Indonesia's Perspective on Methane Mitigation from Waste Sector

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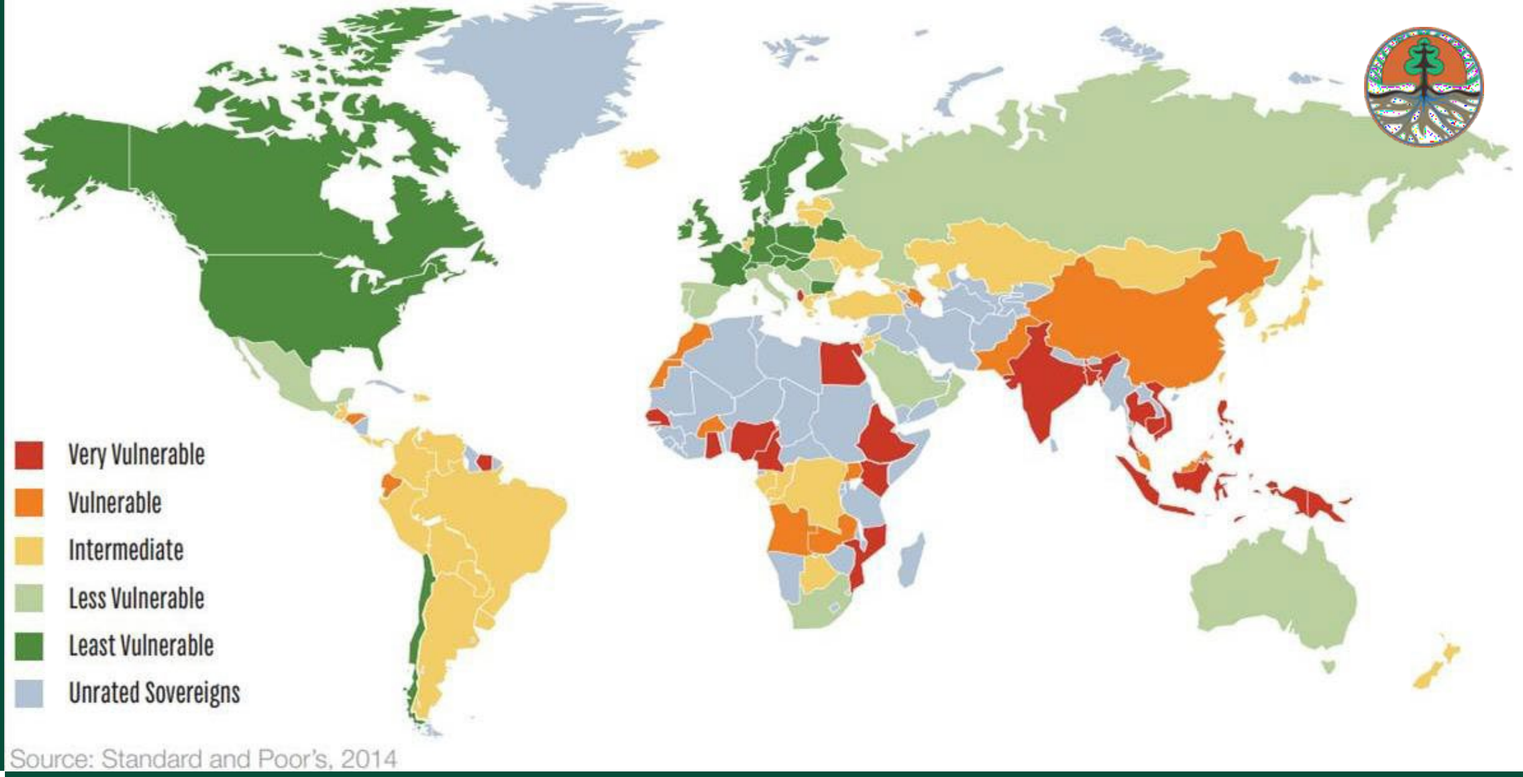
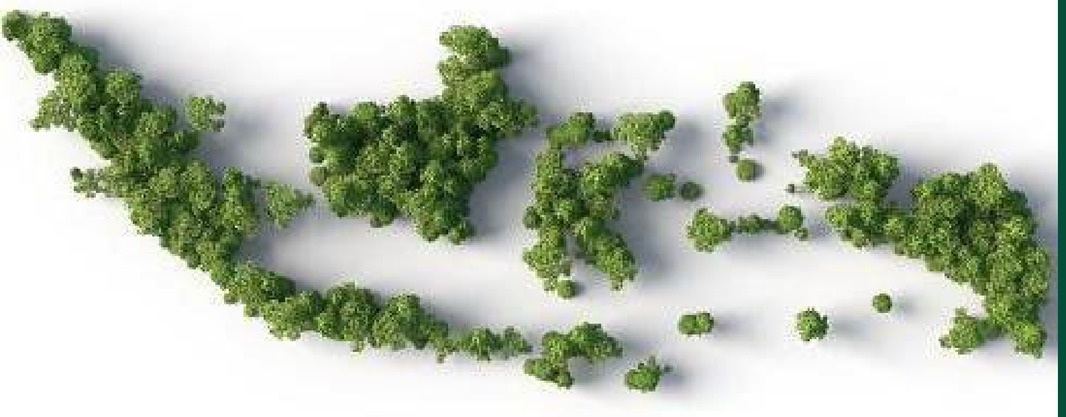
Indonesia is a country that is vulnerable to climate change



