





# Sahiwal SWM Strategy (Draft)

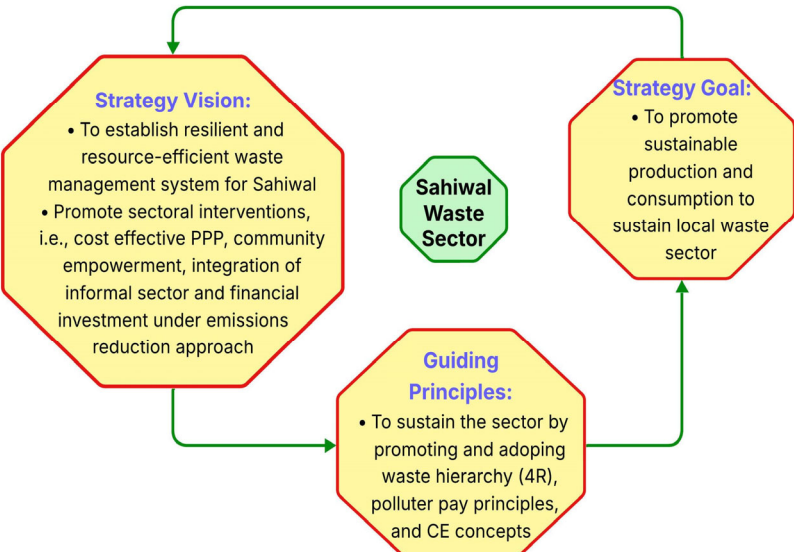
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## Strategy: Goal, Vision and Guiding Principle



**Strategy Vision:**

- To establish resilient and resource-efficient waste management system for Sahiwal
- Promote sectoral interventions, i.e., cost effective PPP, community empowerment, integration of informal sector and financial investment under emissions reduction approach

**Sahiwal Waste Sector**

**Guiding Principles:**

- To sustain the sector by promoting and adopting waste hierarchy (4R), polluter pay principles, and CE concepts

**Strategy Goal:**

- To promote sustainable production and consumption to sustain local waste sector



**Features:**

*Strategy is aligned with;*

- “Suthera Punjab Program”
- Targets of NDCs
- SDGs 11, 12, and 13
- CE Principles

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## Strategy Development Methodology:

Situational Analysis

- Population
- Waste Generation
- Current Waste Management System

Data Collection

- Primary Data Collection
- Secondary Data Collection


Stakeholder Consultation


- General Public Perception Survey
- Informal Sector
- Departmental Consultation

Analysis of Available Data


Strategy Formation

SN	Waste Components	Sahiwal		
		DTD Collection (Generated Waste)	Vehicle Load (Collected Waste)	Avg. Waste Composition (%)
1	Combustibles	2.72	0.85	1.79
2	Diapers	7.18	11.49	9.34
3	Electronic Waste	0.40	0.03	0.22
4	Glass	1.57	0.44	1.01
5	Hazardous Waste	0.16	0.24	0.20
6	Biodegradable	57.10	61.59	59.35
7	Metals	0.30	0.05	0.18
8	Non-Combustibles	3.41	1.26	2.34
9	Paper-Cardboard	5.73	1.16	3.45
10	PET	1.22	0.20	0.71
11	Nylon	0.70	0.13	0.42
12	Plastics	14.52	17.89	16.21
13	Tetrapak	0.97	0.10	0.54
14	Textile	4.02	4.59	4.31
Sum		100	100	100







Consultative Sessions with Informal Sector



Meeting with SWMC Officials and Contractors

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## Strategy Components, Agents and Drivers

Waste Strategy Components/ Themes

Physical Infrastructure

Political will, Stakeholder Engagement, Behavior Change & Awareness

Waste Environment

Monitoring and Evaluation

Waste Governance, Institutions and Legislative

Waste Economics/ Business & Social

Sahiwal WMC

MC Sahiwal

MOCC & EPA

LG&CD Department

Local NGOs/ CBO

Junkshops

Market Trends (Compost/ RDF/ WtE)

Citizens Need (DTD/ Communal Collection)

Informal Sector (Industry)

Technology Waste Treatment

Waste Agents (Change/ Resistance)

Waste Strategy Drivers

Sahiwal Strategy Formation

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## Strategy Framework:

### Timelines & Implementation Hierarchy Levels



#### Short-Term Initiatives (3 Years)

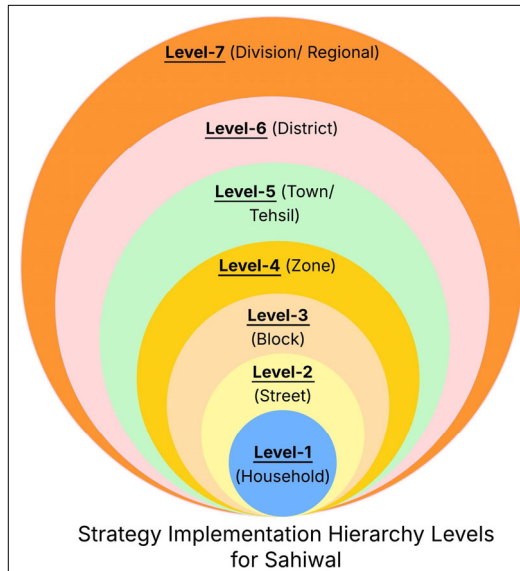
Year 2026	Year 2027	Year 2028
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#### Medium-Term Initiatives (5 Years)

