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Plastics and Land-based Pollution: Current State of Play in Southeast Asia

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Introduction

- Why plastics?
- Circular Economy + Plastics
- International framework

- SEA Regional framework
- Implementation
- Options for moving forward



Sustainable development

ENVIRONMENTAL, SOCIO-ECONOMIC

80 - 95% of waste entering rivers, estuaries, seas = from land

- **2 billion** of 7.3 billion
= people with no solid waste collection
- **8.3 billion**
= global population in 2030
- Increase in **Gross National Income**
= increase in **per capita** MSW generation

SE Asia % plastic in waste stream
= 11-15%¹

Waste profiling underway

¹ Jambeck et al, 2015



Why plastics?

PROJECTIONS

8,300 million Mt virgin plastics produced to 2017

6,300 Mt plastic waste generated as of 2015

Of this:

- 9% recycled, 12% was incinerated
- 79% in landfills or environment

If production, waste management trends continue:

- 12,000 Mt plastic waste – landfills, environment by 2050²

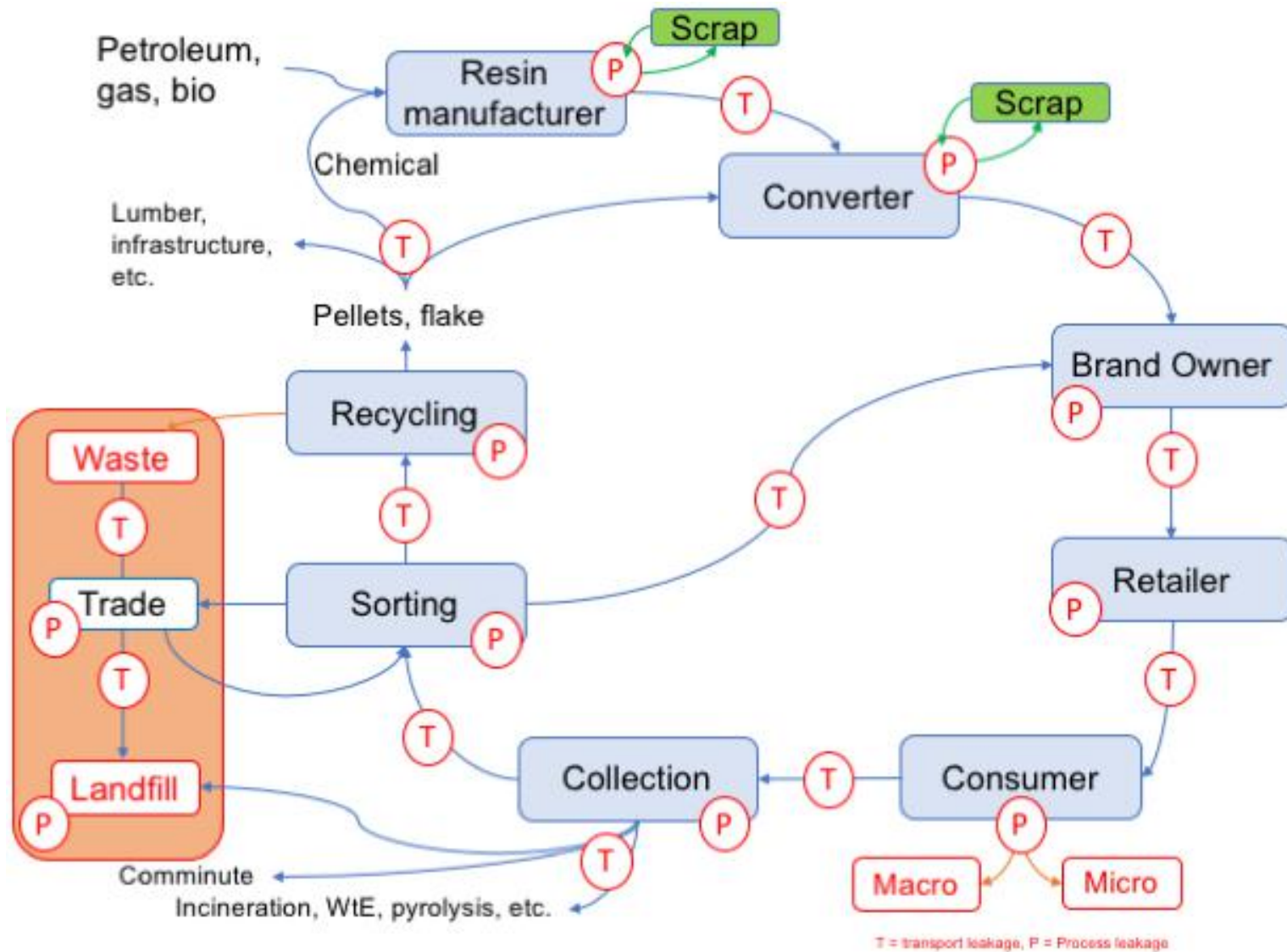
International Energy Agency:

- rising demand for virgin plastics - sustain oil & gas sector to 2050
- offset projected slowdown in demand for transport fuels

² Geyer, et al, 2017

The policy dilemma

GLOBAL LIFECYCLE

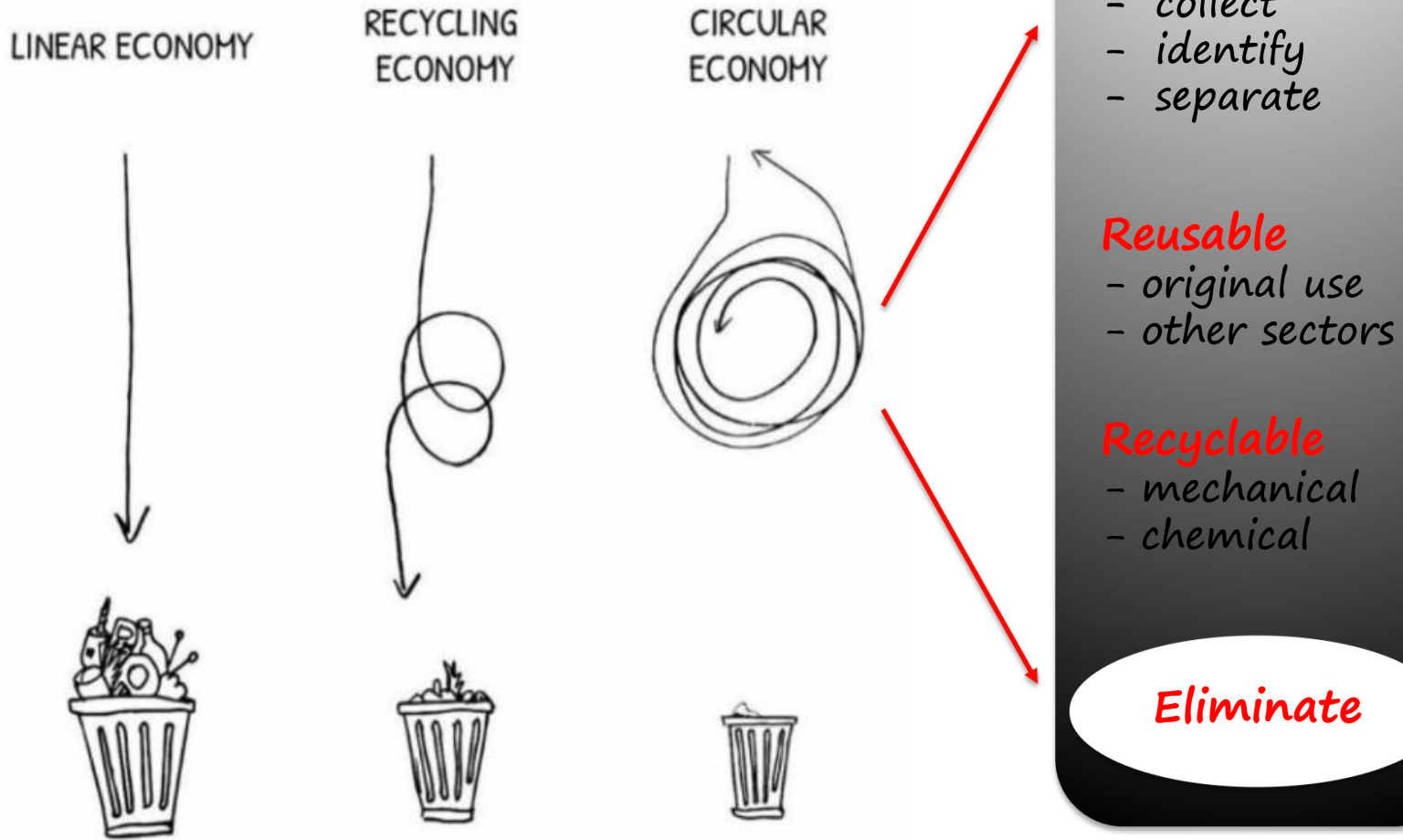


Adapted from *A game theory framework for cooperative management of refillable and disposable bottle lifecycles*. Grimes-Casey, et al, 2007.



