RECEIC Awards on Resource Efficiency & Circular Economy

Renewable Material Transition

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Agenda

From Circular Intent to Measurable Impact

01

About the Initiative

Overview of Welspun Enterprises Limited's renewable material transition and circular economy approach

02

Accomplishments

Key initiatives, innovations, and measurable environmental, economic, and social impacts

03

Way Forward Plan

Strategy for scaling circular infrastructure, renewable materials, and long-term value creation

Infrastructure at Core of Viksit Bharat

INDIA'S INFRASTRUCTURE LANDSCAPE

ROADS
67 lakh km of roads required by 2047[1]

WATER TREATMENT
+40,000 MLD capacity addition by 2030[3]

WASTEWATER MANAGEMENT
~72% of sewage is currently untreated[5]

TUNNELING
~1,000 km of tunnels planned in the next 10 years[5]

VIKSIT BHARAT 2047 & PM'S VISION

VIKSIT BHARAT 2047

"Infrastructure is the backbone of a modern, developed India."
– **Shri Narendra Modi**
Prime Minister of India[8]

GLOBAL PERSPECTIVE

75%
of infrastructure that will exist by 2040 is yet to be built[6]
– UNEP Report[6]

PM'S STRATEGIC DIRECTIONS

Improve Ease of Living
Building roads and bridges for better connectivity.

Strengthen the Economic Backbone
Quality infrastructure as the backbone of a modern economy."

Build a Sustainable & Resilient Future. Ie Ensure infrastucture that is **future-ready.**

THE CHALLENGE FOR INDIA

Linear, resource-intensive infrastructure creates high carbon and resource stress

HIGH CARBON EMISSIONS
2.7 billion tCO_2e/year
from construction & buildings sector (2023)[7]

MATERIAL & RESOURCE DEPENDENCY
~1.6 billion tonnes/year
of virgin materials consumed (cement, steel, aggregates)[9]

WATER STRESS IN CONSTRUCTION
600–700 LITRES
of water used per m^3 of concrete[9]

CONSTRUCTION & DEMOLITION WASTE
150–200 MILLION tonnes/year
generated; <30% is recycled[10]

FROM LINEAR MODEL

Take – Make – *Dispose (high waste, high carbon)*

TAKE Extract natural resources → **MAKE** Build with virgin materials → **DISPOSE** Waste to landfill & emissions

...TO CIRCULAR INFRASTRUCTURE (THE WAY FORWARD)

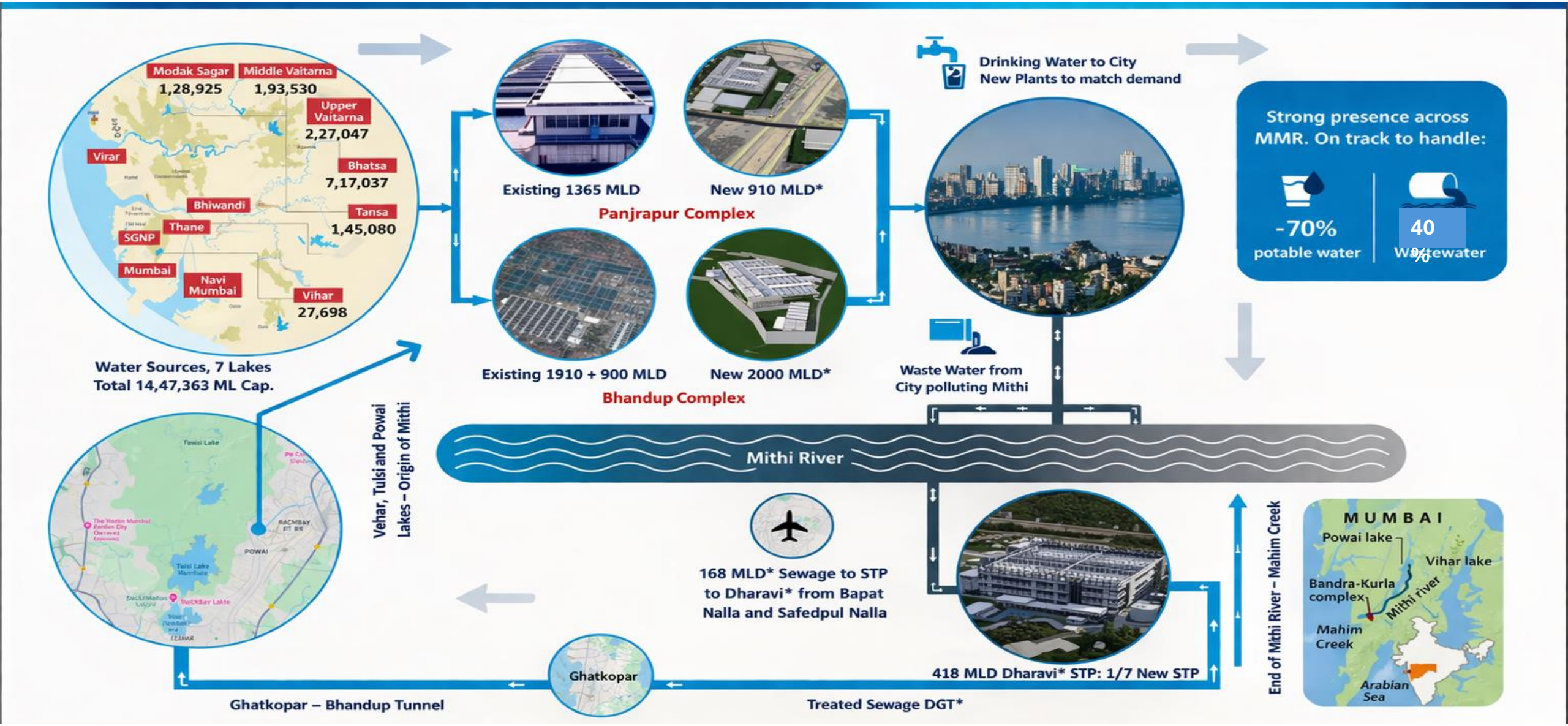
Design – Reuse – Regenerate *(resource-efficient, low carbon)*

