

Expert panel on electrification in transport

Venue: Vancouver, Canada

Date: 27 May 2019, 09:00-12:30

Organiser: International Energy Agency, Electric Vehicles Initiative

Contact Email: transportinfo@iea.org; evi@iea.org

Overview

The expert panel aims to discuss the conditions that could facilitate a full role out of EVs.

It will develop the discussion focusing first on specific topics, trying to address challenges and solutions that could facilitate greater EV deployment: freight and mass transit, charging infrastructure and batteries.

A fourth panel will provide indications for CEM governments on the policies that are most relevant to move towards a deep transition towards electric mobility.

Draft Agenda

8:30 Registration

09:00-09:30 Opening and welcome

Moderator

Pierpaolo Cazzola and Marine Gerner, IEA

09:00 Paula Vieira – Director, Natural Resources Canada – Opening and Welcome

09:10 Mechthild Wörsdörfer - Director, IEA - Key findings of the Global EV Outlook 2019

09:30-10:10 Panel 1 – Mass transit and Freight

Panellists

Ted Dowling – Vice President, BYD Canada

Michael McDonald – Senior Director Sustainability & Government Affairs, UPS

Mikko Pihlatie – Research Team Leader, Electric powertrains and storage, VTT, Finland

Marian Smith – Executive Director – Clean Energy Canada

Subject

The panel will focus on challenges and opportunities for the electrification of heavy-duty vehicles.

10:10-10:50 Panel 2 – Infrastructure

Panellists

Carolina Gallo – Head of Government relations, ABB Canada

Christel Galbrun-Noel – Segment President Automotive and Mobility, Schneider Electric

Jon Mitchell – General Manager, Sustainability at Suncor Energy

Anne Smart – Vice President, Public Policy, Chargepoint

Subject

The panel will look issues related to the whole value chain of the charging system – from electricity generation/renewables, charging technologies, types of chargers and the need to tailor/develop it

for light and heavy-duty vehicles, the implications that charging has for the power grid, and what is being done to anticipate and deal with challenges.

11:10-11:50 Panel 3 - Batteries

Panelists

David Adams – President, Global Automakers of Canada

Mari Lundström, Professor, Aalto University, Helsinki, Finland

Michael Wang – Manager, Systems Assessments, Argonne National Laboratory, United States

Yali Zheng, Deputy Director, Society of Automotive Engineers, China

Subject

The panel will be focusing on batteries for automotive applications, aiming to discuss opportunities from mass production, expected technical advancements (e.g., in solid state batteries), implications for life-cycle impacts including production, processing and end-of life for light, medium and freight-vehicle applications, and challenges related with material supply and opportunities to solve them (e.g. from responsible business practices).

11:50-12:25 Panel 4 - Summary

Panelists

Abhay Bakre, Head, Bureau of Energy Efficiency, India

David Hochschild – Chair, California Energy Commission

Christine Ianicello – Director, Sustainable Transportation, British Columbia

Maurizio Maggiore – Senior Expert (Innovative Automotive Systems), DG Research & Innovation, European Commission

Paula Vieira – Director, Transportation and Alternative Fuels Division, Natural Resources Canada

Subject

The final panel, focusing on policy transitions and the road to mass deployment, intends to build on the discussions developed so far to discuss key policy implications.

12:25-12:30 Closing remarks



Joint Programming Event and Multilateral Call Workshop (MICall19)

Agenda

(v1.8 / 23.05.2019)

This event brings together public funding partners from around the world to discuss opportunities for multilateral collaboration. It highlights opportunities to close gaps in the innovation chain by connecting different networks and initiatives on a joint programming platform. A public-public-private partnership format will be illustrated, enabling the initiation and joint funding of applied, collaborative R&D projects. The workshop prepares the pathway for the first Mission Innovation multilateral call MICall19, which will be launched in September 2019. Furthermore, it provides first matchmaking possibilities among researchers and companies in cooperation with the MI Innovation Challenges.

