



# Auditing Plastic

Baseline knowledge for better management  
in municipalities





This Plastic Disclosure Project Training is part of the SEA circular project.

SEA circular is an initiative of UN Environment Programme and the Coordinating Body on the Seas of East Asia (COBSEA) to inspire market-based solutions and encourage enabling policies to prevent marine plastic pollution.

The programme is supported by the Government of Sweden. SEA circular works with nine countries in South-East Asia – Cambodia, China, Indonesia, Republic of Korea, Malaysia, the Philippines, Singapore Thailand and Viet Nam.





# Sea Circular – UN Environment, MESTECC and the PDP

- Managing the **Plastic Value Chain**
- Similar to **carbon** and **water** reporting, the **PDP** encourages businesses and public institutions to measure and manage their plastic use, waste generation and material recovery
- **10 Early Adopter** companies and **two municipalities** will be part of the initial PDP program





## Who We Are.....

- Hong Kong & California
- Two Clinton Global Initiative Projects
- United Nations Environment Program (UNEP)
- World Bank's Global Partnership for Oceans
- Plasticity Forum
- UC Berkeley, Wharton School, Johns Hopkins (SAIS)



# Why the PDP

- Background - challenge and **complexities** of plastic pollution
- What is the Plastic Disclosure Project (PDP)
- How can it help bring about **solutions**?
- What is the current landscape, and what are the **opportunities** for the PDP and Malaysia?
- Summary of our Plastic Commitments Report (funded by UNEP), and how this can complement the PDP and goals of companies and institutions within the country





# Context Behind the Challenge

- Up to **8m tons** of plastic waste is estimated to flow into the ocean every year from our waterways
- **Less than 15%** of all plastic is recycled globally
- **40 percent** of plastic produced is packaging, used just once, and then discarded.



ONE OF THE MOST COMPLICATED ISSUES OF OUR TIME,  
WITH OVER 40,000 TYPES .....







