

# 21<sup>ST</sup> WORLD MINING CONGRESS & EXPO 2008



KRAKOW-KATOWICE



1<sup>ST</sup> CIRCULAR

# SEPTEMBER 2008

GOLDEN SPONSOR

**KGHM**

PÓLSKA MIEDŹ S.A.

# WORLD MINING CONGRESS & EXPO 2008



KRAKOW-KATOWICE  
SEPTEMBER 2008

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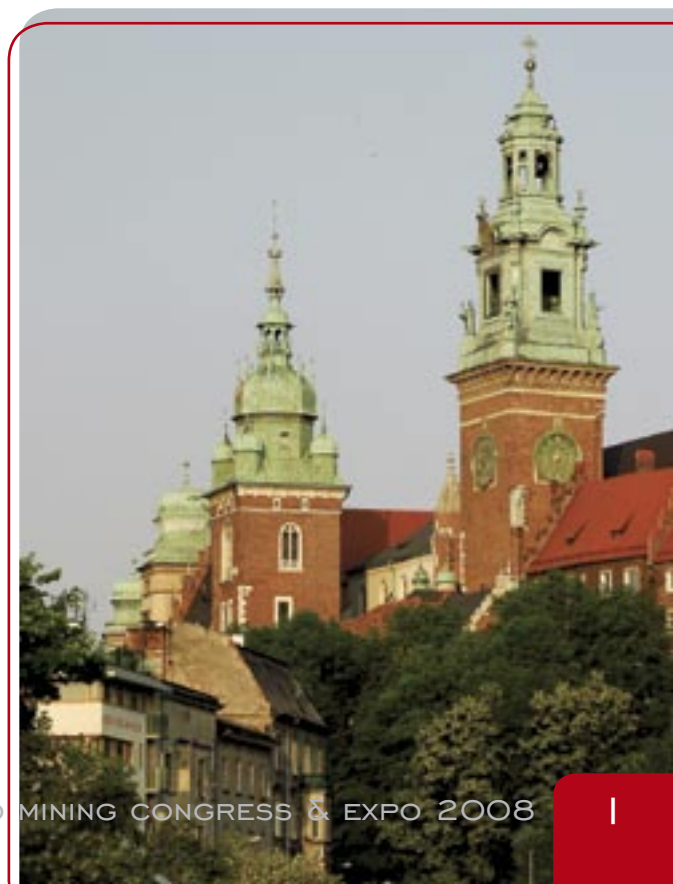
**KGHM**

POLSKA MIEDŹ S.A.

# 1<sup>st</sup> CIRCULAR

## 21<sup>st</sup> World Mining Congress Krakow-Katowice 2008

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## Dear Friends,

"A miner has always been and will be a man of technical and social progress. Because only through progress and the perfecting of social and technical work conditions, can a miner discover the secrets and treasures of the Earth, conquer and exploit them for the benefit of all and reverse dangers caused by nature and provide the country with forces of nature".

These beautiful words of prof. Bolesław Krupiński – the organizer of the first international meeting of miners from all over the world, fifty years ago in Warsaw – were an inspiration for the main watchword of the 21<sup>st</sup> World Mining Congress in 2008:

### **"New Challenges and Visions for Mining".**

We would like to invite You to the debates of the Congress which will take place from 7 through 11 September 2008 in Krakow, the Cultural Capital of Poland. Krakow is a city of unique character which has been and still is created by artists. It is our sincere wish that the days you spend in our city during the Congress are marked by unforgettable impressions stemming from your acknowledgement of the respect we pay to our traditions and the unique and magic character of Krakow, which makes us proud and has charmed our guests from all over the world for years. "If You want to know the spirit of Poland, You should come to Krakow" said Wilhelm Feldman (a historian and literature critic of the XX century). We would like to invite You to the city where scientific and artistic life is still growing. The prestige and beauty of the city is enhanced by amazing monuments such as the Wawel Castle, the Mariacki Church, the Collegium Maius of the Jagiellonian University, Sts. Peter and Paul Church, St. Adalbert's Church (one of the oldest in Poland), the biggest Market Square in Europe, the Cloth Hall "Sukiennice" and a lot of other historic monuments which are placed on the UNESCO World Heritage List. Found on the same list is also the most famous salt mine in the world – in Wieliczka (near Krakow). The historic salt mine in Wieliczka is the only mining site in the world, which has functioned continuously, since the Middle Ages till now. It cannot be compared to anything else in the world. From its very beginnings the mine has been visited by the famous and the mighty of this world: Kopernik, Goethe, Humboldt, Paderewski, Mendelejew, Baden Powell, Karol Wojtyla (the later Pope John Paul II) – ordinary people and crowned heads of state have visited this remarkable site. Since 1978, the mine is on the UNESCO World Heritage List – where it was named among the top twelve most remarkable sites in the world. The mine comprises 7.5 million square meters of excavated area stretching over nine levels located between 64 and 327 meters below the surface, tunnels with the total length of more than 320 km and over 2148 chambers. In 10 of its chambers it hosts an underground exhibition of the Salt Mine Museum. The collection includes antique tools, machinery and equipment, lighting equipment, as well as an exposition of archaeological findings and interesting geological specimens. The exhibition also includes a painting portraying the work of miners in the old days, models of old buildings and mining structures, and a miniature model of Wieliczka of 350 years ago as well as a cross section of the old mine.

Pope John Paul II called Krakow "The City of my life" – this is the most beautiful name which could have been given to this city after its one-thousand-year history.

On behalf of the Committies we would like to invite each one of you – who feel closely about mining traditions and passion – to this magic and incredible city.

Chairman of the Honorary Committee

**Antoni TAJDUŚ**

Chairman of the Advisory Committee

**Piotr BUCHWALD**

Chairman of the Scientific Committee

**Wacław TRUTWIN**

Chairman of the Organizing Committee

**Jerzy KICKI**

# 21<sup>st</sup> World Mining Congress Krakow-Katowice 2008

**Patronage over the 21<sup>st</sup> World Mining Congress – Krakow-Katowice 2008  
assumed by The President of the Republic of Poland, Lech Kaczyński**

The leading theme of the Congress:

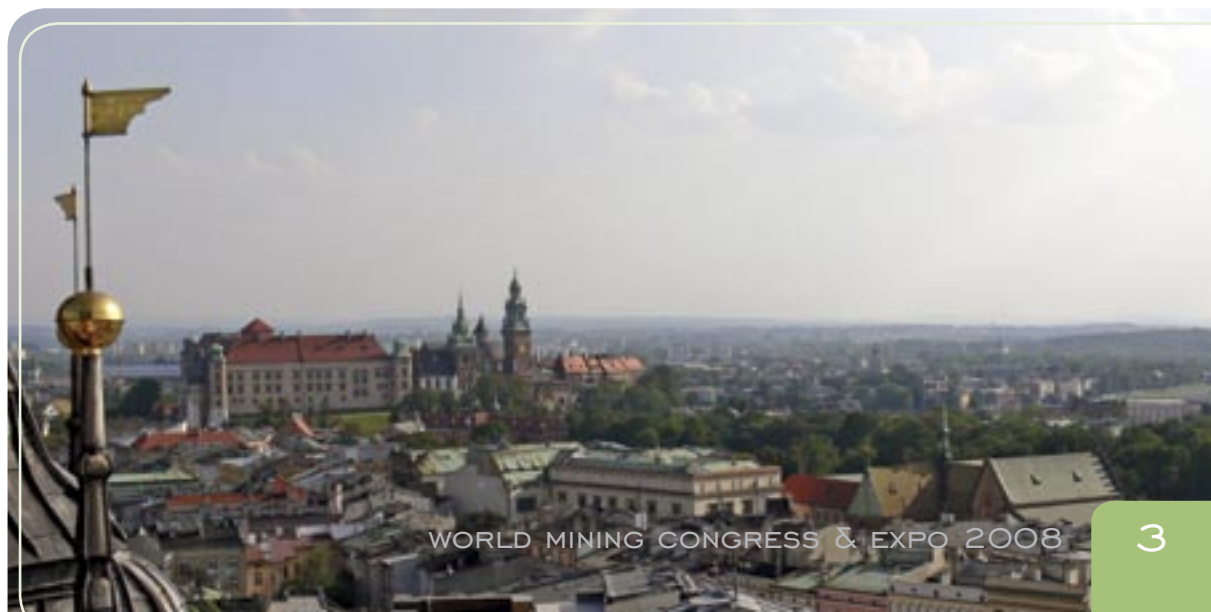
## **NEW CHALLENGES AND VISIONS FOR MINING**

Date:

**7–11 September 2008**

### **The main topics:**

- ❑ New underground mining methods and technologies
- ❑ New opencast mining methods and technologies
- ❑ Legal aspects of mining activities
- ❑ The risks in mining
- ❑ Practice for educating mining engineers
- ❑ Mining hazards and hazard prevention
- ❑ Work safety in mining
- ❑ Information Technology in mining
- ❑ Sustainable development, mining – environment
- ❑ The mine as a witness to history and a monument of technology
- ❑ Coal – its role as an energy source – future for the coal mining industry
- ❑ Mine closure



## The 21<sup>st</sup> World Mining Congress Framework Programme



### Day 1

7.09.2008 – SUNDAY

- Congress Opening
  - ◆ Address by the President of Poland
  - ◆ Address by the Economy Minister
  - ◆ Address by the Presidents of Krakow and Katowice
  - ◆ Address by the President of the World Mining Congress – “50 years of the World Mining Congress”
- Performance by the Song and Dance Ensemble “Śląsk”
- Welcome Function – the National Museum

### Day 2

8.09.2008 – MONDAY

09.00-13.00 – Plenary Lectures

13.00-15.00 – Dinner

15.00-19.30 – Plenary Lectures

20.00-22.00 – Entertainment show: mining traditions and a traditional miner initiation rite (called “jump over a leather apron”) – AGH, building N° A-0



AGH UNIVERSITY OF SCIENCE  
AND TECHNOLOGY

# The 21<sup>st</sup> World Mining Congress Framework Programme

## Day 3

**09.09.2008 – TUESDAY**

- Opening of EXPO in Expo Silesia – a visit by Congress attendees

## Day 4

**10.09.2008 – WEDNESDAY**

- Proceedings in sessions in Krakow
- Departure for Katowice, Lubin and Bełchatów – proceedings in sessions

## Day 5

**11.09.2008 – THURSDAY**

- Plenary sessions – Congress closure ceremony
- Farewell concert

### **The Honorary Committee:**

chairman: Prof. Antoni TAJDUŚ – the Rector of the AGH University of Science and Technology

### **The Advisory Committee:**

chairman: Ph.D. Eng. Piotr BUCHWALD – the President of the State Mining Authority

### **The Scientific Committee:**

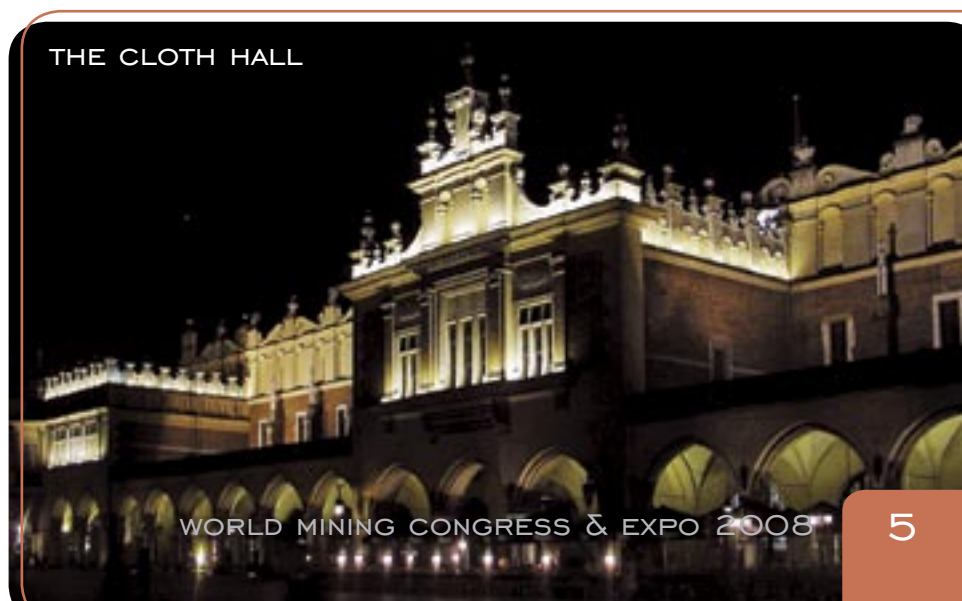
chairman: Prof. Waław TRUTWIN

### **The Organizing Committee:**

chairman: Ph.D. Eng. Jerzy KICKI

- Artur Dyczko
- Agnieszka Stopkowicz
- Jacek Jarosz
- Eugeniusz J. Sobczyk
- Piotr Saługa
- Jacek Bielawa
- Jacek Skiba
- Michał Kopacz
- Marek Praski
- Barbara Marchewczyk
- Katarzyna Witek

THE CLOTH HALL



## Conference fee

**Deadline for entering:**

- before 31 March 2008  
500 euro,
- after 31 March 2008  
650 euro,
- accompanying person  
250 euro.

**Deadline for submitting abstracts:**

- 31 January 2008.

**Deadline for submitting papers:**

- 31 May 2008.