Year 2029	Year 2030	Year 2031	Year 2032	Year 2033
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#### Long-Term Initiatives (7 Years)

Year 2034	Year 2035	Year 2036	Year 2037	Year 2038	Year 2039	Year 2040
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## Strategy Framework:

### Short Term Actions (3 Years): High Impact Actions



1. Operationalization of MRF Sahiwal (Service Contract or Outsourcing)
2. Targeted Source Segregation
3. Integration of Informal Sector – Junkshop Level
4. Rehabilitation of Jhal Dumpsite (old site) with support of IGES/ JICA
5. Construction of Waste Enclosure in Urban Areas (15 no.)

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## Strategy Framework: Short Term Actions (3 Years): Informal Sector Integration

1. Horizontal Integration
2. Vertical Integration

Informal Waste Recycling Business Dynamics

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## Strategy Framework: Short Term Actions (3 Years): Source Segregation

1. Two-Bin System
2. Targeted Approach – 10%
3. Public Awareness
4. Behavior Change – Involvement of Local NGO

Theory of Planned Behavior (TPB)

Perceived Behavioral Control (PBC)

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Levels		Strategy Components/ Themes	Indicators	Short- Term Actions (3 Years)		Implementation Plan			Status (term)
				Strategy Instructions for Implementation		Targets	2028	2033	
Level - 1 (House Hold)	Waste Economics/ Business/ Social	Source Segregation	Introduction of "Two-Bin System" for Dry and Wet Waste in targeted urban areas of Sahiwal, Okara & Pakpattan	50%	10%	15%	25%	Long	
			Reuse	Promote concept of reuse of material	55%	10%	10%	15%	Long
	Stakeholder Engagement for Behavior Change	Engagement with local NGO	Partnering with local NGO to conduct community (household level) based demonstrations and street theatres for source level waste segregation for two-bin-system	50%	10%	15%	25%	Long	
Level - 2 (Street)	Physical Infrastructure	Door to Door (DtD) Collection	Deployment of vehicles at doorstep with service area coverage	80%	80%	-	-	Short	
			Diversion of waste from open plots and open drains - avoidance waste leakage	90%	90%	-	-	Short	
	Waste Social Aspect/ Behavior Change	People's Behavior Change Campaigns	Installment of loudspeakers at waste collection vehicles to display/ announce jingles to alert the people to deliver waste to collection vehicle.	80%	80%	-	-	Short	
			Development of visual-based guides (infographics) for source segregation	50%	10%	15%	25%	Long	
Level - 3 (Block/ Union Council)	Physical Infrastructure	Communal Waste Storage/ Container- Based-Collection (CBC)	Establishment of communal storage sites/ placement of containers at commercial/ institutes (bulk waste generation sites)/ private housing societies through Smart Container Collection System under fee recovery basis	80%	80%	-	-	Short	

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Levels		Strategy Components/ Themes	Indicators	Short- Term Actions (3 Years)		Implementation Plan			Status (term)
				Strategy Instructions for Implementation		Targets	2028	2033	
Level - 4 (Zone)	Physical Infrastructure	Mobile Transfer Station	Mobile Waste Transfer Stations (urban centers) by deploying Compactor Vehicles with volumetric capacity of 13 m <sup>3</sup> or 25 m <sup>3</sup> .	50%	10%	40%	-	Medium	
			Waste Enclosures/ Waste Storage Sites	Establishment of covered small waste enclosures (dimension: 25' x 50') on state land (urban centers)	30%	5%	25%	-	Medium
Level - 5 (Town/ Tehsil)	Waste Environment	Operationalization of Sahiwal MRF	Operationalization of Sahiwal MRF facility at full capacity in two shifts by engagement of private sector through service level Contact	100%	100%	-	-	Short	
			Waste Diversion from Landfill for Waste Treatment	Establishment of MSW treatment facilities for compost, anaerobic digestion (AD), refuse derived fuel (RDF), and recycling	40%	-	20%	20%	Long
	Physical Infrastructure	Quantity/ record of waste disposal	Installation of weighbridge at dumpsite	100%	100%	-	-	Short	
			Dedicated Waste Collection Streams	Dedicated deployment of resources for residential waste, commercial, housing societies, institutes, industrial waste, green waste, and animal waste	80%	-	80%*	-	Medium
	Waste Governance and Legislative	Producer Pay Principle/ Service Fee Recovery	Punjab government has notified the service fee recovery from houses and commercial units. Sahiwal WMC should ensure maximum effort towards fee recovery through private contractors (as per waste outsourcing contracts/ agreement)	80%	30%	50%	-	Medium	
Waste Economics/ Business/ Social	Integration of Informal Sector	Registration of buyback centers/ informal waste dealers through horizontal integration	100%	100%	-	-	Short		

