

## REMINING-LOWEX Agenda Training Meeting

**Date: 2010 September 24**

**Place: Sofia, Bulgaria – Bulgarian Academy of Sciences, Geological Institute**

Time schedule	
Opening session <i>Klara T. Bojadgieva</i>	9:30 - 9:45
Introduction of the Remining-lowex project <i>Peter Op 't Veld</i>	9:45 -10:00
Exergy based concept for buildings and community systems Aims – concepts – methods <i>Peter Op 't Veld</i>	10:00 – 11:00
Short break	11:00 – 11:15
Introduction of the minewater-energy-concept (I) Principles – concept – examples <i>Erwin Roijen</i>	11:15 – 12:00
Questions and discussion	12:00 -12:30
<b>Lunch</b>	<b>12.30 –13.30</b>
Introduction of the minewater-energy-concept (II) Financial – organisation – implementation <i>Erwin Roijen</i>	13:30 – 14:15
Low temperature emission systems Concepts – examples <i>Peter Op 't Veld</i>	14:15 – 14:45
Short break	14:45 – 15:00
Workshop: case study ABV factory Cherno More Introduction – case study – evaluation <i>Klara T. Bojadgieva and Erwin Roijen</i>	15:00 – 16:00
<b>Closure of the meeting</b>	<b>16:00</b>

### Content

This general training will consider the application of minewater as an (geothermal) energy source. Thesis and questions which may come up are:

#### Geology, geothermal heat and drilling wells (supply side):

- How are accurate drillings to the abandoned mined galleries to be done?
- Does pumping out the mine water effect the upper surface (damage on buildings)?
- How is the thermal capacity of a mined area determined?
- Will the water temperature stay the same for a long time?
- How is geothermal energy and heat/cold storage to be combined? Does this combination influence the recovery time and total available energy in the mines?
- How is the water to be re-injected in the mines?
- What happens if different qualities of mine water (from different mined zones) are mixed up?

#### Energy and building services (demand side):

- What requirements are needed in buildings?
- Is the low-ex approach the only possible way?
- What minewater temperature levels are useful for building services?
- What level of thermal comfort (heating and cooling) can be achieved with minewater?
- How to deal with the preparation of domestic hot water?

Distribution and mine water treatment:

- How reliable is minewater as an energy source?
- How can the guarantees for delivery be enlarged?
- What criteria are important for designing a mine water transport system?
- How can the minewater energy be extracted?
- How to calculate the CO<sub>2</sub>-reduction of a minewaterproject?
- What are crucial go/no go points for a minewater project?
- What is a typical time schedule for research and development within a minewater project?

These topics are just an example of what the training could lead to.  
We hope for lively discussion and good dialogue with the participants.