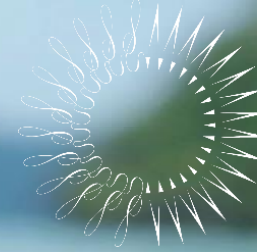


BREAKING THE PLASTIC WAVE

Winnie Lau, Senior Manager
Preventing Ocean Plastics
The Pew Charitable Trusts

*Deep-dive Roundtable on Possible approaches for promoting and
facilitating trade in environmental goods and services
24 June 2022*



THE
PEW
CHARITABLE TRUSTS



PLASTIC POLLUTION: TOLL ON PEOPLE AND NATURE



BREAKING THE PLASTIC WAVE



BUSINESS-AS-USUAL, 2016 - 2040

2X Annual plastic waste generation



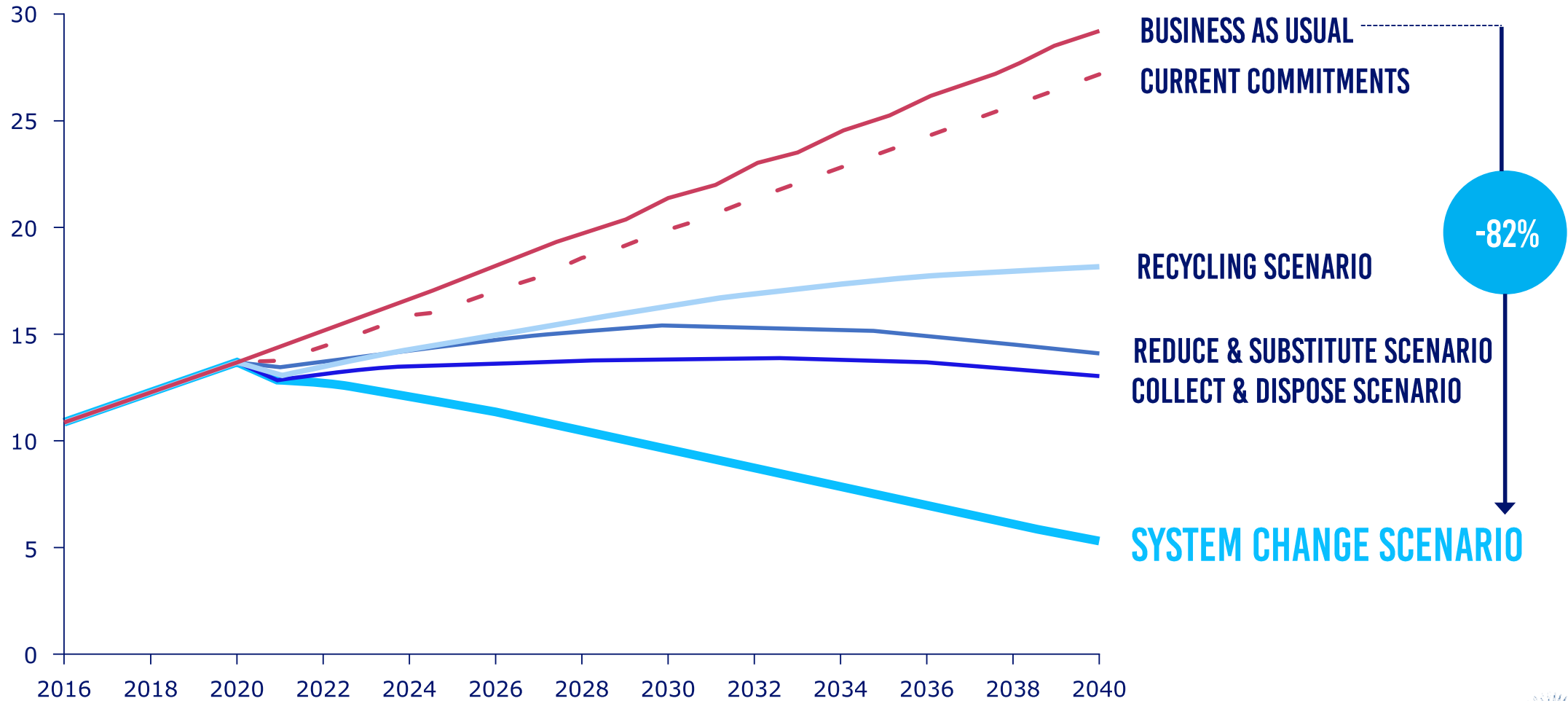
