POLICY UPDATE FROM MALAYSIA

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DIRECTOR, HAZARDOUS SUBSTANCES DIVISION

DEPARTMENT OF ENVIRONMENT

MALAYSIA

July 17, 2013

OUTLINE

- Introduction
- Overview of e-waste situation
- Status of Policy Implementation or Development
- Current Status of WEEE Management
- Lessons Learned and Future Goals
- Questions for Discussion

THE DEPARTMENT OF ENVIRONMENT MALAYSIA

VISION

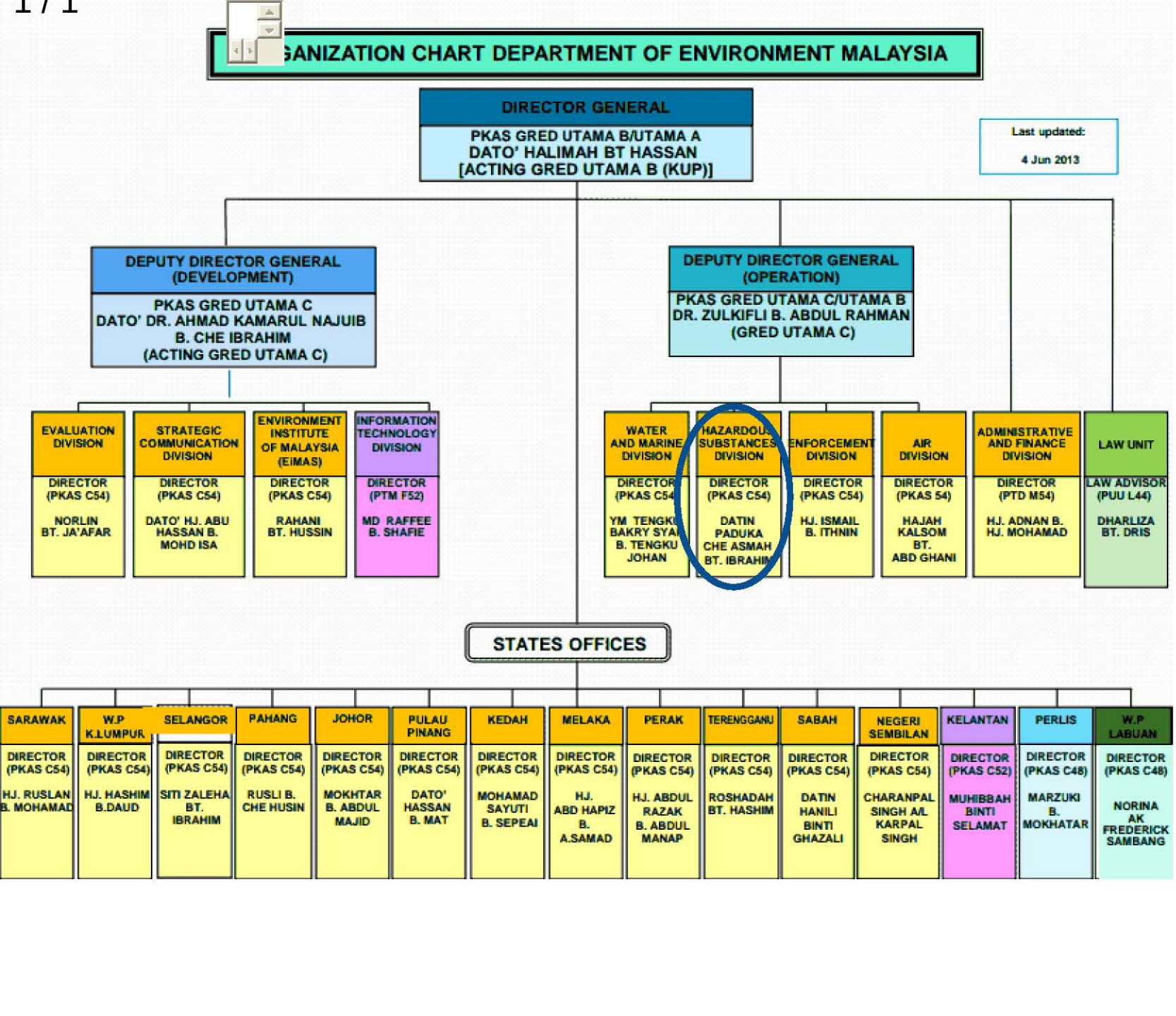
Environmental Conservation for the Well-being of the People.

MISSION

To ensure sustainable development in the process of nation building.

FUNCTION

To prevent, eliminate, control pollution and improve the environment, consistent with the purposes of the Environmental Quality Act 1974 and the regulations there under


GANIZATION CHART DEPARTMENT OF ENVIRONMENT MALAYSIA
DIRECTOR GENERAL
PKAS GRED UTAMA B/UTAMA A
DATO' HALIMAH BT HASSAN
[ACTING GRED UTAMA B (KUP)]
Last updated:
4 Jun 2013
DEPUTY DIRECTOR GENERAL (DEVELOPMENT)
PKAS GRED UTAMA C
DATO' DR. AHMAD KAMARUL NAJUIB B. CHE IBRAHIM
(ACTING GRED UTAMA C)
DEPUTY DIRECTOR GENERAL (OPERATION)
PKAS GRED UTAMA C/UTAMA B
DR. ZULKIFLI B. ABDUL RAHMAN
(GRED UTAMA C)
EVALUATION DIVISION
DIRECTOR (PKAS C54)
NORLIN BT. JA'AFAR
STRATEGIC COMMUNICATION DIVISION
DIRECTOR (PKAS C54)
DATO' HJ. ABU HASSAN B. MOHD ISA
ENVIRONMENT INSTITUTE OF MALAYSIA (EIMAS)
DIRECTOR (PKAS C54)
RAHANI BT. HUSSIN
INFORMATION TECHNOLOGY DIVISION
DIRECTOR (PTM F52)
MD RAFFEE B. SHAFIE
WATER AND MARINE DIVISION
DIRECTOR (PKAS C54)
YM TENGKU BAKRY SYAH B. TENGKU JOHAN
HAZARDOUS SUBSTANCES DIVISION
DIRECTOR (PKAS C54)
DATIN PADUKA CHE ASMAH BT. IBRAHIM
ENFORCEMENT DIVISION
DIRECTOR (PKAS C54)
HJ. ISMAIL B. ITHNIN
AIR DIVISION
DIRECTOR (PKAS 54)
HAJAH KALSOM BT. ABD GHANI
ADMINISTRATIVE AND FINANCE DIVISION
DIRECTOR (PTD M54)
HJ. ADNAN B. HJ. MOHAMAD
LAW UNIT
LAW ADVISOR (PUU L44)
DHARLIZA BT. DRIS
STATES OFFICES
SARAWAK
DIRECTOR (PKAS C54)
HJ. RUSLAN B. MOHAMAD
W.P K.LUMPUR
DIRECTOR (PKAS C54)
HJ. HASHIM B.DAUD
SELANGOR
DIRECTOR (PKAS C54)
SITI ZALEHA BT. IBRAHIM
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DATO' HASSAN B. MAT
KEDAH
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PERAK
DIRECTOR (PKAS C54)
HJ. ABDUL RAZAK B. ABDUL MANAP
TERENGGANU
DIRECTOR (PKAS C54)
ROSHADAH BT. HASHIM
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DIRECTOR (PKAS C54)
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NEGERI SEMBILAN
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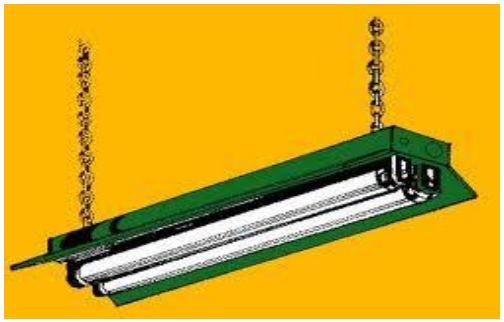
CHARANPAL SINGH A/L KARPAL SINGH
KELANTAN
DIRECTOR (PKAS C52)
MUHIBBAH BINTI SELAMAT
PERLIS
DIRECTOR (PKAS C48)
MARZUKI B. MOKHATAR
W.P LABUAN
DIRECTOR (PKAS C48)
NORINA AK FREDERICK SAMBANG

