

Recent trends around waste management Implications from COP26 and their synergies

3rd African Clean Cities Platform (ACCP) Assembly

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Typhoon Jebi (No. 21) (2018) (Sennan City, Osaka)

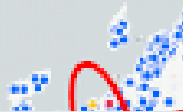


Typhoon Hagibis (2019)

冠水の状況

10月13日(日)時点

- 冠水なし
- 足首以上
- ひざ以上
- 腰以上



2018 Top 10 Global Economic Loss Events

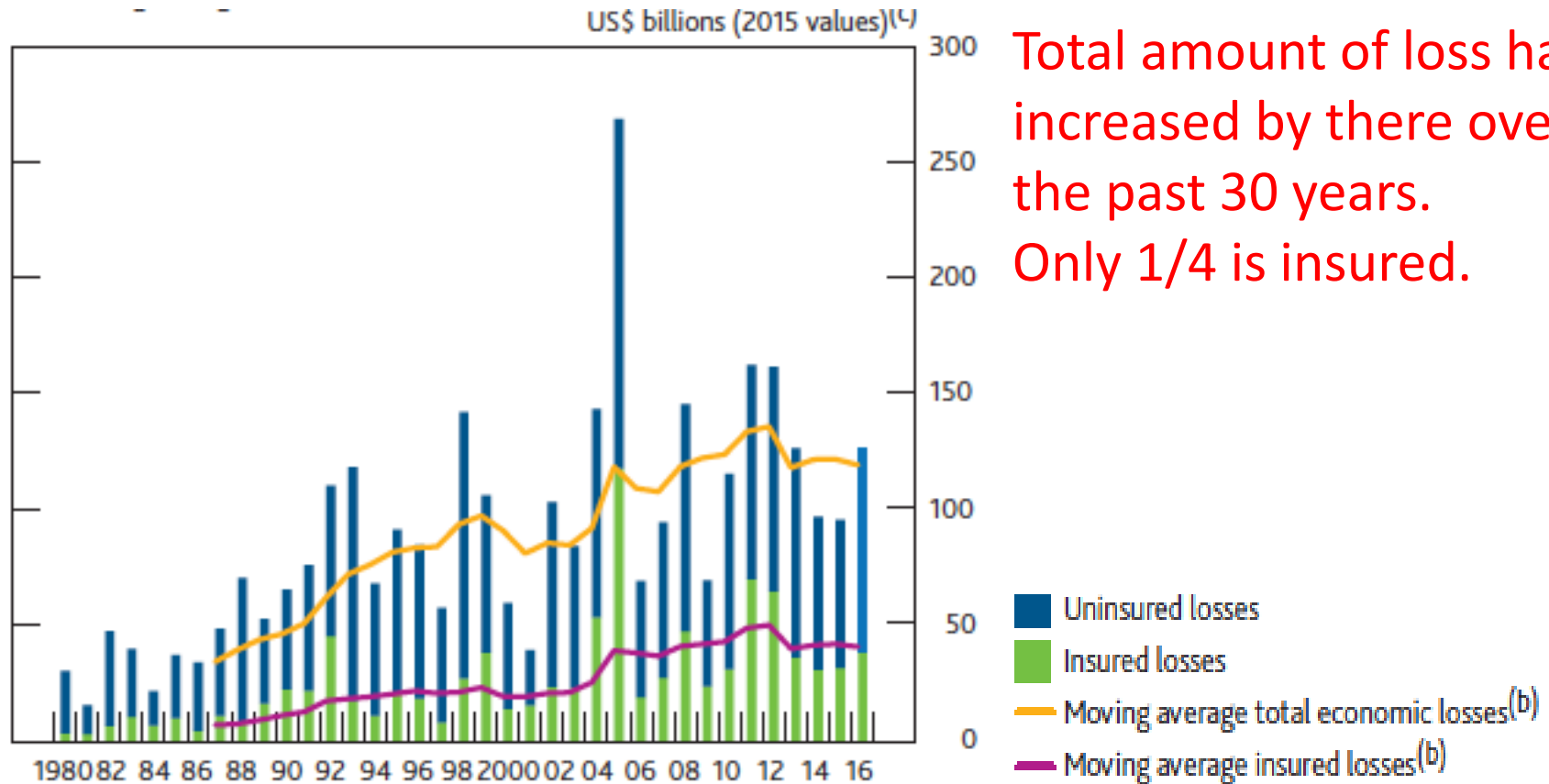
Date (s)	Event	Location	Deaths	Economic Loss (billion USD)	Insured Loss (billion USD)
October 10-12	Hurricane Michael	US	32	17.0	10.0
September 13-18	Hurricane Florence	US	53	15.0	5.3
November	Camp Fire	US	88	15.0	12.0
September 4-5	Typhoon Jebi (No. 21)	Japan	17	13.0	8.5
July 2-8	Flooding	Japan	246	10.0	2.7
Spring & Summer	Drought	Central & Northern Europe	N/A	9.0	0.3
September 10-18	Typhoon Mangkhut	Oceania, East Asia	161	6.0	1.3
July - September	Flooding	China	89	5.8	0.4
November	Woolsey Fire	US	3	5.8	4.5
August 16-19	Tropical Storm Rumbia	China	53	5.4	0.3
	All Other Events		-	123.0	45
Source : AON, 2019		Totals		225.0	90.0

2019 10 Global Economic Loss Events

Date (s)	Event	Location	Deaths	Economic Loss (USD billions)	Insured Loss (USD billions)
October 6-12	Typhoon Hagibis (No. 19)	Japan	99	15.0	9.0
June - August	Monsoon Floods	China	300	15.0	0.7
September 7-9	Typhoon Faxai (No. 15)	Japan	3	10.0	6.0
May - July	Mississippi Basin Floods	United States	0	10.0	4.0
August 25 – Sep 7	Hurricane Dorian	Bahamas, Caribbean, US, Canada	83	10.0	3.5
March 12-31	Missouri Basin Floods	United States	10	10.0	2.5
June - October	Monsoon Floods	India	1750	10.0	0.2
August 6-13	Typhoon Lekima	China, Philippines, Japan	101	9.5	0.8
March - April	Flooding	Iran	77	8.3	0.2
May 2-5	Cyclone Fani	India, Bangladesh	81	8.1	0.5
		All Other Events		126 billion	44 billion
		Totals		232 billion	71 billion

