



# MISSION INNOVATION

accelerating the clean energy revolution

---

## FOURTH MISSION INNOVATION MINISTERIAL (MI-4)

---

### Highlights and Outcomes

May 28, 2019

Vancouver, Canada



**Contents**

CEM10/MI-4 In Review ..... 2

    MI-4 Key Outcomes..... 3

Public-Private Breakfast: *Investing in Transformative Change*..... 4

Plenary 1: *Demonstrating Impact* ..... 5

Ignite Talk: *Approaches to Clean Energy Innovation* ..... 9

Public-Private Roundtables: *Advanced Innovations for a Clean Energy Future* ..... 10

Plenary 2: *Raising Ambition* ..... 16

Communications Summary..... 19

    Media Highlights ..... 19

    Digital Media ..... 20

    New Products Launched ..... 21

## CEM10/MI-4 In Review

CEM10/MI-4 opened up dialogue beyond the public sector to include **business leaders, investors, innovators, women, Indigenous populations, and youth.**

- 2485 delegates, stakeholders and industry representatives.
- 1,800 visitors to the Innovation Showcase
- 6,600 global youth participated in virtual community engagement activities leading up to the event, with 60 youth from 26 countries participating in person.
- Over 11,000 posts using #CEMMI2019, reaching an estimated 64.8 million social media users
  - Cross promotion from key influencers, including Bill Gates, Breakthrough Energy, WEF, World Bank, IEA, IRENA, the Global Covenant of Mayors, and Student Energy



## MI-4 Key Outcomes

MI-4 set out to report on progress-to-date with a focus on **demonstrating impact** of investments, profiling collaborative projects that **advance clean energy innovation**, and showcasing new initiatives that **push for greater ambition** and extend MI's reach.

Reporting MI members are on track to meet their doubling commitments, investing an additional \$4.6B annually in clean energy innovation activities. Of that, \$1.3B has been invested in 59 new collaborative projects.

- ✓ **Diverse perspectives**
  - Youth and MI Champions participated
  - Ignite Talk included various perspectives
  - Commitment to gender balance in moderators and speakers
  
- ✓ **Extending MI's reach**
  - Morocco welcomed as MI's 25th member
  - 19 MI Champions introduced
  
- ✓ **Partnerships**
  - Breakthrough Energy Solutions Canada
  - Breakthrough Energy Europe
  - Partnership with World Bank
  - Partnership with Global Covenant of Mayors



## Public-Private Breakfast: *Investing in Transformative Change*

*Note: the Breakfast took place under Chatham House rules. However, as agreed in Santiago, key themes were recorded. For a list of invitees, please consult the pre-read package.*



**Topic:** Public-private co-investment and the supporting policy environments that can help drive clean energy innovation.

**Key themes** that emerged include:

1. Opportunities for collaboration

- The public and private sectors can leverage their respective capital and expertise.
- The public and private sectors can also collaborate when designing policy frameworks, standards, and regulations. Governments need to engage the private sector early in the process.

2. Enabling policy environments for greater investment in clean energy technologies

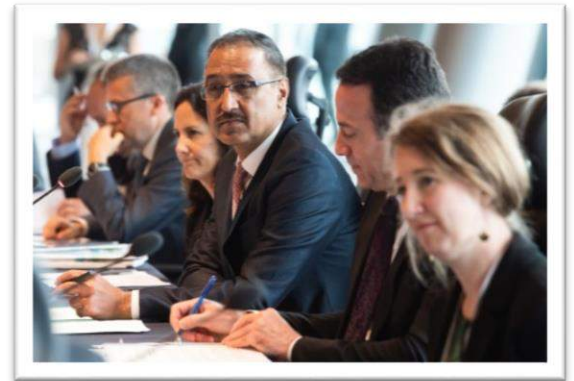
- Participants shared examples of strategies to incentivize greater innovation and the deployment of clean technologies (e.g. carbon pricing, procurement policies, advanced market commitments, regulatory sandboxes, removing regulatory barriers to innovation).
- A broad group of actors help to drive innovation. Find innovation not just in the technologies, but also in the policies and partnerships that help to ensure technologies get to market and at scale.

