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2019MITAB- Applied Energy Symposium: MIT A+B was successfully held during May 22-24, 2019, Massachusetts Institute of Technology, Cambridge, MA, USA. More than 300 participants from over 30 countries have attended the symposium.

The Applied Energy Symposium: MIT "A+B" (MITAB) is dedicated to the accelerated deployment of (A), and new concepts and emerging technologies for (B). For (A), reducing capital and operating costs, managing social dynamics, and minimizing environmental impact while maintaining extreme productivity are key; automation, artificial intelligence, social mobilization, governmental actions and international coordination will provide essential boosts. For (B), we seek new concepts and emerging (e.g. technologies fusion power engineering, superconducting transmission, etc.) that stand a chance to scale to terawatts after 30 years, i.e. "baby technologies" can grow to adulthood in 20-30 years.

This proceeding is a collection of the papers presented at MITAB2019. The papers were divided into 7 tracks, including:

• Energy Management, Policy, Economics and Sustainability

- Energy Sciences
- Geo-energy
- Intelligent Energy System
- Mitigation Technologies and Energy Storage
- Clean Energy Conversion Technology

In addition to the proceeding, selected papers were recommended for the consideration to the special issue to be published in the journal, Applied Energy.

MITAB2019 is co-organized by Massachusetts Institute of Technology and Applied Energy Innovation Institute. The host of the MITAB2019, Massachusetts Institute of Technology, is specially acknowledged for her excellent organization of the conference. Massachusetts Institute of Technology, with a history of 158 years, is one of the world top universities. The institute is traditionally known for its research and education in the physical sciences and engineering, but more recently in biology, economics, linguistics and management as well. We would also like to the co-organizers and sponsors, including thank Massachusetts Institute of Technology, International Clean Energy Talent program (iCET), UNiLAB, the Applied Energy Innovation Institute, Future Energy Profile of Mälardalen University, and many others for their generous supports to the MIT 2019. Thanks also go to all the authors and participants for their contributions to the MIT 2019 and to this proceeding. Session organizers/chairs and reviewers have done excellent efforts to keep up the quality of the accepted papers to the conference. Finally, we would like to acknowledge our scientific committee members, organization committee members, and other colleagues for significant support to MIT 2019.