**IS THIS THE NEW NORM?**

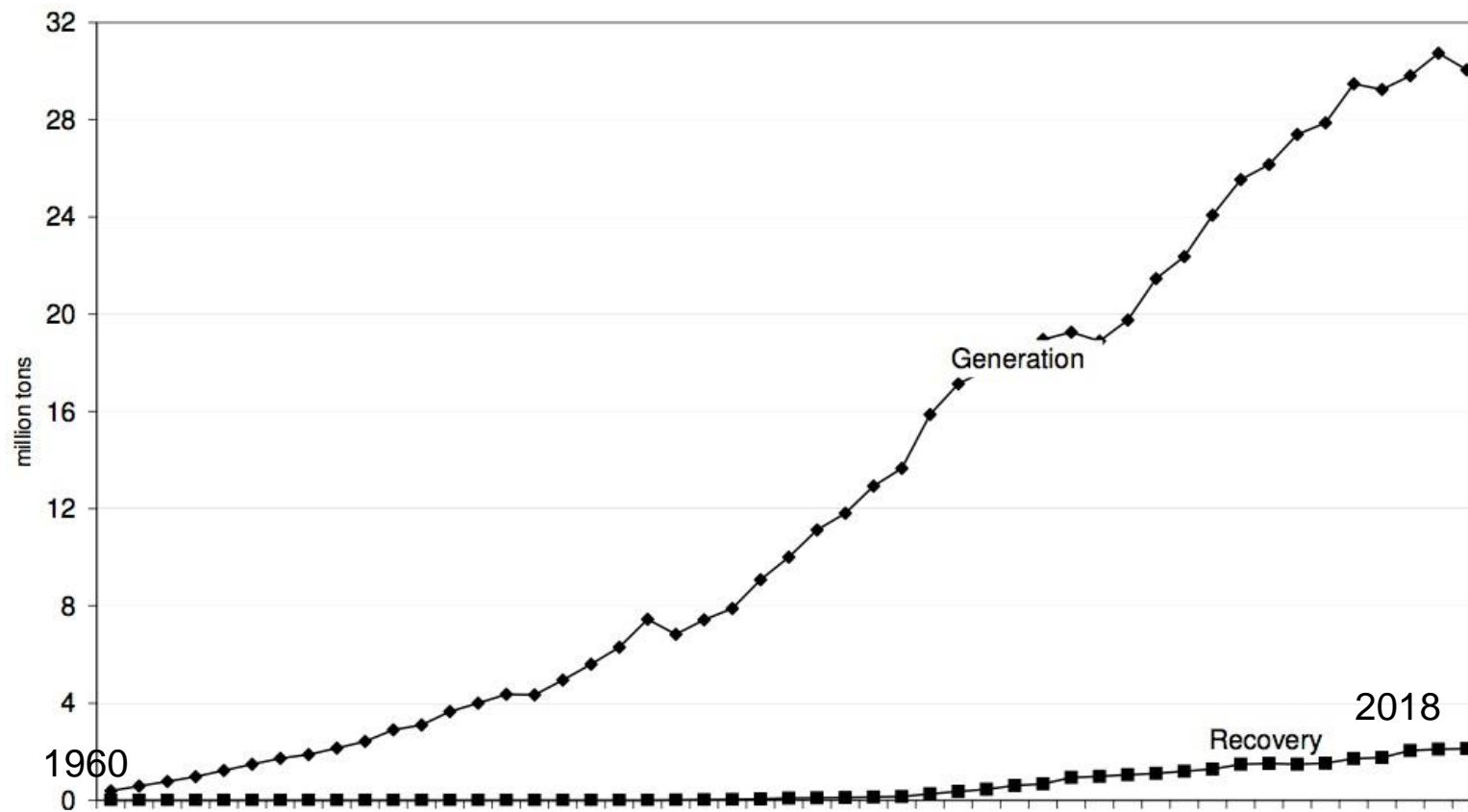






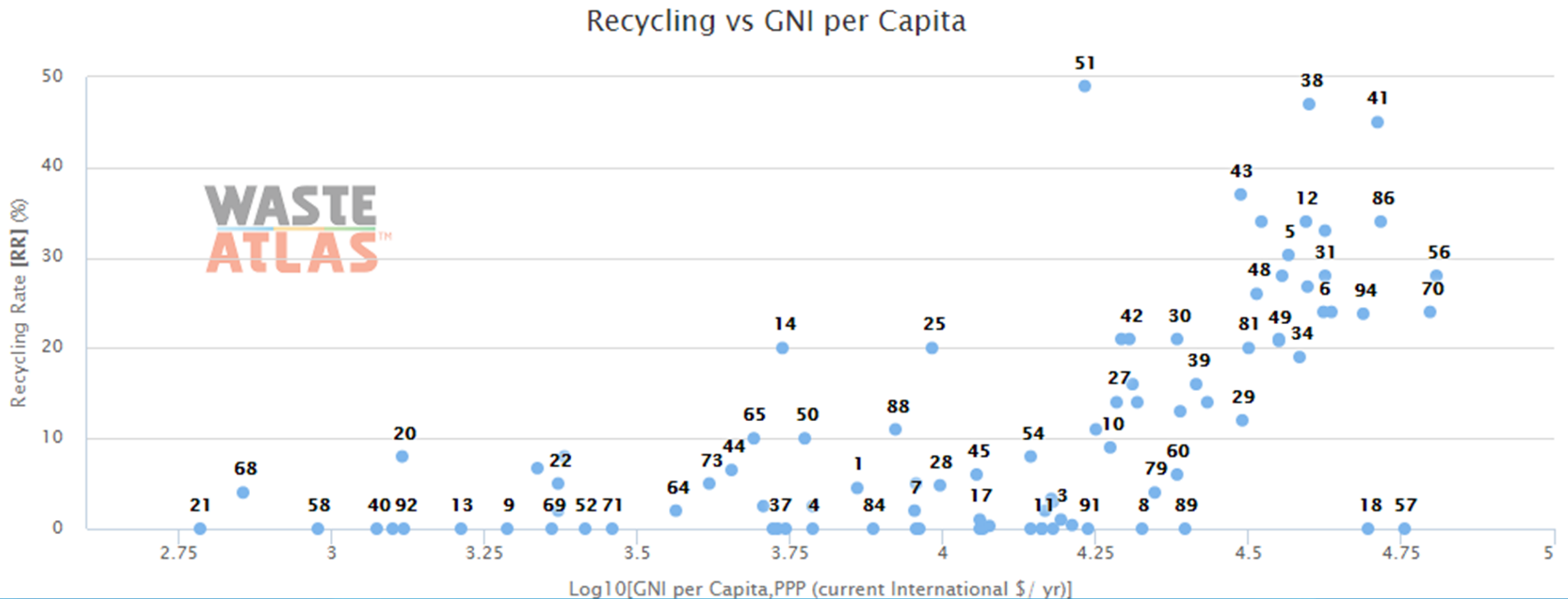
# LARGE GAP BETWEEN GLOBAL CONSUMPTION AND RECYCLING AND WASTE INFRASTRUCTURE

## PLASTICS GENERATION AND RECOVERY



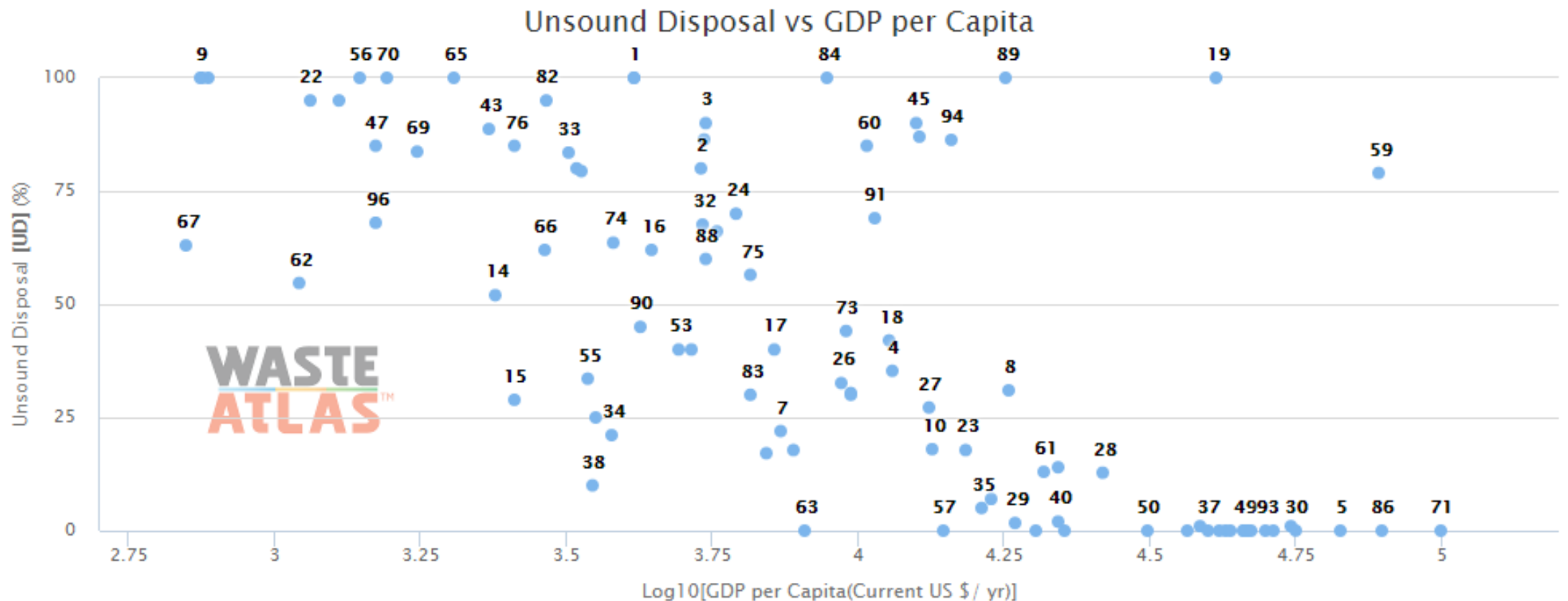


