PGNiG Polskie Górnictwo Naftowe i Gazownictwo SA

Polish Oil and Gas Company

April 2012

Agenda

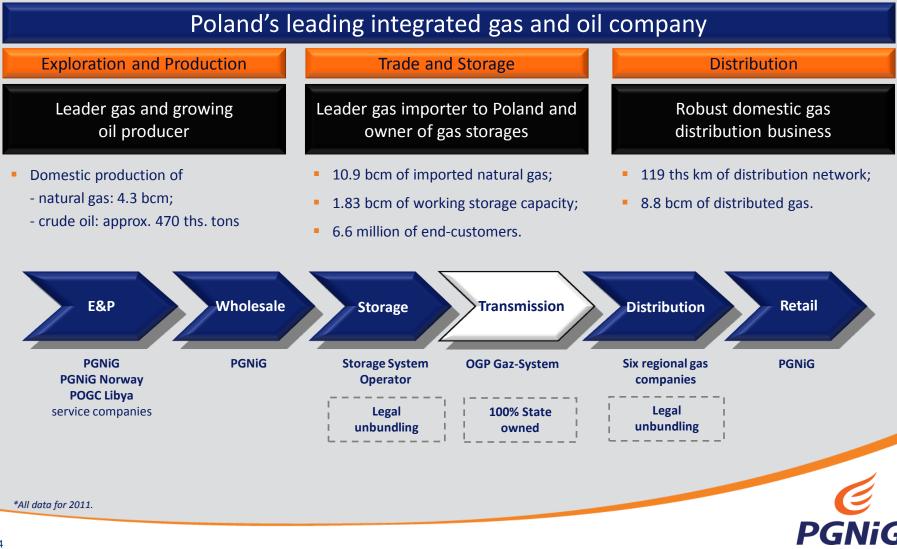
- **1. PGNiG Capital Group**
- **2. PGNiG Segments of Activity**
- **3. Upstream Activities**
- 4. PGNiG Shale Gas Activities



PGNiG Capital Group



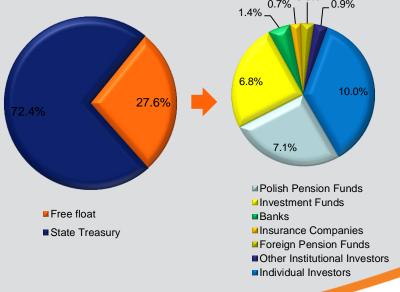
PGNiG Capital Group



PGNiG's Shareholders



- The shares of the Polish Oil and Gas Company were quoted on the Warsaw Stock Exchange on 23rd September 2005 at the rate exceeding the sales price by nearly 35%.
- PGNiG's share in WIG20 index amounts to approx. 4%.
- The State Treasury in June 2008 sold a single share of PGNiG SA, clearing the way for it to distribute a **12.71%** stake to the employees of the Company. The shares had two years lock-up period, which ended July 1st, 2010.



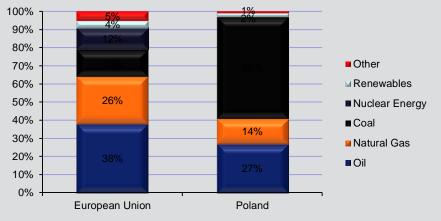


* In terms of market capitalisation
** PGNiG = 3.97 PLN; EUR/PLN = 4.1 as at March 28th, 2012

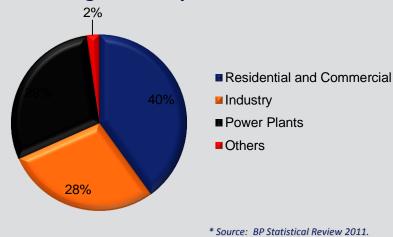
Gas Market in Poland

- Poland is consuming 14.4 bcm per annum (comparable to Romania and three times less than Spain, France or the Netherlands);
- Gas share in Polish energy market is much lower than an average in the EU (14% against 26%);
- It is a consequence of the extensive usage of coal (hard/brown) as the source of primary energy.

