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Waste Management Towards Circularity

Water and Urban Development Sector Office

ADB-BMZ Germany Roadshow, 28 September - 02 October 2026, Berlin, Germany

ADB | Sector Department 2

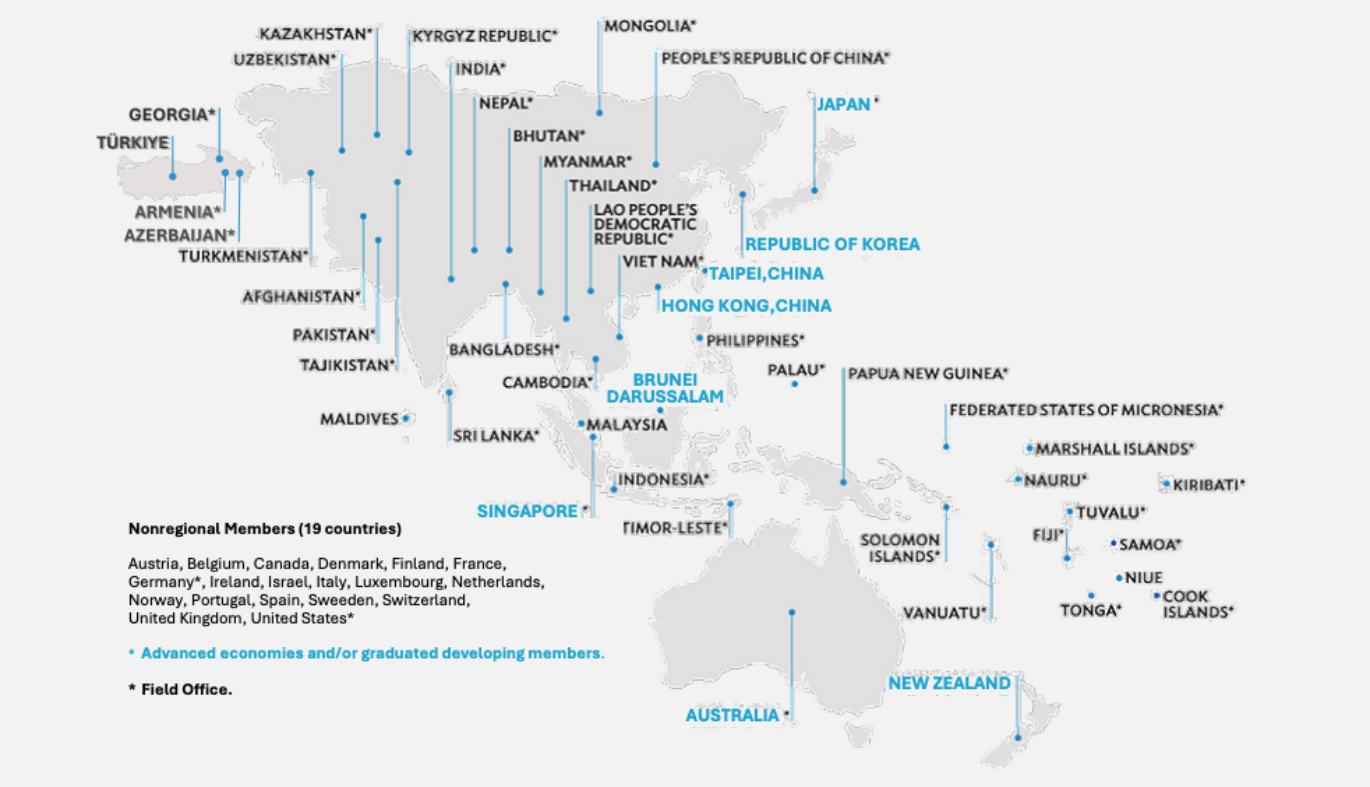
Asian Development Bank

ADB is a **leading multilateral development bank supporting inclusive, resilient, and sustainable growth across Asia and the Pacific**. Working with its members and partners to solve complex challenges together, ADB harnesses innovative financial tools and strategic partnerships to **transform lives, build quality infrastructure, and safeguard our planet**.



