

## CII NATIONAL AWARD FOR ENVIRONMENTAL BEST PRACTICES - 2025



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### Our Company's Purpose

#### KOHLER MISSION

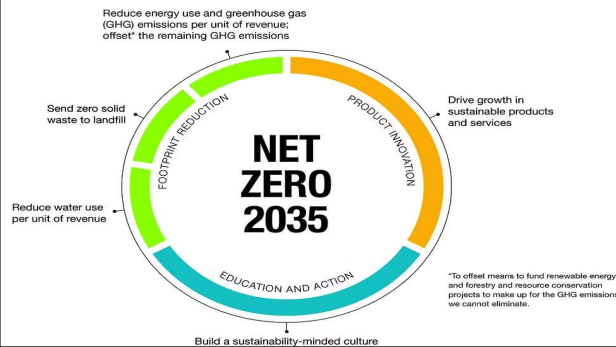
Kohler's mission is to help people live gracious, healthy, and sustainable lives, reflecting their commitment to quality, innovation, and customer satisfaction.

#### Management Vision

“  
Our sustainability strategy, properly conceived and executed, should not be about compromise or massive tradeoffs. We believe it should be a win for the consumer, the associate, the environment and the company.  
”



- David Kohler,  
Chair & Chief Executive Officer

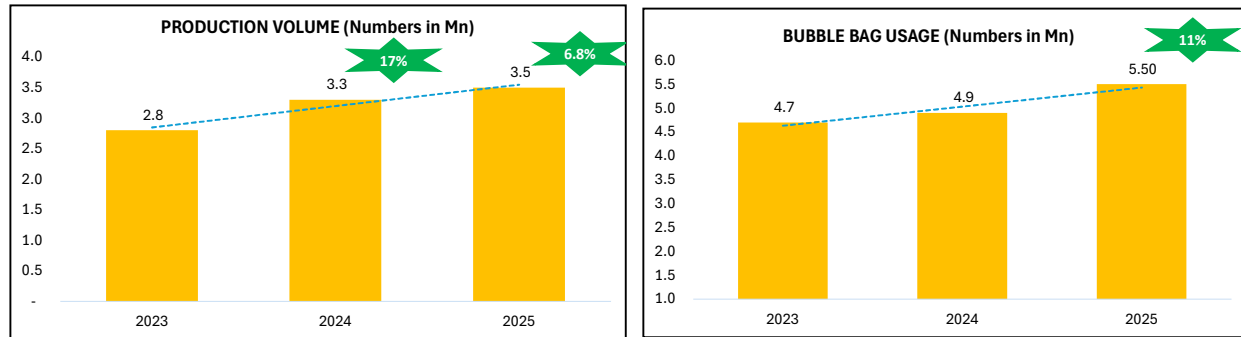


#### IFO 2025 Operations Priorities

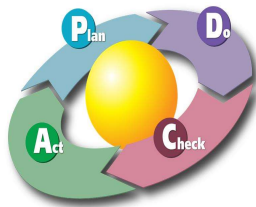


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## Opportunity Statement



## Operational Excellence Methodologies @ KOHLER



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## Project Title- Packaging Waste Reduction Through Kaizens In Assembly Operations

### Project Objective :

The objective of this project is to **eliminate the use of plastic bags** across all product packaging lines by **adopting eco-friendly paper bags** and implementing **carton size optimization**. This initiative is designed to:

- **Reduce environmental impact** by replacing non-biodegradable materials with sustainable alternatives.
- **Promote eco-conscious packaging practices** aligned with global sustainability goals.
- **Enhance operational efficiency** through optimized packaging design, reducing material usage and transportation costs.

### Sustainability Commitment

This initiative supports the organization's environmental responsibility. It aligns with Kohler's broader sustainability roadmap, particularly the goal to **eliminate non-industrial SUP by 2025**, **industrial SUP in purchased goods by 2027** and **net zero waste to refill target by 2035**.

### Sustainability Impact

The project is part of the 2025–2026 operational plan to reduce the plastic waste & carbon footprint.