3. Public engagement

- Sometimes energy innovations capture the attention of public audiences. Other times, energy innovations may not resonate with the public. How can governments inspire innovation? How can governments demonstrate the impact and value of clean energy investments?
- The management and transparency of energy data could have implications for innovation and public trust. What kind of data is relevant to inform the development and deployment of new energy systems? How can governments build public trust?
- Examples like management standards for green finance and the Avoided Emissions Framework were discussed.

## Plenary 1: *Demonstrating Impact*

Following extensive consultation and planning with members in advance of MI-4, the plenary interventions were structured to build a meaningful narrative, with the morning setting the scene for the day by reporting on commitments and demonstrating the impact of investments made to date.



### Setting the scene

- **Minister Sohi** welcomed MI delegates to Canada, including introducing Morocco as MI's 25th member. To set the scene for an inspiring day, Minister Sohi presented a [video of children](#) speaking about their vision of a clean energy future, reminding delegates of our most important stakeholders.
- **Minster Sohi** and **UK HoD John Loughhead** presented MI's [Impact Review \(MI: The Story So Far\)](#) showcasing progress and accomplishments to date.
  - Notably, reporting MI members have increased their annual investments by \$4.6B USD since MI launched, and established 59 new international collaborations, which have received \$1.3B in public funding.
  - The Impact Review showcases collaborations such as the UK/Canada Power Forward Challenge, which has identified 21 firms for funding, and the UK/Republic of Korea collaboration on smart grids. As indicated in the Review, members are on track to meet MI's doubling commitment and some, such as the UK, have already doubled their public investment above their baseline. Minister Sohi also noted that Canada is on track to meet its doubling target.
- The Impact Review was followed by a [message from Bill Gates](#), noting success to date and highlighting the importance of engaging the private sector to ensure technologies are moved out of the lab and scaled up.
- **Commissioner Moedas** of the **European Commission** and **Mr. Fayolle, European Investment Bank** spoke to the value of the European Commission's partnership with Breakthrough Energy, noting that €1.5 billion in project funding has already been identified. This initiative is aligned with the EC's prioritization of innovation as a tool to fight climate change – the EC's science and innovation program will receive €100 billion over the next seven years.



## Growing the MI family

- The 19 [Mission Innovation Champions](#) were announced on Monday, May 27th. **Australia's** Champion, **Glenn Platt**, spoke of the Champions' excitement to work with MI members to increase international collaboration. Mr. Platt highlighted that the Champion's discussions at MI-4 identified crucial needs in the social and behavioral sciences and in regulation. He noted that several Champions run successful businesses and the cohort is keen to demonstrate that the energy transition is a tremendous investment opportunity.
- The MI family expanded to 25 members with **Morocco joining**. **Minister Rabbah** spoke of the specific challenges facing Africa, such as the high energy demands of supporting rapid urbanisation, growing industries and connecting the millions of people who are currently without electricity. Morocco is investing billions in clean energy with many international partners and is organizing an MI week in Marrakesh in September. Morocco expressed interest in future hosting of the MI and CEM Ministerials.



- **Mr. Schädler** provided an update on **Austria's** first year as an MI member. Austria has established three demonstration regions which rely entirely on renewable energy. Recently, MI Austria Week offered events from conference presentations to site visits. Austria is also launching an initiative on energy storage with several other MI partners.

## International Collaboration

- **Mr. Anand** of **India** provided a presentation on India's new Clean Energy International Incubation Center. The incubator is based on public-private partnerships and will offer an opportunity for innovators across MI countries to test their technologies in India's local market.
- Mr. Anand then gave an update on the activities of MI's **Analysis and Joint Research Sub-Group**, which has conducted an assessment of the ICs and is finalizing a paper on multilateral models for international clean energy innovation. Collectively, \$100 million has been invested on collaborative RD&D in IC areas. Mr. Anand also took the opportunity to highlight India's participation in the launch of the Avoided Emissions Framework with Sweden.
- [IC8: Renewable and Clean Hydrogen:](#)
  - **Ms. Smith** of **Australia** and **Mr. Herdan** of **Germany** provided an update on the newest IC. Two workshops have been held, in which the concept of "hydrogen valleys" was developed, and the IC is seeking to establish an information sharing platform, financed by the EC. RD&D collaborations are beginning to emerge, notably a Memorandum of Understanding between the University of British Columbia and Australia's Commonwealth Scientific and Industrial Research

Organisation (CSIRO) to undertake joint research projects on hydrogen over the next three years.

