CHAPTER 5
TKM'S ENVIRONMENTAL PERFORMANCE

As we can see from the graph, production volume is increasing every year, indicating the bigger presence in Indian automobile market. Thus, its responsibility towards environment protection will increase with increase in business.

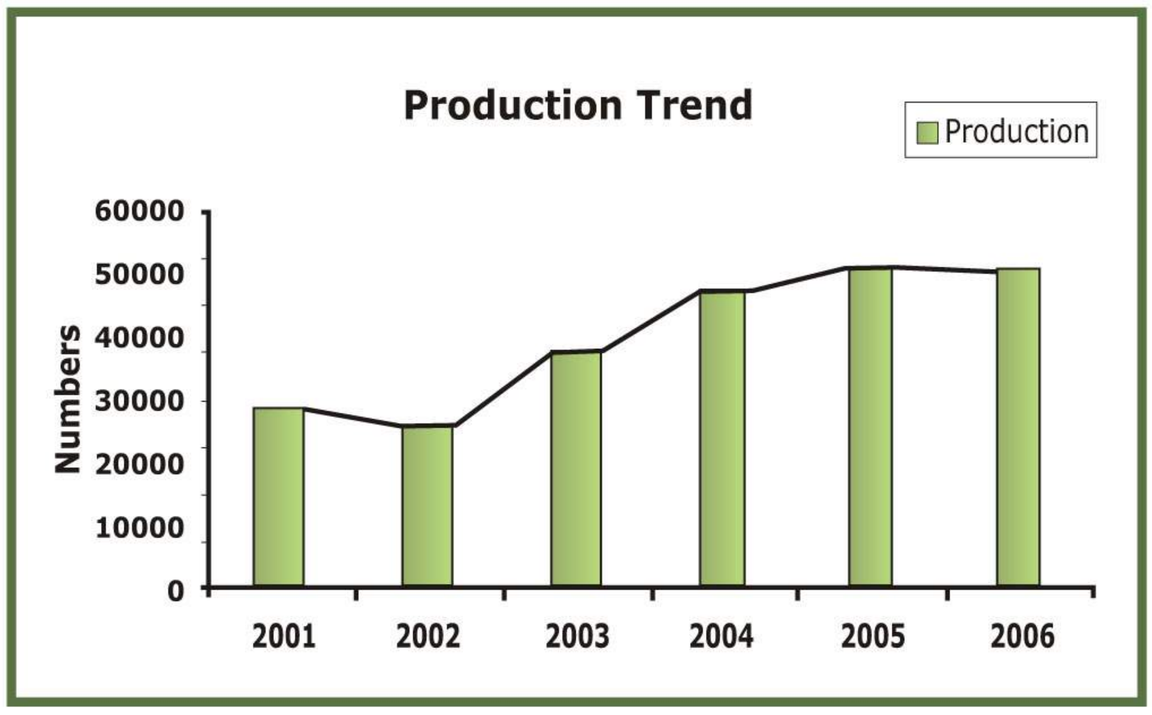

Fig 5.1 : Production Statistics for FY 06

This increase in business poses the challenging task to sustain and enhance the EMS performance. Following are the details of key Environment KPI's (Key Performance Indicator's)

Status of Environment Key Performance Indicators

1. Water Consumption

The freshwater volumes are sourced from the KIADB water supply at TKM. The yearly trend of water consumption has been depicted in the graph above. water is being used for various Industrial Activities (Paint Shop, Cooling Towers, Drizzle Test Areas Etc.) and also for Domestic (Hand Wash & Canteen).

