



Technical University of Silesia
Faculty of Mining and Geology
Institute of Geotechnology, Geophysics &
Ecology of Industrial Areas



Research in New Member States (Poland) Mining & Geo....

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Polish Mining Industry

MINERAL	PRODUCTION
Hard coal	101,8 mln t
Brown coal	59,5 mln t
Copper	29,7 mln t
Zinc – Lead	4,5 mln t
Sulfur	980 th t
Salt	760,0 mln t
Industrial minerals (sand, dolomite, granite, limestone, sandstone, loess, silt...)	200,0 mln t



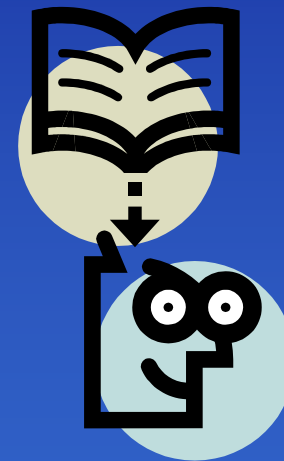
Research & Educational base in the field of mining and geology in Poland

Mining and Geology Faculties:

- University of Technology – Academy of Mining and Metallurgy – Krakow
- Technical University – Gliwice
- Technical University – Wroclaw

Universities with Geology faculty:

- University of Silesia in Katowice
- Jagiellonian University in Krakow
- Adam Mickiewicz University in Poznan
- Wroclaw University
- Warsaw University



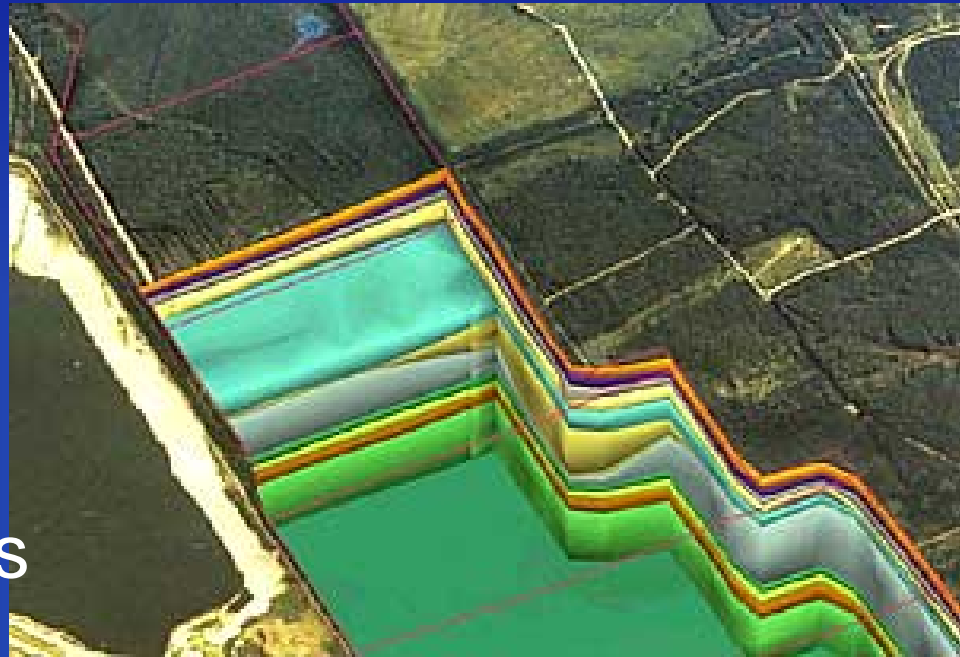
Fields of interest in Mining Research Programmes

- Mineral Resources Mining and Sustainable Development
- Health, Safety and **Environment in Mining** Industry
- Mine Planning and Design
- Clean Coal Technologies
- Mining Equipment Selection and **Adjustment**
- Advanced Mining Systems **and Remote** Control Technologies
- Mine Maintenance and Production Management



