

**ANNEX XI  
TO  
THE PROTOCOL  
FOR COOPERATION IN THE FIELD OF FOSSIL ENERGY RESEARCH AND DEVELOPMENT  
BETWEEN  
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA  
AND  
THE MINISTRY OF COAL INDUSTRY  
OF THE PEOPLE'S REPUBLIC OF CHINA  
FOR COOPERATION  
IN THE AREA OF  
COALBED METHANE RECOVERY AND UTILIZATION**

**WHEREAS**, the United States Department of Energy (USDOE) and the Ministry of Coal Industry (MOCI) of the People's Republic of China (PRC) signed a Protocol on cooperation in the Field of Fossil Energy Research and Development on April 16, 1985 ("the Protocol") under the Agreement between the Government of the United States of America and the Government of the People's Republic of China on Cooperation in Science and Technology ("the Umbrella Agreement") signed at Washington, DC, on January 31, 1979, as amended and extended;

**WHEREAS**, the USDOE and the MOCI (hereinafter "The Parties") share the desire to pursue the development of economically efficient and environmentally compatible coalbed methane recovery and utilization;

**RECOGNIZING** that coalbed methane holds an important position in the future structure of energy consumption in both China and the United States, and that coalbed methane has long been recognized as a valuable, yet under-utilized source for natural gas, commonly available in coal fields around the world;

**RECOGNIZING**, that coalbed methane, in addition to its energy value, is a common hazard in coal mine operations and has traditionally been vented and wasted;

**RECOGNIZING**, that coalbed methane emitted to the atmosphere is a potent greenhouse gas that contributes to global climate change;

**RECOGNIZING**, that China has vast reserves of coal and one of the largest coalbed methane resources in the world;

**RECOGNIZING**, that coalbed methane recovery and utilization has been the subject of research and development by USDOE since 1977, and together with industry, is currently evolving as an important long-term source of natural gas; and

**RECOGNIZING**, that interaction between the USDOE program and China's coal resource development program will raise the level of coalbed methane recovery and utilization technology, reduce emissions of methane to the atmosphere, and promote economic and trade cooperation;

Now, therefore, the Parties have agreed as follows:

## **ARTICLE I - OBJECTIVE**

The objective of this Annex is to promote technological and economic cooperation between the USDOE and the MOCI in the field of coalbed methane recovery and utilization technology, so that both sides can make positive contributions toward improving recovery efficiency and utilization of a globally significant natural gas energy resource.

## **ARTICLE II - AREAS OF COOPERATION**

Areas to be considered for cooperation in coalbed methane recovery and utilization under this Annex may include, but are not limited to, identification of potential coalbed methane resources, research and identification of appropriate technologies which can effectively capture, upgrade, and utilize coalbed methane, demonstration efforts for increased recovery and utilization of coalbed methane from mining operations in selected target areas and coalbeds, and evaluation of results from these demonstration projects and identification of the most effective technology systems.

## **ARTICLE III - FORMS OF COOPERATION**

### **1. Exchange of Technical Information and Experiences and Collaborative Visits**

The Parties agree to exchange technical information and experiences and collaborative visits in organizing and implementing a coalbed methane recovery and utilization program in China. These exchanges and visits will address operational procedure and management oversight, technological and economic evaluation, budget estimation, policy analysis, technology transfer, and commercialization with other organizations in both countries that have ongoing activities in the area of coalbed methane recovery and utilization. The cooperation and exchanges between the Parties are intended to promote China's coal resource development program, leading to scientific, economic, and trade cooperation beneficial to both sides.

### **2. Scientific and Technological Cooperation**

The Parties agree to select for cooperation projects which are applicable to advanced technology for coalbed methane recovery and utilization. The cooperation may include information and data exchange, joint cooperative research and development, technological demonstration, potential market assessment, training courses and seminars. The Parties will encourage and support economic and trade cooperation on these projects to encourage commercialization. Where appropriate, these activities will be coordinated with existing and planned projects in China and the U.S. that are being implemented by Chinese enterprises, U.S. companies, joint ventures, and/or other government organizations from both sides.

### **3. Coordination for a Coalbed Methane Technology Demonstration Facility**

The Parties agree to coordinate on preparations for the planning, design, finance, construction, and operation of a Coalbed Methane Technology Demonstration Facility in China that would employ current technologies. The Parties may conclude a separate agreement for the Demonstration Facility. Other organizations in both countries engaged in coalbed methane recovery and utilization may be invited to participate in this activity as appropriate.

### **4. Other Forms of Cooperation**

The Parties may engage in other forms of cooperation as mutually agreed in writing.

## **ARTICLE IV - MANAGEMENT**

### **1. Project Coordinators**

Each Party will designate a Project Coordinator for this Annex. The Project Coordinators shall jointly plan the technical approach for accomplishing the objectives, be responsible for the program and schedule coordination, and co-chair joint meetings.

### **2. Advisors**

Representatives from organizations within each Party may be invited to attend joint meetings and serve as advisors to help plan and evaluate the progress of cooperative activities under this Annex. Other organizations may be invited to participate if approved jointly by the Project Coordinators.

### **3. Joint Meetings**

The Project Coordinators will hold annual meetings, alternating in China and the United States, to report and assess the progress of activities, and plan for continuation of cooperation under this Annex. The first meeting will be held in China. The host Party will bear the costs for arrangements associated with the meeting. Representatives from each Party attending the annual meetings will be responsible for their own travel and lodging expenses. If the Project Coordinators agree, meetings may be held more or less frequently than once annually.

### **4. Reports**

The Parties shall jointly prepare an annual report in English describing the work performed and detailing results achieved under this Annex. Each Party shall have the right to disseminate the annual report without prior notification to the other Party.

## **ARTICLE V - FINANCE**

1. All cooperative activities under this Annex shall be subject to the availability of funds and personnel, and to the laws and regulations of the Parties.
2. Unless otherwise mutually agreed in writing, each Party shall bear all costs of its own activities under this Annex.

## **ARTICLE VI - INTELLECTUAL PROPERTY RIGHTS**

The provisions for the protection and allocation of intellectual property rights set forth in Annex I of the Umbrella Agreement, which supersedes Annex I of the Protocol, shall apply to all activities conducted pursuant to this Annex.

**ARTICLE VII - DISCLAIMER**

The application or use of any information exchanged under this Annex shall be the responsibility of the receiving Party, and the sending Party does not warrant the suitability of such information for any particular use or application.

**ARTICLE VIII - ENTRY INTO FORCE AND TERMINATION**

1. This Annex shall enter into force upon signature by the Parties and remain in force for five (5) years or until termination of the Protocol, whichever occurs first. This Annex may be amended or extended by mutual written agreement of the Parties.
2. At the discretion of either Party, this Annex may be terminated upon six (6) months advance notice in writing to the other Party.

DONE at BEIJING, this 23rd day of February, 1995, in duplicate, in the Chinese and English languages, each text being equally authentic.

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



FOR THE MINISTRY OF COAL INDUSTRY OF  
THE PEOPLE'S REPUBLIC OF CHINA:

