

## SPECIFIC COUNTRY APPROACH TO ENCOURAGE COAL MINE METHANE PROJECT DEVELOPMENT

### Introduction

Although a wide range of benefits from the implementation of coal mine methane projects have been identified, they remain restrained in Mexico due to legal, technological and economic barriers.

This document follows the request made by Methane to Markets Initiative. It describes briefly some specific strategies to be implemented in Mexico to encourage coal mine methane projects development, according to Mexico's environmental commitment and its participation in the Methane to Markets forum.

### Summary Template for Presenting Specific Country Strategies in the Coal Mine Methane (CMM) Sector

<b>Mexico</b>	
<b>Step</b>	<b>Short description</b>
1) Broader Reference National-level initiatives	<p><b>National Development Plan</b></p> <ul style="list-style-type: none"> <li>• Promotes environmental sustainability</li> <li>• Establishes that specific actions must be carried on to enhance efficiency on using and generating energy</li> <li>• Encourages lower greenhouse gas effects releases</li> <li>• Enhance the use of clean technologies</li> <li>• Support research projects for recovery and use of energy from waste.</li> </ul> <p><b>Energy Program</b></p> <ul style="list-style-type: none"> <li>• Promote the recovery and use of coal mine gas with security and environmental protection standards</li> </ul>

<b>Mexico</b>	
<b>Step</b>	<b>Short description</b>
	<ul style="list-style-type: none"> <li>• Establish the mechanisms to generate revenues from the recovery and use of coal mine gas</li> <li>• Enhance a rational use of coal mine gas, as well as the incorporation of new coal mine gas reserves</li> <li>• Promote coal mine gas burning prevention and coal gas mine gas venting schemes</li> <li>• Enhance a regulatory framework to assure people and installations safety, when coal mine gas is being recovered or used.</li> <li>• Establish a system to control and supervise the recovery and use of coal mine gas.</li> <li>• Establishes actions to foster energetic efficiency and diminish environmental impact through public policies as well as budgetary mechanisms for efficient technology implementation to reduce greenhouse releases and its effects</li> <li>• Under current regulations, the distribution of electricity is an exclusive governmental dominion and private participation is precluded. Nevertheless, self-consumption of electricity or delivery to the Federal Electricity Commission is allowed and projects will be promoted</li> </ul> <p><b>Environment and Natural Resources Program</b></p> <ul style="list-style-type: none"> <li>• Enhance greenhouse gas effects reduction</li> </ul>

<b>Mexico</b>	
<b>Step</b>	<b>Short description</b>
	<p><b>National Strategy on Climate Change</b></p> <ul style="list-style-type: none"> <li>• Identifies specific measures for mitigation of climate change, with estimates of their potential for emissions reductions</li> <li>• Proposes research objectives as a tool for laying out more precise mitigation targets and outlines national requirements for capacity building for adaptation to climate change</li> </ul>
2) Identify authors and process (name, affiliation)	<ul style="list-style-type: none"> <li>• Mrs. Sandra Denisse Herrera Flores (Undersecretary of Environmental Regulation, Ministry of the Environment and Natural Resources-SEMARNAT)</li> <li>• Mr. Mario Gabriel Budebo (Undersecretary of Hydrocarbons, Ministry of Energy-SENER)</li> <li>• Mr. Norberto de Jesús Roque Díaz de León (General Coordinator of Mining, Ministry of Economy-ECONOMIA)</li> <li>• Mr. Ramón Carlos Torres (General Director of Energy and Mining- SEMARNAT)</li> <li>• Mrs. Olga Briseño (Director of Mining-SEMARNAT)</li> <li>• Mr. Alfredo Abraham Cabrera (Undersecretary of Mining and Energetic, Coahuila Government)</li> <li>• Mr. Lorenzo González Merla (Altos Hornos de México)</li> </ul>
Process for developing country-specific strategy	<p>A specific country strategy will be developed based on the consensus of the core participants listed above.</p> <p>Detailed actions will be part of the Government Transverse Agenda.</p>