HAZARDOUS SUBSTANCES DIVISION

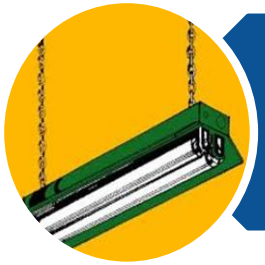
- Develop policies and strategies on the overall management and regulatory control of the hazardous waste, environmental hazardous substances and contaminated soil in Malaysia
- Develop regulations, guidelines, and Standard Operations Procedure (SOP) related to the management of hazardous waste, environmental hazardous substances and contaminated soil.
- Responsible to implement the obligation of the International Convention related to the hazardous waste and environmental hazardous substances where Malaysia is party to it

E-WASTES



ENVIRONMENTAL QUALITY (SCHEDULED WASTES) REGULATIONS 2005

SW103 : Waste of batteries containing **cadmium and nickel or mercury or lithium**



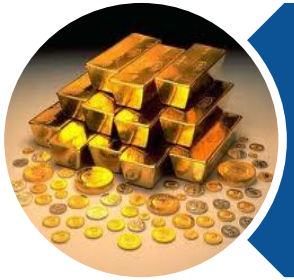
SW109 : Waste containing mercury and its compound

SW110 : Waste from electrical and electronic assemblies containing components such as accumulators, mercury-switches, glass from cathode-ray tubes and other activated glass or polychlorinated biphenyl-capacitors, or contaminated with cadmium, mercury, lead, nickel, chromium, copper, lithium, silver, manganese or polychlorinated biphenyls

E-Waste is the Most Challenging waste Stream

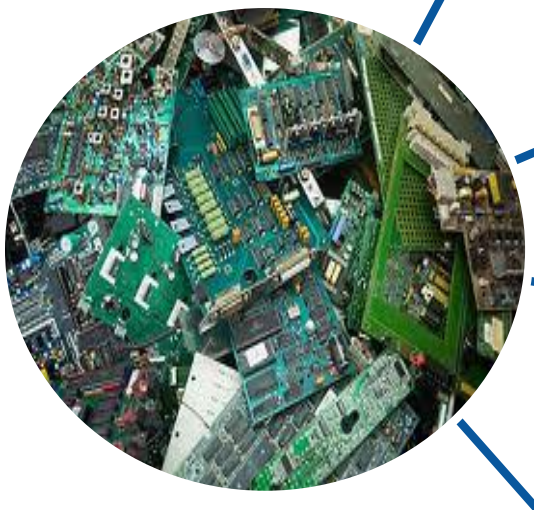
E-waste **may contain hazardous substances** such as lead, mercury, PCB, asbestos and CFC's that pose risks to human health and the environment;

The **amounts of e-waste are growing rapidly,** due to the wide use of this equipment, both in developed countries and in developing countries;



Contains valuable material that can be recovered as secondary resources to conservation of energy and reduction in greenhouse gas emissions.

Quantity of e-waste generated by INDUSTRIES in Malaysia



2009 : 134,035.70 metric ton

2010 : 163,339.80 metric ton

2011 : 152,722.04 metric ton

2012 : 78,278.05 metric ton

Quantity of e-waste generated from the HOUSEHOLD, COMERCIAL AND INSTITUTIONS

2006 : 652,909 metric ton

2007 : 695,461 metric ton

2008 : 688,068 metric ton

E- waste recovery facilities in Malaysia

146 e-waste recovery facilities in Malaysia with the total capacity to handle more than **24,000 metric ton** of e-waste per month.

128 are partial recovery, small and medium size operators engaged in physical or manual segregation of e-wastes for further processing.

18 full recovery facilities which can process the e-wastes to recover the precious metals.

Challenges related to e-waste management in Malaysia

- Capacity building to manage household e-waste in an Environmentally Sound Manner
- Collection, segregation and transportation of household e-waste
- Disposal/ collection fee for household e-waste
- Legislation and policy
- Transboundary movement of e-waste
- Managing the informal sectors

