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Waste reduction

Internalizing externalities as a strategy for waste reduction

International Consultative Meeting on Expanding Waste Management Services in Developing Countries

Reka Soos - Green Partners
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Externalities

1. A positive or negative effect of an economic transaction that is not accounted for in the price of that transaction

2. Environmental impact is an externality of a product or a service if not accounted for in the price of that product or service

3. Waste is a negative environmental externality of a product or service

4. Proper waste management can be a positive externality for free riders or other stakeholders who benefit indirectly

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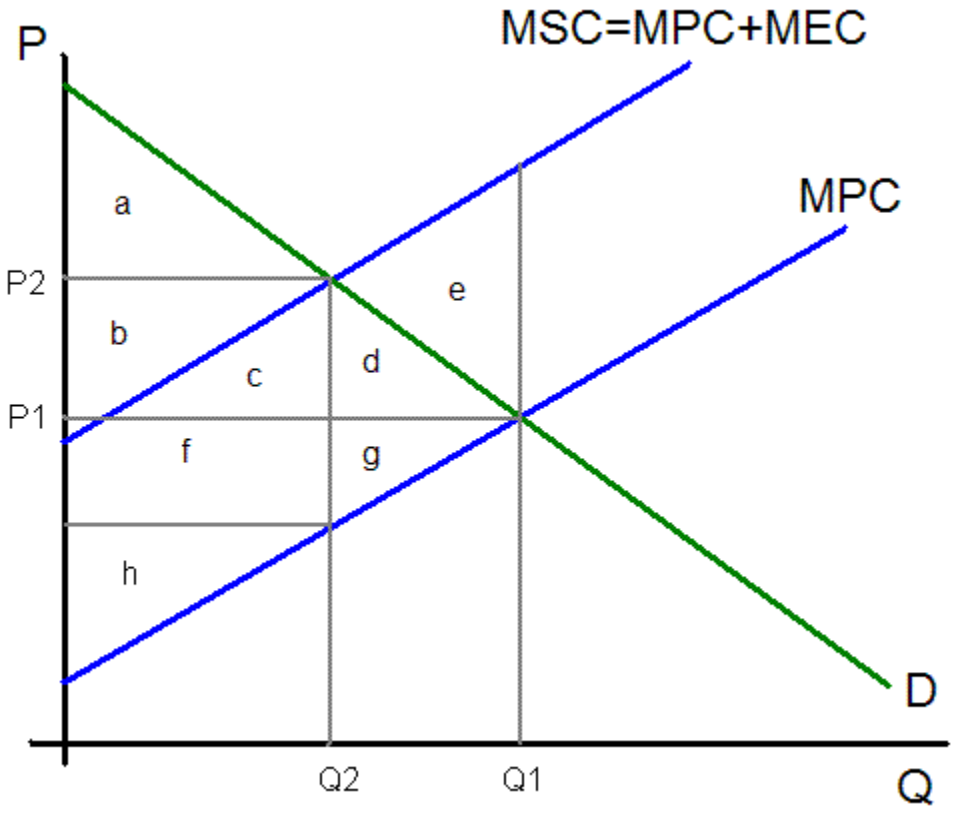
Internalizing Negative Externalities



MPC= marginal production cost

MEC = marginal environmental cost

MSC= Marginal social cost

D = demand

Introduce social justice, interfere with market

Internalizing externalities in waste management

Decoupling economic growth from growth of waste quantities

1. Polluter pays - User pays
2. Polluter pays - Extended Producer Responsibility (EPR)
3. Kyoto mechanisms (CDM, JI, trading) – internalizing climate change impact
4. Carbon credits for recycling – internalize cost of embedded carbon in product
5. Green reward for green action – believe in the carrot- Recycling bank

Performance based, operational financing

Data and information intensive

Economics of waste management

A public good

- Once its there, access is hard to control
- If not there, the public suffers health risks

