

Green Initiative Projects

THRIVENI EARTHMOVERS
PRIVATE LIMITED



THRIVENI

Report Outline



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Introduction

We are very much focused on the projects which moves towards sustainability and more towards environment friendly.

Many of our projects is towards a model of reduction in carbon emissions as a responsible and eco-friendly organization.

Our Project models are detailed in the coming slides, and our effort and savings of CO2 will be projected.



Excavator Electrical Conversion Project

We have converted EX2500 into Electrical machine after studying its characteristics, we did in-house R&D and came up with the design which has more features than the original Hitachi machine.

We utilize 100% indigenous vendors to develop various subsystems and multiple features, therefore we achieved both reduction of Emissions and encouraging make in India project.

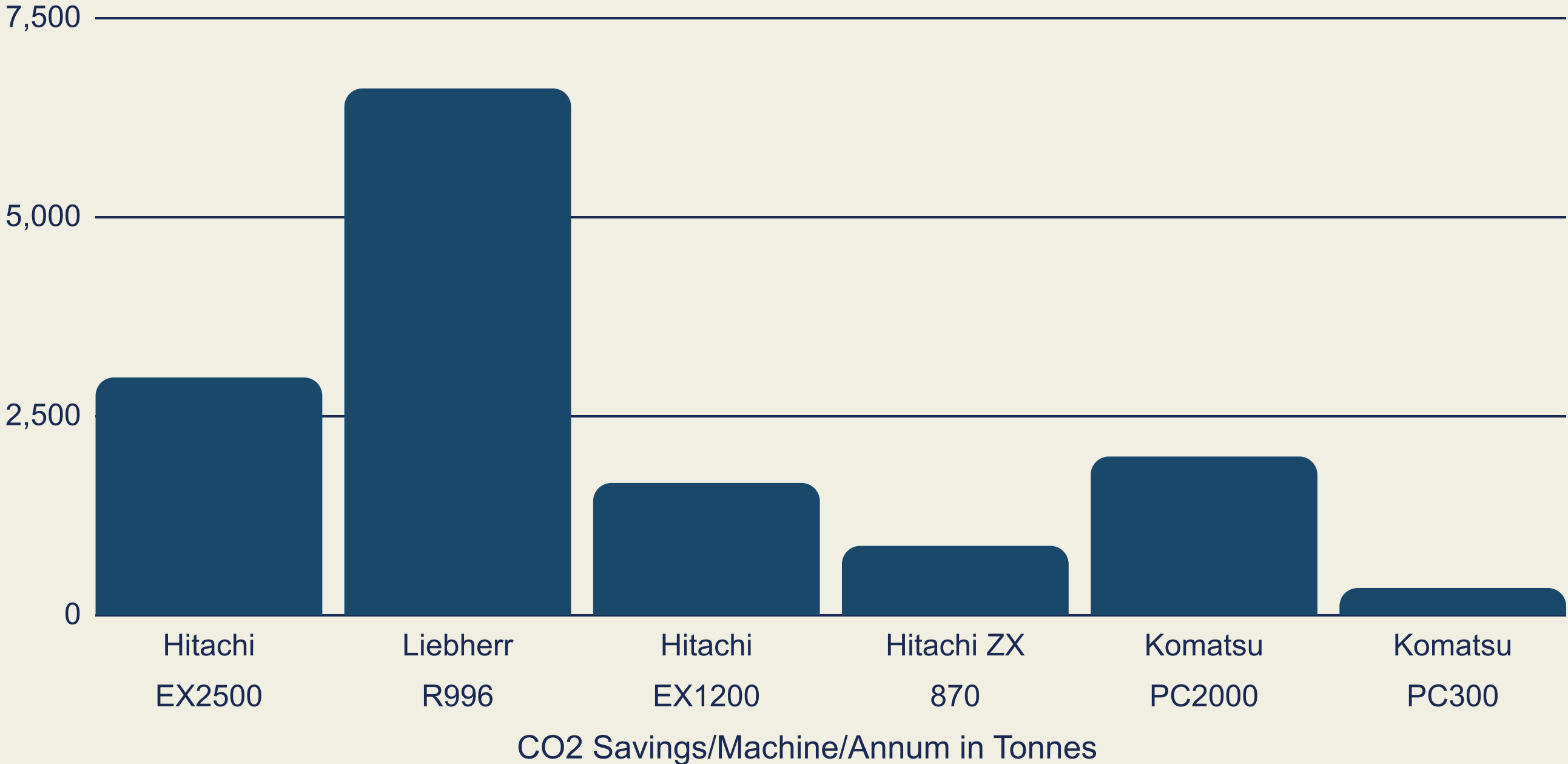
This project of EX 2500 has been successfully completed and clocked around 1000 Hrs and also Komatsu PC300 have been successfully commissioned.