DESIGN for Resource Efficiency → **REUSE** Reusable & Recycled Materials → **RECOVER** Waste & By-products for New Use → **REGENERATE** Create Low-Carbon, Resilient Infrastructure

REFERENCES

1 Ministry of Road Transport & Highways (MoRTH), Road Transport Vision 2047, 2022.
2 NITI Aayog, Composite Water Management Index Report, 2018.
3 CPCB, Status of Sewage Treatment in India, 2022.
4 MoRTH & DMRC, Tunneling & Underground Metro Projects Update, 2023.
5 PM Narendra Modi, Address at National Infrastructure Pipeline Launch, Dec 2019.
6 UNEP, 2020 Global Status Report for Buildings and Construction.
7 IEA, Global Status Report for Buildings and Construction, 2023.
8 IBC & CII, Roadmap for Decarbonisation of Indian Cement industry, 2022.
9 American Concrete Institute (ACI 308R-01) & CWWA Manual on Water Conservation, 2019.
10 CPCB & G&D Waste Management Rules 2016, Annual Report 2022–23.

Circularity in Infra Ecosystem : WEL



Project Lifecyle: Carbon Hotspots & Decarbonisation

EMISSIONS PROFILE (FY 2024–25)

Scope 1 — **8,548,5 tCO_2e**
Direct emissions (fuel, equipment)

Scope 2 — **1,597.4 tCO_2e**
Purchased electricity

Scope 3 — **254,338 tCO_2e**
Materials, logistics & value chain (dominant share)

CARBON HOTSPOTS IN INFRASTRUCTURE

- Cement Production
- Steel Manufacturing
- Bitumen
- Diesel Equipment
- Material Transport

Cement and steel together drive the majority of embodied carbon in infrastructure.

PROJECT LIFECYCLE WITH CIRCULAR & RESOURCE-EFFICIENT APPROACH

BIDDING
- ESG due dlligence
- Climate risk screening

PLANNING
- EIA & Stakeholders
- Stakeholder consultations

DESIGN
- Low-carbon materials
- Elimate resilient design

PROCUREMENT
- ESG vendor screening
- ESS supplier sourcing

CONSTRUCTION
- Carbon management
- Worker safety & community engagement

Renewable Material & Circular Construction

Circular Economy

- WEL reduced **17,163** KL of construction water use adoption of superplasticiser admixtures, in turn avoiding **11,323 MT** of cement across Road pr. — **11,323 tCO_2e** avoided
- **18,189 MT** of fly ash were utilized to replace cement. — **16,370 tCO_2e** avoided
- Additionally, WEL recovered **146,684 MT** of total waste. — **2,295 tCO_2e** avoided
- **12,269.7** tCO_2e emissions already saved through — **12,295.7 tCO_2e** avoided
- Optimized mix design reduced **4,704 MT** of Cement. — **4,233.87 tCO_2e** avoided
- **1,471.71 MT** of steel reduced — **3,752.89 tCO_2e** avoided

