

SUSTAINABILITY PERFORMANCE ANALYSIS DASHBOARD

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PROBLEM STATEMENT

A textile manufacturing company lacks a unified, interactive platform to track and analyze key environmental metrics across factories and processes. This limits their ability to monitor performance, identify inefficiencies, and make timely, data-driven decisions aligned with sustainability goals.



STRATEGIC GOALS

01

Help them track energy, water, waste, and emissions performance

02

Identify hotspots : Spot operational inefficiencies and resource-intensive areas.

03

Enable data-driven decisions: To ensure informed, evidence-backed decisions using real-time KPIs, trends, and visual insights.

USER NEEDS

1. Real-Time Performance Tracking

The user needs real-time visibility into energy, water, waste, and emissions metrics across factories and processes to monitor deviations and stay aligned with sustainability goals.

2. Target Monitoring & Alerts

There is a need for clear visual comparisons against sustainability targets (e.g., CO₂ 546% above target) and automated alerts when thresholds (like 120%) are exceeded for proactive action.

3. Hotspot Identification & Drill-Down

The user should be able to quickly identify hotspots, such as overconsumption in processes like Washing or Finishing, and investigate factory-level causes using interactive filters.

4. Insight-Driven Decision Support

To make data-backed decisions, the dashboard must offer actionable insights and allow scenario modeling (e.g., what-if savings) to support interventions and planning.

Key Performance Indicator



Usage Summary Metrics

4M

Sum of Water Usage (Litres)

183K

Sum of Energy Consumption (kWh)

55K

Sum of Waste Generated (kg)

109K

Total CO2 Emissions

Efficiency KPIs

98.28

Average CO2 Emissions (kg)

166.77

Average Energy (kWh)

48.93

Average Waste (kg)

