

AGENDA & SPEAKERS' BRIEF

G20 - India Presidency

Energy Transition Working Group III – Seminar on sharing global policies and best practices to decarbonize “Hard to Abate” sectors

Tuesday, 16 May 2023

14:00 - 16:30

Venue: Lotus Ball Room-1, Jio World Convention Centre, BKC,
Mumbai

Objective of the side event:

The objective of the side event is to understand the most challenging aspects of industry transition and the role of G20 countries in addressing the same. It will examine various issues such as policy alignment and formulation, technology collaboration, finance mobilization, capacity and skills development, and related aspects as far as industrial decarbonization. This event will facilitate knowledge sharing with respect to successful initiatives and will contribute towards strengthening cooperation between G20 nations with a special focus on the industrial sector, as they move towards a net zero future.

Background:

The demand for steel and cement is set to grow due to rising population, industrialization, and urbanization in emerging economies. In addition, the transition to a sustainable energy system in all G20 countries adds to the increasing demand for these materials, given their extensive use in the construction of wind farms, nuclear power plants, transmission lines, electric vehicles, and other clean energy infrastructure.

These industrial sectors as well as long-distance transport modes are areas where emissions are particularly “hard to abate”. It is imperative to decarbonize these industries to stay in line with the targets of the Paris Agreement. However, the difficulties largely stem from the fact that the technologies that will be relied upon to deliver deep emission reductions are at comparatively early stages of development. This underscores the need for accelerating clean technology innovation in critical areas.





With G20 countries comprising major industrialized countries, and with most residual industrial emissions in 2050 coming from heavy industries in emerging market and developing economies, the G20 is well placed to drive this agenda forward

However, steel and cement plants have a typical lifetime of around 40 years and investment cycles in these industries are typically 25 years. Consequently, the next investment cycle could lock in the emissions profiles of industrial assets up to 2050. Aligning investment and innovation cycles in heavy industries could help to significantly reduce the residual emissions burden from existing assets in these sectors.



AGENDA & SPEAKERS' BRIEF

Energy Transition Working Group III – Seminar on sharing global policies and best practices to decarbonize “Hard to Abate” sectors

Participants – in order of appearance

- **Mr. Abhay Bakre**, Director General, Bureau of Energy Efficiency, Ministry of Power, Government of India
- **Dr. Ajay Mathur**, Director General, International Solar Alliance
- **Mr. Alok Kumar**, Secretary, Ministry of Power, Government of India
- **Dr. Andrew Minson**, Concrete and Sustainable Construction Director, GCCA
- **Mr. Arijit Sengupta**, Director, BEE
- **Dr. Ashok Kumar**, DDG, Bureau of Energy Efficiency, Ministry of Power, Government of India
- **Mr. E.R. Raj Narayanan**, Chief Manufacturing Officer, Ultratech Cement Limited
- **Mr. Girish Sethi**, Senior Director- Energy, The Energy and Resources Institute (TERI)
- **Mr. Harsh Vijay Singh**, World Economic Forum
- **Mr. Jagabanta Ningthoujam, Principal, Rocky Mountain Institute India Foundation**
- **Mr. Michael Buchl**, Deputy Head of Division, Industrial Decarbonisation Market Framework, Federal Ministry for Economic Affairs and Climate Action, Government of Germany
- **Mr. Nagendra Nath Sinha**, Secretary, Ministry of Steel, Government of India
- **Ms. Neha Verma**, Director, Ministry of Steel, Government of India
- **Mr. Paolo Frankl, Head of Renewable Energy Division, IEA**
- **Mr. Peter Hemingway**, Policy Advisor, UNIDO
- **Mr. Per Andersson**, Head of Secretariat, Leadership Group for Industry Transition (LeadIT)
- **Mr. Prabodha Acharya**, Chief Sustainability Officer, JSW Steel
- **Mr. Rahma Alshamsi**, Lead, Hard-to-Abate Sectors, Energy Transition Team, COP28 United Arab Emirates
- **Dr. S.K. Chaturvedi**, Acting Director General, NCCBM
- **Mr. Sarbojit Pal**, Manager of Partnerships, CEM secretariat
- **Mr Tareq Emtairah**, Director, Department of Energy, UNIDO