Primary energy consumption by fuel in 2010*

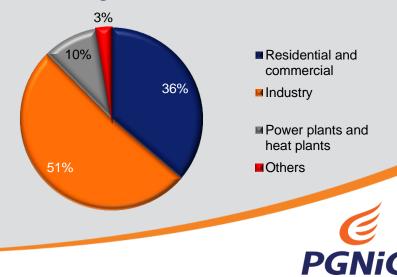


EU natural gas sales by sector in 2010**



** Source: EuroGas Statistical Report 2011

PGNiG natural gas sales breakdown in 2011



PGNiG Segments of Activity



Exploration and Production

- The leading Polish onshore E&P player
 - PGNiG is a leader producer of gas and oil in Poland
- Strong resource potential
 - proved gas reserves 578 mboe (91.9 bcm)
 - proved oil reserves 155 mboe (21.1 m tons)
- RRR and R/P ratios average for years 2006-2010:
 - RRR = **0.9**
 - R/P = **25**
- PGNiG has 96 oil & gas exploration concessions and 224 oil & gas production concessions.

Natural gas production outlook (bcm)

	4.3	4.7	4.9	6.2
Year	2011	2012	2013	2015
(rude oil production outlook (m tops)				

Crude oil production outlook (m tons)

	0.5	0.7	1.2	1.8
Year	2011	2012	2013	2015

Concessions for hydrocarbon E&P in Poland

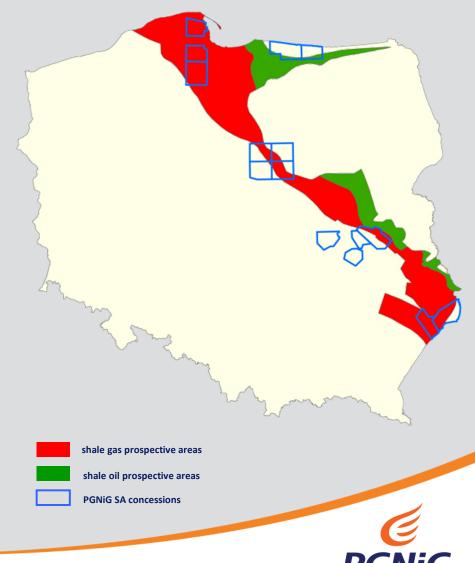


Unconventional Gas in Poland

- There are accumulations in Poland which may produce unconventional gas such as tight gas and shale gas. Initial estimates put estimate shale gas resources at 1.5 – 5 trillion cubic metres. Polish Geological Institute points to max. 1.9 trillion cubic meters.
- The concessionary system in Poland provides for low fees for exploration concessions and low royalty.
- PGNiG has 15 standalone exploration concessions with perspectives for shale gas and another at least 6 concessions with perspectives for tight gas.
- At present, work is carried on various exploration concessions and the initial results should be known in 2012.

Opportunities

- Potentially enormous natural gas resources;
- PGNiG could become independent from external gas supplies;
- Development of the PGNiG Group, incl. drilling companies
 Risks
- Different geological setup than in the US (incl. reservoir depth)
- Unrecognized geology;
- Urbanization of the area;
- Restrictive regulations on environmental protection, a large number of environmentally protected areas and objects.



Acquisition of Production Fields in Norway

Completed works

- Closing the purchase of 12% share in the Skarv field on the NCS from ExxonMobil and Mobil Development Norway (X 2007).
- Completion of 16 production, injection and exploration wells on Skarv field and neighbouring prospects (drilling started in December 2009).
- Termination of construction of FPSO (Floating Production, Storage and Offloading Unit).

Basic data

Cost of the licences	USD 360m
Planned CAPEX (PGNiG only)	~USD 600m
Reserves of the licences (2P)	70,9 mboe

Share in Skarv field:

PGNiG Norway A/S

BP Norge A/S (operator)

E.ON Ruhrgas Norge A/S

Statoil Petroleum A/S

- Estimated annual production for PGNiG from the NCS fields will reach:
 - 0.4 bcm of natural gas;
 - 0.4 million tons of crude oil and NGL.

New discovery

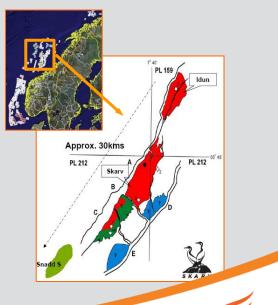
11.92%

23.84%

28.08%

36.17%

- License partners have discovered new gas deposits on the concession – Snadd North;
- The size of the Snadd North deposit is estimated at 9-16bn cubic metres of natural gas (from 57m to 100m boe);
- Its development started in 2011.