HOUSEHOLD E-WASTE

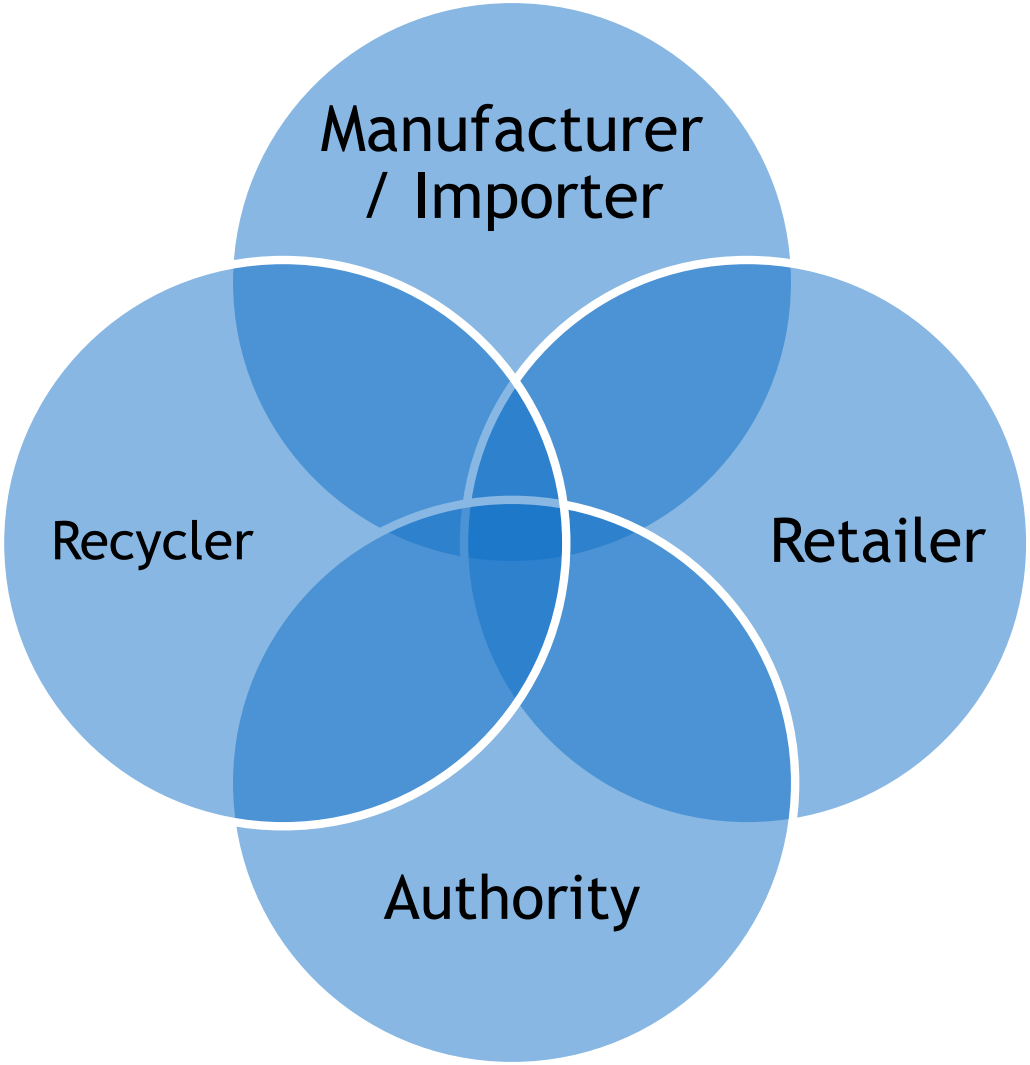
WAY FORWARD

OUR OBJECTIVES

- Environmentally Sound Management of household e-waste
- To prevent illegal import and export
- Promote resource recovery

RECYCLING Principles of household E-Waste

Who are the STAKEHOLDERS?



Roles and Responsibilities

AUTHORITY

- Develop policy and legislation
- Collection system at local level
- Monitoring the recycling target

MANUFACTURER

- Setting up collection system and collection point
- Establish recycling facility
- Complying with recycling targets

RETAILER

- Involved in the collection system

RECYCLER

- Recycle household e-waste

Expected OUTCOME

Measured the percentage of recycling items by weight

Establishment of Sustainable system

Penang E-waste Project

A project for e-waste recycling in Penang Island funded by JICA

'E-WASTE, COLLECTION, SEGREGATION AND TRANSPORTATION FROM HOUSEHOLDS FOR RECYCLING'

E-waste Alam Alliance-Penang

JABATAN ALAM SEKITAR MALAYSIA

Penang E-waste Project

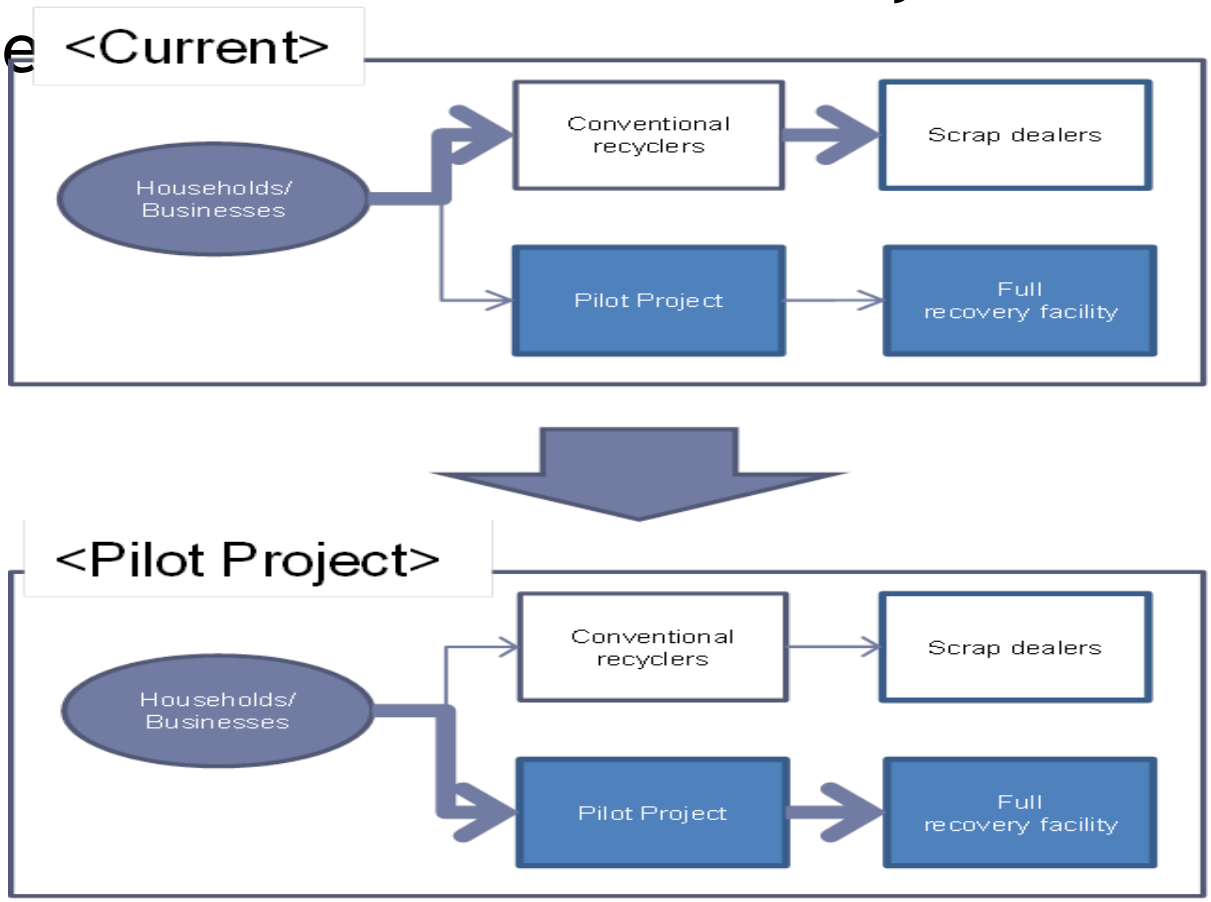
A project for e-waste recycling in Penang Island funded by JICA

- The Project aims at developing an effective and efficient e-waste collection system from households.
- The developed system is expected to be used as a model for the nationwide collection system.
- To assist the DOE to come out with appropriate policy on e-waste

JABATAN ALAM SEKITAR MALAYSIA

OBJECTIVE

Developing an appropriate, effective and efficient e-waste collection system from house



TARGETS(TARGET E-WASTES)