~3X Annual plastic leakage to ocean



~4X Cumulative plastic stock in
the ocean

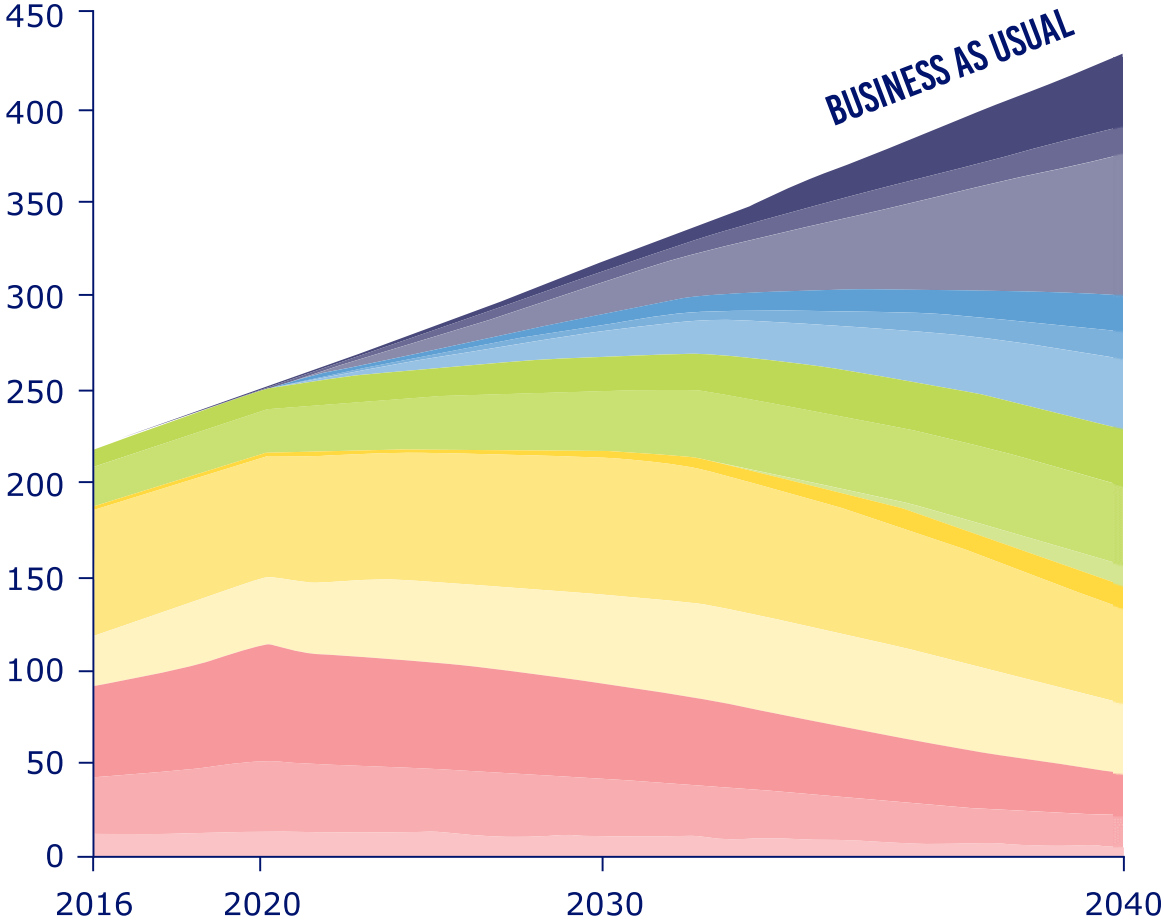
NO "SILVER BULLETS" BUT THERE IS HOPE






LEAKAGE TO THE OCEAN UNDER DIFFERENT SCENARIOS, MT PER YEAR



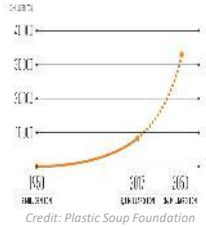
SYSTEM CHANGE: A CREDIBLE PATHWAY

CUMULATIVE PLASTIC MASS, MT PER YEAR



- 
Reduce: 130 (30%)
- 
Substitute: 71 (17%)
- 
Recycle: 84 (20%)
- 
Dispose: 101 (23%)
- 
Mismanaged: 44 (10%)
 (Environmental pollution)