Fields of interest in Mining Research Programmes

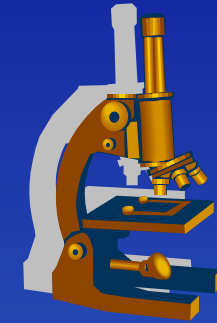
- Restructuring of Mining Industry
- Mine Closure and Rehabilitation as a part of the Mine Planning Process
- Post-mining activities
- Underground Waste Disposal and Storage of CO₂



Major UE Research and Educational Programmes

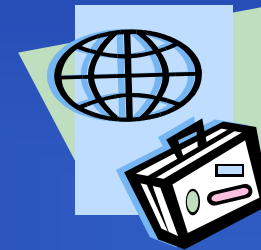
Research & Development Programmes:

- 5th Framework Programme (1998 – 2002)
- 6th Framework Programme (2002 – 2006)
- COST (*European Cooperation in the Field of Scientific and Technical Research*)



Educational Programmes:

- SOCRATES – ERASMUS
- Leonardo da Vinci
- CEEPUS (*Central European Exchange Programme for University Studies*)
- COPERNICUS



International R&D and Educational Programmes in TU of Silesia

- SOCRATES – ERASMUS (more than 200 students were sent abroad)
- TEMPUS Phare (11 projects)
- Leonardo da Vinci (4 students were sent and *Mobility for Practical Placement Programme* is currently conducted)
- CEEPUS (3 projects)
- COPERNICUS (6 projects)
- COST (2 projects)
- EUREKA
- 5th Framework Programme (7 projects)



The RECOPOL project

The Example of the successful international cooperation in the field of mining & geology - 5th Framework Programme

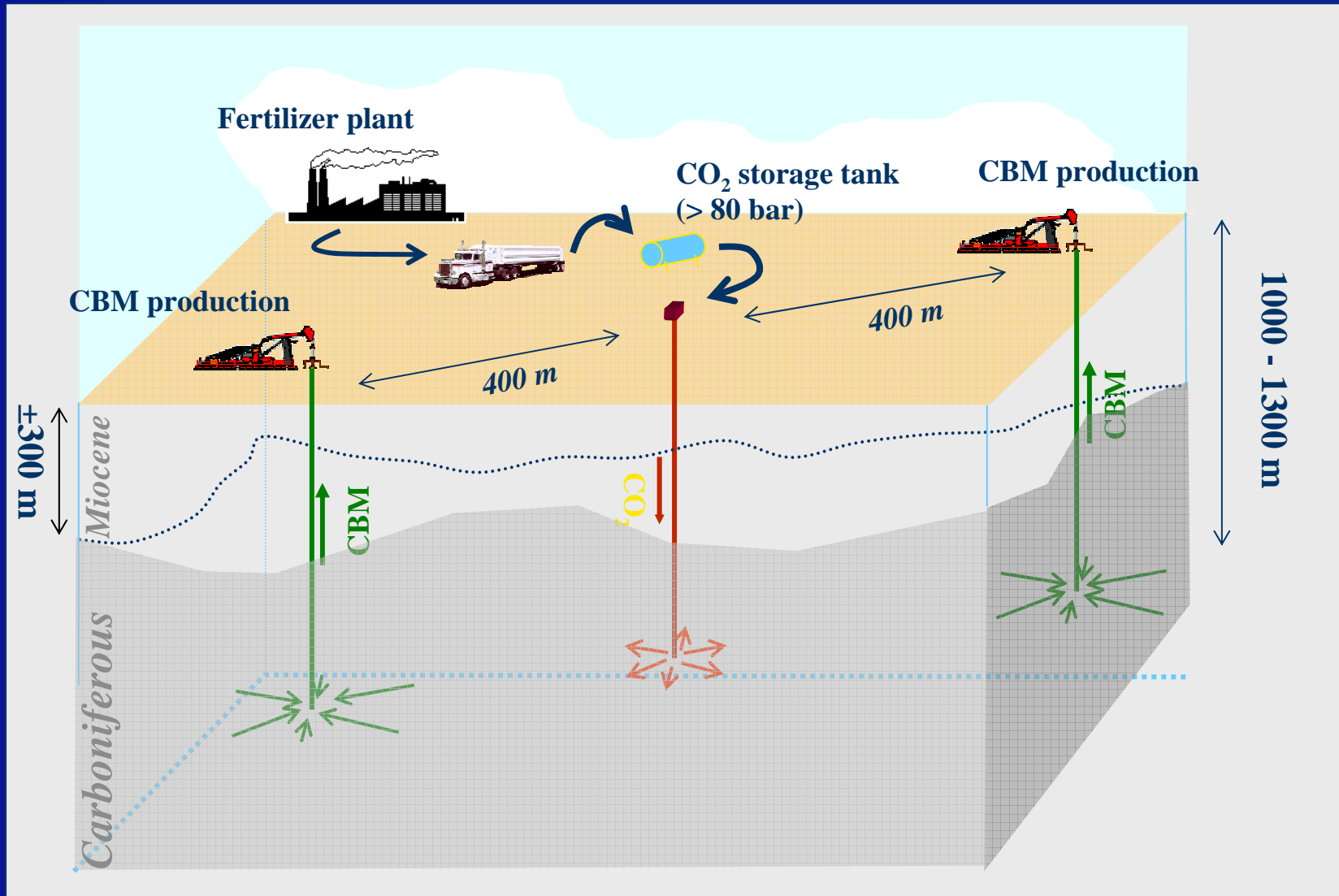
- **RECOPOL stands for:** “Reduction of CO₂ emission by means of CO₂ storage in coal seams in the Silesian Coal Basin of Poland”
- The RECOPOL project is an EU funded combined research and demonstration project to investigate the possibility of permanent subsurface storage of CO₂ in coal.