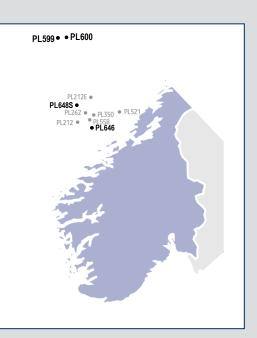




* Source: Norwegian Petroleum Directorate.

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PGNiG's Licences Norway



Licence	PL599
Share	BG Norge A/S (40% - operator) PGNiG Norway AS (20%) Idemitsu Petroleum Norge AS (20%) Norwegian Energy Company ASA (30%)
Location	Norwegian Sea - Deepwater
Licence	PL600
LICENCE	F LOOO
Share	Dana Petroleum Norway AS (70% - operator)

Share	Dana Petroleum Norway AS (70% -
	operator)
	PGNiG Norway AS (30%)
Location	Norwegian Sea - Deepwater

Licence	PL646
Share	Wintershall Norge ASA (40% - operator)
	PGNiG Norway AS (20%)
	Lundin Norway AS (20%)
	Norwegian Energy Company ASA (30%)
Location	Near Skarv Field (around 15 km to the SE)
Licence	PL648S

Share	PGNiG Norway AS (50% - operator) OMV Norge AS (50%)	
Location	Near Skarv Field (10-15km to the W)	

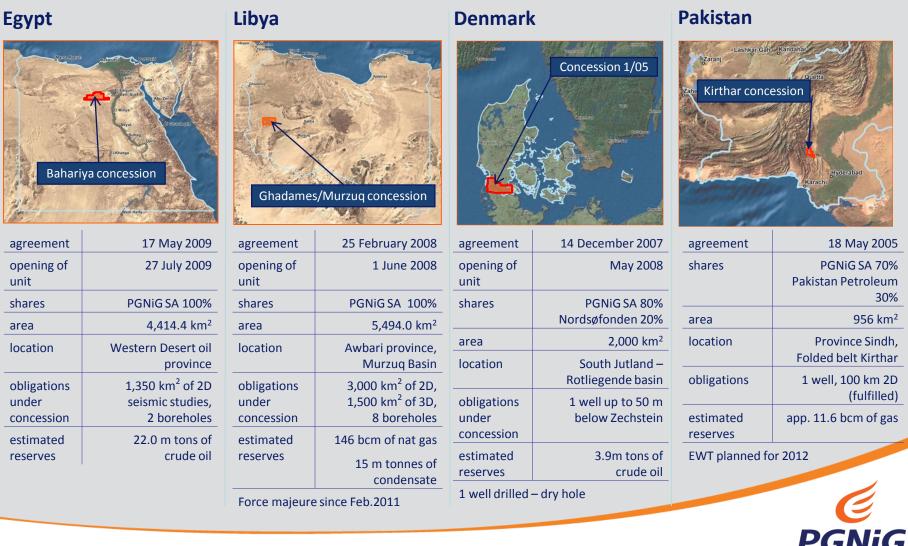
Licence	PL212E
Share	BP Norge AS (30% - operator)
	PGNiG Norway AS (15%) Statoil Petroleum AS (30%)
	E.ON E&P Norge AS (25%)
Location	Near Skarv Field (around 10 km to the N)
Licence	PL350 and 350B
Licence Share	PL350 and 350B E.ON E&P Norge AS (40% - operator)
	E.ON E&P Norge AS (40% - operator) PGNiG Norway AS (30%)

Licence	PL521
Share	Statoil Petroleum AS (40% - operator) PGNiG Norway AS (35%) Svenska Petroleum Exploration A/S (25%)
Location	Helgeland basin

Licence	PL558
Share	E.ON E&P Norge AS (30% - operator)
	PGNiG Norway AS (30%)
	Petoro AS (20%)
	Det norske oljeselskap ASA (20%)
Location	Near the Skarv Field (bordering to the E)



