

Mission Innovation IEA TCP meeting

19 June 2019



**MISSION
INNOVATION**

accelerating the clean energy revolution

Where it all Began



November 30, 2015
The 20 founding members, representing over 80% of global clean energy R&D investment, agreed to support a joint statement on innovation.



Each country pledged a doubling of public sector clean energy R&D investment over five years.

mission-innovation.net



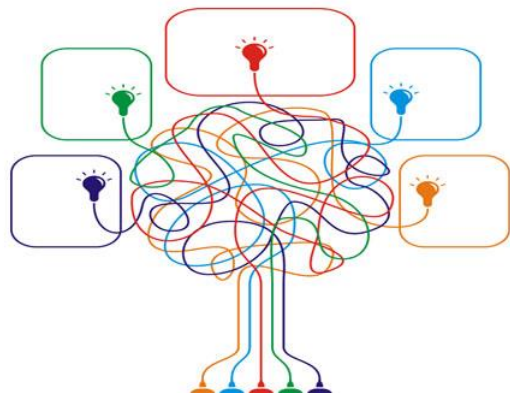
Government commitment was complemented by a private sector initiative led by Bill Gates' Breakthrough Energy Coalition.

b-t.energy

Mission Innovation Myth Busting



Not a money tree – no central funding pot. Commitments are at national level.

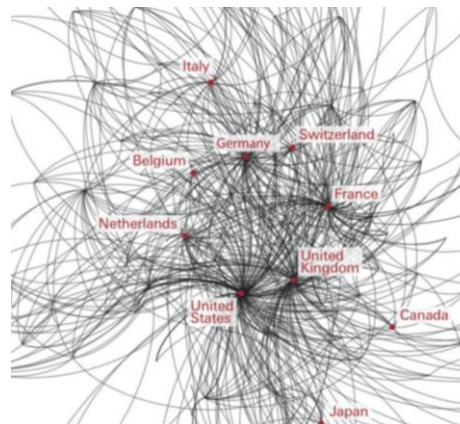


An Ideas Lab – few formal governance structures, melting pot of ideas with some rising to the top.

innovation
challenges



Innovation Challenges are important...but
MI covers all clean energy innovation areas
and many other activities



International collaboration a priority but no
formal mechanisms. MI aims to strengthen
ecosystem not reinvent.

Key announcements at 4th MI Ministerial – May 2019

- **Morocco joining as the 25th member** and first member in Africa
- **Annual Country Highlights 2019** – global overview of key programmes, initiatives, priorities and investments by governments globally
- **Mission Innovation: The Story So Far** – demonstrating what is being delivered as a result of MI

**\$4.6bn
increase**
in annual investment
in clean energy
innovation



\$1.3bn funding for
**59 new
international
collaborations**
supporting clean energy
innovation

- **Launch of the first cohort of MI Champions** – 19 exceptional researchers and innovators
- **New collaborations with the World Bank and Global Covenant of Mayors**, and launch of the WB Energy Storage Partnership
- The “**Avoided Emissions Framework**” showcased **100 solutions** that have the potential to reduce global greenhouse gas emissions more than 2 billion tonnes of CO_{2e} per year by 2030
- Launch of the IC1 **Smart Grids Innovation Accelerator (SGIA)**

Increasing International Collaboration Impact of the Innovation Challenges (ICs)

ICs are global calls to action aimed at increasing collaboration and accelerating innovation in priority technology areas.



IC1: SMART GRIDS

CO-LEADS



18 MEMBERS INVOLVED

IMPACT: Smart Grids Innovation Accelerator launched to provide a platform to share best practice and success stories. IC1 and the International Smart Grid Action Network ISGAN announced collaboration to align innovation and deployment activities.



IC2: OFF-GRID ACCESS TO ELECTRICITY

CO-LEADS



17 MEMBERS INVOLVED

IMPACT: France is investing €1.8 M in 9 projects in Africa to support various renewable technologies. Winners of the \$5 M Indian off-grid competition are collaborating with organisations from 9 MI members to improve energy access.



IC3: CARBON CAPTURE, UTILISATION AND STORAGE

CO-LEADS



18 MEMBERS INVOLVED

IMPACT: New funding including: \$30 M from the US Department of Energy; \$35 M for Accelerating CCS Technologies consortium involving 9 MI members; and \$38 M for industrial CCS in the EC indicative budget.