ST FLORIAN'S GATE





# Plenary session venues of the 21<sup>st</sup> World Mining Congress in Krakow, 2008

Debates of the 21<sup>st</sup> World Mining Congress's plenary sessions will be held in the lecture halls of the new Jagiellonian University's congress center named "Auditorium Maximum".

In 2001 the Senate of the Jagiellonian University decided to build a lecture theatre complex, the Auditorium Maximum, located in Krupnicza Street. The investment planners proposed the building of a complex, consisting of large, modern lecture theatres in the immediate vicinity of the Paderevianum College. Having since been realised, it now comprises the main theatre for 1200 people, (which, if necessary, can be divided into two smaller rooms accommodating 600 people each); one lecture room for 250 people; two for 150 people, and one for 100 people, as well as the necessary catering and sanitary facilities.

The Auditorium Maximum was officially opened on 9 September 2005. The theme session proceedings will, however, be held at the venues of the AGH University of Science and Technology.

The structure of the University is unique to both Poland and Europe. It comprises faculties busying themselves with technical, earth, basic and social sciences. It is also a typical technical university. Traditional fields of science – utilizing contemporary scientific and technological achievements, as well as newly-developing fields with state-of-the-art and futuristic solutions (introducing us to the 21<sup>st</sup> century) are present – in both student education and research.

The scientists working at AGH concern themselves with a broad scope of mining, metallurgy, geology and environment-protection related issues. An extremely important area of research is information technology, telecommunications, electronics, and research into new materials, especially nanotechnology and biomaterials.



COLLEGIUM MAXIMUM



## MINING EXPO

EXPO SILESIA Exhibition Centre  
Sosnowiec, Upper Silesia, Poland  
9-12 September 2008

## The **MINING EXPO 2008**

exhibition of mining  
equipment and  
machinery will form an  
integral part of the  
21<sup>st</sup> World  
Mining Congress.

The EXPO run in conjunction with the congress is undoubtedly a top class international event:

- this is a unique opportunity for companies and manufactures to showcase their latest achievements and equipment technologies to a wide audience especially to those officials and specialists from all over the world, responsible for future developments and key decisions of the mining sectors of their countries,
- for the first time in many years MINING EXPO will be held in Europe,
- as before, major worldwide producers of mining equipment and machinery will take part in the exhibition – more than 400 firms from 25 countries were represented at the two previous expos,
- a specially designed Asian Pavilion will be featured as part of the exhibition, bringing together companies from the East,
- the exhibition will host organised groups of visitors, in particular parties of specialists from Eastern European countries,
- the exhibition will take place in the newly established EXPO SILESIA exhibition centre, situated at the heart of the Silesian conurbation and the Polish mining industry.



PLAN VIEW OF THE EXHIBITION HALL  
AND FAIRGROUNDS SITE



## Scope and content of the EXPO exhibition

In line with the congress motto **“New Challenges and Visions for Mining”** the Mining Expo will present the opportunity to view the latest equipment technologies and techniques employed in the mining industries. The exhibition will be themed around the following sectors of the industry:

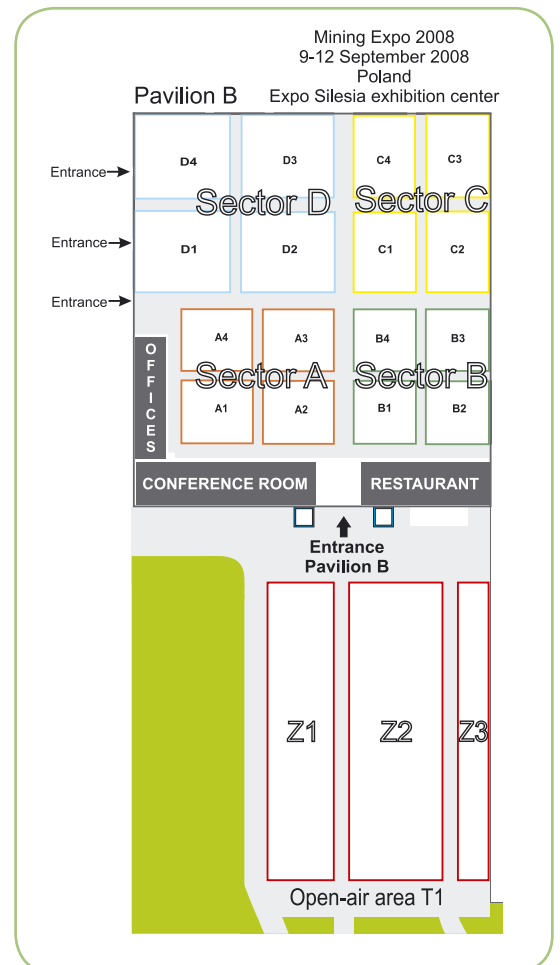
- mining and processing of bituminous coal and lignite,
- machines and equipment for ore extraction and processing,
- drilling machines and drill fittings,
- rock mining,
- chemicals for the mining industry,
- electric power technologies,
- products from the iron & steel sector for the mining industry,
- environmental protection,
- occupational health and safety.

## Exhibition venue

The **MINING EXPO 2008** exhibition of mining equipment and machinery will be held at the Expo Silesia exhibition centre in the town of Sosnowiec which is situated within the extensive Silesian conurbation.

Key advantages of the facilities, accessibility and location:

- less than an hour's drive from the centre of the city of Krakow where the Congress is scheduled,
- 2 conveniently placed international airports – Katowice-Pyrzowice (20 minutes' drive) and Krakow-Balice (40 minutes' drive),
- 13.5 thousand sq metres of indoor exhibition hall space alongside over 20 thousand sq metres of outdoor exhibition space – offering full trade fairs and exhibition infrastructure with access to all main services and utilities.



# 21<sup>ST</sup> WORLD MINING CONGRESS & EXPO 2008

## MINING EXPO

EXPO SILESIA Exhibition Centre  
Sosnowiec, Upper Silesia, Poland  
9-12 September 2008



### The organiser & contact persons

The organiser of the MINING EXPO accompanying the 21<sup>st</sup> World Mining Congress 2008 is Kolporter Expo Company. It is managed by a team of dedicated professionals experienced in delivering successful international trade fair events which includes the sectors of the mining industry.