- **Mr. Viktorovitch** of **France** spoke about the great promise of hydrogen in three particular sectors: industry (where the largest amount of hydrogen is used), mobility and energy storage.
- Mr. Viktorovitch introduced **France's** Champion, **Didier Bouix**, who gave a presentation on his work designing the [Energy Observer](#), the world's first hydrogen vessel with zero greenhouse gas emissions, showing a path to the future of maritime transport.
  
- **IC7: Affordable Heating and Cooling of Buildings:** **Mr. Gaastra** of the **Netherlands** provided an update on IC7's work in developing a [Comfort Climate Box](#) (CCB). The CCB will combine a heat pump, smart control and energy storage and could be used in any type of home, integrating temperature control and renewable energy. Eight countries have expressed interest in participating in this initiative. Mr. Gaastra also took the opportunity to highlight that the Netherlands has already doubled its public-sector clean energy innovation investment to €200 million.
  
- **IC6: Clean Energy Materials:** **Dr. Aspuru-Guzik** provided an update on IC6, speaking to the impact of AI and digitalization for manufacturing. Dr. Aspuru-Guzik referred to the [Ada project](#), a materials discovery platform based on robotics and AI that can quickly and cheaply test new chemical combinations, reducing the materials development timescale from 10 years to one.
  
- **IC1: Smart Grids:**
  - **Mr. Cioffi** of **Italy** and **Mr. Chen** of **China** highlighted that IC1 was hosting three side-events at MI-4, including a day-long workshop with [International Smart Grid Action Network](#) (ISGAN) workshop and the launch of the [Smart Grids Innovation Accelerator](#) (SGIA), which will support international information-sharing. Mr. Chen also took the opportunity to note that China is on track to meet its MI doubling target.
  - **Mr. Huttunen** of **Finland** provided a presentation on [Smart Energy Solutions](#) – the Smart Otaniemi innovation ecosystem includes over 60 companies forming public-private partnerships to test tools such as smart energy meters. Mr. Huttunen noted that clean energy innovation is expected to be a key theme for the Finnish presidency of the EU.
  - **IC3: Carbon Capture:** **Mr. Abuleif** shared that **Saudi Arabia** is establishing a carbon capture, use and storage (CCUS) center to serve as a platform for CCUS innovation, including under IC3. Planning for an international CCUS conference is underway. Over \$100 million USD has been invested in CCUS through IC3 members.



## Discussion and Member Updates

- **Commissioner Moedas** of the **European Commission** led the discussion by noting that a lot has been invested but it is not keeping up and there is more to be done.
- **Ms. Lønnum**s provided an update on **Norway**'s CCUS initiatives, notably the new North Sea CO2 pipeline and underground storage project by the Northern Lights consortium – it is hoped that this sort of open-access infrastructure will make CO2 capture more attractive for industry. Norway also coordinates the 11-country [Accelerating CCS Technologies](#) (ACT) initiative, which recently closed its second call for proposals.
- **Ms. Paula Esteves** provided an update on innovation advances in **Chile**, including Chile's solar hydrogen initiative.



## Ignite Talk: *Approaches to Clean Energy Innovation*

**Objective:** The goal of the Ignite Talk was to both open dialogue to include new, diverse perspectives, and to challenge participants to think differently and more ambitiously about clean energy solutions



**Moderator:** *Wendy Pulling* (University of California, Office of the Chief Investment Officer)

**Policymaker:** *Minister Catherine McKenna* (Environment and Climate Change Canada)

**Business Leader:** *Hendrik Van Asbroeck* (Engie Ventures)

**Innovator (MI Champion):** *Dr. Myoungji Lee* (Myongji University)

**Youth:** *Luciana Miu* (Imperial College London)

Four speakers gave short presentations on their unique ideas and approaches to accelerating clean energy innovation, which was followed by an engaging discussion with the audience.



- Speakers addressed:
  - The need to accelerate clean energy innovation due to climate change;
  - How the private sector channels its investment towards innovation;
  - The need to expand interest in clean energy innovation to other sectors such as building energy efficiency; and
  - How to involve youth in the greater clean energy innovation ecosystem.
- The Ignite Talk was livestreamed from the IEA Facebook account, with live polling from the MI Twitter account, allowing for participation by a board audience.
  - As of June 10th, the video had received over 1000 views (the IEA Facebook Page has not had a video reach of 1000+ views since a video posted on July 28, 2018.)