IC4: SUSTAINABLE BIOFUELS

CO-LEADS



12 MEMBERS INVOLVED

IMPACT: China has allocated \$62 M to international collaborative sustainable biofuels projects with 7 MI members, whilst India has funded projects with involvement of researchers from 9 MI countries.



IC5: CONVERTING SUNLIGHT

CO-LEADS



19 MEMBERS INVOLVED

IMPACT: €5 million Artificial Photosynthesis prize from the EC to develop a bench-scale artificial photosynthesis prototype and new funding from India and through the German Federal Government's 7th Energy Research Programme.



IC6: CLEAN ENERGY MATERIALS

CO-LEADS



15 MEMBERS INVOLVED

IMPACT: IC6 has held: 15 international activities in 10 countries on 3 continents, been profiled in Nature Materials Reviews and Forbes Magazine and launched the CAD\$8 M AI proof-of-concept project, Ada, in Canada.



IC7: AFFORDABLE HEATING AND COOLING OF BUILDINGS

CO-LEADS



18 MEMBERS INVOLVED

IMPACT: New projects include the "Comfort and Climate Box", to develop an integrated heating, cooling and storage solution and the Global Cooling Prize to develop air conditioning with 5x less climate impact.



IC8: RENEWABLE AND CLEAN HYDROGEN

CO-LEADS



13 MEMBERS INVOLVED

IMPACT: The "hydrogen valleys" concept, combining several hydrogen applications into an integrated system in a geographical area, has been chosen as a priority to demonstrate potential and a pathway to scale.

Opportunities for MI – TCP engagement



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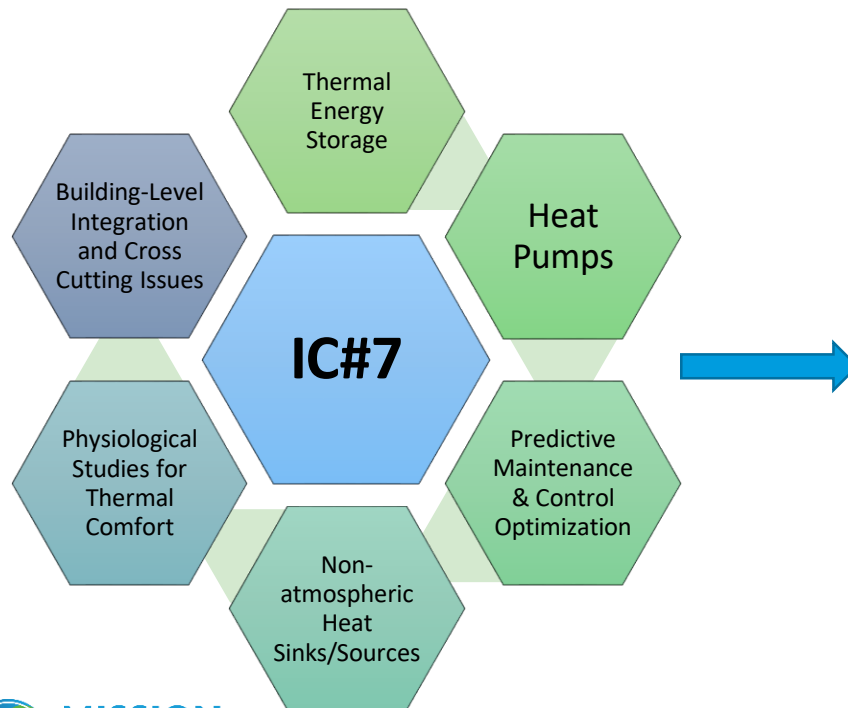
accelerating the clean energy revolution

- Agenda-setting - innovation needs, building support
- Sharing information w/govs
- Tracking Progress

- 'Doing' – research, projects
- Expertise, knowledge
- Sharing information and outputs w/wider community



Example: Heating & Cooling IC7



- **Global Cooling Prize** launched by Indian Minister and Mission Innovation in 2018
- **Comfort Climate Box**: integrating heat pumps and energy storage to allow increased use of renewables
- Establish an **open data / building emulator platform** to enable the development and testing of new predictive maintenance solutions