Source : AON, 2020

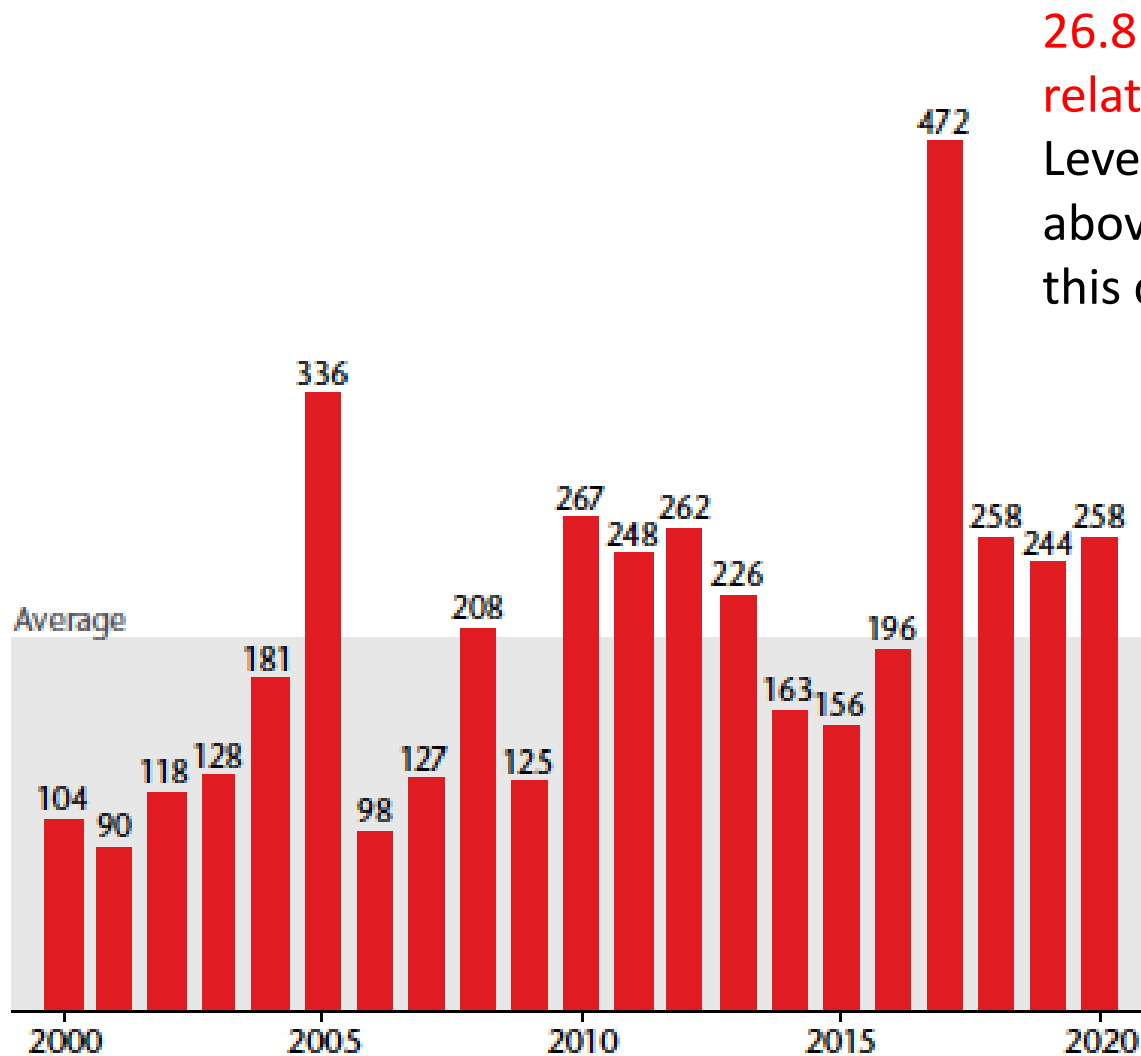
Global Climate related Economic Loss Trends (1980-2016)



Sources: Geo Risks Research, Munich Reinsurance Company and NatCatSERVICE 2017 (data does not account for reporting bias).

Source : Bank of England, Quarterly Bulletin 2017 Q2, 2017

Global Climate related Economic Loss Trends (2000-2020)



26.8 US dollars of climate related economic loss in 2020. Level of the decade was 8% above the average level over this century.

Loss caused by climate related disasters in 2019

Losses from natural disasters
in 2019



US\$ **150** bn 1500億米ドル

Slightly more than a third
of the losses insured

US\$ **52** bn 520億米ドル

Costliest event:
Typhoon Hagibis in Japan

~US\$ **17** bn
(thereof insured: ~US\$ 10bn)

約170億米ドル
うち約100億米
ドル保険で支払



A humanitarian tragedy:
Cyclone Idai in Mozambique

>1,000 people
killed



1000人
超が命
を失う

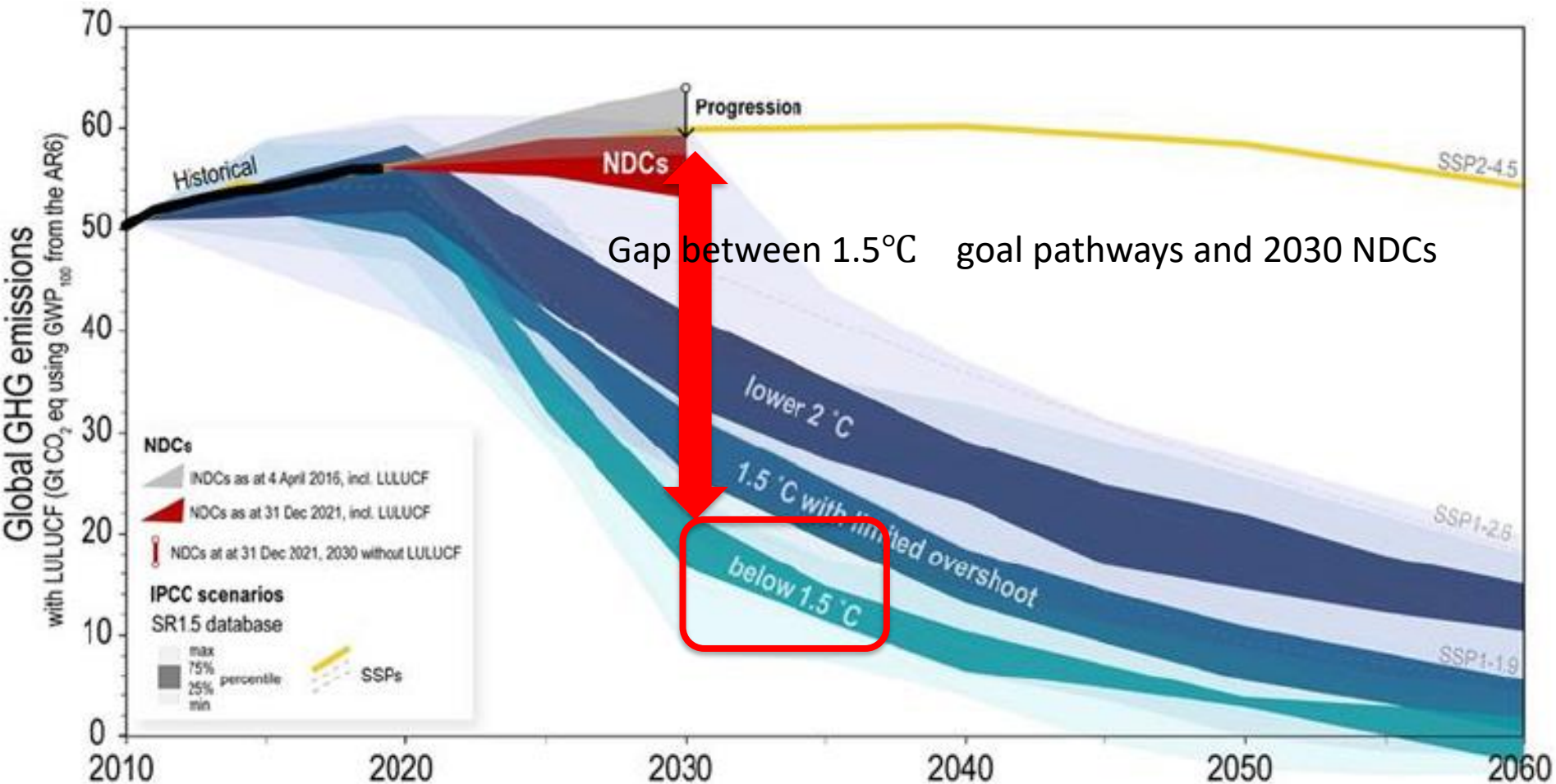
IPCC Sixth Assessment Report (impacts, Adaptation and Vulnerability) (Feb. 2022)

