

Decarbonising energy for sustainability

11 December 2018



About ENRich

The ninth edition of ENRich, KPMG in India's flagship event for the Energy and Natural Resources (ENR) sector, is scheduled to be held on Tuesday, 11 December 2018 at Hyatt Regency, Bhikaji Cama Place, Ring Road, New Delhi, India. The theme of the conclave is 'New partnerships for new energy'.

Shri Dharmendra Pradhan, Minister of Petroleum and Natural Gas; and Minister of Skill Development and Entrepreneurship and **General (Retd.) V. K. Singh,** Minister of State in the Ministry of External Affairs have consented to grace the occasion.

The energy sector in India is witnessing massive disruption due to alternative sources of energy, the geo political scenario and technological advancements. In the light of these developments, this year, the discussions will focus on the following themes:

- · Role of energy in India's inclusive growth
- · Geopolitics, energy & consumers
- Energy transitions, technology and innovation
- India's energy security and sovereignty
- · Strategies for decarbonising India's energy sector
- Digital transformation in the ENR sector
- Energy and natural resources in new age mobility
- Forging new partnerships for new energy.

Like previous editions, ENRich 2018 is set to have interactive discussions with CXOs, policy makers, regulators, government utilities, private players, investors and sector experts.

We look forward to your presence at ENRich 2018.

Highlights from last year's ENRich conclave are available at

https://home.kpmg.com/in/en/home/events/2017/11/enrich-2017.html



Sessions | ENRich 2018

Geopolitics, energy & consumers

Role of energy in India's inclusive growth agenda

Towards energy and resources security and sovereignty

Decarbonising energy for sustainability



De-stressing the Indian Power Sector

ENR: Digital and analytics revolution in the making

Energy and natural resources in new age mobility

New partnerships for new energy

Featured speakers



Breakout 1: Decarbonising energy for sustainability



Mahesh Kolli President & Joint MD, Greenko Group

Experience across emissions trading markets, carbon market and clean energy; founded Greenko Group PLC and Lytag Asia



Krishan Dhawan CEO, Shakti Sustainable **Energy Foundation**

Global executive with experience at Oracle, Bank of America; Founding trustee of IIMPACT



Navroz Kersi Dubash Professor, Centre for Policy Research

Expert in climate change policy and governance, the regulatory state in the developing world; serves on various Indian and foreign editorial boards



Manu Kumar Srivastava Principal Secretary, Govt. of Madhya Pradesh

Has worked extensively with both Central and State Government in the energy sector and has brought about innovation in renewables



Chintan Shah Director (Technical), Indian Renewable Energy

Experience in the renewable energy domain; Former President of the Suzlon Group of Companies

Development Agency Ltd.



Sustainability and CSR Advisory, KPMG in India

Santhosh Jayaram

Partner & Head,

Moderator

Experience across climate change and sustainability; responsible for launching the AA1000 series standards in India



Session context

At CoP 21 India committed to a decisive roadmap on Decarbonisation by promising to bring down energy intensity by 33-35 percentage by 2030 as compared to 2005 levels and expand renewable energy to constitute 40 per cent of the installed capacity base. This is significant, and strong strides have been made towards this commitment. The keys questions at this stage are on whether (a) the goals are ambitious enough in the face of dire environmental realities foreseen and (b) the progress is adequate against the plans set out.

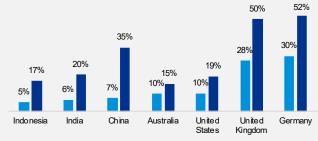
On energy intensity/efficiency and renewable energy the market making activities prompted by Governmental policy and action have made India one of the front runners in the transition to clean energy. Yet, with economic growth and pent up demand being catered to there will be significant growth in carbon accretion in absolute terms in the foreseeable future even if emission intensity falls sharply. This is almost inevitable. However, given the falling costs of renewables and the growth of energy efficiency technologies in industrial and individual scale energy consumption, there could be an opportunity to clock major economic gains while pursuing a sharper decarbonisation strategy.

Changes of this magnitude are not just about technology and costs. It calls for deep behavioral and lifestyle alterations, more sophisticated planning approaches, the right kind of incentives, financial and political support, awareness and human capabilities. The actions (especially on the demand side) transcend many sectors of the economy, making them difficult to identify with precision and take them to implementation.

Getting the whole puzzle right is sometimes fiendishly difficult, but without getting those elements right the hundreds of billions of dollars investments required are unlikely to materialize on the desired scale. Scenario planning exercises that take into consideration impacts of decarbonisation on value chains of related sectors such as petrochemicals can help simplify policy formulation and guide decision making.

With the above as context in this session we will discuss the potential of decarbonisation and policy, technology, market making and other actions to accelerate the decarbonisation process, and the role of partnerships.

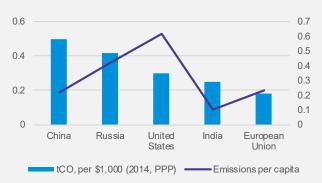
Penetration of renewable energy (2018)



■Pene teration of renewable energy generated ■Pene tration of installed renewable capacity

Source: KPMG in India analysis based on Renewables 2018 global status report, BP statistical review of World Energy – 2018

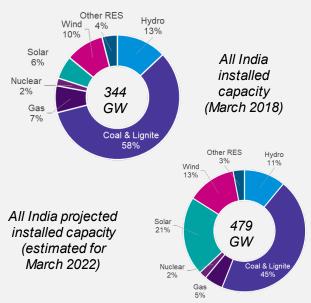
Carbon intensity of GDP and energy-related CO₂ emissions per capita in selected regions, 2013



tCO2 = tonnes of carbon dioxide; PPP = purchasing power parity

Source: Central Electricity Authority

Expected change in power generation capacity mix for India



Source: CEA, National Electricity Plan 2018, KPMG In India Analysis.



Indicative issues for discussion

How can investments be attracted at further scale for new and innovative technologies in EE and RE?
How can we prevent carbon heavy new-build (like large coal fired assets) which will have a long legacy?
What particular policy initiatives can move the needle substantially towards decarbonisation?
Which are the sectors that would be the principal theatres of action in the decarbonisation process?
What are the various sectoral policies (outside energy) and initiatives that can have a significant impact on the decarbonisation process?
Are there specific policy or administrative actions that we should seek to avoid (which may otherwise harm the decarbonisation trajectory)?
What are the key ecosystem enablers (including infrastructure) necessary to achieve the potential on EE and RE?
What will be the role of structured power trading markets and energy efficiency trading markets in scaling up the decarbonisation process? Are the markets for EE and RE reliable?
What is the role of corporates – both energy and non-energy companies - in accelerating the decarbonisation process sharply?
What would be the role of partnerships in achieving the decarbonisation potential? Who would be the principal actors?





KPMG in India contacts:





Anish De Partner and Head - Energy & Natural Resources

Mobile: +91 9810453776 Email: anishde@kpmg.com



Santhosh Jayaram

Partner & Head, Sustainability and CSR Advisory

Mobile: +91 9845896600 Email: santhoshj@kpmg.com

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Printed in India