



**TATA MOTORS**

ONE TEAM  
ONE VISION



**TATA MOTORS**  
**PANTNAGAR**



# Tata Motors Profile

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- ❖ India's largest automobile company
- ❖ Market leader in Commercial Vehicles & among the top in Passenger Vehicles in India
- ❖ 4th largest bus manufacturer & 5th largest truck manufacturer in the world
- ❖ Over 8 million vehicles on Indian Roads

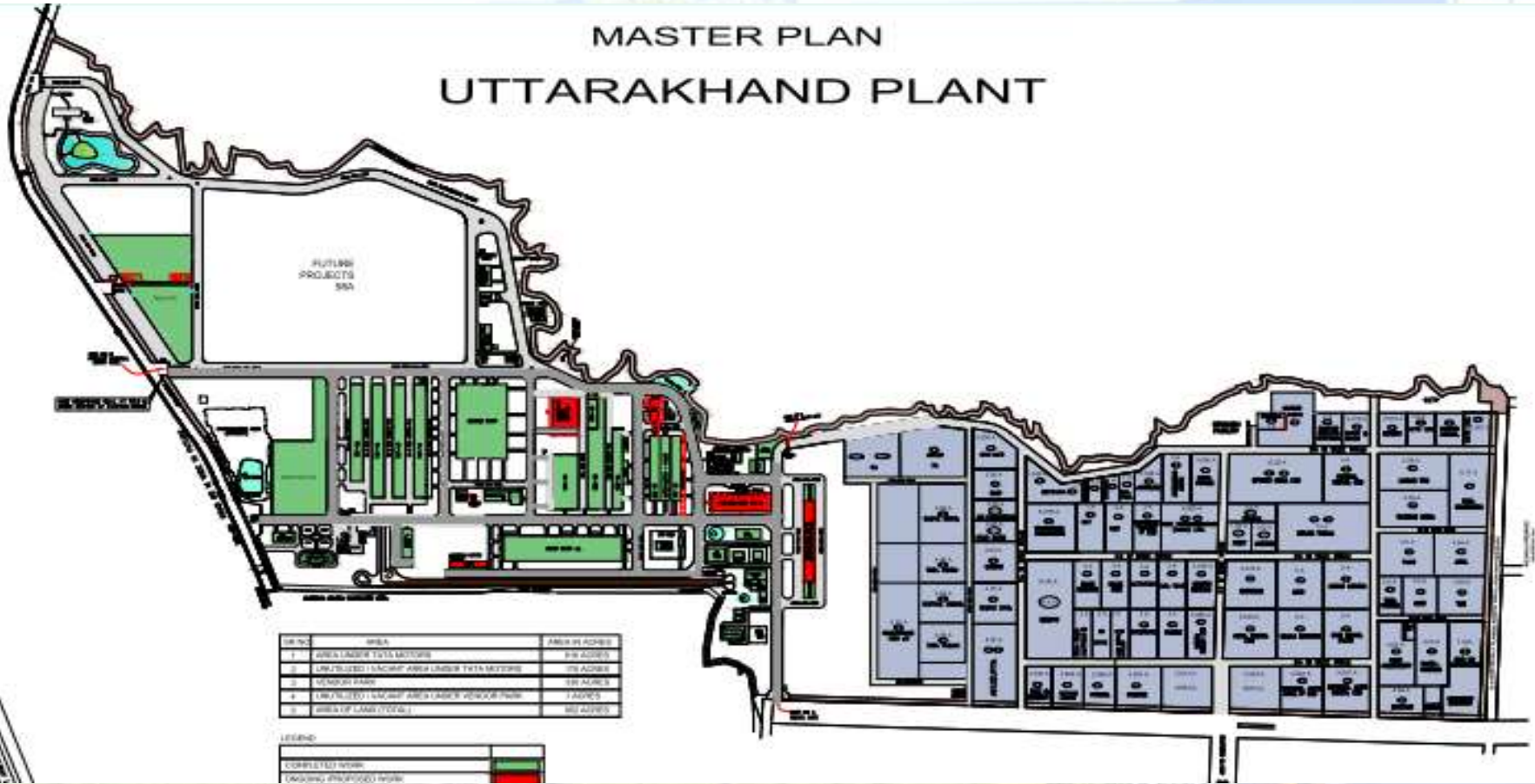
# Tata Motors, Pantnagar

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## MASTER PLAN UTTARAKHAND PLANT



Total area - 953 Acres

Roads length - ~ 15 km

TML Plant Area - 568 Acres

Vendor Park area - 385 Acres

# Present Global Footprint

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# Glimpses of Plant Premises

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# Glimpses of Plant Premises

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# Senior Management Commitment

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## Environmental Policy

Tata Motors reaffirms its commitment to minimise the adverse impact of its products, operations and services on the environment.