AGENDA & SPEAKERS' BRIEF

AGENDA

14:00 – 14:05	Welcome remarks
	Mr. Abhay Bakre, Director General, Bureau of Energy Efficiency (BEE), Ministry of Power, Government of India
14:05 – 14:25	Special Addresses
	<ul style="list-style-type: none"> • Mr. Tareq Emtairah, Director, Department of Energy, UNIDO • Dr. Ajay Mathur, Director General, International Solar Alliance • Mr. Nagendra Nath Sinha, Secretary, Ministry of Steel, Government of India
14:25 – 14:35	Keynote Address
	Mr. Alok Kumar, Secretary, Ministry of Power, Government of India
14:35 – 14:50	Tea Break
14:50 – 15:40	International Initiatives
	<p>Moderator: Dr. Ashok Kumar, DDG, BEE</p> <p>Theme Presentation: Mr. Peter Hemingway, Policy Advisor, UNIDO</p> <p>Discussants:</p> <ul style="list-style-type: none"> • Mr. Per Andersson, Head of Secretariat, Leadership Group for Industry Transition (LeadIT) • Mr. Paolo Frankl, Head of Renewable Energy Division, IEA • Mr. Harsh Vijay Singh, World Economic Forum (WEF) • Mr. Jagabanta Ningthoujam, Principal, Rocky Mountain Institute India Foundation • Mr. Rahma Alshamsi, Lead, Hard-to-Abate Sectors, Energy Transition Team, COP28 United Arab Emirates • Mr. Sarbojit Pal, Manager of Partnerships, CEM secretariat



15:40 – 16:20	Panel Discussion: Technology and Policy Priorities for decarbonizing Hard to Abate Sectors and Opportunities for international cooperation
	<p>Moderator: Mr. Arijit Sengupta, Director, BEE</p> <p>Theme Presentation: Mr. Girish Sethi, Senior Director- Energy, The Energy and Resources Institute (TERI)</p> <p>Discussants:</p> <ul style="list-style-type: none"> • Ms. Neha Verma, Director, Ministry of Steel • Mr. Michael Buchl, Deputy Head of Division, Industrial Decarbonisation Market Framework, Federal Ministry for the Economic Affairs and Climate Action, Germany • Dr. Andrew Minson, Concrete and Sustainable Construction Director, GCCA • Dr. S.K. Chaturvedi, Acting Director General, NCCBM • Mr. Raj Narayanan, Chief Manufacturing Officer, Ultratech Cement Limited • Mr. Prabodha Acharya, Chief Sustainability Officer, JSW Steel
16:20 – 16:30	Summary & Closing Remarks
	<ul style="list-style-type: none"> • Mr. Tareq Emtairah, Director, Department of Energy, UNIDO • Mr. Abhay Bakre, Director General, BEE, Ministry of Power, Government of India



AGENDA & SPEAKERS' BRIEF

RUN OF SHOW

Introduction	
	<p>MC will open the event and welcome the audience and the speakers.</p> <ul style="list-style-type: none"> Explains objectives of the session Explains the agenda
14:00 – 14:05	<i>Welcome Remarks</i>
5 min	<p>MC introduces Abhay Bakre, Director General, Bureau of Energy Efficiency, Ministry of Power, Government of India</p> <p>** Abhay Bakre will deliver welcome remarks.</p>
14:05 – 14:25	<i>Special Addresses</i>
20 min	<p>MC thanks Abhay Bakre and explains that we will now hear special addresses.</p> <p>MC introduces Tareq Emtairah, Director, Department of Energy, UNIDO</p> <p>** Tareq Emtairah will deliver Special address</p> <p>MC thanks Tareq and introduces Dr Ajay Mathur, Director General, International Solar Alliance</p> <p>** Ajay Mathur will deliver Special address</p> <p>MC thanks Abhay Bakre and introduces Nagendra Nath Sinha, Secretary, Ministry of Steel, Government of India</p> <p>** Nagendra Nath Sinha will deliver Special address</p>
14:25 – 14:35	<i>Keynote Address</i>
10 min	<p>MC thanks Nagendra Nath Sinha and introduces Alok Kumar, Secretary, Ministry of Power, Government of India</p> <p>**Alok Kumar will give the keynote address</p> <p>MC thanks Alok Kumar and explains that we will now break for 15 minutes for refreshments</p>