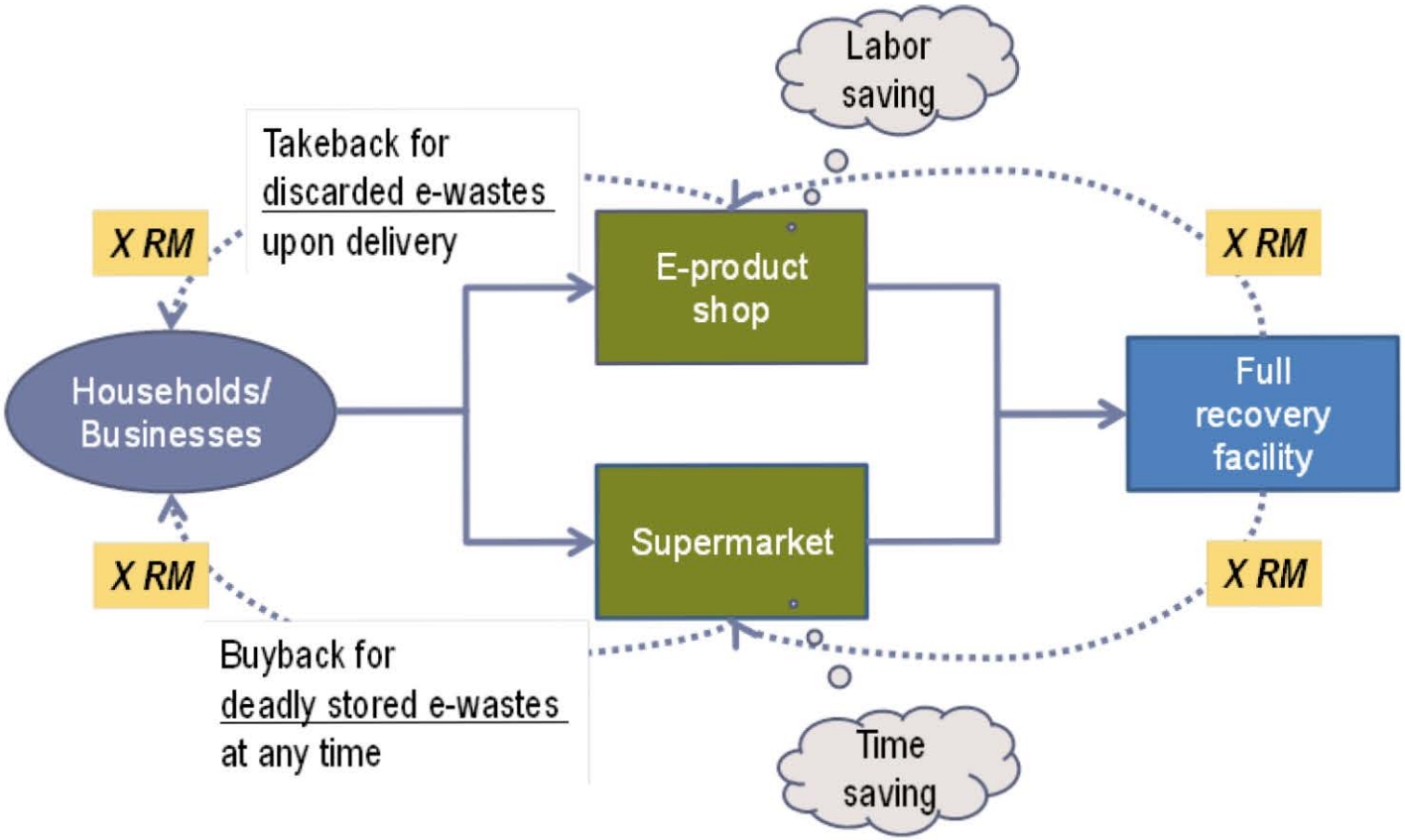
The target e-wastes are stated as follows:

- - Television set (Brown Tube Type)
- - Television set (Flat Type)
- - Refrigerator
- - Washing machine
- - Air-conditioner (Full set)
- - Personal computer (Desktop)
- - Personal computer (Notebook)
- - Printer
- - Mobile phone
- - DVD player, VCD player and etc.
- - Others (Battery charger, Mobile phone battery, mouse, keyboard, etc.)

STAKEHOLDERS INVOLVEMENT

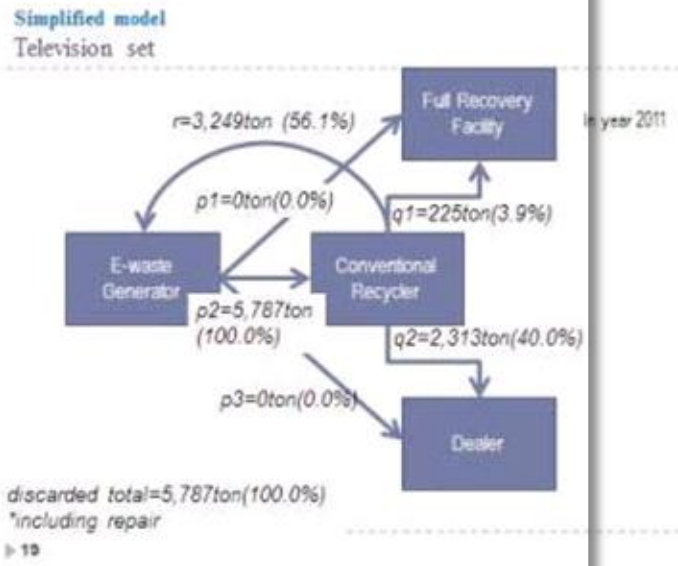
- Governmental organizations(State Gov, Council, etc)
- Local home electric appliance shops
- Local mobile phone shops
- Local hypermarkets
- Local full recovery facilities
- E-products manufactures
- Local NGOs

CONCEPT FROM THE PILOT PROJECT SYSTEM



Current situation

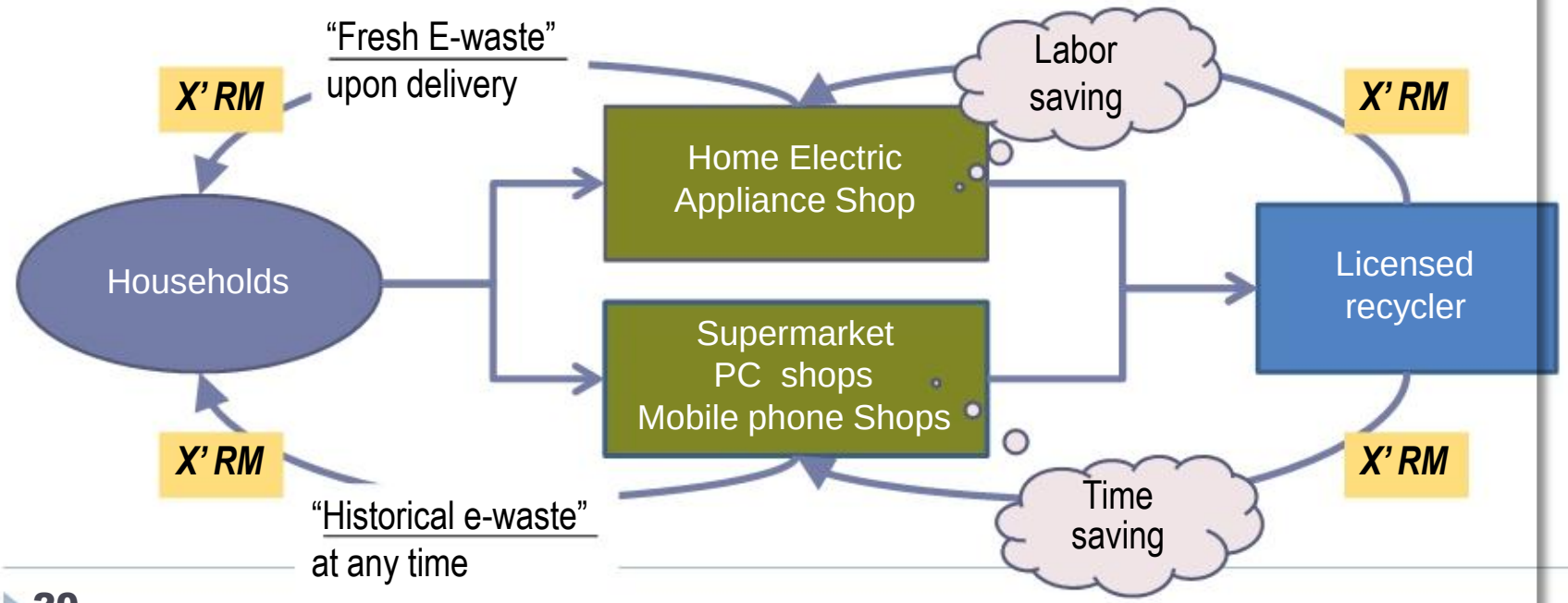
- E-waste stream
  - Tradable as economic goods
  - High repair rate
  - Major stream falling to scrap dealers through backyard conventional recyclers