- *The cumulative scientific evidence is unequivocal: Climate change is a threat to human well-being and planetary health. Any further delay in concerted anticipatory global action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all.*
- 「気候変動は人類の福利と地球の健全さの脅威である—これまで積み上げられた科学的証拠は明白である。すべての人が普通に生活できる持続可能な未来を確かなものとする可能性は私たちの目前で急速に小さくなっているが、世界が協力して排出削減策と適応策を先駆けてとることをこれ以上遅らせるならば、その限られた可能性を失うこととなる」

Towards climate neutrality (net zero) by 2050

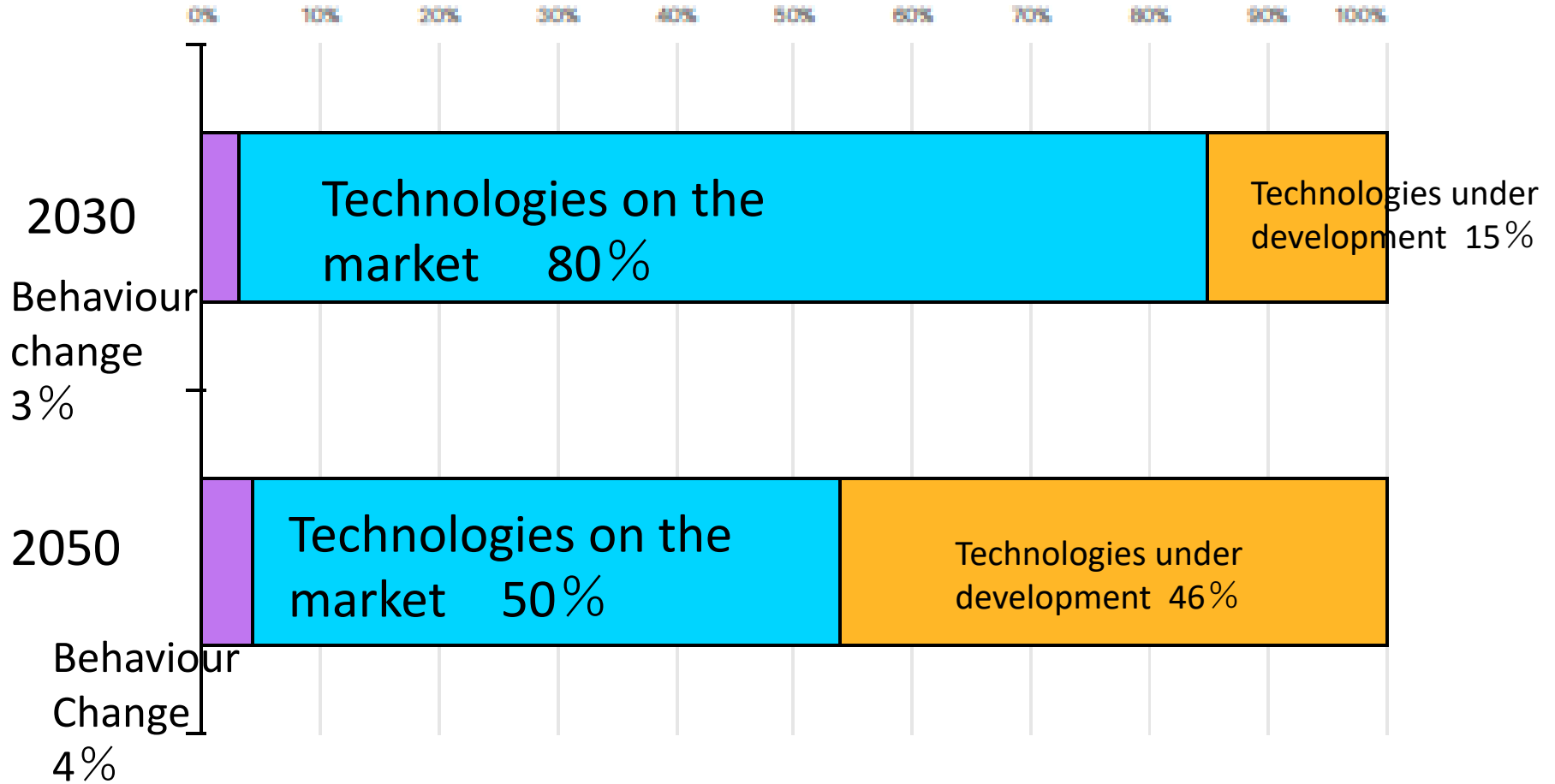
- Paris Agreement (2015)
 - Holding the increase in the global average temperature to **well below 2 °C** and pursuing efforts to limit the temperature increase to **1.5 °C above pre-industrial levels** (Art. 2.1 (a))
 - **“Net zero emission” “De-carbonization” in the second half of this century** (Art. 4.1)
- Prime minister of Japan’s first policy speech to the Parliament on 26 October 2020
 - Under the third pillar of his general policy: **Toward realization of a green economy**
 - Declares **“Japan pledges to, by 2050, reduce GHG emission in Japan to net zero, namely become carbon neutral and achieve a decarbonized society”**.
- **More than 140 countries and EU including all G7 countries** have now pledge to reduce emission to net zero by 2050.
- At COP26 in Glasgow, countries agreed to **"resolves to pursue efforts to limit the temperature increase to 1.5°C"**.

Gap between pathways toward 1.5°C goal and 2030 NDCs (Dec. 2021)



