

Letter of Intent on Collaboration between Mission Innovation and the World Bank

Vancouver, Canada - 28 May 2019

World Bank Group (WBG) engagement in the energy sector is designed to help client countries secure the affordable, reliable, and sustainable energy supply needed to end extreme poverty and promote shared prosperity aligned with Sustainable Development Goal 7 and the Paris Agreement on Climate Change. Over the last three years, the World Bank directly contributed to new and improved electricity access for more than 45 million people through both grid electrification and off-grid programs. The World Bank is one of the largest providers of finance for renewable energy and energy efficiency projects in developing and middle-income countries. The WBG has been at the forefront of technology innovation. In its Development Committee Paper “Disruptive Technologies: Creating Opportunities-Mitigating Risk” (September 2018), the WBG proposes to support “multi-sectoral cross-institutional approaches through the implementation of a Build-Boost-Broker value proposition” including to **broker** the use of technologies to address specific development challenges and to shape the global dialogue and standard setting associated with disruptive technologies. Emerging technologies in particular — solar PV for grid, distributed and off-grid applications, energy storage, digital solutions, smart grids, blockchain, electric vehicles, and even artificial intelligence — are expected to radically transform energy systems. In line with its objectives, the World Bank seeks to further promote energy innovation by enhancing collaboration with key multilateral initiatives, including Mission Innovation (MI).

Mission Innovation (MI) is a global initiative of 23 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 World Bank 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. The World Bank and MI recognize that both parties stand to gain from close collaboration.

Accordingly, the World Bank and MI, through this nonbinding Letter of Intent, signal their intent to further strengthen collaboration on clean energy innovation on topics of mutual interest based on three pillars: Collaboration around specific innovation topics; Insights and analysis and Communications.

1. Collaboration on innovation topics

a. Smart Grids and Energy Storage

Mission Innovation and WBG group will work together to support the acceleration of relevant innovations in Smart Grids and Energy Storage for development contexts. The initial focus of collaboration will be between the MI Smart Grids Innovation Challenge and the WBG Energy Storage Partnership.

A WBG program to accelerate investments in battery storage for electric power systems in low and middle-income countries was recently launched to integrate more renewable energy into power systems, improve grid reliability, and reduce carbon emissions. As part of this program, the WBG is launching an Energy Storage Partnership between the Bank, international energy organisations, research labs, policy makers and regulators, development partners and philanthropies to foster international cooperation that can help develop and adapt new storage solutions tailored to the needs of developing countries. The MI Smart Grids Innovation Challenge and WBG Energy Storage Partnership will work together to support impact through this program by identifying relevant innovations emerging from MI members and connecting MI member laboratories and innovations with relevant users, laboratories and policy-makers in developing countries to develop new solutions relevant to developing country contexts.

The WBG will support the Smart Grids Innovation Challenge to identify RD&D challenges that will ensure that new technologies will be compatible with the needs of developing countries. This collaboration could include conceiving and administering “innovation challenges” dedicated to new technology deployment in low-income countries.

b. Sustainable Cooling

The number of cooling appliances in use globally is expected to increase at a rate of 19 per second for the next 30 years. Rapid increases in cooling demand may increase pressure on already strained energy systems and increase the challenge of meeting peak demand, whilst access to affordable efficient and sustainable cooling is also critical from a climate change perspective – both mitigation and adaptation.

The Mission Innovation Affordable Heating & Cooling of Buildings Innovation Challenge has identified international RD&D challenges and international approaches to tackle cooling challenges, including partnering with the Rocky Mountain Institute to support the Global Cooling Prize, a \$3 million prize to develop and scale breakthrough affordable solutions. The WBG recently started an Efficient Clean Cooling Program. To meet the challenge of sustainable cooling, it is essential to scale up innovations in technology and delivery models.

The World Bank and Mission Innovation will explore opportunities for collaboration including on the mapping, costing and assessing potential innovative sustainable cooling technologies and systems to different applications (room, buildings, group of buildings, city-level) and particular developing country contexts, including for example (i) thermal storage for cooling applications in buildings, (ii) solar powered cooling equipment, and (iii) cooling load management and control technologies. Another potential area of collaboration could be to design innovative business models for the deployment of innovative sustainable cooling solutions at scale in developing countries (space cooling and/or cold chain).

c. Off-Grid and Mini Grid Access

Collaboration on Mini Grid's and Off-Grid access between WBG and MI will help continue the positive momentum toward universal access to electricity by 2030. The World Bank has a mini grid and off-grid investment portfolio of more than US\$1 bn. ESMAP is interested in new tools to help countries to develop dynamic plans for universal electricity access, integrating grid, mini grid and off-grid technologies. The Mission Innovation Off-grid Access Innovation Challenge leads the collaborative effort between MI members to accelerate off-grid solutions.

Mission Innovation and the World Bank will explore opportunities to work together to connect technology and business model innovation including in the following areas:

- Costs of service provision – to reduce system costs (in particular in mini grids, e.g. through more efficient and cheaper energy storage), and project development and service provision costs (e.g. innovation in smart metering and monitoring technologies, cheaper integration with mobile money networks, improvements in availability and quality of geospatial data for planning).
- Availability and affordability of energy efficient appliances and productive use support – higher tier energy-efficient appliances need R&D to reduce costs, innovations in supply chains, and innovations in consumer financing
- Financial (including fintech) innovations that target non-distortionary subsidies for the bottom of the pyramid consumers and allow for blending of public and private resources.

d. Explore other opportunities for collaboration

Mission Innovation and the WBG will also explore further opportunities for collaboration around specific energy innovation challenges including in electric mobility and industrial decarbonisation.

2. Analysis and Insights

WBG has extensive data and insights on energy access needs in client countries include through the [Tracking SDG7 The Energy Progress Report](#), the Multi-Tier Framework for Measuring Access (MTF), and the [Regulatory Indicators for Sustainable Energy \(RISE\)](#). Through its Tracking Progress workstream, Mission Innovation seeks to strengthen global data on both inputs and outputs of the clean energy innovation ecosystem. The WBG and MI intend to work together to share

knowledge and data on clean energy innovation and to identify where evidence could be strengthened particularly in the context of SDG7.

3. Communications

Mission Innovation and the World Bank will share information about each other's activities in clean energy innovation through their respective communication channels to jointly raise the profile of the challenges and opportunities in clean energy innovation.

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

- Exchange information and build up reciprocal engagement through participation of representatives from the two organizations in relevant meetings.
- Hold joint events and thematic workshops on topics of mutual interest.
- Identify opportunities to deliver on the full potential of this enhanced collaboration, reflecting common interests and contingent upon resources adequate to the ambition desired.

The WBG and MI will each designate a person to act as the focal point for the implementation of this Letter of Intent, including leads on collaboration areas where relevant, 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 WBG and MI will each cover their own costs in carrying out this collaboration. Neither the WBG 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 WBG 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. WBG 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 WBG and MI cooperation could be identified jointly based on mutual benefits in pursuit of common interests.

For and on behalf of Mission
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For and on behalf of the World
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