Exploration Works Worldwide



Expansion of Underground Gas Storage Facilities

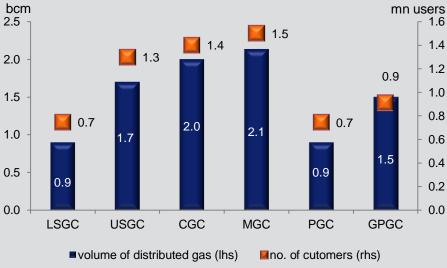
2011 - 2012 2013 - 2014 2020 I and II phase of construction of II phase of extension of Extension of UGS Strachocina (from 150 to 330 CUGS Kosakowo (50 - 100 mcm); UGS Wierzchowice (from 1.2 to 2 bcm); mcm) - accomplished. III phase of construction of I phase of extension of CUGS CUGS Kosakowo (from 100 to 250 mcm); I phase of extension of Mogilno (from 378 to 535 mcm); II phase of extension of CUGS Mogilno UGS Wierzchowice (from 0.58 to (from 535 to 800 mcm); 1.2 bcm). Extension of UGS Brzeźnica and UGS Husów. KOSAKOWO DASZEWO **Basic data** Strategic gas reserves from 1st Oct. 2010 until 30th No. of storage facilities in 2015 9 Sep. 2012: 20 days of daily MOGILNO Current working capacity 1.83 bcm average import (approx. BONIKOWO 530 mcm); Target working capacity ca. 3 bcm from 1st Oct. 2012 onward: BRZEŹNICA Current storage capacity meets WIERZCHOWICE HUSÓW 30 days of daily average domestic demand for* 46 days import; **SWARZÓW** Existing UGS STRACHOCINA UGS in extension UGS under contruction

* Based on natural gas demand level in Poland in 2011 (14.4 bcm)

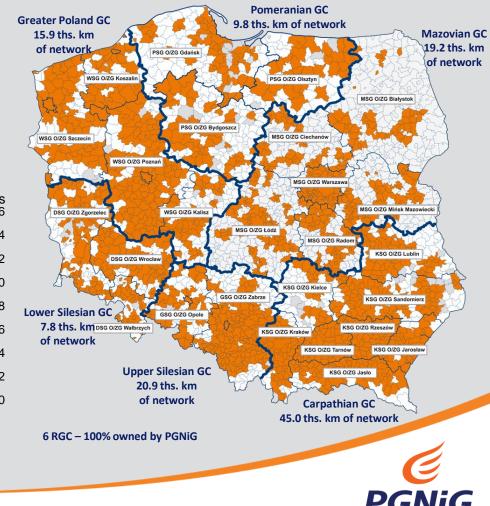
Distribution

- Regional Gas Companies are responsible for supplying natural gas to households, industrial and wholesale customers, but also for operation, maintenance and development of gas pipelines.
- In 2011 Gas Companies distributed 8.8 bcm of natural gas to 6.7 million customers through 119 ths km of distribution network.

Number of customers and volume of distributed gas by RGC in 2011

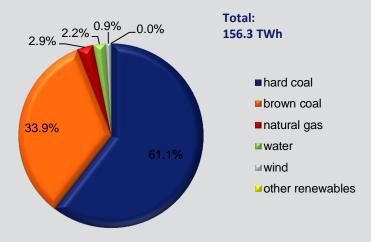


Downstream activities – Gas Companies



New Business Segment - Power Sector

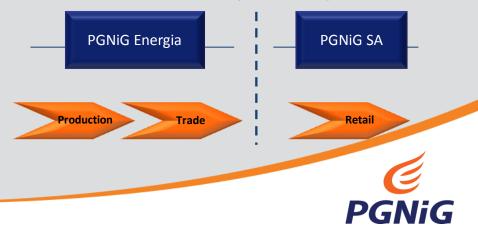
The power generation structure in Poland in 2010*



- PGNiG's strategy assumes that in 2015 the Group will have at least 1,300 MW of its own production capacity.
- In December 2009 PGNiG Energia was established, a fully owned subsidiary of PGNiG SA. PGNiG Energia is involved in projects connected with the construction of energy blocks, investments in co-generative installations powered by natural gas, and pilot biogas projects.

EC Stalowa Wola Power Plant (2015)

- In March 2011 PGNiG, Tauron and their subsidiaries signed three agreements:
 - Agreement on the Operation of Elektrociepłownia Stalowa Wola SA, concluded for 25 years, as part of the "Construction of a CCGT Unit in Stalowa Wola" project. Total estimated cost: PLN 1.95bn (of which PGNiG Group will bear 50%);
 - Master Agreement for Supply of Gaseous Fuel reaching 540 mcm per annum, signed for 14 years (worth PLN 9.66bn);
 - Agreement for Sale of Electricity, signed for 14 years (worth PLN 6.79bn for each side).
 - PGNiG will ensure natural gas deliveries for the project and will use 50% of the unit's capacity;
 - Total power output: 400 MW_e and 240MW_t.

