Accelerating Investments for Plastic Circularity
Regional Capacity Building Workshop
26-27 June 2024, Four Points by Sheraton, Jakarta

Regulatory and Economic Instruments to Support Plastic Circularity

Asst.Prof.Dr. Panate Manomaivibool

Head of the CEWT Research Center, School of Science

Mae Fah Luang University

Email: mpanate@gmail.com

Theoretical Background

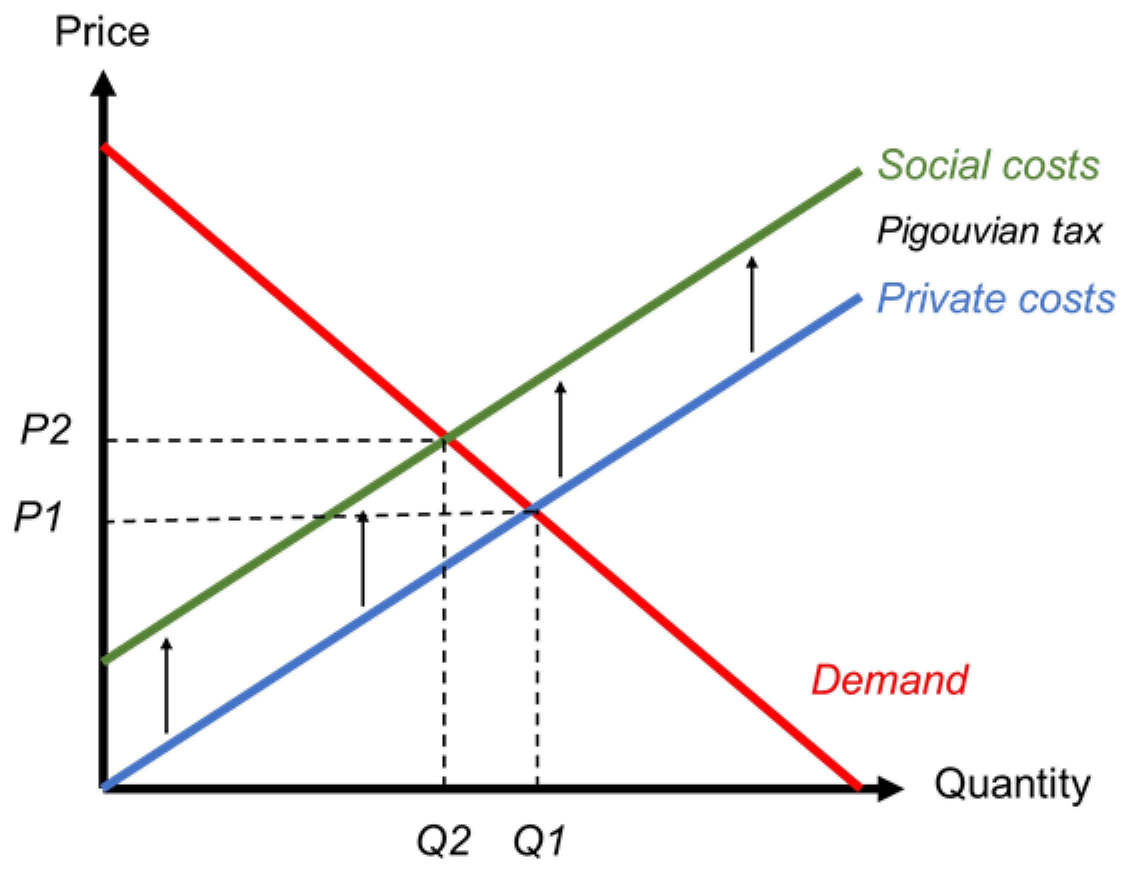
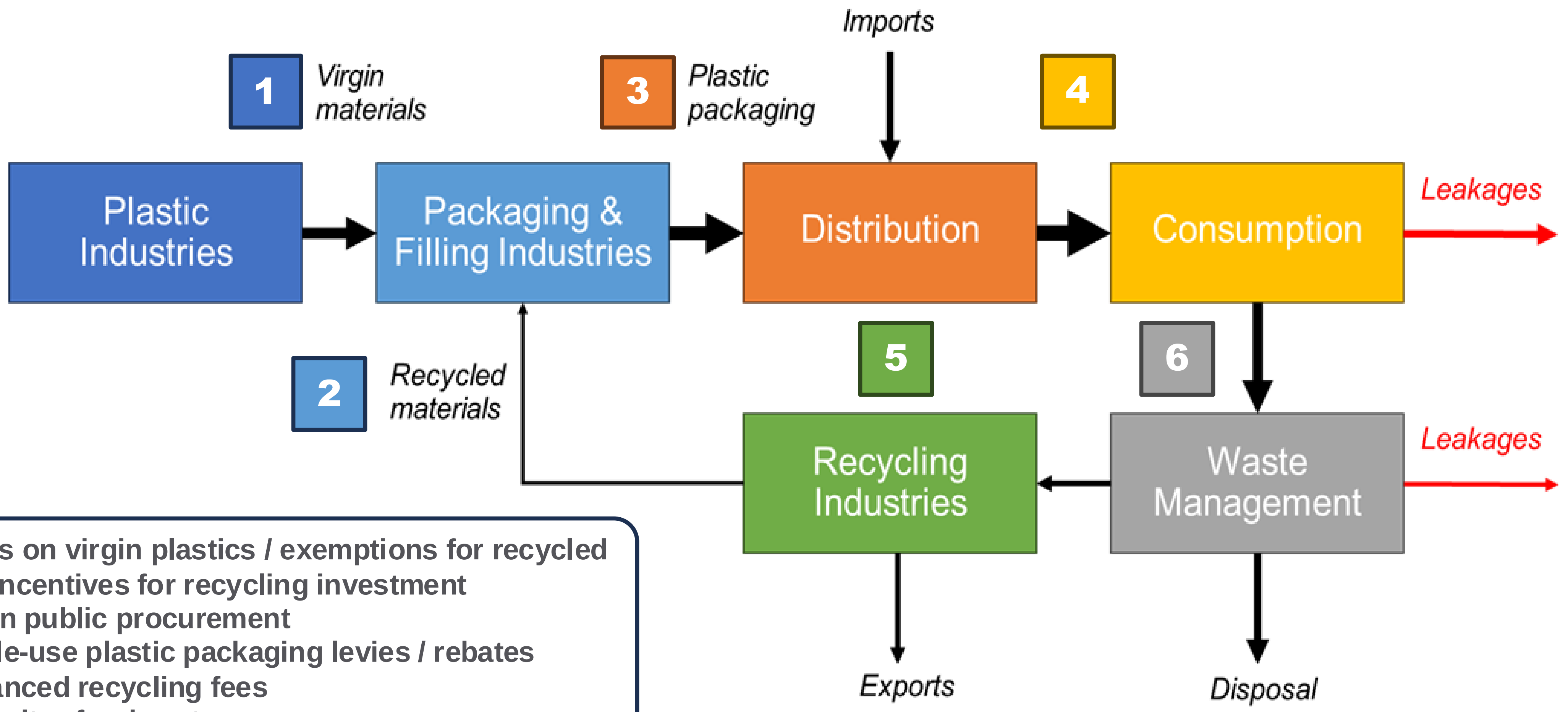