## Team



GROUP SPONSOR:  
GAJENDRA VIDHALE (OPS)



GROUP FACILITATOR:  
HASMUKH PRAJAPATI (EHS)



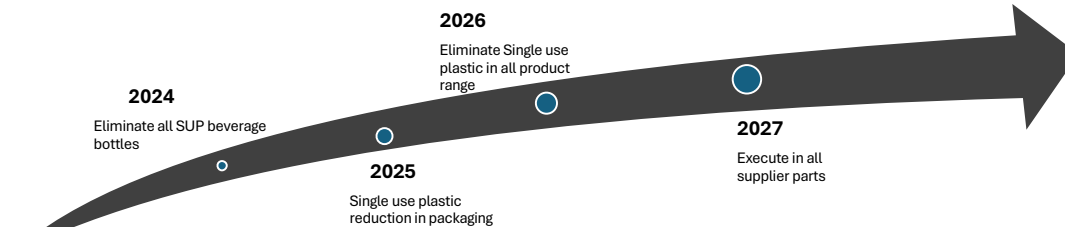
GROUP LEADER:  
VIBHANSHU DARJI(P)



MEMBER-  
KAMLESH PATEL



MEMBER:  
BHAVIN PATEL



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## Sustainability KAIZEN Workshop

Date : 10<sup>th</sup> March 2024. Location : IFO Jhagadia.



### Participation Summary

| Department           | Participation Member |
|----------------------|----------------------|
| Packaging            | 3                    |
| Production           | 9                    |
| QA                   | 3                    |
| ME                   | 2                    |
| EHS                  | 2                    |
| NPI                  | 2                    |
| PPC                  | 2                    |
| Shop Floor Associate | 70                   |

### KAIZEN IDEA Summary

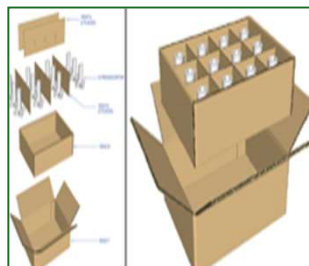
|                      |           |
|----------------------|-----------|
| Production           | 11        |
| QA                   | 9         |
| ME                   | 4         |
| EHS                  | 7         |
| NPI                  | 3         |
| PPC                  | 1         |
| Shop Floor Associate | 19        |
| <b>TOTAL</b>         | <b>54</b> |

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## Kaizen ideas Implementation



Bubble bag use for Packing of Health Faucet



Used Butter Paper for Packaging of Health Faucet



Bubble bag for Packing of Valve Category SKU

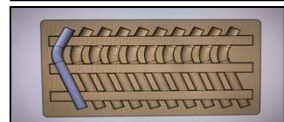


Honeycomb Paper for Packing of Valve Category SKU

### BEFORE



### AFTER



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## Adherence to COMPLIANCE AND Standards

### 1. Alignment with Indian Standards

- Plastic Waste Management Rules, 2016 & Amendments (MoEF & CC): Eliminated use of single-use plastic bubble bags, ensuring compliance
- CPCB Guidelines for Extended Producer Responsibility (EPR): Supports our responsibility in reducing plastic packaging footprint.
- Bureau of Indian Standards (IS/ISO 18601:2013): Meets requirements on recyclability, reusability, and recoverability of packaging materials.

### 2. Alignment with International Standards

- ISO 14001:2015 (Environmental Management System): Demonstrates proactive waste minimization and eco-friendly material usage.
- UN Sustainable Development Goals (SDG 12 & SDG 13): Supports responsible consumption/production and climate action.
- Circular Economy Principles (Ellen MacArthur Foundation): Shifts from linear to circular packaging practices.
- EU Packaging and Packaging Waste Directive (94/62/EC): Reflects compliance with international expectations on recyclable packaging.