Main instruments: loans/grants, technical assistance, equity and guarantees – for sovereign and non-sovereign clients

Delivered through: ADB's own resources (ordinary; concessional; special funds) and cofinancing



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ADB connects finance, knowledge, and reforms, for sustainable and resilient cities

CLIENT-CENTERED APPROACH Understand priorities • co-design context-fit solutions • stay engaged through delivery

$ FINANCING

Supporting bankable investments

- Sovereign and private-sector finance
- Cofinancing and partnerships

KNOWLEDGE & CAPACITY

Strengthen delivery, preparation to operations

- Diagnostics, feasibility, quality design, and readiness
- Implementation support and institutional capacity strengthening
- Operational sustainability: O&M and utility performance

POLICY DIALOGUE

Strengthen conditions for durable impact

- Align national, city and utility priorities
- Strengthen policy, regulatory and institutional frameworks
- Governance, service and financing reforms, where needed

LOANS, GRANTS, TECHNICAL ASSISTANCE, PARTNERSHIPS

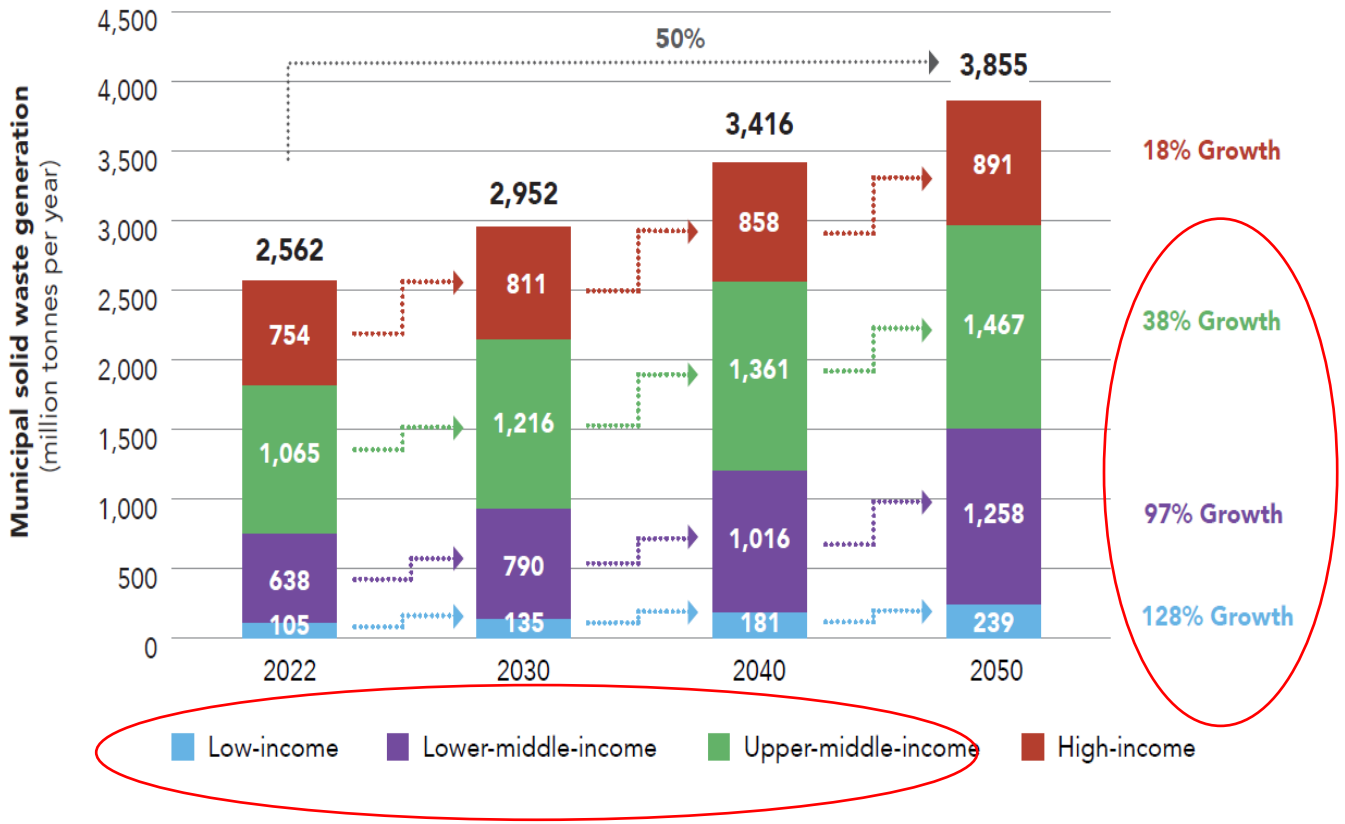
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Global Waste Generation