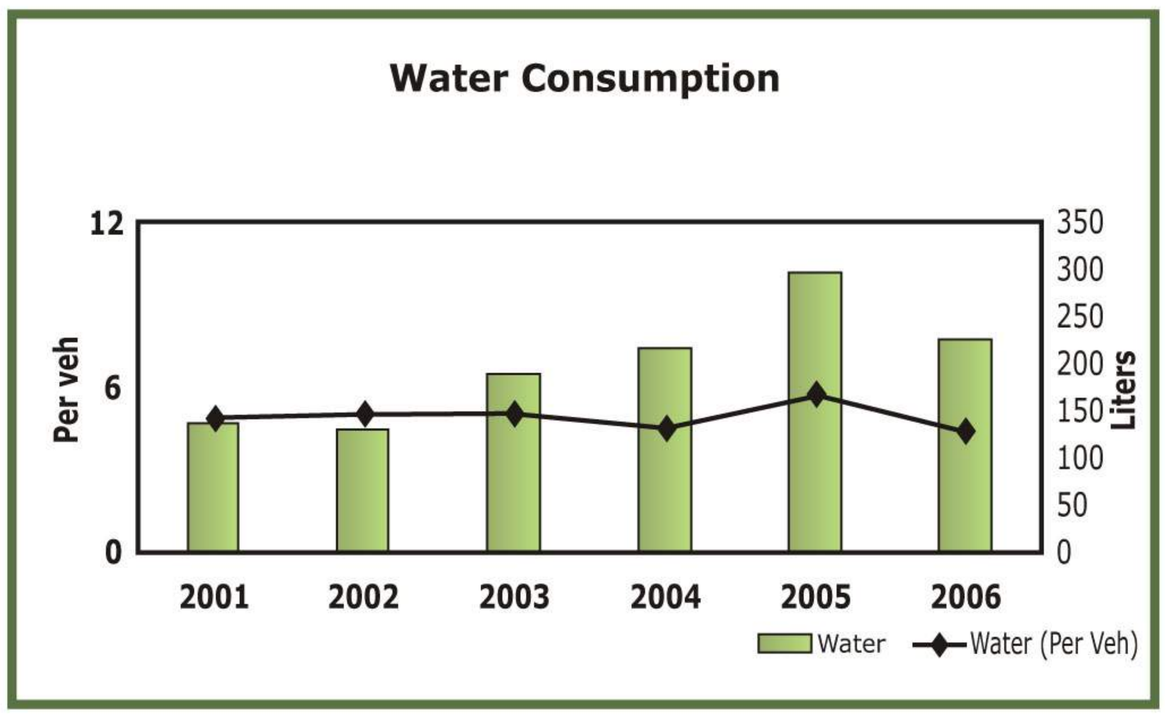

Fig 5.2 : Water Consumption Trend

As evident from the graph the water consumption has reduced by 23% as compared to previous year.

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2. Energy Consumption

Energy is the basic element for any manufacturing industry's activities and energy consumption is also a major contributor to global warming. Major source of energy supply being is for Purchased Electricity from Government, Electricity generation through DG and LPG.

LPG is prominently used at boiler for steam generation and drying ovens at Paint process.