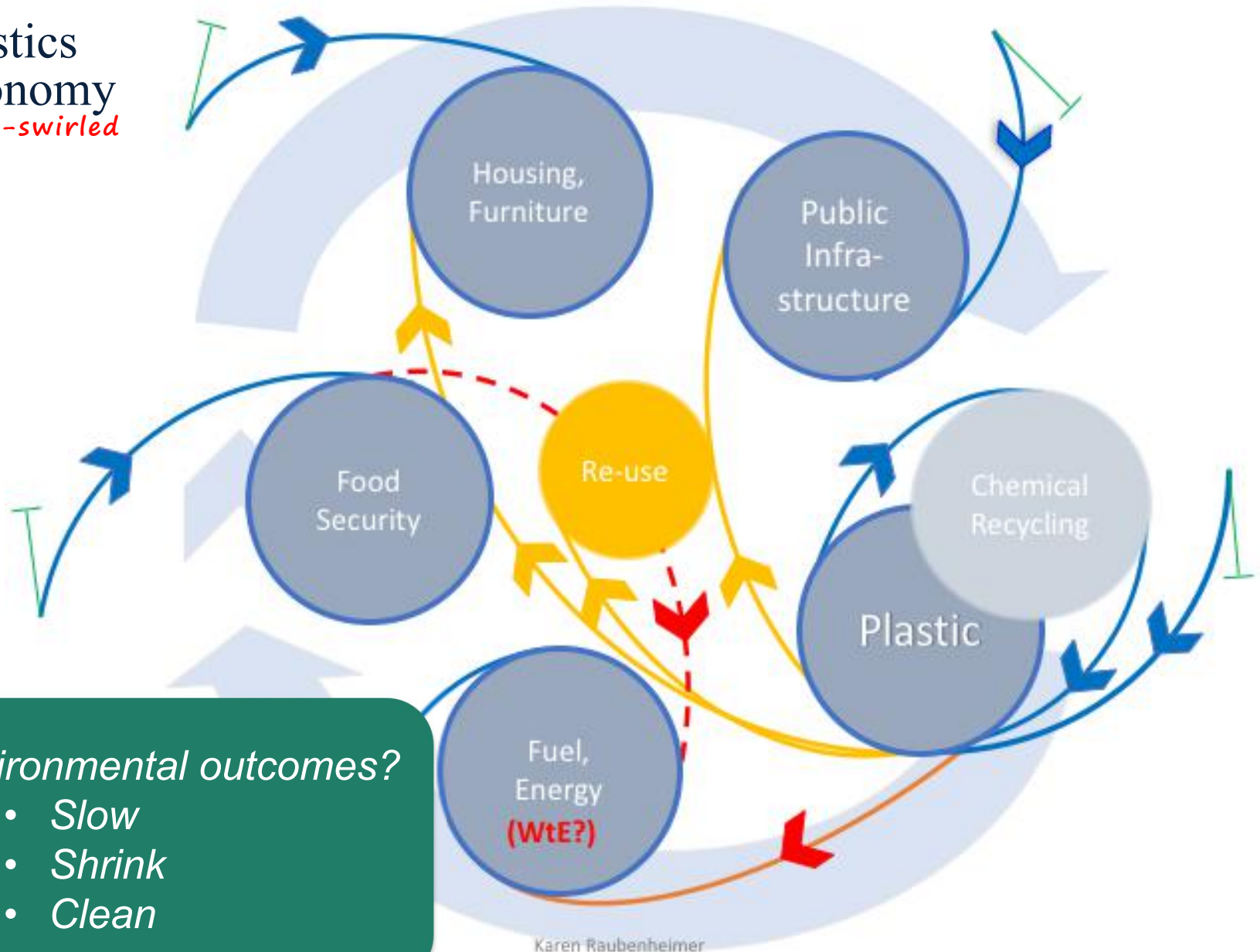
The current policy path

Towards a circular economy



People's Design Lab

Plastics Economy *Multi-swirled*



Playing Catch-up?

PROJECTIONS

Waste management vs. increasing production

This will depend on the success of:

- **National waste management strategies**
 - Reduce production of virgin plastics
 - Turn waste into a resource
- **Industry guidelines and standards**
 - Design, lifecycle considerations
 - Self- / co-regulatory / mandatory

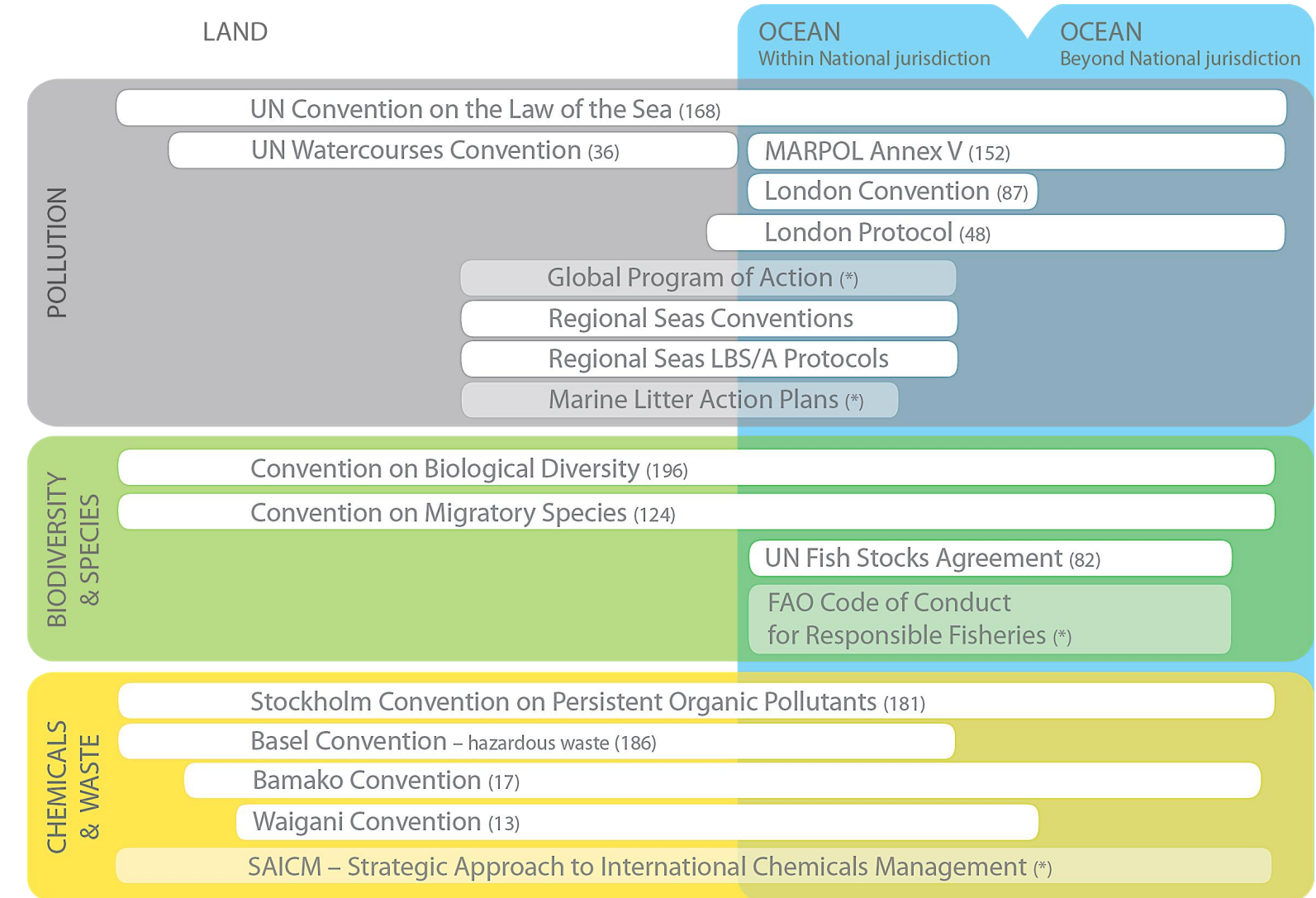
Industry commitments:

- 100% recyclable, compostable or biodegradable **vs.**
- 100% **reused**, recycled or composted (**definitions required**)



Legal frameworks

INTERNATIONAL, REGIONAL



Sustainable consumption (SDG12)

REDUCING SHIPPING

- ~ 90% of world trade carried by international shipping
- Goods carried by containers: 1.83 billion metric tons in 2017



IMO marine litter action plan (2018)

- Consider:
 - compulsory mechanism
 - declare container loss at sea
 - identify number of losses

Basel Convention

ENVIRONMENTALLY SOUND MANAGEMENT OF WASTE

International

- Norway proposal for amendment
- Amend all annexes

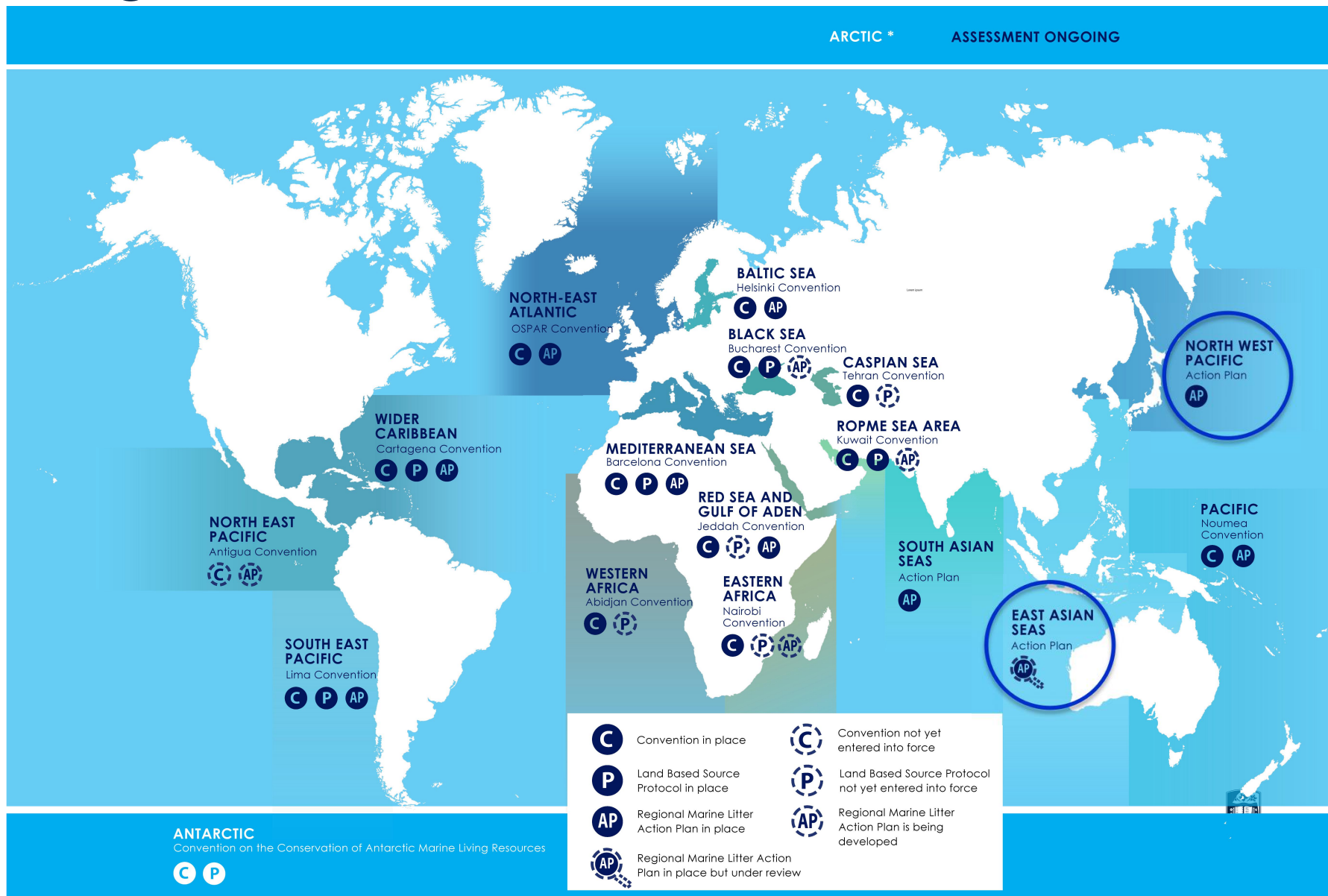
Regional

2017 - COPs agree Regional Centres deal with plastic waste

Regional Centres: China, Indonesia

- Current focus: eWaste
 - Inventories (Indonesia, Malaysia, Philippines)
 - Recycling centre feasibility study - Indonesia
 - Recycling pilot project - Malaysia

Regional Seas



UNEP Regional Seas

Eighteen

North West Pacific (NOWPAP)

- Marine Litter Action Plan (2008)

Non-binding
frameworks

~~Guinea~~ East Asian Seas (COBSEA)

- Marine Litter Action Plan (2018)
- COBSEA Strategic Directions 2018 – 2022
 - Land-based marine pollution
- Sweden funding 4-year project
 - Reduce difficult-to-recycle plastic
 - Increase collection, recycling of high-value plastic
 - Improve public support for plastic pollution policies



Sustainable Development Strategy:

SDS-SEA Implementation Plan 2018-2022

- 3 priority areas:
 - Pollution Reduction and Waste Management
- 5-year outcome:
 - Reduction in marine debris, plastics/micro-plastics
 - Local governments prioritize investments in waste management
- Highlights inputs from rivers
- Promotes Integrated River Basin Management (IRBM)



ASEAN

SUSTAINABLE CONSUMPTION AND PRODUCTION

ASEAN Conference on Reducing Marine Debris in ASEAN Region (Nov, 2017)

- Recommended Policy Support and Strengthening
- Explore possibility of developing an ASEAN agreement on sustainable management of marine debris pollution

PEMSEA & ASEAN Centre for Biodiversity (ACB)

- 3 year Letter of Cooperation (LoC) signed Sep, 2018
- Develop joint project on marine litter