14:35 – 14:50	Tea break
14:50 – 15:40	Presentation and Panel Discussion: International Initiatives
3 min	<p>MC introduces Dr. Ashok Kumar, Deputy Director General, Bureau of Energy Efficiency, Ministry of Power, Government of India</p> <p>**Ashok Kumar will Moderate the session</p> <p>Ashok Kumar introduces the session and announces the publication of a new report that explores global policies and best practices for the transition to decarbonised steel and cement industries. The report has been prepared by TERI, LeadIT, and UNIDO, for the Energy Transition Working Group under the G20 India Presidency.</p> <p>Ashok Kumar explains that UNIDO will present the report, and we will then hear a panel discussion on decarbonising hard-to-abate sectors.</p>
	Presentation
10 min	<p>Ashok Kumar introduces Peter Hemingway, Policy Advisor, UNIDO, to the stage to present the key messages from the report</p> <p>** Peter Hemingway will present the key messages from the report, including slides on the screen</p>
	Panel discussion



<p>2 min</p>	<p>Ashok Kumar thanks Peter Hemingway and invites the panel participants to the stage.</p> <p>Ashok Kumar introduces the panelists:</p> <ul style="list-style-type: none">• Per Andersson, Head of Secretariat, Leadership Group for Industry Transition (LeadIT)• Paolo Frankl, Head of Renewable Energy Division, IEA• Harsh Vijay Singh, World Economic Forum (WEF)• Jagabanta Ningthoujam, Principal, Rocky Mountain Institute India Foundation• Rahma Alshamsi, Lead, Hard-to-Abate Sectors, Energy Transition Team, COP28 United Arab Emirates• Mr. Sarbojit Pal, Manager of Partnerships, CEM secretariat
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35 min

Ashok Kumar asks each of the panelists a question, in the order below.

**** Panelists to make a 3-5 minute intervention each, sharing their actions and views on decarbonizing hard to abate sectors. Discuss how the G20 and COP28 processes can amplify these actions, strengthen global collaboration, and solicit initial feedback and perspectives from participants on a commitment to decarbonizing hard to abate sectors.**

Guiding questions: Interventions of 3-5 minutes

- **Per Andersson, LeadIT:** What are the key actions for G20 governments to make industrial decarbonisation a national priority?

**** Topics to discuss:** View on national roadmaps, Role of LeadIT, Comments on the recommendations in the report

- **Paolo Frankl, IEA:** What actions are required to build consensus between G20 governments to aid industry transition?

**** Topics to discuss:** Issues of emissions measurement standards and harmonisation, Shared definitions of low- and near-zero emissions products

- **Harsh Vijay Singh, WEF:** How can G20 governments support greater demand for low carbon products in the private sector?

**** Topics to discuss:** First Movers Coalition

- **Jagabanta Ningthoujam, RMI India:** What is the role of G20 governments in mobilising the private sector to bring in finance to help fund industry transition?

**** Topics to discuss:** Working with governments to develop finance strategies and policies (sustainable finance taxonomies, etc.)

- **Rahma Alshamsi, COP28:** In light of everything we have heard from our colleagues on the panel, how is the COP28 process turning this into accurate outcomes, especially for developing and emerging economies?

**** Topics to discuss:** COP28 perspective

- **Sarbojit Pal, CEM Secretariat:** What are the priorities for CEM and how can be leverage the subject through workstreams and collaborations?

