

Полагаем, что только объединенными усилиями, особенно опираясь на опыт наших американских коллег, этот проект станет возможным.

При этом, реально оценивая всю сложность намеченных планов, считаем, что такая программа вполне может иметь государственный статус. Поэтому поддержка таких государственных институтов, как Кабинет Министров и Верховная Рада крайне необходима. Об этом свидетельствует и международная практика. В этой связи можно привести такой пример. Главным катализатором «метанового бума» в США стало решение правительства этой страны о предоставлении значительных льгот компаниям, которые намерены, были вкладывать деньги в эти программы!

Важным, на наш взгляд является то, что у всех желающих заниматься такими программами, не должно возникнуть ощущение, что уже все распределено и занято. Напротив, грандиозность темы позволяет найти свое место в ней всем, кто знает, чего он хочет и может достичь, участвуя в ее развитии. Мы видим свой успех только в консолидации усилий всех участников проекта.

УДК 622.411.332.004.82:658.14.012.1

К.К. Толкингтон,
Агентство Защиты Окружающей среды США,
Вашингтон, ПОСТ. ТОК, Соединенные Штаты Америки

ФИНАНСИРОВАНИЕ МЕЖДУНАРОДНЫХ ПРОЕКТОВ ПО ШАХТНОМУ МЕТАНУ

Представлено короткий обзор потенційного ринку, методи фінансування і можливі джерела фінансування для проектів по шахтному метану.

FINANCING INTERNATIONAL COAL MINE METHANE PROJECTS

A brief review of potential market, methods of financing and possible resource of financing the projects on coal mine methane are presented.

Technology advances in recent years are leading to increased recovery of coal mine methane, coalbed methane directly associated with coal mining activities. Securing financing can be challenging; however, there are several examples where coal mine methane projects have received financing or are under consideration for financing. This paper provides a brief overview of the potential market, methods of finance, and possible funding sources for coal mine methane.

Introduction

Recovery of methane from coal mines has been limited due to various technological and institutional barriers, but the picture is changing. With improving recovery efficiencies and growing energy consumption, coal mine methane, coalbed methane directly associated with coal mining activities, is now viewed as a vital component in the energy resource mix.

Although upstream and down stream improvements have increased both the supply and market for coal mine methane, implementation of even small-scale projects requires adequate funding to be successful. Securing capital in developed countries can be challenging, but for many reasons it can be especially difficult for projects in developing countries and economies-in-transition. Lack of information, perceptions of increased risk to the investment, and limited in-country financial resources are some of the principal reasons. However, access to capital is not impossible. There are several examples where coal mine methane projects have received financing or are under consideration for financing. This paper is intended to introduce options for financing coal mine methane projects in economies in transition and developing countries.

Markets for Coalbed Methane and Coal Mine Methane

Coalbed methane and coal mine methane can be injected into pipelines or put directly to use for heating or power generation. Technologies now even exist to use the methane in mine ventilation air. In the United States, 85 to 90 percent of drained gas from coal mines, 1.2 billion cubic meters, is recovered and used, almost all injected into natural gas pipelines.[1] At an average sales price of between \$90 and \$100 per thousand cubic meter, the economic benefits are significant.

Ukraine has 232 active coal mines liberating 2.2 billion cubic meters of methane. Of this total, 272 million cubic meters is recovered through degasification systems at 45 mines, but only 77 million cubic meters (3.5%) is used.[2] The economic impact of additional methane recovery and use could be considerable. The ancillary benefits, mine safety and less dependence on imported gas, provide even more value-added.

In addition to drained gas, methane also exits the mine through ventilation air, and technologies are now available to combust the mine ventilation air at very high temperatures. The processes produce heat that can then be used in turbines for power production or for such applications as district heating and coal drying.

Options for Financing Coal Mine Methane Projects

Rapid advances in coalbed methane and coal mine methane recovery technologies have improved project viability but also may require significant up-front expenditures to deploy. The initial capital outlay for a project can cost millions of dollars (U.S.). Unfortunately, domestic capital is lacking in many developing countries and economies-in-transition, requiring developers to search

externally for investment. Even projects that appear to have low risk with a reasonably strong return may have difficulty acquiring funds.

Although it is possible in some instances to finance an entire project from one source of capital, most developers secure funding from many different sources. To be successful in obtaining capital, at a minimum project developers need to be prepared to meet the expectations of investors and lenders: (1) a transparent and credible business plan; (2) transactions conducted in hard currency; (3) participation/oversight by the investor commensurate with their investment; and (4) possibly, in-country investment.

Financing options range from self-financing to a variety of external financing options that allocate risk and return differently. Depending on the perceived risk, expected return, cost and expected social benefits attributed to a project, one or a combination of the following financing options may be appropriate.