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Strategy Framework: Short, Medium & Long Term									
Levels	Strategy Components/ Themes	Indicators	Strategy Instructions for Implementation	Implementation Plan				Status (term)	
				Targets	2028	2033	2040		
Level – 6 (District)	Waste Economies/ Business & Social	Recycling and Recovering of material from Waste	Promote the concept of waste recycling and recovery through PPP modality	40%	5%	15%	20%	Long	
	Waste Governance and Legislative	Bylaws	Enactment of SWM bylaws under PLGA to control waste littering, illegal dumping and waste burning	100%	50%	50%	-	Medium	
		Health and Safety of workers/ drivers	Provision of equipment and safety gadgets to employees, and conduct regular training on smart work and vehicle driving	100%	100%	-	-	Short	
		Institutional Strengthening	Establish dedicated wings in WMC such as fleet, landfill, revenue generation, operational planning & research, internal audit, public awareness/ community interface, communication & public relation and monitoring	100%	50%	50%	-	Medium	
	Monitoring and Evaluation (M&E)	Complaint registration and redressed mechanism (CRRM)	Establishment of control room for complaint registration and redressal mechanism	100%	100%	-	-	Short	
		Smart Monitoring System for Waste Collection	Waste storage containers real-time monitoring with frequency and status of waste emptying from containers	100%	100%	-	-	Short	
			Multi-sense waste heaps monitoring system	100%	100%	-	-	Short	
			Hotspot Android application for sore areas monitoring system	100%	100%	-	-	Short	
Vehicle Tracking & Monitoring System	Installation of trackers on all waste collection vehicles for real time monitoring	100%	100%	-	-	Short			

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Strategy Framework: Short, Medium & Long Term									
Levels	Strategy Components/ Themes	Indicators	Strategy Instructions for Implementation	Implementation Plan				Status (term)	
				Targets	2028	2033	2040		
Level - 7 (Division/ Regional)	Physical Infrastructure/ Waste Environment	Waste Disposal	Establishment of controlled landfill sites with landfill gas (LFG) recovery mechanism under outsourcing contracts/ SPP	100%	100%	-	-	Short	
		Rehabilitation of old dumpsites	Rehabilitation of all old dumpsites with cost-effective techniques – phytocapping/ semi-aerobic method	80%	10%	70%	-	Medium	
	Waste Environment	Waste Generation, Characterization & Emissions Inventory	Seasonal physical and chemical characterization of MSW at all tehsils/ districts of Sahiwal on regular basis along with calculations of GHG emissions inventory	100%	100%	Regular Action		Short	
	Waste Governance and Legislative	Manuals and SOPs	Formulation of company manuals for Operations (waste collection, haulage and disposal), Human Resource (HR) including attendance of field staff, Finance, Revenue Generation/ Business by engaging the consultant from the market	100%	60%	40%	-	Medium	
			Link corporate-level technical staff's salary disbursement to quarterly defined targets against KPIs	100%	100%	-	-	Short	
		Extended Producer Responsibility (EPR) and Product Stewardship	Establishment of Producer Responsibility Organizations (PROs) in coordination with Chamber of Commerce to make local industries accountable throughout the product lifecycle to cover waste handling cost	80%	10%	30%	40%	Long	
	Climate Finance Funding (CFF)	Attract waste sector CFF under Pakistan NDCs for investment in waste diversion and landfill gas capturing through PPP to reduce GHG emissions from waste	80%	10%	30%	40%	Long		
	Alignment of Waste Sector with International Treaties/ Commitments	Review of international documents for extracting good practices and its implementation to sustain the sector and integrate it with CE principles	80%	10%	30%	40%	Long		

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## Monitoring & Evaluation:



### 1. Digital Monitoring Tools

- Hotspot identification application
- Waste heap monitoring
- Dumpsite Emissions Monitoring
- Waste burning

### 2. Third party validation and monitoring as per operational SOPs

### 3. Performance, Environmental and Financial Audits at the internal level

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## Midterm Review and Adjustment



- Formulation of working group as “Multi-Stakeholder Strategy Review Group”, that may be chaired by the Divisional Commissioner or Additional Secretary of Local Government, and comprising representatives from the Urban Unit Lahore and IGES Japan.
- Assessment of progress against KPIs and adjustment in targets
- Following validation by divisional and local authorities, the revised strategy will be disseminated and implemented across the division.

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**The Urban Unit**  
Urban Sector Planning & Management Services Unit (Pvt.) Ltd.



**Thank You**