- Existence of appropriate recycling facilities
  - Licensed recyclers which know how to handle e-wastes
- Agenda setting
  - Shift of e-waste stream from the conventional route to licensed recyclers

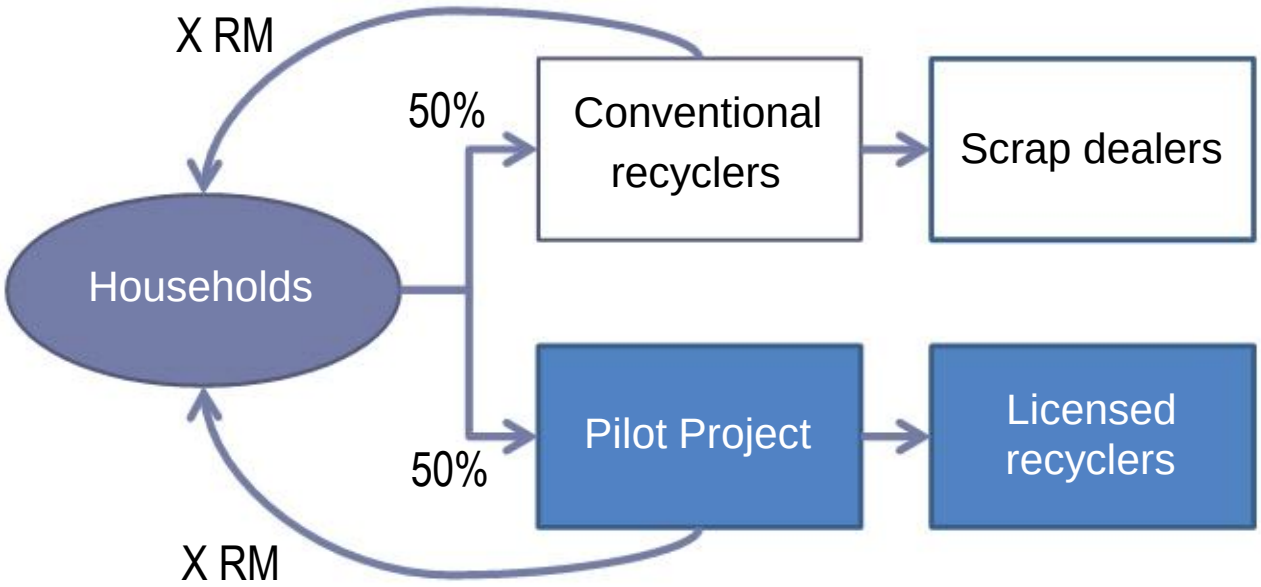
Who are the appropriate collectors?

- Criteria
  - Who can collect e-waste the most efficiently?
- Possible e-waste collectors
  - Supermarkets
  - E-product shops
    - Home electric appliance shop, Computer shop, Mobile phone shop

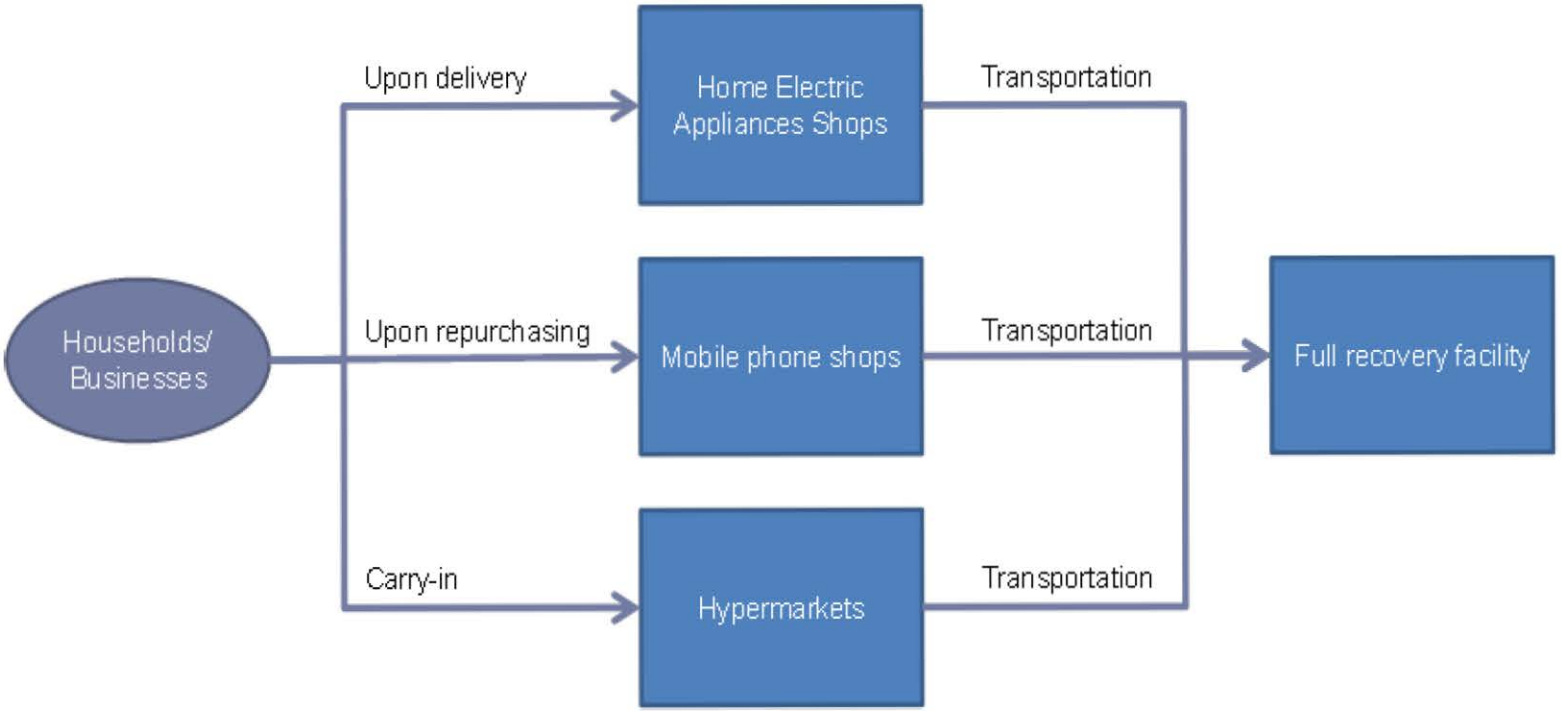


How to shift

- Assumption
  - Major signal determining people's behavior is the price of e-waste.
- Hypothesis
  - Cooperation rate will be 50%, if people are given the same price of X RM for their e-waste.



