DECARBONIZATION INITIATIVES BY INDIAN RAILWAYS

Presented by
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Conserving Now, Preserving Future
Indian Railways- Lifeline of the nation

Largest Mass transporter in the country, and 3rd Largest Railway Network globally

Carries over 23 million passengers and 3 million tonnes of freight per day

Track length of 66,687 route kilometres covering 8000 stations

Fleet of 11,122 locomotives, 63,342 passenger service vehicles, 6,899 coach vehicles and 2,51,256 wagons
Indian Railways consumes 18 billion units of electricity

Indian Railways consumes 2.9 billion litres of diesel

IR account for 2 per cent of country’s total energy consumption
Mission Electrification

Electrifying 100% of railway tracks in next 4 years

- Out of total 66,687 route km, 30,012 route kms have already been electrified as on March 2017
- Target to electrify 100% Railway tracks by next four years

Financial benefits
- Estimated cumulative savings of US$ 3,900 million by 2025-26

Energy Security
- Saving of annual consumption of diesel resulting in lowering crude oil imports

Speed
- Increase in average speed of electric traction enabling faster commute
Increasing use of Renewable Energy

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Plan to set up 500 MW rooftop solar and 500 MW ground mounted solar by 2021

Plan to set up 165 MW wind power plant by 2021

On pilot basis, solar is being planned on coaches

Target to contribute 10% of India’s Solar and Wind Energy Missions by 2022
First of its kind Solar powered 1600 HP DEMU train in the world operationalised

DISTINCTION of being only Railways in world to use CNG run locomotives for passenger transportation

Efforts on to green the entire ecosystem

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Energy Efficiency and Conservation

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- 2500 stations converted into 100% LED Stations
- Installation of energy efficient equipments in stations and coaches

Improvement in Specific Energy Consumption

- Regenerative braking features in all new 6000HP locomotives and EMUs

Improvement in fuel efficiency in diesel traction

- Auxiliary Power Units (APUs) on all diesel locomotives, Guidance for Optimized Loco Driving etc. leading to fuel conservation and emission reduction

PAT scheme

- Target to reduce Specific Energy Consumption by over 5% by 2019

Target to achieve 15% energy efficiency by 2020
1. Use of CNG locomotives

2. Replacement of Industrial Gases by LPG/CNG

3. Waste to Energy
   - Installation of a waste to energy plant for producing 80kWh energy per tonne of waste per day is underway

4. Biodiesel
   - Adoption of 5% blending of biodiesel in diesel for traction
Water Management

Committed to improve water use efficiency by 20% by 2030

- 20 million litres of water savings per day
- 100 water recycling plants
- Revived 1527 water bodies
- 3000 Rain water harvesting systems installed

Indian Railways Water Policy

Protection of the environment and conservation of water and forest are people’s responsibility.

Ministry of Railways
Government of India

Indian Railways is committed to embed sustainability in its business and operational strategies.

Steady Growth
Profitable

100 water recycling plants
- 20 million litres of water savings per day

Revived 1527 water bodies

3000 Rain water harvesting systems installed
Afforestation

Contributing to India’s NDC to create additional carbon sink of 2.5 to 3 billion tonnes of CO$_2$e by 2030

- 2016-17: 1.2 crore saplings
- 2020-21: 5 crore saplings
Accreditation

Policy mandating Environment Mgt. Accreditation in workshops, loco sheds and major depots

IMS/ISO certification
- All production units certified

Green co-certification
- Development of green built up spaces through green co-certification
  - 1 production unit-GOLD; 2 production units-SILVER
  - 2 workshops-Gold; 3 workshop silver and 1 workshop-Bronze
  - 2 stations –Silver rating and others underway
  - 1 school green certified
Awards and Memberships

Green Champion Award for Championing the cause of Green India

Carbon Pricing Leadership Coalition, led by the World Bank,
Way Forward

Indian Railways

- Committed to Sustainability
- Contribute towards India’s NDC goals
Thank You