



Methane to Markets Subcommittee Report Poland

Jacek Skiba – Central Mining Institute of Katowice

Rafał Wojciechowski – Polish Ministry of Economy

Monterrey, January 27th, 2009

Challenges for Poland

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

Utilization of the entire coal mine methane (CMM) obtained from the drainage process

Coal mines (2008)

31 coal mines in operation, among them:

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

Coal mines (2008)

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

- CHP,
- electricity generation,
- heat generation.

Annual methane's capturing from coal mines (2008)

Total amount of 879 mln m³ methane is being released, which includes:

- 610 mln m³ methane through ventilation systems,
- 269 mln m³ methane through degasification systems, which covers:
 - 103 mln m³ methane released to atmosphere,
 - 166 mln m³ methane utilized.

CMM supplies and possible energy gain

The whole amount of CMM captured and forecasted capture (mln of m³):

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
221,4	247,3	287,4	286,4	316,7	319,3	314,7	306,0	321,5	320,5

Achieved and forecasted utilization of CMM amounts introduced above (GWh):

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
738	824	958	955	1 056	1 064	1 049	1 020	1 072	1 068

U.S. E.P.A. award to CMM research

Abandoned mine feasibility study and coal mine methane to liquefied natural gas assessment ("Zory" Coal Mine) realized by Institute for Ecology of Industrial Areas.

The main goal of the research is to stress the necessity of obtaining CMM from abandoned mines and economic assessment of potential possibilities of using it in Polish conditions.

The ventilation air methane (VAM) recovery – securing conditions for utilization

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 ten 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.

U.S. E.P.A. award to VAM research (2)

Partial goals:

- characterization of variations of methane concentrations,
- individual shafts life prediction assessment and ventilation air production amounts based on the future coal extraction plans and gassiness of individual,
- creation of the data base meant for better understanding of VAM problem,
- attraction of the scientific institutions and investors to join their efforts in elaborating the technology capable to convert low concentration methane into electricity or heat.

- Szczyrk - February 2008 – **„New Trends in CMM Recovery and Utilization”** Workshop organized by Central Mining Institute, AGH University of Science and Technology **under support of US EPA and UNECE**
- **Krakow - September 2008 –Jubilee 50years anniversary of the World Mining Congress CMM Session**

Support scheme for using methane

For methane from coal mines:

- new support for CHP units through "CHP certificates" mechanism, as for today...
- excise tax exemption for electricity generation.

Thank you for your attention

Central Mining Institute of Katowice and
Polish Ministry of Economy