

AGREEMENT

between

**THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF
AMERICA**

and

**THE PLANNING COMMISSION OF THE REPUBLIC OF INDIA
FOR COOPERATION ON A JOINT CLEAN ENERGY RESEARCH
AND DEVELOPMENT CENTER**

The Department of Energy of the United States of America (USDOE) and the Planning Commission of the Republic of India (the Planning Commission), each a “Party” and collectively herein the “Parties”;

NOTING the Agreement on Science and Technology Cooperation between the Government of the United States of America and the Government of the Republic of India signed at Washington October 17, 2005 (hereinafter “the S&T Agreement”);

NOTING the success of, and a desire to create an additional mechanism to implement activities discussed in, the U.S.–India Energy Dialogue launched in

2005 to promote increased trade and investment, and to increase cooperation and collaboration on energy-related subjects;

RECOGNIZING that climate change, clean and efficient energy, and environmental protection are among the greatest challenges facing the United States and India, and that cooperation between the two countries is critical in addressing these issues;

SEEKING to advance the goals of the Memorandum of Understanding to Enhance Cooperation between the Government of the United States of America and the Government of India to Enhance Energy Security, Energy Efficiency, Clean Energy and Climate Change signed at Washington November 24, 2009 (hereinafter the “MOU”);

CONSIDERING that science and technology have long been a cornerstone of cooperation between the United States and India, given their importance for economic and social development;

ACKNOWLEDGING that the United States and India share a responsibility to contribute to the world’s future sustainability and prosperity by taking advantage of the abundant opportunities for cooperation between their two countries on clean energy technologies;

SHARING an interest in expanding collaboration to advance clean energy technologies by building upon their ongoing scientific and technological cooperation in this area among research institutes, universities and companies;

CONSIDERING that their support to research activities on the basis of equality and reciprocity will provide mutual benefits to both Parties' countries; and

DESIRING to establish the U.S.-India Joint Clean Energy Research and Development Center, that will help accelerate development and more rapid deployment of critical technologies for renewable energy, energy efficiency, clean coal, including carbon capture and storage, and other areas of clean energy that are needed to avoid the worst consequences of climate change, diversify energy supply and accelerate the transition to a low-carbon economy;

HAVE AGREED AS FOLLOWS:

I. Purpose and Priorities

The Parties shall establish a U.S.-India Joint Clean Energy Research and Development Center (hereinafter, the "Center") to facilitate joint research and development on clean energy by teams of scientists and engineers from the United States and India, and related joint activities, needed to deploy clean energy technologies rapidly with the greatest impact. Initial priority

areas to be addressed will be solar energy, second generation biofuels, and building efficiency.

II. Areas of Cooperation

1. The research topics shall include but are not limited to:
 - a. energy efficiency of buildings;
 - b. smart grids;
 - c. unconventional natural gas;
 - d. second-generation biofuels;
 - e. clean coal, including carbon capture and storage;
 - f. an integrated gasification and combined cycle; and
 - g. solar energy.
2. Related joint efforts shall focus on but not be limited to:
 - a. resource, infrastructure, and economic analysis to inform investment decisions and action plans;
 - b. development and support of technology-decision tools for use by government decision-makers, business and technical partners; and
 - c. sharing best practices in national renewable energy and energy efficiency strategies and action plans.
3. Other areas of collaboration may be added by the Parties' mutual consent in writing.

III. Principles

Cooperative activities shall be conducted on the basis of the following principles:

1. equality, mutual benefit, and reciprocity;
2. timely exchange of information relevant to cooperative activities;
3. effective protection of intellectual property rights;
4. peaceful, non-military uses of the results of collaborative activities; and
5. respect for the applicable legislation of each Party's country.

IV. Project Annexes

1. Cooperative activities under this Agreement may be undertaken by the Parties or, as appropriate, laboratories or contractors of the Parties. Each such cooperative activity that may involve the sharing of costs or that may give rise to intellectual property shall be set forth in a Project Annex, which shall be subject to the terms of this Agreement.
2. Each Project Annex shall include detailed provisions for conducting and managing the cooperation, and shall cover such matters as technical scope, work plan, staffing requirements, funding sources and budget, protection and allocation of intellectual property, exchange of proprietary information, and any undertakings, obligations or conditions necessary to the proposed activity.