### Towards this end, it shall strive to :

- Establish sound environmental objectives and targets and a process of reviewing them.
- Comply with all applicable legal/regulatory and other Environmental requirements.
- Reduce the emission levels of vehicles in full compliance of the regulatory norms and proactively work with the Industry, Government, other related industries and agencies to bring in international best practices.
- Use of environmentally sustainable technologies and practices for prevention of pollution and the continual improvement in environmental performance.
- Conserve natural resources and energy by minimising their consumption and wastage.
- Minimise waste generation, enhance recovery and recycling of material and develop Eco-friendly waste disposal practices.
- Building awareness of our work force, customers and vendors on Environment issues.

This policy has been communicated to all our employees and shall be made available to the public/stakeholders on request.

March 18, 2016

  
G. Jenter Butschek  
Managing Director - CEO

environmental

policy

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## Climate Change Policy

### Tata Motors is committed to ...

- Leading the automobile sector in minimizing year on year Green House Gas emissions from its products, operations and services by adopting eco friendly technologies/ practices.
- Developing products powered by alternate fuels and having higher recyclable and recoverable content.
- Promoting fuel blends sourced from non-fossil fuel sources.
- Maximizing use of renewable energy.
- Proactively engaging with Government, forums and institutions in shaping related regulations.
- Facilitating and maximizing reduction in carbon foot print throughout value chain.
- Actively working for carbon sequestration and community initiatives for resource conservation.

March 18, 2016



G. Jenter Butschek  
Managing Director - CEO

# Senior Management Commitment

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## Environmental Procurement Policy

**Tata Motors shall adopt a holistic approach to the procurement process by ...**

- Expanding awareness of Tata Motors' Environmental Policy, and 'Code of Conduct' amongst Vendors, Contractors and Service Providers through various means;
- Evaluating 'environmental performance' of Vendors, Contractors and Service Providers along with quality and cost and giving priority to 'green' Vendors/Contractors and Service Providers and 'green' Products;
- Involving Vendors, Contractors and Service Providers to improve their environmental performance by establishing an Environment Management System;
- Educating Vendors, Contractors and Service Providers to improve their manufacturing process to reduce their carbon footprint and use of hazardous chemicals;
- Encouraging Vendors, Contractors and Service Providers to minimize logistics and packaging material, and maximize reuse and recycling of packaging material and use of recycled materials.

March 18, 2016

Guenter Bartschek  
Managing Director - E&S

## ENERGY POLICY

**Tata Motors - Commercial Vehicle Business Unit reaffirms its commitment to minimize the use of energy through continual improvement of its energy performance.**

**Towards this end it shall strive to:**

- Create and establish framework for achieving energy objectives and targets
- Select, purchase and use appropriate energy, efficient equipments, services and eco-friendly technologies
- Evaluate and compare with appropriate benchmark
- Comply with applicable legal and other requirements
- Build awareness on efficient energy use amongst our work force, customers, dealers, vendors and society

*This policy has been communicated to all our work force and shall be made available to the public/ stakeholders on request.*

Date: September 10, 2012

**Ravi Pisharody**  
Executive Director - Commercial Vehicles

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# Senior Management Commitment

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## Water Policy

Tata Motors (Commercial Vehicle Business Unit) reaffirms its commitment to minimize the use of water through continual improvement of its water performance.

*Towards this end it shall strive to:*

- Create and establish framework for achieving water objectives and targets and provide appropriate resources.
- Select, purchase and use of appropriate water efficient processes, equipment, services and technologies for treatment, reduction and recycling.
- Evaluate, reduce, offset and compare water footprint with appropriate benchmark.
- Encourage vendors to reduce their indirect water footprint. Comply with applicable legal and other requirements.
- Build awareness and influence efficient water use amongst our work force, customers, dealers, vendors and society.

