



JSW SA

KWK Pniówek

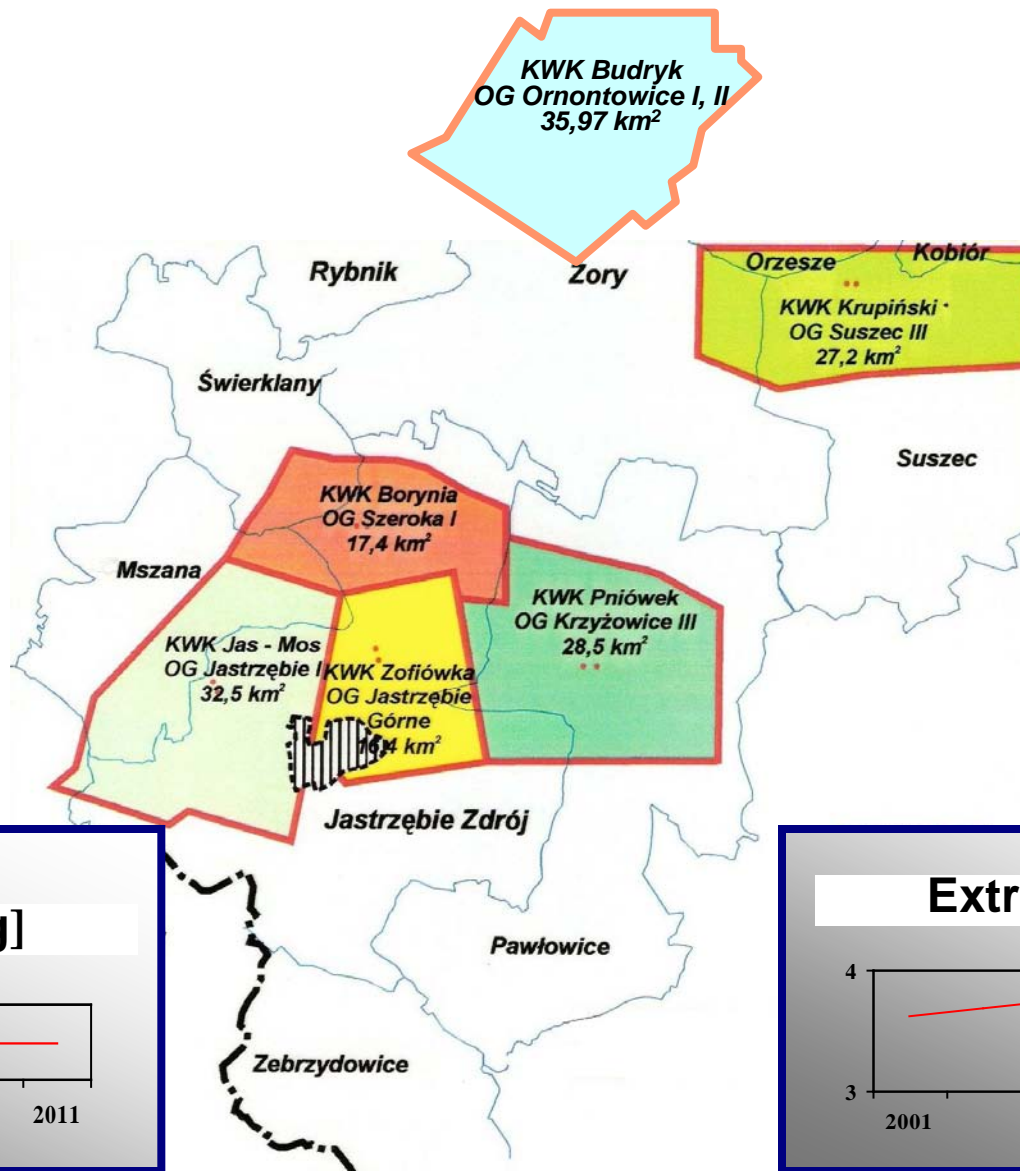
We mine all the best

Jastrzębska Coal Company

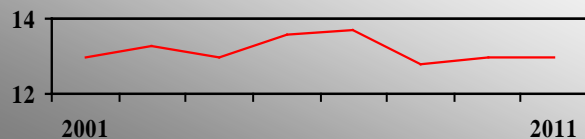


KWK Pniówek

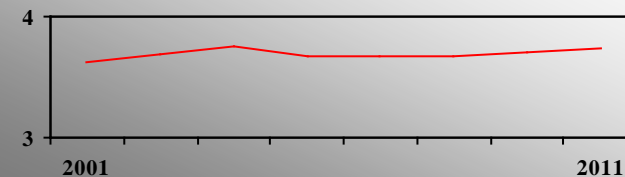
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Extraction [mln Mg]



