

Summary of the Chairs of the Third Mission Innovation Ministerial (MI-3) meeting in Malmö on 23 May 2018

The Third Mission Innovation Ministerial meeting (MI-3) was held in Malmö on 22-23 May back to back with the 9th Clean Energy Ministerial meeting in Copenhagen under the heading of *Energy Integration and Transition: towards a competitive and innovative low-carbon economy*. The Ministerial meeting was co-hosted by the European Commission (on behalf of the EU), Denmark, Finland, Norway, Sweden and the Nordic Council.

This gathering, half-way through the initial commitment announced by leaders at COP21 in Paris 2015, marked an important stepping stone to assess and accelerate the progress of Mission Innovation. At MI-3, Energy Ministers together with high-level representatives from the business and research community celebrated the accomplishments made to date and utilised this platform to forge new collaborations, all in a winning partnership to bring clean energy innovation to our citizens, communities and cities.

Ministers and Heads of Delegation from the governments of Austria, Australia, Brazil, Canada, Chile, China, Denmark, Finland, France, Germany, India, Indonesia, Italy, Japan, Mexico, Netherlands, Norway, Republic of Korea, Saudi Arabia, Sweden, the United Arab Emirates, the United Kingdom, the United States, and the European Commission on behalf of the European Union (hereinafter collectively referred to as the “Members”), gathered for the Third Ministerial Meeting of Mission Innovation (MI) in Malmö, Sweden. Delegations from the World Economic Forum, IEA, IRENA and the Breakthrough Energy Coalition joined the meeting as well as observers from the governments of Morocco and from SEforAll, UNIDO, Mission 2020 and the Solar Impulse Foundation.

Austria was welcomed as the 24th member of Mission Innovation and enhanced collaborations with the International Energy Agency (IEA) and International Renewable Energy Agency (IRENA) were signed.

The Ministerial kicked-off with an informal breakfast, gathering ministers and select business leaders for an exclusive and informal scene-setter focusing on clean energy investments opportunities. The session explored ways to couple public and private sources of funding for maximum effect to significantly shorten time to market for new technologies and solutions. A key message from the discussion was that we are underestimating the pace of change. Change is happening everywhere, from new technologies and investment instruments to change in insurance companies. However, while start-ups are relatively plentiful, there is shortage of great startups rather a shortage of patient capital. Creative public-private partnerships can create new opportunities, such as through the use of public procurement to aid innovation.

During the closed-door Ministerial meeting co-chaired by Sweden’s Minister of Energy Baylan and the European Union’s Commissioner for Research, Science and Innovation, Carlos Moedas, Ministers demonstrated progress across MI work streams, launched new collaborations and initiatives. They had meaningful exchanges on how MI can further accelerate the pace of clean energy innovation with the focus on assessing progress against

the Action Plan Goals. Progress across the Innovation Challenges was demonstrated with many new programmes and activities announced over the past year and at the Ministerial.

Ministers heard from leading innovators, including: Professor Curtis Berlinguette on the acceleration of clean energy materials discovery using robotics, automation and AI, Bubacar Diallo demonstrating how Benoo Energies is developing new funding solutions to spread renewable energy projects in developing countries, and Bertrand Piccard from the World Alliance for Efficient Solutions which is selecting 1000 clean and profitable solutions to protect the environment.

The co-chairs led an open discussion on MI's progress to date and the next steps the MI community and individual members can take to support the delivery of the MI goals. Ministers endorsed a number of activities to deliver MI's Action Plan over the next two and a half years ('Delivering the Action Plan'). Members expressed the importance of continuing to track progress to follow the development of solutions and to better understand the challenges for innovators. Several members presented exciting programs and projects that are underway and linked to the implementation of the MI Action plan. Several delegations highlighted how crucial it is to set the right regulatory frameworks for spurring innovation and welcomed a continued dialogue. Delegations also stated the value of working together. International collaboration to promote innovation is part of the solution to reduce the greenhouse gas emissions for the production, transportation and use of energy. Members also emphasized the importance of showcasing results and success stories, and enhanced collaboration with the private sector.

In the afternoon, public-private discussions were organised in cooperation with the World Economic Forum around five key technology areas: smart grids; batteries; heating & cooling; hydrogen; and carbon capture, storage & use). Ministers, high-level representatives from industry and Mayors focused on innovation challenges relevant to the needs of cities and specific outcomes and discussed concrete steps to deliver impact.

The co-chairs concluded by stating that MI is delivering an increase in public clean energy investment and is on track to meet its commitment. Still more work is needed and MI members will continue to engage with each other and the private sector to accelerate the pace of innovation. The third Mission Innovation ministerial was an opportunity to celebrate many of the innovations coming out from national and international programs and we should continue to showcase the great solutions.

