



Ministry of Railways
Government of India



International Conference on Green Initiatives & Railway Electrification

October 27-28, 2017

Hotel Le Meridien, New Delhi, India

Organised by :

Institution of Railway Electrical Engineers

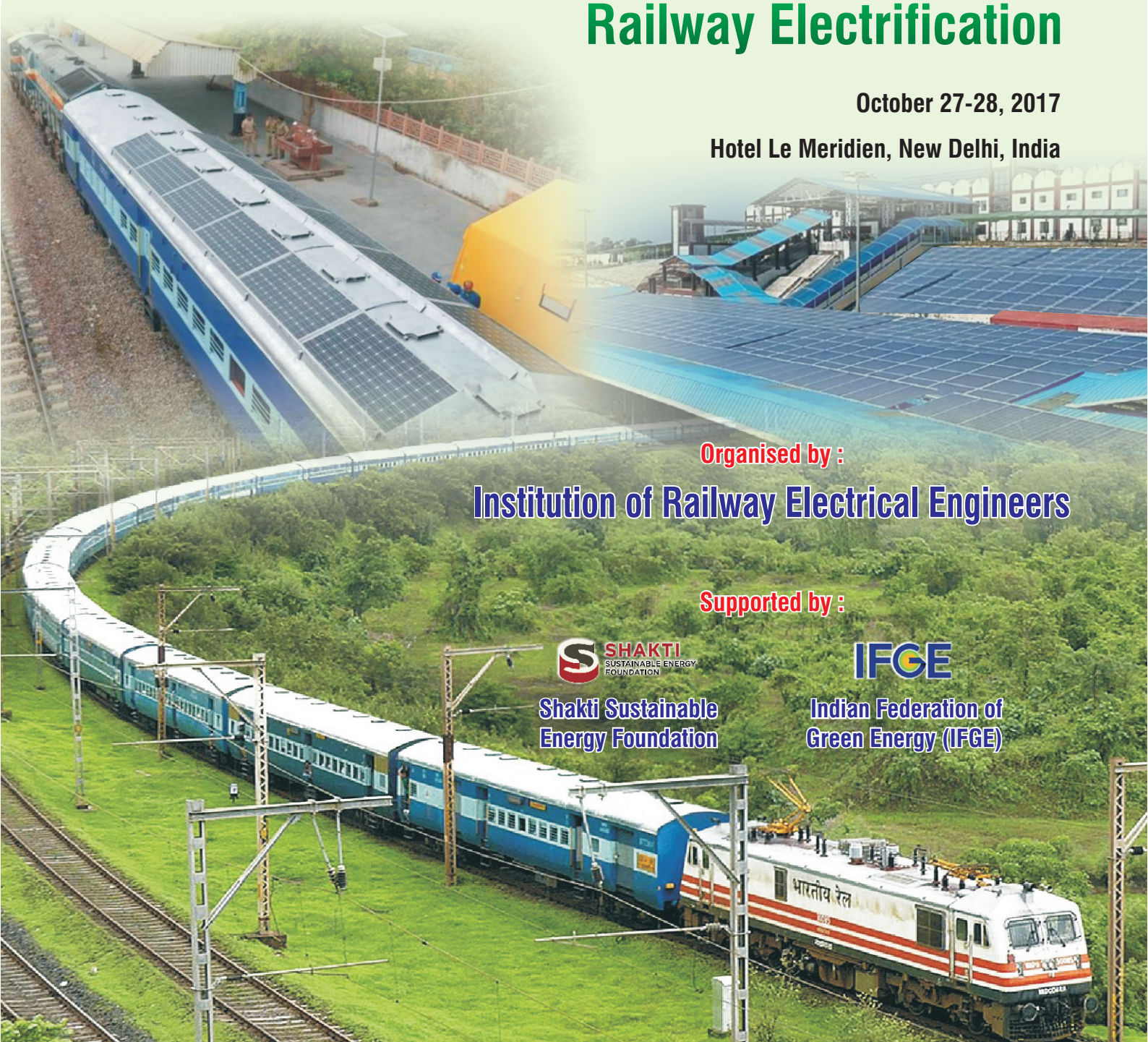
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**Shakti Sustainable
Energy Foundation**



