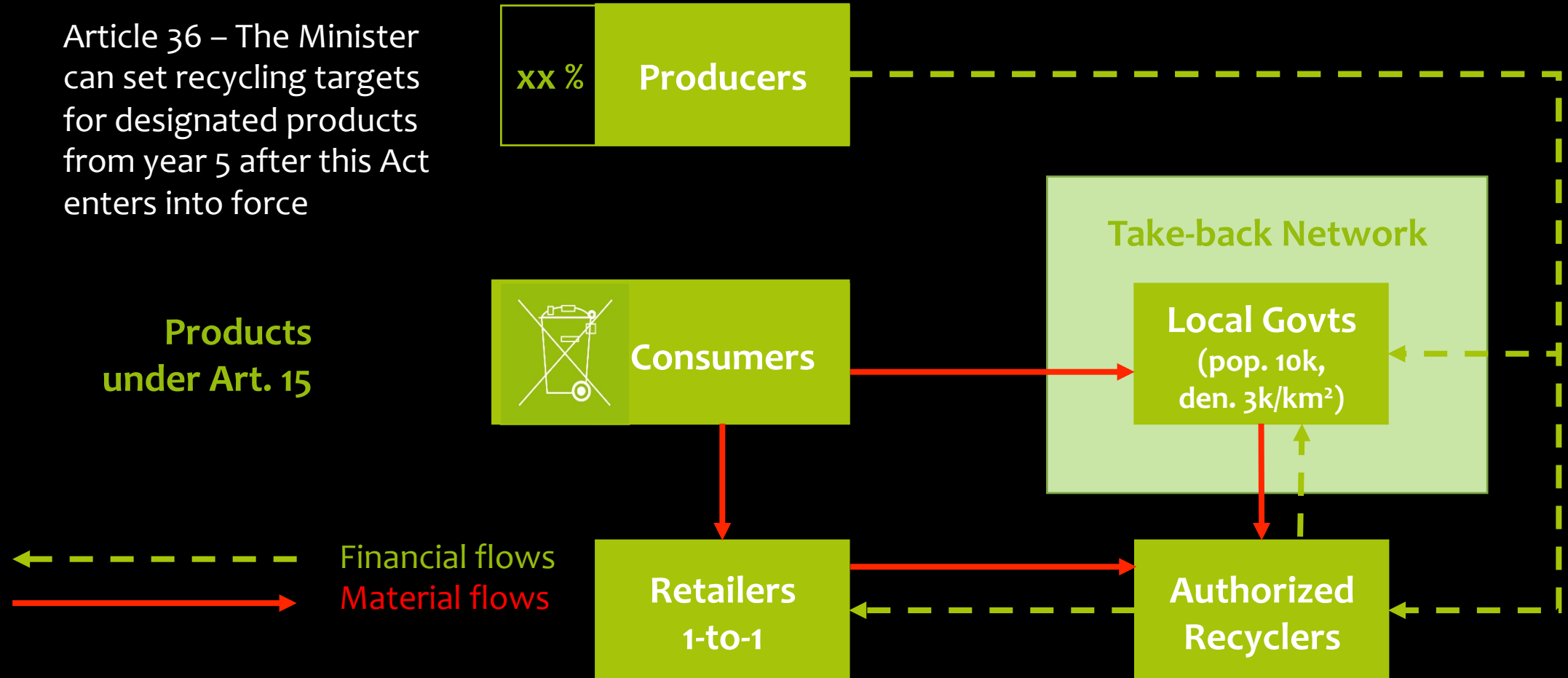


Draft Thai WEEE Legislation

Chapter 4 : Target Setting

Article 36 – The Minister can set recycling targets for designated products from year 5 after this Act enters into force