Figure: An effect of the Pigouvian tax on pollution

- Economic instruments provide market-based solutions to fix externalities.
- The cost internalisation is in line with the Polluter-Pays Principle (PPP).
- One advantage of economic instruments is that economic actors can make the decisions that reflect their different abatement costs.
- In addition, the revenues can be earmarked for clean-up efforts.

Points of Interventions



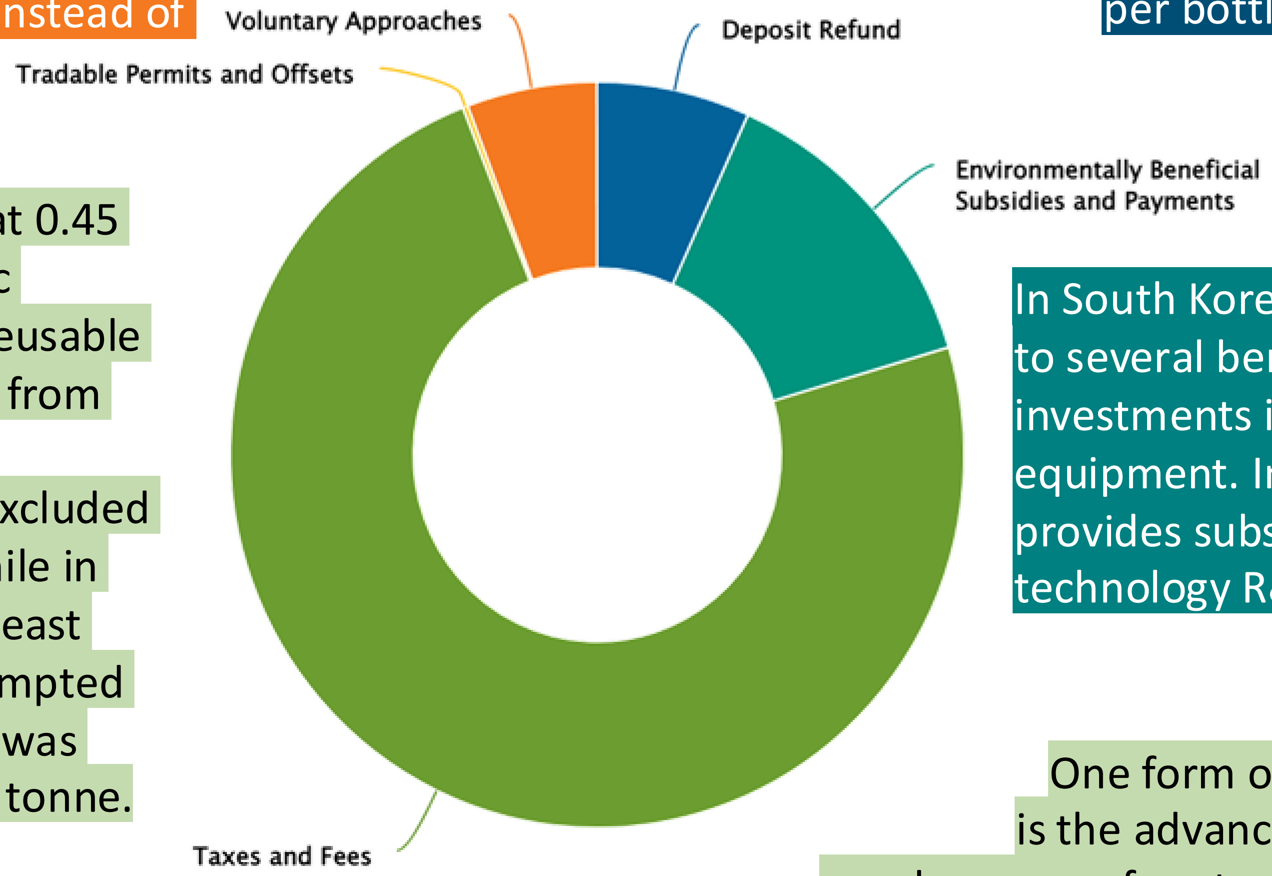
1. **Taxes on virgin plastics / exemptions for recycled**
2. **Tax incentives for recycling investment**
3. **Green public procurement**
4. **Single-use plastic packaging levies / rebates**
5. **Advanced recycling fees**
6. **Deposit-refund system**

Source: TA-6669 REG: Promoting Action on Plastic Pollution from Source to Sea in Asia and the Pacific Prioritizing and Implementing Actions to Reduce Marine Plastic Pollution (Subproject 2)

The Landscape of Economic Instruments in Solid Waste and Circular Economy Domains

In Spain, under GPP public institutes installed water fountains instead of buying bottled water

In Taiwan, consumers receive a refund of NT$2.00 per bottle upon returning PET bottles to designated collection sites.



