PERSPECTIVES FOR COAL –
A POLISH AND EUROPEAN VIEW
Perspectives for coal
A Polish and European view

- The Polish coal industry and its perspectives
- Coal in European energy policy
  - Energy package
  - CO₂ Emissions Trading Scheme
Coal in Europe

- Lignite production
- Hard coal production
- Hard coal imports

provisional / forecast (Data as per: 03/2006)
*2003/2004

EURACOAL Conference,
Brussels 29th January 2007 Figure 3
Polish Coal Basins and Reserves

- **DZW Lower**
  - Silesia Coal Basin
- **GZW Upper**
  - Silesia Coal Basin
- **LZW Lubelskie**
  - Coal Basin

- **Viable reserves**: 16,050 million t
- **Industrial reserves**: 6,725 million t
- **Operational reserves**: 4,800 million t
- **Easily accessible reserves**: 2,750 million t
The 2005 production of brown coal was 61.6 million tons.

At the end of 2005 the employment in brown coal industry amounted to 20,148 persons.
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DZW Lower
Silesia Coal Basin
GZW Upper
Silesia Coal Basin
LZW Lubelskie
Coal Basin
Hard Coal Production

mill. tons

0  20  40  60  80  100  120  140  160

147,4 140,1 131,3 130,2 132,7 135,3 136,2 137,1 116 109,2 102,2 102,8 102,1 100,4 99,2 97

**Legenda:**
1. JSW S.A. - Jastrzębie Coal Company
2. KW S.A. - Kompania Węglowa
3. KHW S.A. – Katowice Coal Holding
4. PKW S.A. – Southern Coal Concern
5. SRK S.A. – Mines Restructuring Company

**Number of active mines:** 33

- JSW S.A.: 5 kopalń czynnych
- KW S.A.: 17 kopalń czynnych
- KHW S.A.: 6 kopalń czynnych
- PKW S.A.: 2 kopalnie czynne
- SRK S.A.: 3 kopalnie czynne
- Kopalnie samodzielne
- KWK Kazimierz-Juliusz Sp. z o.o.
- BSRK Sp. z o.o. kopalnie likwidowane
- inne spółki akcyjne
- Minister Gospodarstwa
- NADZORCZE
- ARPA S.A. – Węgiersko-kociewskie
Coal and Lignite making a major contribution to Polish electricity production

- Hard Coal: 57%
- Lignite: 34%
- Oil: 2%
- Gas: 3%
- Renewables: 2%
- Others: 2%
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Coal will remain a major component of the European energy mix

2 901 TWh

2005

Policies to limit demand and CO₂ emissions

Wind
Hydro and other
Biomass-waste
Gas
Oil
Nuclear
Coal

2 %
11 %
2 %
20 %
5 %
31 %
29 %

4 367 TWh

2030

Policies to promote renewables

Policies needed to increase efficiency in generation

10 %
9 %
8 %
24 %
2 %
19 %
10 %

Source: EU Commission, Trend to 2030 – update 2005

Policies are needed to enable all fossil fuels to contribute to the solutions for climate change

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Coal’s major advantages

- Large reserves and extraction capacities in Europe and worldwide
- A well-supplied world market
- Coal can be easily stockpiled at mines, power stations or intermediate locations; stocks can be drawn on in emergency situations.
- Coal-based electricity is highly reliable.
- Coal prices are very stable and low; indigenous coal in particular can guard against import dependence and price shocks.
- Indigenous coal enables economic development and creates national as well as regional prosperity and employment.
EURACOAL welcomes major coal-related statements of the EU Energy Package

- Objective to develop efficiency improvements and CCS particularly until 2020 according to the TP ZEP
- Up to 12 large-scale demonstration plants with CCS to be built by around 2015
- About 5 years of demonstration
- Reliable regulatory framework for CCS, particularly storage, as soon as possible
Clean coal comes in three stages

**Clean coal I**
Retrofit and new-build in line with state of the art, increase in efficiency, reduction of $SO_2$, $NO_x$ and dust

**Clean coal II**
Research and development for increase in efficiency to > 50 %

**Clean coal III**
$CO_2$ capture and storage
Important aspects to be considered

- CCS is a promising technology route which must first be put in practice; not all countries have sufficient storage facilities.
- Not necessarily all installations have to be retrofitted with CCS after 2020.
- In some places, top efficiencies may be the best option.
- Capture-readiness must be defined.
- Formal decisions must be taken regarding timing of CCS deployment when the technological chain is developed.
- Incentives/Appropriate framework for deployment needed
Emissions Trading - Experiences

- CO₂ reduction through fuel switch has become increasingly more expensive and will jeopardize European competitiveness as well as security of supply.

- Regulation including Emissions Trading needs to stimulate investments – security for investors in coal-fired power plants beyond 2012 is needed.

- The Member States Kyoto and (for EU-15) the burden sharing commitments should be respected. Major coal-using countries are well on track.

Climate protection policies are to be tackled globally
Emissions Trading – Burden Sharing

EU-Greenhouse Gas Emissions

- development 1990 - 2005 in %
- agreed after Kyoto, resp. Burden sharing

Source: UNFCCC 2006, DIW Berlin
Conclusions

- EU-27 Member States’ energy mix and systems differ a lot – this is an advantage for security of supply that should be kept.

- The EU to fix the objectives and the details to be dealt with by the Member States according to the principle of subsidiarity.

- Coal has major advantages.

- Industry and national governments must work hard to make a technological leap in coal use happen.

- EU CO$_2$ regime to ensure investments in coal and coal-fired generation also in the medium term.
Thank you