Tata Hitachi EX 2500

Excavator Electrical Conversion

Along with the successful development of Ex2500, we have a fleet of 22 machines which are ready and to be converted into Electrical machine.



72,520

Yearly CO2 saving (T)



LNG System in Dumper

Liquid Natural Gas

In a big push to reduce carbon footprint, we have initiated the process of retrofitting liquefied natural gas (LNG) kits in dumpers — the big trucks engaged in transportation of coal in mines

The dumper fleet consumes 65-75 per cent of total diesel consumed in mines and LNG will replace the use of diesel by 40 per cent to 45 percent and reduce the fuel cost by about 15 per cent.

By using LNG-Diesel Technology for 100T Dumpers (t) per equipment and considering 100 Nos of 100T Dump Trucks

35,375

Yearly CO2 saving (T)

54%

Fuel Reduction in Dumpers and Volvo Trucks



Trolley Assist

Trolley Assist Model

Trolley Assist (“TA”) allows a diesel-electric haul truck to bypass the diesel engine entirely when in TA mode so that electric power can be supplied directly by overhead lines. ... in loaded up-ramp travel speed, as well as the substitution of diesel fuel with cheaper and cleaner electrical energy.

By applying trolley assist, open cast mining activities may save up to 50% in the fuel cost and improve the productivity of the fleet by 10% or more.

35% Fuel and CO2 Savings

240T Dump Trucks Fuel Savings b/w Trolley Assis and W/o Trolley Assist, by implementing the same we have saved around 35% of CO2 Savings

Yearly CO2 saving (T)