Source : UNFCCC 2022

How we could fill the gaps in 2030 and 2050



Source : IEA, 2021

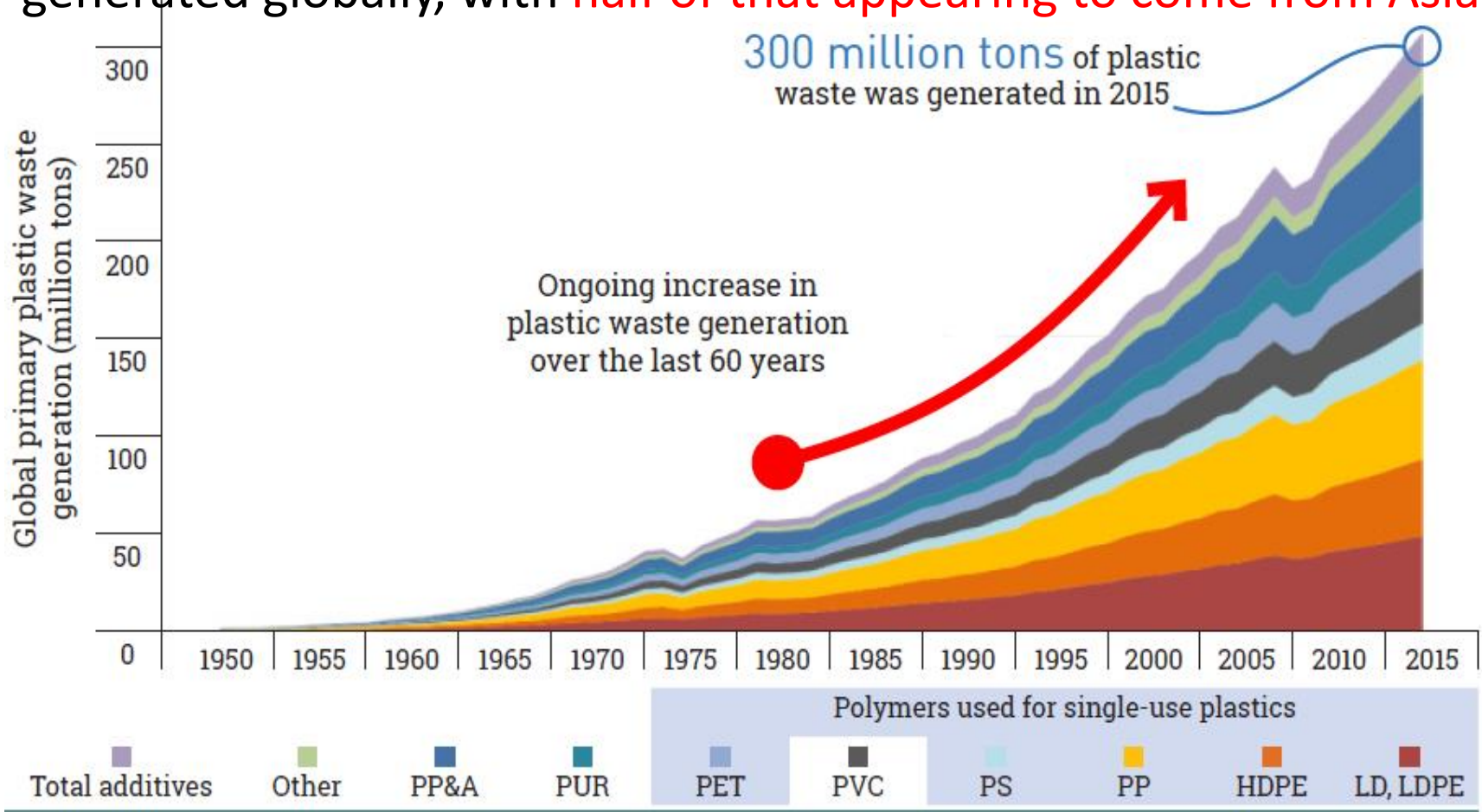
IEA. All Rights Reserved

Plastic production

- Since the 1950s, growth in the production of plastic has largely outpaced that of any other material.
- The world produces more than 400 million tons of plastics every year.
- If the growth in plastic production continues at the current rate, by 2050 the plastic industry may account for 20% of the world's total oil consumption.

Global primary plastics waste generation, 1950-2015

In 2015, packaging waste accounted for 47% of the plastic waste generated globally, with half of that appearing to come from Asia.



Source: Adapted from Geyer, Jambeck, and Law, 2017

Top 10 polluters

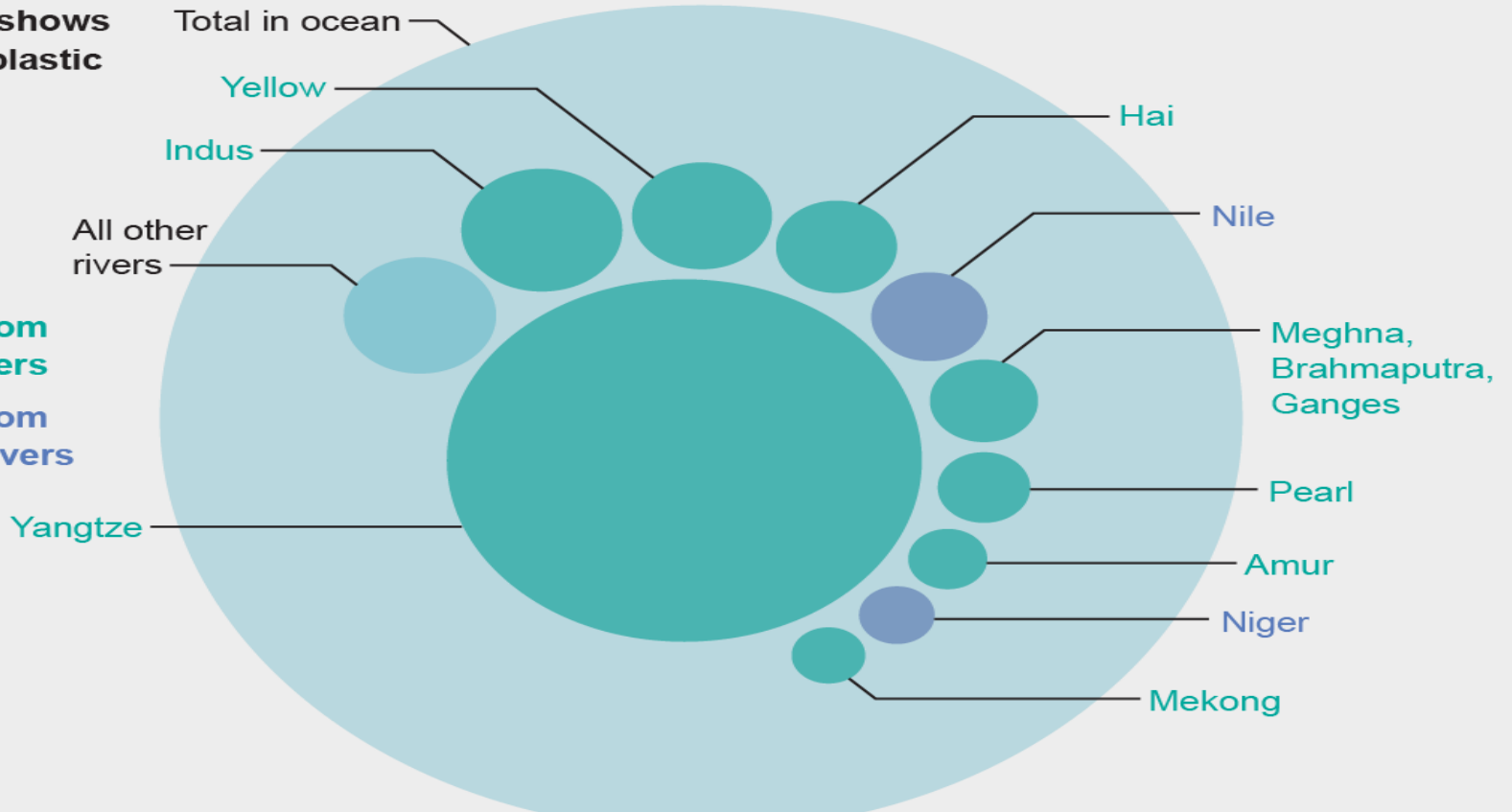
Top 10 Polluters

Circle area shows amount of plastic



100,000 metric tons

- Plastic from Asian rivers
- Plastic from African rivers



Credit: Amanda Montañez; Source: "Export of Plastic Debris by Rivers into the Sea," by Christian Schmidt et al., in Environmental Science & Technology, Vol. 51, No. 21; November 7, 2017