Event Date/Time: May 27th, 2019, 09:00 - 13:00

(follow-up working meeting for funders and matchmaking for stakeholders: 15:00-17:00)

**Event Location: Vancouver Convention Centre West
1055 Canada Pl, Vancouver, BC V6C 0C3, Canada**

Registration:

<https://docs.google.com/forms/d/e/1FAIpQLSeBpcsZRPCYP7JieJf3R6uDuj7yJC3LrKwSLHKny8c8Rlq1EQ/viewform>

NOTE: A government issued photo ID will be required upon arrival to pick up your badge

MI4 Event Website:

<http://cem-mi-vancouver2019.ca/programme/side-events/#collapse-1-4>

Moderation:

Michael Hübner, Austrian Ministry of Transport, Innovation and Technology

Ludwig Karg, B.A.U.M., Head of ERA-Net Smart Energy Knowledge Community

Plenary Session	
09:00 am	Opening
SCHÄDLER, Ingolf, Deputy Director General Innovation, Austrian Ministry of Transport, Innovation and Technology ANDRÉN, Robert, Director-General, Swedish Energy Agency	
09:10 am	Signing Ceremony: MI Core Group of Countries Committed to Prepare the First Multilateral Call for Research and Development Projects "MICall19"
09:20 am	Governance Panel
<p>Key-Notes from panellists (3 min each)</p> <ul style="list-style-type: none"> ○ China: WANG, Yibo , Chinese Academy Of Science ○ India: BAJPAI, Sanjay, Sanjay, Head Technology Mission Division, Energy, Water & All others, Government of India ○ Morocco: El MRABET, Rachid, Institut de Recherche en Énergie Solaire et Énergies Nouvelles ○ Chile: SILVA PAREJAS, María Cristina, Multilateral Affairs Officer, Ministry of Energy (tbc) ○ Austria: VOGEL, Theresia, Managing Director, Climate and Energy Fund of the Austrian Federal Government ○ Sweden: BAHR LJUNGDELL, Josephine Bahr, Director of International Affairs, Swedish Energy Agency ○ Germany: VACH, Peter, Policy Officer, Federal Ministry for Economic Affairs and Energy ○ World: NN, Local Governments for Sustainability Association (ICLEI) (tbc) <p>MICall19, the Joint Programming Platform and the Concept of Regional Coordination CLARK, Morag, Scottish Enterprise, JPP Smart Energy Systems Coordination Team El Mrabet, Rachid, IRESEN, Morocco</p> <p>Panel Discussion: Cooperation Challenges, Benefits and Opportunities. Why? How? Who?</p>	
10:30	Stakeholder Panel
<p>Pitches on Industry Positions and Stakeholders Perspectives (99 secs each)</p> <ul style="list-style-type: none"> ○ Canada: NN, Building Industry (tba) or NN, Hoskin Ltd (tba) ○ Europe: BUCHHOLZ, Britta, ABB (tbc) or Gary Rackliffe, Vice President Smart Grids North America (tbc) ○ Finland: Jan Segerstam, Empower IM Oy ○ Finland: Tuula Mäkinen, Vice President, VTT Technical Research Centre of Finland Ltd ○ Austria: HOLTER, Christian, Solid GmbH ○ Sweden: Jonas Eklind, CEO and president Azelio AB <p>Panel Discussion: What are we working on? What are our expectations on public-private-partnerships? How can we collaborate in the Mission Innovation Framework?</p>	
11:00	Vision and Expectations on Multilateral Programming within Mission Innovation ANDRÉN, Robert, Vice Chair MI Steering Committee

Co-Creation and Matchmaking Workshop	
11:15	Introductions to Matchmaking and Interaction Workshop KARG, Ludwig, and BOERNER, Laura, ERA-Net SES Knowledge Community:
11.30	It's not only a game – it's a game changer: moderated interaction in small groups on MICall19 Topics: <ul style="list-style-type: none"> ○ IC1- Smart Grids (chair: Lucciano Martini, RSE Italy and Yibo Wang, Chinese Academy Of Science, co-moderator: Helfried Brunner, Austrian Institute of Technology) ○ IC2 – Offgrid Solutions (chair: tbd, co-moderator: Laura Boerner, JPP SES Knowledge Community) ○ IC5 – Converting Sunlight (chair: VACH, Peter, Policy Officer, Federal Ministry for Economic Affairs and Energy, co-moderator: Rachid El Mrabet, IRESEN - Institut de Recherche en Énergie Solaire et Énergies Nouvelles, Morocco) ○ IC6- Clean Energy Materials (chair: Hermann Tribukait (tbc);, India; co-moderator: Morag Clark, Scottish Enterprise) ○ IC7- Heating and Cooling of Buildings (chair: Emina Pasic, Swedish Energy Agency (tbc); co-moderator: Hemma Bieser, avantsmart) ○ IC8- Renewable and clean hydrogen (chair: Geert Tjarks, NOW GmbH; co-moderator: Elvira Lutter, Austrian Climate and Energy Fund)
12:55	Wrap-up and invitation to bilateral follow-up in the afternoon
13:00	Lunch