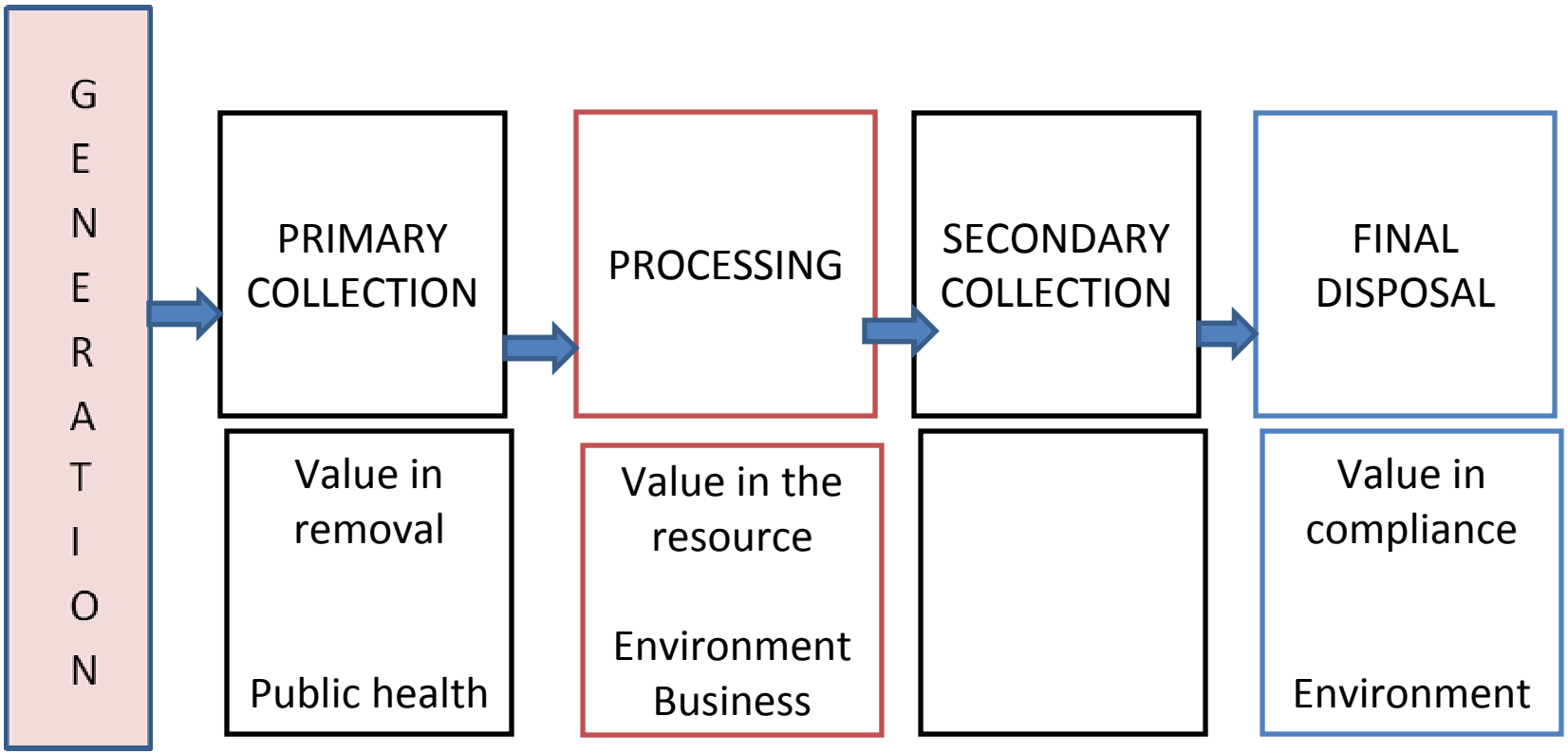
A business

- There is demand for waste management services
- There is demand for waste as a resource

A policy driven activity

- Legislation and compliance control for proper waste management
- Institutional responsibility in most of the cases

Cost recovery – how much internalizing?



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User Pays Framework in the Maldives

•Littering, ocean dumping, impact on coral reefs, open burning
•Very difficult logistics, no land, RWMF expensive

Who should pay – cost recovery

The project of the Ministry of Environment financed by IDA

Who should pay for waste management in the Maldives and why?

- Users - need, awareness, demand
- Producers - responsibility
- Tourism industry – indirect benefits
- Government – public health, environmental compliance