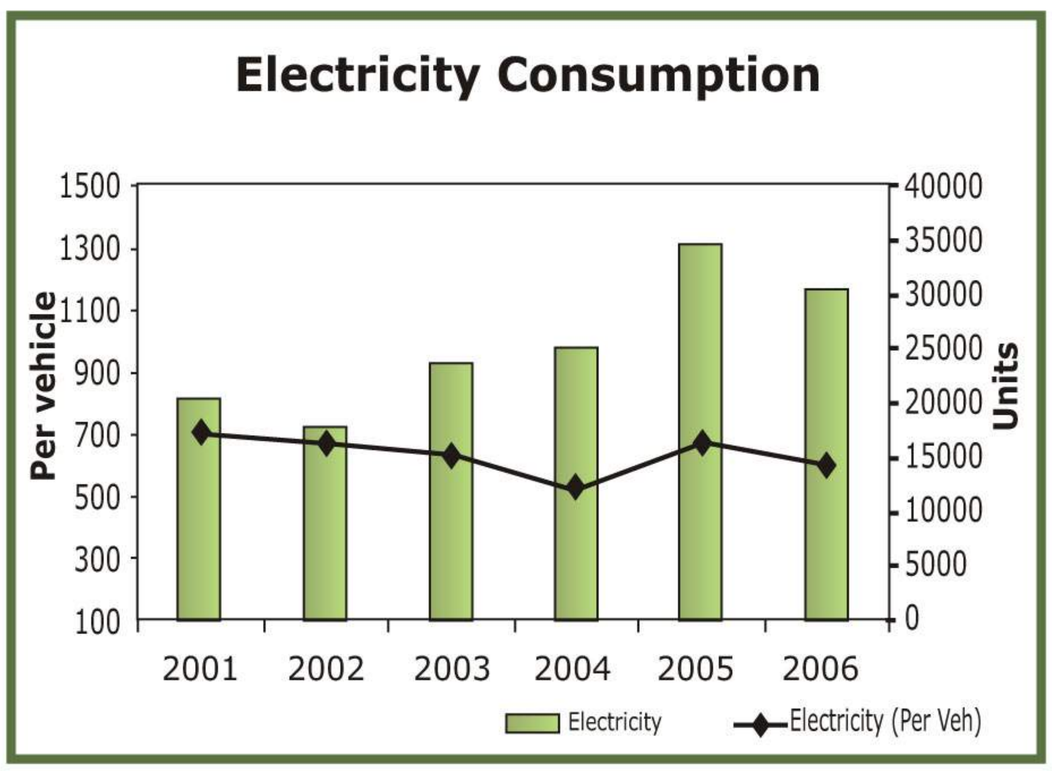

Fig 5.3 : Electricity Consumption

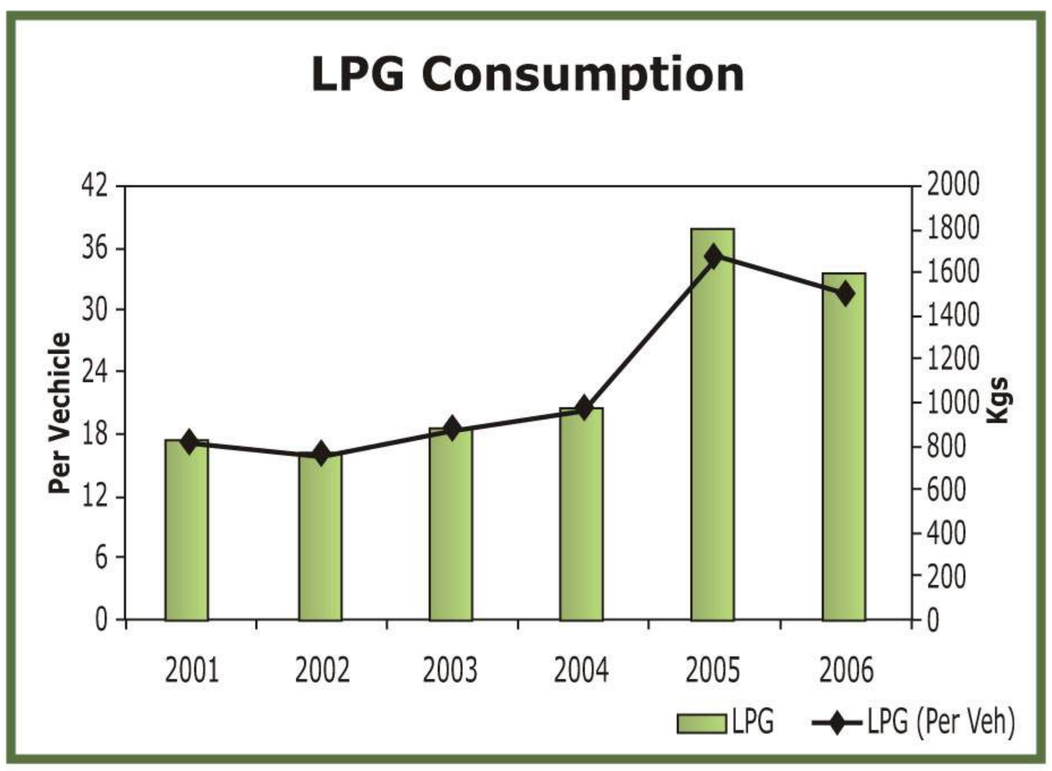

Fig 5.4 : LPG Consumption

FY 2006 saw 12% reduction & 10% reduction in the consumption of Electricity and LPG respectively as compared to the consumption in FY 2005.