Impacts of unsound management of plastic wastes



Tourism



Threats to economy



Fisheries



Agriculture



Aggravation of natural disasters (drainage system blockages)



Toxic fumes if burned



Impacts on human health



Contamination of water sources



Food chain contamination



Loss of biodiversity



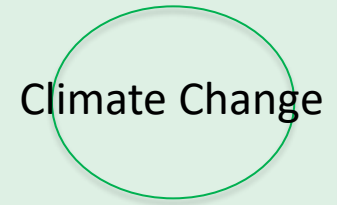
Ocean pollution



Impacts on environment



Land pollution



Climate Change

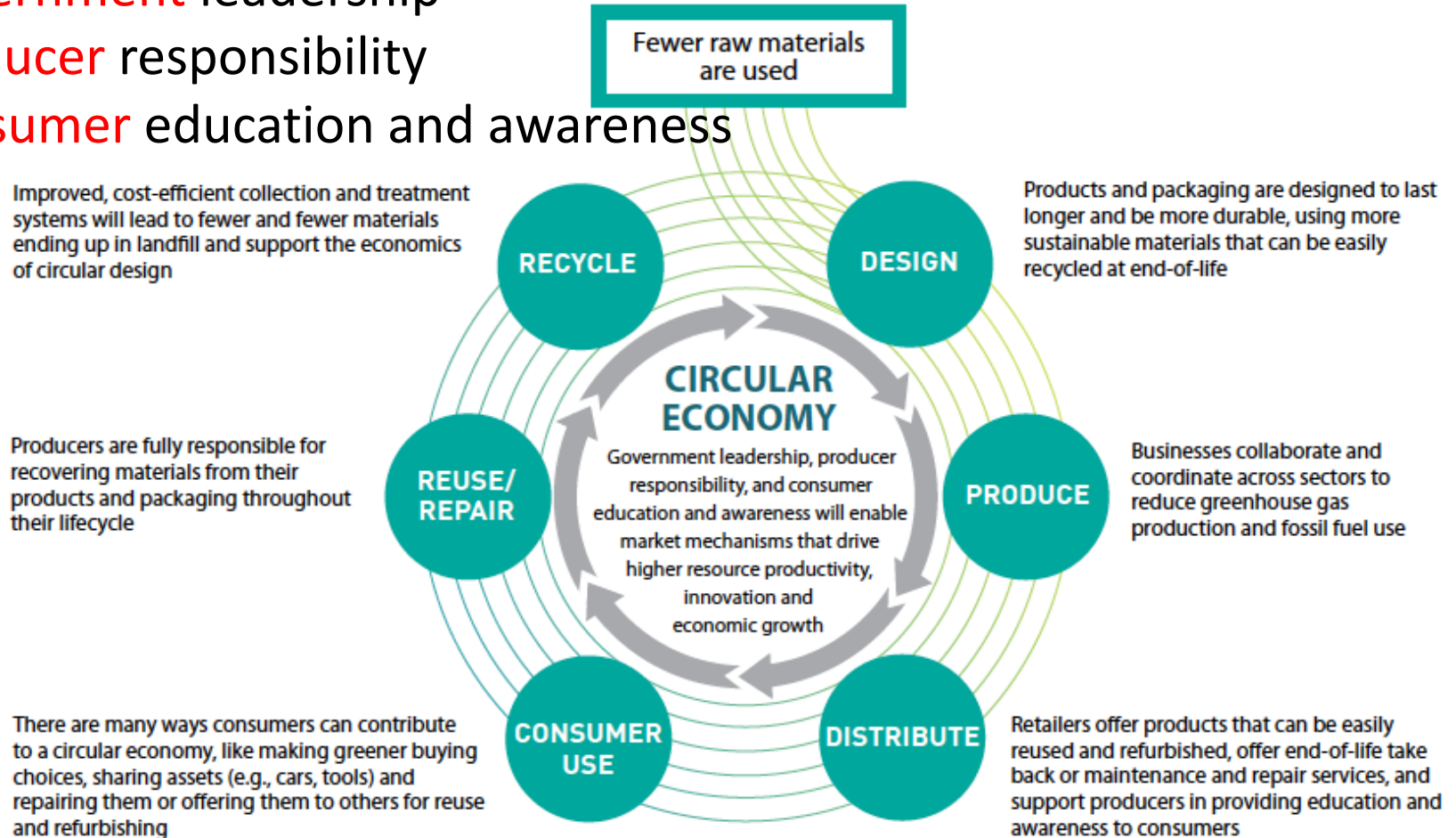
Circular Economy

A linear « make-use-dispose » process to « circular economy »

Government leadership

Producer responsibility

Consumer education and awareness



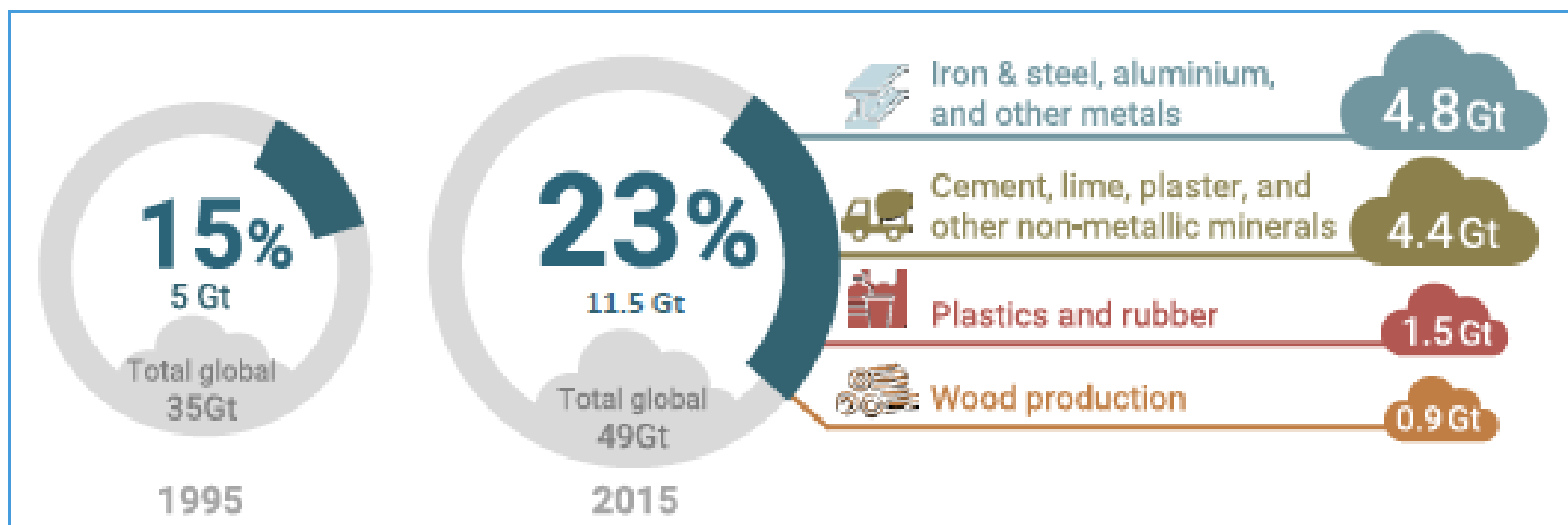
Why Build a Circular Economy?