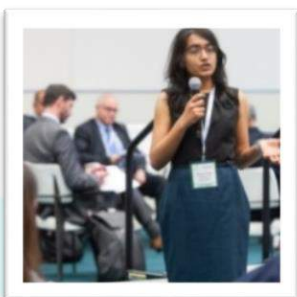
Watch the full Ignite Talk session on the Mission Innovation YouTube Channel: [youtu.be/a-3m9f9cros](https://youtu.be/a-3m9f9cros)

## Public-Private Roundtables: *Advanced Innovations for a Clean Energy*



### Scene Setters

1. **Dominic Waughray** (Moderator), Managing Director, Head of the Centre for Global Public Goods, World Economic Forum
  - “Focus on identifying three things: (1) Insights on what is stopping us from doing more. (2) Ideas for MI’s future work that could be picked up by any member organization. It should be something radical. If your existing technology was the solution, it would probably already have taken off. (3) Something that is replicable and can be implemented soon/now.”
  - “It’s not easy, but you’re here because you are best-placed to make this happen.”
  
2. **Rachel Kyte**, CEO of Sustainable Energy for All and Special Representative of the United Nations Secretary-General
  - “I ask you to set aside egos, put your best self forward, and identify what stops us from working together.”
  - “Imagine a 16-year-old next to you saying ‘I really don’t think you’ve done enough yet,’ asking you to push things further and faster.”
  
3. **Rhythima Schinde**, Youth Delegate and Co-Founder of Energy Bazaar
  - “Energy Bazaar is a platform for electricity to be traded between micro-grids and households. It is enabled by AI but, most importantly, it is informed by local context and culture. Technology was the smallest part of its success – the most important factor was the partnerships with various players across the world.”
  - “Youth are very optimistic about technology but clearly see the problems of the old ways of doing things, so they are well placed to come up with solutions.”
  
4. **Alvaro Beltran**, Mission Innovation Champion and CEO of Onyx Solar
  - “For every square meter of city, we need another square meter in the countryside full of solar panels to feed it with solar energy. Are we ready to cut trees in order to install solar panels? Is this a sustainable solution?”
  - “To solve this problem Onyx Solar has developed and produces the first architectural glass able to generate energy. It is possible to convert buildings into vertical power generators with glass that also provides extraordinary insulation for buildings to save energy in HVAC.”



# 1 Smart Manufacturing for a Sustainable Energy Future

## Participants

- **Co-Chair:** Christyne Tremblay (Canada)
- **Co-Chair:** Daniel Simmons (US)
- **Discussion Leader:** Alán Aspuru-Guzik (University of Toronto)
- Vinod Philip (Siemens)
- Olivier Warnan (BNP Paribas)
- Jonas Elkind (MI Champion)
- Mike Cosse (SAP)
- Maher Chebbo (GE)
- Frederic Rivollier (Canadian Solar)
- Young-Joon Joo (Korea)
- Rhythima Shinda (Youth)
- Tejs Vegga (MI Champion)
- Irene Yang (BASF)
- Adam Wincukiewicz (Youth)

➤ **Key Insight:** With the advent of digital technology, we can transition into a transparent and accountable manufacturing process that leads to an open, low-carbon, and flexible manufacturing economy.

- Reduce barriers to collaboration and the way clean energy innovation is currently being done.
- Digitalization/ AI improves energy and manufacturing efficiency but introduces cybersecurity risks. Cybersecurity measures need to be built in at the design stage.
- Smart manufacturing can enable local production and traceability, which reduces the need to transport raw materials and could be a great selling point to consumers. For example, youth may want to know the carbon footprint and recyclability of their shoes. As sustainable finance principles become more mainstream, these non-financial sustainability factors may become even more relevant for manufacturers, retailers, and financiers.
- Blockchain could be leveraged to capture lifecycle emissions, costs, and open-source data.

➤ **Collaboration Opportunity:** Open an industrial manufacturing innovation city.

- Create an open marketplace for manufacturing applications and start-ups (hardware and software), where investors can be paid on cost savings and performance outcomes.
- The system could be open source, with final stage project details to be proprietary and confidential. This would require a cultural shift away from heavy IP protection and licensing.
- Governments can foster this market-driven innovation ecosystem through launching prizes, challenges, carbon-disclosure regulations, and partnerships.
- Need a transparent forum for collaboration, auditing, and benchmarking among industry, government, academia, and financial institutions.