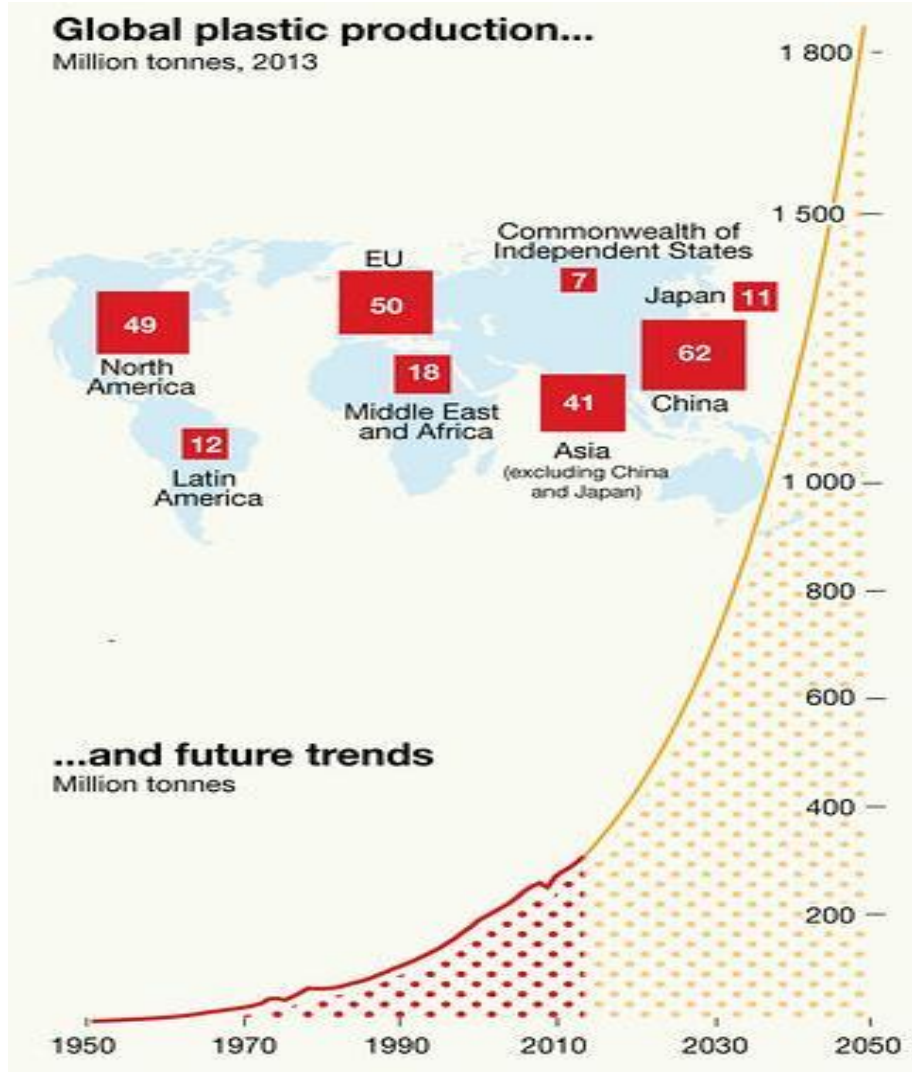
FOUR KEY DRIVERS AND CAUSES OF PLASTIC POLLUTION



- Rapid growth in plastic production and waste generation
- Growing collection gap in developing countries
- Problematic, high leakage, plastics
- Economics