Source: Standard and Poor's, 2014



- From 1981-2018, Indonesia experienced an increase in temperature of 0.03°C every year
- From 2010-2018, Indonesia's national GHG emissions trend increased by 4.3% per year (MoEF (2020), processed data)
- Indonesia, as an archipelagic nation with over 17,000 islands, faces significant vulnerability to the impacts of climate change such as rising sea levels. Rising sea levels pose a significant risk to the country, especially since 65% of its population lives in coastal areas

National GHG Inventory

Indonesia 3rd Biennial Update Report, 2021

CH4 Emission

2000: 12,38% (128.702 ton CO2-eq)

2019: 10,04% (185.191 ton CO2-eq)

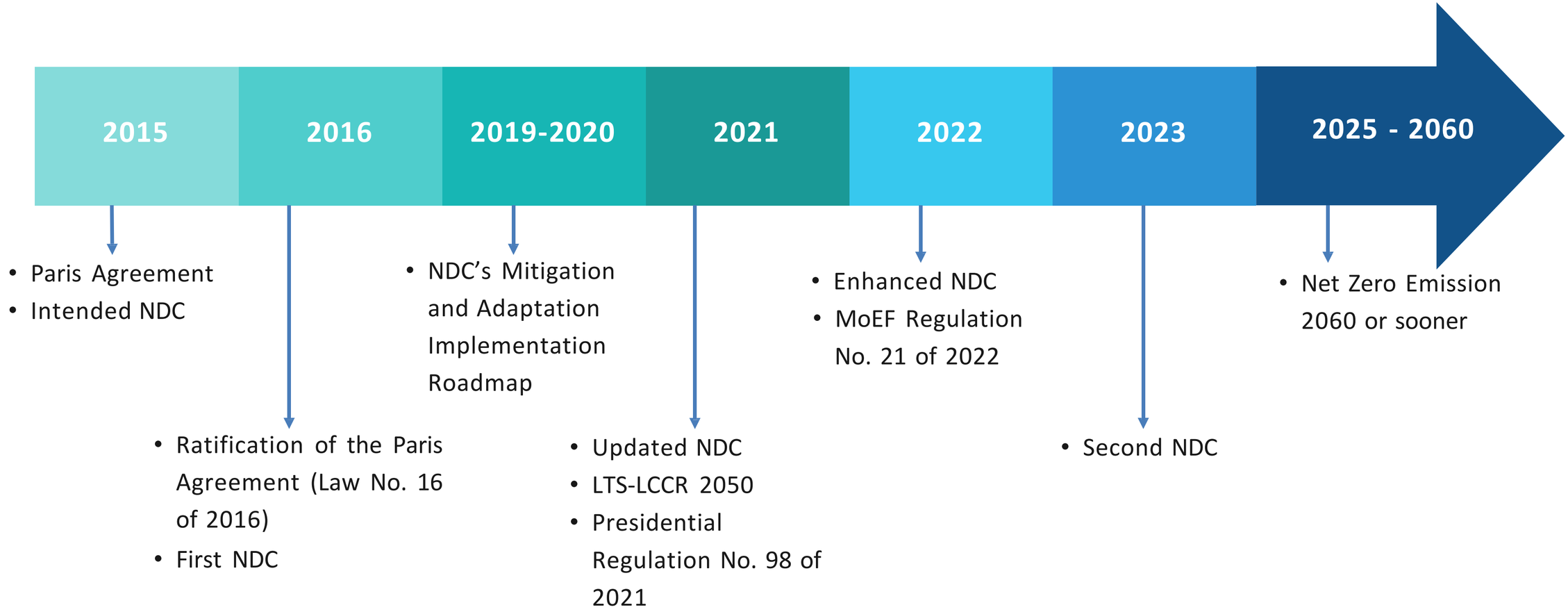
Highest CH4 emitter

Waste Sector (2019: 113.702 ton CO_2e)

