

Mission Innovation related Side Events at the Global Clean Energy Action Forum

Events ‘at a Glance’

Thursday 22nd September 2022

Time	Side Event Title	Mission Innovation Initiative (some events are organised by other initiatives but with MI participation or interest)	Room / Virtual
12:30 PM - 1:30 PM	Accelerating Clean Energy Technology Deployment using Self Driving Labs	Materials for Energy (M4E) Innovation Community	DLCC room 409 and hybrid
12:30 PM - 1:30 PM	Innovation and policy measures to solve the heat challenge	Affordable Heating and Cooling of Buildings Innovation Community	DLCC room 308
12:30 PM - 1:30 PM	The role of industrial electrification in decarbonized power systems	Net-Zero Industries Mission	DLCC room 413
1:45 PM - 4:00 PM	Clean Hydrogen: A call for action	Clean Hydrogen Mission	DLCC room 407 and live streamed
1:45 PM - 2:45 PM	Positive Energy Districts for the urban energy transition	Urban Transitions Mission and MI Call Series	DLCC room 408
4:15 PM - 5:15 PM	Mayors & Ministers dialogue on innovation driven urban transition	Urban Transitions Mission	DLCC room 409 and hybrid
3:00 PM - 4:00 PM	Accelerating the Maritime Energy Transition with Green Shipping Corridors	Zero Emission Shipping Mission	DLCC room 302 and live streamed

Friday 23rd September 2022

Time	Side Event Title	Mission Innovation Initiative (some events are organised by other initiatives but with MI participation or interest)	Room / Virtual
9:00 AM - 10:00 AM	Demo! Scalable and replicable demonstration projects to accelerate decarbonization worldwide	Green Powered Future Mission	DLCC room 415
9:00 AM - 10:00 AM	Mission Integrated Biorefineries	Integrated Biorefineries Mission	DLCC room 307 (invitation only)
10:15 AM - 11:15 AM	Coalitions facilitating the technology pathways for net zero industries	Net-Zero Industries Mission	DLCC room 302 and live streamed
11:30 AM - 12:30PM	Boosting the Power System Transition: Innovation through GPFM and ISGAN	Green Powered Future Mission	DLCC room 302 and live streamed
11:30 AM - 1:45 PM	From blindspot to hotspot: accelerating the transition to sustainable cooling for climate mitigation and adaptation	Affordable Heating and Cooling of Buildings Innovation Community	DLCC room 301 and live streamed
11:30 AM - 1:45 PM	Innovation cooperation: global approaches to enhancing national policies and measuring progress	MI Insights Team	DLCC room 305
12:45 PM - 1:45 PM	Sustainable Aviation Fuel – Taking Off Across the Globe	Sustainable Aviation Fuels Innovation Community and Integrated Biorefineries Mission	DLCC room 407 and live streamed

Side Event Detailed

Thursday 22nd September

Accelerating Clean Energy Technology Deployment using Self Driving Labs: Thursday, September 22, 12:30-1:30PM, DLCC room 409

Organized by: Materials For Energy (M4E, Mission Innovation); US Department of Energy; US National Science Foundation Acceleration Consortium (University of Toronto)

Reaching net-zero by 2030 demands a coordinated global effort to accelerate tangible commercialization of cost-effective, sustainable, clean energy materials. It is established that accelerated discovery and development of these materials is possible through the deployment of autonomous or self-driving laboratories that capitalize on three advanced technologies: Artificial Intelligence, Robotic Automation and High Performance Computing. This meeting will convene and connect some of the leading organizations in clean energy materials Research Development & Demonstration (RD&D), establish a pathway for coordination of accelerated materials discovery and reflect on related government priorities. Further, it will consider opportunities to support the Missions, particularly Hydrogen and Carbon Dioxide Removal. A new paradigm in materials discovery is in front of us all. Accelerating its implementation will drive towards our common goal of a sustainable, low-carbon economy.

Innovation and policy measures to solve the heat challenge: Thursday, September 22, 12:30 PM - 1:30 PM, DLCC room 308

Organized by: Rocky Mountain Institute, Research Institute of Sweden, European Commission

The Global Alliance for Building and Construction's Clean Heat Forum, IEA's Heat Pumping Technologies Technology Collaboration Programme (HPTTCP) and Mission Innovation's Innovation Community on Affordable Heating and Cooling of Buildings will host this session that will present on innovative technology and policy solutions that aim to reduce emissions from the heating sector world-wide. Learn how technologies like the breakthrough Comfort and Climate Box can meet heating and cooling needs and be deployed at scale, and how national and subnational governments are developing technology, financial, and energy policies that rapidly reduce pollution from the heating sector.

The role of industrial electrification in decarbonized power systems: Thursday, September 22, 12:30 PM - 1:30 PM, DLCC room 413

Organized by: UNIDO (DEM IDDI), NREL (21CPP), MI Net-Zero Industries Mission (NZIM)

Decarbonizing industry is a significant challenge and a transformational opportunity. It requires policies and

approaches that stimulate innovation in promising technologies and the deployment of emerging technologies to drive down their cost. Electrification of industrial processes represents one potential viable option. This panel will examine how challenge focused innovation, public-private partnerships and technology cooperation will help in driving investments in clean energy investments and innovation, explore options for industrial process electrification, and the implications of that for power system planning operations, market design, and regulation, particularly in light of increasing penetration of variable renewables and increasing need for system flexibility.