Working Meeting for Funding Partners and Bilateral Matchmaking for Stakeholders	
15:00	Setting the scene: <ul style="list-style-type: none"> • scheduling b2b meetings for stakeholders • define agenda for working group of MICall19 funding partners
until 17:00	<ul style="list-style-type: none"> • Bilateral meetings for stakeholders • Working meeting for MICall19 funding partners <ul style="list-style-type: none"> ○ Forming a Coordination Committee for MICall19 ○ Discuss Focus and agree on Timeplan



Further Information

The event brings together representatives of interested MI countries and their funding institutions in order to join the core group that has started to prepare for the first Mission Innovation multilateral call for R&D Projects (MI-Call19).

This event will give a deep-dive insight in an innovative multilateral collaborative funding mechanism that can facilitate global cooperation in R&D projects. It will announce the initiative *Pilot Multilateral Call for cooperative RDI Projects (research and industry)*, which is a multilateral format for Public-public-private partnership for funding of R&D projects. It will pilot a first global Mission Innovation call for collaborative RDI projects including a process how to initiate, jointly finance and monitor these projects. It will also introduce a model how to form an active knowledge community of families of projects, together with associated partners from regional business clusters, need owners and technology adopters. With the associated partner model, the platform has also started to develop a mechanism to involve additional funds and financiers in order to help closing the gap from RTD towards market introduction. Using the established structures, procedures and resources of the Joint Programming Platform Smart Energy Systems (JPP SES), it will be possible to launch the call in autumn 2019 and to present a first set of jointly financed MI projects in Spring 2020 (MI#5). Furthermore, this workshop will be a first matchmaking opportunity for MI-IC participants and stakeholders from industry and research, representatives of interested MI countries and their funding institutions.

The event will be a first matchmaking opportunity for participants in the MI Innovation Challenges and other stakeholders from industry and research, in order to start creating ideas for multilateral projects

The event will include a co-creation session with the Mission Innovation Challenges. It will further invite representatives of need owners as communities, infrastructure operators and others, in order to help define the needs and requirements for future energy technology from a user perspective in preparation of the multilateral call. This event and the initiative for the pilot multilateral call in 2019 intend to create a learning environment to gain experiences on which further MI development and decisions can be based. The vision of the initiative is to be able to present a prototype for a multilateral funding collaboration mechanism in Mission Innovation at MI#5 in Chile.

The **Joint Programming Platform Smart Energy Systems (JPP SES)** started in 2014, based on former experiences from the European network “ERA-Net Smart Grids”, in order to establish a sustainable multilateral collaboration platform for public funding programs. Starting with a group of European Countries, its original intention was to reach out its activities beyond Europe at some point. Mission Innovation is an ideal environment to take this next step in order to develop a global collaboration platform for public funders. MICall19 is an opportunity for Mission Innovation countries to jump on an ongoing activity for quick success and gaining collective experience and learnings.

www.eranet-smartenergysystems.eu

10:00 - 11:00am – Official Side Event: Leading our Low Carbon Future- Intergenerational Collaboration as Solutions

Through a discussion that fosters dialogue between young clean energy leaders and senior members from government, industry and civil society, various international and inter-generational perspectives will be shared to focus on the themes of CEM10.

Speakers will include two young leaders and two senior leaders to represent the themes of CEM10. Through an engaging discussion that will navigate the challenges that exist in achieving the themes of CEM10, each speaker will provide their insight through experience while also identifying key areas in which youth can support governments and private industry and vice-versa to achieve the objective of a theme.

The panel will feature representation from youth, government, industry and civil society to explore how youth engagement can be a key instrument in clean energy policy creation, industry innovation and public confidence. The panel will open the floor to contribute ideas and pose questions on how current leadership can empower and support the upcoming generation of clean energy and innovation leaders.

Panelists:

- Meredith Adler, Executive Director of Student Energy (Moderator)
- David Hochschild, Chair of the California Energy Commission
- International Energy Leader (TBC)
- Larissa Crawford, Youth Delegate, Advisor, Public Education and Engagement, Anti-Racism Directorate- Ontario Ministry of Solicitor General
- One spot available for Youth Delegate

All youth attending

How You Can Participate

Student Energy is looking for members of Heads of Delegation, CEOs, Ministers or Deputy Ministers to attend this intergenerational discussion.

