



Regional Waste Management Strategy for Zone 6 & 7 (Gaafu Alifu, Gaafu Dhaalu, and Gnaviyani/Seenu)

Transformative Action to End Open Burning of Waste

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Background and Rationale

- **Geographic isolation & limited land** make waste collection & **transportation** difficult and expensive.
- **Lack of ramp/depth/space at port/harbour** in some islands hamper landing craft from berthing
- **Rough seas and monsoons** prevents supply boat from crossing ocean



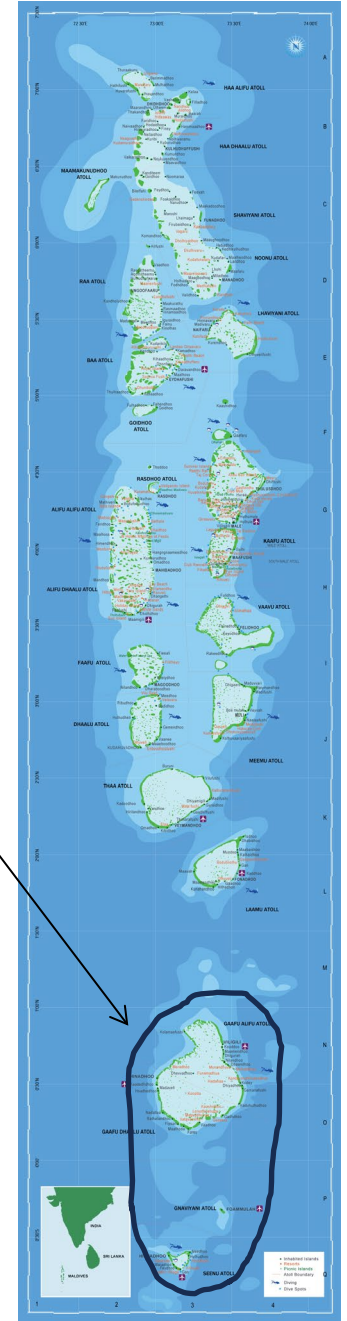
- Leading to **open burning** and **foreshore dumping**



The Maldives span approximately **871 km (541 miles)** from north to south

In total 1,192 islands, of which 199 inhabited

Target zone



Strategy Architecture: Island + Regional System

Island level

- Mandatory source segregation
- Composting of kitchen & green waste
- Temporary storage of residuals & recyclables

Goal: To maximize waste reduction, segregation, and local processing on each island
Target: organic waste diversion by 50% from IWMC by 2030 based on 2025 level

Regional level

- Scheduled transport
- Regional Waste Management Facility
- Waste-to-Energy (WtE) for burnable waste

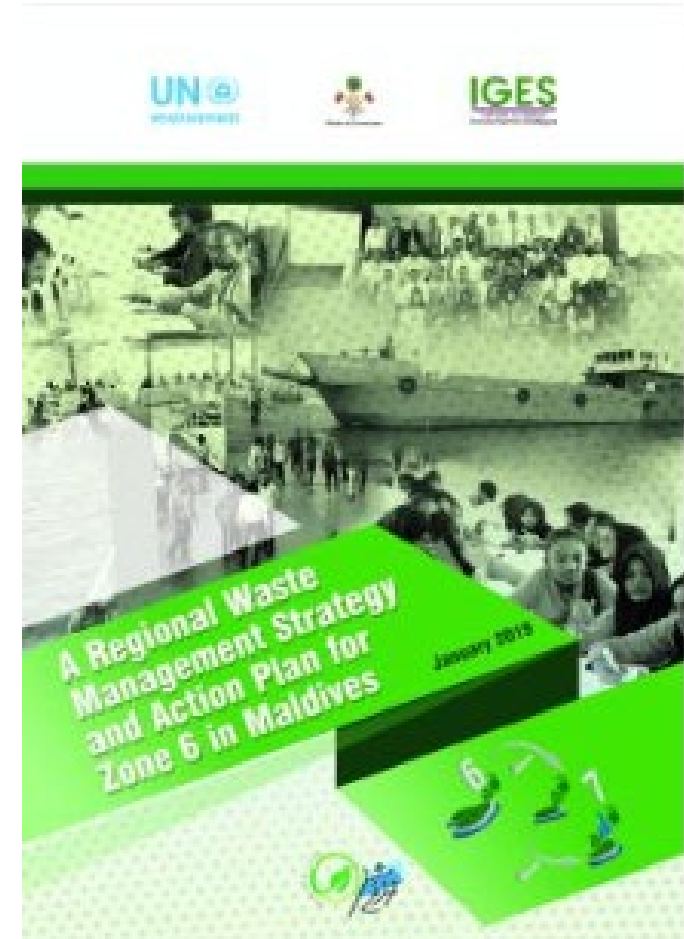
Goal: Zero landfilling (except for ash from incinerator) in Addu and zero waste in other islands by 2035