In Italy, the tax rate is set at 0.45 Euro per kg of virgin plastic content in the products. Reusable products, plastic materials from recycling processes, and compostable plastics are excluded from taxable products. While in the UK, Packaging with at least 30% recycled plastic is exempted from paying the tax which was initially set at 200 GBP per tonne.

In South Korea, recycling plants are entitled to several benefits and get tax credit for investments in environmental facilities and equipment. In addition, the government provides subsidies for environmental technology R&D.

One form of financial responsibility in EPR is the advanced recycling fees (ARFs) where producers pay fees to a PRO or a governmental fund.

In Japan, a mandatory charge between 3 and 5 yen has been levied on single-use plastic bags since 2020.

Source: OCED (2023), Policy Instruments for the Environment Database

Reverse Vending Machine (RVM)

- The Deposit Refund System (DRS) for plastic packaging is a system designed to incentivize consumers to avoid creating negative impacts on nature and the environment.
- When customers purchase goods with such packaging, they are required to make a deposit, which will be refunded upon returning the packaging to the store.
- The store will then return the deposit to the customer in the form of coupons, redeemable for purchases at various stores or for paying for public services.
- Reverse vending machines (RVM) are deployed in many countries to implement DRS for bottles and cans.

<< Pic: Return and Earn in Australia by orangutanfoundation.org.au

Scope & Cost of Interventions

Aspects	Tax on Virgin	Benefits for Investment	GPP	SUP Levy	ARF (EPR Fee)	DRS
	Material Production		Distribution		Collection & Recycling	
Scope	All	All	Some	Some	All	Some
Size (USD/kg)	0.2-0.5	%	%	2.5-4	0.05-1	2.5-5
Effects on final consumers	Price Increase	Negligible	Availability	Price Increase	Price Increase	Refund
Jurisdiction in Thailand	Dept of Industrial Works (DIW)	Board of Investment (BOI)	Comptroller General's Dept	Pollution Control Dept (PCD)	Pollution Control Dept (PCD)	Pollution Control Dept (PCD)

Source: TA-6669 REG: Promoting Action on Plastic Pollution from Source to Sea in Asia and the Pacific Prioritizing and Implementing Actions to Reduce Marine Plastic Pollution (Subproject 2)

Considerations for Policy Adoption

Adapted from Hinrichs-Krapels and Grant (2016) and Hartnett (2023)

- Effectiveness:

  Do the economic instrument lead to intended outputs, outcomes and impacts?

- Efficiency:

  Are the costs involved justified, given the changes and effects achieved?

- Equity:

  Is the economic instrument reaching certain beneficiaries or addressing specific needs?

- Enforcement:

  Are the resources required in the implementation within the capacity of the authorities?

CEWT
CIRCULAR ECONOMY FOR WASTE-FREE THAILAND

Your Partners for Circular Economy

กรมอนามัย
DEPARTMENT OF HEALTH

กรมควบคุมมลพิษ
POLLUTION CONTROL DEPARTMENT

กรมโรงงานอุตสาหกรรม
DEPARTMENT OF INDUSTRIAL WORKS

DASTA

SWAT
Solid Waste Management Association (Thailand)

TIPMSE

PSU

JGSEE

GIC

PPSI
PUBLIC POLICY STUDIES INSTITUTE FOUNDATION
มูลนิธิสถาบันศึกษานโยบายสาธารณะ

GEBC
Feng Chia University, TAIWAN

National Institute for Environmental Studies,Japan

iiiee

Coca-Cola
FOUNDATION THAILAND
มูลนิธิโคคา-โคล่า ประเทศไทย

3R FOUNDATION

GEPP

moreloop

TRASH HERO THAILAND

SINGHA PARK
CHIANGRAI

UN environment

ADB

giz

switchasia
Funded by the European Union

ERIA

WWF
ประเทศไทย

Metabolic

Pirika