# RECYCLING VS GNI PER CAPITA





# UN SOUND DISPOSAL PER CAPITA





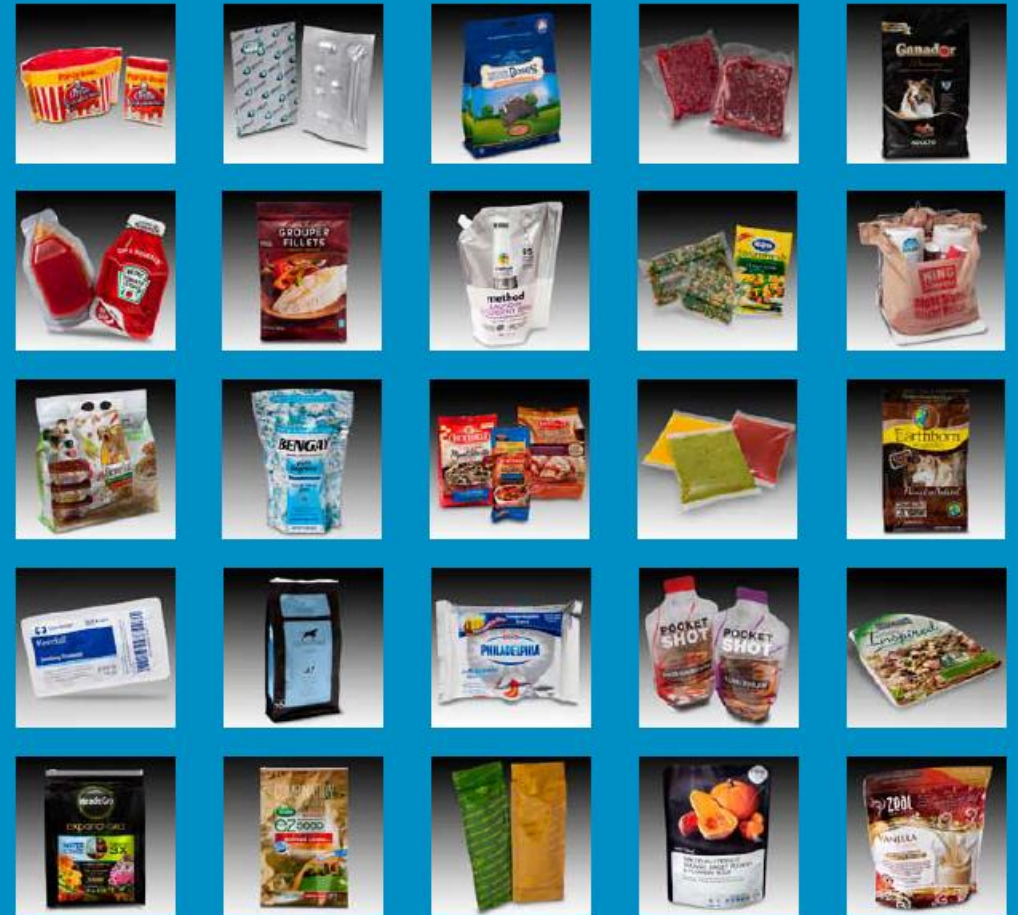
# Lack of Rules or Incentives = Excess Waste





None of these are  
recyclable in today's  
Material Recovery  
Facilities (MRFs)

*Flexible Packaging Achievement Awards  
and Innovation Showcase  
2012*





# What is the PDP?

PLASTIC  
DISCLOSURE  
PROJECT

PDP asks the business world to treat plastic as seriously as it does other valuable resources...



...to create a world in which plastic use adds value without negatively impacting the environment.