Extraction [mln Mg]



Jastrzębska Coal Company Mining „Pniówek”



Methane hazard

- **methane hazard**

highest category - IV $> 8\text{m}^3/\text{Mg}$ carbon pure substance

- **absolute amount of methane :**

ventilation system

methane drainage
system

60%

40%

Methane intake structure

- mining excavation (mining face)
- closed excavation (mined face)
- excavation corridor



DRAINAGE BOREHOLES

diameter of the boreholes [mm] : 65 , 80 , 95

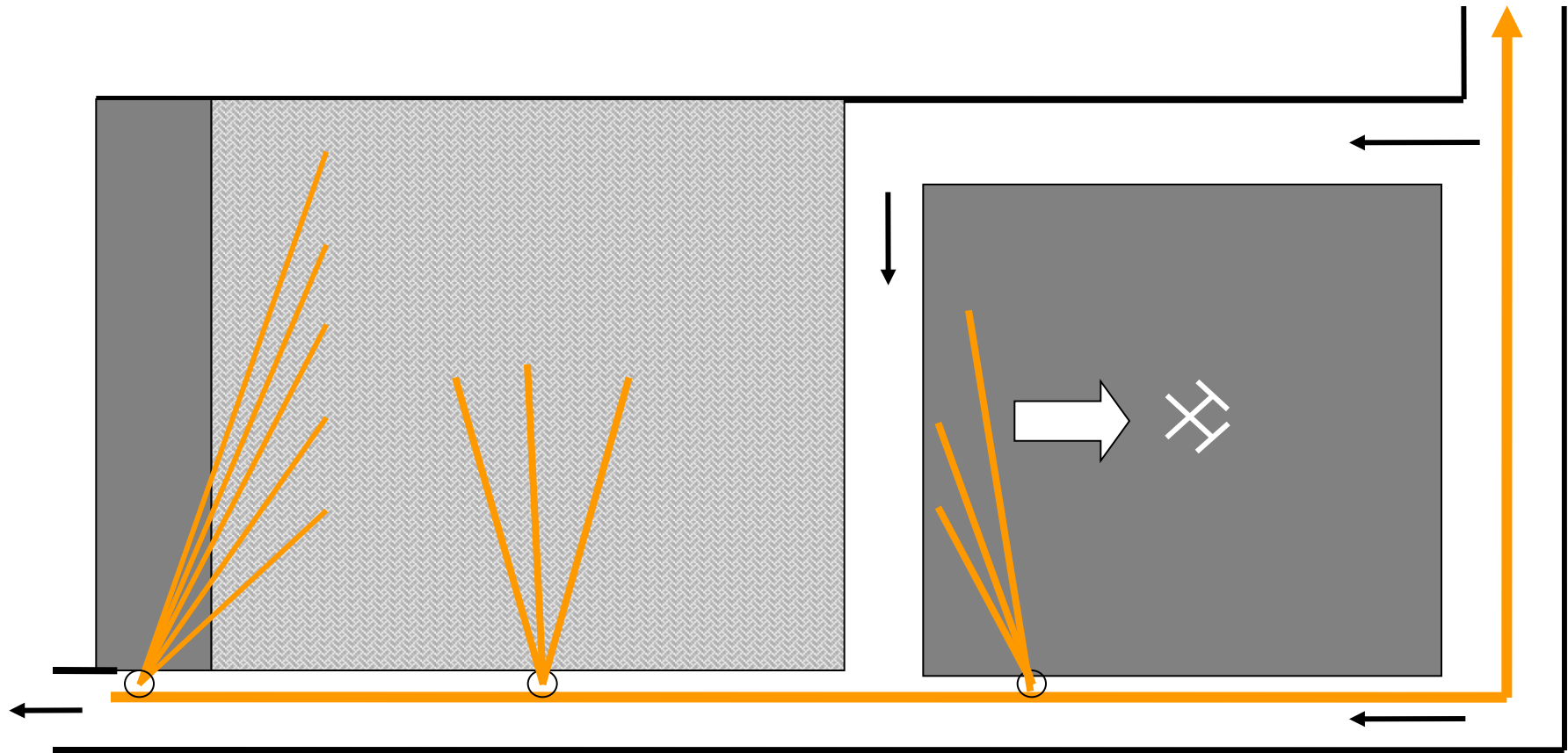
length of the drainage : from 50 to 110 m