MATERIAL FLOW IN THE PILOT PROJECT



MONEY FLOW IN THE PILOT PROJECT

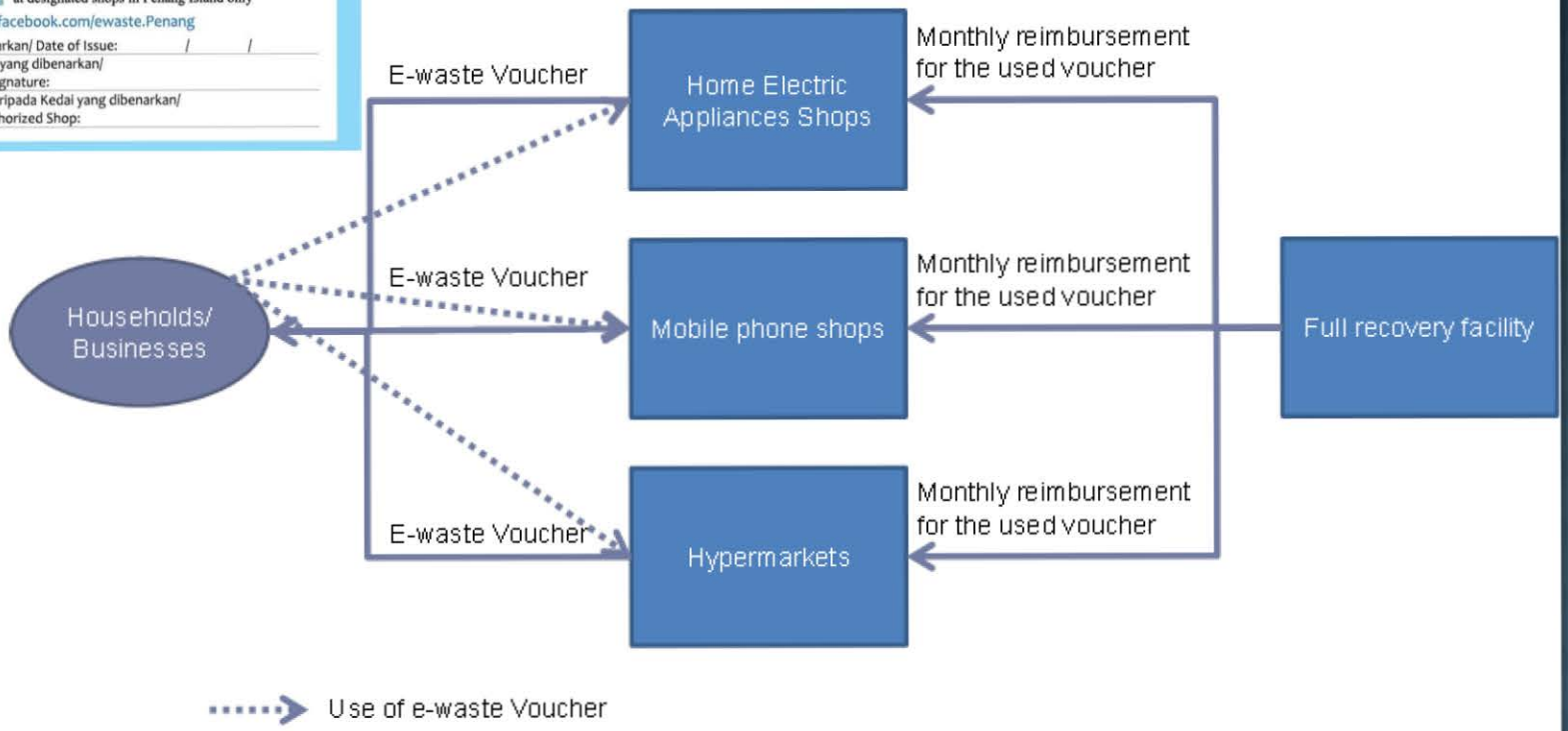

FRONT

E-waste Alam Alliance-Penang

Baucar E-waste/ E10000000000
E-waste Common Voucher
RM10
di kedai-kedai terpilih di bahagian Pulau sahaja
at designated shops in Penang Island only

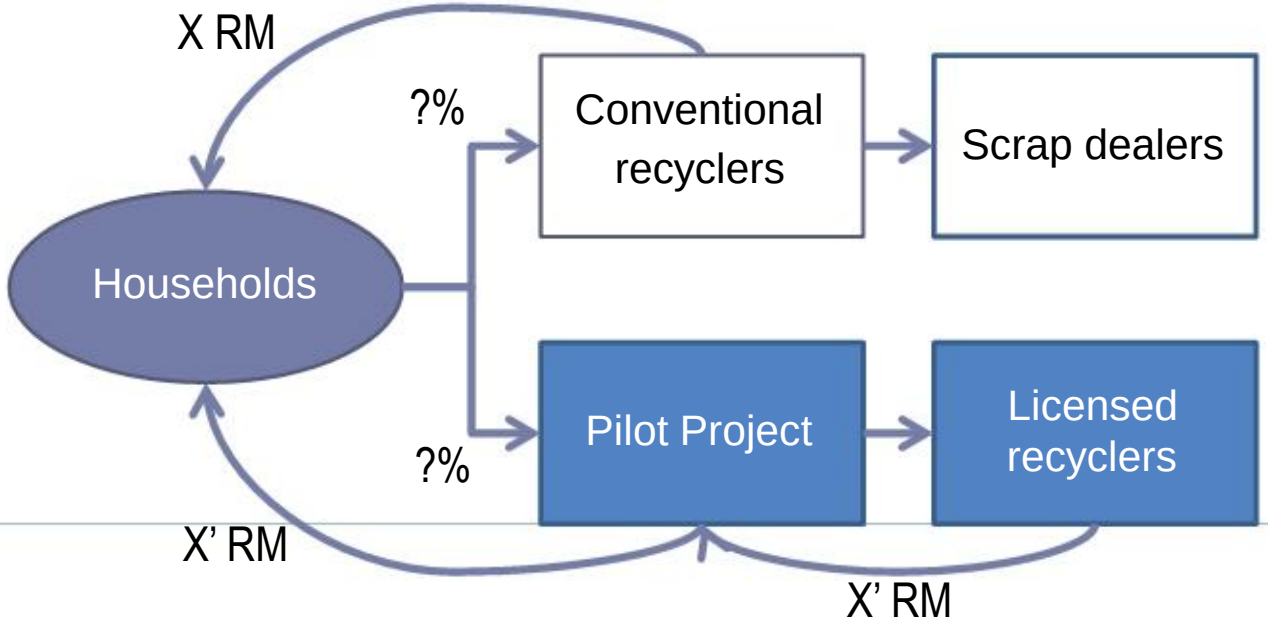
http://www.facebook.com/ewaste.Penang

Tarikh Dikeluarkan/ Date of Issue: / /
Tandatangan yang dibenarkan/
Authorized Signature:
Cop Rasmi daripada Kedai yang dibenarkan/
Stamp of Authorized Shop:



Where does X RM come from?

