

Letter of Intent on Co-operation between Mission Innovation and the International Energy Agency

Malmö, Sweden - 22 May 2018

The International Energy Agency (IEA), as the leading provider of energy data, rigorous analysis, and real-world solutions for energy transitions around the world, has undertaken a variety of efforts over its 40-year history to promote energy innovation. These include tracking public and private global clean energy innovation trends; producing 32 *Technology Roadmaps*; quantifying investment numbers through the *World Energy Investment* report; coordinating 38 Technology Collaboration Programmes (TCPs) that together connect over 6,000 global experts; utilizing the *World Energy Outlook* and *Energy Technology Perspectives* analytical tools to explore the importance of innovation to achieve long-term goals; and providing advice to countries around the world to improve their energy innovation activities. In line with its *Medium-Term Strategy for Energy Research and Technology 2018-2022*, the IEA seeks to further promote energy innovation by enhancing collaboration with key multilateral initiatives, including Mission Innovation (MI).

MI is a global initiative of 22 countries and the European Commission on behalf of the European Union that aims to reinvigorate and accelerate global clean energy innovation with the objective to make clean energy widely affordable. As part of the initiative, participating countries have committed to seek to double their governments' clean energy research and development investments over five years, while encouraging greater levels of private sector investment in transformative clean energy technologies.

The IEA and MI both recognize that energy innovation is critical for advancing clean energy transitions, reducing greenhouse gas emissions and air pollution, enhancing energy security, promoting greater access to energy, and strengthening economic growth. Acknowledging that strong and fruitful co-operation already exists under key MI and IEA work streams, the IEA and MI recognise that both parties stand to gain from even stronger collaboration.

Mutually-beneficial enhancement opportunities between MI and IEA will only grow as the IEA continues to develop partnerships with key emerging economies from around the world (under the IEA's "open doors" and Association initiatives) and as MI continues to work closely with the private sector. MI participants, IEA member and Association governments, the private sector, research centres, foundations and international organisations can each play a key role in supporting the goal shared by the IEA and MI to accelerate clean energy innovation.

Accordingly, the IEA and MI, through this nonbinding Letter of Intent, signal their intent to further strengthen collaboration on energy innovation based on five main pillars:

- 1. Enhancing data collection and reporting of public and private investment for clean energy research, development and demonstration (RD&D)**

The IEA and MI both recognize that accurate, reliable, and timely information on government and private sector spending for energy RD&D is necessary for sound decision-making.

The IEA Secretariat has been tracking IEA members' yearly public spending on energy RD&D over several decades, recognising the benefits of collecting and transparently reporting such data. As outlined in the MI "Enabling Framework", MI Members intend to formulate and implement an information sharing system that can efficiently and flexibly provide information on plans for and progress towards each Member's efforts to seek to double clean energy research and development investment over five years, facilitating cooperation and engagement as appropriate.

The IEA and MI intend to work together to improve the consistency, coherence and timeliness of information on both public and private clean-energy RD&D at the national level. This co-operation may include possible enhancements to the relevant processes and templates to capture new developments in clean energy innovation and to facilitate data collection from the broader MI membership under the responsibility of the MI Secretariat and taking into consideration relevant procedures currently under way among MI members. The IEA and MI will seek to identify differences between the data that each collect and communicate those differences as needed, work with MI members and other organisations with established know-how in this field, and propose recommendations to MI countries to improve data collection and analysis at the national level.

2. Tracking Clean Energy Innovation Progress

The IEA and MI intend to collaborate to assess clean-energy technology innovation progress in order to provide useful insights to policy makers and corporate investors. IEA-MI co-operation in this domain could include exchanging data on economic and technical improvements of clean-energy technologies, identifying key long-term technology innovation gaps within different sectors and technologies, and identifying measures to further scale up technology development and uptake. This work could be informed by the IEA's analysis of clean energy technology innovation, including in the IEA's *Tracking Clean Energy Progress (TCEP)* report and *Technology Roadmaps*. Going forward, the IEA could provide a variety of actionable insights (including outputs and outcomes) in its publications that are relevant to MI, other early-mover countries, and leading companies which have the goal of accelerating clean energy innovation. MI could on its part inform this co-operation with data collected where approved by MI-members as well as efforts under MI Innovation Challenges (IC). Leveraging the combined knowledge, capabilities, and resources of the MI countries, IEA could help foster common understanding of innovation needs across energy sectors and technology areas.

