



# TECHNOLOGY AND INNOVATION CONCLAVE 1.0

**24-26 September 2024**

Jointly organized by  
Department of Scientific and Industrial Research, Ministry of Science & Technology,  
Government of India,  
and  
Asian and Pacific Centre for Transfer of Technology (APCTT) of the United Nations Economic  
and Social Commission for Asia and the Pacific (ESCAP)

Venue:  
National Agricultural Science Complex (NASC)  
Indian Council of Agricultural Research (ICAR), Pusa, New Delhi, India

## AGENDA NOTE

### DAY 1

### 24<sup>th</sup> SEPTEMBER 2024

- The High-level Segment will set the stage for the discussion with Senior representatives.
- This will be followed by a Technical session on Innovation and Startups opportunities in the Energy sector: Overview, Issues and challenges
- The Technical session 2 would focus on Innovation and Startups ecosystem related to: (i) Energy Storage and (ii) Green Hydrogen

08:30 – 09:15 AM	REGISTRATION
09:15 – 10:00 AM	HIGH LEVEL INAUGURAL SESSION
	Welcome remarks – <b>Dr. Vipin Chandra Shukla</b> , Adviser, Department of Scientific and Industrial Research (DSIR)
	Inaugural message - <b>Dr Preeti Soni</b> , Head, Asian and Pacific Centre for Transfer of Technology (APCTT)
	Remarks - <b>Mr. Shombi Sharp</b> , UN Resident Coordinator for India
	Keynote address – <b>Dr. N. Kalaiselvi</b> , Secretary Department of Scientific and Industrial Research (DSIR)
	Special Address - <b>Dr. V. K. Saraswat</b> , Member Science and Technology, Niti Ayog of India
	Online Message – <b>Ms Armida Salsiah Alisjahbana</b> , Executive Secretary, UNESCAP
	Address – <b>Dr. Himanshu Pathak</b> , Secretary, DARE and DG ICAR, New Delhi (TBC)