Island-Level WM Strategy: Eliminate OWB at Source

- No burning of mixed waste
- Organics treated locally ($\approx 70\text{--}75\%$ of waste)
- Only non-organic waste transported
- Clear rules + awareness + enforcement

Logistics as an OWB solution

- Baling & palletisation reduce volume
- Fewer trips, lower cost, lower emissions
- Reliable schedules prevent stockpiling & burning



Role of Waste-to-Energy (WtE)

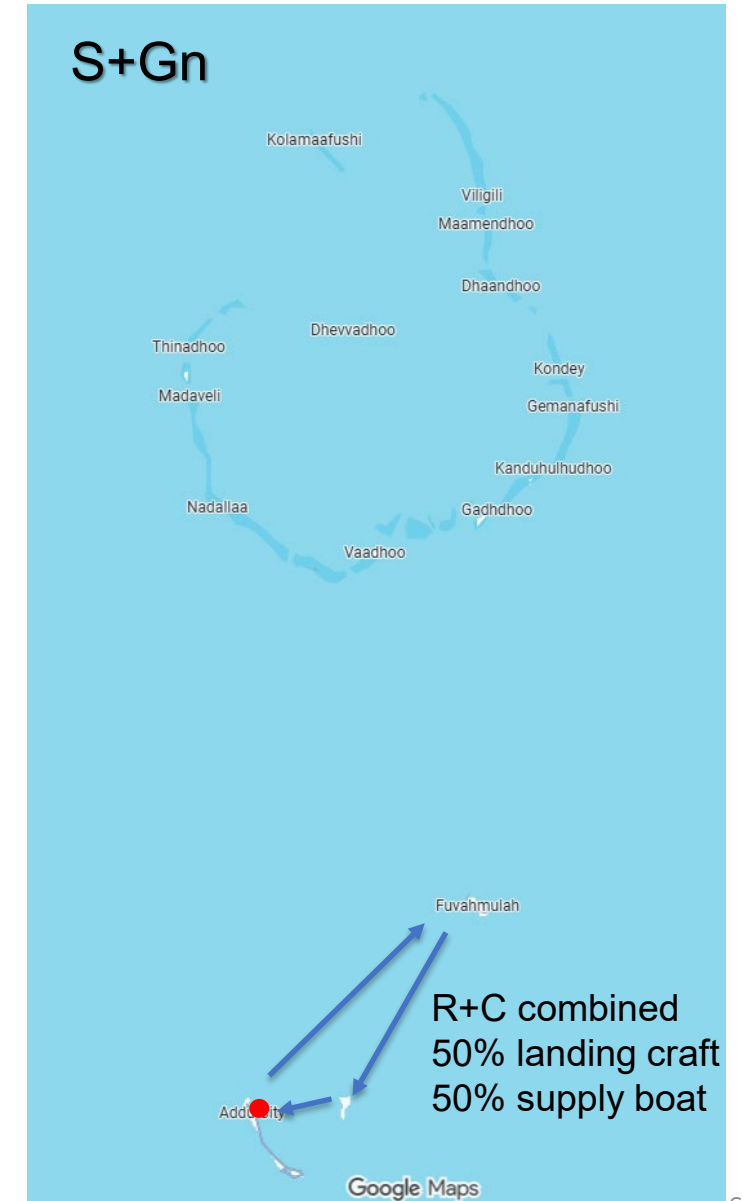
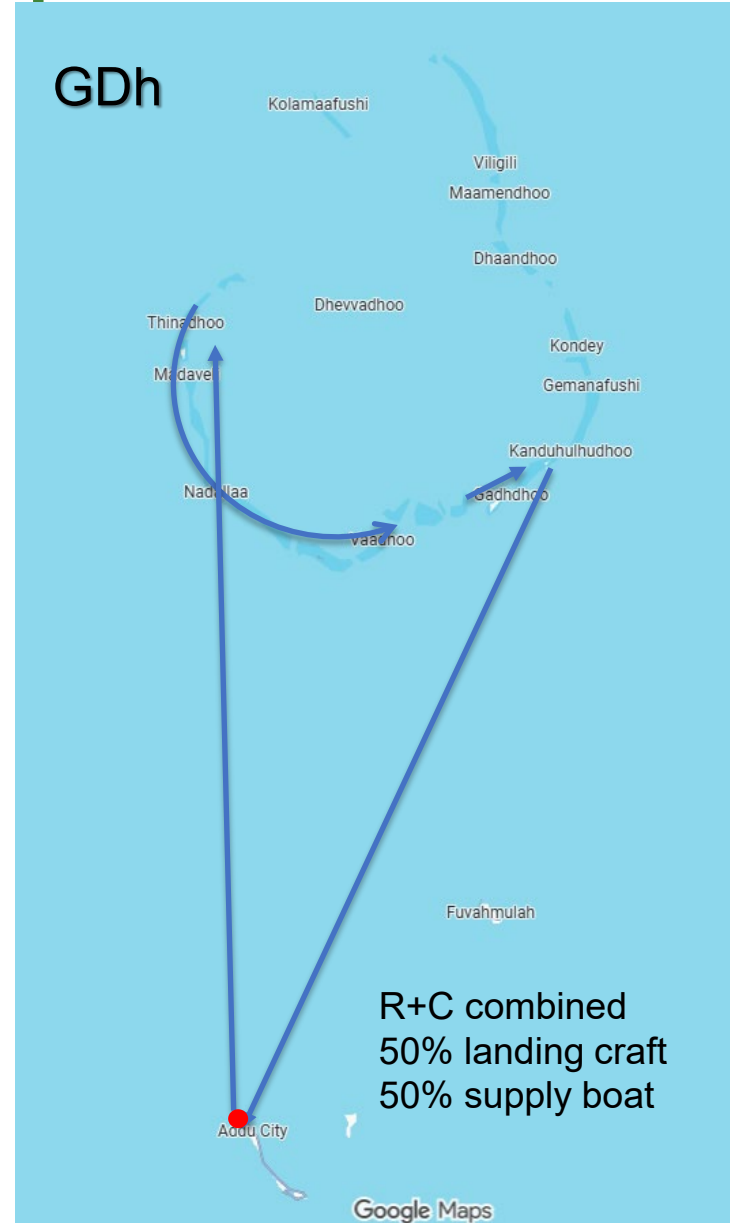
- Treats burnable waste only
- Requires minimum daily feedstock
- Strict emission controls
- Replaces uncontrolled island burning

Total waste to be treated with WtE in Addu (excluding recyclables and green)
= **4.2 ton / day** (7.1 ton/day **+PET and cardboard / 35 ton/day + green**)