*This policy has been communicated to all our work force and shall be made available to the public / stakeholders on request.*

Month 00, 2012



*Pisharody*

Ravi Pisharody  
Executive Director – Commercial Vehicles

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# Green Practices at TML Pantnagar

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# Water Conservation

Zero Liquid Discharge Plant

## Water Conservation

### Efficient Technologies

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- V
- 9



set  
t pump house  
efficiency in RO

### Reduction

- Fan less co
- Flow meter & Water ba



### Recycling

- 3 stage RO meets 60% of process water utilization in e



### Ground Water Recharge

- 7 nos of artif
- 10 acres of a
- Capacity of 1,10,000 M<sup>3</sup>



### Online Monitoring System

- 24 streaming an data



# Glimpses of Water treatment Facilities



# Online Monitoring System

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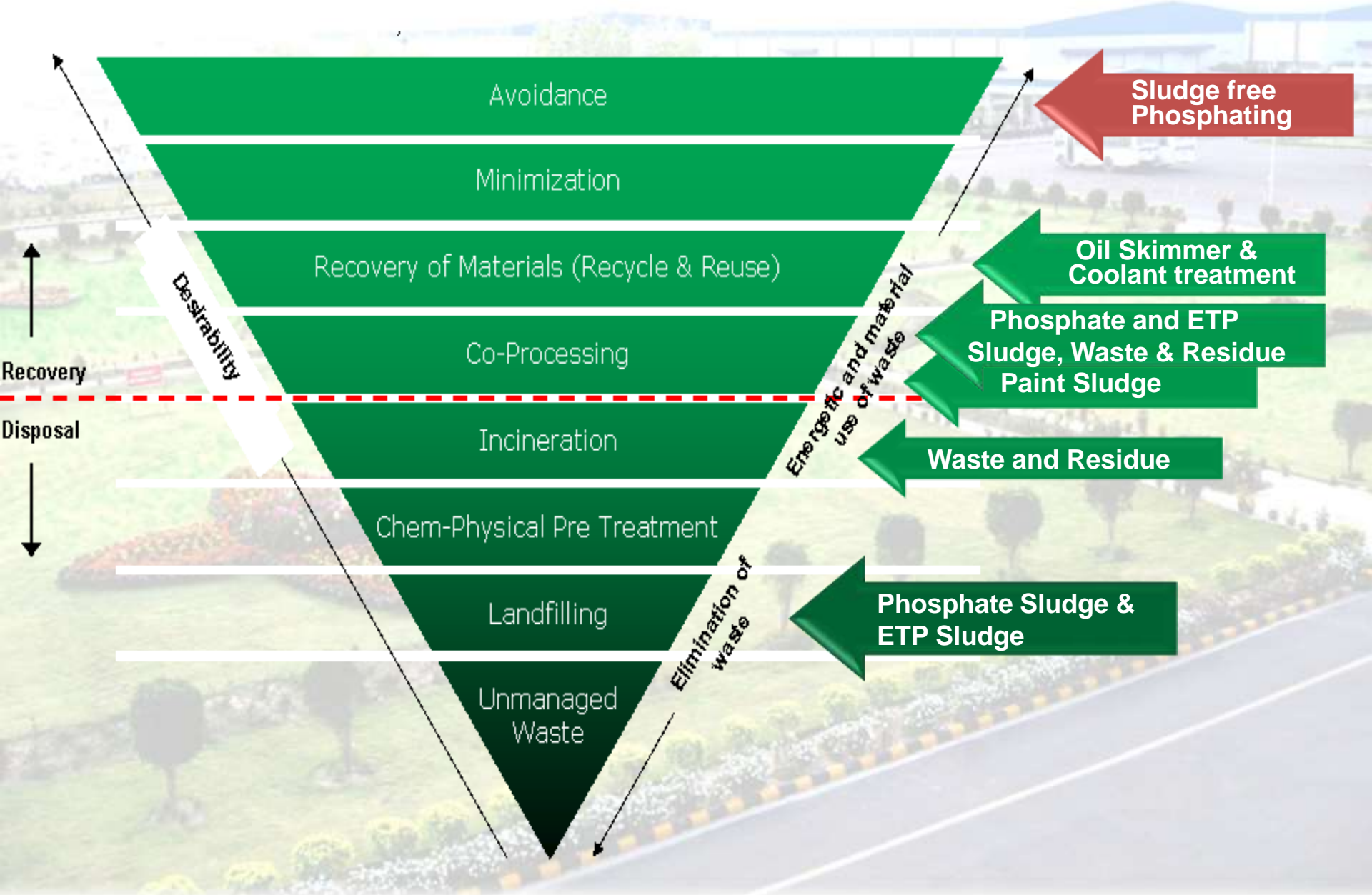
First Industry in SIDCUL Pantnagar to install Online Monitoring System in Sep 2015 with online Web streaming and following parameters:

- pH
- TSS
- BOD
- COD
- Flow

These parameters are connected and visible to Pollution Control Board on 24X7 basis.