- **What is « Circular Economy »?**
 - an economy in which participants strive,
 - (a) to **minimize the use of raw materials**,
 - (b) to **maximize the useful life of materials** and other resources through resource recovery, and
 - (c) to **minimize waste generated** at the end of life of products and packaging.
- **Why Build a « Circular Economy»?**
 - A Circular Economy will
 - Protect the **environment**;
 - Help businesses stay **competitive**;
 - Drive **innovation**.

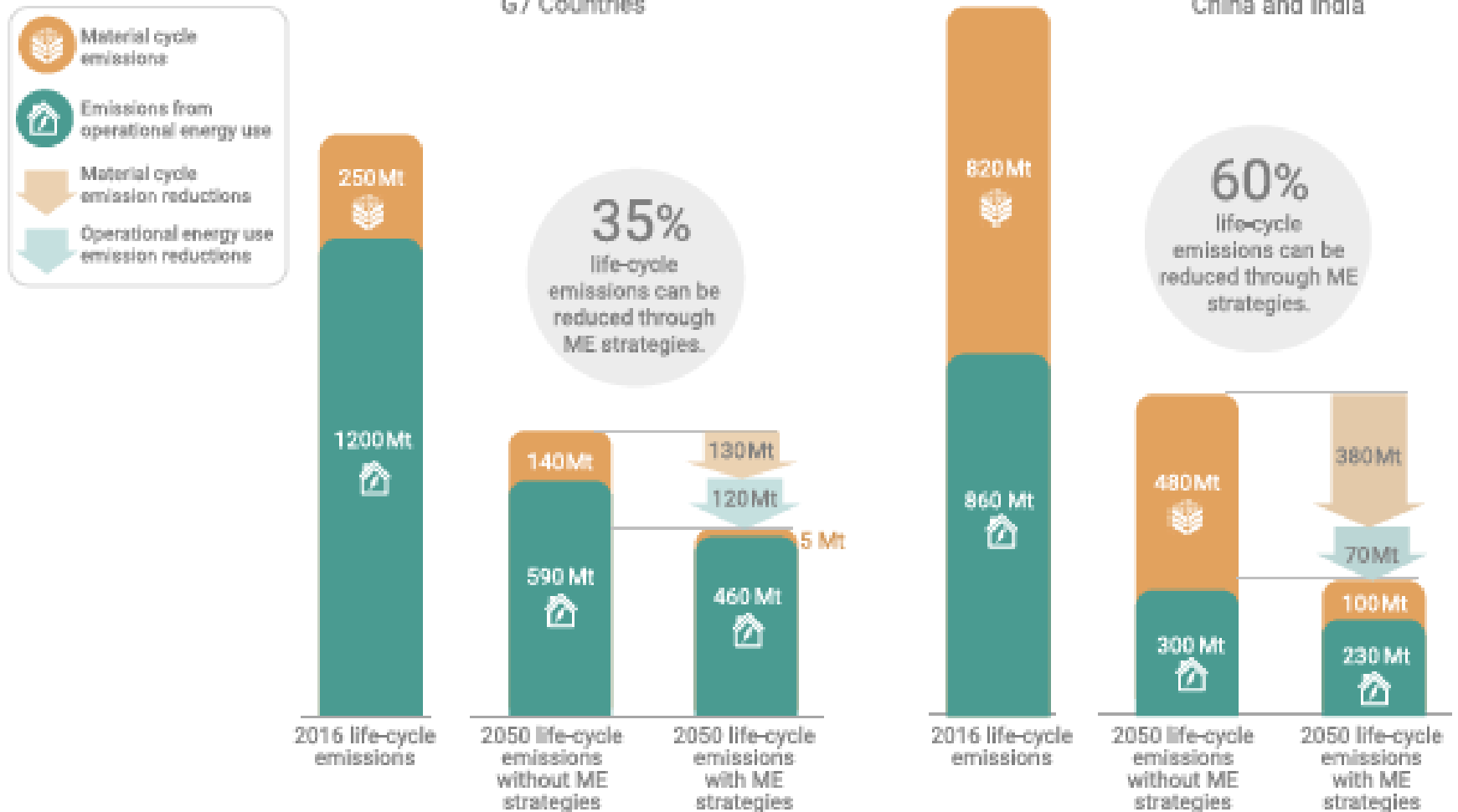
Why move toward circular economy?

- A circular economy protects the **environment**.
 - **Waste sector: one of the source of emitting GHGs**
 - Especially, **methane emissions, formed by anaerobic breakdown of organic matter, which is one of the short-lived climate pollutants (SLCPs)**.
 - Emission (reduction) from waste management process (ex. collection, transport, sorting, treatment, reuse, recovery, disposal).
- A circular economy helps stay **competitive**.
 - Businesses can minimize costs and maximize diversion by leveraging economies of scale to find the most efficient ways of recovering materials and returning increased volumes of recovered materials back into the economy.
- A circular economy drives **innovation**.

Emissions caused by material production as a share of total global emission (1995 v. 2015)