Sustainability Trends & Hotspots

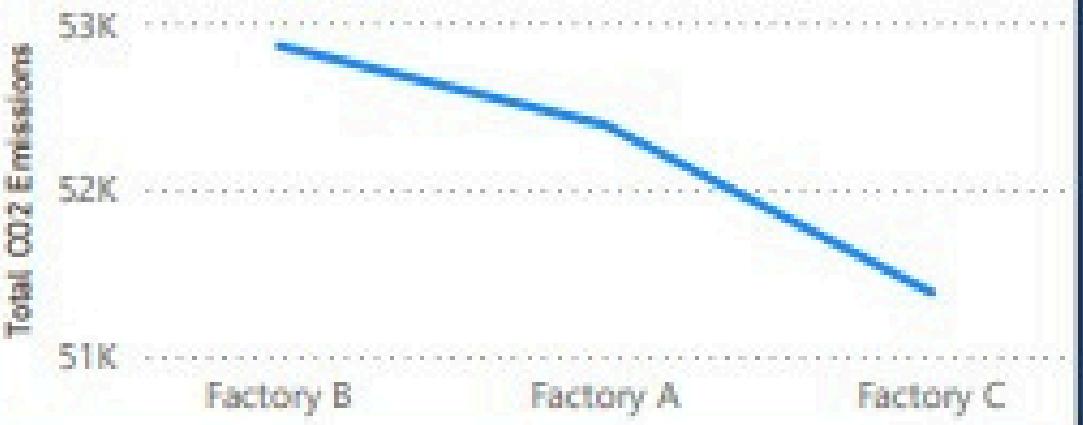
Factory

All

Total Water Usage by Day



Total CO2 Emissions by Factory



Total Energy Usage by Year, Quarter, Month and Day



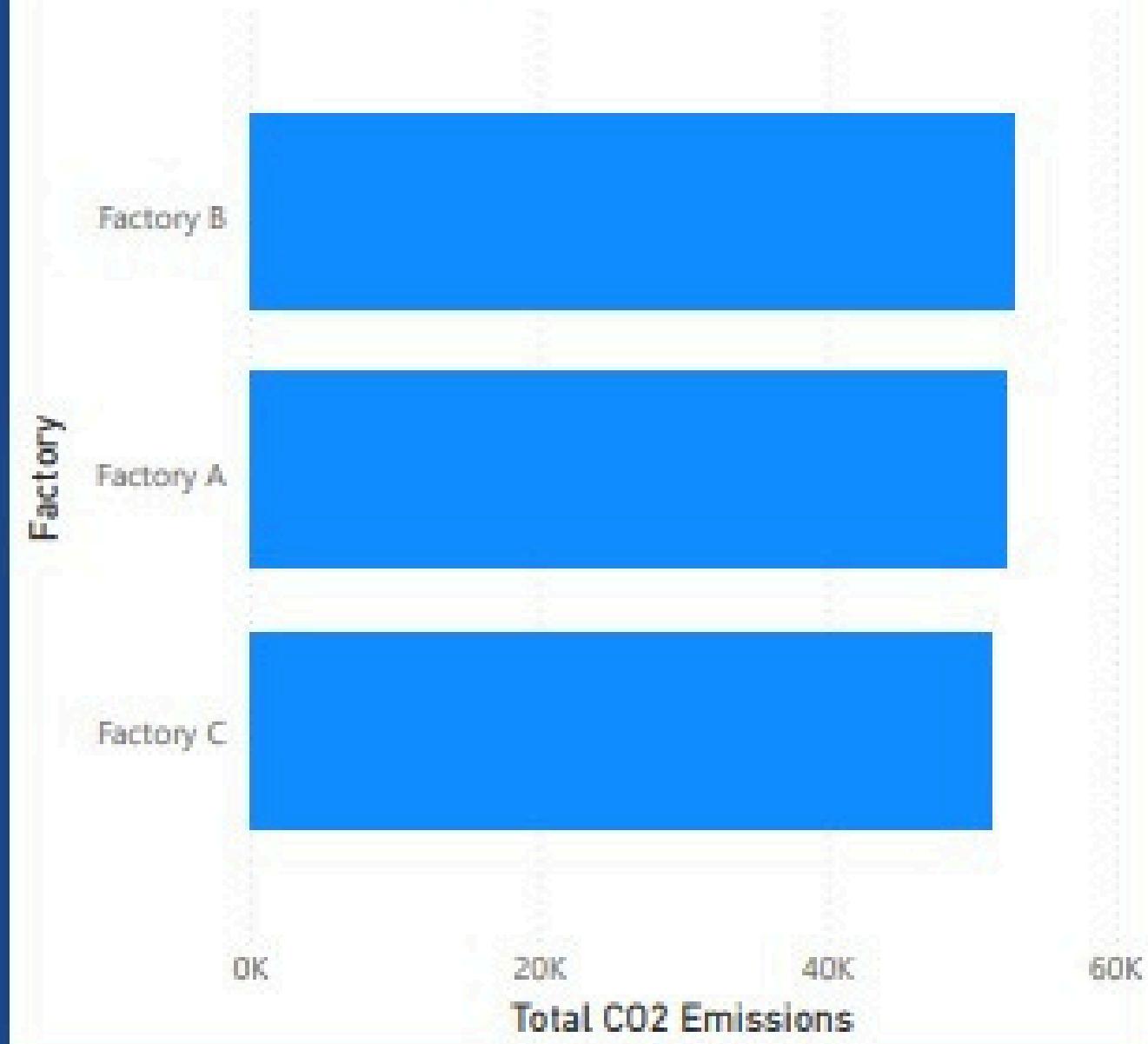
Total Waste by Year



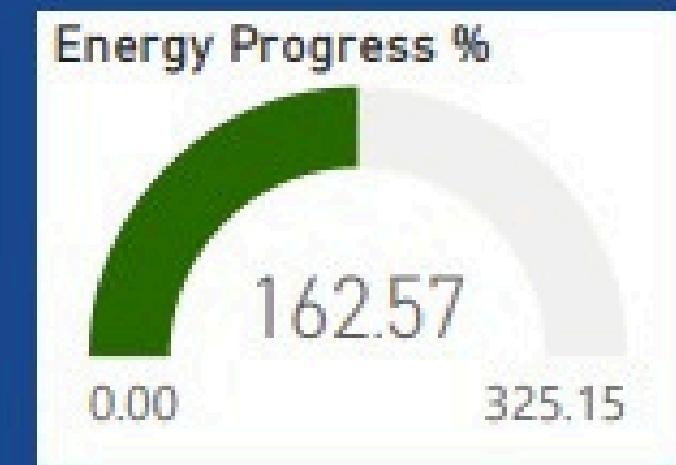
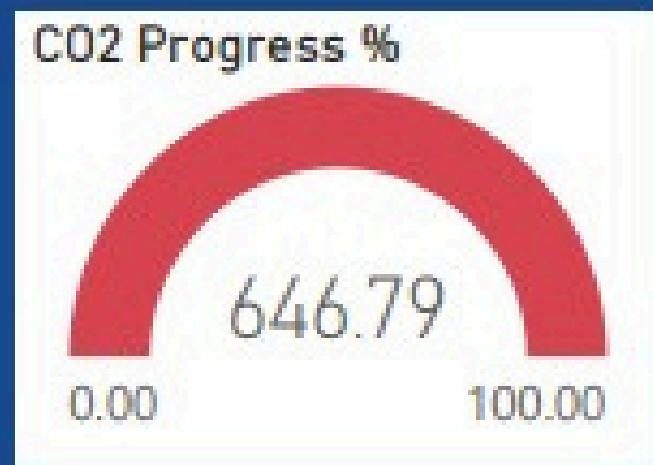
Process

All

Total CO2 Emissions by Factory



Sustainability Goal Tracker & Insights



Insights Summary:

- If any KPI increases its maximum limit, it is visualised with red colour.
- CO₂ occurs to be largely above the maximum limit — urgent review required.
- If there is any form of sudden increment in other factors, we should recommend auditing the washing and finishing processes.
- Set alerts for factories that cross 120% threshold.

DERIVED INSIGHTS

1. INVESTIGATE CO₂ OVERRUNS

If CO₂ emissions are tremendously high, launch a process-level audit in Factory B and C, especially in high- impact areas like Dyeing, to reduce emissions.

2. OPTIMIZE WATER AND WASTE

If water and waste usage are 6.5× over the target, with spikes in specific processes, review and upgrade water recycling practices in Washing and Finishing, and consider scheduling optimization to reduce waste.

3. SET ALERTS FOR KPI THRESHOLDS

If All KPIs far exceed their respective goals, implement automated alerts for any metric that crosses 120% of its target, and assign action owners per factory.



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**THANK
YOU**