

Memorandum of Understanding

between

**The Regents of the University of California, as Management and Operating Contractor for
Lawrence Berkeley National Laboratory**

and

**Shenzhen Institute of Building Research Co., Ltd.
Concerning Collaboration in the Field of Building Energy Efficiency**

This Memorandum of Understanding (MOU) is between The Regents of the University of California (The Regents), in its capacity as manager and operator of Lawrence Berkeley National Laboratory (LBNL) and Shenzhen Institute of Building Research Co., LTD (IBR). LBNL is a U.S. Department of Energy (DOE) National Laboratory managed and operated by The Regents pursuant to DOE Contract No. DE-AC02-05CH11231. IBR is a pioneer and leader in China in the fields of energy efficient and green building design as well as eco-city and low-carbon city planning. LBNL and IBR are collectively herein referred to as the "Participants" or individually as a "Participant."

1. Objective

The objective of this MOU is to describe understandings between the participants for collaboration in the field of building energy efficiency, sustainability and renewable energy.

2. Proposed Areas of Collaboration

The Participants intend to collaborate in one or more of the following areas:

- IBR's participation in LBNL's Global Partnership Alliance (GPA)
- IBR's participation as the Chinese Co-Chair toward the development of GPA-China, including IBR's recommendations for other GPA-China partners and related building activities
- IBR's participation in the U.S.-China Clean Energy Research Center – Building Energy Efficiency (CERC-BEE) programs
- Development of a Renewable Living Lab in Shenzhen International Low Carbon City (ILCC)
- Creation of a policy framework for efficiency related tax credits and asset values
- Creation of an Internet Building Operating Systems (IBOS) for active buildings management in China
- Creation of microgrid controller capabilities and an associated certification program
- Creation of a collaborative research center located in Berkeley, California as a demonstration center of China Clean Energy Research Center (CERC 2) or similarly situated best in class building design and energy concepts
- Development of business models for market advancements of sustainability, building energy intensity and renewable energy in the China built environment

3. Proposed Forms of Collaboration

The Participants expect to collaborate through mutual visits, the exchange of information,

March 10, 2016



exchanges of researchers and experts, and training and planning for potential future joint research, with any future collaborative research to be undertaken only pursuant to an appropriate written agreement therefor.

4. Proposed Mechanisms of Collaboration

- A. To administer the implementation of this MOU, each Participant should designate one or more principal coordinators to be in charge of the collaboration, through whom all requests and plans of that Participant should be made.
- B. The principal coordinators may hold meetings when necessary to discuss matters related to collaboration under this MOU.
- C. The principal coordinators for The Regents are Ramamoorthy Ramesh, Associate Laboratory Director for Energy Technologies, and Rahul Chopra, Senior Advisor. The principal coordinator for IBR is Ms. YE Qing, Chair of the Board, or alternately Mr. HAO Bin, Director of Research and Innovation Center.

5. Commencement, Modification and Discontinuation

- A. Cooperative activities under this MOU may commence upon signature of the Participants and continue for a five (5) year period, unless discontinued in accordance with Paragraph B of this Section.
- B. The Participants may discontinue this MOU at any time by mutual written consent. Alternatively, a Participant that wishes to discontinue its participation in this MOU should endeavor to provide at least thirty (30) days written notice to the other Participant.
- C. This MOU may be modified or extended for additional periods by mutual consent of the Participants.

6. Exchange of Information

The Participants do not anticipate the exchange of any business-confidential information. If the Participants decide that a particular activity may lead to the exchange of business-confidential information, they should consult with each other and make appropriate written arrangements for the protection of such information.

7. General Terms

- A. Each Participant should conduct the cooperative activities contemplated by this MOU in accordance with all applicable laws, regulations and other requirements to which it is subject, including, without limitation, export control laws and environment, health and safety laws and regulations and international agreements to which its Government is party.
- B. This MOU does not create any legally binding obligations between the Participants.
- C. The conduct of cooperative activities contemplated by this MOU is subject to the availability of funding, personnel, and other resources.
- D. Each Participant is to be responsible for the costs it incurs in participating in cooperative activities under this MOU.

Signed in duplicate.

FOR THE REGENTS OF THE
UNIVERSITY OF CALIFORNIA:

FOR SHENZHEN INSTITUTE OF
BUILDING RESEARCH CO., LTD:



By: Michael Witherell

By: Ye Qing

Name: Michael Witherell

Name: YE Qing

Title: Laboratory Director

Title: Chair of the Board

Date: March 21, 2016

Date: April 8, 2016

Place: Berkeley, CA USA

Place: Shenzhen, China