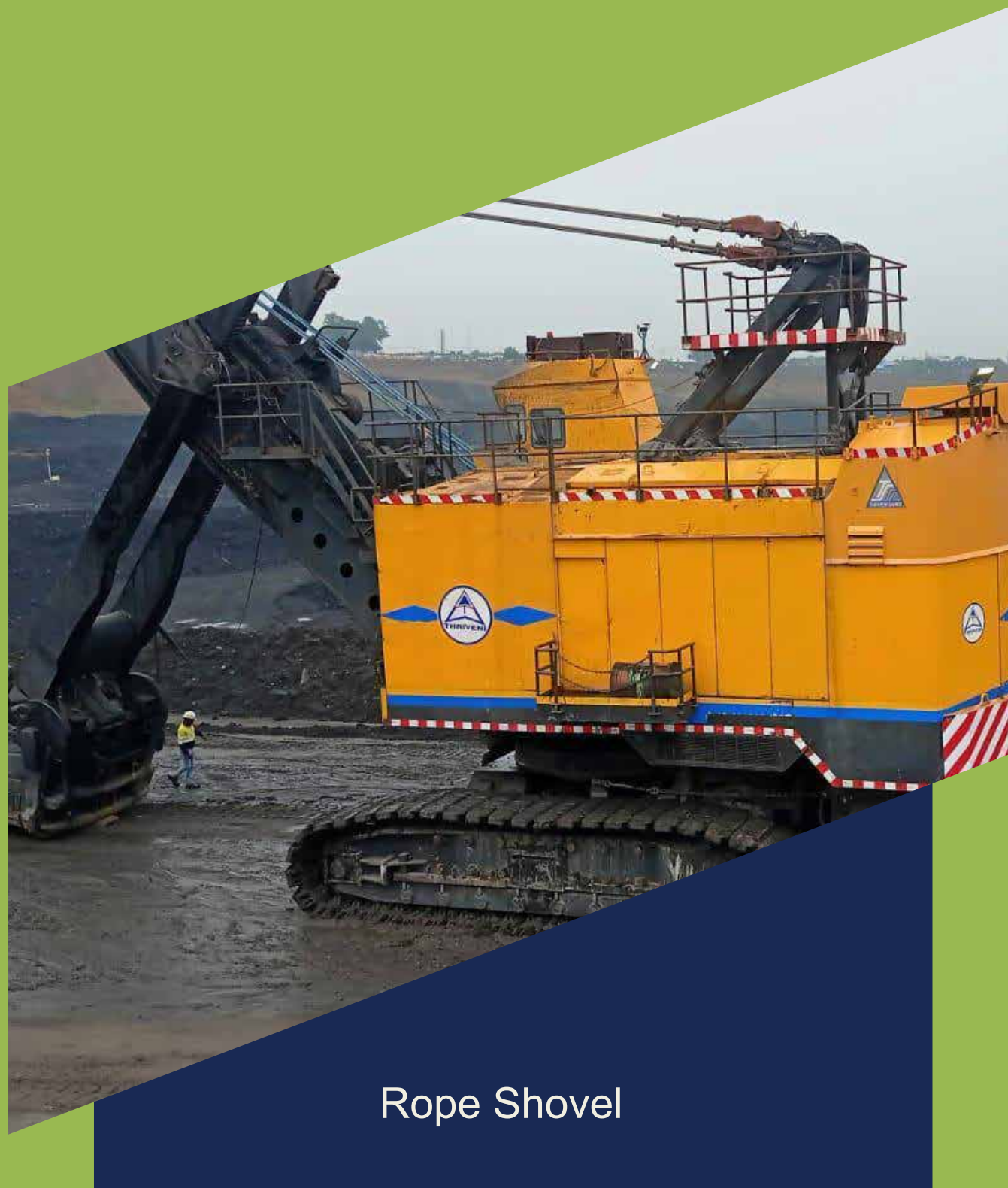
34,650

Rope Shovel Revamping and Running

We have successfully revamped Old and Scrap conditioned P&H Rope Shovels which is up and running, which it turn saves a huge amount of CO2 from being manufactured. Instead of going for a Equivalent diesel excavator, we have revamped 5 Nos of Rope Shovel.

By revamping and going with Electrical Machines, the CO2 Savings/Equipment/Annum is

~5000 t



Rope Shovel

Rope Shovel Revamping and Running

From Scrap Condition



To Running Condition



Equipment Rebuild

Equipment Rebuild, We put our equipment through a thorough inspection process, identifying the parts and components that need to be reconditioned or replaced in order to return it to prime working condition with almost 15% of the CO2 emission considered with that of a newly manufactured machine.