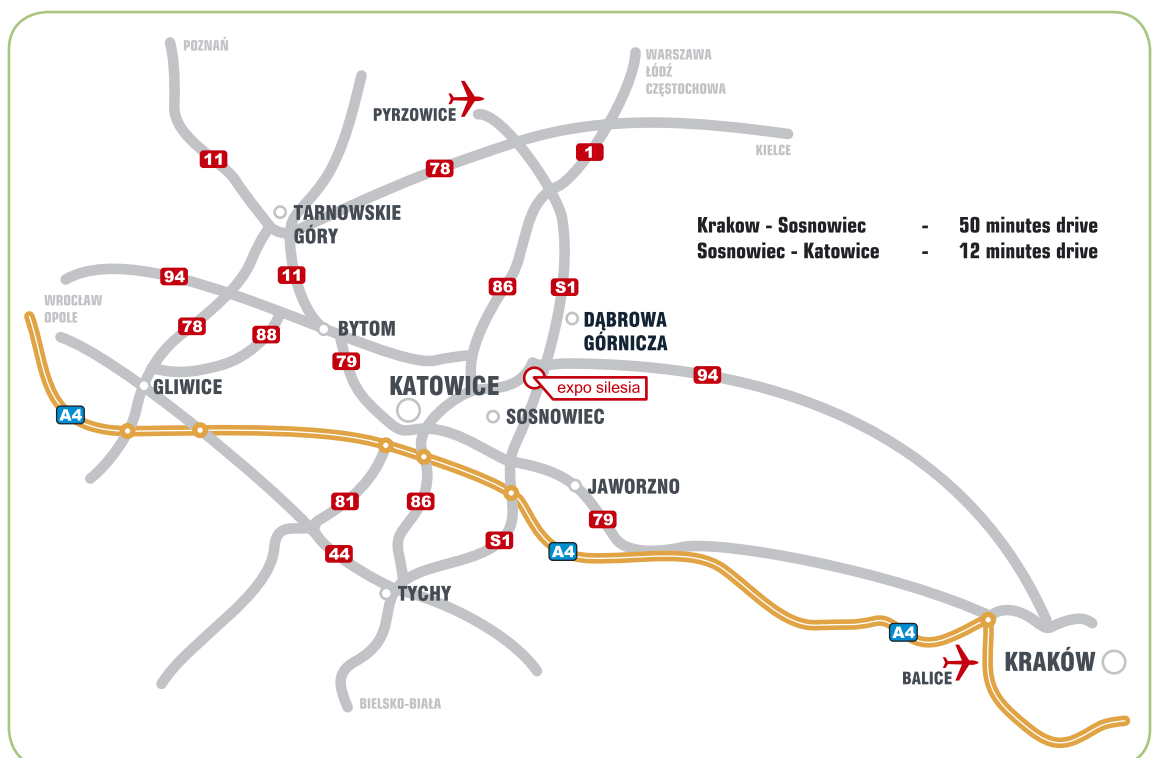
#### Contact – Mining Expo exhibition office in Poland:

**Ms Anna Opitek +48 32 78 87 510**  
e-mail: [anna.opitek@kolporter.com.pl](mailto:anna.opitek@kolporter.com.pl)

**Mr Robert Torka + 48 32 78 87 512**  
e-mail: [robert.torka@kolporter.com.pl](mailto:robert.torka@kolporter.com.pl)

**Ms Malgorzata Sosna + 48 32 78 87 511**  
e-mail: [malgorzata.sosna@kolporter.com.pl](mailto:malgorzata.sosna@kolporter.com.pl)

For more information about the MINING EXPO 2008 please visit [www.miningexpo.pl](http://www.miningexpo.pl) web site.





SONG AND DANCE ENSEMBLE "ŚLĄSK"

## Concerts and events accompanying the Congress

### Gala concert performance – the Song and Dance Ensemble "Śląsk"

Song and Dance Ensemble "Śląsk" was founded in 1953 by professor Stanisław Hadyna, who also became its art director. He is the son of a Silesian music teacher who is also a well known folk-song collector.

The very high artistic standard maintained by the Ensemble has brought it recognition throughout the world, numerous awards and honours. Among others a Silesian Music and Art Award, an Honorary Diploma from the US President and a Diploma of Recognition from the USSR Culture Ministry.

"Śląsk" performed in such countries as: Algeria, Australia, Belgium, Bulgaria, China, Denmark, Egypt, Finland, France, Greece, Spain, Holland, Hong-Kong, Israel, Yugoslavia, Canada, Korea, Mongolia, Mexico, Norway, Romania, Tunisia, the USA, Hungary, the UK, Italy and the USSR.

### Entertainment show: Mining Traditions and a Traditional Miner Initiation Rite (called "jump over a leather apron") – AGH, building N° A-0

"The jump over a leather apron" is an initiation rite for young miners (foxes) accepted into the Miners' Guild. It took place in a pub during a beer shift. The neophytes were led, singing, by a "fox-major" before a committee of experienced diggers, or "old thatches".

After an examination the candidate performed a jump over a leather apron and was dubbed a miner. He was then led to the feast table by a "beer father". The leather apron was the most important attribute of a miner's outfit. The miner would kneel on it, when he had to work in such position; he covered himself with it when water poured from the roof; sat on it when he was eating and even his wages were placed on the leather.

"The leather" became the symbol of the mining profession. The ceremony of dubbing novice miners has always been a very solemn one. The tradition has been cultivated and, nowadays, the rite is performed as part of the St Barbara Day Festivities (their patron's feast day).

In the Copper Basin, the rites are usually performed at Beer Festivals or street performances taking place in mining towns. The ceremony ends with the singing of the Miners' Anthem.