Global waste generation is **increasing faster than anticipated.**

2.56 Billion Tonnes Annually (2022) **50% increase** **3.86** Billion Tonnes Annually (2050)

On an absolute basis, the largest growth is in the upper-middle-income and lower-middle-income countries, where more than 1 billion tonnes of additional municipal solid waste are expected to be generated in 2050 compared with 2022 levels.



[What a Waste 3.0, World Bank, 2026]

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Key Solid Waste Management Challenges and Opportunities for Asia and the Pacific

- More than 70% of mismanaged waste worldwide – waste that can be sustainably managed but is not – originates from Asia and the Pacific

- 95% of the global volume of plastics into the ocean via Asian rivers
- 1.5 billion tons municipal waste generated yearly by 2030

- Less than a quarter plastic waste recycling rates are in Southeast Asia and approximately 5% in South Asia

Limited Local Capacity and Resources + Inefficiency

Service Gaps & Low Operational Sustainability

Indicative Sector and Project Investment needs to 2050



$556 billion investment need in low- and lower-middle income countries

Versus

$15 billion (2003-2021) in official development finance (ODF)

- **Only 0.5% of all ODF was for waste management**
- **10x less than Water and Sanitation**

[What a Waste 3.0, World Bank, 2026]

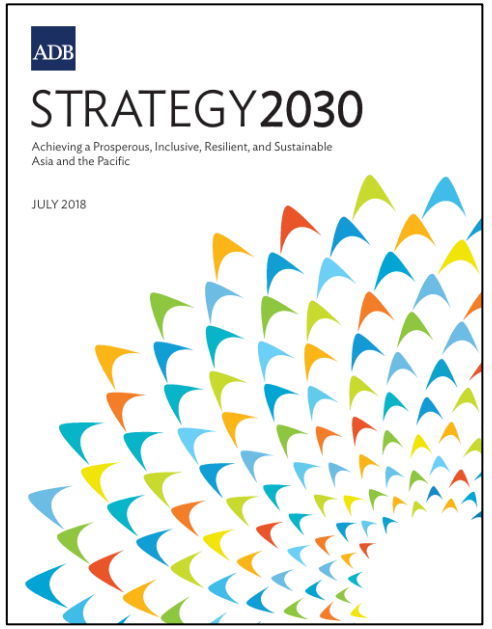
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Strategic importance of Waste Management and Circular Economy in ADB

Document	WM and CE relevance
ADB's Strategic Focus Area	Climate Action – Climate Finance, Disaster and Resilience Management and Environmental Sustainability Resilience and Empowerment
ADB's Environment Action Plan 2024-2030	Circular Economy, key pillar to scale up investments and mobilize resources for advancing a nature-positive, climate-resilient, and resource-efficient development in Asia and the Pacific, across all operational sectors.
ADB`s Environmental and Social Framework (ESF)	Under Environmental and Socal Standards requirements, borrowers must incorporate Circular Economy throughout the project cycle.
Steering ADB's Corporate Strategy to Success: Corporate Results Framework, 2025–2030	Projects with a Circular Economy component contribute to Indicator 9 to achieve the 32% target of Committed operations supporting the environment by 2030