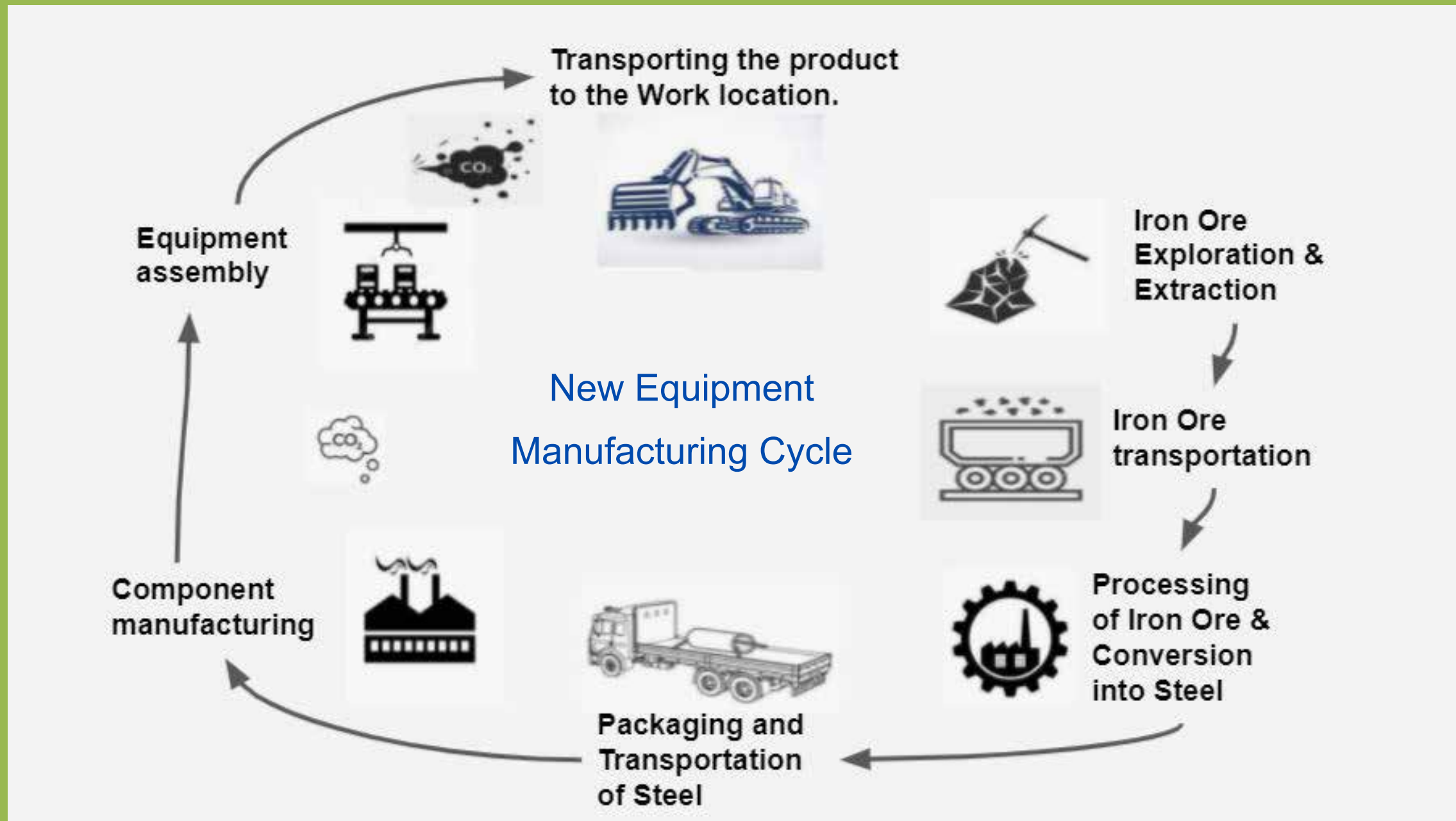
We at Thriveni, have rebuilt a quite large No of equipment from its scratch condition to almost that of a New Machine including the performance.