DRAINAGE PIPELINES

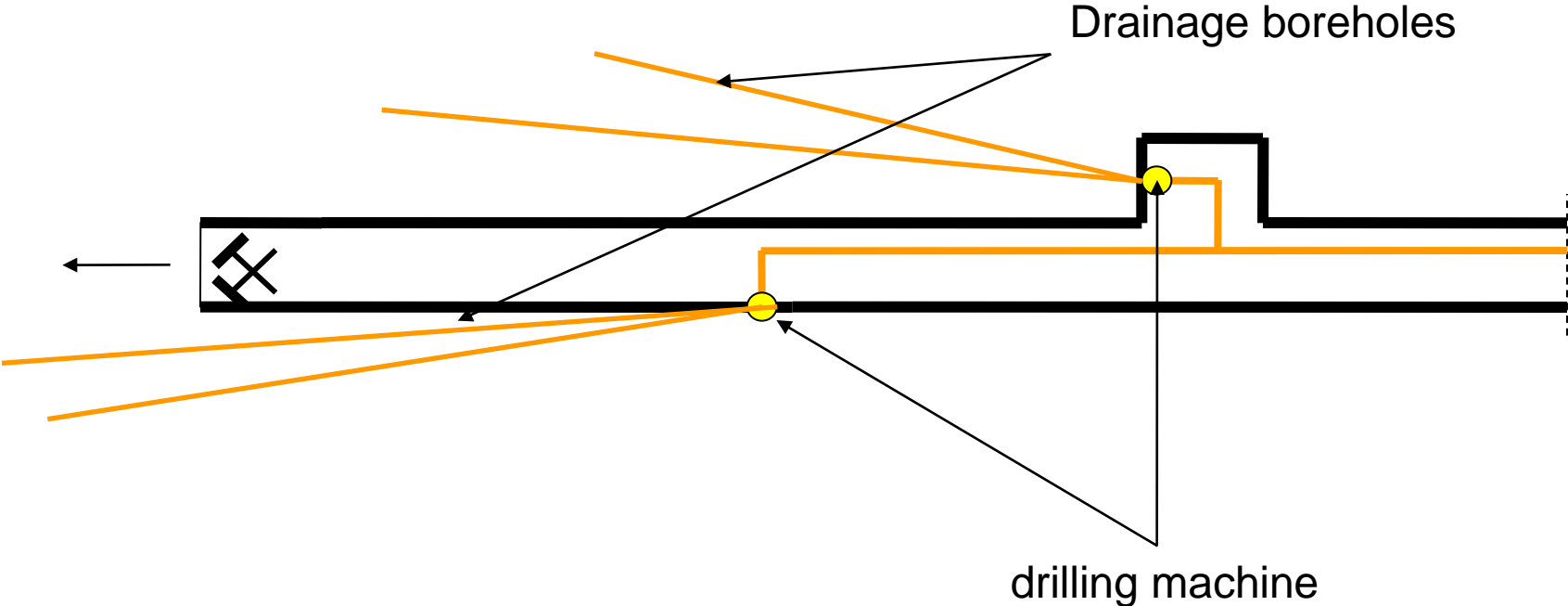
**pipelines diameter [mm] : 100 , 150 ,
200 , 300 , 400**