**Indian Federation of
Green Energy (IFGE)**





Indian Railways (IR), is world's second largest railway network and is spread over 66,687 route km. It is connected with 8,495 stations and is serving people of this nation since 1853. In 2015-16, Indian Railways transported 8.1 billion passenger i.e. more than 22 million passengers per day to their destinations. In addition, it transported 1101 million tons of freight across the length and breadth of the country. It accounts for around 2% of the country's total electricity consumption. It utilized about 17.5 TWh electricity in 2016-17. IR also consumes 2.9 billion liters of diesel annually or 3% of the total diesel consumption of the transport sector in India. In addition, the energy demand of IR is expected to triple by 2030 to 49 TWh due to increasing traffic growth.

Indian Railways, along with the national highways and ports, is the backbone of India's transport infrastructure. Currently, more than 35% of the total freight traffic (tonne-kilometers) of the country moves on rail.

As a part of the International Paris Agreement on climate change, 2015, India has pledged a reduction in emissions intensity of 33-35% by 2030 from 2005 level. India has also set a target for transition to non-fossil fuel based energy with 40% of cumulative electricity generation capacity through renewable energy by 2030. One key sector of the Indian economy that could set a strategic example by turning green and meeting India's 2030 targets is the rail transport system.

An efficiently functioning transport sector is highly essential for economic development of a country as it enables the trade and exchange of goods and items, hence, can be stated as a very crucial indicator of economic growth of a country. However, the transport sector is also responsible for a number of negative environmental impacts, including its significant contribution to global greenhouse gas emissions and air pollution which is not the case for Railways. Therefore, the modification through electrification and inclusion of more and more renewable energy based approaches will not only improve on the overall economic scenario of the country but also will make a huge impact to deal with the global concern of climate change challenges.

Under the present scenario, it is evident that transition to low-carbon systems can bring about a sustainable economic growth. The falling cost of green energy, ambitious government plans for rapid deployment of renewable energy resources and increasing financial support from international organizations, indicates that the transition to a low-carbon economy is not only possible, but already underway. Considering that fact, Indian Railways is also focusing on environment friendly measures like changing the energy mix from fossil fuel based power projects to green energy based projects which include wind, solar, waste to energy etc. In addition, Indian Railways has a future goal to develop a long term de-carbonization strategy by sourcing almost 100% of its energy from green sources and by doing so, becoming the first 100% de-carbonized transport system in the world. In this way, Indian Railways could also achieve its 2030 emission reduction goals as well as improve energy security. This will constitute a significant step towards accomplishing India's target of 175 GW renewable energy installations by 2022.

Because of the volume of IR's energy consumption, prioritizing Green initiatives of Indian Railways could help India to achieve its 2030 emission reduction goals as well as improve energy security by reducing fossil fuel imports. The first and essential step towards Green initiatives of IR is

transition to an almost 100% electrified rail network. As on 31st April 2017, electrification on Indian Railways has been extended to 30,012 route KMs. This constitutes about 49.6% of the broad gauge (BG) system of 60,510 route KMs.

Objective of the Conference

The main objective of the international conference is to bring green power project developers and other stakeholders on a common platform for making Indian Railways an efficient and Greener mode of transport. It will help in identifying pathways for attaining the goals under different scenarios. The conference is planned to advocate and disseminate the economic and environmental benefits of sustainable growth, 100% electrification of IR and progressively change energy mix towards use of renewable energy by bringing various stakeholders on a common platform for exchange of knowledge, resources and technology. It also aims to develop and peruse a road map for identifying various solutions to achieve larger goal of transforming Indian Railways as a 100% de-carbonized, most energy efficient and highest electrified rail network in the world. This conference will also project Indian Railways as an attractive investment destination, considering its plans of huge investments in next 5 years on its up-gradation electrification programme including use of renewable energy.