Timing	Activity	Who is Involved	Objective
10:00 – 10:03 am	Welcome audience to the side event	Meredith Adler	Launching the Youth Leaders Forum and setting the tone for the rest of the program while familiarizing the broader delegation to the youth program.
10:03 – 10:04	Introduce Student Energy	Meredith Adler	Familiarize the audience with the organizing partner of the side event.
10:04 – 10:10	Introduce the panelists	Panelists	Each panelist will give a 1-minute brief description of their background and work
10:10 – 10:45	Panel Discussion	Facilitator & Panelists	Panelists discuss the future of low carbon energy and economy systems, youth leadership and intergenerational collaboration.

10:45 – 10:55	Audience Q&A	Facilitator & Panelist & Members from the audience	2 or 3 members from the audience are invited to ask a question to the panelists.
10:55 – 11:00	Wrap up the Panel Discussion	Facilitator & Panelists	Panelists express what they're looking forward to during CEM10/MI-4.

Dispatchable Clean Energy: Cutting the Cost of a Low-Emissions Future

Monday, May 27, 2019
12:00 - 1:30 pm PDT
Vancouver Convention Centre West, room TBD

[Register Here](#)

Brief:

This event, co-organized by the CEM Nuclear Innovation: Clean Energy Future (NICE Future) initiative, Clearpath, and Third Way, will illustrate the importance of dispatchable energy systems for accelerating progress toward clean energy goals at a reasonable cost.

During the event, high-ranking government officials and technical experts will discuss recent innovations in dispatchable sources of clean energy that can be used on demand by power grid operators according to market needs. Advanced technologies including flexible nuclear energy, carbon capture systems for fossil energy, and dispatchable renewables will be explored.

Participants will also consider research demonstrating the need for affordable, resilient, and low-emissions power and the corresponding necessity to integrate dispatchable and variable sources of power. In doing so, this event will set the stage for a more holistic and inclusive consideration of power system transformation throughout the proceedings of the 10th Clean Energy Ministerial and 4th Mission Innovation Ministerial.

Agenda:

12:00 p.m.	Welcome
12:05 p.m.	Panel 1: Government Policy Perspectives <ul style="list-style-type: none">• Rich Powell, Executive Director, ClearPath (Moderator)• Ted Garrish, Assistant Secretary for International Affairs, U.S. Department of Energy Dan Simmons, Assistant Secretary for Energy Efficiency and Renewable Energy, U.S. Department of Energy• Kazushige Tanaka, Director, International Affairs Division, Agency for Natural Resources and Energy (ANRE) Ministry of Economy, Trade and Industry (METI), Japan• Jay Khosla, Assistant Deputy Minister, Natural Resources Canada (invited)

Dispatchable Clean Energy: Cutting the Cost of a Low-Emissions Future

12:45 p.m.	<p>Panel 2: Energy Innovation Experts</p> <ul style="list-style-type: none">• Josh Freed, Senior Vice President for Clean Energy, Third Way (Moderator)• Kirsty Gogan, Executive Director, Energy for Humanity Kirsty will discuss the importance of dispatchability for clean energy, and will present the preliminary key findings of analysis for the new CEM campaign on flexibility entitled Nuclear-Renewable Hybrid Systems to Enable Modern Energy, and why the study is meaningful to the clean energy community.• Jill Engel-Cox, Director, Joint Institute for Strategic Energy Analysis, U.S. Department of Energy National Renewable Energy Laboratory Jill will discuss the current and future role of dispatchable renewables such as geothermal and hydropower in cost-effectively lowering emissions internationally.• Sama Bilbao y Leon, Head, Division of Nuclear Technology Development and Economics, OECD Nuclear Energy Agency Sama will discuss international efforts on flexible nuclear energy systems as well as efforts to enhance collaboration on new types of reactors.• Lara Pierpoint, Director, Technology Strategy, Exelon Lara will discuss Exelon’s perspective on the integration of dispatchable technologies and the balance between maintaining reliability and meeting clean energy goals.• Rob Mitchell, Senior Client Engagement Lead, Global Carbon Capture Institute Rob will describe the growing consensus around the need for carbon capture technologies to achieve international energy goals.
1:30 p.m.	Event ends



Enabling policy strategies for enhancing energy efficiency and deep decarbonisation of Industry

10th Clean Energy Ministerial
Official Side Event
27th May 2019 [1500-1700]
Vancouver, Canada

A moderated discussion among international sector policy experts and energy efficiency practitioners from CEM member countries leading or embarking on efforts towards enhanced energy efficiency and decarbonisation of their industries.