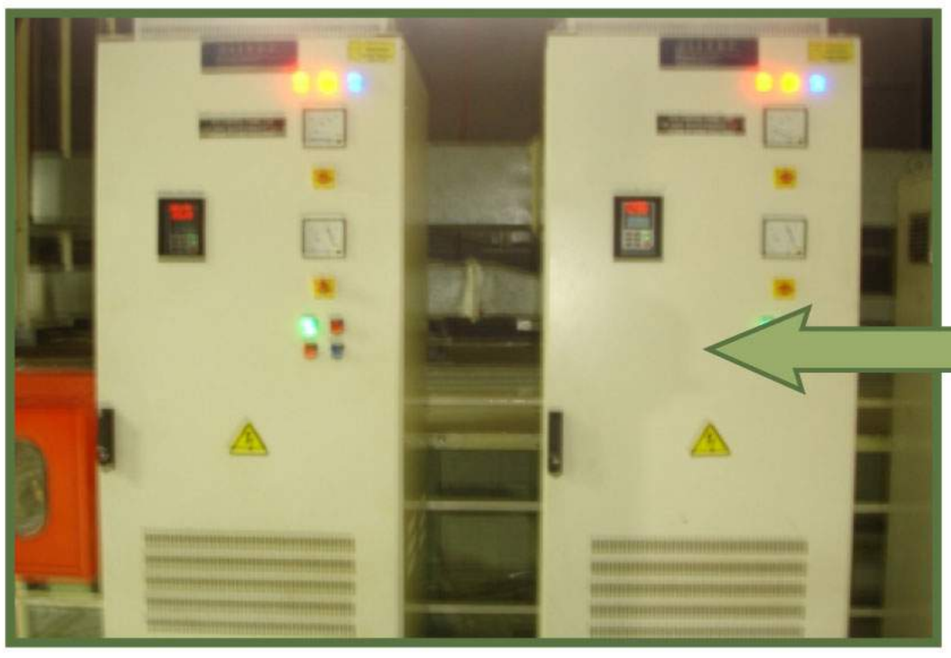

Fig 5.5: VFD installed at Paint Shop to optimize the electricity consumption ultimately yielding 12% reduction

The major reasons can be attributed to installations of VFD in paint shop and elimination of LPG for non productive usage.

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3. VOC Emission

Paint used on automobiles contains VOCs (Volatile Organic Compounds), which are thought to be a cause of photochemical smog. It is therefore necessary to reduce their use and emissions.