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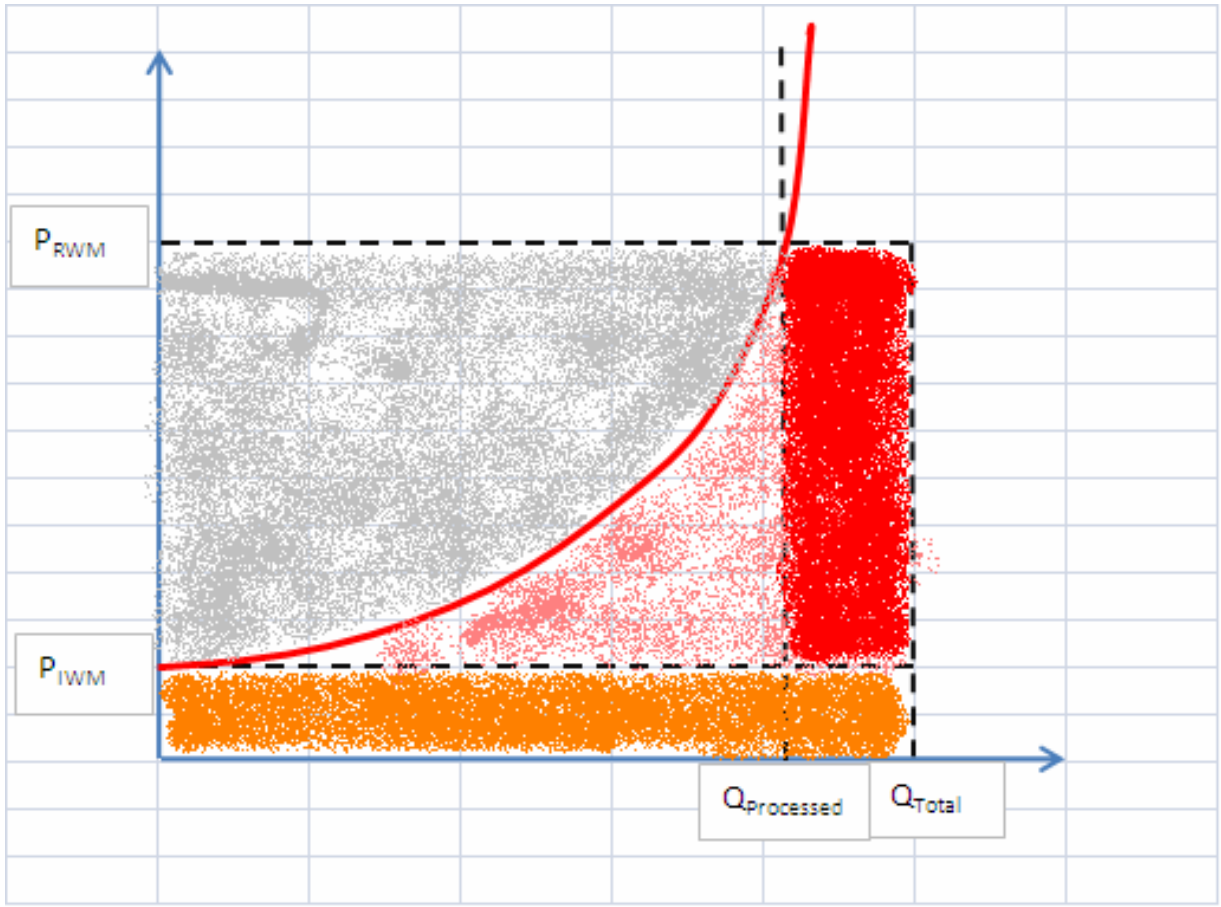
Who should pay – cost recovery




Who should pay – cost recovery

	100 kgs go on boat	80 kgs go on boat	60 kgs go on boat
Price of on island processing			
Price of the RWMF			

Model for Island based User Pay Framework



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7. **Example: Internalizing embedded carbon costs**

Internalizing embedded carbon impact

Now	GHG Protocols for inventory and trading emissions
Future	All products will have a carbon tag

Embedded carbon in virgin material based products is higher than in secondary material based products.

We need to measure and calculate before we can internalize.

LCA

benchmarking

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55 LCA studies reviewed

Dr Henrik Wenzel, Technical University of Denmark and Dr Julian Parfitt, Principal Analyst at WRAP and Keith James, Environmental Advisor at WRAP

material	t CO_2 eq/t	Global production in Gt/y	Total savings in CO_2 eq in Gt
Steel	1.5	1.3	2
Aluminum	10	0.03	0.3
Plastic	2	0.3	0.6
Paper	2	0.44	0.9

Total emissions from post consumer waste per year: 1.3 Gt CO_2 eq

less than 5% of total global emissions, chapter 10, UNFCCC 4th Assessment Report

World Bank proposes CDM methodology for recycling

- An attempt to count embedded carbon and internalize it and reap benefits
- Small Scale CDM methodology to yield a maximum 60,000 tons of carbon dioxide equivalent (tCO2e) per year per project
- Flexible reporting and monitoring but relatively high project development costs
- HDPE and LDPE products – focus only on these materials using LCA
- Focus on social projects, employing waste pickers for sorting
- Informal recycling involves 1-2% of the urban population of the developing countries
- Approval of methodology is expected in mid 2010

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Thank you for your time.

Reka Soos
UNFCCC CDM and JI Accreditation expert
Director at Green Partners

Reka.soos@greenpartners.ro
Mobile: +40 740 554 430

Green Partners Ltd.
Cluj-Napoca 400294
Fântânele 18, România
Tel./Fax: +40 264 589 291
reka.soos@greenpartners.ro