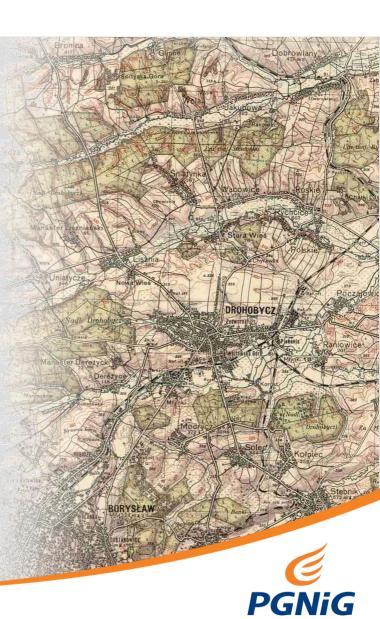


Upstream Activities Knowledge - Experience - Opportunities



The milestones

- **1813** Józef Hecker experiments with petroleum distillation and in 1817 delivers products for street illumination in Drohobycz, barracks in Sambor and salt works in Truskawiec.
- **1853** The first use of a constructed by Ignacy Łukasiewicz kerosene lamp as a light source for the operating theatre in Lviv Hospital. This events marks the birth of Poland's and world's petroleum industry.
- 1854 Ignacy Łukasiewicz opens the first petroleum production plant in Bóbrka today the Museum of the Petroleum Industry. The following year the first Petroleum Company 'Łukasiewicz-Trzecieski-Klobassa' is established.
- 1856 The first crude oil distillery is constructed by Ignacy Łukasiewicz in Ulaszowice, near Jasło. Soon after, next distilleries and refineries are being opened: in Klęczany, Polanka, Chorkówka, Ropianka, Libusza and Drohobycz.
- 1860 "Franek", the oldest preserved oil well is duged in Bóbrka.
- 1879 As Ignacy Łukasiewicz initiative the National Petroleum Association is established.
- 1883 William Henry MacGarvey establishes the Factory of Drilling Tools and Machinery in Glinik Mariampolski and introduces the cable-tool drilling rigs. The same time, Węglówka, Grabownica, Wietrznie, Równe, Schodnica oil fields and many others in the Carpathians are discovered.
- 1886 opening of the oil refinery in Glinik Mariampolski the first crude oil industrial processing plant.
- 1895 Carpathian Oil Society of Galicia is established.
- **1896** W. H. MacGarvey discovers, at the depth of 1000 meters below ground level, the Borysław and Tustanowice fields the largest oil fields in the eastern Galicia.
- 1924 State Mining Authority is established.
- **1928 29** establishment of "Małopolska" oil company in Borysław and geophysical company "Pionier" in Lviv.



The milestones

- 1955 the Central Petroleum Office is established, transformed in 1959 into the Union of the Oil Industry.
- **1955 1960** numerous discoveries of high-methane gas fields in the Carpathian Foredeep, including the largest one Przemyśl (initial recoverable reserves 1.1 TCF)
- **1960** discovery of the Tarnów oil field the greatest oil field in Carpathian Foreland (Mesozoic) (initial recoverable reserves 0.35 MMbbl)
- **1961** discovery of the Rybaki oil field (initial recoverable reserves 1.01 MMbbl) the first field in the Polish Lowland the beginning of the exploration and production activities in Polish Lowland
- **1961** discovery of the Tarnów gas field (initial recoverable reserves 239.7 BCF) the greatest gas field in the Carpathian Foreland (Mesozoic)
- 1993 discovery of the Barnówko Mostno Buszewo field the largest oil field in Poland. Production from the field starts in December 1999 as part of the most modern crude oil and gas development project "Dębno" (initial recoverable reserves 90.6 MMbbl of oil and 1.06 TCF of gas)
- **1995 2000** discovery of the Kościan Kokorzyn Brońsko Reńsko Wielichowo Ruchocice Bonikowo Racot group of gas fields with recoverable reserves of 30 BCM.
- 2001 discovery of a new significant petroleum-bearing region in Poland: near Międzychód.
- 2003 discovery of two new oil fields in Lubiatów and Grotów.