3. Facilitating greater multi-lateral co-operation between Innovation Challenges of MI and the IEA Technology Collaboration Programmes (TCPs), including with private-sector stakeholders.

Innovation Challenges (IC) are joint initiatives aimed at accelerating RD&D in technology areas where MI members believe increased international attention would make a significant impact in the shared fight against climate change. TCPs are "special activities" of the IEA established under Article 65 of the IEA's treaty, the Agreement on an International Energy Program. TCPs are multilateral initiatives that enable governments, companies from around the world and international organisations to pool resources and knowledge to carry

out a wide range of activities including research, innovation, technology analysis and information sharing. The IEA and MI intend to explore and facilitate high-impact opportunities for collaboration as well as synergies between MI Challenges and TCPs. In addition, the IEA and MI intend to join forces to foster greater co-operation with private-sector stakeholders involved in ICs and TCPs. Furthermore, the IEA intends to explore ways to streamline TCP collaboration procedures to enable easier and more extensive collaboration with multilateral initiatives, including MI and private-sector stakeholders.

4. Leveraging and nurturing IEA analytical expertise and tools to accelerate progress under MI Innovation Challenges (ICs)

The IEA undertakes a series of rigorous analyses related to clean energy innovation, including *Technology Roadmaps*, modelling under the World Energy Outlook and Energy Technology Perspectives, and thematic studies such as the Digitalisation and Energy report (2017). The IEA intends to make a range of IEA processes, tools and modelling capabilities – covering, for example, transportation, industry, buildings, CCUS, energy efficiency and renewables – available to help MI with the implementation of ICs' work programmes. In turn, insights from activities under each IC could inform and further feed into IEA analytical work, nurturing the multitude of tools developed by the IEA.

5. Partnering for in-country innovation strategy

In line with the IEA Clean Energy Transitions Programme, a multi-annual programme to support clean energy transitions in major emerging economies, the IEA could explore ways to further support MI countries' existing national clean energy innovation strategies, including the development of policy options for improving the effectiveness of their national innovation ecosystem in line with their clean energy policy objectives. The IEA and MI could jointly identify countries interested in receiving additional support in this regard and the IEA, building on the experience under the in-depth policy review (IDR) process, could provide support to these countries in achieving policy objectives related to innovation efforts. In turn, collaboration with MI could help the IEA better tailor its innovation insights to specific country contexts.

To deliver on this enhanced collaboration as initially envisaged in the five aforementioned pillars and in a spirit of mutual benefit, the IEA and MI intend to facilitate the following opportunities of interaction between MI and the IEA:

- Exchange information and build up reciprocal engagement through participation of representatives from the two organizations in relevant meetings, such as the IEA's Committee on Energy Research and Technology (CERT) and the related sector specific Working Parties, as well as the annual MI Ministerial meeting, expert dialogue under the ICs and activities of MI's Joint Analysis and Research and Business and Investor Engagement Sub-Groups where mutually beneficial.
- Hold joint events and thematic workshops on topics of mutual interest such as energy RD&D data collection and tracking, innovation policies and strategies, public-private collaboration, and on themes specific to the ICs as relevant;

- Identify further opportunities to deliver on the full potential of this enhanced collaboration, reflecting common interests and contingent upon resources adequate to the ambition desired.
- The IEA and MI will each designate a person to act as the focal point for the implementation of this Letter of Intent and will notify the other party in writing of the person's details. A party will provide written notice in the event that its designated focal point changes.

The IEA and MI will each cover their own costs in carrying out this collaboration. Neither the IEA nor MI will use the other party's name, logo, and/or other trademarks or mention its relationship with the other party in any media vehicle without the other party's prior written authorization. Further, neither the IEA nor MI will disclose any document or information shared by the other party that should reasonably be recognized as confidential or sensitive without written authorization.

This Letter of Intent is nonbinding. IEA and MI recognize that this relationship will have an evolving nature and will serve as a basis for higher levels of mutual co-operation going forward. Further activities and modalities for IEA-MI co-operation could be identified jointly based on mutual benefits in pursuit of common interests.

Signed in 2 (two) original copies, both of them in the English language:

For and on behalf of Mission Innovation

For the International Energy Agency

Ibrahim Baylan

Fatih Birol

Minister for Policy Coordination
and Energy, Sweden

Executive Director,
International Energy Agency