

# CHALLENGES, LESSONS LEARNED, AND BEST PRACTICES: A WAY FORWARD TO PREVENT, REDUCE AND CONTROL MARINE DEBRIS, PLASTICS AND MICRO-PLASTICS

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UNITED NATIONS INFORMAL CONSULTATIVE PROCESS ON OCEANS AND THE LAW OF THE SEA  
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## 30 YEARS: INTERNATIONAL COASTAL CLEANUP®



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**11.5 Million**  
volunteers



**220 Million**  
pounds of trash



**360,000**  
miles

**30**  
YEARS

**153**  
COUNTRIES

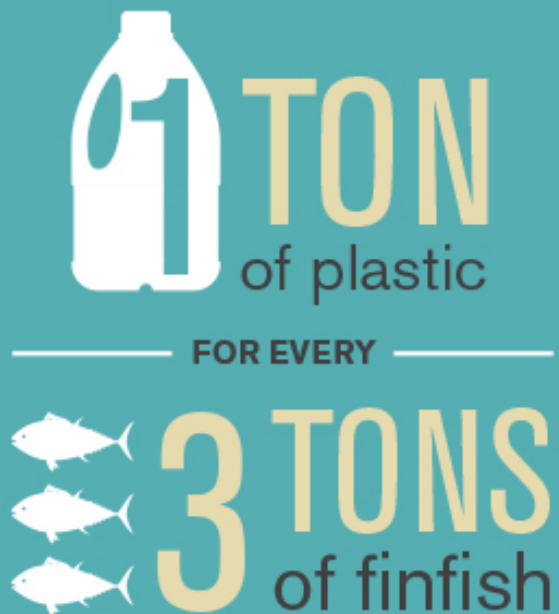
**215 Million**  
ITEMS COLLECTED



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## RISING CUMULATIVE EXPOSURE

Unless steps are taken to properly manage waste by 2025, the ocean could contain:



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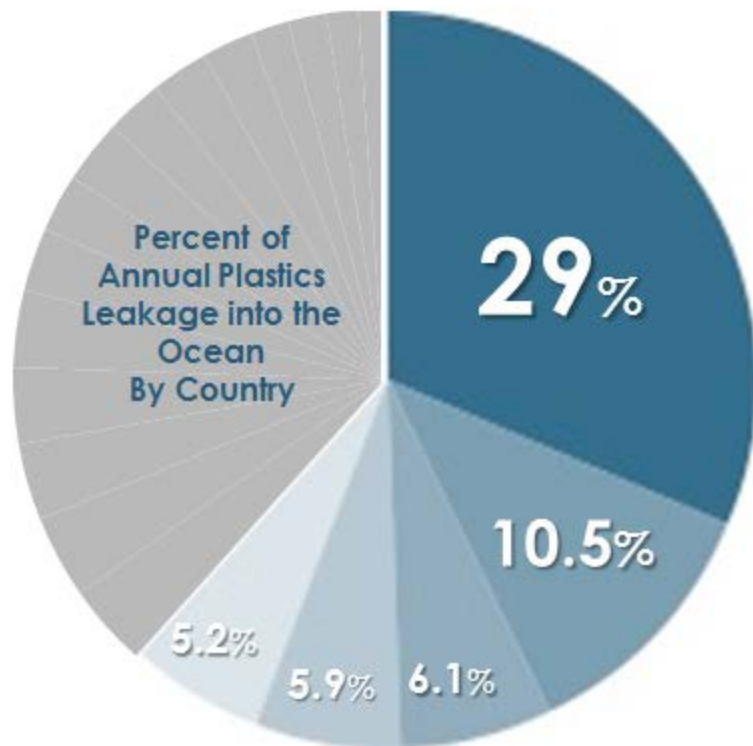
SOURCE: Jambeck et al., 2015; Jennings et al. 2008; Jennings and Blanchard, 2004; OC Analysis



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## PLASTIC WASTE INPUTS ARE GEOGRAPHICALLY CONCENTRATED AS AN UNINTENDED CONESEQUENCE OF RAPID DEVELOPMENT



1. CHINA
2. INDONESIA
3. PHILIPPINES
4. VIETNAM
5. SRI LANKA

~57%

Top 5 countries  
account for  
~57% of total  
ocean plastics  
inputs



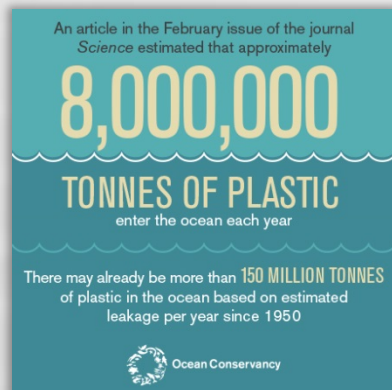






# STEMMING THE TIDE: LAND-BASED STRATEGIES FOR A PLASTIC FREE OCEAN

1. Obtain more granular understanding of science and management recommendations in Jambeck et al. 2015.
2. Evaluate suite of solutions that are available now to stem ocean plastic pollution in the five countries where inputs are currently largest.



# TWO DRIVERS OF PLASTIC POLLUTION: WASTE THAT REMAINS UNCOLLECTED AND LOW VALUE RESIDUAL VALUE OF SOME PLASTIC

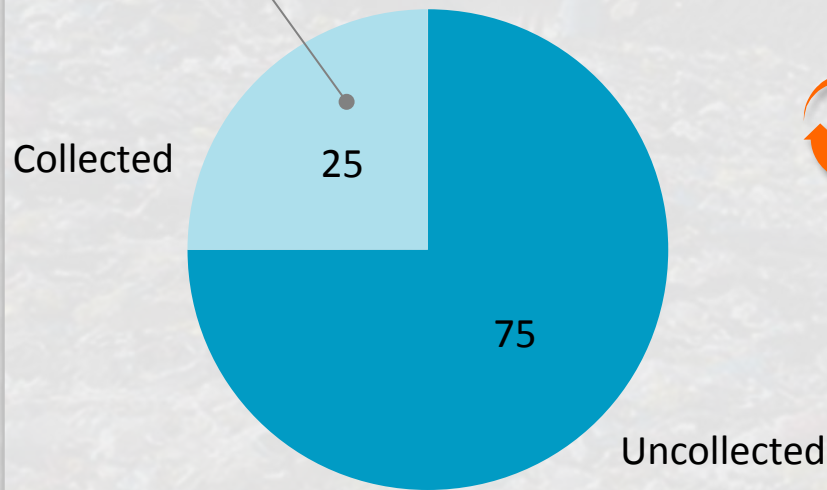
% contribution to ocean plastic, by driver<sup>1</sup>

■ Largest source of ocean leakage

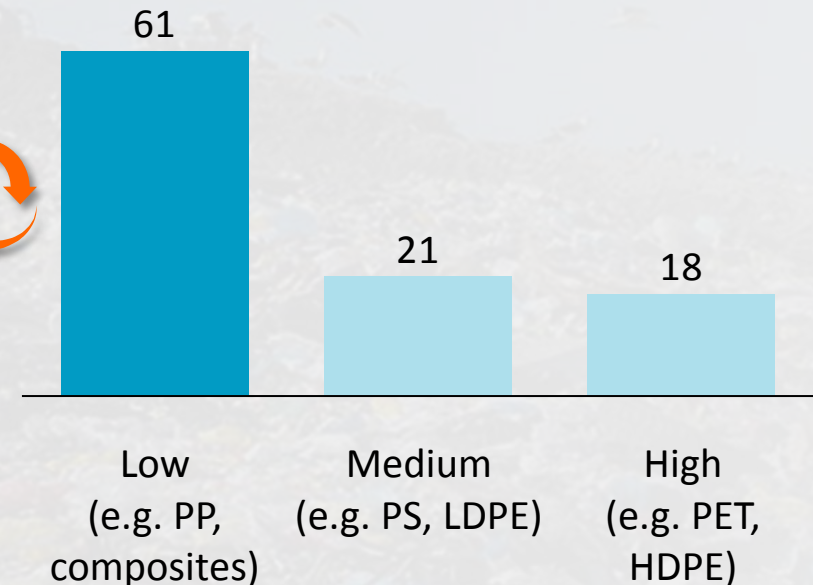
## Collection levels



Plastics leakage does not stop once waste has been collected



## Value<sup>2</sup> of plastic waste



<sup>1</sup> China, Indonesia, Philippines, Vietnam, Thailand

<sup>2</sup> 'Value' is a quantitative function of price at secondary dealers and time taken to collect, combined with a qualitative function of homogeneity and likelihood of rejection by secondary dealers



# RAPID URBANIZATION AND FINANCIAL DISINCENTIVES CURRENTLY DRIVE PLASTIC WASTE LEAKAGE

AVERAGE TOP 5  
LEAKAGE COUNTRIES<sup>1</sup>

## Top leakage pathways of highest leakage economies

Million tons plastic leakage

7.0 – 8.6<sup>3</sup>

### Drivers

Uncollected



Peri-urban lacking proper WM infrastructure

28%

1.9 – 2.4

- Rapid urbanisation has led to crowding of areas near urban centers without sufficient waste management infrastructure



Low density rural without collection

24%

1.7 – 2.1

- Waste collection **services traditionally ignored rural areas**, because of low waste density and high biodegradable content



Urban core with over-stretched services

22%

1.6 – 1.9

- This region includes **mega cities growing to large for current waste systems to serve**

Collected



Dumpsites on waterways

15%

1.1 – 1.3

- Dumpsites tend to use **low cost land** (e.g. govt. owned), often near waterways, into which waste leaks



Illegal haul truck dumping

10%

0.7 – 0.9

- Waste transport systems are influenced by **adverse incentives** (e.g., dumping waste to avoid tipping fees)

**These leakage pathways differ significantly from those in developed markets**

<sup>1</sup> China, Indonesia, Philippines, Vietnam, Thailand

<sup>2</sup> Migrant communities, frequently living by waterways, are an example of this

<sup>3</sup> Based on revision to original estimates from Science Journal


SOURCE: Team analysis



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# THREE SETS OF ACTIVITIES MUST BE UNDERTAKEN IN PARALLEL, STARTING NOW, TO ADDRESS 100% OF THE PROBLEM

 OC focus



## **Accelerate development of local waste management:**

- Raise collection rates from 40% to 80%
- Reduce post collection pollution from 7% to 1%



## **Keep plastic pollution leakage points closed:**

- Increase recycling, compost, etc.
- Evaluate after-use markets for residual materials



## **Re-engineer plastic lifecycle through innovation:**

- Minimize plastic waste in general
- Reduce ecological damage from post-consumer plastic

SOURCE: Team analysis

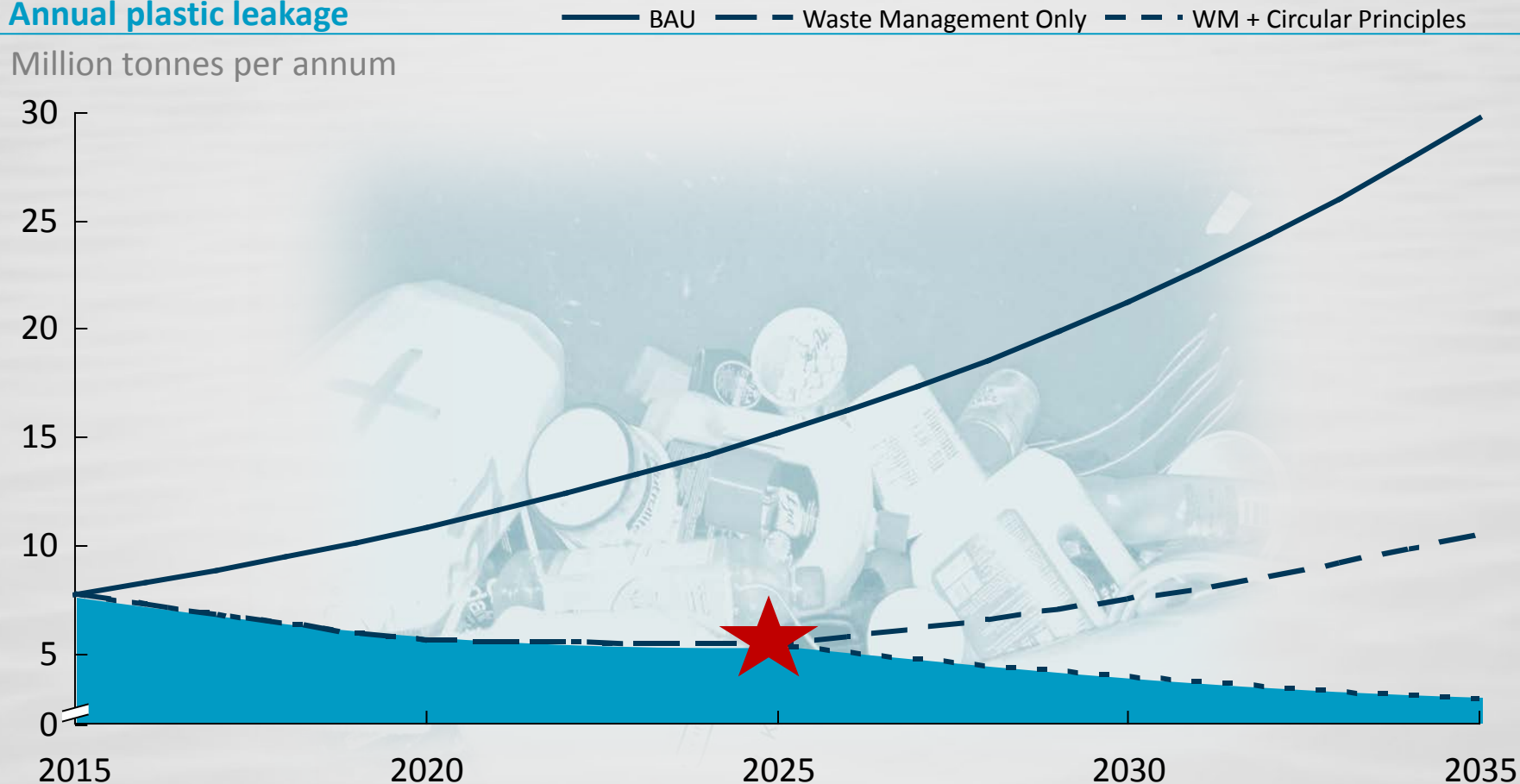


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# MINIMIZE, MANAGE AND MITIGATE—ALL THREE MUST START NOW

## Annual plastic leakage



SOURCE: Team analysis, ICIS database



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## PHASE II GOVERNING THOUGHTS

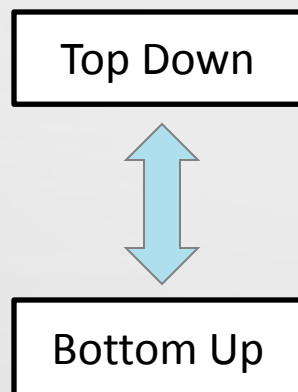
- Focus on creating the enabling conditions – financing, policy, legal, technical, behavioral – to accelerate the development of a waste management industry and infrastructure.
- This continues to be a cross-sectoral challenge – requiring coordination across governments, private sector, and civil society.



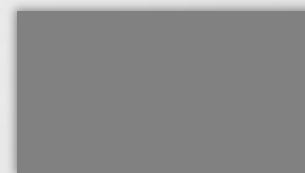


## PHASE II OBJECTIVES

1. Identify best practices and barriers
2. Delineate the necessary enabling conditions to attract investment into waste management infrastructure
3. Foster political leadership within the region