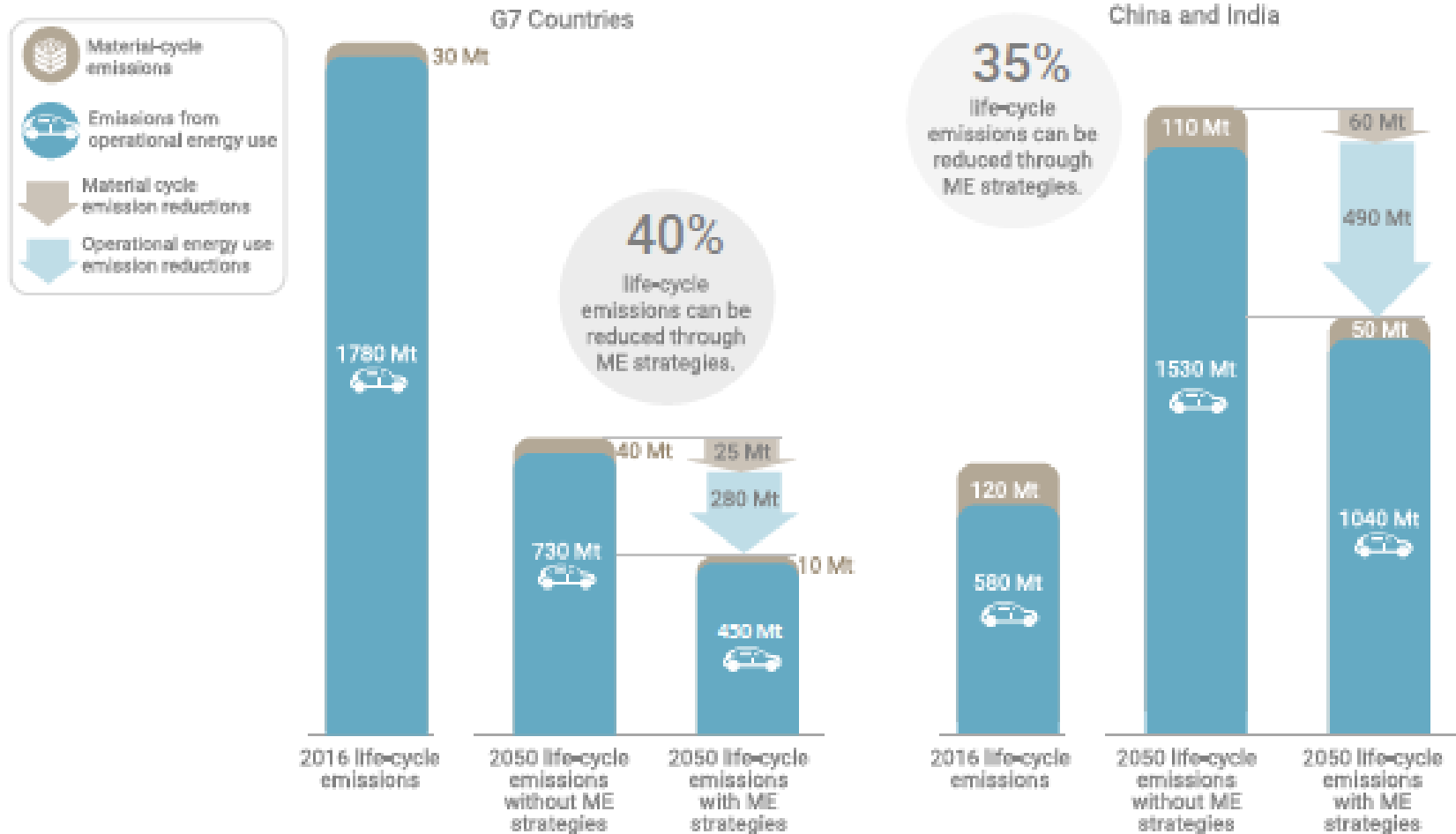


Lifecycle emissions from home with and without material efficiency strategies in 2050



Source : Hertwich et al., Resource Efficiency and Climate Change (2020)

Lifecycle emissions from cars with and without material efficiency strategies in 2050



Material Efficiency Strategies for Housing and Policy Options

- Using less material by design
- Material substitution
 - Ex. By timber wood
- Fabrication yield improvement
- More intensive use
- Enhanced end-of-life recovery and recycling of materials
- Reuse of materials and components
- Product lifetime extension

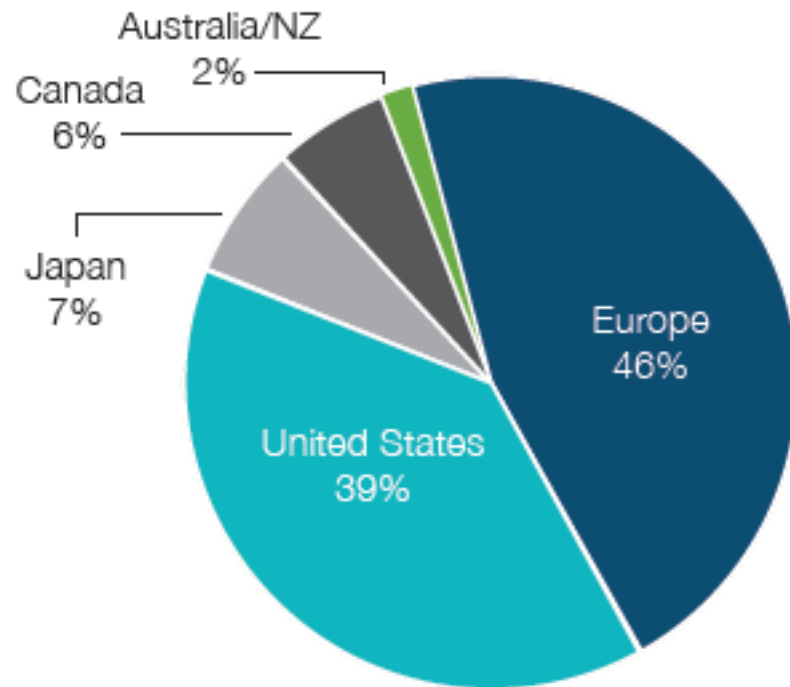
Policy approach addressing climate change

- **Internalization and mainstreaming** of climate related risk consideration in business strategy and decision making, supported by the Paris decarbonization goal
 - Through climate related financial disclosure (TCFD)
 - Impacted by investors' evaluation and behavior
 - Through emission management and reduction over its supply chain and value chain
- **ESG issues, especially climate actions, is not only CSR issue.** They impact corporate value in light of your customer company and financial market.
- **Approach is spreading to other issues**
 - Ex. Engagement launched by Norwegian Government Pension Fund to integrate consideration on marine plastic issue into business strategy (September 2018)
 - Ex. Task-Force on Nature related Financial Disclosures launched July 2020.

Global Sustainable Investing Assets (2018)

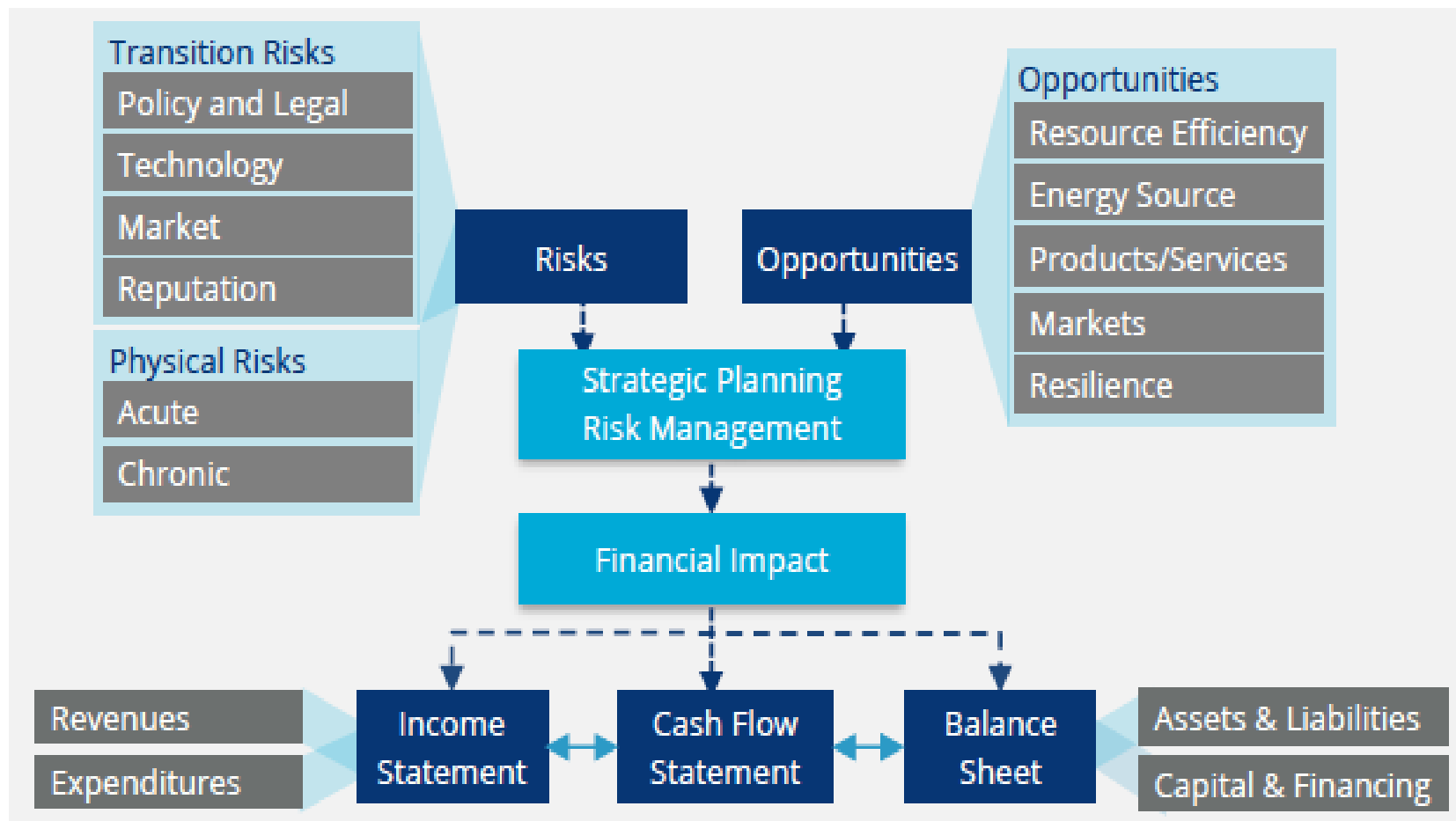
Region	2016	2018
Europe	\$ 12,040	\$ 14,075
United States	\$ 8,723	\$ 11,995
Japan	\$ 474	\$ 2,180
Canada	\$ 1,086	\$ 1,699
Australia/New Zealand	\$ 516	\$ 734
TOTAL	\$ 22,890	\$ 30,683