No	Sectors	Year	CO_2	CH_4	N_2O	CF_4	C_2F_6	CO	NOx	NMVOC	SOx	Total 3 Gases
1	Energy	2000	284,503	29,728	3,378			NE	NE	NE	NE	317,609
		2019	615,262	16,464	4,726			NE	NE	NE	NE	636,453
2	IPPU	2000	42,401	98	149	250	22	NO	NO	NO	NO	42,648
		2019	57,252	91	784	46	0	NO	NO	NO	NO	58,128
3	Agriculture	2000	4,710	39,940	39,888			2,737	74	NE	NE	84,537
		2019	7,343	46,407	51,552			2,436	66	NE	NE	105,301
4	FOLU	2000	529,815	1,505	1,040			NE	NE	NE	NE	532,360
		2019	910,280	8,527	6,045			NE	NE	NE	NE	924,853
5	Waste	2000	2,216	57,431	2,544			NE	NE	NE	NE	62,191
		2019	3,026	113,702	3,606			NE	NE	NE	NE	120,333
Total (CO_2-eq)		2000	863,645	128,702	46,998	250	22	2,724	70	0	0	1,039,345
		2019	1,593,163	185,191	66,713	46	0	1,500	41	0	0	1,845,067
Percentage (%)		2000	83.10	12.38	4.52	-	-	-	-	-	-	100.00
		2019	86.35	10.04	3.62	-	-	-	-	-	-	100.00

NE = Not Estimated; NO = Not Occurring

Indonesia's Commitment



Indonesia's Enhanced NDC

Sector	GHG Emission Level 2010* (MTon CO2-eq)	GHG Emission Level 2030			GHG Emission Reduction				Annual Average Growth BAU (2010-2030)	Average Growth 2000-2012
		MTon CO_2-eq			MTon CO_2-eq		% of Total BaU			
		BaU	CM1	CM2	CM1	CM2	CM1	CM2		
1. Energy*	453.2	1,669	1,311	1,223	358	446	12.5%	15.5%	6.7%	4.50%
2. Waste	88	296	256	253	40	43.5	1.4%	1.5%	6.3%	4.00%
3. IPPU	36	69.6	63	61	7	9	0.2%	0.3%	3.4%	0.10%
4. Agriculture	110.5	119.66	110	108	10	12	0.3%	0.4%	0.4%	1.30%
5. Forestry and Other Land Uses (FOLU)**	647	714	214	-15	500	729	17.4%	25.4%	0.5%	2.70%
TOTAL	**1,334**	**2,869**	**1,953**	**1,632**	**915**	**1,240**	**31.89%**	**43.20%**	**3.9%**	**3.20%**

Notes: **CM1**= Counter Measure 1 (*unconditional mitigation scenario*)
CM2= Counter Measure 2 (*conditional mitigation scenario*)

*) Including fugitive.
**) Including emission from estate and timber plantations.

