



# **Methane to Markets**

## **Country specific statement**

### **Poland**

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New Delhi, March 5th, 2010

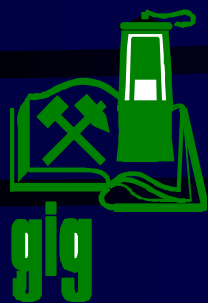
# Challenges for Poland

- More efficient utilization of the coal mine methane (CMM) obtained from the drainage process,
- The ventilation air methane (VAM) recovery – providing conditions for utilization,

# Coal mines (2010)

30 coal mines in operation, among them:

- 27 methane coal mines,
- 20 have drainage installations of methane,
- 14 utilize methane.



# Utilisation of drainage gas from hard coal mines in 2008

Number	Coal mine	Gas collection	losses	Utilisation	Efficiency of utilisation
		mln m <sup>3</sup> /year	mln m <sup>3</sup> /year	mln m <sup>3</sup> /year	%
1	Brzeszcze-Silesia	38.0	0.1	37.9	99.7
2	Zofiówka	17.0	0.5	16.5	97.1
3	Pniówek	44.1	5.1	39.0	88.4
4	Jas-Mos	9.3	1.2	8.1	87.1
5	Jankowice	11.0	2.6	8.4	76.4
6	Budryk	12.2	4.0	8.2	67.2
7	Halemba - Wirek	6.5	2.9	3.6	55.4
8	Mysłowice-Wesoła	10.2	4.6	5.6	54.9
9	Marcel	3.3	1.7	1.6	48.5
10	Borynia	6.6	3.8	2.8	42.4
11	Krupiński	52.7	31.6	21.1	40.0
12	Staszic	6.0	4.2	1.8	30.0
13	Bielszowice	6.9	5.0	1.9	27.5
14	Pokój	0.3	0.3	0.0	0.0
15	Sośnica - Makoszowy	17.2	17.2	0.0	0.0
16	Szczygłowice	17.4	17.4	0.0	0.0
17	Wujek	4.2	4.2	<b>Methane captured in underground drainage stations was totally released to the ventilation air stream</b>	
18	Rydułtowy - Anna	6.3	6.3		
19	Chwałowice	3.0	3.0		
20	Knurów	2.0	2.0		
<b>TOTAL</b>		<b>274.2</b>	<b>117.7</b>	<b>156,5</b>	<b>57,1</b>

# Coal mines (2010)

Methane from the coal mines is used in small scale units for:

- CHP,
- electricity generation,
- heat generation and cold .

# Annual methane's estimations for capturing from the coal mines in 2009 ( to be verified shortly)

Total amount of **924,373 mln m<sup>3</sup>** methane was released, which included:

- **659,793 mln m<sup>3</sup>** methane through ventilation systems,
- **264,580 mln m<sup>3</sup>** methane through degasification systems, which covered:
  - **77,180 mln m<sup>3</sup>** methane released to atmosphere,
  - **187,400 mln m<sup>3</sup>** methane utilized.

# Securing conditions for VAM utilization

- Introducing the technology allowing to separate methane from the ventilation air from Polish coal mines,
- Creating the economic conditions for utilizing the amount of VAM from Polish coal mines.

# U.S. E.P.A. award to VAM research

Detailed Characteristics of the Ventilation Air Methane Emissions from 10 Gassy Hard Coal Mines in Poland performed by Central Mining Institute of Katowice

The main task of the project is to quantify ventilation air methane emissions, including individual shafts' flows/fluctuations and possible end uses.

**Very first locations were recommended**



# Support scheme for using methane

For methane from the coal mines:

- New legislation is still in course of introduction under the program of executive activities for the energy policy for Poland till 2030...
- Activity 2.1 „Support for the economic utilisation of methane released during mining operations in the hard coal mines”
- Activity 2.2 .”Introduction of technological solutions enabling utilisation of VAM released from the hard coalmines to the atmosphere”

# Verification of the support for using methane

- In the year 2011 analysis of the introduced law (program of support) will be performed.
- Depending on the results certain steps will be undertaken in order to effectively implement above mentioned activities.
- We will be happy to share our experience with M2M ...

# VAM technology implementation

- Project of very first VAM utilization has full support of Polish Government (owner of the hard coal sector)
- Very first steps in order to implement it will be undertaken shortly

**Thank you for your attention**

Central Mining Institute of Katowice and  
Polish Ministry of Economy