## 2 The Digital Economy of an Electric Future

### Participants

- **Co-Chair:** Andrea Cioffi (Italy)
- **Co-Chair:** Linhao Chen (China)
- **Discussion Leader:** Tejpreet Singh Chopra (Bharat Light and Power)
- Ricardo Irrarrázabal (Chile)
- Robert Andrén (Sweden)
- Michel Viktorovitch (France)
- Livio Gallo (Enel)
- Jian Ding (Hanenergy)
- Jihong Fan (State Power Investment Corp.)
- Luigi Michi (Terna)
- Michelle Patron (Microsoft)
- Lorenzo Fagiano (MI Champion)
- Hendrik Van Asbroeck (Engie Fab)
- Francesco La Camera (IRENA)

➤ **Key Insight: We need to put citizens at the centre, educate them on challenges of the energy transition, and make them the drivers of change.**

- One of the key challenges is the impact on the grid caused by the energy transition – increased renewable energy supply, intermittency of renewables, distributed energy, and energy consumers becoming energy producers.
- Digitalisation is necessary for grid resilience and flexibility, such as connecting users and producers to share energy and data.
- A strong regulatory framework is needed to manage resource intermittency, integration, storage infrastructure, and distribution of costs. Organizations such as IRENA have developed policy recommendations to address these challenges.
- Communication is key to raising awareness of the general public and designing suitable technological solutions for citizens (potential role for Mission Innovation).
- Grid will shift from high CAPEX to high OPEX in the future due to the complexity of balancing consumption and production patterns.
- Energy aggregators play a key role in balancing the system and reducing the risk for a single consumer.

➤ **Collaboration Opportunity: International collaboration to develop regulatory and financial innovation for smart grids and effective strategies to educate people on the energy transition.**

- Countries could work together to find common ideas and solutions to reduce the cost of digitalisation, as well as rethink how regulations can accelerate, rather than hamper, smart grid innovation (link to IC1).
- Bring the finance community together to bridge capital gaps, e.g. World Bank's Energy Storage Partnership.

## 3 Transformation of the Industrial Sector

### Participants

- **Co-Chair:** Yoshihiko Isozaki (Japan)
- **Co-Chair:** John Loughhead (UK)
- **Co-Chair:** Natasha Smith (Australia)
- **Discussion Leader:** Mechthild Wörsdörfer (IEA)
- Thorsten Herdan (Germany)
- Khalid Abuleif (Saudi Arabia)
- Sandor Gaastra (Netherlands)
- Fatih Birol (IEA)
- Sue-Ern Tan (OGCI)
- Marcius Extavour (NRG COSIA Carbon XPRIZE)
- Masami Takenaka (Asahi Kasei Europe GmbH)
- Ajay Mathur (Energy and Resources Institute)
- Tim Wiwchar (Shell Canada)
- Randall MacEwan (Ballard Power Systems)

➤ **Key Insight:** To create lasting change in the industrial sector, both short and long-term solutions are needed: reducing the cost of green hydrogen, developing enabling infrastructure, building regulatory frameworks, and increasing public awareness.

- The cost of green (low-carbon) hydrogen relative to fossil fuels needs to be reduced, e.g. through new materials for producing hydrogen more efficiently (link to IC6), carbon pricing, cheaper electricity, and direct conversion of solar energy to hydrogen (link to IC5).
- Carbon capture technologies require development of CO<sub>2</sub> transport and storage infrastructure, as well as legal and regulatory frameworks to appropriately address risks and the long-term liability for stored CO<sub>2</sub>. This is where governments can play a key role.
- There is a need to increase public awareness of industrial emissions and increase support for change, e.g. by highlighting green jobs, providing subsidies to cover price differentials, and increasing supply chain transparency.
- In the long term, new materials that are low or zero-carbon, e.g. bioplastics or carbon fiber, could replace steel and cement in buildings (link to IC6).

➤ **Collaboration Opportunity:** Mission Innovation could facilitate international collaboration among countries and industries to share designs, increase risk appetite, and mitigate first-mover disadvantage.