10:00 – 10:20 AM	<b>GROUP PHOTO and HIGH TEA</b>
10:20 – 11:30 AM	<p><b>INAUGURATION OF THE EXHIBITIONS BY Dr V.K.SARASWAT</b></p> <ul style="list-style-type: none"> <li>Walk around of the Innovations / Exhibitions</li> <li>Interaction with the Young innovators from member States</li> </ul>
11:30 – 13:30 AM	<p><b>PLENARY SESSION: TECHNOLOGY INNOVATION, ENTREPRENEURSHIP AND STARTUPS: OPPORTUNITIES AND CHALLENGES IN the ASIA-PACIFIC</b></p> <ul style="list-style-type: none"> <li>Fostering innovation is a key driver to achieve the 2023 Sustainable Development Goals (SDGs). Enabling policy tools, strategies and incentives play a critical role in the development, scale up, transfer and commercialization of technologies. A dynamic innovation ecosystem provides a conducive environment for innovators, entrepreneurs, innovative startups and firms to access technical support, incubation facilities, finance, expert guidance, skilled work force and good market conditions.</li> <li>This plenary session will focus on sharing experiences, best practices and policy mechanisms from countries in the Asia-Pacific region for promoting innovations, technology-based entrepreneurs and start-ups. The session will delve into the critical barriers to the establishment and successful functioning of innovative start-ups as well as practical solutions for overcoming the challenges. It will also deliberate on the linkages between policies, support mechanisms, institutions, and programmes which could be leveraged to promote rapid technology development and commercialization through technology-based entrepreneurship, innovative startups and SMEs.</li> <li>The presentations be followed by a <b>panel discussion</b></li> </ul>
11:30 – 11:50	<b>KEYNOTE PRESENTATION 1:</b> Prof. Rangan Banerjee, Director, Indian Institute of Technology Delhi (TBC)
11:50 – 12:40	<p><b>PRESENTATIONS FROM MEMBER STATE:</b></p> <ul style="list-style-type: none"> <li><b>INDIA</b> – Shri Abhay Bakre, DG, BEE (TBC)</li> <li><b>IRAN</b> - Dr. Alireza Bassiri, General Director for International Scientific Cooperation and Associate Professor in Food Science and Technology at the Department of Chemical Technology and Iranian Research Organization for Science and Technology (IROST), Ministry of Science, Research &amp; Technology</li> <li><b>PHILIPPINES</b> - Ms. Marion Ivy Dela Cruz Decena, Director, Technology Application and Promotion Institute of the Department of Science and Technology</li> <li><b>RUSSIAN FEDERATION</b> –Ms. Ryabukhina Anastasia, Coordinator for Interaction with UNESCAP, The Russian House of International Scientific and Technical Cooperation</li> <li><b>THAILAND</b> - Mrs. Nongnuch Chunbandhit, Director, International Cooperation Strategy Group, International Affairs Division, Office of the Permanent Secretary, Ministry of Higher Education, Science, Research and Innovation</li> <li><b>MALAYSIA</b>- Mr. Ismarul Nizam Bin Ismail, Principal Assistant Director / Policy Management, National Nanotechnology Centre Division, Ministry of Science, Technology and Innovation (MOSTI)</li> <li><b>NEPAL</b> - Mr Khagendra Basnet, Department of Industry</li> <li><b>VIET NAM</b> - Mr. Pham The Dung, Deputy Director General, State Agency for Technology and Innovation (SATI), Ministry of Science and Technology of Vietnam (MOST)</li> </ul> <p><b>PANEL DISCUSSIONS:</b> above participants would discuss on national level policy and would address some of the key questions:  <b>Chair: Prof. Pradeep Kumar Ramancharla, Director, Central Building Research Institute (CSIR – CBRI), Roorkee</b>  <b>Q:1</b> How can the government promote technology innovations for societal benefits, economic growth, collective well-being and environmental sustainability?  <b>Q 2:</b> How is the government creating a conducive environment for boosting innovations, nurturing the critical capabilities required to develop appropriate skills and promoting market for such new innovations?</p>
12:40 – 13:30	
13:30 -14:45 PM	<b>LUNCH BREAK</b>
14:45 – 17:00 PM	<p><b>TECHNICAL SESSION: 1</b> <b>ENERGY STORAGE: Overview, Issues and challenges in the Asia Pacific</b></p>
<b>ENERGY STORAGE</b>	

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	<ul style="list-style-type: none"> <li>At the global level, it has been forecasted that Asia Pacific region will continue to lead the market, with China, Japan, India, South Korea, and Australia leading the way.</li> <li>There are various factors on the ES path towards becoming increasingly commercially viable. The co-location of storage and renewable energy sources also means investors and developers can deploy storage to offset any potential balancing costs they would incur due to intermittent generation. <i>Battery energy storage systems</i> (BESS) are the most prominent technology deployed in the region due to their versatility and cost-effectiveness.</li> </ul>
14:30 – 14:50	<b>KEYNOTE PRESENTATION 1: Prof. Avinash Kumar Agarwal</b> , Director, Indian Institute of Technology Jodhpur Long-duration Energy Storage technologies, current technology trends in ES, potential barriers including markets, opportunities for the future and policy regimes.
14:50 – 16:00	<b>PRESENTATIONS FROM MEMBER STATE:</b> <ul style="list-style-type: none"> <li><b>CHINA</b> - Dr. KANG Peng, founder of Carbon Energy Technology (Beijing) Co., Ltd. and professor in Chemical Engineering Institute, Tianjin University.</li> <li><b>PHILIPPINES</b> - Mr. Leo Allen Samaniego Tayo, CEO, CHRGEV Technologies, Inc.</li> <li><b>REPUBLIC OF KOREA</b> - Mr. Moses Sung, CEO, Huject</li> <li><b>THAILAND</b> - Ms. Nonglak Meethong, Professor at Department of Physics, Faculty of Science, Khon Kaen University, Director of the Battery and New Energy Science and Technology Factory (UVOLT) at Khon Kaen University</li> </ul>
	<b>TEA BREAK</b>
16:00 – 17:00	<b>PANEL DISCUSSIONS:</b> Above participants would deliberate on the following focused questions. <b>Chair: Dr. D. Srinivasa Reddy</b> , Director, CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad <b>Q1:</b> What role can energy storage play in the electricity value chain and how technological innovations can drive their role? <b>Q2:</b> What are the technological feasibility of other forms of energy storage other than BESS? <b>Q3:</b> What are the key learnings, technological forecasts and market ecosystem for innovations on energy storage in the near future?
18:00 – 20:00	<b>DINNER RECEPTION HOSTED BY DSIR and APCTT</b> <b>Venue: APCTT Office</b>
	<b>END OF DAY 1</b>