In brief, this conference aims to:

- Increase awareness among the stakeholders about Green Energy options available on Indian Railways;
- Evaluation of the existing policies & risk factors, suggest improvements and explore future opportunities;
- Explain the commercial aspects of these technologies, identification of business opportunities and the related risk mitigation options;
- Formulate strategy for successful implementation;
- Discuss de-carbonization through successful carbon foot-printing;
- Comparison with other countries and bench marking;
- Discuss case studies on successful pilot projects;
- Moving IR towards 100% Electric traction - Showcase new technologies and innovative solutions for speedy electrification;
- Meeting IR's high speed Locomotive requirements;
- OHE for 200 kmph- Requirements & How to achieve with existing OHE;
- Solutions for Energy Efficiency and increasing use of Renewable Energy on IR;
- To promote and popularize 'Make in India' initiative a new Indian Railways;
- Provide a platform to learn and share experiences of international & national experts and industry leaders on electrification, renewable energy technologies & solutions and best practices in the Rail Sector;
- Offer insights and in-depth discussions on a wide range of green initiatives and energy efficiency issues in the Rail Sector.

Theme

International Conference on "Green Initiatives & Railway Electrification"

About Institution of Railways Electrical Engineer (IREE)



The Institution of Railway Electrical Engineers is a professional body of Railway Electrical Engineers. It is a technical body under the auspices of Ministry of Railways sharing knowledge and experience of various Railway engineers and others connected with Electrical Engineering. The Institution, registered at Nasik in 1995, has been recognized by Railway Board in the year 1998. The Institution aims to disseminate and share the technical knowledge among the Railwaymen and industry regarding the available and new technology related to design, construction and maintenance of electrical assets including energy management portfolio. It is the platform for adoption of new emerging technologies to serve the need of Railway Electrical Engineering.

About the Conference

To showcase potential of investment in Indian Railway to make it an efficient and greener mode of transport, with focus on 100% decarbonisation with sustainable electrification and increasing share of renewables, Institution of Railways Electrical Engineer (IREE) is organizing this International Conference. This conference also aims for giving boost to 'Make in India' and 'Innovative India' campaigns of Hon'ble Prime Minister of India. This International Conference will also be a small step towards accomplishing the target of 175 GW renewable energy, including 100 GW solar energy, by 2022.

These long-term strategy and initiatives will help in mitigating the adverse impacts of greenhouse gases emission by introducing and adopting latest technologies and financing mechanisms in renewable energy sectors. Considering the opportunities available in the existing infrastructure and the upcoming expansion in IR, there is immense scope to learn, adopt and upscale use of innovative technologies using renewable energy and speed up the work of electrification. IREE is organizing the event to open an international discourse on green initiatives & electrification and decarbonisation of IR by use of renewable energy as a strategic and critical element for this large energy consumption sector. It will further facilitate discussions on important advancements being made in these areas. During the event, research works of experts from the fields of renewable energy and electrification will be presented.

Conference Language

The official language of the conference is English.

Speakers

Global eminent speakers from Government, Industry, Research Institutions, Sectoral Experts and Financial Institutions will share their knowledge and expertise through keynote addresses, research papers, presentations, panel discussions and case studies.

Programme Outline

DAY 1 : 27TH OCTOBER, 2017

0900 - 1000 hrs : **Registration**

1000 - 1115 hrs : **Inaugural Session**

: **Inaugural Address by**

Mr. Piyush Goyal, Hon'ble Minister for Railways & Coal, Government of India

: **Address by**

- **Mr. Manoj Sinha**, Hon'ble Minister of State (I/C) of the Ministry of Communications & Minister of State for Railways, Government of India

- **Mr. Rajen Gohain**, Hon'ble Minister of State for Railways, Government of India

- **Mr. Ashwani Lohani**, Chairman, Railway Board

- **Mr. Ghanshyam Singh**, Member Traction, Rly. Board & Patron, IREE

- **Mr. V. K. Agarwal**, Additional Member Electrical, Rly. Board & President, IREE

1115 - 1145 hrs : High-Tea

1145 - 1330 hrs : **Technical Session - I**

Presentations followed by discussions on Green Energy Projects - Opportunities for partnerships

1330 - 1415 hrs : Networking Lunch

1415 - 1545 hrs : **Technical Session - II**

Presentations on Meeting IR's high speed Locomotive Requirements followed by discussions on Requirements & How to achieve with existing OHE

1545 - 1600 hrs : Tea

1600 - 1700 hrs : **Technical Session - III**

Presentations followed by discussions on Energy Efficiency - Technology & Solutions

DAY 2 : 28TH OCTOBER, 2017

0930 - 1100 hrs : **Technical Session - IV**

Presentations followed by discussions on Roadmap towards reducing carbon Foot print

1100 - 1130 hrs : Tea

1130 - 1300 hrs : **Technical Session - V**

Presentations followed by discussions on Moving IR towards 100% Electric Traction- Showcase new technologies and innovative solutions for speedy electrification

1300 - 1400 hrs : Networking Lunch

1400 - 1530 hrs : **Technical Session - VI**

Presentations followed by discussions on Bio Diesel - Technology & Solutions

1530 - 1600 hrs : Tea

1600 - 1700 hrs : **Valedictory Session**

The technical papers to be submitted in the following sub themes (but not limited to) -

- 1) Moving IR towards 100% Electric traction - Showcase new technologies, mechanisation and innovative solutions for speedy electrification.
- 2) Meeting IR's high speed Locomotive requirements.
- 3) OHE for 200 kmph - Requirements & How to achieve with existing OHE.
- 4) Solutions for Energy Efficiency, Smart Metering and increasing use of Renewable Energy on IR

Who Can Participate

Delegates from India and abroad from agencies working/ dealing in development of green and energy efficient technologies; Plant & Equipment manufacturers dealing with Green & Renewable Energy and Energy Efficiency; Consultants in Railways, Carbon foot printing & mitigation, Fuel switching & renewable energy sectors; Research and Development institutions; Power sector solution providers; Industries; project developers; Scholars and experts; Railways & its manufacturing units.

Registration

Pre-registration by 20th October, 2017. Contact Organizing Secretary at e-mail: errajput04@gmail.com .

Delegate Participation Fees for conference

Delegates, Members from Ministry of Railways, Zonal Railways, PSUs under Ministry of Railways, Faculty members from Institutions & other government agencies	INR 8,000/-
Industrial Delegates	INR 12,000/-
All Foreign Delegates	USD 250 INR 15,000/-

Sponsorship

Sponsorship (10 Delegates free)	INR 5 Lakhs
Co-Sponsorship (5 Delegates free)	INR 3 Lakhs



Important Dates

Important Entries	Dates
Date of Conference	27th & 28th October, 2017
Last date of receiving Nominations along with Fee	18th October, 2017
Last date of receiving papers	10th October, 2017

Venue

Hotel Le Meridien, New Delhi, India

Important Information

Papers to be submitted to :

Shri Sudhir Garg
Executive Director/Electrical Energy Management
Ministry of Railways, Govt. of India
Railway Board, Raisina Road, New Delhi (India)
E-mail: electricalg465@gmail.com, nikpd21@gmail.com

Payments

All payments towards Participation Fee may be sent by Bank Draft/Cheque at par drawn in favour of "Institution of Railway Electrical Engineers" payable at New Delhi or through ECS, A/c No. 20373872161, Allahabad Bank, Northern Railway Headquarters, Baroda House, New Delhi, MICR Code : 110010005, IFSC Code : ALLA0210619, PAN No. : AAATI1279H and to be sent to:

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For any queries, please contact :

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