

# Reducing Greenhouse Gases

Methane utilisation and CO<sub>2</sub> storage



# The Kyoto protocol and targets of emission reduction ...



Containerised  
CHP-plant  
(courtesy of Minegas GmbH)

... form the basis for trading with emission reduction certificates. In this context the drainage and utilisation of methane in active and closed mines play a significant role. In this field as well as in all areas of mining, geology, safety above and underground and environmental protection, DMT possesses a unique knowledge base. Furthermore DMT has at its disposal a comprehensive range of technical equipment, the necessary stock of engineers as well as recognised expert status in numerous fields.

## **Our services at a glance:**

- Ventilation and gas release underground
- Gas emission in closed down mining areas and safety of the surface
- Gas utilisation
- CO<sub>2</sub> emission trading
- CO<sub>2</sub> sequestration
- Exploration geology
- Coalbed methane (CBM)

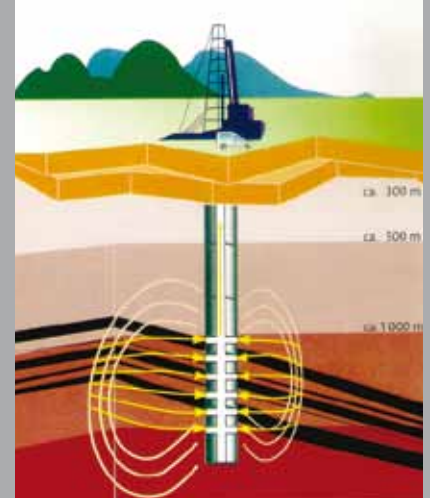
## **Ventilation and gas release underground**

We design ventilation systems and help you to improve and to optimise it by using ventilation modelling and monitoring. Gas release rates be controlled and gas content assessed with a view to planning a gas extraction system. And we help set up effective measures to minimise the threat of gas outbursts.



Drilling site in Waltrop, Germany

Principle of fracking in CBM wells



### **Gas emission in closed down mining areas and safety of the surface**

We measure and predict surface gas emissions in abandoned mining areas and plan protection measures for gas-affected buildings. Contact us if you are interested in designing and installing a gas drainage and extraction plant – and we will even operate it for you.

### **Gas utilisation**

We assess geological deposits for usable gas quantities and flow rates, identify optimum extraction sites and provide planning and technical support for the drilling phase. We have expertise in designing gas drainage and utilisation systems and undertake gas extraction tests backed up by monitoring and remote data supervision.

### **CO<sub>2</sub> emission trading**

On the basis of our assessment of the deposit concerning methane production and utilisation, interested companies are able to evaluate the generation of CO<sub>2</sub> certificates. Alternatively, we can also, in cooperation with competent partners, generate the certificates for you.

### **CO<sub>2</sub> sequestration**

We know how to locate potential sequestration parts of deposit and model CO<sub>2</sub> input and storage. We undertake borehole analysis and supervision work and provide technical and geophysical support for the entire borehole drilling cycle.

### **Exploration geology**

Our exploration services include feasibility studies, geological monitoring, geophysical borehole surveys, mine layout planning and documentation, and deposit modelling. We also investigate uncontrolled coal-seam fires and heatings.

### **Coalbed methane (CBM)**

We assess suitable deposits concerning CBM production, determine the coalbed methane content and model potential gas flow rates. We help identifying drilling sites and provide on-site support, as well as carrying out geophysical measurements and gas extraction tests.

References		
Description	Client	Country
Engineers assessment of gas release and optimisation of gas drainage for various mines	RWE Power	Russia
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Development of forecast model for methane recovery in coal mines	Deutsche Steinkohle AG	Germany
Project management for coal mine methane projects at active and abandoned coal mines	Minegas GmbH and Mingas-Power GmbH	Germany
Safety related consultancy for mine ventilation for German hard coal industry	Deutsche Steinkohle AG	Germany
Group concept of safety centre and consulting with regard to degasification, gas outbursts, ventilation and gas utilisation	Huainan Mining	PR China
Project management for coalmine methane projects through wells into old mine workings	Stadtwerke Herne AG	Germany
Evaluation of the methane potential in several coalfields	European Gas Limited (EGL)	France
Coal mine methane project of existing HVL coal mines	Energy Finance	Spain
Utilisation of methane gas for 3 u/g coal mines	Government of Northrhine-Westfalia	PR China
R&D project for CO <sub>2</sub> sequestration in abandoned coal mines	BMBF and Deutsche Steinkohle AG	Germany
Development of a coalbed methane project	Deutsche Steinkohle AG, CONOCO and Ruhrgas AG	Germany
Preparation and pre-feasibility assessment of a coalbed methane (CBM) recovery program	The International Bank for Reconstruction and Development (IBRD)	Ukraine

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