346.9 tCO_2e sequestrated

116 tCO_2e sequestrated

The optimization of material use – particularly cement and steel – has led to an avoidance of

50,707.09 tCO_2e of Carbon (50,590.62 tCO_{2e} Avoided)

(116 tCO_2e Sequestrated)

By integrating **resource-efficient design** and **procurement**, we are building infrastructure that is both economically and environmentally sustainable.

Impact: Environmental, Economic & Social Value

ENVIRONMENTAL IMPACT

50,707
tCO_2e avoided

31,065 MT
cement avoided

11.3 lakh MT
pond ash utilised

96%
waste diverted from landfill

17,000 KL
water saved
+ 3.11 lakh KL harvested

ECONOMIC VALUE CREATION

₹118 crore
invested in circular innovation

₹8+ crore
annual savings from waste reuse

Reduced:

- Material cost
- Disposal cost
- Energy footprint

SOCIAL IMPACT

Safe water access →
2,500+
villages

14.8 million
citizens impacted
(Mumbai infrastructure)

ESG Capability Building:

2,300+
training hours

1,920
suppliers engaged

AWARDS & RECOGNITION

India Climate Week – Climate Samman (CMAI)

Honoured for exemplary leadership and innovation in advancing climate action and sustainability.

6th Sustainability Summit & Awards 2025

ESG Ratings:

CRISIL ESG	Sustainalytics Risk
~55	~36

Welspun Enterprises drives measurable impact, strong financial returns and social value through circular innovation and responsible infrastructure development.

Way Forward: Scaling ESG & Circular Infrastructure

OUR PATHWAY TO 2040

1 ESG INTEGRATION ACROSS VALUE CHAIN

- Supplier ESG screening framework rollout
- Responsible procurement of local & low-carbon materials
- Cross-functional ESG governance (Engineering, Procurement, HSE, Finance, CSR)

Outcome
ESG embedded in decision-making, not post-facto compliance

2 DECARBONISATION & CIRCULAR CONSTRUCTION

- Scale fly ash, pond ash & GGBS to reduce cement intensity
- Expand EV adoption & optimise internal logistics
- Increase solar share at sites, offices and project camps
- Strengthen Scope 3 emissions tracking & carbon initiatives

Outcome
Data-led and practical decarbonisation at infrastructure scale

3 DIGITAL ESG & DATA SYSTEMS

- ESG Data Hub 2.0 for real-time tracking of emissions, water, waste & safety
- IoT & GIS enabled monitoring for water reuse, plantations & emissions
- Enhanced disclosure aligned with BRSR Core, GRI & ISSB standards

Outcome
Audit-ready, transparent and accountable ESG governance

4 INNOVATION & PARTNERSHIPS

- Collaborate with climate-tech start-ups on ESG analytics, digital tools & circular materials
- Pilot Sustainability Sandbox at selected projects for scalable green solutions
- Research alliances with academic institutions for carbon reduction & digital ESG assurance

Outcome
Faster adoption of innovative solutions and scalable circular practices

5 CULTURE, CAPACITY & EXECUTION

- Strengthen ESG Champions network at site level
- Build capability through targeted ESG training (carbon, circular design, reporting)
- Embed ESG KPIs in departmental scorecards and leadership evaluations

Outcome
ESG becomes an execution discipline driven by people across every project

TRANSFORMATION PATHWAY TO 2040

PROJECT-LEVEL INITIATIVES →

SYSTEM-LEVEL INTEGRATION →

PORTFOLIO-WIDE TRANSFORMATION

By 2040

- Every road & water project circular, resilient & resource-efficient
- ESG embedded from design → execution → operations

Strategic Direction

Material Efficiency + Digital Tracking + Circular Design
→ Lower Carbon | Lower Water Use | Lower Resource Intensity
→ Higher Value Creation & Resilient Infrastructure

Thank You!

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