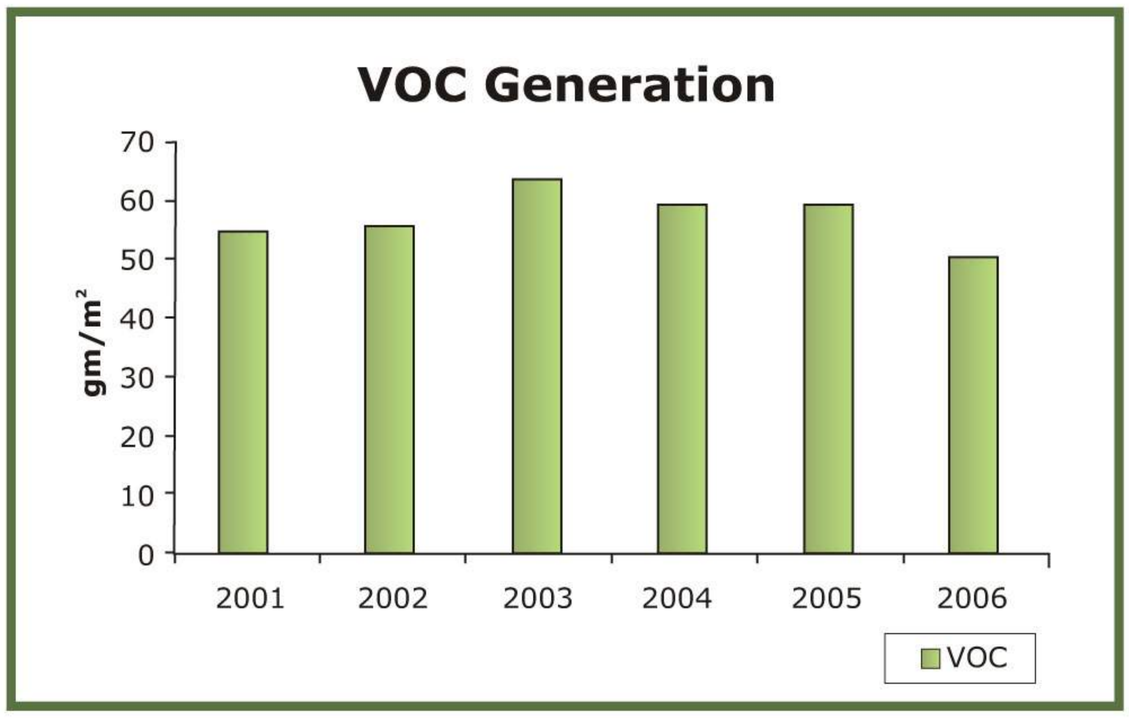


Fig 5.5 : VOC Generation Trend

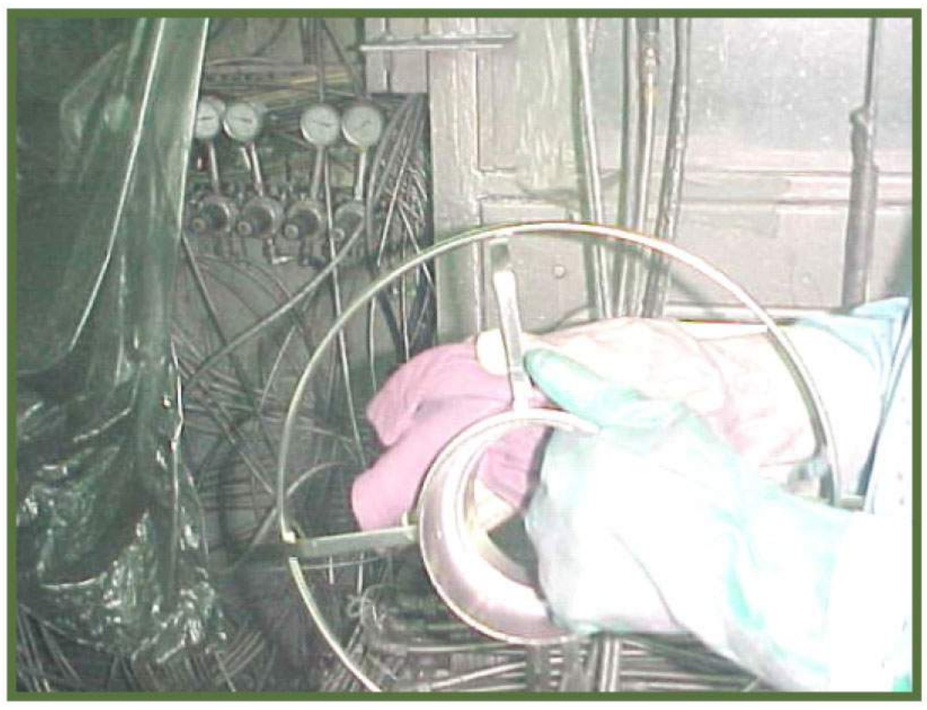
Fig 5.6 : Painting Line at TKM

VOC's are present in the thinner contained in the paint, so if thinner consumption reduction and recovery of waste thinner will result in broad reduction of VOC emission.

BEFORE

Cleaning is done by using spray gun
Total Cons: 240 CC per Month

AFTER



Cleaning is done Manually
Total Cons:100 CC per Month

Fig 5.7 : VOC Reduction Kaizen at Paint Shop

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During FY2006, there has been a decline in the VOC emission by 16% with the implementation of various kaizens like recycling of solvents, optimization of washing thinner usage, solvent consumption reduction in manual cleaning in robot operation and during the painting process.

4. Waste

Waste management is the key activity to reduce the impact towards environment. Having realized the importance of segregation, extensive training and awareness is given to TM's and in-house contractors to achieve 100% waste segregation at production & contractor area. Company encourages kaizen activity utilizing the concept of 3R (Reduce, Reuse, Recycle) for effective waste management.

Key Points on Waste Management

1. Hazardous Waste Management

Reduction of moisture in wastewater sludge results in great deal hazardous waste reduction, organic polymer is used for effective separation of water and sludge while decanting process. Focus is been laid towards, optimizing the chemical (co-agulant) utilization to reduce the chemical sludge generation. Periodic Auditing system of the hazardous waste generation, handling and storage area has established. The proposal for sending the hazardous wastes to cement kilns for further processing is also being worked out.

2. Non-hazardous waste Management

Even though our manufacturing process constitutes an efficient use of resources, we continuously work towards Achieving the goal of zero waste production.

