Coal and Methane Gas in Ukraine: Prospects of Production and Recovery

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Black Coal Production in Ukraine

- Coal mined in Ukraine, mln. t
- Coal mined by the mines of non-state form of ownership, mln. t
- Coal mined by the mines of the state form of ownership, mln. t
Methane as Alternative Source of Energy

Effectiveness of ventilation and gas drainage and methane recovery in 2013-2017

- Total volume of gas, mln. m³
- Capturing by gas-drainage systems, mln. m³
- Emission with ventilation air stream, mln. m³
- Methane recovered, mln. m³
Number of Mines with Gas-Drainage used

- **Totally mines with gas-drainage system**
- **State mines**
- **Private mines**
Technology of Pneumatic Hydro-Dynamic Impact Used for Methane Recovery Intensification

Technological scheme of Pneumatic Hydrodynamic Impact on the underground gas-drain borehole

1 - casing pipe of the underground gas-drain borehole
2 – perforations
3- pump-compressor pipe; 4 – pipe branch; 5 – valve; 6 – reducing pipe;
7 - pneumatic hydrodynamic impact;
8 – remote-control board;
9 - high-pressure compressor УКС-400;
10 – oil pump 50HP-32;
11 – manometer

Methane recovery from the borehole

Factual economic effect – UAH 1,250,000 per one borehole
Gas horizon: the new technology for gas drainage from the coal seams

The “gas horizon” technology provides:
* improved job safety for miners;
* operation of the longwalls with great loads on the stopes (3000 tons and more per day) in the mines, which are beyond the categories by methane content;
* pre-mined gas drainage from the local geological structures;
* commercial production of methane of the needed quality.

Practical realization the technology in the O.F. Zasyzdko Mine

Indicators of the technology realization
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Daily coal production, .000 t – 3-3.5
Methane content in the output air stream, % - 0.4-0.8
Amount of captured methane (100% CH₄), mln. m³ for 7 months – 6,0
Realization of the methane recovery project in the O.F. Zasyadko Mine
Realization of the methane recovery project in the private joint-stock company “Pokrovske Mine Management Department”
Thanks for your attention!