# Waste Management



# Green Supply Chain

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1. Ensure regular pollution checks and incorporated with PQ (Pre Qualification) before contract awarded.
2. Longer trailer in transportation
3. Maximum Vertical height utilization in compliance with all safety norms
4. Reduction in packaging
  - Returnable packaging





# Green Supply Chain – Reduction in Packaging **TATA MOTORS**

## Reduction in Packaging

As Pantnagar Plant Is purchasing 75 % of the material locally, this has led to use of returnable packaging only. And going forward we are trying to implement Kaizens done at local suppliers to out stationed suppliers also to reduce packaging. Some of the Kaizens are shown below

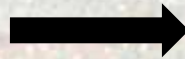
Location of material	% of returnable packaging	% of non-returnable packaging
Material purchased locally (75%) of the total material	95-100 %	0-5 %
Material purchased from other states (25 % of material)	10-20 %	80-90%



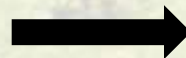
## Returnable Packaging



Cartons



Returnable Packaging



## 1. Management Strategy

- Design Next
- Fuel Next

## 2. Developing green products

3. Principle bans use of four hazardous heavy metals (lead, mercury, cadmium and hexavalent chromium)

4. Lead free printing inks, lead free bulbs, alternate designs/coatings for hard chrome plating, cadmium plating, lead free coatings for fuel tanks, lead free carbon brushes for electrical motors, etc.

5. Asbestos free brake pads and clutches have been already introduced

6. Way forward - reducing/elimination of hexavalent chromium for corrosion preventive coatings

# Life Cycle Assessment – Many Use of LCA

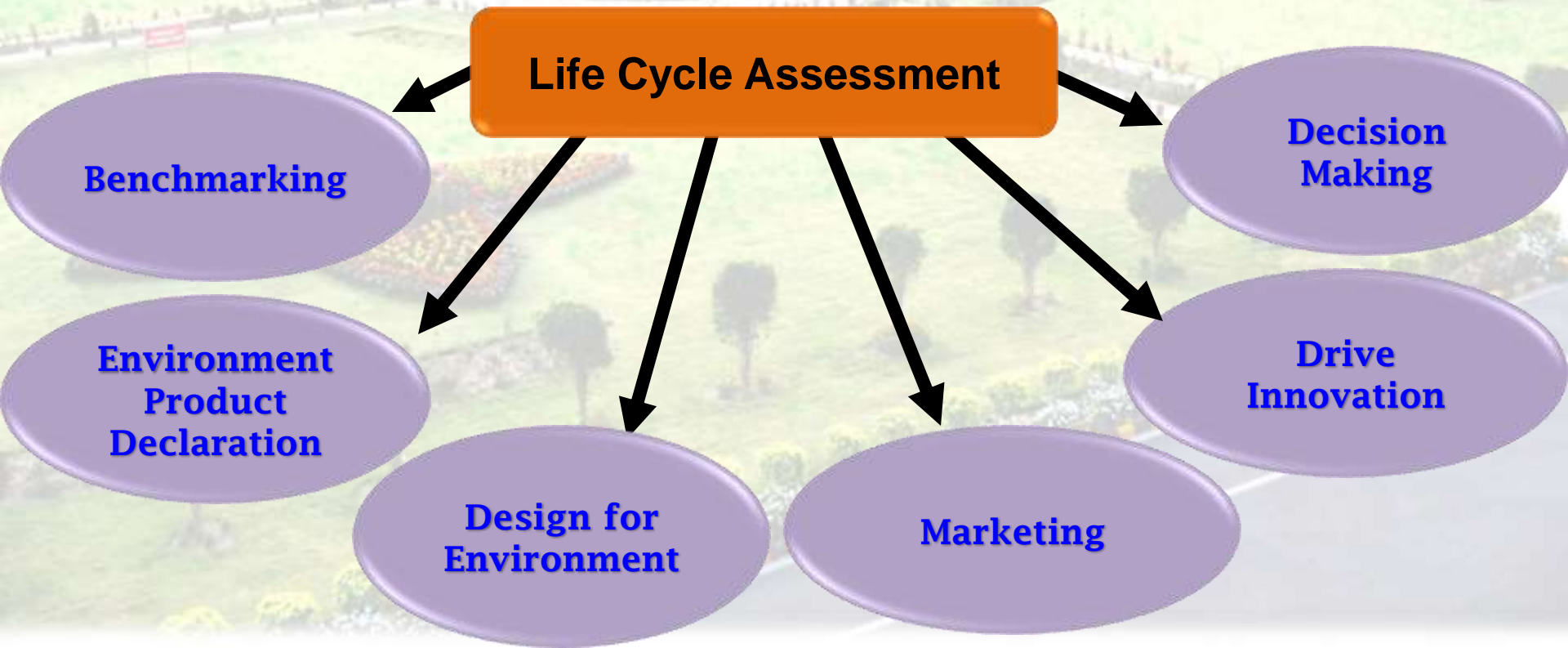
How to compare product A with product B?