MINER INITIATION RITE

## Concerts and events accompanying the Congress

### The Warszawa Chamber, Wieliczka

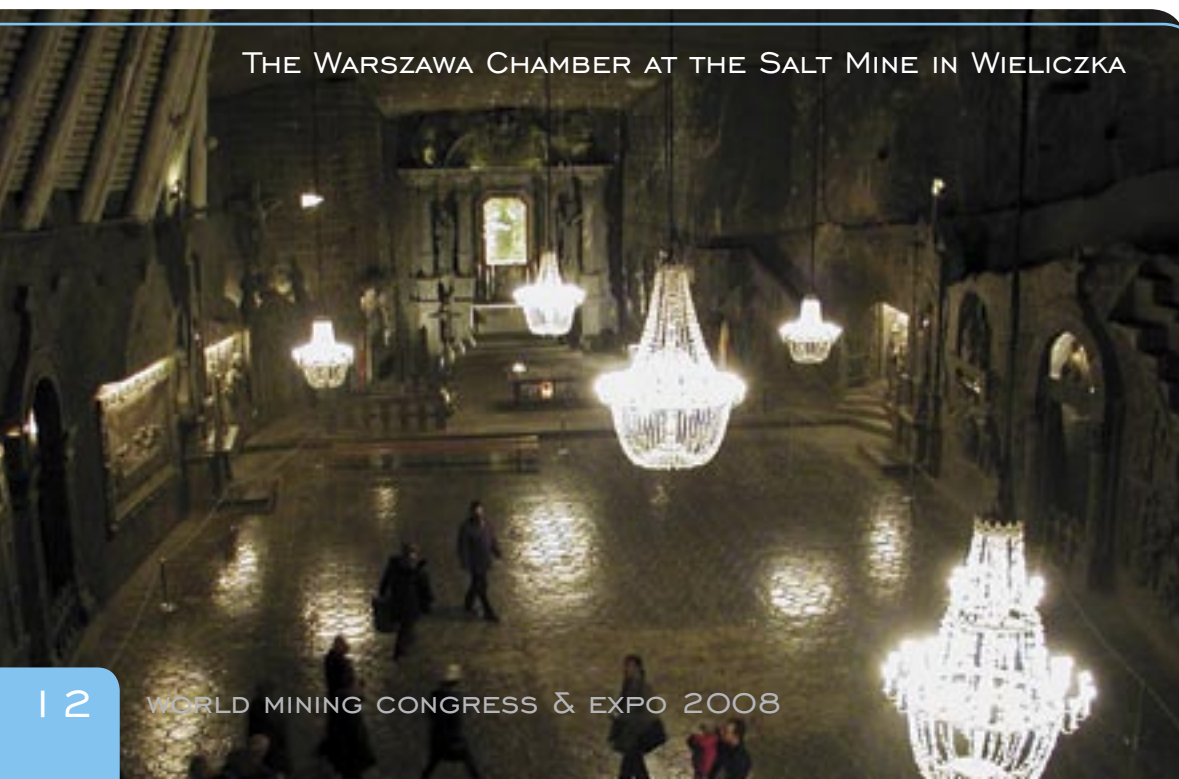
The historic Salt Mine in Wieliczka is the only mining site in the world, which has functioned continuously, since the Middle Ages till now. The Warszawa Chamber is currently the only location at the mine where various events such as concerts, balls, sports events and fairs are still held.

The dates carved on its sidewalls, which remain preserved (1818 and 1821), are proof of when it was created. It was excavated in the 19<sup>th</sup> century in salt-rockmass. Its dimensions are truly impressive: length 54 m, width 17 m, height 9 m. This is the result of mining some 20 000 tonnes of salt.

Since 1951 it has boasted a monument of miners, sculptured in salt, by Stefan Kozik. In the years 2003 and 2004 the chamber's interior arrangements was changed. Magnificent glass chandeliers were suspended. On the northern sidewall a new relief was carved by the Wieliczka sculptors: Juliusz Chimiak, Marek Stachura, Paweł Janowski, Marek Janowski, Paweł Kurowski.

In the corner a snack and drink bar was located, the mezzanine being fitted with an oak floor. The colour scheme of the whole interior is dark brown. The Chamber hosts various events – among them sports events, concerts, balls, banquets and dinners, symposiums and conferences.

THE WARSZAWA CHAMBER AT THE SALT MINE IN WIELICZKA



## Events and publications accompanying the Congress

### Events accompanying the Congress – suggestions:

- ❑ Mining photo exhibition (competition) – World Mining Photo – Centrum MANGHA,
- ❑ Photo exhibition – Polish mining in photos – outdoor exhibition, Planty,
- ❑ Technical book exhibition: MINING – The Main Library, AGH,
- ❑ Exhibition by various artists – Polish painters with roots in mining (from Teofil Ociepka to Erwin Sówka) – Bunkier Sztuki,
- ❑ Exhibition: MINING on stamps,
- ❑ Ceremony of awarding the occasional 50<sup>th</sup> anniversary World Mining Congress medal to the people who had particular contribution in the organizing of the World Mining, Congresses – in one of Wawel chambers or in the Historical Museum in the Cloth Hall.

### Publications accompanying the Congress – suggestions:

- ❑ The Polish Mining – from flint mines to deep underground coal and copper mines (an album),
- ❑ The history of World Mining Congresses (recollections of several invited authors and facts summarising Congress activities),
- ❑ Recollections on professor Bolesław Krupiński – brief biography and memoirs of his friends,
- ❑ "With copper through the ages" – an album-style publication,
- ❑ A book depicting the Polish mining industry – competition.

### The Conference fee includes:

- ❑ Congress proceedings,
- ❑ Entry to all the concerts,
- ❑ A miniature of the World Mining Congress 50<sup>th</sup> anniversary medal.



## Congress and after-congress excursions



MAIN MARKET SQUARE IN KRAKOW

### WIELICZKA

Legend has it that the salt mines in Wieliczka were part of the dowry of the Hungarian princess, Kinga, when she wed Boleslaw the Shy over 700 years ago. This legend thus makes Wieliczka's Salt Mine one of the oldest in all of Europe. Over the centuries, miners – devout and superstitious, have carved fabulous figures, monuments and altar pieces out of its salt walls. These amazing works of art, in addition to the mine's historical importance, have earned the Wieliczka Salt Mine a place on the UNESCO World Cultural Heritage list. Our route in the mine leads you through

galleries and chambers on three levels, from 64 to 135 meters below the ground, including the unique and richly ornamented Chapel of the Blessed Kinga. The route is 2.5 km long and you have to scale 400 steps, all told!



THE SALT MINE  
IN WIELICZKA

### JOHN PAUL II

Krakow boasts a number of places connected to John Paul II, who arrived in this city in 1938 and stayed here most of his life, till 1978, in fact, when he was elected Pope. Our tour begins with a visit to St. Florian's Church, the first church in Krakow in which the Pope (then priest Karol Wojtyla) was a vicar. We then direct our steps to St. Mary's Church in the Main Market Square on whose wall a memorial plaque commemorates the White March that took place in 1981. The next stop is Collegium Novum, the main building of the Jagiellonian University, where after WWII Wojtyla lectured theology. From there it is just a short walk to the Archbishop's Palace that was his home for a number of years. After a brief stop we go to the Archdiocese Museum to see two apartments in which John Paul II lived as a priest and as a bishop. Then a bus will take us to the final destination of our tour, the Sanctuary of Divine Mercy connected also with the worship of St. Faustyna, one of the Pope's favourite saints. This church, which is now one of the most important pilgrimage centres in Poland, was consecrated by John Paul II.

### ARCHBISHOP'S PALACE IN KRAKOW



OŚWIĘCIM-AUSCHWITZ

### OŚWIĘCIM-BRZEZINKA – AUSCHWITZ-BIRKENAU

This is the most well known cemetery and scene of genocide in the world. Started in 1940 as a concentration camp for Polish political prisoners, Auschwitz became the centre for extermination of European Jews in 1942.

From 1940-1945, the Nazis killed about 1,500,000 prisoners here, mainly Jews, but also Poles, Gypsies, Russians POW's and members of other nationalities. Our tour begins with a 15-minute documentary film, after which a local guide will show you the exhibitions in some of the surviving prison blocks, gas chamber, and crematorium. Next we journey on to Birkenau, where we'll go up the watch-tower over the entrance gate, to view this largest-of-all Nazi extermination camp.