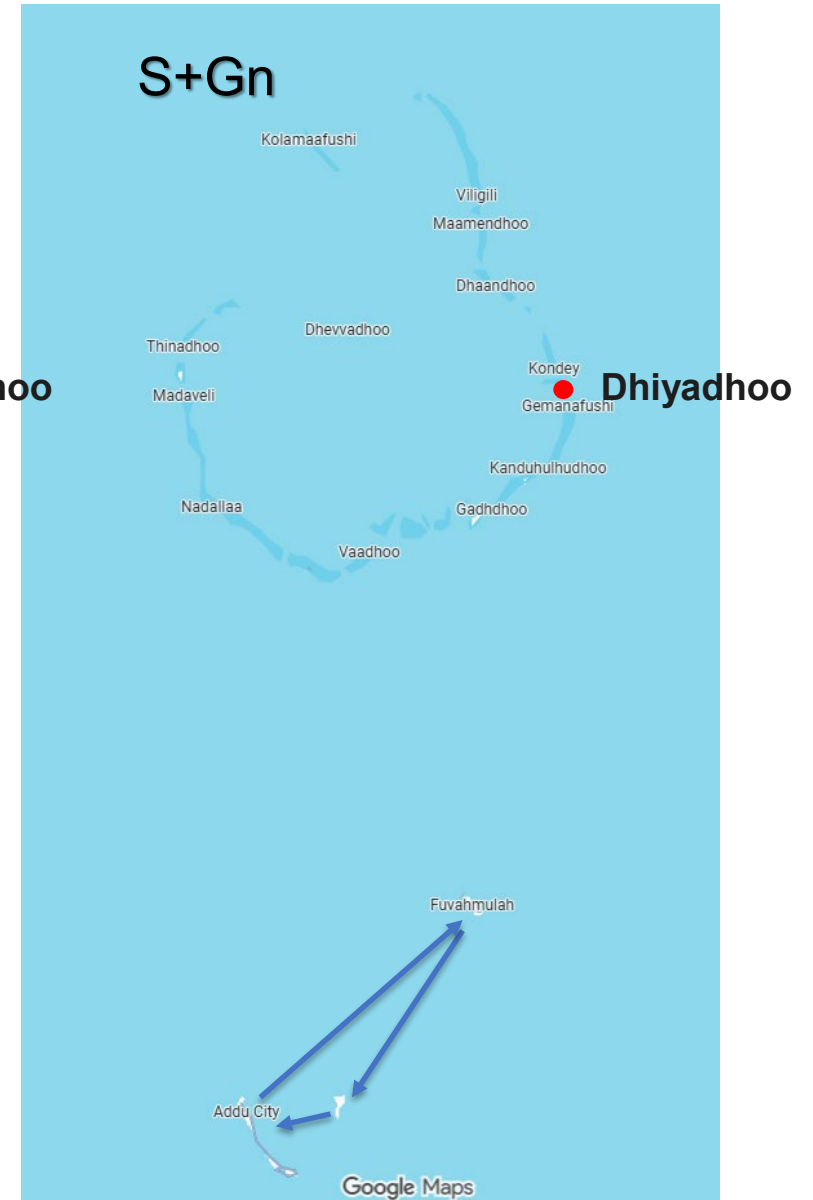


Capacity of WtE in Addu: **50 ton / day** (at least 35 ton/day is required to generate electricity)

Routes of Direct Transportation (Scenario 1)



Routes with Transfer Station (Scenario 2)



(Ref.) Packing efficiency (bale vs pallet)