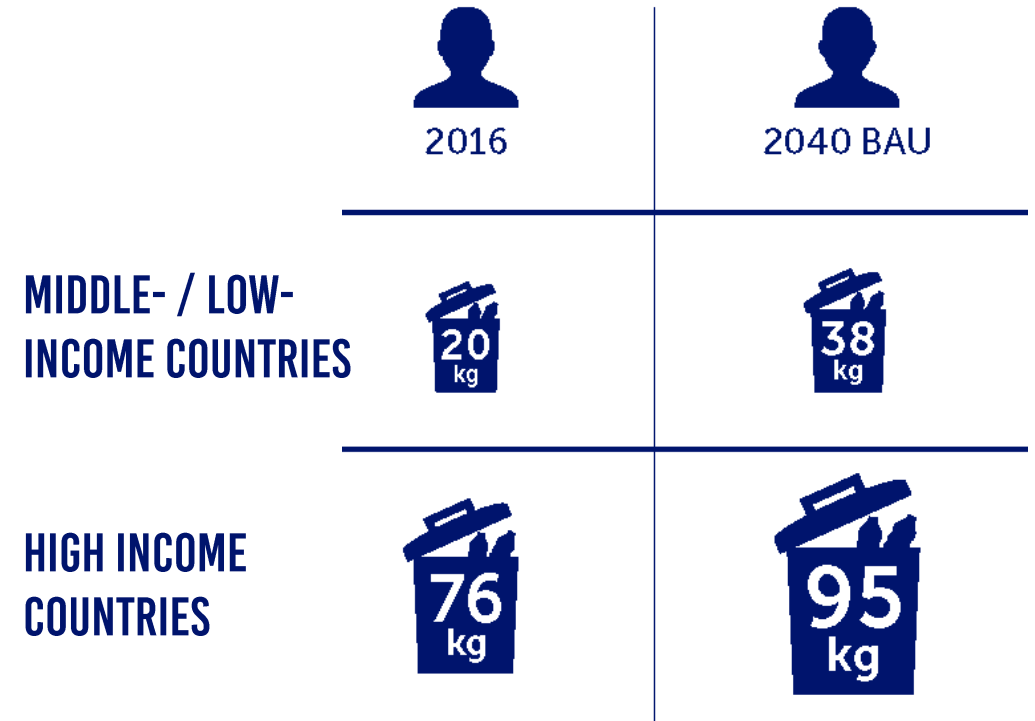


1. HIGH GROWTH IN PLASTIC PRODUCTION AND WASTE GENERATION



GRID Arendal, 2016

PER CAPITA WASTE GENERATION



2. WASTE COLLECTION GAP IN MIDDLE/LOW-INCOME COUNTRIES

2 BILLION PEOPLE IN 2016 → 4 BILLION PEOPLE IN 2040



3. HIGH LEAKAGE OF FLEXIBLE AND MULTIMATERIAL PLASTIC

2016
(LEAKAGE: 29 MT/Y)