## DUNAJEC RIVER GORGE



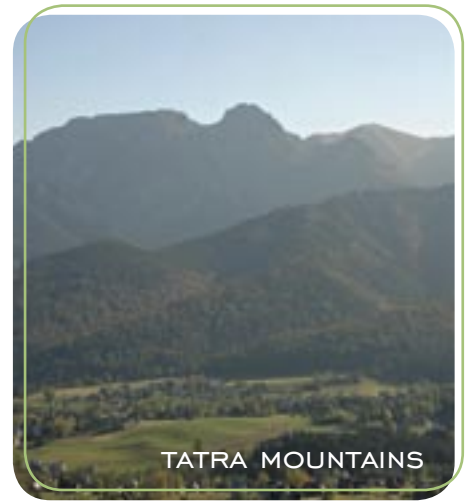
# Congress and after-congress excursions

## DUNAJEC RIVER GORGE – RAFTING TRIP

The raft trip down the Dunajec river through the Pieniny Gorge and along the Polish-Slovakian border is one of the greatest tourist attractions in Poland. The towering cliffs and the limestone rock formations of the gorge itself, plus the picturesque mountain scenery, the surrounding national forest and the colorful river guides make for a wonderful day in a pristine and wild environment! Our trip begins at the raft wharf in Sromowce and ends 15-km downstream in Szczawnica. Rafting will take us two to three hours, depending on the water level. While on the raft, be sure to enjoy the excellent view of the high summits of Trzy Korony (three crowns) and Mt. Sokolica.

## ZAKOPANE – THE TATRA MOUNTAINS

Nestled at the foot of the spectacular Tatra mountains, Zakopane is the winter sports capital of Poland and houses its most famous resort. During Winter, plentiful snow and challenging runs make for excellent skiing, while the summer months offer hikers mountain lakes, glacial valleys and waterfalls. The mountains are also home to a unique and diverse range of flora and fauna. Our tour starts with a ride on a funicular railway to the top of Mt. Gubalówka and to admire the magnificent view of the Tatras. After a short walk around the peak, we will return to visit the oldest part of Zakopane where old cottages of the mountaineers still stand, surrounded by ash trees, blackened by the sun. These wooden houses and churches were built in the Zakopane style by the remarkable Polish artist, Witkacy. To better experience the true Zakopane atmosphere, we'll take a walk along Krupówki, the centre mall, lined with restaurants, cafes, boutiques and souvenir shops.



TATRA MOUNTAINS

## CZĘSTOCHOWA

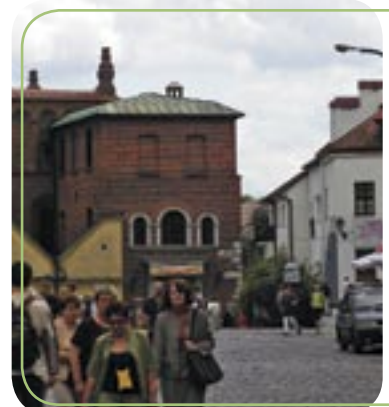
In the city of Częstochowa is Poland's national shrine and the icon which has drawn pilgrims from across the globe for centuries. The monastery of Jasna Góra is home to the miraculous "Black Madonna", a Gothic painting of Our Lady, which after Rome, Lourdes and Mecca, makes Częstochowa one of the most important pilgrimage destinations in the world today. Our visit to the monastery includes the Miraculous Picture Chapel and the Basilica. To visit on one's own, are the 600th-Anniversary Museum, the Arsenal and the Treasury. Our journey back to Krakow will take us along the "Eagles' Nest Trail", a historic strategic system of watch-towers and castles. Today most of these are in ruins. Our final stop is at Pieskowa Skala – a well-preserved Renaissance Castle along this route.



CZĘSTOCHOWA

## KAZIMIERZ

Kazimierz, the south-east quarter of Krakow, was the historical centre of Krakow's Jewish religious and social life. Originally a separate town named after King Casimir the Great, it was incorporated into Krakow in the 18<sup>th</sup> century. The Kazimierz tour will include the most important monuments in this area. First, you'll see the sites which Steven Spielberg used for his location shots of the Oscar-winning "Schindler's List". You'll also visit the most precious monuments of Jewish culture in Krakow: the Old Synagogue (now Judaic Department of the Historical Museum of Krakow) and the Remuh Cemetery.



KAZIMIERZ – OLD JEWISH QUARTER OF KRAKOW

## After-congress excursions:

- Wrocław – Drezno – Freiberg
- Ostrawa – Kutna Hora – Praga
- Koszyce – Banska Stiavnica – Miskolc



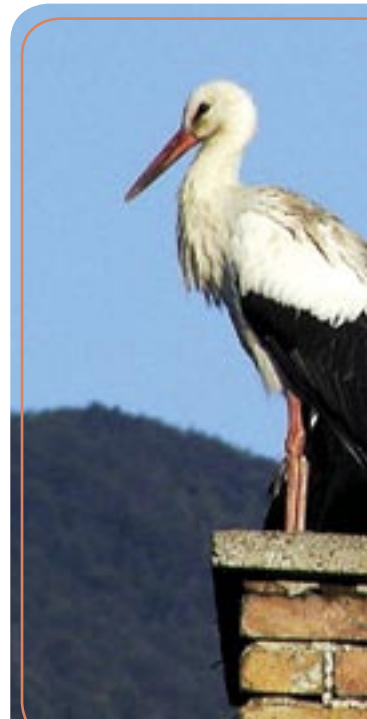
## DISCOVER POLAND

Poland's total surface area is 322 500 km<sup>2</sup> (312 600 km<sup>2</sup> of land, 1200 km<sup>2</sup> of inland waters, and 8700 km<sup>2</sup> of territorial waters). This makes it the ninth largest country in Europe, after Russia, Ukraine, France, Spain, Sweden, Germany, Finland and Norway, and the 63<sup>rd</sup> largest in the world.

On May 1<sup>st</sup> 2004 Poland became a member state of the European Union (EU) and thanks to its location occupies a specific place within it. Poland's border on the river Bug became the EU's eastern border. In the wider geographical and geopolitical sense Poland occupies a central position. It is, furthermore, likely that after accession Poland will to a large extent perform the role of a transit state in Europe. Poles realise the threats associated with this state of affairs. On one hand, more foreign investment from EU countries is expected to be shifted to Poland, while on the other, forecasts indicate an increase in the number of immigrants to Poland. Accepting its responsible role connected with regulation of the flow of people and goods across its borders, Poland is also open to visitors from all over the world.