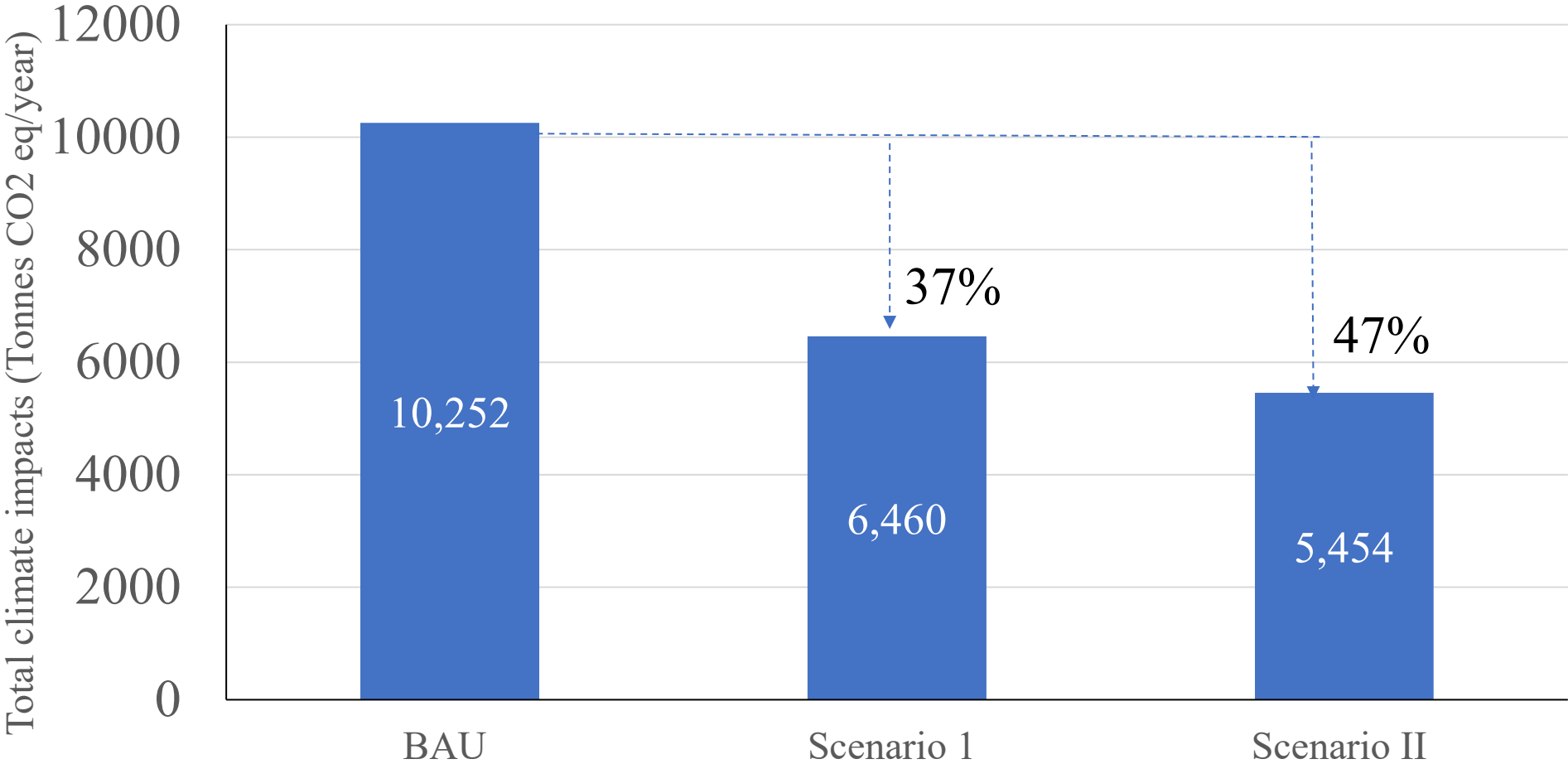
		Waste generation (Kg/day)	Segregation without baling (m3/ month)	Bale (bales/month)	Pallet (pallets/month)
Recyclable	GA	879	858	760	65
	GDh	1,220	1,191	1,055	90
	Gn+S*	1,172	1,144	1,013	86
Combustible (non-recyclable)	GA	678	545	588	49
	GDh	942	756	817	68
	Gn+S*	904	726	784	65
Nappies (sacks)	GA	403	41	1,225 sacks of 10kg	61
	GDh	559	57	1700 sacks of 10kg	85
	Gn+S*	537	55	1,633 sacks of 10kg	82
Total	GA	1,960	1,443	2,573	175
	GDh	2,721	2,004	3,572	243
	Gn+S*	2,613	1,924	3,430	233

(Ref.) Capacity (landing craft vs. supply boat)

	Landing craft	Supply boat (Dhoani)
Carrying capacity (ton)	Around 297	Around 100
No. of bales carrying capacity	1,500	1,000
No. of pallets carrying capacity	186 (2,232 bales)	124 (1,488 bales)
No. of jumbo bags carrying capacity	135	90
No. of nappy sacks carrying capacity	6,000	4,000
Unprocessed waste carrying capacity (m3)	120	80
Average speed (knots)	10	10
Average speed (km/h)	18.52	18.52
Litres of diesel (L/km)	6.22	3.11
Cost of boat hire per day - full service (MVR)	?	MVR 12,500
Cost of boat hire per day - full service (USD)	?	\$ 811