Internal Financing

Companies may choose to invest their own capital in a coal mine methane project. The advantages are many: transaction costs are reduced; project control remains within the company; and company assets are not leveraged to creditors. On the other hand, cash reserves are depleted. The company must evaluate the cost of internal financing and the expected returns against the cost of external debt or equity financing. If the financing package consists of several different sources and types of investment, internal financing is very attractive to external investors because it shows that the company is committing its own resources and accepting some of the project risk.

Private Sector Equity and Debt Financing

Private sector investment may come in the form of equity investments or debt financing from many sources including commercial banks, investment banks, energy companies, investment syndicates and others. Projects that have sufficiently high expected returns and reasonably low risks are good candidates for private sector investment.

Debt financing generally involves securing a loan or issuing corporate debt (example, bonds) and paying off the debt over time. When issuing debt, a company accepts all the risks, but does not have to share the rewards. Companies in many economies-in-transition and developing countries will find it difficult to finance a coal mine methane project through debt financing. There are a number of reasons for this, but chief among them are previous defaults by other companies, lack of assets for collateral, and limited history of investment in these countries.

When a firm, such as an investment bank, takes an equity stake, it becomes a partner in the project. As such, the stakeholder shares in the project risks and rewards. Depending on the size of the investment, an equity stakeholder may play a “silent” role with limited involvement or, if a large or majority shareholder, may expect to control the project. Equity financing may be a more attractive alternative for investment in economies in transition and developing countries because it may be easier to find equity investors.

Public Sector Debt and Grant Financing

National, provincial, and local governments and multilateral institutions, such as the World Bank, often provide favorable financing terms on loans for projects considered desirable to promote socio-economic goals. Typically, these programs are targeted at projects that would have difficulty being funded in whole or in part by the private sector. For example, the Polish government manages the National fund for Environmental Protection and Water Management, which provides loans with preferential terms to projects that protect the environment.

The public sector may also provide direct or indirect grant support to encourage socio-economic goals. Grants are an extremely important source of financing in developing countries and economies-in-transition because they enhance the viability of a project making these projects more attractive for other investors. In addition to lending and grant funding, public sector entities may also provide other services such as loan guarantees, technical support, and risk insurance to encourage development of coalbed methane and coal mine methane. The U.S. Overseas Private Investment Corporation is one such example. The agency provides U.S. investors with risk insurance to encourage deployment of U.S. investment in foreign countries.

Conclusion

Development of coal mine methane in many countries presents an excellent opportunity to reduce greenhouse gas emissions, improve mine safety, increase coal production, and capture an important energy resource. However, funding projects can be difficult. Until now, many coal mine methane project have been funded through the public sector. As emergent technologies increase recovery efficiencies and other barriers are addressed, private sector investment is likely to increase.

International Financial Organizations

This paper briefly highlights some of the more notable organizations that have or may finance coalbed methane and coal mine methane projects.

The World Bank - Energy Sector Management Assistance Programme

The World Bank, the largest global source of development assistance, has several programs supporting energy projects. The Bank's Energy Sector Management Assistance Programme, jointly funded by the United Nations Development Programme, can provide funding to support a range of energy-related activities including technical assistance and pilot projects

The World Bank – Prototype Carbon Fund

The World Bank has established the Prototype Carbon Fund to help develop an international market for greenhouse gas emissions. Total capitalization for the fund is US \$145 million to cover 10 percent to 20 percent of project costs.

International Finance Corporation

The International Finance Corporation, a member of the World Bank Group, is the largest multilateral source of loan and equity financing for private sector projects in the developing world. Projects must be in the private sector, must be technically sound, have a good prospect of being profitable, and benefit the local economy.

United Nations Development Programme

The United Nations Development Programme provides technical assistance in the energy field to developing countries. The UNDP also implements activities that “introduce innovative technologies, mainstream environment with development, strengthen sustainable livelihoods, and initiate pilot projects that while mitigating climate change also promote sustainable human development.” There are energy projects in about one-third of the 150 member states and countries.

Global Environment Facility

The Global Environment Facility provides grants and concessional funding to recipient countries for projects and programs that protect the global environment and promote sustainable economic growth. Implemented by the United Nations Development Programme, the United Nations Environment Programme, and the World Bank, coal mine methane projects are funded in China (US \$10 million) and in India (US \$9 million), and are under consideration in Russia and Poland.

Bi-lateral Agencies

Many countries operate agencies that provide bi-lateral assistance such as export-import banks, and international development agencies. Export-import banks are government agencies established to finance the export sales of goods or services produced in the home country. International development aid agencies are government agencies whose general mission is to contribute to the economic well-being of less developed countries or economies in transition. The United States Agency for International Development is one such agency.

LITERATURE LIST

1. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-1999. U.S. Environmental Protection Agency, Washington, D.C. 2001
2. Inventory of Methane Emissions from Coal Mines in Ukraine: 1990-2000. Partnership for Energy and Economic Reform, Kyiv, Ukraine. 2001