# PDP Overview – Key Facts and Metrics

## PDP Objectives

- Reduce plastic waste in the environment
- Encourage sustainable business practices vis-a-vis plastic
- Inspire improved design & innovative solutions



## PDP Engagement

- Facilitate **baseline metrics** of plastic footprints, thus improving management strategies
- Encourage efficiencies in **plastic use**, reuse, & **material recovery**
- Broaden awareness of opportunities for **2<sup>nd</sup>-life plastic**



## Key Metrics

- **Volume of plastics managed**, recycled, and prevented from entering the environment
- \$ amount of operational savings, increased sales, PR, **consumer engagement**, environmental impact





# Power of the PDP for Municipalities

Municipalities and governments can make **well informed decisions** based on data in order to allocate resources to create **long-term benefits** over short-term gains.

Helps to create a **value proposition** for a greater proportion of the waste stream.

- **Focus on plastic – (difficult for the waste stream)**
- **Increased knowledge and focus on the stakeholders involved with material recovery**
- **Potential for significantly reduced waste-to-landfills**
- **Community engagement and job creation**



# What is unique about PDP?



- Launched at Clinton Global Initiative
- Interest from ESG partners – SIRIS, RIRA, ASrIA and others
- Solving plastic problem at the source
- No legislation, bans or taxes
- Original reporting initiative solely focused on plastic
- Green Financing opportunities and tax incentives
- Standardized methodology





## Current Plastic Commitments

## Opportunities for Improvements: New Voluntary Commitments 2.0

Primarily build and expand awareness	Drives actions: replicate and scale what is working
Use scientific investigation to prove the problem, and to quantify its severity in order to spur action	Secures funding for completing both large and small data-driven commitments with results-sharing
Promote policy considerations	Works closely with local governments to link policies with local needs
Create one-off voluntary commitments	Acts to accelerate and magnify commitments by engaging multiple partners
Allows stakeholders to act as if “Business as Usual” and continue to do the same types of “low score” interventions	Prioritizes reductions in plastic pollution through relevant prevention interventions that work



# V2.0 Commitment Scoring Criteria

FACTS				VELOCITY				MAGNITUDE		
Definition: These criteria define and describe the commitment.				Definition: These criteria are directly controlled by the stakeholder and provide “acceleration/momentum” for the desired impact/actions to happen.				Definition: These criteria provide a relative degree of scaled (low to high) impact that is factored into the creation of a commitment itself.		
PRIMARY STAKEHOLDER	INTERVENTION FOCUS	TYPE OF ACTIVITY	LOCATION	TIMELINE TO COMPLETION	\$\$\$ COMMITTED	FUNDING/ STATUS	DATA CAPTURE	SCALABILITY	OUTCOME/ EFFORT&TIME	INTENT
Multi-National Governments	Waste Management & Product Design Improvements	Action Plan	Land-Based	Completed	\$10M+	Completed	Shared	Multi-Actor, Replicable	High Outcome /Low Effort & Time	Sustainable, Long-Term Program
National Government		Commercialize	All	Continuous	\$1M-\$10M	Funded Work Being Done	Measured & In-place	One-Actor, Replicable	High Outcome /High Effort & Time	Policies/Regs To Spur Change
Plastic/Waste Industries		Donor Funding/ Investment	Near River or Coastal Area	By 2019	Under \$1M]	Policy/Regs Being Enforced	Not Disclosed	Pilot	Low Outcome /Low Effort & Time	Specific Project or Action
Regional/ Local Gov'ts	Integrates Two Interventions	Waste Management	Ocean Only	By 2020	No Money Required	Capital Secured		Unique/ One-Off	Low Outcome /High Effort & Time	To Inform, Educate, Research
Business/ Industry	Includes One Intervention Only	Facilitation/ Coordination	Island Only	Policy/Regs Enforce	Not Provided/ Not Disclosed	Announced/ In Planning				
NGOs/PPPs/ Academics	Last Capture & Cleanups	Research & Monitoring	None	By 2023		Not Provided/ Not Disclosed				
Individuals/ People		Policy/ Regulations		By 2025						
		Education/ Awareness		By 2030						
		Emergency Response								



# Toolkit for New 2.0 Plastic Commitments

## COMMITMENT 2.0 TEMPLATE

Select an Initiative and Primary Intervention Focus you'd like to consider (after viewing PCC Codes)

1

Locate other similar and replicable Voluntary Commitments (programs/projects) in the world.