Operational approaches – Sectors Departments

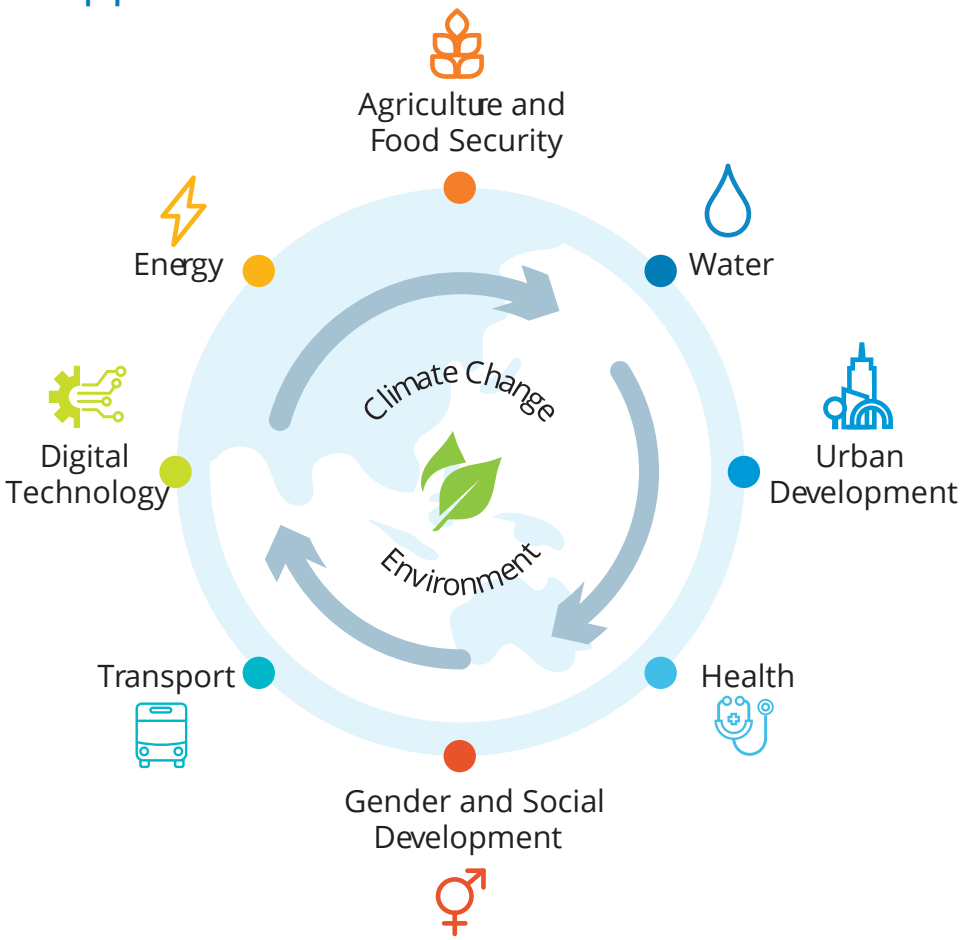
- Urban Sector Directional Guide Strategy 2030 Transport Sector Directional Guide
- Strategy 2030 Water Sector Directional Guide (WSDG)
- Operational Approach for Food Systems Transformation in Asia and the Pacific (2026–2030)



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Circular Economy Entry Points Exist Across ADB's Sectors

Circular Economy is anchored in sustainability and most closely associated with waste management and plastics, but the value, efficiency and programmatic additionality provided by integrated systems approach can enhance ADB's services across sectors



ADB Sectors exist as part of national, regional and global systems. Circular Economy supports the OneADB approach to provide integrated solutions through multi-sectoral approaches

- Energy projects with integrated climate change, digital, water, urban development and nature-based solutions
- Urban development with integrated nature-based climate change mitigation solutions, urban farms, digital technology, energy efficiency and water conservation
- Nature linked health environments with digital support structures for enhanced accessibility
- Gender accessible, quality jobs linked to sustainability and resource efficiency
- Healthy and Age Friendly Urban Development

Areas of Sustainable Solid Waste Management for Cities Resilience



Integrated Approach

End-to-end solutions (four pillars framework) including governance, regulation, financing, technology