## Adherence to Product AND KOHLER Standards

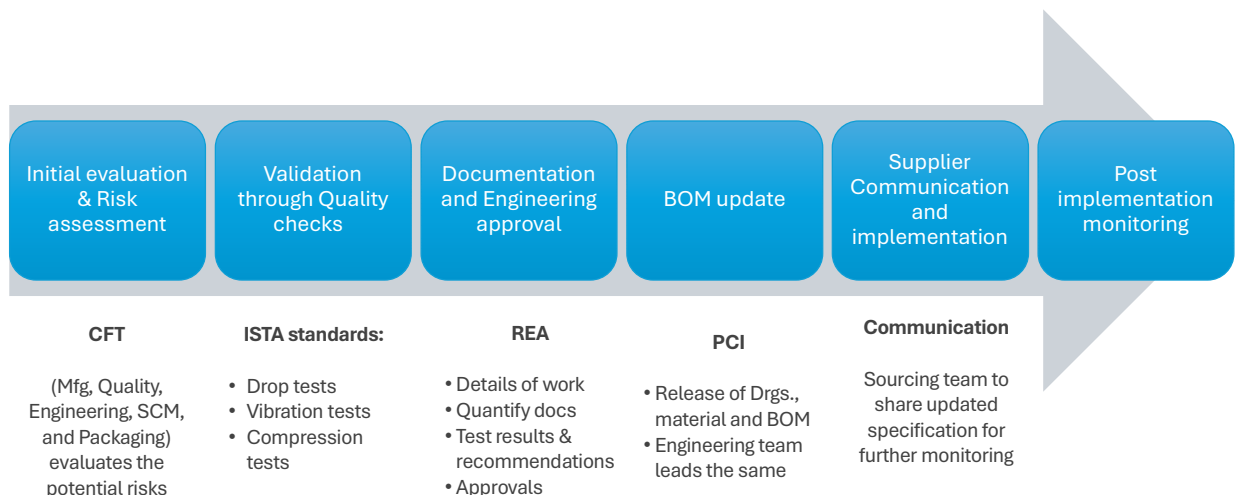
| Type of Shock Test                           | Type of Equipment                         | Equipment Requirements                                                          | Additional Required Equipment                                                                                                                                                                                                                                              |
|----------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Freefall Drop Tests                          | Freefall drop tester                      | Compliance with the applicable version of ASTM D2191 or ISO 2246                |                                                                                                                                                                                                                                                                            |
| Tip/Taper Tests                              | Tip/Taper tester                          | ASTM D2191 or ISO 2246                                                          |                                                                                                                                                                                                                                                                            |
| Random Flat Drop Tests                       | Random Flat Drop Tester                   | Compliance with the applicable version of ASTM D2191 or ISO 2246                |                                                                                                                                                                                                                                                                            |
| Full Random Drops                            | Full Random Drop Tester                   | ASTM D2191 or ISO 2246                                                          |                                                                                                                                                                                                                                                                            |
| Random Edge and Corner Drop Tests            | Support Block                             | Compliance with the applicable version of ASTM D2191 or ISO 2246                | Support block                                                                                                                                                                                                                                                              |
| Indirect Horizontal Impact Tests (Vibrators) | Indirect Horizontal Impact Tester         | Compliance with the applicable version of ASTM D2191 or ISO 2246                |                                                                                                                                                                                                                                                                            |
| Concentrated Edge Impact Tests               | Freefall drop tester with edge impact box | Drop tester in compliance with the applicable version of ASTM D2191 or ISO 2246 | Concentrated Edge Impact Box: 12 x 12 x 12 in (30 x 30 x 30 cm) wood box with steel weight of 50 ± 1 lbs. The suspended weight should be able to be moved in a bag or tape, held in place with suitable weights. The suspension device should be secured with safety pins. |
| Edge Impact Tests                            | Freefall drop tester with edge impact box | Compliance with the applicable version of ASTM D2191 or ISO 2246                | Concentrated Edge Impact Box and Support Blocks: See above for description of the Concentrated Edge Impact Box. Support blocks: 12 in (30 cm) high and 4.2 in (10.7 cm) wide and at least 8 in (20 cm) longer than the longest package dimension to be supported.          |
| Drop On Hard                                 | Freefall drop tester and impact block     |                                                                                 | Impact Block: See below.                                                                                                                                                                                                                                                   |

Transit packaging tests on faucet packaging, such as those defined by ISTA and ASTM, simulate the physical and environmental stresses of shipping to evaluate a package's durability and the product's ability to survive the supply chain. These tests assess performance under conditions like drop, vibration, compression, and temperature extremes to identify vulnerabilities, reduce damage-related costs, and ensure product search consumers in good condition.

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## Challenges / Process followed for Execution

To ensure that packaging changes do not compromise Component Integrity, Quality standard and customer experience (e.g., causing dents or scratches), a structured change management approach is followed:



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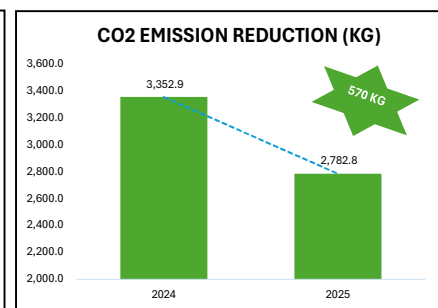
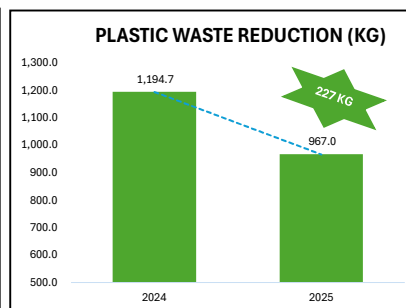
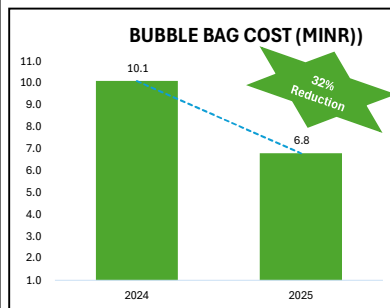
## Uniqueness of Project