Poland lies in the heart of Europe – the geometric centre of the continent is right here. Warsaw is not far from other European cities: Paris and London are 2 hours away by plane, Vienna and Berlin not much more than an hour. You can get here quickly by international roads and railway connections. Half a million places to stay, thousands of restaurants, hundreds of forms of leisure and entertainment – they're all waiting for visitors. Poland is a country that is safe and friendly to visitors from abroad – a fact confirmed by official international statistics. In figures concerning access to cash machines, for instance, Poland is 8<sup>th</sup> in Europe. Mobile phone networks cover 94% of the country.

KATOWICE





OLD TOWN MARKET PLACE IN WARSAW

You can find more or less everything in Poland: alpine mountains, wide beaches, clean lakes, deep forests, world-class historic monuments, and friendly people. Climate is temperate, and people warm and hospitable. Polish cities with their thousand-year histories invite their visitors to encounters with culture, and Poland's villages and small-time towns offer an opportunity to get away from the bustle of modern life. And all this comes with a backdrop of breathtaking natural landscapes, because Poland's greatest attraction is nature. Wild, untouched, more diverse than in most countries either in Europe or the world and, what's more, easily accessible. Tourists value this greatly and their number is constantly increasing.



Ten sites in Poland have been put on the UNESCO list of World Heritage Sites. There are four cities, one castle, two monasteries, the Holocaust museum, a historic object of technological interest, and a forest.

The first UNESCO heritage list was devised in 1978. At that time, only 12 most important heritage sites in the world received this prestigious distinction, and Krakow (Kraków) was among them.

Source: [www.poland.gov.pl](http://www.poland.gov.pl).



## DISCOVER KRAKOW

### WELCOME TO KRAKOW

Welcome to Krakow, a city wrapped in legend, where time flows differently, and where every moment becomes a moment of history! For centuries Krakow was the capital of Poland, the seat of kings, drawing great scholars and artists from the whole world. It is their talents and imagination we must thank for the city's rich legacy of unique historical relics, reflecting the most important trends in European culture.

The renaissance Royal Castle at Wawel, the gothic St Mary's Basilica, the historical trade pavilions of the Cloth Hall, the former separate Jewish city of Kazimierz, and even the Nowa Huta district, absorbed by Krakow together with its socialist-realist, industrial architecture, are all places which make a visit to Krakow so extremely worthwhile.

Although the city no longer plays such an important administrative role, for many people, thanks to its rich history, Krakow nevertheless represents a synthesis of all things Polish, connecting tradition with modernity. In the special atmosphere of the beautiful and mysterious streets of the Old Town and Kazimierz you will find everything you need to allow you to escape from everyday life. Galleries full of exhibitions, cafes, pubs and restaurants – all of this is an integral part of any visit to Krakow. And all this is merely a modest part of what we can offer travellers seeking exciting destinations on the world map.



ST MARY'S BASILICA





ROYAL CASTEL ABOVE VISTULA RIVER

## NATURAL ENVIRONMENT

The landscape and its geological structure are very diverse, both in Krakow and its vicinity. In many areas one may come across unique karst formations that evolved from Jurassic limestone. Fertile loess clays are located in the northeast. South of the Vistula River there are undulating areas of loamy sandstone and in the south-east lie layers of salt.

## LOCATION

Krakow lies in the southern part of Poland on the Vistula River in a valley at the foot of the Carpathian Plateau, 219 meters above sea level. Approximately 300 km (190 miles) north is Warsaw, the capital of Poland, and 100 km (60 miles) south are the Tatra Mountains, forming the southern border of the country. The city covers an area of 327 km<sup>2</sup>, equal to 0.1% of the country's surface area.



MAIN MARKET SQUARE

## POLISH MINING



**Mineral production and processing are important economic activities in Poland. Poland has resources of various useful minerals. Many of them have been mined for ages and were traditionally regarded as typical for the country. Some gained importance only in recent decades, while others lost their value.**

**The Polish mining industry provides national economy with a variety of fossil fuels (bituminous coal, lignite, gas and oil), construction and industrial minerals (sand and gravel, limestone, gypsum, dolomite, clays, sulphur, natural stone, salt...) and metals (copper, silver, lead, zinc).**

### Coal mining

The resources of hard coal in Poland will enable intensive mining for dozens of years to come. At the same time the adaptation of this sector of industry to the market economy continues. The reform of the hard coal mining industry in Poland was carried out through several consecutive programmes. The transformation process started at the end of the 1980s. The restructuring and rationalization of the coal

mining industry had been one of the country's most difficult and complex economic and social problems, matched only by the reform of the agriculture.

The goal of the reform programmes carried out in the years 1990-2005 was to transform the coal industry to enable it to function within the limits of the market economy. This was done by, among other, the following:

- downscaling, to eliminate the most inefficient production units (closure of 30 mines),
- reduction of coal production from 147.9 million tonnes in 1990 to 97 million tonnes in 2005 (fig. 1),
- restructuring and reduction of employment from 388 000 in 1990 to 121 000 in 2005 (fig. 2):
  - ◆ worker retraining and creation of new jobs,
  - ◆ encouraging economic activity in mining settlements and communities,
  - ◆ environmental protection, remediation of mining sites,
  - ◆ as the result of the restructuring the number of longwalls operating in Polish underground coal mines dropped from 766 in 1990 to 130 in 2005.



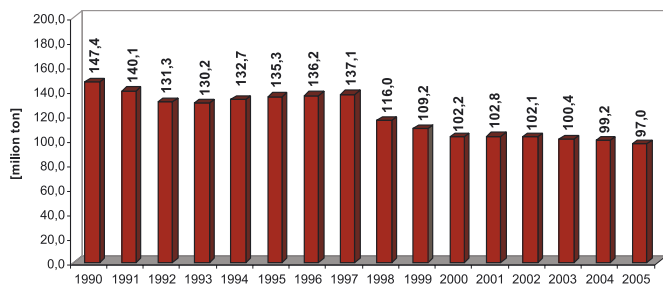


FIG. 1. HARD COAL PRODUCTION IN 1990-2005  
SOURCE: THE AGENCY OF INDUSTRY DEVELOPMENT

The position of coal in the primary energy sources consumption structure will not change in the nearest future, after stabilizing at the 50% mark at the beginning of the 21<sup>st</sup> century.

Longwall system with roof caving will remain to be the dominant mining system employed in the Polish coal mining industry. It is predicted that shearers, the most

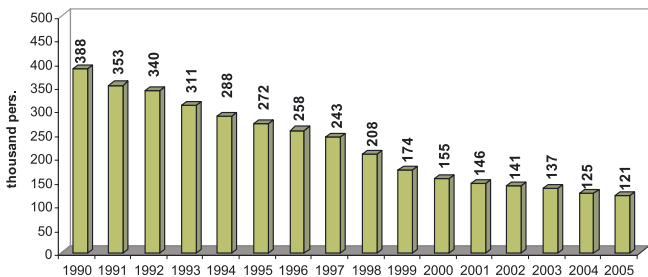


FIG. 2. EMPLOYMENT IN THE HARD COAL MINING INDUSTRY IN 1990-2005  
SOURCE: THE AGENCY OF INDUSTRY DEVELOPMENT

commonly used mining machines, will continue to grow more powerful and the level of automation of work at the face will increase.

