

## Introduction

The U.S. Environmental Protection Agency's Coalbed Methane Outreach Program (CMOP) is a voluntary program whose goal is to reduce methane emissions from coal mining activities. Our mission is to promote the profitable recovery and utilization of coal mine methane (CMM), a potent greenhouse gas (GHG) that contributes to climate change if emitted to the atmosphere. In mines, CMM poses an explosive hazard to miners, but if it is collected and used for energy, methane is a valuable fuel source.

CMOP works collaboratively with the coal mining industry through voluntary partnerships to reduce CMM emissions. By helping to identify and implement methods to use CMM instead of emitting it to the atmosphere, we have helped to effectively reduce global GHG emissions. Our specific activities include supporting project development, identifying and working to overcome institutional, regulatory, and financial barriers to implementation, and communicating the benefits of CMM recovery.

CMOP works with organizations in many coal-producing countries to promote CMM development and use. We engage in financial and technical outreach through partnerships to support information-sharing and technology transfer. Our in-country activities include conducting workshops, preparing and disseminating analytical reports, and conducting feasibility studies for CMM utilization projects.

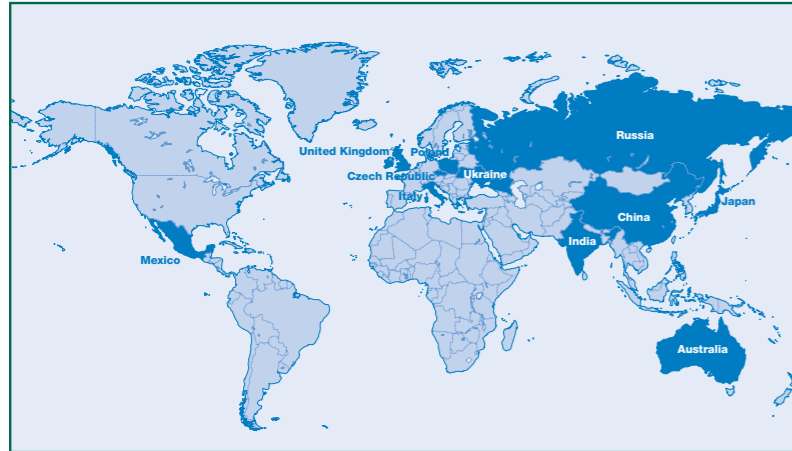
This brochure highlights our key partnerships and activities overseas, as well as multilateral resources for international CMM projects.

## Benefits of International Outreach

There are multiple, synergistic benefits to promoting international efforts to reduce CMM emissions:

- Reduces GHG emissions
- Improves mine safety
- Creates jobs
- Improves local and regional air quality
- Provides energy independence

## CMOP International Activities



United States  
Environmental Protection Agency  
1200 Pennsylvania Avenue, NW. (6207-J)  
Washington, DC 20460

Official Business  
Penalty for Private Use \$300

EPA430-F-05-014  
February 2005  
[www.epa.gov/cmop](http://www.epa.gov/cmop)

For information about CMM recovery and utilization, visit our Web site at [www.epa.gov/cmop](http://www.epa.gov/cmop) or Methane to Markets at [www.epa.gov/methanetomarkets](http://www.epa.gov/methanetomarkets)

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# Coal Mine Methane:

## A Valuable Energy Resource for the International Community



## Methane to Markets Partnership

In July 2004, EPA announced the Methane to Markets Partnership, an initiative to reduce global methane emissions. The partnership will promote the near-term recovery and use of methane as a clean energy source through partnerships among developed and developing countries in coordination with the private sector, multilateral development banks, and other relevant nongovernmental organizations. The partnership is expected to reduce greenhouse gas emissions, enhance economic growth, promote energy security, and improve the global environment.

Initially targeting three major methane emission sources (landfills, underground coal mines, and natural gas and oil systems), the partnership will focus on deploying and implementing near-term methane recovery and use technologies and will facilitate project development. CMOP's efforts to advance CMM recovery and use are central to EPA's participation in the Methane to Markets Partnership.

To date, Partners include Argentina, Australia, Brazil, China, Colombia, India, Italy, Japan, Mexico, Nigeria, Russia, Ukraine, the United Kingdom, and the United States. To learn more about the Methane to Markets Partnership, visit <[www.epa.gov/methanetomarkets](http://www.epa.gov/methanetomarkets)>.

## Key CMM Projects and Efforts Overseas

### China

China is the world's largest coal producer, coal consumer, and emitter of CMM. China's emissions are nearly 200 million metric tons of carbon dioxide equivalent per year and are projected to grow dramatically with a rapidly growing economy and an increasing reliance on coal. China has had numerous problems with deadly mine explosions, and recent legislation has required that all gassy mines practice methane drainage. As of 2002, 196 Chinese coal mines had methane drainage systems in place, and total methane drainage has increased. Approximately half of all drained gas is recovered and put to use.

In cooperation with the former State Administration of Coal Industry, EPA helped to establish the China Coalbed Methane Clearinghouse and continues to provide funding and technical support. For more information on the clearinghouse, visit <[www.coalinfo.net.cn/coalbed/coalbed.htm](http://www.coalinfo.net.cn/coalbed/coalbed.htm)>.

## CMM Project Development Resources

### Russia

The global leader in natural gas production, Russia ranks fifth in coal production. As the world's third-largest source of CMM, Russia has great potential for methane utilization projects. Although Russia has a long history of mine degasification and despite significant opportunities for development, there are relatively few CMM utilization projects in Russia.