**** Topics to discuss:** CEM initiatives and member countries collaborations



	<p>Ashok Kumar gives each panelist 1 minute to share views on what they want to see G20 countries agreeing to. Run through the panelists in the same order.</p> <p><i>**Panelists to highlight key desired outcomes for G20 governments</i></p>
15:40 – 16:20	<p><i>Presentation and Panel Discussion: Technology and Policy Priorities for decarbonizing Hard to Abate Sectors and Opportunities for international cooperation</i></p>
3 min	<p>MC thanks Ashok Kumar and all the speakers, and introduces Arijit Sengupta Director, Bureau of Energy Efficiency, Ministry of Power, Government of India</p> <p><i>** Arijit Sengupta will Moderate the session</i></p> <p>Arijit Sengupta introduces the session on Technology and Policy Priorities for decarbonizing Hard to Abate Sectors and Opportunities for international cooperation.</p> <p>Arijit Sengupta explains that we will hear a presentation from TERI, and then hear a panel discussion on the topic.</p>
	<p><i>Presentation</i></p>
10 min	<p>Arijit Sengupta introduces Girish Sethi, Senior Director- Energy, The Energy and Resources Institute (TERI) to the stage to give a theme presentation on technology and policy priorities for decarbonising hard to abate sectors, and opportunities for international cooperation.</p> <p><i>** Girish Sethi will present</i></p>
	<p><i>Panel discussion</i></p>



<p>2 min</p>	<p>Arijit Sengupta thanks Girish Sethi and invites the panel participants to the stage.</p> <p>Arijit Sengupta introduces the panelists, composed of Government representatives, manufacturers and trade associations.</p> <ul style="list-style-type: none">• Ms. Neha Verma, Director, Ministry of Steel, India• Mr. Michael Buchl, Deputy Head of Division, Federal Ministry for Economic Affairs and Climate Action, Government of Germany• Dr. Andrew Minson, Concrete and Sustainable Construction Director, GCCA• Dr. S.K. Chaturvedi, Acting Director General, NCCBM• Mr. Raj Narayanan, Chief Manufacturing Officer, Ultratech Cement Limited• Mr. Prabodha Acharya, Chief Sustainability Officer, JSW Steel
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25 min

Arijit Sengupta asks each of the panelists a question, in the order below.

Guiding questions: Interventions of 3-5 minutes

- **Neha Verma**, Director, Ministry of Steel, India: What are the key opportunities and priorities for supporting steel decarbonisation in India?

*** Topics to discuss: India perspective on opportunities for steel decarbonisation*

- **Michael Buchl**, Federal Ministry for the Economic Affairs and Climate Action, Germany: Likewise, what are the key opportunities and priorities for supporting steel decarbonisation in Germany?

*** Topics to discuss: Germany perspective on opportunities for steel decarbonisation*

- **Andrew Minson, GCCA**: From a global perspective, what are the common perspectives on the opportunities for transition in the cement and concrete sector, and where can governments support this?

*** Topics to discuss: The global perspective, opportunities for international collaboration, alignment/harmonisation*

- **S.K. Chaturvedi, NCCBM**: What do you hear from the cement sector in India about the opportunities for transition, and what can the government do to support this?

*** Topics to discuss: Opportunities for technological and policy support from the Government of India?*

- **Mr. Raj Narayanan, Ultratech Cement Limited**: What are the priorities for Ultratech Cement and how can the Government of India support Ultratech through collaboration with other governments?

*** Topics to discuss: Opportunities for technological and policy support for the cement industry from the Government of India?*

- **Prabodha Acharya, JSW Steel**: What are the priorities for JSW and how can the Government of India support JSW through collaboration with other governments?

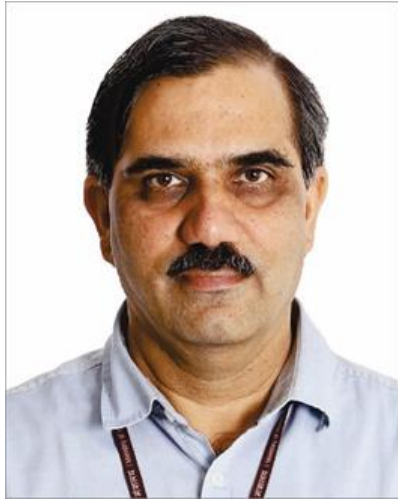
*** Topics to discuss: Opportunities for technological and policy support for the steel industry from the Government of India?*

Arijit Sengupta gives each panelist 1 minute to share views on what they want to see G20 countries agreeing to. Run through the panelists in the same order.



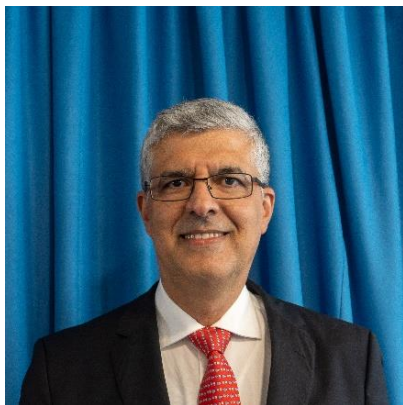
16:20 – 16:30	<i>Summary & Closing Remarks</i>
10 min	MC thanks Arijit Sengupta, and all the speakers, and welcomes Tareq Emtairah and Abhay Bakre back to the stage to give a summary and closing remarks. ** Tareq Emtairah and Abhay Bakre give closing remarks

Participant Bios and Photos



Mr. Abhay Bakre, Director General, Bureau of Energy Efficiency, Ministry of Power, Government of India


Abhay Bakre is the Director General of BEE. He is a Postgraduate (M. Tech.) in Elect. Engineering from IIT, Kharagpur. He belongs to 1988 Batch of Indian Railways Electrical Engineering Services, Ministry of Railways. He has worked in several Railway projects including Delhi Metro & Kolkata Metro extension projects. He was the nodal officer for developing INDC for the Railway sector along with a roadmap for Green House Gas reduction in Indian Railways. He has also worked as Joint Development Commissioner in the Ministry of Micro, Small and Medium Enterprises and was Nodal officer for National Manufacturing Competitiveness Programme.



Mr Tareq Emtairah, Director, Department of Energy, UNIDO

Tareq Emtairah is the Director of the Division of Decarbonization and Sustainable Energy at UNIDO. His work experience spans over 27 years in developed and emerging economies with a progressive focus on sustainable industrial transformation, energy transition, policy advocacy, applied research and capacity development. Before joining UNIDO, he worked as a senior research fellow at the International Institute for Industrial Environmental Economics (IIIEE) at Lund University, Sweden, and prior to that served as the executive director of the



	<p>Regional Center for Renewable Energy and Energy Efficiency (RCREEE) based in Cairo, from 2012-2015.</p> <p>Mr. Emtairah holds a PhD in Industrial Environmental Economics from Lund University in Sweden; a Master's degree in Environmental Management and Policy also from Lund University; a Diploma in Engineering (Materials Science) from Tokyo Institute of Technology in Japan and a Bachelor's degree in Engineering, also in Materials Science from the State University of New Jersey in the United States of America.</p>
	<p>Dr. Ajay Mathur, Director General, International Solar Alliance</p> <p>Dr Ajay Mathur is the Director General of the International Solar Alliance (ISA). At ISA, his focus is on enhancing solarization of the world, and convincing leaders of the world that solar is the energy supply choice of preference. Towards this end, ISA provides advocacy; analysis of policy; financial capacity strengthening; and solar project preparation in LDCs and SIDs. 103 countries are today members of the ISA. ISA is the only international organization headquartered in India and was created by PM Modi of India and President François Hollande of France at the Paris Climate Negotiations in 2015.</p> <p>Dr Mathur was earlier in the Bureau of Energy Efficiency, and at The Energy and Resources Institute as its Director General.</p>





Mr. Nagendra Nath Sinha, Secretary, Ministry of Steel, Government of India

Nagendra served in various departments of the state and central governments of India in various levels of seniority. These positions and some of his contributions there have included Secretary for Rural Development (Government of India): He has been responsible for running massive anti-poverty and area development programs such as Mahatma Gandhi NREGA, PM Aawaas Yojana among others.