we are using steel or plastic pipelines

Long wall drainage system



Excavation corridor drainage system



Methane drainage pump station



Methane drainage pump station



KWK Pniówek

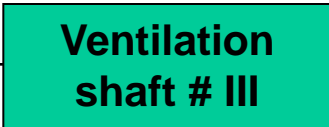
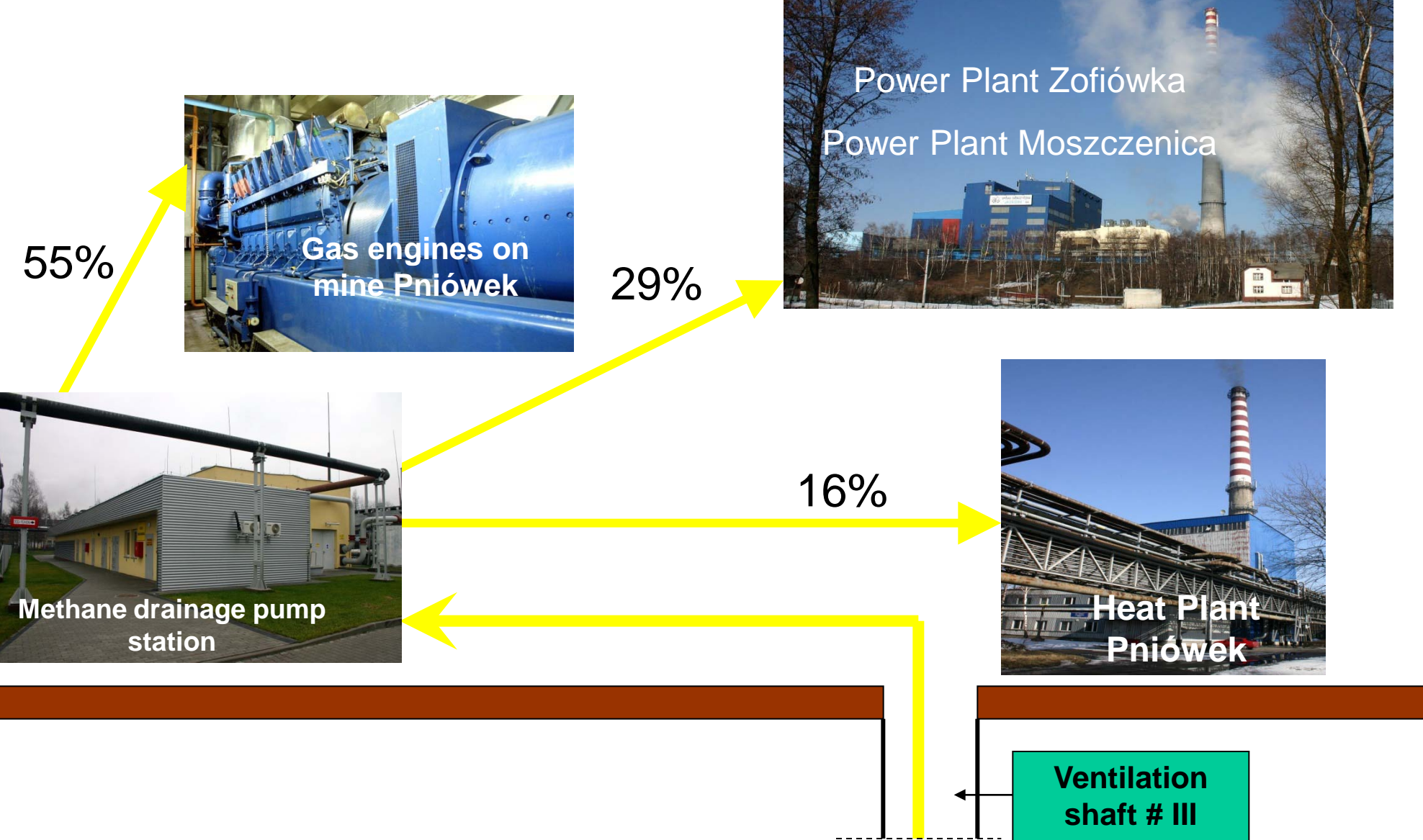
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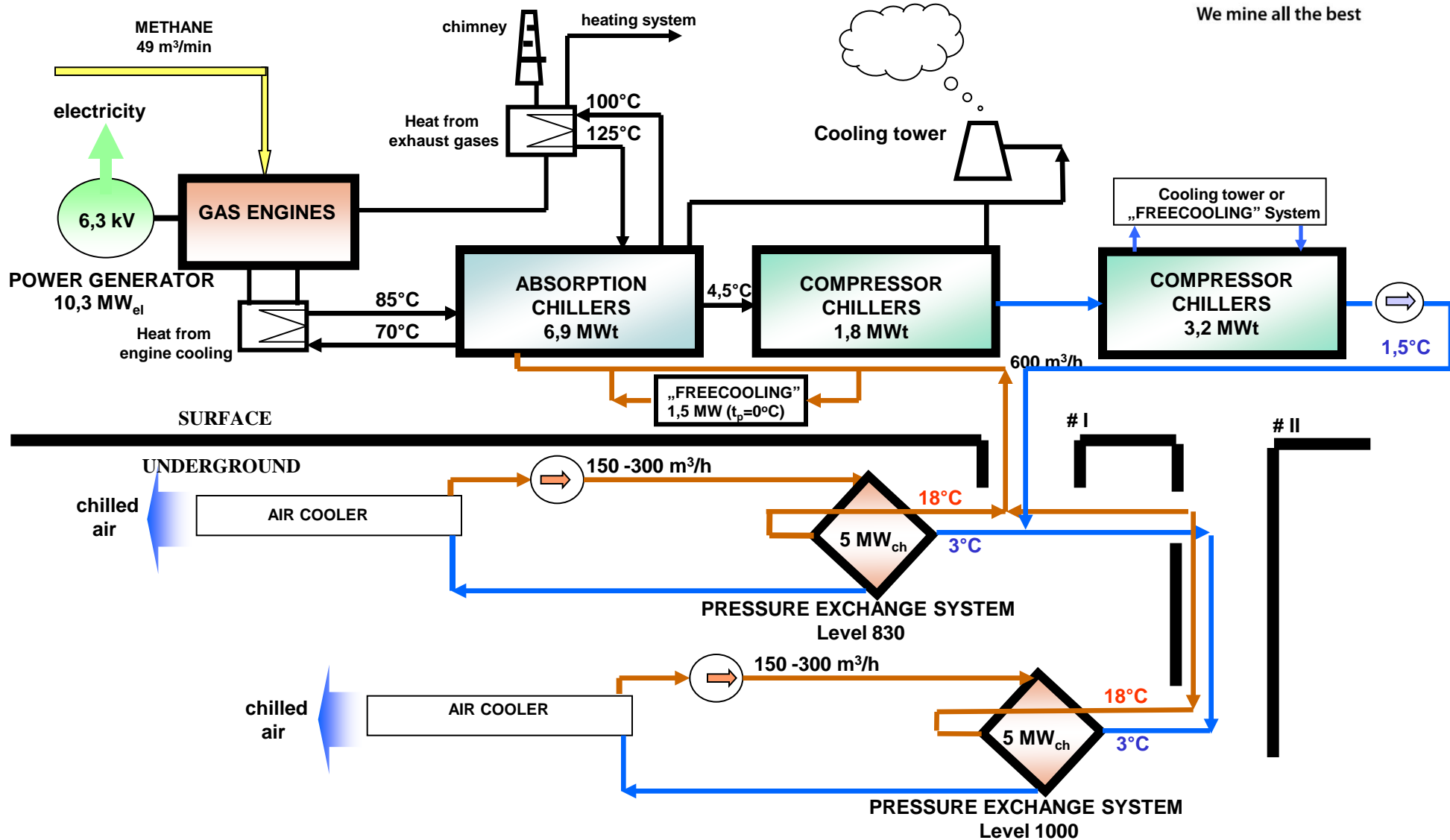
Main parameters of methane drainage pump station