Clean hydrogen: A call for action: Thursday, 22 September, 1:45 PM - 4:00 PM, DLCC room 407

Organized by: CEM Hydrogen Initiative, MI Clean Hydrogen Mission, Hydrogen TCP

The CEM Hydrogen Initiative (H2I), the MI Clean Hydrogen Mission (CHM) and the Hydrogen TCP bring together government, industry, innovators and thought champions to discuss opportunities to accelerate the deployment of clean hydrogen. The event will address the biggest challenges facing the rapid deployment of clean hydrogen, while leveraging the opportunities that the emerging energy geopolitics create for clean hydrogen. The IEA's Global Hydrogen Review 2022 and the CHM Action Plan will be presented to set the scene for panel discussions. A high-level panel will make a call for action to strengthen international cooperation as a key lever to accelerate deployment and will identify opportunities to enhance cooperation between H2I and CHM. A second panel with industry, innovators and participation from the audience will identify opportunities and actions to achieve cost reductions through innovation and demonstration. The event will include the ceremony of the first Hydrogen TCP Award of Excellence

Positive Energy Districts for the urban energy transition: Thursday, 22 September, 1:45-2:45PM, DLCC room 408

Organized by: Joint Programming Initiative Urban Europe (JPI UE) for the Urban Transitions Mission (UTM)

Positive Energy Districts (PEDs) development is a key concept for supporting the urban energy transition. PEDs are a subsystem within cities that aim towards net-zero and climate-neutral urban neighbourhoods through optimised energy efficiency and local generation of renewable energy. They provide a positive impact on the regional energy system through innovative energy flexibility strategies. PEDs bring together energy efficient buildings, renewable energy technology, storage and district energy management systems and combine technological with architectural and social innovation. The PED round table aims at involving participants in discussing the PED vision, success factors, challenges, barriers and different framework conditions for mainstreaming. The PED concept will be shortly presented and key findings from ongoing projects will be discussed. The main target group for this event is policy makers, city authorities, representatives of the real estate sector and from energy providers and R&I funders.

Mayors & Ministers dialogue on innovation driven urban transition: Thursday, September 22, 3:00 PM - 4:00 PM, DLCC room 409

Organized by: Global Covenant of Mayors

This event will be a dialogue that will focus on making climate action a core responsibility for all levels of government, removing barriers for implementation of systemic innovations to reach net-zero and climate neutrality globally, and financing climate action at all levels. It will explore how cities can help drive national goals and ambitions and the role of innovation in the net-zero transition and multilevel relationships to accelerate clean energy transition in cities through innovative, future proof solutions. This will include highlighting strategies at the Ministerial level that have successfully facilitated local administrations to find solutions to this climate emergency, and sub-national successes in advocating for greater autonomy in driving climate action. Thanks to a fruitful dialogue, cities may channel the voice of citizens towards other levels of government thus informing and influencing the scope and pace of clean energy innovation.

Accelerating the Maritime Energy Transition with Green Shipping Corridors: Thursday, September 22, 3:00 PM - 4:00 PM, DLCC room 302

Organized by: Zero-Emission Shipping Mission (ZESM)

Commercial shipping is undergoing an energy transition to reduce its greenhouse gas emissions. Zero-emission fuels are required as soon as possible, and green shipping corridors can help accelerate their adoption across the industry. The Mission Innovation Zero-emission Shipping Mission, an international public-private partnership, will support green shipping corridor development to move the industry forward. This event will bring together industry, governments, and NGOs to discuss: innovation gaps relating to green shipping corridors and industry perspective on developing corridors as it relates to producing and deploying zero-emission fuels. An overview of select projects from the Zero-Emission Shipping Mission newly created Action Plan that relevant to green shipping corridors will also be presented.

Friday 23rd September

Demo! Scalable and replicable demonstration projects to accelerate decarbonization worldwide: Friday, September 23, 9:00 AM - 10:00 AM, DLCC room 415

Organized by: IEA, ITIF Center for Clean Energy Innovation

Almost 50% of emissions reductions needed in the IEA Net-Zero Emission by 2050 Scenario (NZE) require solutions that are at prototype or demonstration stage. Only 25 of the USD 90 billion of public investment needed to support demonstration projects before 2030 in the NZE is mobilized. New frameworks and projects based on scalability and replicability are urgently needed to rapidly validate and commercialize innovative clean energy solutions, such as for smarter grids and hydrogen production. The event will bring together international high-level experts to share learnings, challenges, and approaches to effectively leverage demonstration projects and international cooperation to accelerate clean energy transitions. Initiatives, such as GPFM Flagship Projects, the US call to invest USD 90 billion in demonstration projects by 2026, and the EU Innovation Fund will be presented. The Italy/UNEP smart grid pilot project implementation phase associated with IEA's 3DEN Initiative will be launched by announcing the awardees.