The Philippines



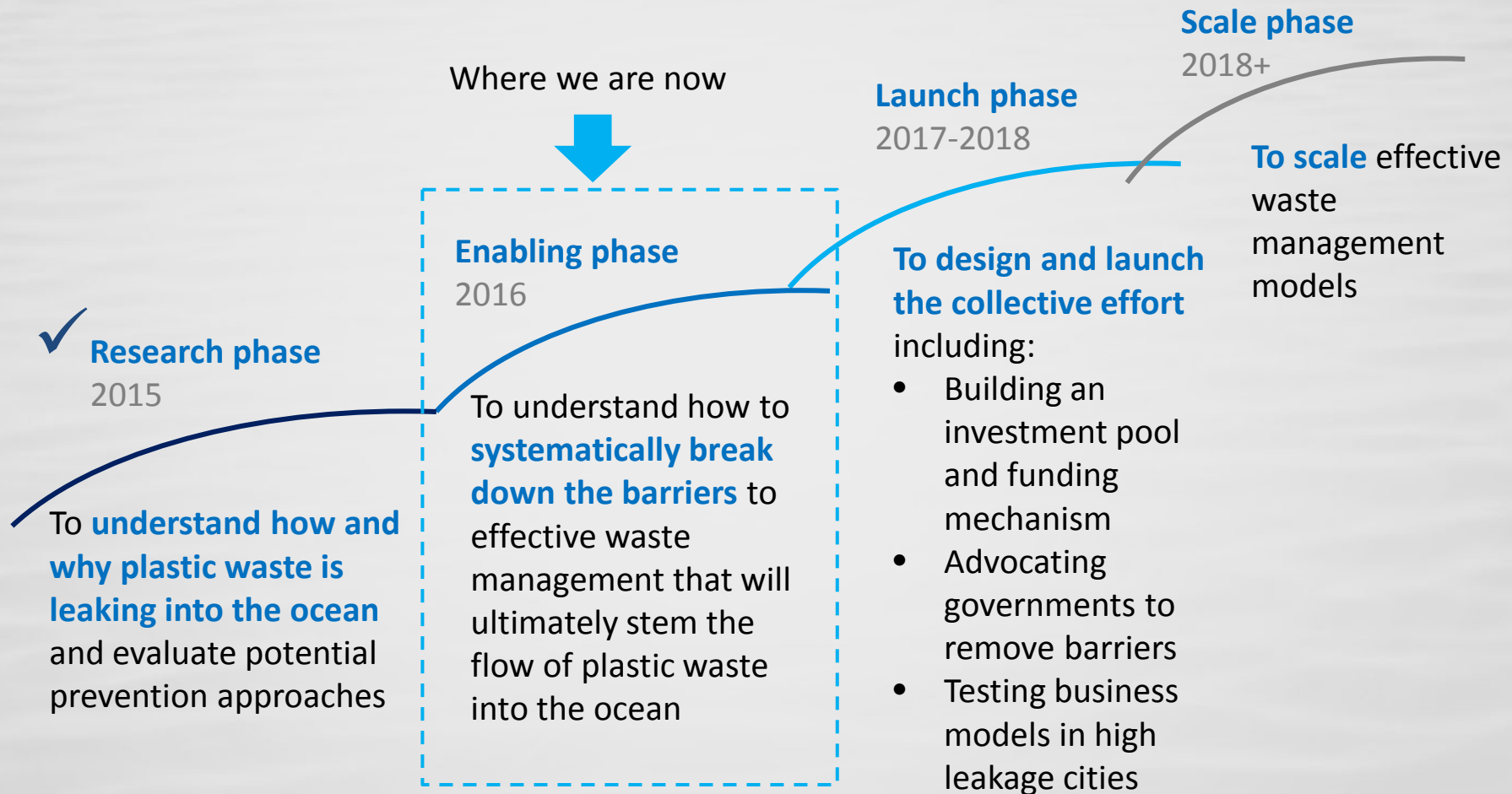
Indonesia



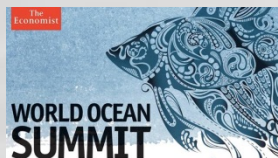
Vietnam



# GOAL: SUSTAINABLY REDUCE LAND-BASED OCEAN PLASTIC LEAKAGE BY 50% GLOBALLY IN THE NEXT 10 YEARS



# GLOBAL OCEAN COMMUNITY HAS MADE OCEAN PLASTIC A PRIORITY ISSUE OF CONCERN





# JOIN US IN OUR COLLECTIVE EFFORT TO STEM THE TIDE



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