Circularity (Recovery)

Material recovery and circularity: grow recycling markets and optimize landfill volumes



Behavioral change

Public engagement, incentives and convenient services to prevent waste and improve segregation

Cross-cutting enablers across the chain



Policy & Regulation

Standards, tariffs and enforcement for sustained services



O&M & Partnership

Asset management through capable operators and public–private partnerships



Digitalization

Data and smart systems to track waste, treatment and cost efficiency



Stakeholder Capacity

Train city, utility and ADB staff; engage communities and informal workers

[ADB, 2026]

ADB Pipeline of Waste Management Projects- Business Opportunities

1. Circular Pacific via Regional Recycling Network ($10.6 M, 2027)
2. CAM: Plastic Reduction and Blue Economy Development Program ($100 M, 2027)
3. RETA: Towards Circular Economy in Asia and the Pacific: Promoting Resource Efficiency and Enabling Low Carbon Development ($0.5M)
4. KYZ: Solid Waste Management Environmental Enhancement Project ($40 M, 2027)
5. UZB: Sustainable Solid Waste Management for Circular Economy Project ($100 M, 2027)
6. Resilient and Sustainable Urban Improvement Project ($10M, 2027)
7. LAO: Greater Mekong Subregion Smart and Sustainable Tourism Infrastructure for Inclusive Growth ($40 M, 2027)



8 NEP: Kathmandu Valley Integrated Waste Management ($100 M, 2027)

9 TAJ: Dushanbe Solid Waste Management ($20 M, 2029)

10. BAN: Urban Sanitation Management Project for Small Towns (phase 1) ($100 M, 2031)

[ADB, Sector Department 2,2026]

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Sustainable Waste, Circular Economy

Municipal Services in Punjab
PAK | Project loan, 2023



Project Loan: ***$180 million***
Period: ***Dec. 2023 to June 2029***

- The project will benefit up to 1.5 million urban dwellers in Punjab, the most populous province of the country
- Solid waste collection, treatment and disposal in Bahawalpur.
- Stronger utility capacity, service quality and financial sustainability.

Swachh Bharat Mission 2.0
IND | Results-based loan, 2023



Project Loan: ***$200 million***
Period: ***Dec. 2023 - June 2029***

- Covers ~100 cities across 8 states, supporting garbage-free cities by 2026.
- Introduces best practices, new technologies, climate- and disaster-resilient Solid Waste Management, women's participation and private sector engagement.

Kathmandu Valley Integrated
NEP | Under preparation



Project Loan: $100 M, ***Under preparation***
Period: ***Indicative 2027-2032***

- Kathmandu Valley generates ~1,500 tons/day of municipal waste; 54% organic and ~85% of plastic waste mismanaged.
- Upstream source segregation, smart transfer stations, clean material recovery facilities and plastic recycling pilots.
- Landfill environmental upgrades, informal waste worker integration, policy and digital reforms.

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Sustainable Waste, Circular Economy

Circular Economy Project
THA I Signed 2026



ADB Financing: $93.4 million

- Energy resource recovery by recovering energy from waste and reducing the amount of industrial waste directed to landfills.
- Addresses Thailand's persistent waste management challenges by reducing illegal dumping and improper industrial disposal.

Paper Recycling and Circular Economy Project
MAL I Signed 2025



ADB Loan: $60.0 million

- The facility will: (i) raise volumes of recycled paper production and enhance circular economy; (ii) reduce industrial waste generated; (iii) reduce net GHG emissions.
- First circular economy recycled packaging paper project.

Circular Pacific Network
Pacific | Under preparation





Project Loan: *Under preparation*

- Regional network for PET, cardboard, used oils, e-waste and end-of-life vehicles.
- Builds economies of scale across small, dispersed island markets.
- Anchored in private sector investment, off-take agreements and regional cooperation.

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Partnering with Germany

- German expertise: technology, standards, and O&M know-how for greater impact and sustainability of ADB projects
- Policy and capacity building: circular economy regulation, EPR and utility reform
- Resource mobilization: cofinancing, Technical Assistance, project preparation support



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