What is the product's carbon footprint?

What is the product's water footprint?

What are unintended consequences related to this technology?

Where are the biggest opportunities for improvement?



- In order to design and develop sustainable automobile products, Tata Motors Ltd. (TML) has taken up Life Cycle Assessment (LCA) initiative at Engineering Research Centre, Pune. It is the **first Indian automobile company** which has conducted LCA using **GaBi** software.
- A life cycle assessment (LCA) of vehicles and auto components is a very complex process which entails enormous data collection and analysis, both within the organization and across the value chain. TML has conducted life cycle assessments of various automotive components with an objective of evaluating major environmental impacts, comparing carbon footprint with respect to change in material of automotive components and understanding challenges in conducting LCA of a complete car.
- TML has also conducted the LCA of cars & LCVs and evaluated its environmental impact and carbon footprint over the life cycle.

**a. Scope:** Life Cycle Assessment of five products “Cradle to Grave” basis for analyzing major environmental impacts including carbon footprint.

LCA of following five products been conducted;

- (i) Nano - Petrol
- (ii) Nano - CNG
- (iii) Safari Storme
- (iv) ACE - Diesel
- (v) ACE – CNG

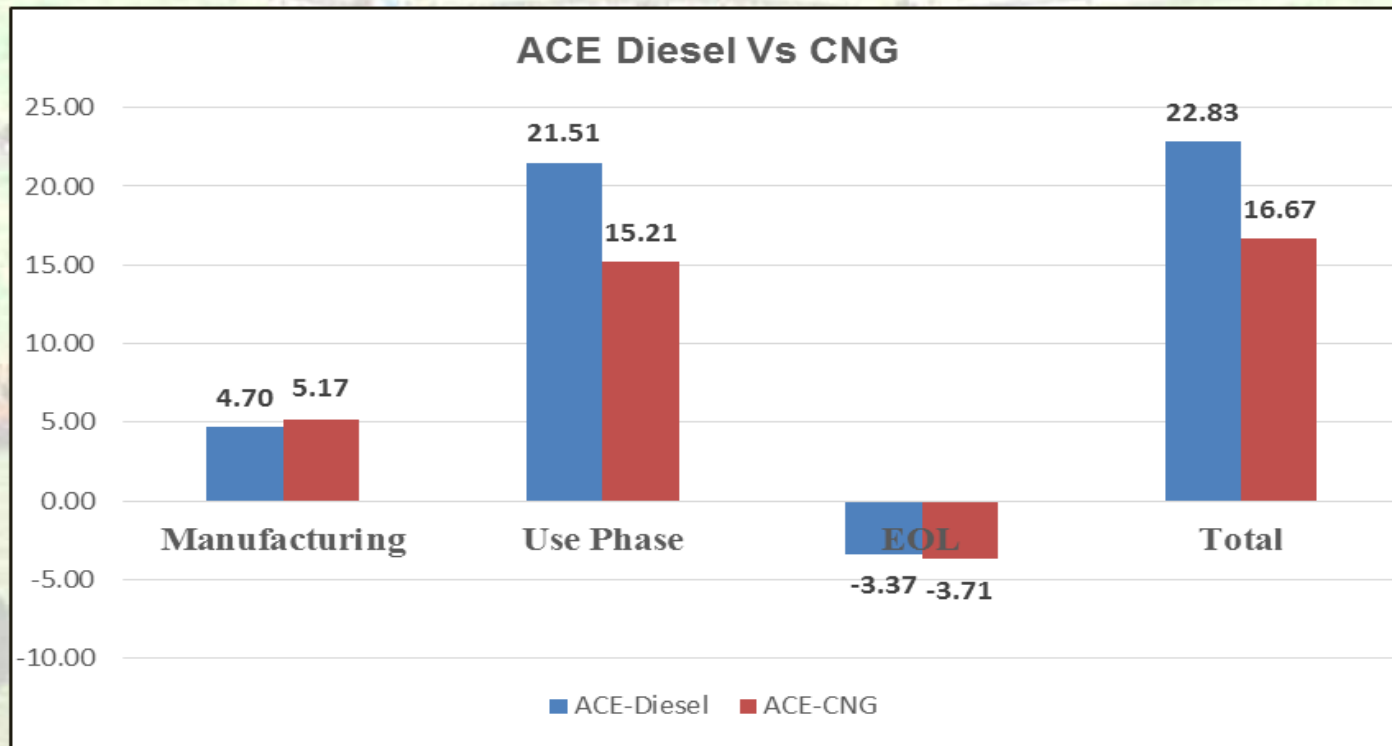
**b. System boundary:** From sourcing and manufacturing by vendors and then supply to TML manufacturing unit.