East Asia Summit Leaders' Statement on Combating Marine Plastic Debris (Nov, 2018) – ASEAN +8

Working Group on Chemicals and Waste Basel Convention – Hazardous Waste



APEC

MARINE DEBRIS

- *Endorsed Policy and Practice Recommendations on Overcoming Barriers to Financing Waste Management Systems and Reducing Marine Litter (2016)*
- *APEC Marine Debris Stakeholder Meeting*
 - Improving Data and Coordination and Developing New Partnerships (Bali, November 2018)
- In progress: (2018)
 - *Draft guidelines* on marine debris
 - Update 2009 report – economic costs of marine debris to APEC economies



APEC Virtual Working Group on Marine Debris

Asia-Pacific Infrastructure Partnership (APIP)

Focused on waste management sector

Some key challenges identified:

- streamlining institutional arrangements*
- insufficient funding*
- inadequate collection*
- insufficient data*
- legislative & regulatory uncertainty*
- limited use of available tools*



National Implementation

CHALLENGES

Monitoring, reporting:

- Baselines, trends, effectiveness
- Waste management sector
- Transboundary movement through rivers

Enforcement:

- Recycling facilities
- Landfills
- Trade in waste



National Implementation

CHALLENGES

Governance:

- *Inter-ministerial cooperation*
- *Single authority*

Strategic planning:

- *Intervention for greatest benefit*
- *Social outcomes (informal sector, health)*
- *Long-term investment*

Funding:

- *Extended stakeholder responsibility (ESR)*
- *Dedicated national & municipal budgets*



Moving forward – beyond industry

ENGAGEMENT



Extended Producer Responsibility schemes

- *Special funds*
 - *Design for recycling (collect, identify, disassemble)*
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Community engagement

- *Awareness*
 - *Home separation*
 - *Pay-as-you-throw (pre-paid garbage bags)*
 - *Collection*
-



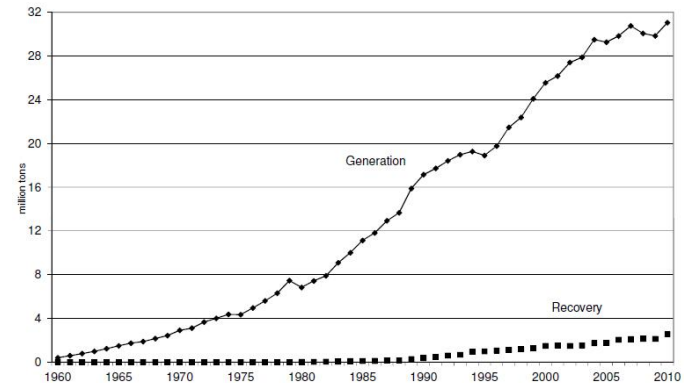
Gov't & commercial engagement

- *Procurement (reduce, recycled content)*
 - *Office separation*
 - *Pay-as-you-throw*
-



Moving forward - policy

BEYOND THE TRENDS



Status Quo

- Production forecasts
- Waste management
- Climate change (incl. waste sector)

Strengthen existing frameworks

- National Action Plans on Marine Litter
- EPR backed by special funds, industry standards
- Financially sustainable waste management industries
- Reduced virgin production
- Air & water quality standards (microplastics)

Consider plastics under all SDGs

- Gov't and industry reporting
- Beyond SDG 14, marine litter
- Food security
- Waste = human health risk (mosquitoes)



Moving forward - research

BEYOND THE TRENDS



Status Quo

- *Impact (environment, human)*
- *Monitoring*
- *Innovation (design, treatment)*



Modeling

- *Risks to Blue Economy*
- *Marine ecosystem collapse*
- *Food security*
- *Health costs & savings*



Modeling, pilot projects

- *Policy: Financial mechanisms*
- *Social outcomes (green jobs)*
- *Mobile technology (mobile factories, apps)*



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Thank you

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