| specification | Stage # 1 of compression | Stage # 2 of compression |
|-------------------------|--|-----------------------------------|
| Blowers type | DR 1600T (rotate) | DR 1200T (rotate) |
| Number of blowers | 4 | 2 |
| Expected sum of methane | 240 m ³ / min | 160 m ³ / min |
| Working pressure [MPa] | od 0,035 (underpressure) do 0,02 (hypertension) | od 0,02 do 0,08 (hypertension) |

Methane distribution



Combined Heat and Power system (CHP)



GAS ENGINE - TBG 632 V16 MWM DEUTZ



Absorption chillers



Compressor chillers



Pre-cooling system for cold water „FREECOOLING”

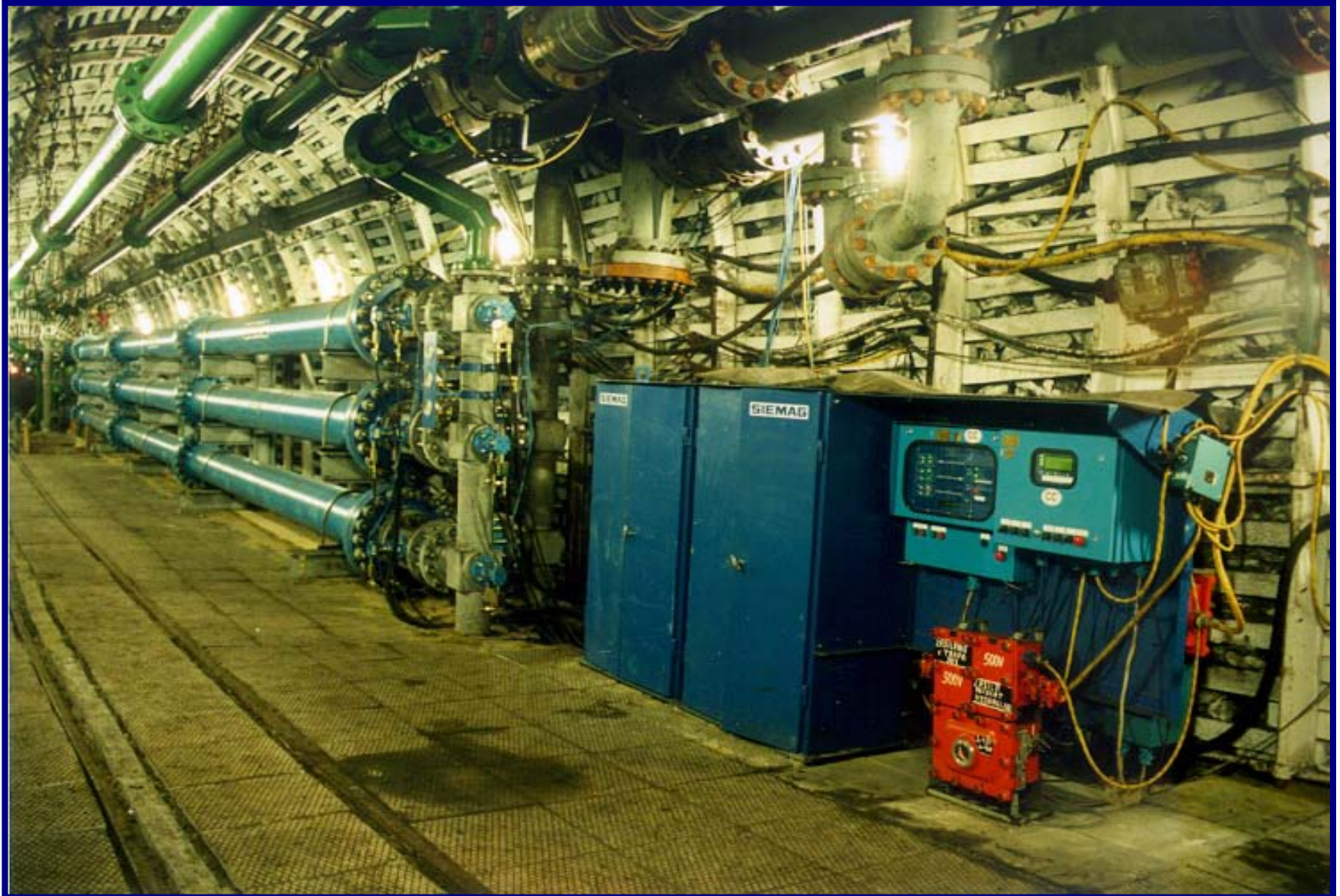


Pipelines to the shaft

Cold water pipelines



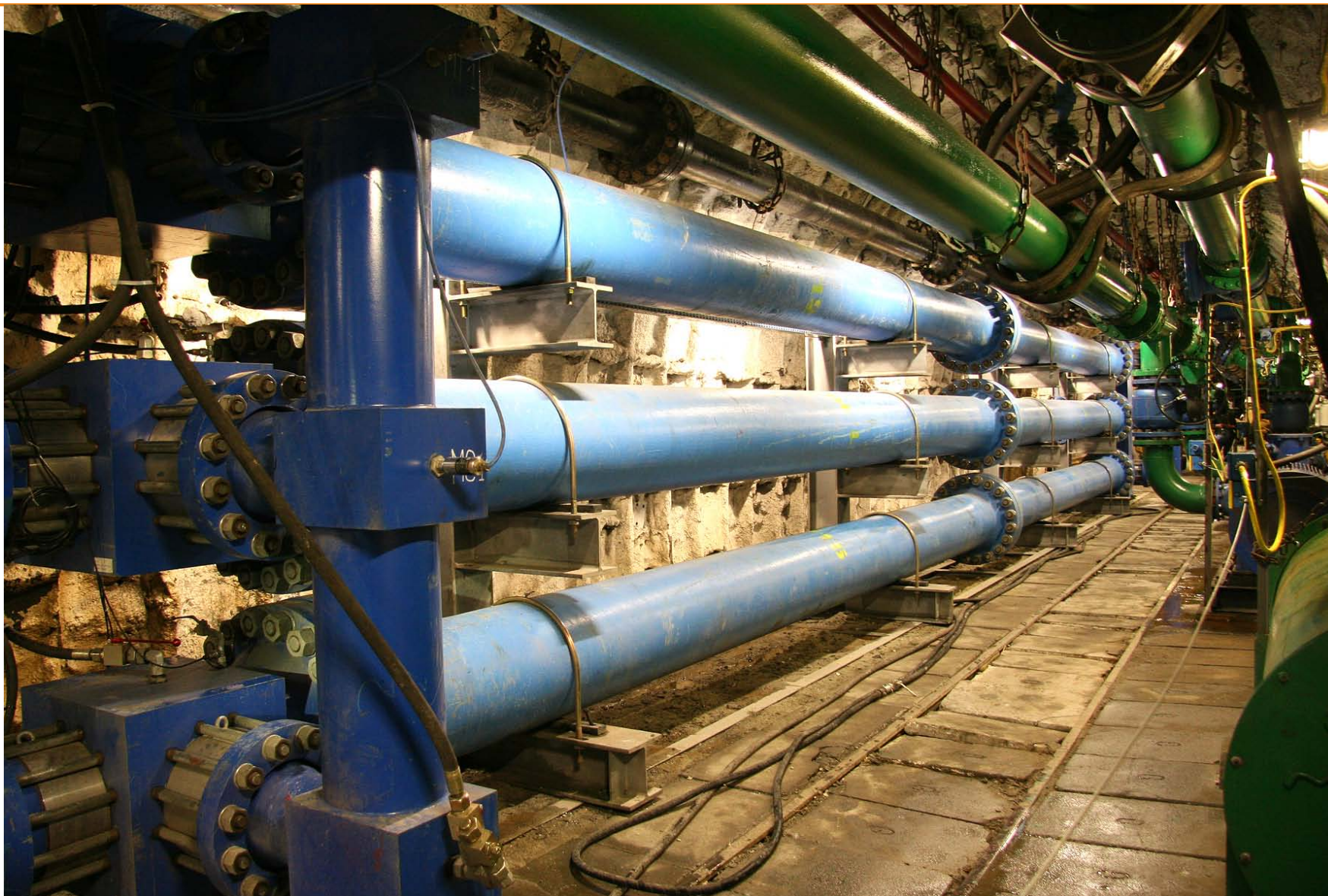
Pressure exchange system on level 830



Air coolers