V. Management

1. The Parties hereby jointly establish the U.S.-India Steering Committee on Clean Energy Science and Technology Cooperation (hereinafter the "Steering Committee"), which shall be co-chaired by India's Deputy Chairman of the Planning Commission and the United States Secretary of Energy. The Steering Committee shall consist of representatives of the Parties and of other interested ministries, departments and agencies of each Party's country as jointly determined by the Parties. The Steering Committee shall meet annually, or at such times as the co-chairs jointly agree, to provide high level review and guidance for the activities and the direction of the research conducted under this Agreement.
2. A Joint High Level Experts' Panel (hereinafter the "Joint Experts' Panel") of twelve preeminent private and public sector and academic experts shall be formed by the Parties to supply the Center with suggestions and insights to ensure that issues of importance to the private and academic sectors on the state of, and needs for, clean energy research and development activities are brought to the attention of the Steering Committee. Each Party shall appoint six members from that Party's country. The Joint Experts' Panel should meet as needed, at least annually, to update its experts along with the changes in the priority areas described in paragraph 1

of Article II above; and shall be responsible for reaching out to the United States and Indian clean energy science and technology community for their suggestions and to encourage their participation in Center activities through an annual workshop or other appropriate means as the Steering Committee shall decide.

3. Decisions of the Steering Committee shall be made on the basis of consensus.
4. In any case where the Parties decide to co-fund a specific project, as provided in Article VI., paragraph 2 of this Agreement, a Joint Appraisal Committee comprised of an equal number of senior representatives of both Parties shall determine the terms and conditions under which the co-funded project shall be conducted. The terms and conditions of each co-funded special project shall require the unanimous approval of the Joint Appraisal Committee.
5. The Parties, in conjunction with other appropriate governmental bodies of both Parties' countries, shall monitor the activities conducted under this Agreement, and assess the progress of the Center.
6. Each Party shall establish a secretariat. The secretariats shall work closely together and act as the principal coordinators of the Center's communications and activities. The functions of the secretariats are to:

- a. organize the meetings of the Steering Committee and the Joint Experts' Panel;
 - b. help arrange special activities such as teleconferences and workshops;
 - c. act as clearinghouses for new activities;
 - d. maintain archival records for the Steering Committee and the Joint Experts' Panel; and
 - e. perform such other tasks as the Steering Committee directs.
7. Except as provided in Section II.D. of Annex I to the S&T Agreement, any question concerning the interpretation or application of this Agreement shall be resolved by consultations between the Parties.

VI. Funding Mechanism

1. Subject to the availability of funds authorized and made available by each Party's government and subject to paragraph 2 of this Article, funding for the activities under this Agreement shall be borne by the Parties, to help ensure the long-term and stable financial support to move the objectives of the Center forward. Private industry and academia also may provide funding in accordance with the written terms to be agreed to by the Parties.
2. The Planning Commission shall fund only research performed by Indian participants, and USDOE shall fund only research performed

by United States participants, in collaborative activities, unless agreed otherwise by the Parties for specific projects. The Parties may also explore and establish additional funding mechanisms as mutually agreed.

3. Each Party shall conduct the activities under this Agreement in accordance with its national laws and regulations. Nothing in this Agreement shall be interpreted to constitute an obligation of funds.

VII. Information Sharing and Intellectual Property

1. The protection and allocation of intellectual property created or furnished under this Agreement shall be governed by Annex I (Intellectual Property) to the S&T Agreement.
2. Each Party shall make available to the other technical information first produced under projects under this Agreement that is (1) relevant to or necessary for projects under this Agreement; and (2) either in the Party's possession or available to it, and which it has the right to disclose.

VIII. Entry into Force, Extension, Amendment, and Termination

1. This Agreement shall enter into force upon signature by both Parties.

2. Subject to paragraph 4 of this Article, this Agreement shall remain in force for an initial period of ten years, and shall be automatically renewed for additional periods of five years, so long as the S&T Agreement remains in force.
3. This Agreement may be amended by mutual written agreement of the Parties.
4. This Agreement may be terminated by mutual written agreement, or by either Party in writing at any time upon ninety days' written notice to the other Party. Commitments to fund any specific programs made by either Party prior to termination shall remain in effect notwithstanding termination.

DONE at Delhi, in duplicate, this ~~fourth~~ day of November 2010, in the English and Hindi languages, each text being equally authentic.

**FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:**

**FOR THE PLANNING COMMISSION
OF THE REPUBLIC OF INDIA:**