Secretary for Border Management (Government of India)

Chairman (National Highway Authority of India)

MD (National Highway Infrastructure Development Corporation)



Mr. Alok Kumar, Secretary, Ministry of Power, Government of India

Mr. Kumar is a 1988-batch Indian Administrative Service Officer (IAS) officer of the Uttar Pradesh cadre. He completed his B Tech from IIT, Roorkee and also has an MBA in Finance. During his career of 30 years as an IAS Officer, he has held various administrative positions in revenue, transport, power, housing, urban planning and handicrafts sectors.

Before, taking the charge as Principal Secretary of the Energy and Additional Sources of Energy, Government of Uttar Pradesh, he was serving as Development Commissioner of Handlooms in the Ministry of Textiles. He also has held as Chairman of State Public Sector Undertakings under Energy Department, Government of Uttar Pradesh.





Dr. Ashok Kumar, DDG, Bureau of Energy Efficiency, Ministry of Power, Government of India

Dr. Ashok Kumar is presently working as an Dy. Director General at Bureau of Energy Efficiency (BEE), Ministry of Power, and Government of India. He presently leads the implementation of National Mission on Enhanced Energy Efficiency (NMEEE), a component of National Action Plan for Climate Change (NAPCC) of India in addition to other responsibilities. He was working as Director at BEE since 2011 and was primarily involved in the coordination of the Perform, Achieve and Trade (PAT), the flagship program under the mission which involves development of energy consumption norms and standards for energy intensive industrial sectors.



Mr Peter Hemingway, Policy Advisor, UNIDO

Peter Hemingway is a Policy Advisor for the Industrial Deep Decarbonisation Initiative, a Clean Energy Ministerial initiative coordinated by UNIDO. Peter is on secondment from the UK Government's Department of Energy Security and Net Zero, where he worked on domestic carbon leakage policy, leading the development of policy for embodied emissions reporting for products from heavy industry.



Mr. Rahma Alshamsi, Lead, Hard-to-Abate Sectors, Energy Transition Team, COP28 United Arab Emirates

Rahma Alshamsi is the sector lead for non-negotiated outcomes in the Heavy Emitting Sectors with the COP28 UAE presidency. His focus is to accelerate decarbonization in various sectors including cement, concrete, steel, aluminium, cooling, land transportation, shipping, and aviation.





Mr. Paolo Frankl, Head of Renewable Energy Division, IEA

Paolo Frankl is Head of the Renewable Energy Division at the International Energy Agency (IEA). Dr. Frankl leads the IEA's work on renewables, providing analysis and advice on policies, markets and technologies to 31 Member countries and 13 Accession and Association countries.

A physicist by training, Dr. Frankl holds a Ph.D in energy and environmental technologies from the University of Rome 1 "La Sapienza" and has been post-doc Marie Curie research fellow at INSEAD business school in Fontainebleau, France. Dr. Frankl has 30 years of experience working on renewable energy systems and markets, life cycle assessment and eco-labelling.



Mr. Per Andersson, Head of Secretariat, Leadership Group for Industry Transition (LeadIT)

Per is responsible for the functions of the Secretariat, the services to Members and reports to the Management Board of LeadIT. Per has over 20 years of experience in policy making and multilateral partnerships, having worked as a civil servant in Sweden, the UN and the EU on a wide range of issues, including sustainability, natural resources management, agriculture, industry policies, and innovation as well as climate and environmental affairs. Before joining LeadIT Per served as Deputy Director in the Swedish Prime Minister's office responsible for EU climate affairs.





Mr. Jagabanta Ningthoujam, Principal, Rocky Mountain Institute India Foundation

Jagabanta is a Principal with RMI India. He works on electricity, hydrogen and battery related work streams. He comes from a background of energy consultancy and development. Prior to RMI India, he worked with the World Bank Group and the International Finance Corporation (IFC) in the energy and climate sectors in areas ranging from carbon pricing and mining to power systems planning and urban transportation. Previously, he was with IHS Cambridge Energy Research Associates (IHS CERA) in their Singapore office as a Research Associate. At IHS CERA he worked extensively on nuclear, power, gas and renewable projects in various geographies across Asia.


Jagabanta has a Bachelors in Mechanical Engineering, National University of Singapore (NUS) MA in International Economics and International Development, Johns Hopkins University's School of Advanced International Studies (SAIS).



Mr. Harsh Vijay Singh, Project Lead, System Initiative on Shaping the Future of Energy World Economic Forum

Harsh has a strong interest in the energy sector, with more than seven years of experience in diverse roles. He worked on key initiatives on improving access to electricity in off-grid areas and conducted research for energy efficiency policy design in India. More recently, he led strategic marketing activities for GE's Water business in India, with responsibility for market development in new areas like energy neutral wastewater treatment and urban water-energy nexus. He also has keen interest in development economics, and has worked on development research projects at organizations like World Bank and Poverty Action Lab.



	<p>He earned his bachelor's degree in Electrical Engineering from Indian Institute of Technology, and masters in Public Administration concentrating on energy policy from Columbia University.</p>
	<p>Ms. Neha Verma, Director, Ministry of Steel</p> <p>Neha Verma joined Ministry of Steel, Govt of India in 2022 where she is posted as Director in Climate and Environment Division with focus on decarbonization of the steel industry, while working in areas of Energy Efficiency, Clean Energy Transition, Material Efficiency, Green Hydrogen, CCUS etc.</p> <p>She is an Indian Forest Service Officer with 17 years of experience in the field of natural resource management, biodiversity, wildlife, sustainability, climate change and environment prior to joining Ministry of Steel. She also has global corporate experience of 6 years as she worked in IT industry, both in India and US.</p> <p>She is a passionate advocate of sustainable future through climate action, wildlife conservation and environment protection and leverages her extensive public policy experience to achieve these goals.</p> <p>She is an engineering graduate from IIT Kanpur and holds Master degrees in Forestry as well as Management Studies (Public Policy) from IIM Bangalore.</p>
	<p>Mr. Arijit Sengupta, Director, Bureau of Energy Efficiency, ministry of Power, Government of India</p> <p>Arijit Sengupta is a Director with the Bureau of Energy Efficiency, Ministry of Power, Government of India. In this role, he is responsible for International Cooperation, Demand Side Management, Financing of Energy Efficiency initiatives, Planning & Statistics. Apart from this, he is also responsible for coordinating with other Ministries on technical matters.</p> <p>By training he is MBA from Delhi University, Certified Energy Auditor and Chemical Engineer having around seventeen years of overall experience. Out of which around twelve years have been on Energy Efficiency.</p>





Girish Sethi Senior Director of the Energy Program at The Energy and Resources Institute (TERI)

He has more than 30 years of experience in the fields of energy, environment, and sustainable development. His wide expertise includes technology transfer and low carbon energy solutions in the context of climate change, among others. He is a chemical engineer with a master's degree in energy studies from the Indian Institute of Technology and has completed multi-disciplinary master's studies in technology in the tropics from University of Applied Sciences, Cologne, Germany.



Mr. Prabodha Acharya, Chief Sustainability Officer, JSW Steel

Mr. Acharya partners with CEOs, senior executives and operations heads to develop and drive sustainability strategy for the JSW Group companies of Steel, Energy, Cement, Paints, Infrastructure etc. An M.Tech in Environmental Engineering, he has worked for nearly three decades in the field of corporate environmental management, emissions reduction, climate change, corporate strategy on sustainability and policy development and assurance services.

Beginning his career with SAIL, he has worked and managed a variety of environmental issues from mining to manufacturing in the metal (iron and steel) sector. Later, he managed the climate change, sustainability and customized Assurance Service for South Asia at Lloyd's Register, UK and then worked as Sr. Vice President for Aditya Birla Group Sustainability before joining the JSW Group.