2

What are the specific targets/milestones to achieve and by what date?

5

What are the specific barriers to overcome? Do you need to change your target/milestone due to these barriers?

6

Describe at high level the Voluntary Commitment you would make. Describe the outcome you would hope to achieve.

3

List the stakeholders who would be potential collaboration partners for this commitment

4

Will you have high enough Velocity to pull this off – at the right Magnitude?

7

List all that needs to happen for this commitment to be successful and meet its timeline for completion?

8

Is the Outcome worth the Effort & Time?

9

How and who is collecting the data?

10

What is your Voluntary Commitment Score?

11



# Internal Departments and Expertise for Undertaking the PDP

## *Municipalities*





# Overview of PDP Questions Municipalities

- Population Served?
- Current Waste Management Options?
- Solid Waste Material Recovery Facilities (MRFs)?



a. MRF	8	67%
b. Recycling	6	50%
c. Landfill	4	33%
d. Incineration	4	33%
e. Gasification or Energy Recovery	4	33%
f. Other Resource Recovery	2	17%
g. Industrial Composting	1	8%
h. Not sure	2	17%
i. Other, please describe:	1	8%

# Ownership and Operation of MRFs

a. Municipal Trucks, Equipment & Facilities operated by Municipal Employees	7	58%
b. Contractor Trucks, Equip & Facilities operated by Contractor Employees	4	33%
c. Municipal Trucks, Equip and Facilities operated by Contractor Employees	0	0%
d. Other, please describe:	1	8%



# What Types of MRFs are Being Used?

a. Clean MRF: Accepts recyclable comingled materials that have already been separated at the source from municipal solid waste generated by either residential or commercial sources.	5	42%
b. Mixed-waste processing facility (MWPF): Accepts a mixed solid waste stream and then proceeds to separate out designated recyclable materials through a combination of manual and mechanical sorting	6	50%
c. Wet MRF: Combine a MWRF with water, which acts to densify, separate and clean the output streams. It also hydrocrushes and dissolves biodegradable organics in solution to make them suitable for anaerobic digestion.	1	8%
d. Other, please describe:	0	0%



## Solid waste in your municipality is collected by the following entities?

1. Municipal Trucks, Equipment, Municipal Employees?
2. Contractor Trucks, Equipment and Employees?
3. Self Delivery (commercial, industrial and public)?
4. Not Applicable (no public collection available)



## Collection of Recyclable Materials - Domestic and Commercial/Industrial

- Municipal Operations/Trucks/Employees?
- Contractors/Trucks/Employees?
- Self Delivery/Collection
- Not Applicable in our jurisdiction

## Total Municipal Waste Estimates

- Percentage of Plastic by weight?
- Percentage of Plastic by volume?



# Municipal Waste Estimates

- Households
- Offices (large companies)
- Offices (small companies)
- Schools
- Hotels
- Restaurants
- Light Industry -Large Companies
- Light Industry – Small Companies
- Factories
- Hospitals
- Others







# Informal Waste Sector

- Is there an informal recycling sector within your municipality?
- If “yes,” do they sell plastic to the municipalities?
- If “yes,” do they sell it to the private sector?
- What % of total plastic do you estimate they collect?
- Do they remove plastic from municipal systems before selling them to the private market?
- How many are there in this community?
- What types of plastic do they collect?



The background of the slide is a photograph of a large, messy pile of waste. It includes various types of plastic waste such as bottles, containers, and fragments, along with other debris like sticks and organic matter. The waste is piled up on what appears to be a rocky or uneven ground.

# Waste and Recycling Destinations

- Percentage of plastic recycled in your municipality?
- Percentage recycled externally?
- How much plastic (KG/%) is used for energy?
- How much is incinerated without energy capture?
- What percentage of plastic is sent to landfill (out of your total plastic recovered)?



# Governance

- Do you have a plastic waste strategy/objectives within your jurisdiction?
- Do you have waste reduction targets? Is plastic included in that if so?
- Is there a plan or legislation for reduction of single-use or short-life products?