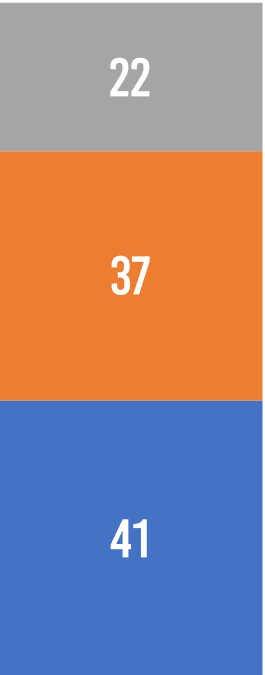
MULTI-LAYER /
MULTI-MATERIAL



FLEXIBLE
MONOMATERIAL



RIGID
MONOMATERIAL



SHARE OF
PRODUCTION



SHARE OF
POLLUTION

4. ECONOMICS: COSTS OF RECYCLING AND RECYCLED PLASTIC

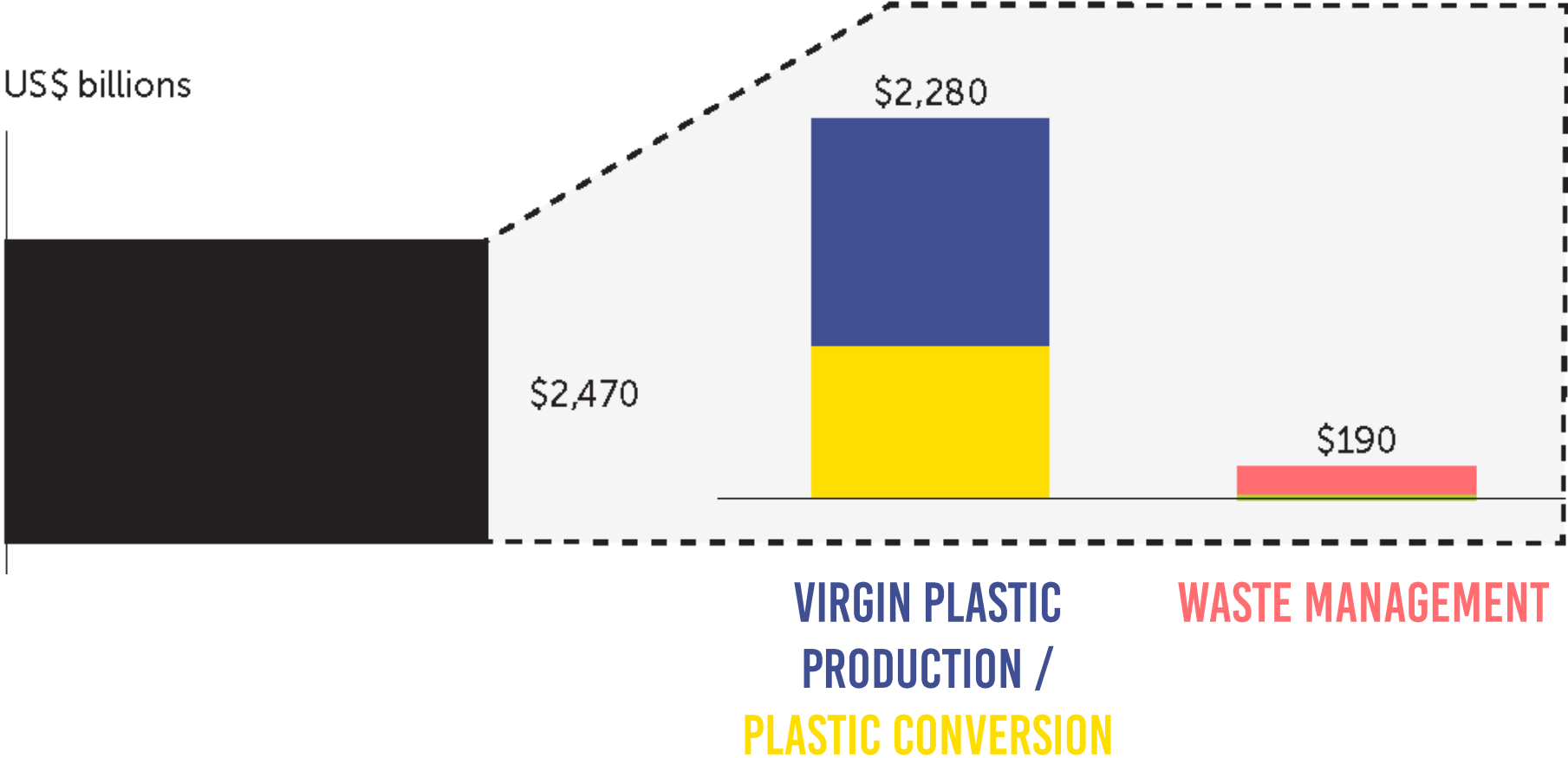


- ❖ 20% of plastics is economically recyclable (only 10-15% is recycled globally)
- ❖ Virgin plastic cheaper than recycled plastic



4. ECONOMICS: CAPITAL INVESTMENTS SKEWS TOWARD PRODUCTION

PRESENT VALUE OF GLOBAL CAPITAL INVESTMENT PROJECTION, BUSINESS-AS-USUAL (2021 – 2040)



4. ECONOMICS: EXTERNALITIES OF PLASTIC POLLUTION

BUSINESS-AS-USUAL 2040

GOVERNMENT COST
\$670
BILLION

COST TO BUSINESS
\$10.0
TRILLION

2.1
BILLION
GHG EMISSIONS
(tCO₂e)

11
MILLION JOBS

VIRGIN
PLASTIC PRODUCTION
400
MILLION METRIC TONS

PLASTIC LEAKAGE

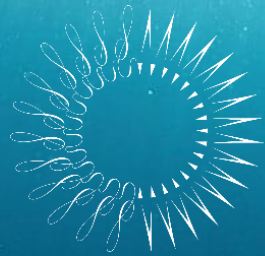
29

MILLION METRIC TONS

3 MILLION METRIC TONS MICROPLASTIC / 26 MILLION METRIC TONS MACROPLASTIC

EXAMPLE POLICY OPTIONS

Direct control regulations	Market-based instruments	Government support programs
Plastic product bans (e.g., single-use bags, cups, microplastics ingredients)	Taxation/levy on virgin plastic product and/or hard-to-recycle items, levies on single-use plastic	Subsidized plastic recovery (collection, sorting, recycling rebates)
Regulation on polymer types and product design (e.g., EPS/PVC/PS ban, pigments, additives)	Removal of subsidies to plastic production and rationalization of trade tariffs	Public procurement of reusable items or suitable substitutes
Design & labelling requirements (e.g., recycled content, reuse, durability, repairability, recyclability)	Deposit-return schemes, “pay as you throw” schemes	Incentives for increased personal collection, sorting and recycling efforts
Regulatory supply chain standards to prevent pellet loss	Plastic recycling credit trading scheme	Funding for plastic alternatives R&D
Waste or recycling trade regulations	Increased landfill tipping fees and fees for waste to energy	De-risking and blended-finance mechanisms to lower capital costs



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[https://www.pewtrusts.org/en/projects/
preventing-ocean-plastics](https://www.pewtrusts.org/en/projects/preventing-ocean-plastics)

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