Products under Art. 15



Draft Thai WEEE Legislation

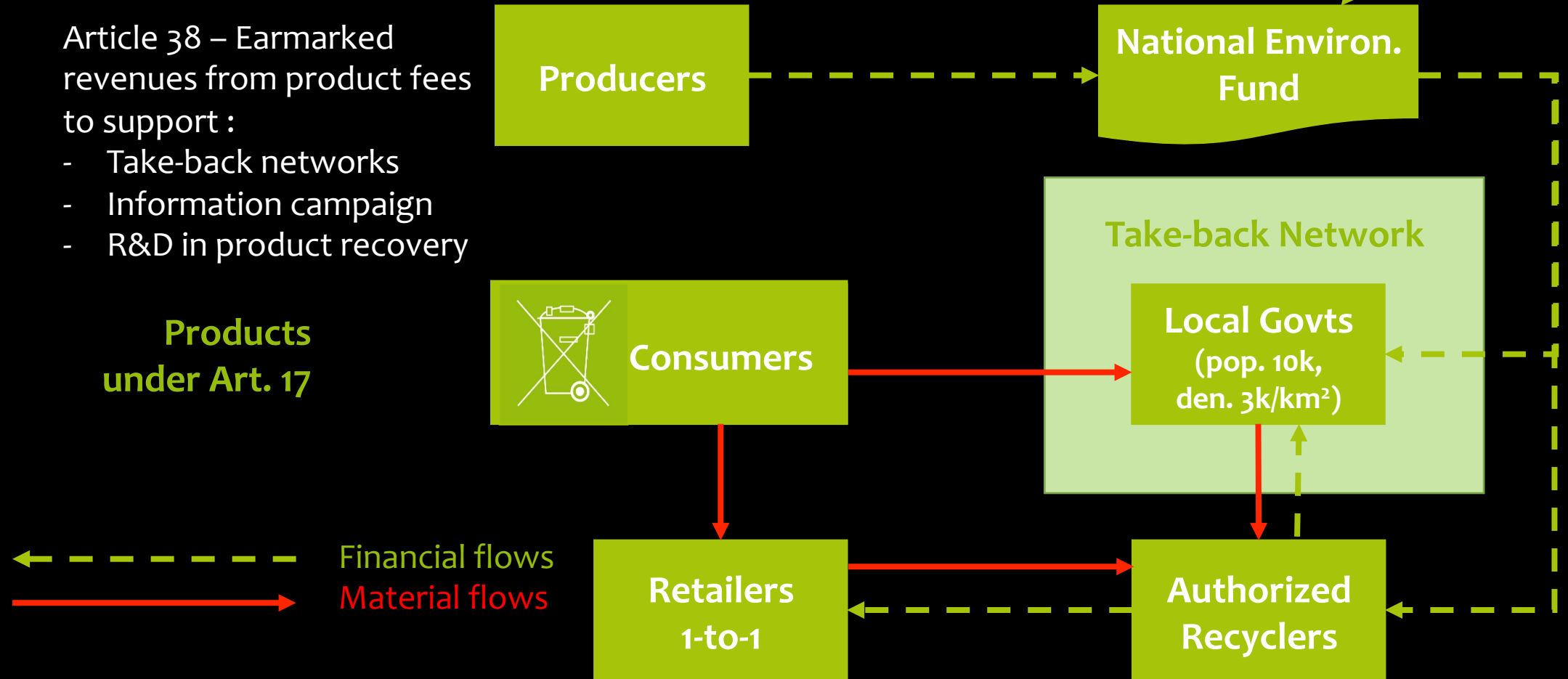
Chapter 5 : Revenue Management and Fund's Supports

Art. 54 –
Seed money
from the
government

Article 38 – Earmarked
revenues from product fees
to support :

- Take-back networks
- Information campaign
- R&D in product recovery

**Products
under Art. 17**



Biggest Challenge : A Long Road Ahead

Enactment

- To be approved by the Cabinet (+ the State of Council's review) ✓
- To be voted by the National Legislative Assembly

Preparation

- Promulgating sub-ordinate laws and rules
- Preparing product categories
- Outreaching to stakeholders (including the informal sector)

Implementation

- Registration of producers + authorization of WEEE collectors and recyclers
- Reviewing and approving compliance plans (+ targets from year 4)
- Collecting product fees and paying subsidies (year 3 onward)

Thank you for your attention

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University MFU**

MEE
Materials for Energy and
Environment Research Group