In partnership with the Russian Academy of Sciences-Siberian Branch, EPA helped to establish the Russian Coalbed Methane Center-Ugletmetan, located in the Kuznetsk Coal Basin in western Siberia, Russia's most important coal producing region. In 2002, the Center became independent and changed its name to more accurately reflect its role—the International Coal and Methane Research Center (Ugletmetan). CMOP continues to provide support to Ugletmetan, which provides technical and analytical services for Russia's coal mining industry.

For more information on CMM projects in Russia, visit <[www.ugletmetan.ru](http://www.ugletmetan.ru)>.

EPA is also participating in two United Nations projects in Russia:

- United Nations Development Programme (UNDP) Global Environment Facility (GEF) grant, with project financing totaling more than \$8 million, to reduce barriers to CMM recovery projects in Russia.
- With the United Nations Economic Commission for Europe (UNECE), EPA is promoting investment in CMM recovery and utilization projects at coal mines in Central and Eastern Europe and the Newly Independent States. With EPA funding and support, the UNECE is working with government, industry, and other stakeholders to build their capacity to meet the expectations of international financing institutions.

### Ukraine

Globally, Ukraine ranks ninth in coal production, but it is the fourth-largest emitter of CMM. There are many gassy mines in Ukraine, and mine explosions remain a critical safety issue. Nationally, Ukrainian coal mines recover about 12 percent of all CMM liberated and utilize about 30 percent of what is captured.

EPA has provided long-term financial and technical support for Partnership for Energy and Environmental Reform (PEER) based in Donetsk, the hub of the Donbass coal region. In addition, CMOP continues to sponsor workshops, training, and capacity-building efforts through grants and support for U.S. Department of Labor-funded mine safety programs. <[www.peer.org.ua](http://www.peer.org.ua)>

### India

India ranks eighth globally in CMM emissions, which are expected to increase as the economy expands. Several gassy mines are located in the Damodar Valley coalfields. EPA is working with the U.S. Trade and Development Agency (TDA) to establish a Clearinghouse in India to promote investment and project development of CMM recovery and utilization projects.

### Mexico

Mexico's fugitive methane emissions from coal mining activities rank 18th globally. Degasification through in-mine drilling and vertical gob wells have been successfully used to recover CMM at several mines. CMOP has provided support for recovery and utilization efforts including use of CMM to fire mine boilers. EPA participates in bilateral climate change activities with the government of Mexico.

## CMM Project Development Resources

EPA works directly and indirectly with a number of domestic and international agencies to promote CMM development overseas. These institutions might provide funding or other assistance for CMM projects.

### United States Agencies

For international CMM recovery and utilization projects, a number of U.S. government agencies provide assistance.

- *U.S. Department of Commerce BISNIS Finance Link* provides export assistance service for U.S. companies seeking financing, particularly in the Newly Independent States of the former Soviet Union. <[www.bisnis.doc.gov](http://www.bisnis.doc.gov)>
- U.S. Trade and Development Agency (US TDA) provides funding for feasibility studies and technical assistance that will promote the export of U.S. goods overseas, including drilling equipment and power production equipment for CMM recovery. <[www.tda.gov](http://www.tda.gov)>

- U.S. Export-Import Bank (Ex-Im Bank) helps finance overseas sales of U.S. goods and services, and provides credit insurance, as well as loan guarantees and project finance. <[www.exim.gov](http://www.exim.gov)>
- The Overseas Private Investment Corporation (OPIC) is an independent development agency of the U.S. government that helps U.S. businesses invest overseas, fosters economic development in new and emerging markets, complements the private sector in managing the risks associated with foreign direct investment, and supports U.S. foreign policy. <[www.opic.gov](http://www.opic.gov)>

### The World Bank

The World Bank provides loans, policy advice, and technical assistance and knowledge sharing services to low- and middle-income countries.

- The World Bank's International Finance Corporation (IFC) aims to further economic development through the private sector. Working with business partners, it invests in sustainable private enterprises in developing countries and provides long-term loans, guarantees, and risk management and advisory services. <[www.ifc.org](http://www.ifc.org)>
- The World Bank's Prototype Carbon Fund (PCF) works to combat climate change while promoting sustainable development and demonstrating the possibilities of public/private partnerships. The PCF invests in projects designed to produce GHG emissions reductions, including CMM projects. <[www.carbonfinance.org](http://www.carbonfinance.org)>

### Asian Development Bank

The Asian Development Bank is an independent multilateral financial institution dedicated to reducing poverty in Asia and the Pacific. It provides financial support for regional or country-specific development projects. For example, the ADB has invested \$200 million in CMM projects in China. <[www.adb.org](http://www.adb.org)>

### United Nations

Many United Nations (UN) resources are devoted to economic, social, and sustainable development programs. Three key UN organizations that provide funding and assistance for CMM projects are the following:

- United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP) provide grant funding through the Global Environment Facility (GEF) for projects in developing or transitional economies. EPA has provided funding for several GEF projects involving CMM project development. <[www.undp.org/gef](http://www.undp.org/gef)>
- United Nations Economic Commission for Europe (UNECE) promotes international cooperation in energy issues through its Committee on Sustainable Energy, including facilitating Ad Hoc Groups of Experts on CMM and Coal in Sustainable Development. EPA has provided a grant to UNECE to develop CMM projects in Central and Eastern Europe and the Commonwealth of Independent States. <[www.unece.org](http://www.unece.org)>

## For More Information

For more information about financial resources for CMM projects, see the *Catalog of Coal Mine Methane Project Finance Sources* at <[www.epa.gov/cmop/resources/reports/fin/index.html](http://www.epa.gov/cmop/resources/reports/fin/index.html)>.

For more information about CMM or CMOP's international activities, please visit our Web page at <[www.epa.gov/cmop](http://www.epa.gov/cmop)>.