Indonesia Waste Management Profile

Total Population

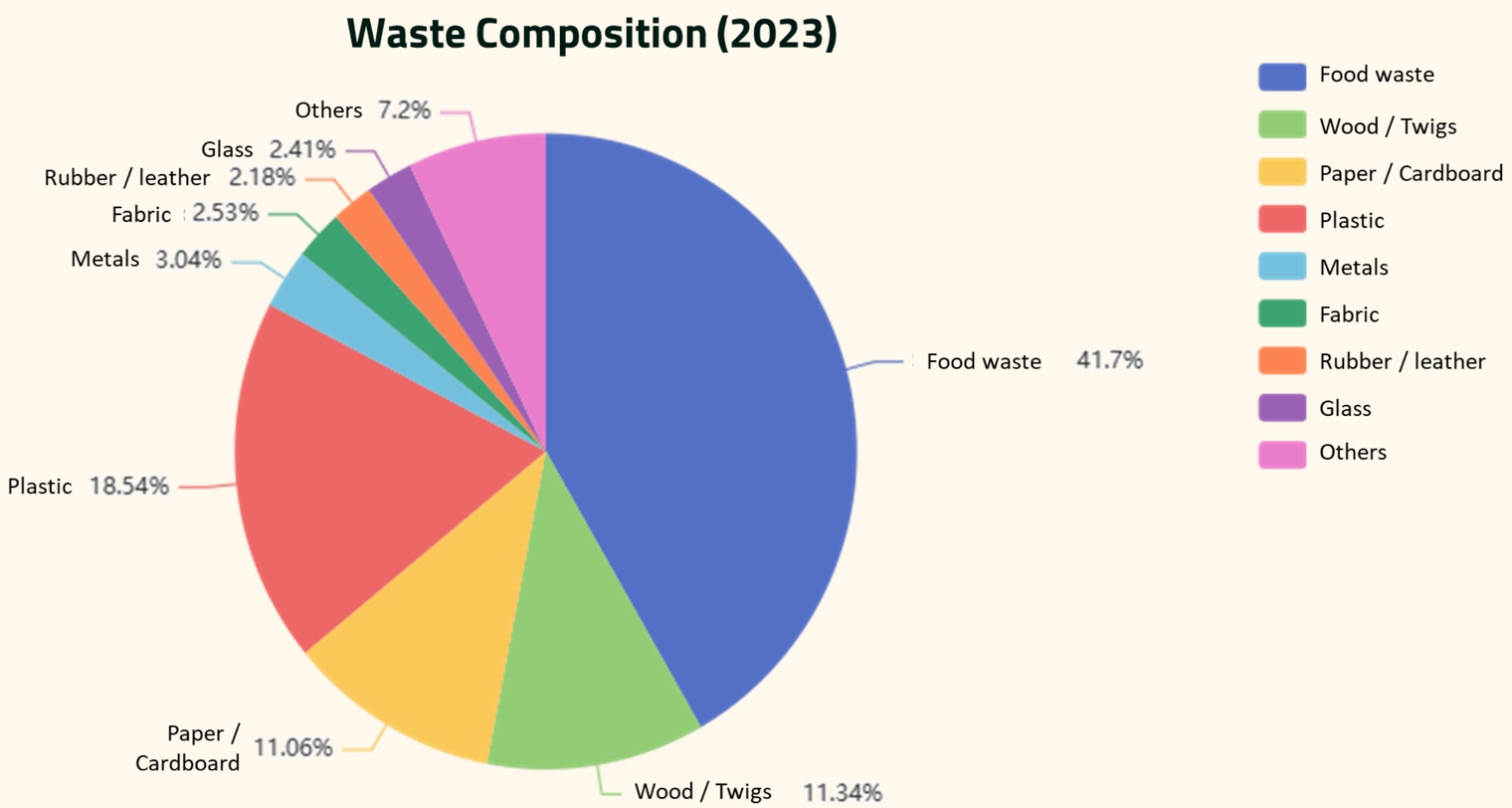
278,696,200

Total Regencies/Cities

514

Projection of National Waste Generation (2023)

69.9 Million tones



Domestic Solid Waste Management Scenario

Presidential Regulation no. 97 of 2017 - National Policy & Strategy on Management of Household Waste and Household-like Waste (JAKSTRANAS)

- 30% waste reduction
- 70% waste handling
- 100% managed waste

Presidential Regulation no. 83 of 2018 - Marine Debris Management

- reduce 70% marine plastic

2025

MoEF Regulation No. 75 of 2019 - Roadmap for Waste Reduction by Producer

- Ban on styrofoam for food packaging, straws, and plastic in 2029
- Producers will reduce 30% container/packaging waste by 2029

2029

Enhanced Nationally Determined Contribution (NDC)

- no addition of new landfills
- zero open burning
- the majority of the paper industry uses domestic recycled paper
- increase processing of waste that does not enter the landfill (apart from composting/3R) through Waste-to-Energy (PLTSa)/RDF/SRF and other utilisation (such as raw materials for organic fertilizer, waste biodigester, maggot)

2030

Zero Waste Zero Emission

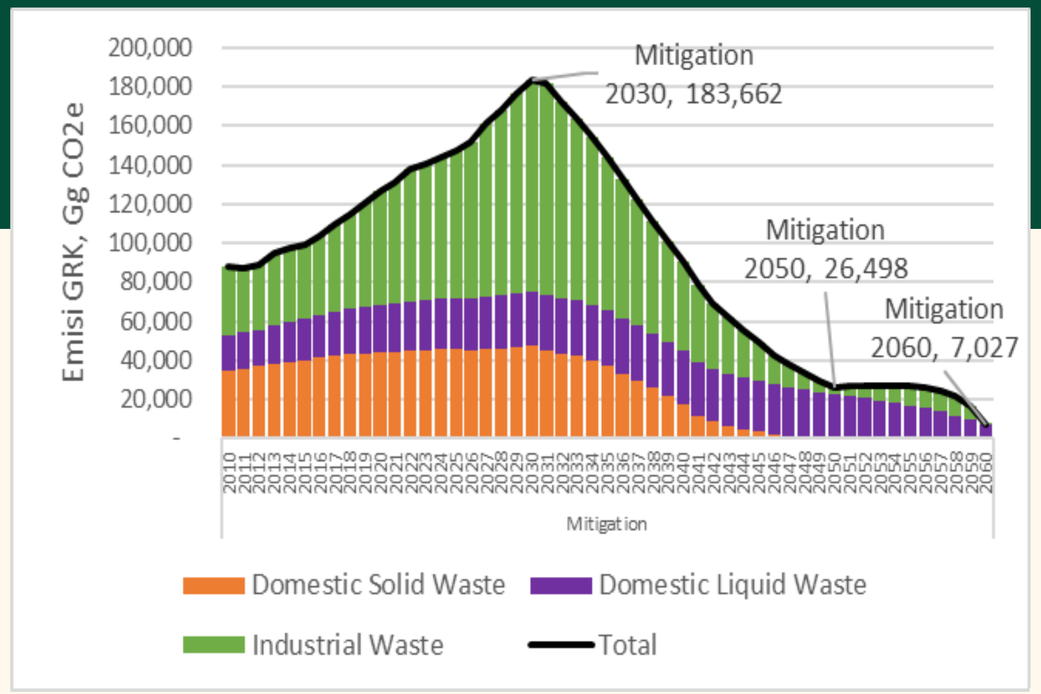
- all of the paper industry uses domestic recycled paper
- zero waste to landfill