## DAY 2

### 25<sup>th</sup> SEPTEMBER 2024

- Tour to CSIR-Institute of Genomics & Integrative Biology (IGIB)
- Technical session 2 on **green hydrogen innovation for clean energy and technologies are propelling the hydrogen economy forward**
- The Valedictory session will discuss the lessons learnt from the Technical Sessions and the Innovations presented. Participants will present their take-aways and discuss next steps

**09:00 – 10:30** Visit to CSIR-Institute of Genomics and Integrative Biology

CSIR-Institute of Genomics & Integrative Biology (IGIB) is a premier Institute of Council of Scientific and Industrial Research (CSIR), engaged in research of national importance in the areas of genomics, molecular medicine, bioinformatics and proteomics

Venue: CSIR-Institute of Genomics & Integrative Biology, South Campus, Mathura Road, Opp: Sukhdev Vihar Bus Depot, New Delhi 110025

**10:30- 11:30** Travel CSIR-IGIB to NAS Complex, IARI

**11:30 – 13:30** **TECHNICAL SESSION: 2**  
**GREEN HYDROGEN: Overview, Issues and challenges in the Asia Pacific**

In Asia, there has been a focus on the development of green hydrogen, with many countries having dedicated significant funds to rapidly expanding their domestic hydrogen capabilities. In fact, while much