- Establish regional clusters to share innovations across different industrial sectors, not just within them. For example, facilitating collaboration and linkages between the oil and gas industries— which have the subsurface expertise for geological storage of CO<sub>2</sub>— with the cement and steel industries that will be capturing CO<sub>2</sub>.
- Create green public procurement programs, especially if the green product is currently more expensive than the alternative. This could be done on an international scale – e.g. a country could put out a tender for green steel to any supplier worldwide, not only domestically.

## 4 Scaling and Financing Sustainable Cooling Solutions

### Participants

- **Co-Chair:** Tudor Constantinescu (European Commission)
- **Co-Chair:** Matar Al Neyadi (United Arab Emirates)
- **Discussion Leader:** Iain Campbell (Rocky Mountain Institute)
- Don Iveson (City of Edmonton)
- Rachel Kyte (Sustainable Energy for All)
- Rohit Khanna (World Bank)
- Riku Huttunen (Finland)
- Christian Holter (MI Champion)
- Adam Rysanek (University of British Columbia)
- Yousif Al Hammadi (Tabreed)
- Wendy Pulling (University of California)
- Puon Penn (Wells Fargo)
- Henrique Lagoeiro (Youth)

➤ **Key Insight:** First cost (CAPEX) of sustainable cooling is highly visible, whereas lifecycle cost/value is often not visible at the time of procurement and does not fully monetize co-benefits.

- District cooling (and heating) models can overcome some of these challenges because the investor is incentivized to focus on lifecycle cost, e.g. being compensated for shifting cooling load away from the peak.
- If there is no central infrastructure in place and no mandated district cooling, the path for a sustainable solution becomes constrained as focus shifts to small distributed AC-systems with low CAPEX.
- Questions of equity arise in the case of developing countries where many people cannot afford expensive AC units.
- Scaling & financing sustainable solutions would be easier to implement if building values increased in accordance with the added value of sustainable cooling. Monetizing benefits through a system assessment could address this issue.

➤ **Collaboration Opportunity:** Countries/cities at different stages of economic development, building stock maturity, and climate conditions are factors that lead to different pathways of sustainable cooling. Developing best practice pathways for clusters of countries/cities with similar attributes is needed to accelerate innovation and adoption.

- The Global Covenant of Mayors would be an appropriate platform to share best practices and change how the general public and financial sector approaches the rising demand for cooling.
- Governments play a key role in financing projects, taxing fossil fuels, implementing action plans, and providing long-term agreements or concession rights to reduce risk.
- Create knowledge hubs of countries, cities, and smaller communities, especially in developing countries.
- Launch public awareness campaigns targeting the buildings sector, schools, and communities.

## **5** Towards a Clean Mobility Future

### Participants

- **Chair:** Anders Hoffmann (Denmark)
- **Discussion Leader:** Bertrand Piccard (Solar Impulse)
- Ingolf Schädler (Austria)
- Thiago Vasconcellos Barral Ferreira (Brazil)
- Liv Lønnum (Norway)
- B. Anand (India)
- Steve Oldham (Carbon Engineering)
- Perry Toms (Steeper Energy Canada)
- Alberto Delbianco (Eni)
- Peter Fox Penner (Energy Impact Partners)
- Jorge Arturo Aburto Anell (MI Champion)
- Teresa Ehman (National Airline Council of Canada)
- Anna Pavlova (Schneider Electric)

- **Key Insight: Nobody will agree to sacrifice their mobility.**
  - Need to create a value chain and demand for clean mobility.
  - Offsetting and pairing transportation systems with CCUS is the most immediate and lowest-cost option to reduce CO2 emissions today.
  - Need to invest in technological innovation for tomorrow.
  - Biofuels and carbon capture could accelerate the transition to hydrogen.
  - End users do not think about transportation and logistics in the supply chain for manufactured goods, so we need to bring awareness to consumers on the carbon footprint of their purchases. Solutions have to engage the community.
- **Collaboration Opportunity: Internalize the externalities of the transportation sector by removing fossil fuel subsidies, offsetting CO2, and engaging the general public.**
  - Establish an optional system to offset emissions
  - Create a carbon bank account, which allows people and companies to feel like they are doing something now.



## Plenary 2: *Raising Ambition*

Building on the discussions earlier in the day, the afternoon plenary session provided an opportunity for members and collaborators to speak to initiatives that aim to further accelerate clean energy innovation, raising collective ambition and charting a path to MI-5.