### Brown coal mining

Brown coal is second most important (after hard coal) primary energy source in Poland. Currently brown coal is produced at four mining mines: Bełchatów, Adamów, Konin, Turów. Polish surface mines deliver to power plants more than 60 million tonnes of brown coal per annum.

### Copper mining

The copper ore deposit, which is currently exploited was discovered in 1957. The Polish copper basin is located in the Lower Silesia (Legnica-Głogów) in the Fore Sudetic Monocline.

The copper orebody consists of ore-bearing sandstone, shale and dolomite strata with thickness from 0.2 to 19 metres. The three operating underground mines produce more than 32 million tonnes of ore per annum and supply 0.55 million tonnes of copper and 1200 tonnes of silver to the market. The mines are large, and use



## POLISH MINING



modified extensively mechanized room and pillar mining methods:

- room and pillar system with roof yield,
- room and pillar system using hydraulic backfill.

### Lead and zinc mining

Lead and zinc mining is one of the oldest branches of the Polish mining industry. The orebodies are located in the Silesian – Krakow region, southern Poland. The lead and zinc orebody, which is overlain by dolomite with

thickness from 3 to 20 metres, occurs at the depth of 150-200 m. The two operating underground mines produce more than 4 million tonnes of ore and supply 0.16 million tonnes of zinc and 0.07 million tonnes of lead. The various room and pillar mining systems applied use hydraulic backfill. Additional complication to mining is posed by the water content of the Triassic rockmass. The actually recorded at the working places water inflows were as high as 250-280 m<sup>3</sup>/minute.

### Sulfur mining

Exploration works conducted in the Fore Carpathian region led in 1950-1985 to the discovery and development of one of the worlds greatest deposits of native sulphur. The deposits were initially extracted by open pit mines and since 1966 with the use of the melting method, applied, for the first time in Europe, at Grzybów Mine. Due to the trends in the global markets and the large forced production of sulphur as a by-product of desulphurisation of oil, gas and blast furnace gas, the annual production of native sulphur in Poland dropped dramatically from about 5 million tonnes some 20 years ago to 0.3-0.5 million tonnes last year.

### Industrial minerals

Industrial minerals are mined all over Poland. During the second half of the 20<sup>th</sup> century many new deposits







of rock raw materials were discovered and documented. These include clays, dolomite, kaolin, glass sands, building stones, raw materials for the cement industry, gypsum and various pottery minerals. The total production of rock raw materials in Poland reached 200 million tonnes in 2002. Over 2000 different types of surface and underground mines were in operation.

**Other minerals and fuels**

Common salt is also mined in Poland. It is extracted in two ways:

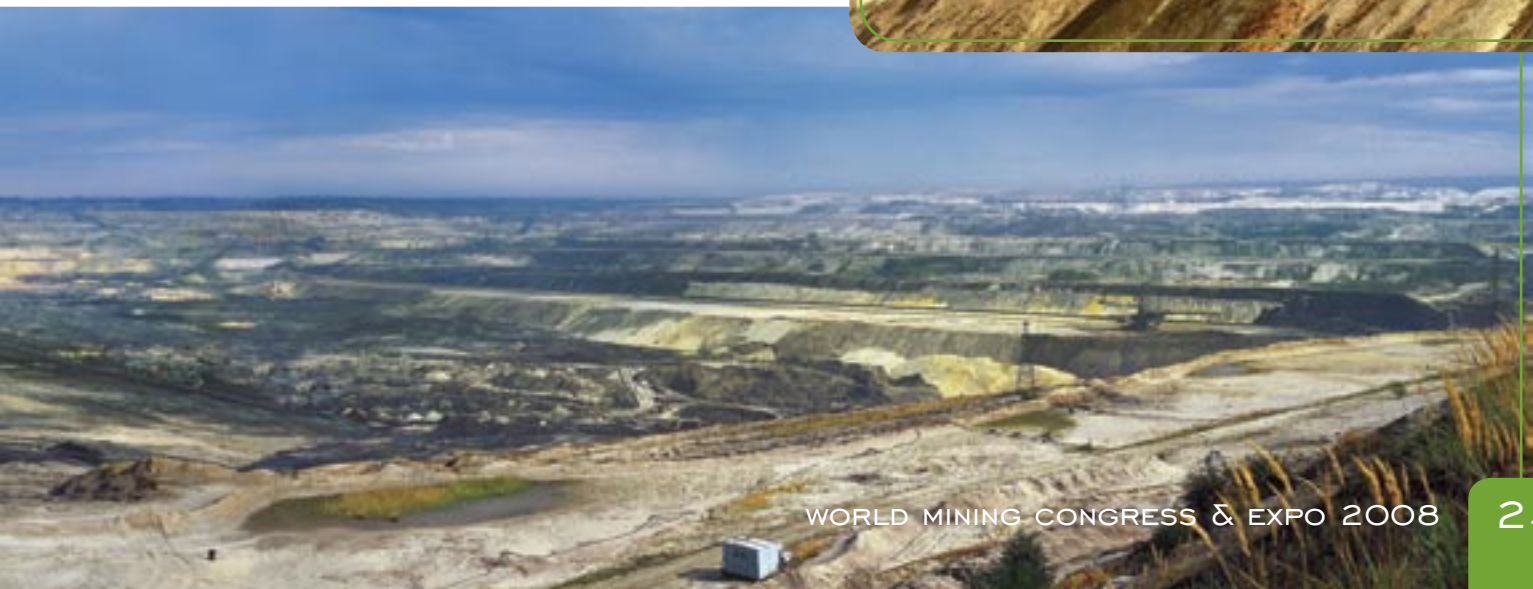
- by removing it in solid form with the use of mechanical underground mining methods,
- by dissolving it underground and then pumping the brine to the surface.

The one mine extracting salt in the traditional underground way is located in Kłodawa in Central Poland. The annual output of salt in Poland stands now at approximately 4.5 million tonnes.

A major offshore oilfield was discovered in the Baltic Sea in 1985. Some other oilfields are located in the Carpathian Mountains in the South-Eastern part of Poland. Their combined oil reserves are estimated at

about 180 million tonnes, and in the recent years was they produce a steady 0.8-0.85 million tonnes of oil per annum.

Natural gas is extracted mostly in the Upper Silesia and in the South-Eastern part of the country, and the production was recently expanded to 5 billion m<sup>3</sup>.



Congress  
localization  
in Krakow



# 21<sup>ST</sup> WORLD MINING CONGRESS & EXPO 2008



The Congress web site:

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