2040-2050

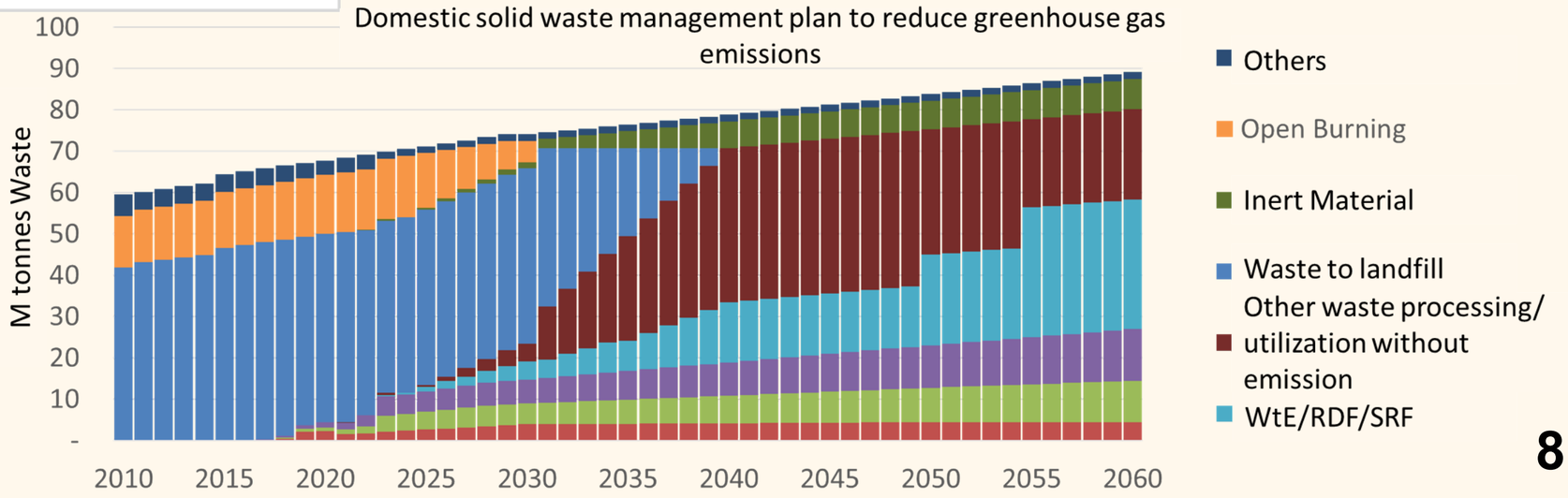
Net Zero Emission

2060

Zero Waste Zero Emission 2050

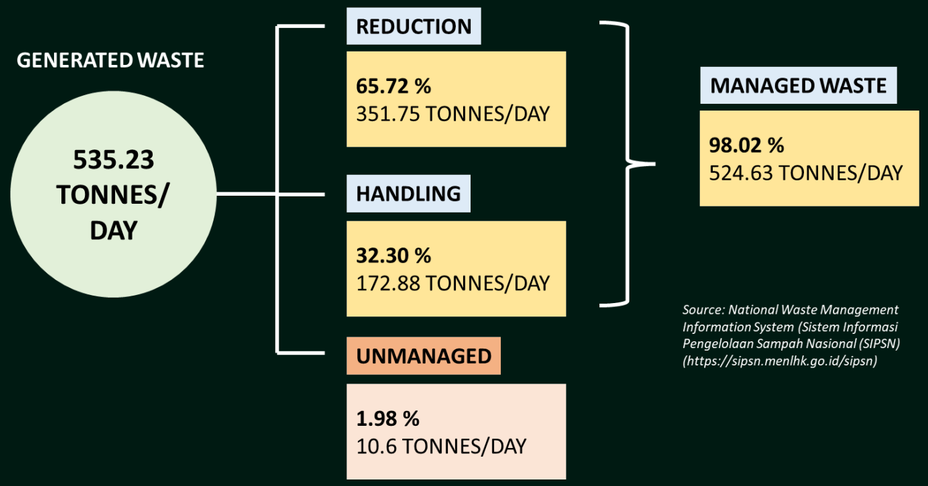


GHG Emission Mitigation Strategy
Domestic Solid Waste Subsector



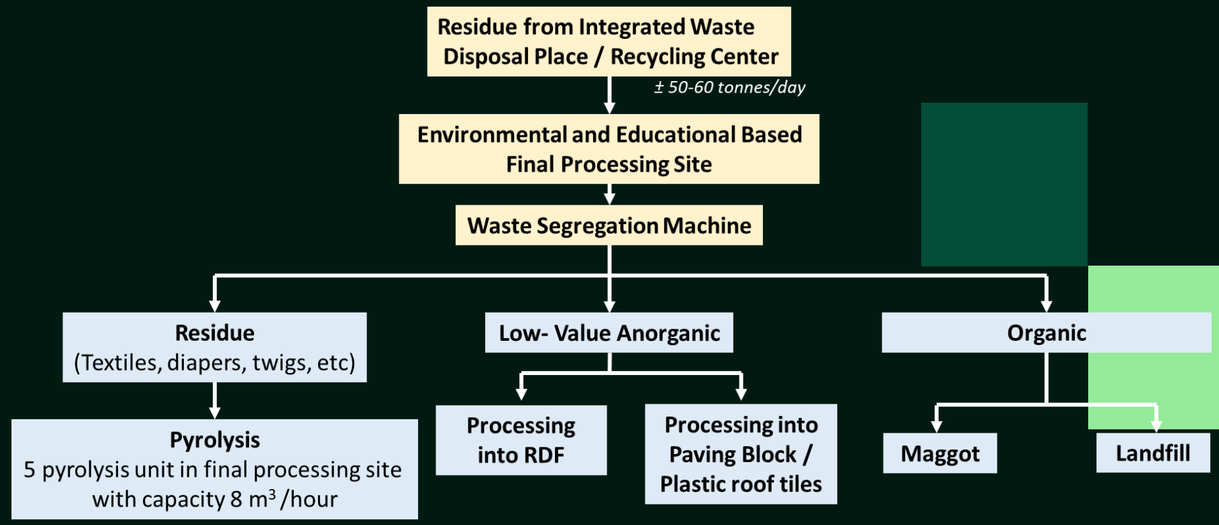
Experience

Banyumas Regency, Central Java



Source: National Waste Management Information System (Sistem Informasi Pengelolaan Sampah Nasional (SIPSN) (https://sipsn.menlhk.go.id/sipsn)

Banyumas Environmental and Educational Based Final Processing Site



Challenges

- decentralized authority for waste management
- collaboration between the central ministry and local governments

Needs

- Investment in waste management
- Appropriate waste management technologies

Thank You

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