### Emerging Trends

- **Dr. Birol** presented **IEA** data showing that after a few years of flat growth, global CO2 emissions have increased again and hit a historic high. Government action will determine the future since 70% of energy investments today are driven by government. However, clean energy RD&D is generally a low spending priority for governments (0.8% of budgets) and needs to increase further. The IEA's innovation gaps analysis has identified opportunities for increased innovation, and a new [web portal](#) now provides additional detailed energy data to support innovation work.
- **Mr. La Camera** of **IRENA** stated that he is inspired by the progress made to date, but electrification rates need to sharply increase and solutions are needed for sectors such as steel, cement and shipping. IRENA's [innovation landscape report](#) provides a toolbox to help policy makers effect systematic changes, including to regulatory frameworks and market design.



### New Solutions and Partnerships

- **Minister Sohi** announced an investment of up to \$30M by **Canada** for [Breakthrough Energy Solutions Canada](#) (BESC), a new partnership with Breakthrough Energy that will foster cutting-edge companies to deliver game-changing clean energy innovations to the market.
- **Mr. Menezes** of the **United States** spoke of the need to engage the private sector to unlock innovation and create demand draw. A US council on renewable energy found that the right policies could stimulate trillions of dollars in private investment for clean energy innovation.

- **Mr. Andrén of Sweden** highlighted the potential of the [Avoided Emissions Framework](#) (AEF) for estimating the impact of specific innovations. Chile and India are collaborating with Sweden to showcase the AEF; the latter in connection with the Clean Energy International Incubation Center. Other countries and private sector players are encouraged to get involved. Mr. Andrén took the opportunity to note that the MI Champions will be invited to Sweden for a meeting next year.
- **Mr. Waughray of the World Economic Forum** (WEF) presented the Global Sustainable Energy Innovation Fund (SEIF), a collaboration with KPMG, which will use a portfolio approach to overcome the high risks inherent in innovation and to connect public-private partnerships across international borders, notably in developing economies. MI members are encouraged to participate.
- **Commissioner Moedas of the European Commission** announced a new collaboration between MI and the **Global Covenant of Mayors for Climate and Energy**. The [Edmonton Declaration](#) and [Innovate4Cities](#) initiative aim to harness the power of cities to reduce emissions, test innovations and involve citizens.

### The Year Ahead

- **John Loughhead of the United Kingdom** congratulated the MI Steering Committee (MISC), MISC Chair Frank Des Rosiers and the MI Secretariat for their leadership and efforts over the past year, setting an example of successful intergovernmental collaboration. Mr. Loughhead noted three priorities over the coming year:
  - Determining how best to promote what MI is achieving and raising the profile of clean energy innovation on the global agenda.
  - Working at the national level to showcase that MI members are over delivering against commitments, clearly articulating what wouldn't have happened without MI.
  - Exploring options for MI beyond 2020.
- **Rachel Kyte of Sustainable Energy for All (SE4All)**, in her role as Special Representative of the UN Secretary-General, called on MI members to remember the excitement and urgency they felt in Paris in 2015, and to use this drive to reinvigorate the political will to achieve net-zero carbon emissions. The UN Secretary-General will be seeking renewed political action at the upcoming Climate Action Summit in September and COP25 in December.
- **Mr. Isozaki of Japan** noted that clean energy innovation will be highlighted at the G20 summit and other international conferences being hosted by Japan this year. Japan is working on a long-term strategy to meet the objectives of the Paris Agreement and achieve a carbon-free society, including developing a road map for hydrogen and fuel cells.

## Discussion and Member Updates

- **Mr. Irarrazabal** of **Chile** congratulated Minister Sohi and Canada’s team on the organization of MI-4. Clean energy innovation has always been a priority for Chile and the country aims to achieve carbon neutrality by 2050. Chile, together with India and Sweden, will also explore the creation of an international network of energy innovation incubators. In the coming year, Chile will have an opportunity to highlight this as it hosts multilateral meetings, including COP25 and MI-5. With the approach of MI’s five-year target, MI-5 will be a key opportunity to set new goals beyond 2020.
- **Mr. Ferreira** of **Brazil** spoke of the importance of access to open and reliable data for identifying funding gaps to facilitate public-private partnerships and policy development. Brazil has developed a national platform to collect and disseminate data, with collaboration from the United Nations and other MI members.