Discussion topics

1. Areas of biggest foreseeable impact and opportunity, specifically technological or sectoral strategies that help industries move towards higher efficiency goals and deeper decarbonisation efforts
2. Government strategies required to create an enabling environment for industry to implement these industry decarbonisation strategies.
3. Identification of the possible linkages with existing CEM work-streams and campaigns that would encourage collaboration on the proposed new ideas and opportunities emanating from the discussion.

Improvements in energy efficiency in industry have multiple benefits and also lead to productivity improvements directly while improving economic outcomes. The deep decarbonisation of the industrial sector would be critical to achieve the global energy transition objectives while also meeting the climate objectives.

Organized by **UNIDO** and the **CEM Secretariat**



Danish Ministry
of Energy, Utilities
and Climate



Federal Ministry
for Economic Affairs
and Energy



CEM10/MI-4
VANCOUVER

Side event | Accelerating Clean Energy Investments

Official side event to CEM10

Organizers: Denmark, Germany, Climate Investment Funds.

Location: Vancouver Convention Centre West

Time: May 27th, 15:00-17:10

Participant registration: [Link](#)¹

Background

The rationale behind an accelerated transition towards an energy efficient and renewable based energy system has never been more evident. But global investment uptake needs to grow at a much faster rate than current levels, and investments in fossil energy must be significantly reduced to put the world on a clean growth pathway and to avoid the risk of carbon lock-in. Governments are key in making strategies and regulation to stimulate the deployment of renewable energy, but the private sector and international financial institutions in addition need to direct the stream of investments toward RE projects - a fundamental precondition for meeting the targets set out in the Paris agreement and fulfilling the requirements for a clean energy transition.

To do so they need a risk-reducing clean energy investment climate. There is an urgent need to provide a toolbox on a policy and regulation framework that supports and stimulates public and private investments in clean energy.

The event will link the CEM Investment Finance initiative to the work on *Clean Energy Investment (CEI)* for the UN Climate Summit in New York in September this year. The work of CEI focuses on investment enabling frameworks.

CEI proposes the following four key principles to support the public sector, (governments, states and cities), investors and the institutions that help enable investments through capacity building substantially increasing investments in renewable energy and energy efficiency:

- **Principle 1:** Set targets and commitments for the energy sector and the economy based on solid and specific energy strategies, scenarios and planning
- **Principle 2:** Implement investment-related energy policy and regulation through clear and transparent policies as well as a strong legal framework minimizing political risks
- **Principle 3:** Implement energy-related investment and finance policy and regulation via smart and consistent financial policies and strong liquidity measures.
- **Principle 4:** markets for clean energy investments through risk mitigation instruments, development of financial capacity, capital markets and ability to prepare bankable projects, business models, pipeline development, and transaction enablers.

¹ <https://docs.google.com/forms/d/e/1FAIpQLSc-H8TpttQ3jW54Nw6HCzr7VZQc4I5Yfd19RTqpBNY2QqfcJg/viewform>

Objective

Recognizing that a number of barriers are impeding investment flows towards clean energy, the main objective of the side event is to highlight and discuss how governments can provide enabling conditions to mobilize capital from private sector and financial institutions in renewable energy and energy efficiency. Further, the side event should set the stage for discussions on the ability of private actors as well as public financial institutions to contribute to investment conditions conducive of scaled-up private engagement.

Agenda

15:00-15:10 Opening remarks 1 (TBD)

Keywords: Setting the stage for the importance of accelerated clean energy investment streams.

15:10-15:20 Opening remarks 2 (Thorsten Herdan, Director General, German Ministry for Economic Affairs and Energy)

15:20-15:45: Investment enabling environments. Presentation of *Clean Energy Investment* workstream results (Ditlev Engel, Denmark's special envoy for Climate and Energy)

Keywords: How Clean Energy Investment workstream has worked with multiple stakeholders to identify barriers and solutions to clean energy investments. Which core principles behind accelerated investments have been identified? What needs to be done in order to boost drivers?

15:45-16:00: Q & A from audience

16:00-16:40: Working session (coffee will be served)

Keywords: Presentation of real life cases corresponding to core principles identified by Clean Energy Investment workstream. Discussion within audience about cases and principles. Key question: What needs to be done?

16:40-17:00 Plenary

Keywords: Presentation of findings during discussion within audience.

17:00-17:10 Closing remarks. (Ditlev Engel, Denmark's special envoy for Climate and Energy)

17:10-18:00 Networking