The Various Brands of HEMM machine we have revamped are Liebherr, P&H, Tata Hitachi, CAT, Komatsu, Volvo etc.,



Equipment Rebuild

Equipment Rebuild



Eliminating the Entire manufacturing Cycle by equipment rebuild process and thus reducing

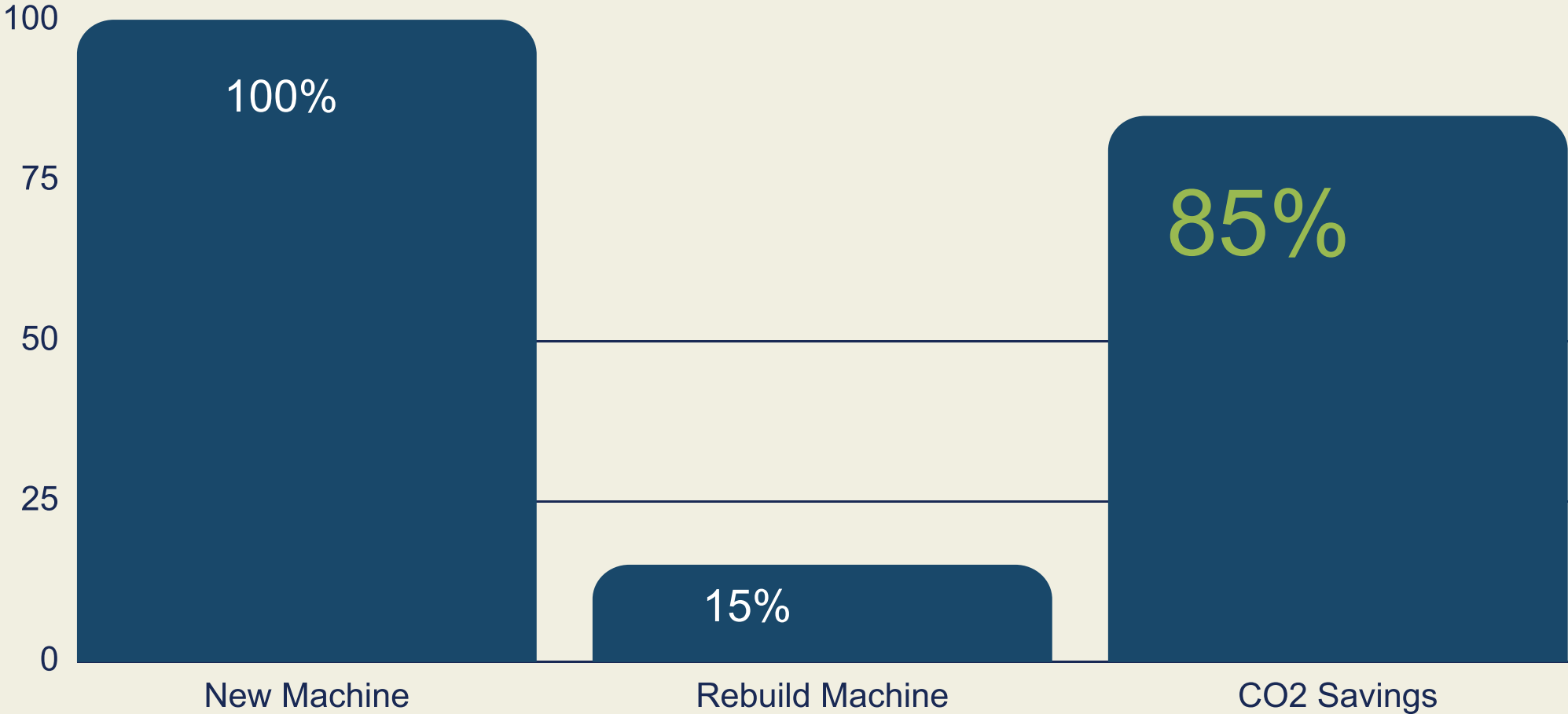
255%

CO2 Reduction

Equipment Rebuild

The Major purpose of getting the machines rebuild from the scrap is to reduce the carbon footprint drastically by 85% with that of a New machine manufactured.

Total of 150 Machines have been revamped from its scratch condition and brought into life and running.