## Communications Summary

### Media Highlights

- MI-4 generated significant media attention in Canada, and some coverage in other countries.
- Media covered various aspects of MI-4, including MI's new partnerships with the World Bank and with Breakthrough Energy, as well as Canada and Australia's new collaboration on hydrogen.
  - Some articles noted the importance of the annual Ministerial and of bringing together energy ministers and top government officials, along with industry and non-governmental organization representatives to promote the development of renewable energy.
  - General reports about the Ministerial also noted that MI members report being on-track to meet doubling commitments. One article criticised MI's progress on developing and deploying sustainable technologies.
- A full media summary can be found [here](#).

### Key Quotes

"Canada is joining Bill Gates to launch Breakthrough Energy Solutions Canada... Climate change is not only the challenge of our generation, it is also the opportunity of a lifetime." *Minister Sohi, Canada*

"Business, as usual, is not an option. We need to boost our investments with more than 500 billion euro each year to achieve a carbon neutral economy by 2050... I am pleased that our pilot cooperation with Breakthrough Energy has taken off so fast. This is pioneering work: aligning private and public investment in cutting-edge innovation, to the benefit of the Energy Union and our climate." *Vice-President Maroš Šefčovič, European Commission*

"Mission Innovation was born out of a global commitment to accelerate clean energy innovation, to make clean energy widely affordable and accessible. We recognize that this cannot be done by Mission Innovation alone and that we need strong partnerships with organizations like the World Bank to be successful... This Energy Storage Partnership with the World Bank aligns with a key innovation opportunity that Mission Innovation members have identified through our Smart Grid Innovation Challenge." *Frank Des Rosiers, MI Steering Committee Chair*

"It's a great honor [to join Mission Innovation] and we underline our commitment to bring added value to the fight against climate change." *Minister Rabbah, Morocco*

"I believe in the potential of renewable energy in heating, cooling, drinking water, and rural transport. As a Mission Innovation Champion, I will lead innovators and initiate a nationwide programme." *Mr. Gon Chaudhuri, MI Champion*

## Digital Media

### Twitter Analytics – May 2019

- Over **248K impressions** (up from 85K in April).
- Over **400 followers gained** (now 4,019 subscribers).
- Most activity was seen over a four-day period (May 27-30), with **58.7K impressions\* on May 28** alone (in comparison, daily average over the past 3 months has been 4.9K).
- #CEMMI2019 was **trending** in Ottawa on May 27th and across Canada on May 28th.

### Website Traffic

- Between May 19, 2019 and June 1, 2019, the MI website garnered 4,722 visits, an **increase in traffic by 34%** when compared to the two weeks prior (May 5-18 saw 3,537 visits).
- The website saw a **spike** in traffic over a three-day period (May 27 to 29).
  - The **most visited** pages during this timeframe included:
    - [Mission Innovation](#) (homepage)
    - [Fourth Mission Innovation Ministerial](#) (MI-4)
    - [About MI](#) (Overview & “MI by the Numbers” infographic)

### Top Tweets



**Mission Innovation**  
@MICleanEnergyRD

Watch as [@BillGates](#) breaks down the importance of working together and investing in [#CleanEnergy](#) RD&D to accelerate the development of clean energy solutions and meet the targets set out at [#COP21](#) in 2015.

[#CEMMI2019](#)



1:56 | 2,907 views

12:00 PM · 24 May 2019

Impressions	33,627
Media views	2,882
Total engagements	550



**Mission Innovation**  
@MICleanEnergyRD

At [#MI4](#), members announced new projects and collaborations that will push research and innovation forward with the aim of bringing affordable, reliable [#cleanenergy](#) to communities around the world. Read the news release for more: [bit.ly/2KbCoah](http://bit.ly/2KbCoah)

[#CEMME2019](#)



9:47 PM · 29 May 2019

Impressions	16,528
Total engagements	111



**Mission Innovation**  
@MICleanEnergyRD

As we get ready for the start of [#CEMMI2019](#) on Monday, [#MissionInnovation](#) would like to welcome and thank our collaborators, [@BTEnergy](#), [@IEA](#), [@IRENA](#), [@WEF](#).

We could not have gotten here without all of you. Thank you!



7:14 PM · 26 May 2019

Impressions	16,583
Total engagements	171

## New Products Launched

- [MI by the Numbers Infographic](#)
- [MI: The Story So Far](#)
- [Country Highlights](#)
- [MI-4 Chair's Summary](#)
- [MI-4 News Release](#)