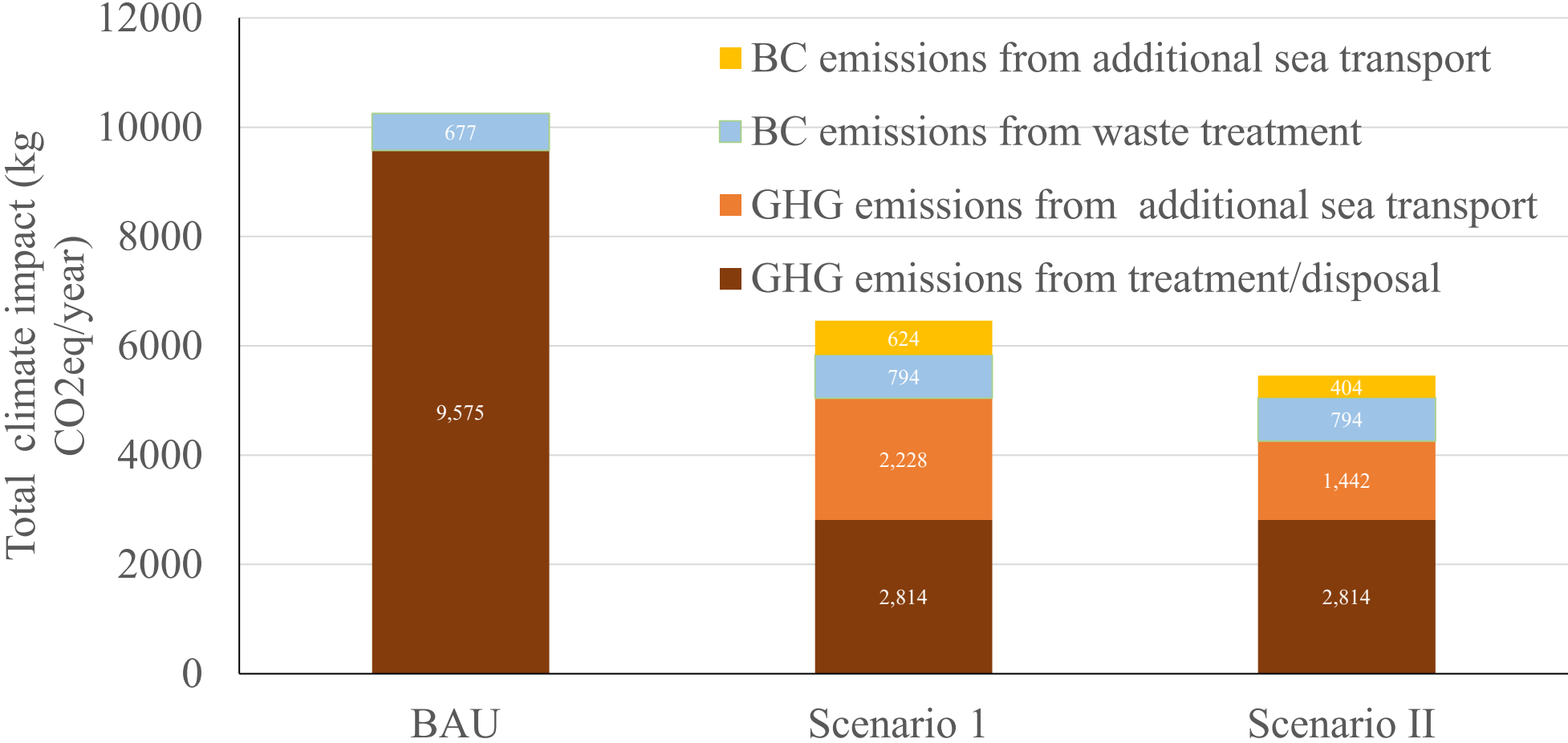
Emission Comparison

Overall climate impact in zone 6 & 7 (Tonnes CO₂eq/year)



Emission Comparison (Breakdown)

Breakedown of total climate impacts of waste management in zone 6 & 7



Policy & Institutional Alignment

- Mandatory segregation regulations
- Ban on open burning (with alternatives in place)
- Clear roles: island councils, EPA, WAMCO
- Monitoring & reporting of waste flows



Co-benefits

- Reduced PM_{2.5} & black carbon
- Methane reduction from avoided dumping of organic waste
- Improved public health
- Cleaner beaches & reefs
- Alignment with NDCs & SDGs

Thank you

Any question?

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