Note: Asset values are expressed in billions of US dollars. All 2016 assets are converted to US dollars at the exchange rates as of year-end 2015. All 2018 assets are converted to US dollars at the exchange rates at the time of reporting.



Source: Global Sustainable Investment Alliance, 2019

TCFD: Financial impact of climate related risks and opportunities



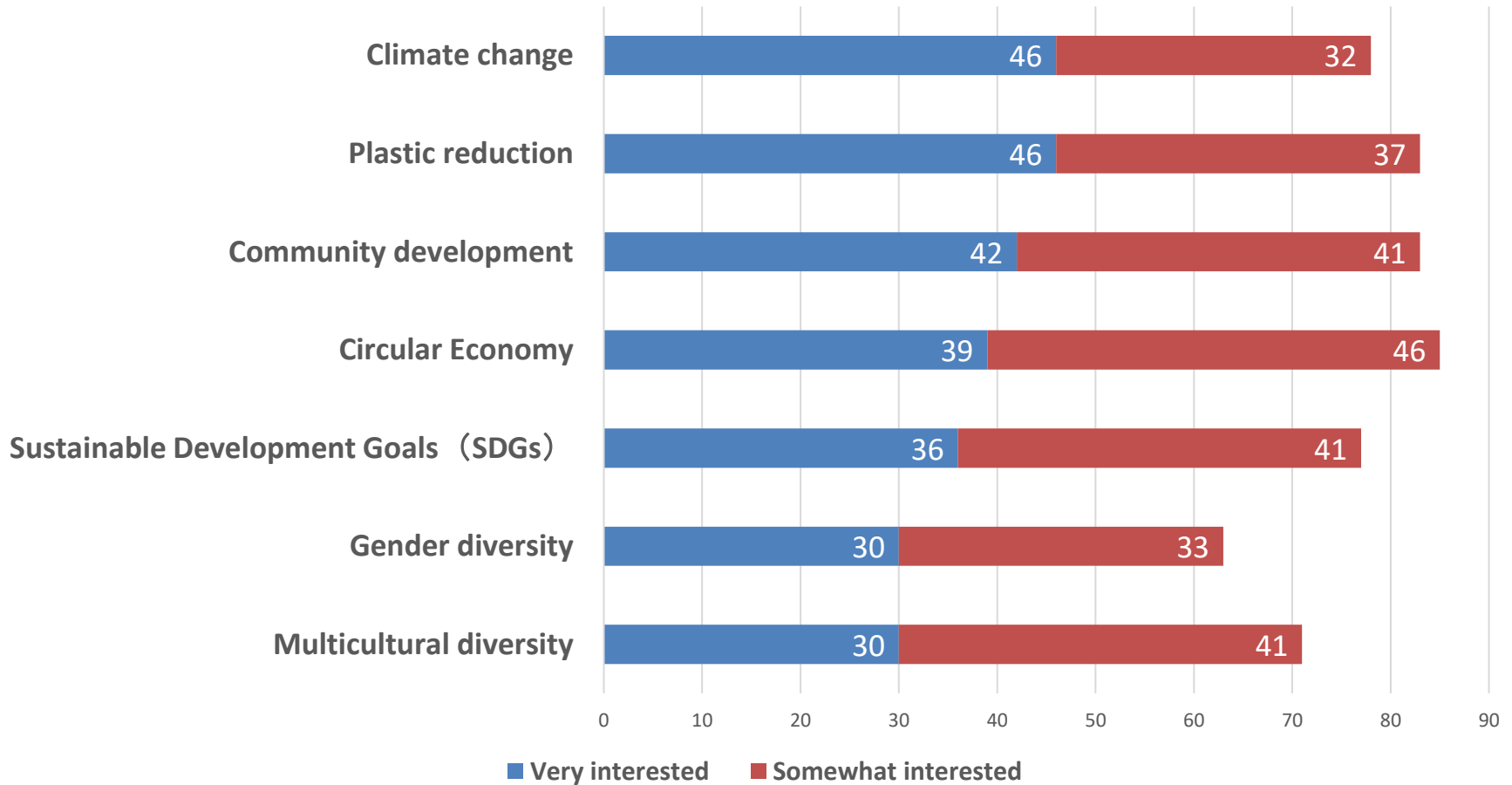
Policies enhancing synergies are key

- Better waste management policy could improve living standard of population.
- Large potentials for co-benefits exist with better policies incorporating consideration of synergies, for instance, with climate change
 - ex. Plastics
 - ex. Material efficiency
- Actions in urban areas are important.
- Accelerating (public and) private clean investment is key.
 - The Government should indicate clear long-term policy guidance, for instance, by showing long term decarbonization goal, vision for circular economy etc.
 - The Government should take measures to facilitate investment and to remove investment barriers.
- Especially important for businesses and businesses are very active, because it will
 - Improve competitiveness and resilience through cost efficiency and resource efficiency
 - Create new markets and businesses. Co-innovation
 - Enhance corporate value in the financial market and in supply chain
 - Good opportunities for inducing private investment

Importance of actions by urban areas (IPCC AR6, 2022)

- Urban areas can create opportunities to increase resource efficiency and significantly reduce GHG emissions through the systemic transition of infrastructure and urban form through low-emission development pathways towards net-zero emissions.
- Ambitious mitigation efforts for established, rapidly growing and emerging cities will encompass
 - 1) reducing or changing energy and material consumption,
 - 2) electrification, and
 - 3) enhancing carbon uptake and storage in the urban environment.
- Cities can achieve net-zero emissions, but only if emissions are reduced within and outside of their administrative boundaries through supply chains, which will have beneficial cascading effects across other sectors.

Individual investors shows the most interest in targeting Climate change and Plastic reduction



Thank you for your attention!

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