# Examples:

“Lids For Good”  
Pacific Coffee HK

## Coffee Lid Bring-Back Program for Recycling









# Watsons Water – 100% Recycled Bottles

Saving **75 million** bottles/year







# Mixed Dirty Plastic





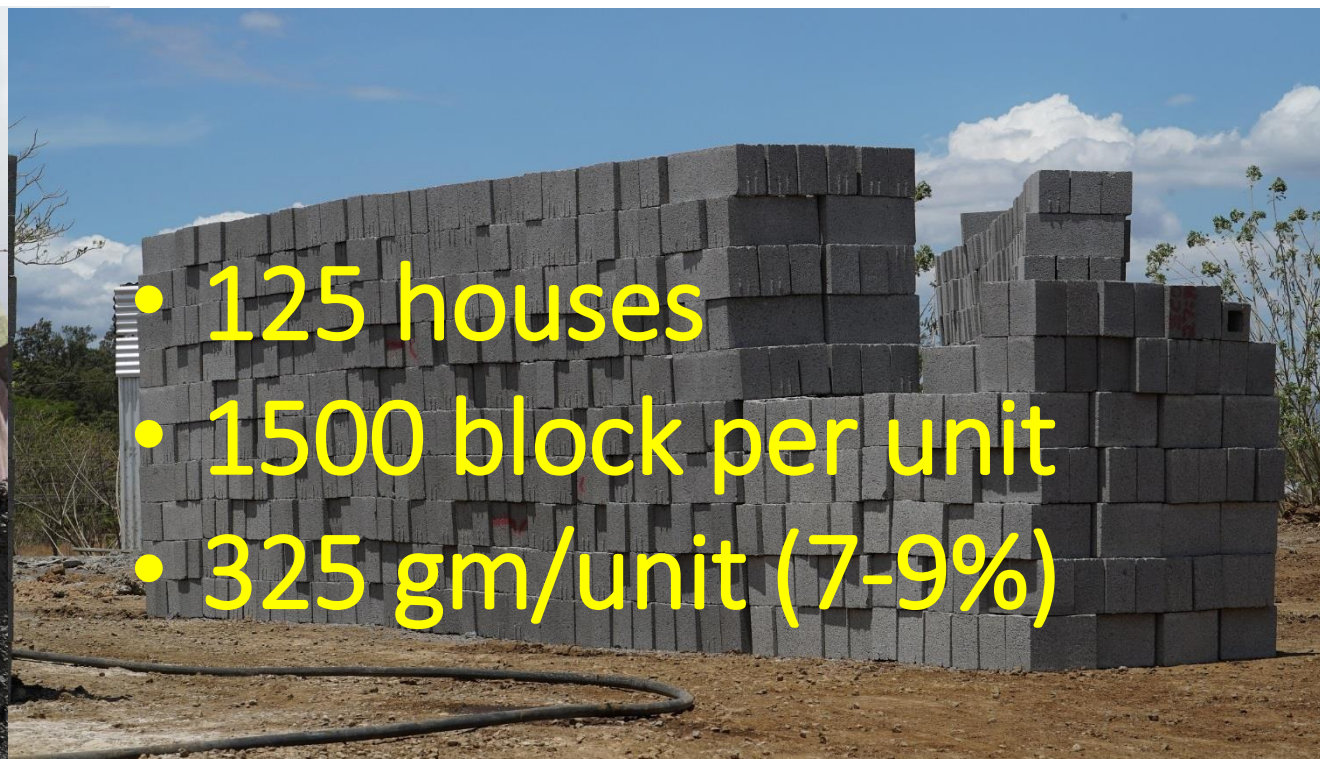
# Light Weight Cement Aggregate













- Over 200,000 blocks
- 68 tons of plastic captured/used







SEA  
circular  
solving plastic pollution at source



coordinated by



supported by



SDG targets



PDP Founder/Operator



Ocean  
Recovery Alliance



Local Supporters



CIRCULAR ECONOMY  
CLUB

Kuala Lumpur



CIRCULAR ECONOMY  
CLUB

Penang



CIRCULAR ECONOMY  
CLUB

Petaling Jaya