- Constraints
  - The Project cannot provide any monetary input from outside for ensuring the financial sustainability.
- Temporary realistic solution
  - The buying price of X' RM by the licensed recyclers can be given to the discarders.
  - But X' RM ≠ X RM



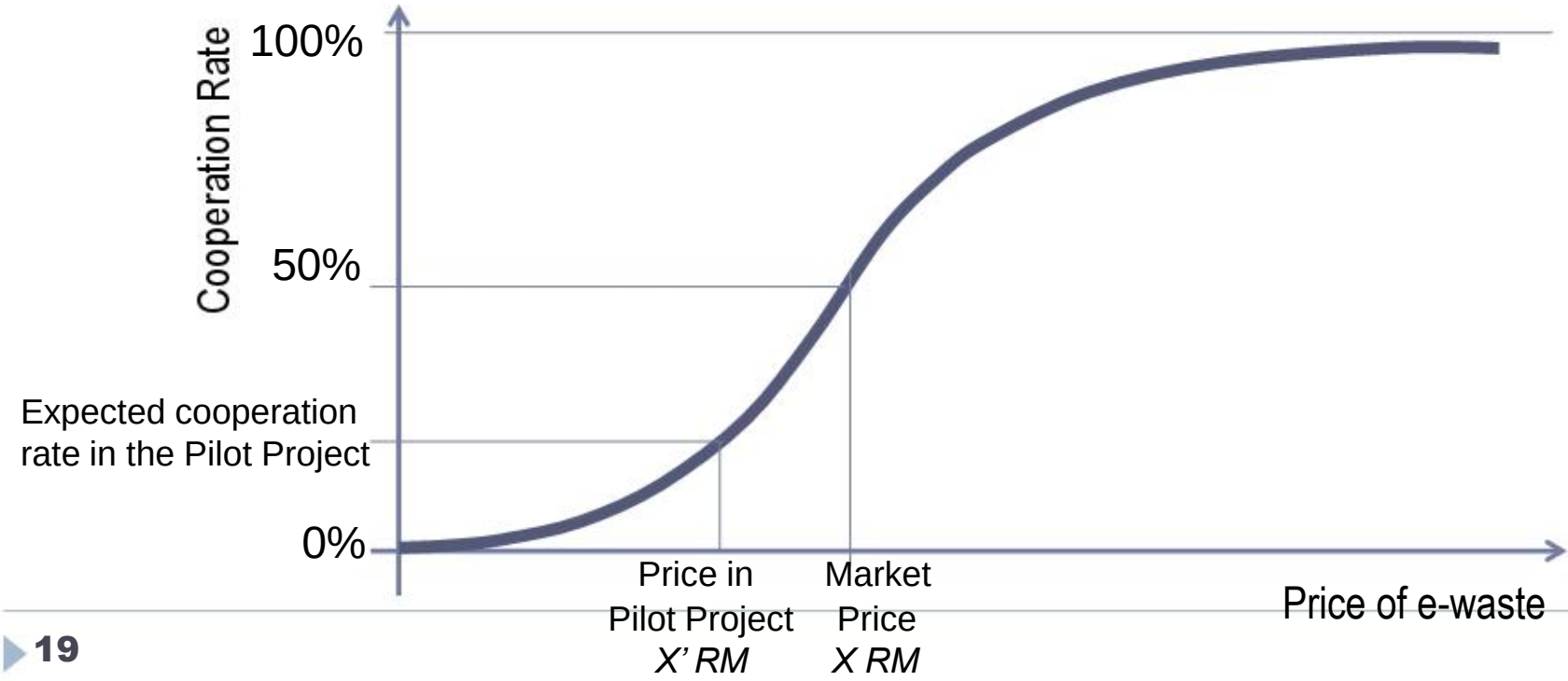
Is X' RM competitive?

E-waste	Price of Voucher	Market Price*
Television set (CRT Type)	RM12/Unit	RM6/Unit
Television set (non-CRT Type)	RM15/Unit	RM6/Unit
Refrigerator	RM10/Unit	RM18/Unit
Washing machine	RM10/Unit	RM13/Unit
Air-conditioner (Full set)	RM20/Unit	RM68/Unit
Personal computer (Desktop)	RM5/Unit	RM17/Unit
Personal computer (Notebook)	RM5/Unit	RM17/Unit
Printer	RM1/Unit	RM2/Unit
Mobile phone	RM4/Unit	No recycling channel for historical phones
DVD player, VCD player and etc.	RM2/Unit	ND
Others (Battery charger, Mobile phone battery, mouse, keyboard, etc.)	RM0/Unit	ND

*) Based on the benchmark study on the market prices by MPPP

Is the cooperation rate zero when X' RM<X RM?

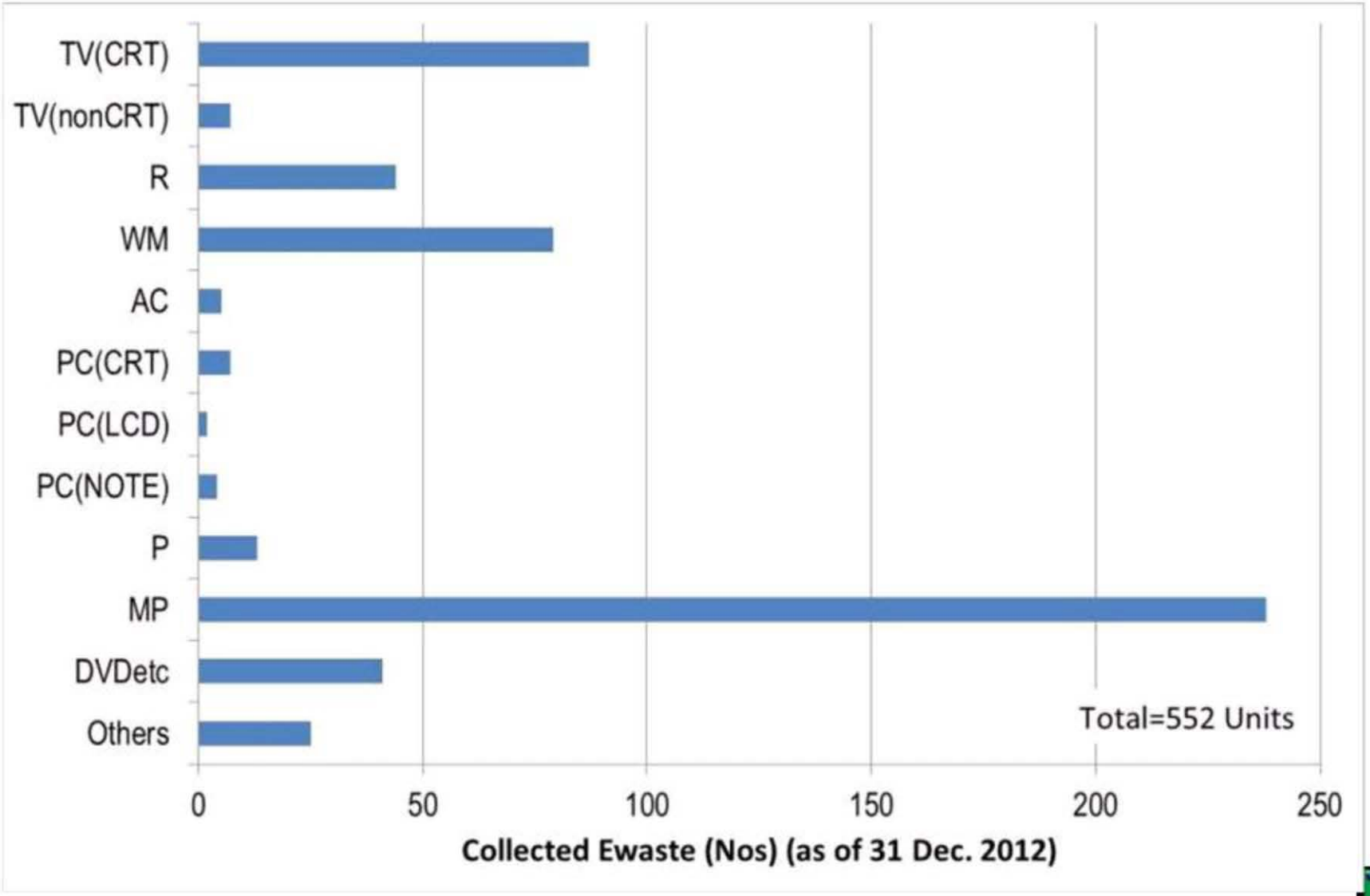
- Assumption
  - People's WTP (willingness to be paid) is different.
- Requirement to the Pilot Project
  - The WTP distribution curve can be drawn by the data obtained in the Pilot Project.