CO2 Generation B/w New and Rebuild Machine

255%

CO2 Reduction

Extending Life of a Machine
3x times up to 200,000 Hrs

63,750

Ton of CO2 Savings by
Revamping Machines

Liebherr R996



Dozer CAT D11R





Component Rebuild

Component Rebuild

We at Thriveni, rebuilds the Major components of a machine from scrap. This process is done to reduce the cost of a component and the manufacturing life cycle which in turns helps in the reduction of Carbon footprint.

The component rebuild is done by picking up the good condition spares from various scrap condition sub assemblies and building up into a new component.

This is done for the major components like Engine, Transmission, Final Drives, Alternators, Pumps, Motors and Cylinders.

~5000

Ton of CO2
reduction/Annum

2064

Total Sub-Assembly
Considered/Annum



Dump Body Fabrication

Dump Body Fabrication

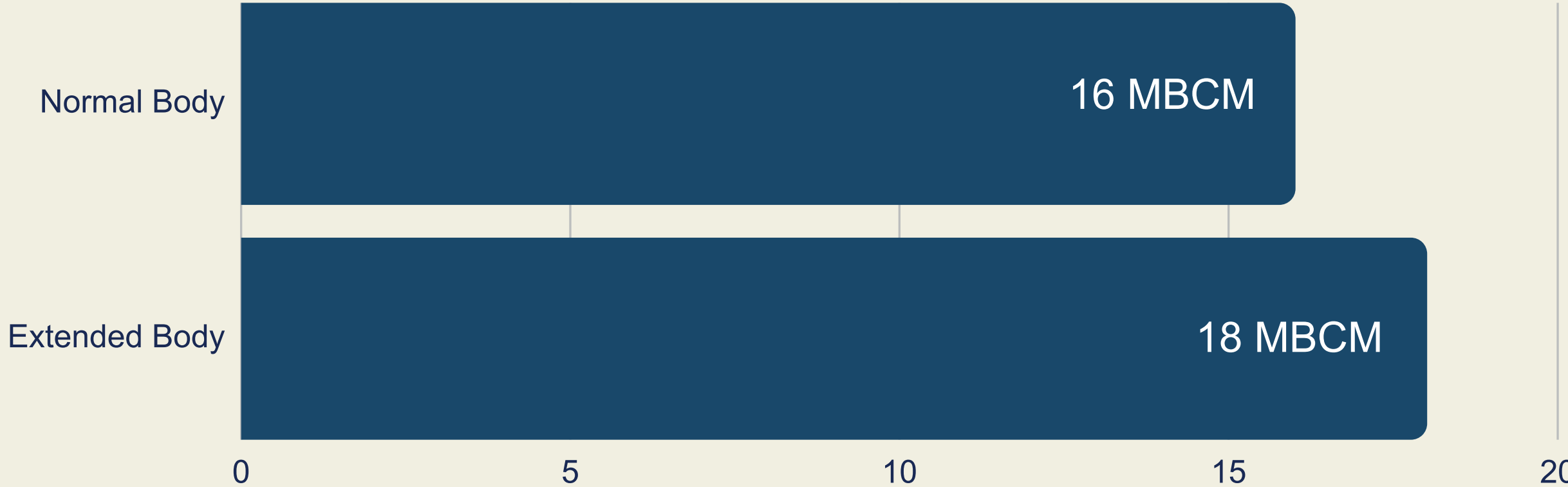
We have successfully fabricated 14 No's of dump body locally for Komatsu 830E Dumper (240T capacity) by tying up with U.S company.

We Thriveni have developed the dump body with lesser weight and higher carrying capacity which results in higher productivity and vast savings of CO2.

Dump Body Fabrication

At present, 6 Dump Trucks have been fabricated with extended body and another 20 in pipeline.