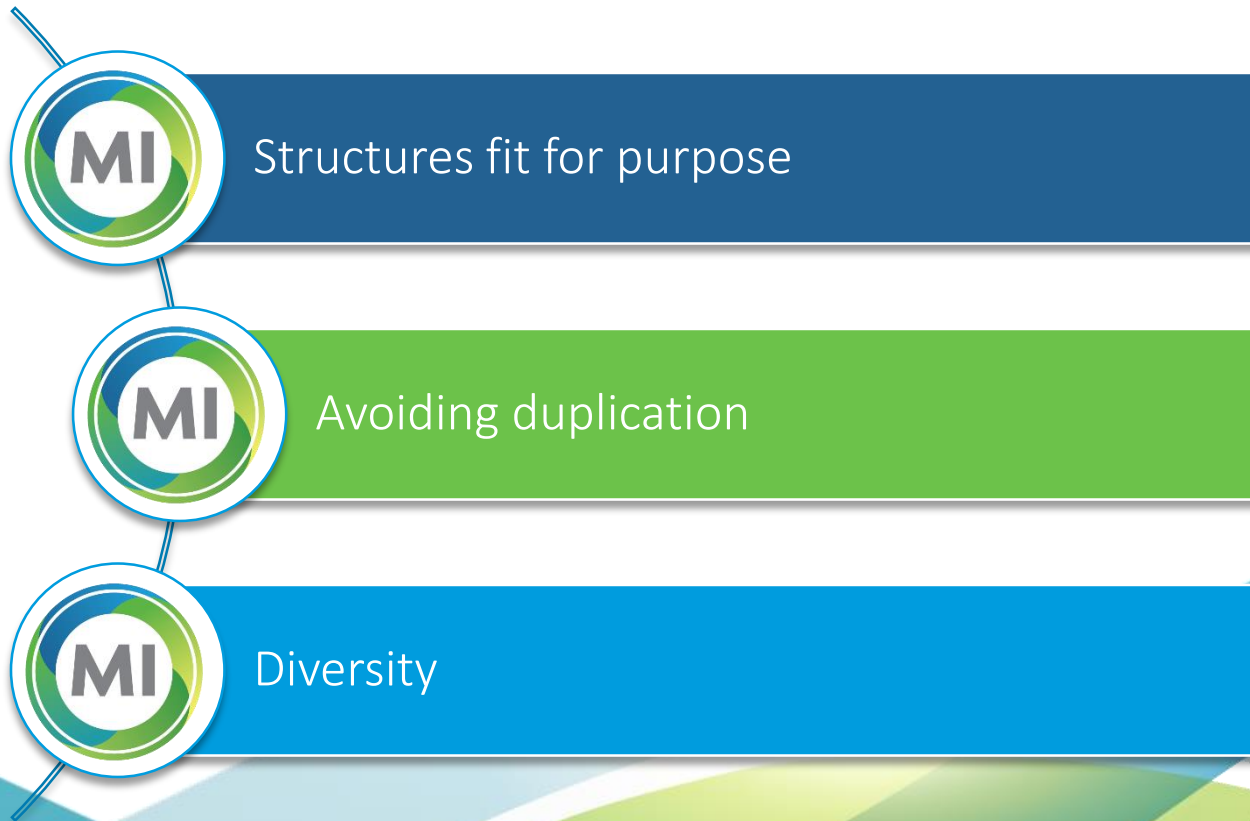
Example: IC7 Comfort Climate Box

- At workshop decision to develop and deliver idea through collaboration with IEA HPT and Energy Storage TCPs



- Highlighted at MI Ministerial in Vancouver
- MI members seeking funding to support

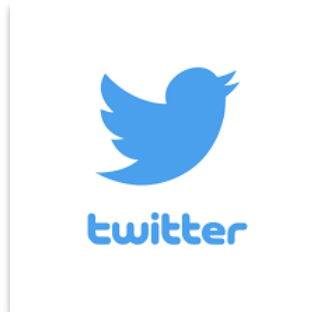
Challenge and questions



Find out More



www.mission-innovation.net



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