Mission Integrated Biorefineries (PRIVATE): Friday, September 23, 9:00 AM - 10:00 AM, DLCC room 307

Organized by: Mission Integrated Biorefineries

The Mission Integrated Biorefineries developed an Innovation Roadmap and wants to discuss with the involved participants from the MIB and the Biofuture initiative/campaign, potential follow up actions.

Coalitions facilitating the technology pathways for net zero industries: Friday, September 23, 10:15 AM - 11:15 AM, DLCC room 302

Organized by: MI Net-Zero Industries Mission (NZIM), UNIDO (CEM IDDI), ClimateWorks Foundation

The industrial decarbonization of energy intensive sectors, such as steel and cement, requires accelerated deployment of technologies that are not yet fully commercialized like hydrogen and CCUS. Collaboration and support for innovations to deliver new technologies that support the electrification of heat processes in these industries are key needs. The challenge is tremendous. Technology collaboration will play a key role in achieving net zero pathways in

energy intensive industries. The session will thus examine the status of readiness of different technologies, share examples and best practices for enabling the development of new technologies and discuss how government policies can create the right pull mechanisms to boost innovation and deployment.

Boosting the Power System Transition: Innovation through GPFM and ISGAN: Friday, September 23, 11:30AM - 12:30PM, DLCC room 302

Organized by: MI - Green Powered Future Mission (GPFM); CEM - International Smart Grid Action Network (ISGAN)

It's time to flex our power. For power systems to help drive the transition to net zero emissions, they must become more reliable, resilient, affordable, and, above all, more flexible. This event will showcase the collaboration between MI's Green Powered Future Mission (GPFM) and CEM's International Smart Grid Action Network (ISGAN) to accelerate the development, demonstration, and application of innovative solutions that will unlock the pathway to flexible power systems. The GPFM will release its Action Plan 2022-2024 and announce flagship projects that constitute its first sprint of activities. ISGAN will present its multifaceted work program that enables structured knowledge development and exchange across nations and domains on utility digitalization, transmission and distribution system interactions, and more. The joint event will culminate with a signature of the GPFM-ISGAN Memorandum of Understanding, showcasing the strengthened collaboration between these two global initiatives to drive public- private sector engagement and shared commitment to innovation.

From blindspot to hotspot: accelerating the transition to sustainable cooling for climate mitigation and adaptation: Friday, September 23, 11:30 AM - 1:45 PM, DLCC room 301

Organized by: United Nations Environment Programme, Department for Business, Energy, & Industrial Strategy, United Kingdom

Sustainable cooling provides huge opportunities to reduce energy consumption and emissions: meeting future cooling needs sustainably could cut 8 years' of global emissions and reduce the costs of the renewable energy build out by \$3.5tn by 2030. To get there, we need policies and regulations to foster efficiency in appliances and buildings, long-term comprehensive planning, financial mechanisms and global collaboration to enable mass deployment of best practices and innovative solutions. If we get it right, sustainable cooling can advance the goals of the Paris Climate Agreement, the SDGs and the Montreal Protocol's Kigali Amendment. This session will bring together government representatives, CEOs and global experts to showcase best practices to date, including the ambitious efforts ongoing in

India, and to raise the profile of sustainable cooling, at CEM and beyond, as a key piece of the puzzle in the energy transition and achievement of sustainable development.

Innovation cooperation: global approaches to enhancing national policies and measuring progress: Friday, September 23, 11:30 AM - 1:45 PM, DLCC room 305

Organized by: IEA, Indian Institute of Technology Delhi

International cooperation on clean energy technologies will determine the speed of energy transitions globally, with Mission Innovation and the Clean Energy Ministerial as the leading initiatives fostering this essential collaboration. This two-hour discussion among international experts and practitioners will focus on two important areas of cooperation: exchange of policy experiences in the widest range of national contexts; and methods to measure progress for evidence-based policy making. It will explore the latest insights from government efforts and how they can support delivery of MI2.0 and CEM objectives.

Sustainable Aviation Fuel - Taking Off Across the Globe: Friday, September 23, 12:45 PM - 1:45 PM, DLCC room 407

Organized by: Biofuture Workshop; Bioenergy Technologies Office, Department of Energy

Collaborative efforts such as the World Economic Forum's Clean Skies for Tomorrow, the Mission Possible Partnership and the Clean Energy Ministerial Biofuture Initiative are working to drive the changes needed to reach the Commercial Aviation's goal of net-zero emissions by 2050. Coinciding with the recent release of the Mission Possible Partnership Aviation Transition Strategy, this panel will address how we can unlock the possible pathways to reach a net-zero sector by 2050 and how policymakers can collectively advance sustainable aviation fuels globally. The SAF event will be headlined by the release of the United States Government "Sustainable Aviation Fuel Grand Challenge Roadmap" by the three U.S. Government agencies leading the Grand Challenge, Energy, Transportation, and Agriculture. This Roadmap is being shared in this high-level event to catalyze worldwide action as additional countries work to develop their own SAF strategies and to initiate collaboration to achieve faster global deployment of SAF