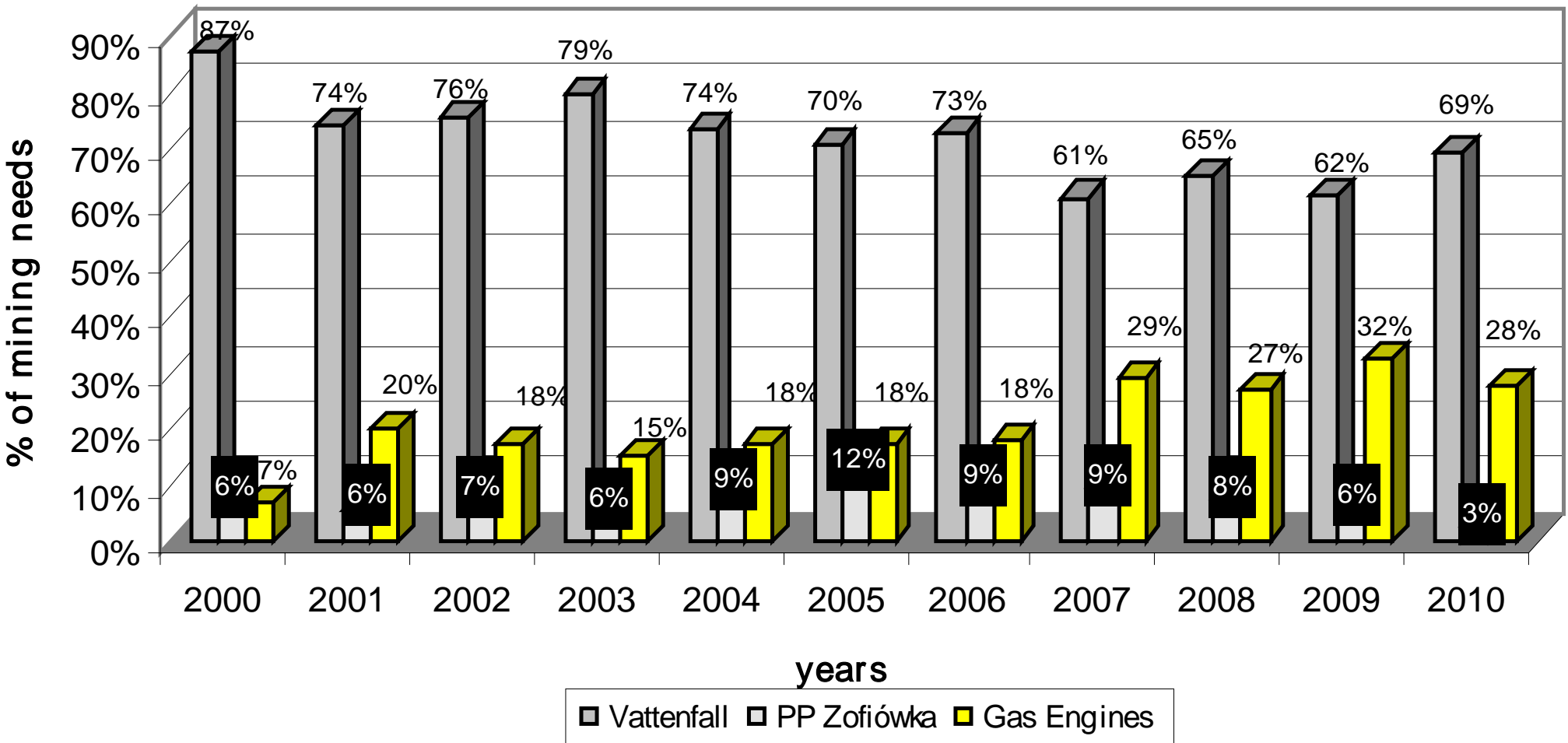


Pressure exchange system on level 1000



Measurable effects of trigeneration (CHP) system

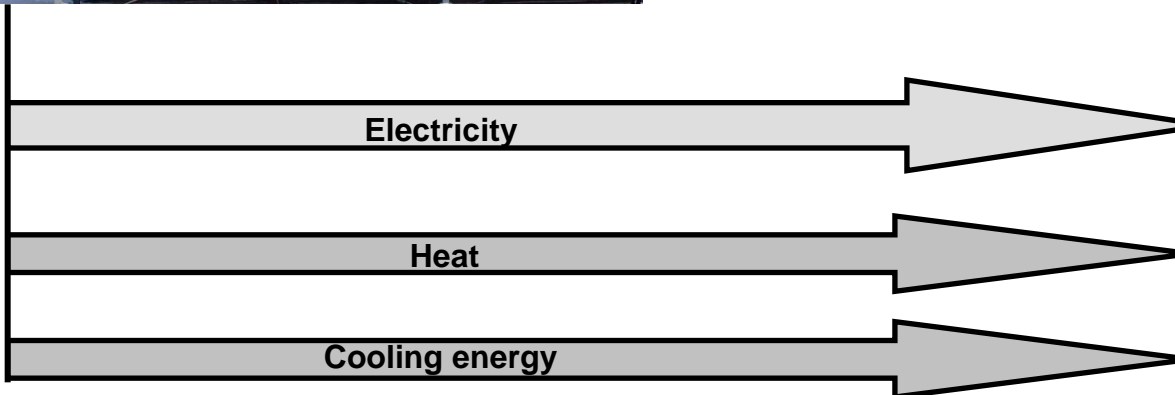
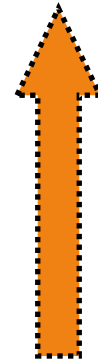
Electricity



Methane utilization effects

I-IX 2011

Lower methane emission
to atmosphere



Thank you for your attention





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