| Category           | Conventional Waste Reduction Projects           | IFO Assembly Kaizen-Based Sustainability Project                                                              |
|--------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Approach           | Top-down, capital-intensive initiatives         | Bottom-up, employee-led Kaizen model                                                                          |
| Investment         | Requires budget for automation or new materials | Zero capital investment; uses existing resources                                                              |
| Scope              | Generic packaging changes across product lines  | SKU-level customization based on shopfloor insights                                                           |
| Material Shift     | Often limited to recyclable plastics            | Shift to eco-friendly honeycomb paper, cloth bags, and optimized cartons                                      |
| Team Involvement   | Led by sustainability or packaging experts      | Cross-functional team: Operators, Packaging, Quality, Engineering, SCM                                        |
| Validation Process | Informal or post-implementation checks          | Structured validation using ISTA standards (drop, vibration, compression tests)                               |
| Impact Measurement | Focused on cost savings                         | Multi-dimensional: INR savings-2.92 MINR, Co2-570KG reduction, plastic elimination-227 KG employee motivation |
| Scalability        | Limited due to complexity or cost               | High replication potential across Kohler plants and supplier networks                                         |



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## Tangible Benefit



## Intangible Benefit

### People/Society Benefits:

Eliminating single-use plastics and achieving net zero waste protects the environment, improves public health, boosts the economy through green jobs, and fosters a more sustainable and responsible society

### Moral / Motivation:

Eliminating single-use plastic and achieving net zero waste inspires moral responsibility, strengthens environmental stewardship, and motivates individuals to contribute to a sustainable future for generations to come

### Skill Upgradation:

Skill upgradation in eliminating single-use plastic and achieving net zero waste empowers individuals with sustainable practices, resource efficiency, and innovation skills that support a circular economy and environmental conservation

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# Sharing Learnings of Project

Knowledge Sharing
1607

India Faucet Operations

Sustainability - Single Use Plastic Elimination

Contact | Majorsingh Kundhi - MAJORSINGH.KUNDHI@kohler.c

Submitted | 8/27/2025 11:40 PM

**Team Members**






Gajendra Vidhale   Vibhanshu Darji   Kamlesh Patel   Shavin Patel

**Before**



**After**



**1 - Opportunity**

Leadership GEMBA walks and SILENT observations revealed excessive use of single-use plastic (SUP) and redundant packaging across SKUs. This presented a clear opportunity to align with Kohler's sustainability goals—eliminating non-industrial SUP by 2025, industrial SUP by 2030, and achieving net zero waste to landfill by 2035—through employee-led Kaizen improvements in packaging design and material usage.

**2 - Probable Root Cause**

Lack of sustainability focussed review of SKU-level packaging practices led to continued use of redundant and single-use plastic materials.

**3 - Countermeasures / Actions Taken**

- Formed cross-functional teams to review SKU-wise packaging practices
- Organized a Kaizen event to engage operating-level teams.
- Reviewed SKU-wise packaging and identified 54 improvement ideas.
- Eliminated redundant packaging and replaced SUP with eco-friendly materials.

**4 - Expected Outcome**

- Reduction in single-use plastic and redundant packaging.
- Improved environmental performance aligned with Kohler's sustainability goals
- Increased employee involvement and awareness in sustainability practices

**5 - Actual Outcome / Benefits**

- Significant reduction in plastic usage and packaging material, Boosted employee motivation, collaboration, and problem-solving skills and Strengthened cross-functional ownership of sustainability initiatives
- Savings of 2 MINR for optimizing internal and external cartons and removal of redundant inserts
- Elimination of plastic bubble bags & plastic wraps have contributed to Co2 savings of 568,225 Kgs and 96 Kgs of Plastic Reduction (Kg)

**6 - Learnings**

A Kaizen-based, employee-led approach drives fast, cost-effective, and sustainable improvements  
Combining tangible savings with intangible cultural shifts accelerates sustainability assimilation  
Tangible savings in material usage combined with intangible cultural shifts amplify impact.  
Cross-functional collaboration enhances ownership and accelerates execution.

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## Recognition at Global Platform



**LAURA KOHLER**  
Wednesday, September 3, 2025

**ENVIRONMENTAL SUSTAINABILITY LEADERSHIP AWARD WINNERS**

Virender Kumar Ahuja – IFO, India



Congratulations to the award recipients:

- Environmental Sustainability Impact Award:** Anand Kumar Bajpai (India Faucet Operations)
- Environmental Sustainability Leadership Award:** Virender Kumar Ahuja (India Faucet Operations)
- Facility Excellence Award:** India Faucet Operations.

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Thank You...!!!

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