The Data is calculated for 20 Dump Trucks working for 5000 Hrs/Annum



3621

Ton of CO2 reduction

~1.4M

Litres of Fuel Savings



OTR Tyres

Large OTR Tyres Retreading

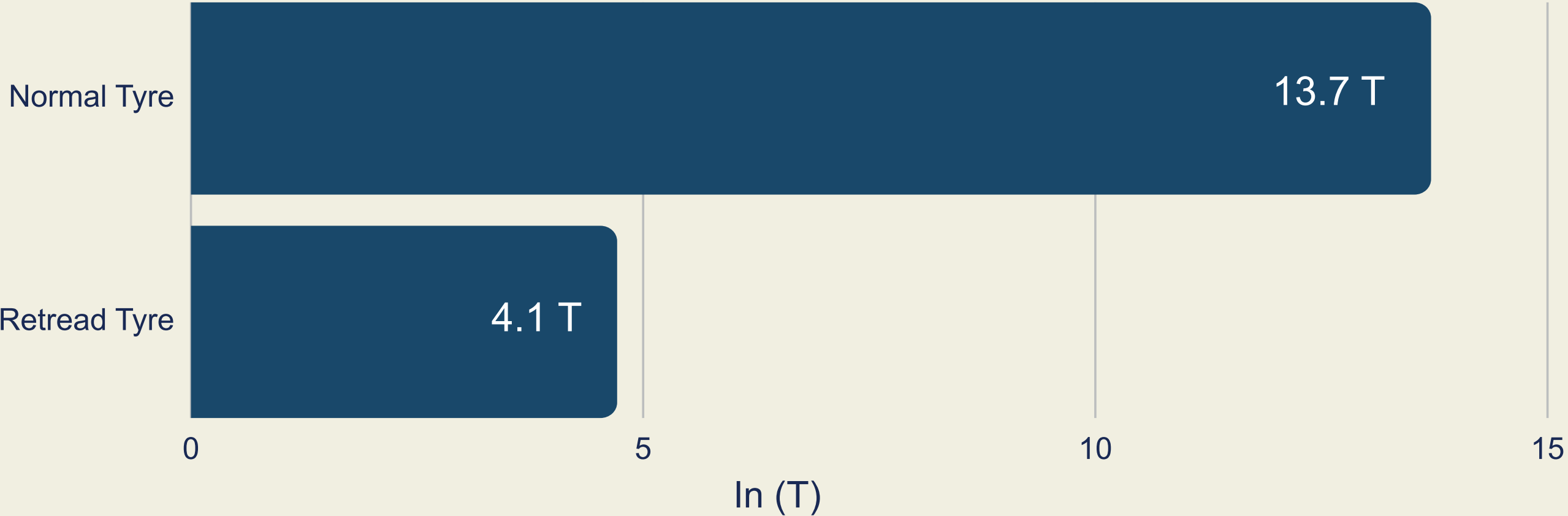
Thriveni in Joint Venture with CIO TYRES who have been a pioneer in creating awareness of the economics of retreading, indigenous development of OTR Tyre retreading for the Mining Machinery.

Thriveni being the first company in India which have retreaded large sized 40.00 R57 Size tyres.

This also have impact on the Carbon footprint by saving enough of CO2 emissions from manufacturing new tyres.

Large OTR Tyres Retreading

Total Co2 generation in one 40.00R57 Tire manufacturing (t) Vs Retread Tyre



10
Ton of CO2
reduction/Retread Tyre

2467
Ton of CO2
reduction/Annum

By Considering a total of 60 Equipment and equivalent 360 Nos of Tyre, the total CO2 Savings comes around

Gas Generator

We at Thriveni, have taken a initiative in implementing the use of Natural Gas Generator instead of diesel Generator, which in turns helps in the reduction of Carbon footprint.

Yearly Co2 saving by using CBM gas (t)

1431.5



Gas Generator

Bearing Rebuild

Refurbishment of the bearing through OEM will be recommended for this bearing since the rollers are replaced and the races are polished.

We will have a second life from the bearing. We have refurbished the bearing and taken a initiative for refurbishing the major bearings and going into a micro level of refurbishing every possible components.



Bearing Rebuild

Thank You.