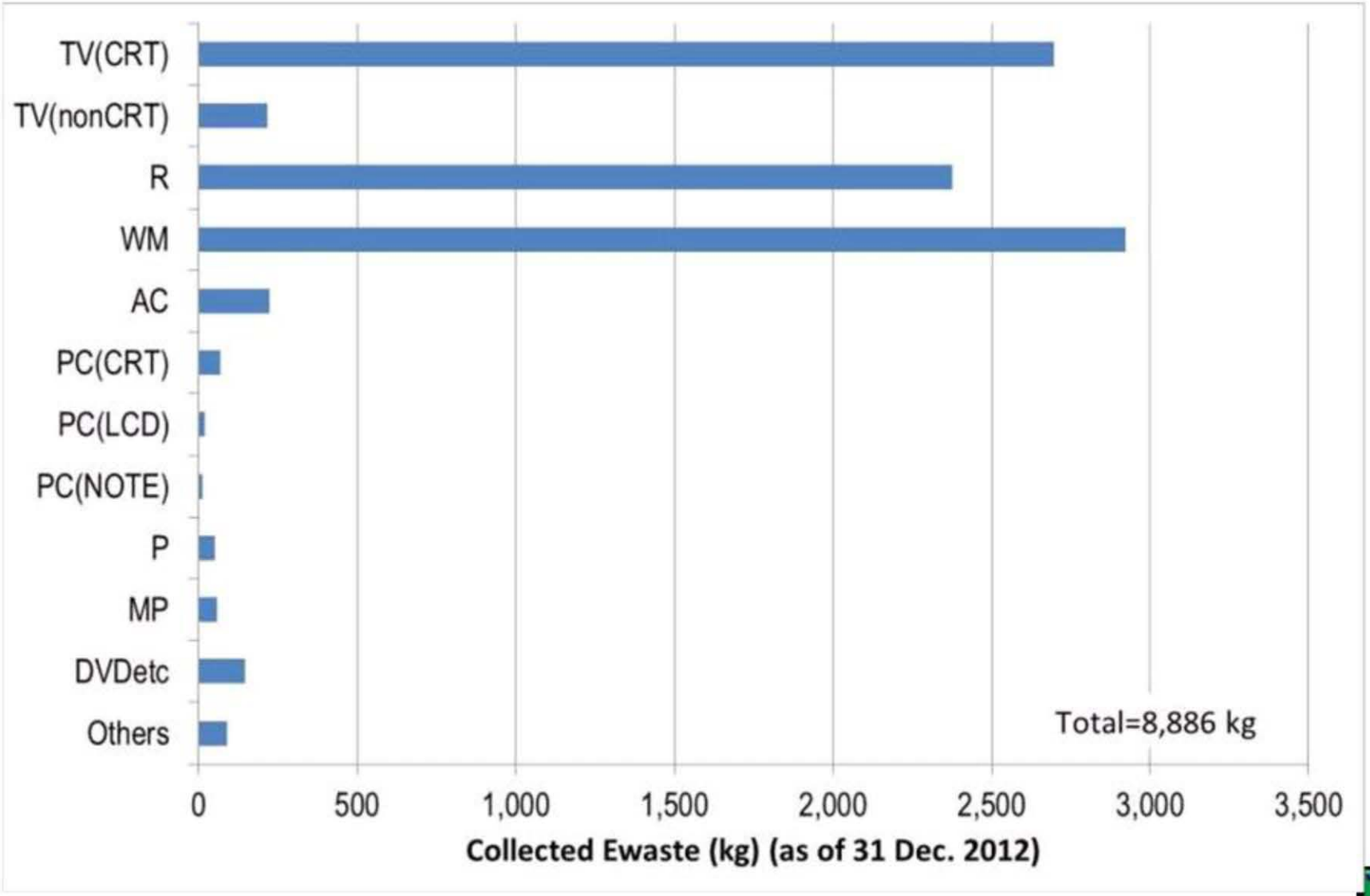
Collected E-wastes

Transportation

Amount of collected e-waste (NOS) (June 2 - Dec. 31, 2012)



Amount of collected e-waste (kg) (June 2 - Dec. 31, 2012)



Lessons from the Pilot Project

- Achievement of the Pilot Project
  - The e-waste collection system could collect e-wastes very efficiently.
  - A model for estimating expected cooperation rates were developed.
  - The system can be used nationwide.
- Issues found
  - Narrow storage spaces in the shops
    - Frequent transportation service
  - Difficulty in paper works
    - Improvement of the paper works procedures
- Overall recommendations
- Succession of the Pilot Project
- More participation from retailers
- Data accumulation and update of WTP curves

Evaluation by types of e-wastes and recommendations

E-waste	Overall evaluation	Lessons	Recommendations
Television set	+	• Cooperation rate<50% under the higher voucher price than the market price	• Analysis by more data • Thorough explanation by the shops
Refrigerator and washing machine	++	• Collected by take back	• Thorough explanation by the shops
Air conditioner	-	• Very low cooperation rate	• Cooperation from installation companies • Higher voucher price
Personal computer and printer	-	• No collection in the computer shops	• Advertisement of the collection services • Higher voucher price
Mobile phone	+++	• Only historical mobile phones	• Advertisement of the collection service for more cooperation rates

TRANSFORMATIVE ENVIRONMENTAL ACTION

Develop capacity to manage recovery efforts in a sustainable manner.

Develop schemes on the collection and segregation of e-waste, including take-back schemes

Cooperation between private and public sectors will enable the Government policies to be greatly enhanced

Deliver important economic and social outcomes

THANK YOU

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