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	<p>attention is given to the growth of energy diversity and the improvement in renewable technology, the advancement of green hydrogen is fast becoming a priority for Asian states.</p> <p>An estimate from a recent <a href="#">Hydrogen Council report</a> suggests that Asia will require \$90 billion investment in hydrogen projects by 2030. These countries are key investors in the energy market.</p> <p>The establishment of a hydrogen economy has long been in the works, but due to several reasons, such as lack of technology, infrastructure, or investments, the industry struggled with this energy transition. Over the past decade, however, the global push towards decarbonization, along with developments in existing technologies, has accelerated the top hydrogen trends.</p> <p>At the end of 2022, India announced a \$2 billion incentive programme for the green hydrogen industry, which will seek to cut emissions and support India's effort to become Asia's first major hydrogen exporter. Meanwhile, the Indian and Australian governments only recently finalised a deal to establish a task force on the expansion of green hydrogen cooperation between the two countries.</p> <p>Some of the new trends in the Hydrogen Energy sector are Hydrogen Fuel Cells, Renewable Hydrogen, Advanced Electrolysis, X-to-Hydrogen-to-X, Hydrogen Carriers, Hydrogen Liquefaction &amp; Compression.</p>
11:30 – 11:50	<p><b>THEMATIC PRESENTATION:</b> <b>Dr. Ashish Lele</b>, Director, CSIR-National Chemical Laboratory, Pune (TBC)</p> <p>To deliberate on the current technology trends in green hydrogen, existing national level policies, potential barriers including markets, opportunities for the future.</p>
11:50 – 12:40	<p><b>PRESENTATIONS FROM MEMBER STATE:</b></p> <ul style="list-style-type: none"> <li>• <b>BANGLADESH</b> – Dr. Md. Abdus Salam, Senior Principal Engineer &amp; Scientist (in charge), Bangladesh Council of Scientific and Industrial Research (BCSIR), Hydrogen Energy Laboratory, Chattogram Laboratories</li> <li>• <b>CHINA</b> - Dr. LI Bin, CTO of the Solid Electric Co.LTD</li> <li>• <b>INDIA</b> – Dr. Sujit Pillai, Scientist F, Ministry of New And Renewable Energy, New Delhi (TBC)</li> <li>• <b>IRAN</b> - Dr. Majid Jovanmard, Deputy President of IROST for Industry Relations and Commercialization and National Hydrogen Technology Center.</li> <li>• <b>RUSSIAN FEDERATION</b> - Ms. Nadezhda Sergeevna Syrbu, The head of the laboratory, PhD, V.I. Il'ichev Pacific Oceanological Institute, Far Eastern Branch Russian Academy of Sciences</li> <li>• <b>NEPAL</b> - Mr Bivek Baral, Professor of Mechanical Engineering Department, Energy Systems and Technology Research Laboratory, Kathmandu University</li> </ul>
12:40 – 13:30	<p><b>PANEL DISCUSSIONS:</b> above participants would deliberate on the following focused questions. <b>Chair: Dr. C. Anandharamakrishnan</b>, Director, CSIR-National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram</p> <p><b>Q1:</b> What role can green hydrogen play in enhancing the renewable energy capacity of a nation and how technological innovations can drive their role?</p> <p><b>Q2:</b> What are the technological feasibility of the common forms of green hydrogen?</p> <p><b>Q3:</b> What are the key learnings, technological forecasts and market ecosystem for innovations on green hydrogen in the near future?</p>
13:30 - 14:30	<b>LUNCH BREAK</b>
14:30 – 16:30	<b>TECHNICAL SESSION 3: Innovation and Startups opportunities in Energy storage and Green Hydrogen</b>
	<ul style="list-style-type: none"> <li>• Innovators, entrepreneurs and startups will play a key role in the commercialization of green hydrogen and energy storage technologies that are fields of intensive research and development across the world. While the opportunities are immense, the innovators and startups will need to overcome many challenges related to technical, financial, and business aspects of technology commercialization and adoption.</li> <li>• The session examines best practices and lessons learnt in addressing the multiple challenges faced by innovators, entrepreneurs and start-ups in energy storage and green hydrogen sectors, as well as promoting an enabling business ecosystem for them to operate, grow and sustain</li> </ul>
14:30 -14:50	National Expert Key-session on Materials for Energy Storage by <b>Dr. K. Ramesha</b> , Director, CSIR-Central Electro Chemical Research Institute, Karaikudi