Mr. Michael Buechl, Deputy Head of Division
“Industrial Decarbonisation Market Framework,
International Cooperation, Federal Ministry for the
Economic Affairs and Climate Action, Germany

Michael Buechl is the deputy head of Division
“Industrial Decarbonisation Market Framework,
International Cooperation” at the Industry
Department of the German Federal Ministry for
Economic Affairs and Climate Action. Michael’s
portfolio includes Germany’s international
cooperation on industrial decarbonisation and
industry matters in international formats including
G7, G20, OECD and UNFCCC as well as the Climate
Club. He is also in charge of Germany’s contribution
to the UNFCCC technology mechanism and the
related negotiations at the COP. Michael studied
political science, history and international law at the
University of Munich and the University of
Copenhagen.



Dr. S.K. Chaturvedi, Acting Director General, NCCBM

Dr. Chaturvedi has more than 36 years of experience
in diverse field of Research planning and execution and
implementation of outcomes, policy framework
formulation, identification of industrial needs and
gaps, resource planning in consonance with
sustainable development and growth etc.

Executed a large no. of sponsored projects in the area
of raw material evaluation, raw mix design, cement
quality improvement, troubleshooting related to
process and quality, enhancing waste utilization etc.
Co-ordinated from NCB for two UNIDO projects:
“National Programme to support Energy Efficiency and
Quality standards in Ceramic SME’s in India” and
“Development and adaptation of appropriate
technologies for enhancing productivity in cement
sector”. 13 patents, 120 Research publications in
national/international journals and seminar /
conference proceedings. Member of various BIS
committees





Dr. Andrew Minson, Concrete and Sustainable Construction Director, GCCA

Andrew leads GCCA's work promoting the sustainability value of concrete in the future of construction. His role includes improving the understanding of concrete's lifecycle and its role in the circular economy.

He joined from Mineral Products Association in the UK where he was Executive Director for both The Concrete Centre and British Precast.



Mr. E. R. Raj Narayanan, Chief Manufacturing Officer, Ultratech Cement Limited

Raj Narayanan is the Business Head and Chief Manufacturing Officer of Ultratech Cement Limited, part of US \$ 60 billion Aditya Birla Group. He currently heads the manufacturing, projects, procurement and sustainability functions at Ultratech cement. He has more than three decades of experience in handling cement, chemicals, fertilizers and industrial gases in India, Southeast Asia and China.

Prior to joining Aditya Birla Group, Raj Narayanan worked as Managing Director for Linde Gases Limited, Managing Director of Lanxess India and Country Head and Executive Director of Bayer Chemicals in India.



Mr. Sarbojit Pal, Manager of Partnerships, Clean Energy Ministerial Secretariat

Sarbojit is Manager of Partnerships at the Clean Energy Ministerial (CEM) Secretariat based in Paris, France. He supports various CEM initiatives related to themes of transportation, energy efficiency, industry and clean fuels, such as hydrogen, among others. He is currently responsible for the CEM's Electric Vehicle Initiative (EVI), Global Drive to Zero Campaign, EV30@30 Campaign, and oversees the work of the CEM's Hydrogen Initiative, and the Industrial Deep-Decarbonisation Initiative (CEM IDDI) and it's linked Global Green Public Procurement (GPP) Campaign. He supported several of these initiatives from conceptualisation to launch, and now ensures their impactful delivery working closely with institutions such as IEA, UNIDO, CALSTART, ICS, IAPH,



	<p>ITF, among others. He is now supporting the creation of a Clean Energy Marine Hub initiative within the CEM. Sarbojit currently serves as desk officer supporting the governments of Australia, India, Indonesia, Russia, South Africa and New Zealand for their engagement within CEM and responsible for the CEM's coordination with the G20.</p> <p>Before joining CEM, Sarbojit worked at NITI Aayog, Government of India, where he managed the program to assist Indian states to draw up their Renewable Energy Roadmaps in accordance with India's 175GW renewable energy targets by 2022.</p>
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