**c. Functional unit:** Environmental impacts per automotive component

**d. Flowchart of the process being considered for the study:** The LCA study has covered data collection related to sourcing of material and associated bought out parts, manufacturing process, testing, packaging and logistics of finished components up to TML manufacturing unit. This data was then processed through LCA software tool and environmental impacts were evaluated through life cycle stages.

# Life Cycle Assessment – Many Use of LCA

Based on the comparative LCA studies undertaken of ACE-Diesel and ACE-CNG, it was found that carbon footprint of ACE-CNG is 27% lesser than that of ACE-Diesel.



# Biodiversity Management

## Biodiversity Management

### Green Belt Development



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ree



■ 40 acre tree belt area

### Ground Water Recharge



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Capacity Of 1, 10,000 M

### Migratory Birds



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### Seasonal Flowers



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# Glimpses of Horticulture

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# Glimpses of Biodiversity



# Species of Flora and Fauna

Sr. No.	Particular	Area/ Nos
1	Total Garden area	105 acre
2	Tree and Shrubs	37000 nos
3	Tree belt area	40 acre

Sr. No.	Particular	No of Species
1	Trees	125
2	Shrubs	70
3	Birds	6
4	Fish	5
5	Water Lilly (Lotus)	6
6	Rose	50

Sr. No	Migrating Bird Species	Season	Duration
1	Ruddy Shelduck	Winter	December to March
2	Black winged stilt		
3	Karmount		

# Awareness for vendors

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Awareness for local based vendors and sensitizing supplier on various environmental issues:

- # Zero Liquid Discharge
- # Online Monitoring System
- # Environment audit of vendors
- # Connecting with CETP SIDCUL

- # Green disposal of hazardous waste
- # NOC from CGWB
- # Awareness on Environment Month

# Awards & Accolades



Srishti Award 2015



Golden Peacock 2015



GreenCo Gold 2015



Srishti Award 2016



Golden Peacock 2016



EHS North Zone 2016



CSR Excellence '16



National Energy Mgmt 2016



Innovative Env Project 2017



# Learning from GreenCo assessment

- ❖ Vision to achieve Zero Waste to Landfill
- ❖ Greener way of disposal - potential for utilization of hazardous waste as alternate fuels in cement industry
- ❖ Classification of hazardous waste inventory
- ❖ Improvement opportunities in STP & ETP

# Water Conservation

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- ❖ Monitoring of water consumption at user point by installation of individual flow meters
- ❖ Expand the usage of water efficient technologies
- ❖ Substitute freshwater with rainwater harvested
- ❖ Provide sustainable management of groundwater beyond the fence
- ❖ Awareness & capacity building programs

- ❖ Explore opportunities for RE onsite
- ❖ Explore opportunities for RE offsite
- ❖ Chart out a detailed action plan to become carbon neutral





# Energy Efficiency

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- ❖ Display process level energy scorecard
- ❖ Regular calibration of energy meters
- ❖ Use of energy efficient lighting
- ❖ Measure effectiveness of capacity building programs conducted
- ❖ Monitor SEC at process equipment level & consider performance indicators based on fixed and variable energy consumption

# Green Supply Chain

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- ❖ Create a roadmap for greening the supply chain
- ❖ Focus on specific capacity building programs to improve environmental efficiency of suppliers
- ❖ Track the savings achieved
- ❖ Frame specific procurement guidelines with environmental indicators
- ❖ Establish supplier efficiency improvement programs & recognition awards

- ❖ Eliminate usage of toxic substances
- ❖ Focus on Extended Producer Responsibility
- ❖ Target setting for material conservation
- ❖ Network with other GreenCo rated companies



Thank You