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<b>14:50 -16:30</b>	<p><b>Presentations of the innovations by young innovators from member States</b></p> <ul style="list-style-type: none"> <li>• <b>BANGLADESH</b> – Dr. Md. Abdus Salam, Senior Principal Engineer &amp; Scientist (in charge), Bangladesh Council of Scientific and Industrial Research (BCSIR), Hydrogen Energy Laboratory, Chattogram Laboratories</li> <li>• <b>CHINA</b> - Dr. KANG Peng, founder of Carbon Energy Technology (Beijing) Co., Ltd. and professor in Chemical Engineering Institute, Tianjin University</li> <li>• <b>CHINA</b> - Dr. LI Bin, CTO of the Solid Electric Co.LTD</li> <li>• <b>INDIA</b> – Dr. Manish Chauhan, Operational Management, M/s. Lithion Power Ltd., Noida, India Dr. Neeraj Mathur, Former ED(R&amp;D), Oil India Limited, Ghaziabad, India</li> <li>• <b>IRAN</b> - Dr. Majid Jovanmard, Deputy President of IROST for Industry Relations and Commercialization and National Hydrogen Technology Center.</li> <li>• <b>PHILIPPINES</b> - Mr. Leo Allen Samaniego Tayo, CEO, CHRG EV Technologies, Inc.</li> <li>• <b>REPUBLIC OF KOREA</b> - Mr. Moses Sung, CEO, Huject</li> <li>• <b>RUSSIAN FEDERATION</b> – Ms. Nadezhda Sergeevna Syrbu, Head of the laboratory, PhD, V.I. Il'ichev Pacific Oceanological Institute, Far Eastern Branch Russian Academy of Sciences</li> <li>• <b>THAILAND</b> - Ms. Nonglak Meethong, Professor at Department of Physics, Faculty of Science, Khon Kaen University, Director of the Battery and New Energy Science and Technology Factory (UVOLT) at Khon Kaen University</li> <li>• <b>MALAYSIA</b> - Ms. Siti Nur Azella Binti Zaine, Senior Lecturer, Chemical Engineering Department Universiti Teknologi Petronas</li> <li>• <b>NEPAL</b> - Mr Bivek Baral, Professor of Mechanical Engineering Department, Professor of Mechanical Engineering Department, Energy Systems and Technology Research Laboratory, Kathmandu University</li> <li>• <b>VIET NAM</b> - Mr. Le Minh, State Agency for Technology and Innovation (SATI), Ministry of Science and Technology of Vietnam (MOST)</li> </ul>
<b>16:30 – 17:00</b>	<b>TEA BREAK</b>
<b>17:00 – 18:00</b>	<b>VALEDICTORY SESSION</b>
	<p><b>Panel to deliberate on:</b></p> <ul style="list-style-type: none"> <li>• Lessons learnt from the Technical Sessions and reflections on the various innovations presented by the young innovators from the member States</li> <li>• Present the key take aways from the Conclave including next steps</li> </ul> <p>Participants:</p> <ul style="list-style-type: none"> <li>• <b>THAILAND</b> - Mrs. Nongnuch Chunbandhit, Director, International Cooperation Strategy Group, International Affairs Division, Office of the Permanent Secretary, Ministry of Higher Education, Science, Research and Innovation</li> <li>• <b>RUSSIA</b> –Ms. Ryabukhina Anastasia, Coordinator for Interaction with UNESCAP, The Russian House of International Scientific and Technical Cooperation</li> <li>• <b>NEPAL</b> - Mr Khagendra Basnet, Department of Industry</li> <li>• <b>INDIA</b> – Dr. Vipin Chandra Shukla, Adviser, DSIR</li> <li>• <b>IRAN</b> - Dr. Alireza Bassiri, General Director for International Scientific Cooperation and Associate Professor in Food Science and Technology at the Department of Chemical Technology of IROST</li> <li>• <b>MALAYSIA</b>- Mr. Ismarul Nizam Bin Ismail, Principal Assistant Director / Policy Management, National Nanotechnology Centre Division, Ministry of Science, Technology and Innovation (MOSTI)</li> <li>• <b>PHILIPPINES</b> - Ms. Marion Ivy Dela Cruz Decena, Director, Technology Application and Promotion Institute of the Department of Science and Technology</li> <li>• <b>VIET NAM</b> - Mr. Pham The Dung, Deputy Director General, State Agency for Technology and Innovation (SATI), Ministry of Science and Technology of Vietnam (MOST)</li> </ul>
<b>18:00 – 18:10</b>	<ul style="list-style-type: none"> <li>• Closing remarks: Secretary, Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology, Government of India</li> </ul>
<b>18:10 – 18:20</b>	<ul style="list-style-type: none"> <li>• Closing remarks: Dr Preeti Soni, Head, APCTT</li> </ul>
	<b>END OF DAY 2</b>



## DAY 3 26<sup>th</sup> SEPTEMBER 2024

- The Foundation Day of Council for Scientific and Industrial Research (CSIR) is being celebrated on 26<sup>th</sup> September. Delegates will be participating in the event.
- The CSIR event will witness the footfall of numerous research institution heads and experts. In addition, there will be day-long exhibition at the venue. Exhibitors will have earmarked exhibition space allocated by CSIR for exchanging the technical know-how and showcase their respective country innovations. Policy makers and innovators will also have opportunity of networking with the CSIR Foundation day participants.

09:00 – 10:30	Visit to National Physical Laboratory (NPL) research facility	
11:00 – 13:30	CSIR Foundation Day Ceremony	
13:00 – 14:30	LUNCH	
14:30 – 17:30	CSIR LEADERSHIP CONCLAVE	
17:30 – 18:30	CULTURAL PROGRAMME organised by CSIR	
18:30 – 20:30	CSIR Foundation Day Dinner	

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For any details, pls contact: Mr. Soumya Bhattacharya, Economic Affairs Officer, APCTT  
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