<b>Mexico</b>	
<b>Step</b>	<b>Short description</b>
3) Summarize country's coal sector in relation to CMM/CCM projects	<p>Next information is related to Minerales Monclova (MIMOSA) CMM project.</p> <ul style="list-style-type: none"> <li>• Coal production</li> </ul> <p>Coal production in 2005 amounted to 2.8 million tones and 4 million in 2006.</p> <ul style="list-style-type: none"> <li>• Coal mine types</li> </ul> <p>Three underground mines; two are situated in the Sabinas basin and one in the Saltillito basin. All considered gassy mines.</p> <ul style="list-style-type: none"> <li>• Regulatory framework (ownership of coal /gas)</li> </ul> <p>Concessionaire: MIMOSA.</p> <p>Concessions for mine exploiting are granted to private companies. According to the Mexican Constitution, hydrocarbons belong to the Nation.</p> <ul style="list-style-type: none"> <li>• Are there commercial scale CMM recovery and use projects?</li> </ul> <p>No, to date projects are limited due to legal restrictions.</p> <ul style="list-style-type: none"> <li>• Are there commercial-scale CBM production projects?</li> </ul> <p>No. Private companies can't do CBM recovery activities, unless special drilling is done in oil concessions granted by PEMEX.</p> <ul style="list-style-type: none"> <li>• Barriers to CMM Project Development</li> </ul> <p>1. Although the Mining Law was modified in 2006, the Bylaw of the Mining Law has not been issued yet. The Law does not specify how gas can be used so projects can't be implemented and gas continues to be released.</p>

<b>Mexico</b>	
<b>Step</b>	<b>Short description</b>
	<p>2. Private entities must get a coal mining concession and then a permit to exploit gas, which can be denied.</p> <p>3. Since some regions have not been explored as they should be, specific data on coal reserves in Mexico is somewhat limited, except for the Sabinas basin.</p> <p>4. Although the technology for this kind of projects is available, only one company is looking for appropriate equipment for its implementation.</p> <p>5. There is a lack of fiscal or budgetary incentives granted by Mexican institutions. The implementation of such kind of projects is feasible whenever a credit scheme is available.</p> <p>6. Methane gas concentrations in Coahuila's mines are high; however, there is a lack of information about particular emissions, quantification or handling of methane in underground mines.</p> <p>7. Methane recovery made by private sector must be associated to mining activities. For concessionaires to recover CBM, a contract signed by PEMEX (national oil company) is a must.</p>
4) Describe ongoing activities promoting in-country CMM/CBM recovery and use.	<p>Inventory of gassy mines on a national scale:</p> <ul style="list-style-type: none"> <li>• The National Institute of Ecology has developed a project to calculate methane emissions in mining activities.</li> <li>• The Mexican Geological Survey is carrying out studies to determine a national inventory of coal, coal mine gas and gassy mines.</li> <li>• Coahuila's Government collected some data about</li> </ul>

<b>Mexico</b>	
<b>Step</b>	<b>Short description</b>
	<p>small mining concessionaires.</p> <p>Database of specific country opportunities/project sites:</p> <ul style="list-style-type: none"> <li>• The Ministry of Economy has a nationwide database with information about coal mine concessions that have been granted which is being updated periodically.</li> </ul> <p>Intensive training on technical, legal, policy, financial issues:</p> <ul style="list-style-type: none"> <li>• Training programs are being implemented by both, private and public sectors.</li> </ul>
<p>5) Recommend appropriate activities to further promote CMM/CBM project development.</p>	<p><b>1. Enhance stakeholders abilities and information needs, as well as ease technology transfer and expertise interchange.</b></p> <p><b>Description.</b> Provide specific information about coalbed methane potential, including information about coal basins, gassy coal mines, coalbed methane mining stocks and its quality in Mexico, so that concessionaires can have enough information to evaluate and execute this kind of projects.</p> <p><b>Background.</b> Although it is known that coalbeds are scattered throughout the national territory, only the ones located in the Sabinas Basin of Coahuila State have been studied in detail. There is no precise information about the volumes of methane in each basin. The more accurate the information about coalbed characteristics and the status of coal mines, the best a project design and a planning process can be done.</p> <p>Field surveys must be done to obtain information by sampling and analyses.</p>