Kim Rudd, Parliamentary Secretary to Canada's Minister of Natural Resources, closed by welcoming MI members to Vancouver, Canada for the Fourth Mission Innovation Ministerial and encouraged members to continue to work with partner countries, international organizations and the private sector in areas where clean energy innovation can drive economic growth and help build a low carbon future.

Annex: Key announcements and new initiatives

Goal 1: A substantial boost in public-sector investment in clean energy R&D at the national level of MI members.

Ministers demonstrated significant progress towards MI's goals, including announcing that over \$4 billion of additional public sector funding in clean energy innovation has been invested during the first two years of MI.

MI members provided enhanced information on their funding figures, strategies and plans, released in the [Country Highlights 2018](#). This increased transparency will provide both the public and private sector with more actionable information to improve investment decisions. In addition, enhanced cooperation was announced with the International Energy Agency (IEA) and International Renewable Energy (IRENA), in particular to help MI improving the tracking of clean energy innovation

Goal 2: Increased private sector engagement and investment in energy innovation, particularly in key Innovation Challenges.

As part of the ongoing collaboration between Mission Innovation and the World Economic Forum, the Forum launched the White paper 'Accelerating Sustainable Energy Innovation' during the MI Ministerial. The paper sets out pathways to accelerate the pace of energy innovation including six bold ideas for how governments and the private sector may work together to step-change energy innovation.

Members announced a number of new initiatives including:

- Sweden launched two calls under a 'Challenge from Sweden', promoting disruptive innovations through public-private procurement partnerships.
- The EU is developing new instruments, for public-private R&D co-investment, including the European Innovation Council, and will cooperate with international partners to consolidate this experience in the field of clean energy.
- India announced a new International Incubator in Clean Energy with the aim of leveraging international collaboration to support innovators that wish to scale solutions targeting India's clean energy needs and supporting Indian clean energy innovators that wish to create impact by scaling their solutions abroad.
- A political declaration by the EC and Sweden on the role of innovation to develop sustainable battery value chains.
- Hydrogen companies and Mission Innovation governments agreed to work together to develop the hydrogen supply chain.
- Governments and industry agreed to work together to coordinate Carbon, Capture, Utilisation and Storage R&D, achieving lower costs and more efficient CO2 capture technologies.
- Ministers and CEOs agreed to work on sharing the performance of building's data to reduce the enormous amount of energy lost by poorly performing heating and cooling systems.

Goal 3: Many new or strengthened voluntary cross-border networks and partnerships on energy innovation, greater engagement from innovators, and accelerated progress in addressing specific Innovation Challenges.

Members highlighted nearly forty international partnerships launched since the start of Mission Innovation. New initiatives at the national and international level which will help to deliver the Innovation Challenges were announced, include a new Innovation Challenge on Hydrogen co-led by Australia, the EU and Germany was announced.

Notable initiatives announced included:

- The development of a partnership between the Smart Grids Innovation Challenge (IC#1) and the Bridgestone World Solar Challenge announced by Australia, to drive advancements in how electric vehicles interact with electricity networks
- A \$10 million programme by Mexico to support international collaborative activity on Advancing Energy Materials discovery.
- A collaboration across the IEA Technology Collaboration Platforms to develop a 'Comfort & Climate Box' to integrate heating, cooling and power functions that could revolutionise the sector as a result of Heating & Cooling Innovation Challenge hosted by the co-leads UAE.
- A \$5 million funding call by India on biofuels and support for a Global Cooling Prize to be delivered by the Rocky Mountain Institute.
- A "National RD&D Program on Renewable Energy and Hydrogen" by China under the Mission Innovation banner. The programme will fund RD&D activities focused on scale-application and scale-production of renewable and hydrogen, and push forward substitution in sectors of electricity, heating and fuel by renewable.
- UK and Canada are exploring opportunities for a joint-challenge on smart grids and energy storage, totalling just over £11M / \$20M CDN.
- The Republic of Korea has designed a new joint research programme of 3 billion Korean Won (approximately 2.7 million US Dollars) over 3 years for collaboration between Korean and MI member researchers on any topic relevant to the MI Innovation Challenges.
- Under the Affordable Heating and Cooling in Buildings Innovation Challenge, the UK, Italy and the Netherlands agreed to work together to assess the current state of sorption heat pump technology and identify future innovation needs. This is one of the first multilateral activities emerging from the Innovation Challenges.

Goal 4: Greater awareness among MI members and the wider energy community of the transformational potential of energy innovation

Mission Innovation launched the first 2020 Solutions booklet, celebrating over fifty cutting-edge breakthroughs supported by public sector investment that have the potential to rapidly accelerate clean energy progress.

The MI Champions programme was also launched. A recognition prize program that will celebrate and support innovative individuals who are accelerating the clean energy revolution, the 'MI Champions'. The first cohort of Champions will be awarded at MI-4 in Vancouver.