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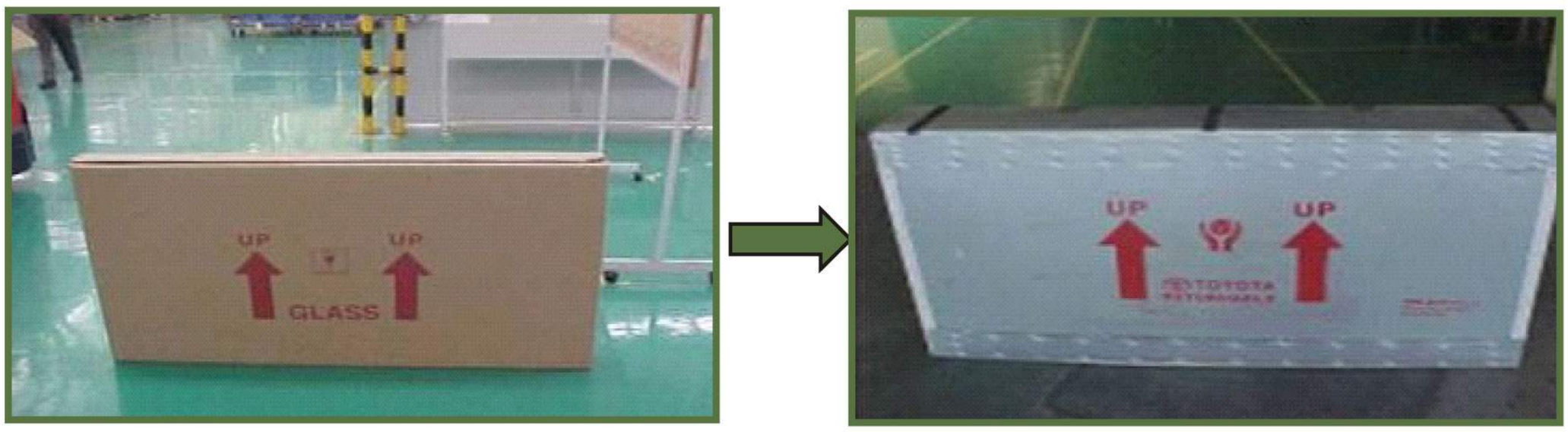

Non Returnable Carton Box

Returnable Carton Box

Fig. 3.8: Packing Material Reuse Kaizen

The kaizen mind of the team members has always contributed to the progress of the waste reduction activity in TKM. Streamlining of the 3R activities in packing of raw materials by introducing returnable carton boxes has resulted in major reduction in non hazardous waste generation for the company. Unique achievement in waste reduction activity being implementation of 100% reuse of the returnable packing for domestic parts.

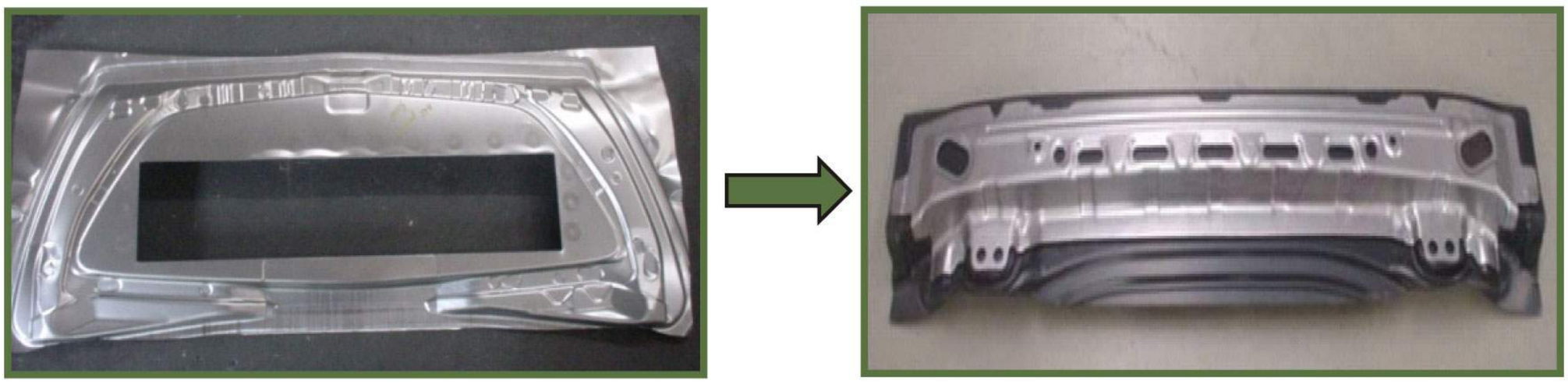

Fig. 3.9: Steel Reuse Kaizen

The offals generated during the stamping process are reused to produce smaller parts thereby increasing the yield ratio of steel. Our continuous efforts have made TKM to become the pioneer as compared to all the IMV manufacturing countries.