<b>Mexico</b>	
<b>Step</b>	<b>Short description</b>
	<p>Create a strategic database with useful information for coal mining sector and of national and international market progress.</p> <p>Establish the required bonds with the main world information sources to share knowledge among government, investors, academic sector and researchers, non governmental organizations and society.</p> <p>Design a communication and education strategy to broadcast the main research results among civil society and contribute to enhancing its participation in preventive and corrective actions.</p> <p>Most of the resources needed for the development of this activity should come from the Ministry of Economy/ Mexican Geological Survey and the Ministry of Energy; nevertheless, Methane to Markets partnerships' technical and economical assistance should be required.</p> <p><b>2. Grant legal security to mining activities.</b></p> <p><b>Description.</b> Promote legal transparency in the regulatory regime through the publication of the Regulation of the Mexican Mining Law, which has not been issued yet, and the development of Mexican official standards, as needed.</p> <p>Concession granting process will be modernized with competitive standards and procedures.</p> <p>Promote the required changes in regulation to enhance self-</p>

<b>Mexico</b>	
<b>Step</b>	<b>Short description</b>
	<p>consumption of coal mine gas or its delivery to PEMEX (Mexican oil company).</p> <p><b>Background.</b> In March 2006, Mexico adopted a new Mining Law which allows coal mining companies to recover and use the coal mine methane. Since then, the Regulation to that law has not been issued, so companies are unable to plan specific mechanisms relating the recovery and use of coal mine methane.</p> <p>Furthermore, technical documents known as Mexican Official Standards must be issued to state the conditions under which mine methane will be recovered and used.</p> <p>Resources to promote these actions should be obtained from the Ministry of Energy, Ministry of Economy, and the Ministry of the Environment and Natural Resources.</p> <p><b>3. Project feasibility assessment.</b></p> <p><b>Description.</b> Determine the viability of a project through technical and economic assessments, to promote the design and establishment of productive projects. It considers the analysis of market conditions and associated risks.</p> <p>Raise a portfolio of feasible projects to promote mining investment.</p> <p><b>Background.</b> The Mexican government can provide assistance to those interested in mine coal methane use and recovery. Assistance ranges from information given via internet or written documents, to the development of</p>

<b>Mexico</b>	
<b>Step</b>	<b>Short description</b>
	<p>strategies or studies to evaluate project feasibility assessment and imports of the technologies required.</p> <p>Resources will be obtained through the Ministry of Economy and coal mining projects concessionaires.</p> <p><b>4. Technical training.</b></p> <p><b>Description.</b> Provide technical knowledge and the required expertise for the correct implementation of coal mine methane projects.</p> <p><b>Background.</b> Training is a fundamental condition to provide people with the required knowledge and abilities to perform an activity. Training is necessary for the development of coal mine methane projects, because of the novelty of the employed technologies and methodologies.</p> <p>Provide training and technical assistance to the mining sector participants.</p> <p>Workshops and survey visits to centers applying the technologies can be held as part of a training program.</p> <p>Resources can be obtained from the Ministry of Economy, the Ministry of Energy, and the Ministry of the Environment and Natural Resources, according to the training subject. Methane to Markets partnerships' technical and economical assistance should be needed.</p> <p><b>5. Financial and tax grants. Capital increases for mining</b></p> <p><b>Description.</b> Provide coal mine methane projects with economical and technological resources for its</p>

<b>Mexico</b>	
<b>Step</b>	<b>Short description</b>
	<p>implementation.</p> <p>Generate and promote risk capital schemes for companies and/or mining projects, especially during exploration and exploitation stages.</p> <p>Disseminate information about existing financial options to promote the implementation of high efficiency systems and devices.</p> <p><b>Background.</b> Methane coal mine projects are implemented according to its technical, economic, financial, and environmental feasibility.</p> <p><b>Participants.</b> Ministry of Economy, Ministry of Energy, Ministry of the Environment and Natural Resources, technology providers. Some kind of international assistance may be needed.</p>
6) Outline implementation plan for each recommended activity	<p>Resources will be provided as explained above, according to each Ministry competences.</p> <p>More precise information will be agreed among parties.</p>
7) Create a plan for updating and communicating the strategy to key individuals, organizations, and incorporating	<p>Meeting with key individuals and organizations for strategy presentation and analysis.</p> <p>Review and incorporate comments.</p> <p>Update key individuals and organizations for developing the strategy and request additional feedback as strategy is implemented.</p>

<b>Mexico</b>	
<b>Step</b>	<b>Short description</b>
it into national-level initiatives	