The field demonstration experiment is the first of it's kind outside Northern America – it's conducted in Kaniów (Poland)

Total budget: 3.5 million EURO

- EU 5th Framework Programme contributes 50%
- Partners contribute 50 %

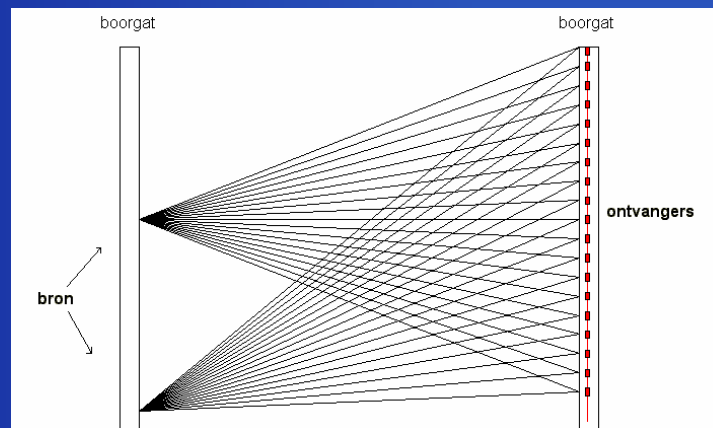
Conceptual design of the RECOPOL field experiment



The RECOPOL project

Main questions to be answered:

- Is subsurface storage of CO₂ in coal, while simultaneously producing CBM, a technically viable option under European conditions?
- Is subsurface storage of CO₂ in coal a safe and permanent solution?
- How much CBM is produced for each tonne of injected CO₂?
- Can subsurface storage of CO₂ in coal be applied on a larger scale in an economical and social acceptable way?
- What are the main criteria (geological/technical/economical/social) for any coal basin, in or outside Europe, to be suitable for this technique?



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The RECOPOL Project

- Partners:



Aachen Univ. of Technology (Germany)
Delft Univ. of Technology (The Netherlands)
Central Mining Institute (Poland)
Institut Français du Petrol (France)
CSIRO (Australia)
DBI-GUT (Germany)
Gaz de France (France)
Gazonor (France)
IEA GHG (International)

In Poland there are conducted many other projects in the field of mining and energy (Central Mining Institute, Polish Academy of Science, Universities)

Thank You for Your attention !!!

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of Silesia