PGNiG's (POGC) Areas of Activity



PGNiG S.A. is the leading company on the Polish gas market. The basic areas of activity are:

Upstream

- exploration and production of oil and gas in Poland and abroad
- Midstream
 - bulk gas trade and gas storage
 - desulfurization and denitrogenization facilities
- Downstream
 - gas trade and distribution to the clients
 - LNG terminal (under construction)
 - oil and gas pipeline construction

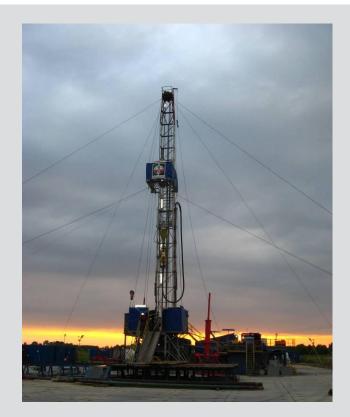


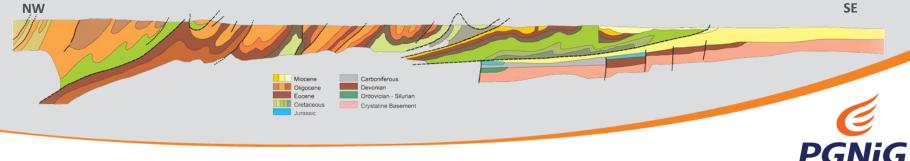
PGNiG Upstream Activity

PGNiG owns

exploration concessions

- production concessions
- shares in E&P concessions
 - shares in concessions of other companies
 - other companies have sahres in PGNiG's concessions
- shares in petroleum companies
- shares in discovered but undeveloped fields as owner and/or shareholder





PGNiG Production Activity

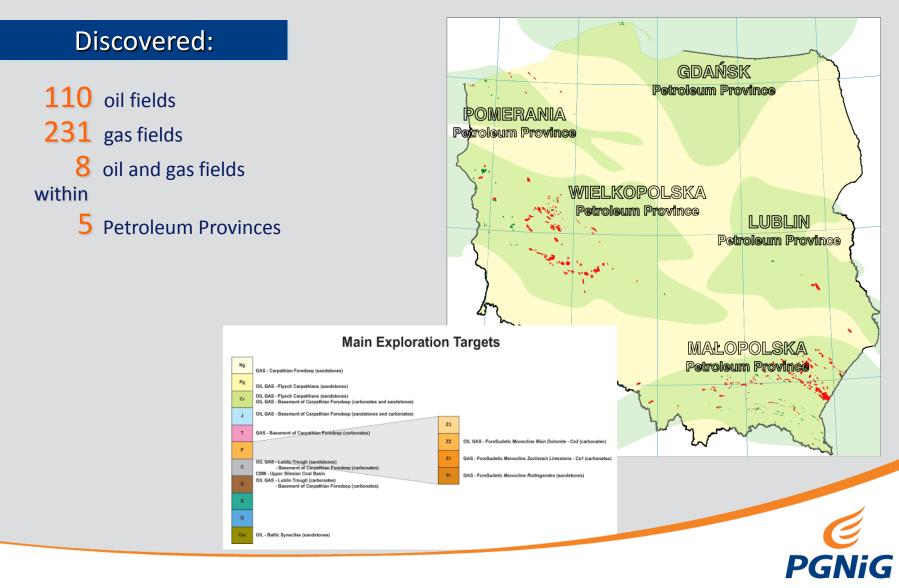
- PGNiG is the biggest petroleum exploration and production company in Poland
 - PGNiG provides nearly 100% of gas production in Poland
 - PGNiG provides close to 60% of oil production in Poland
- PGNiG produces from fields:
 - in Poland (2011)

 151.9 BCF (4.3 BCM) of gas*⁾
 4.0 MMbbl (0.5 MM metric tons) of oil
 - and abroad
 Norwegian Shelf start in 2012
 Pakistan start in 2012

 $^{\ast)}$ converted into high methane gas (39.4 MJ/m^3; 1000 BTU/CF)



Oil and Gas Fields in Poland



Opportunities of PGNiG Upstream Activity

PGNiG dependent companies perform

Drilling services

mud services deviation services DST services

Geophysical services

2D & 3D seismic and well data acquisition well wirelogs processing and interpretation

Workover and servicing of wells

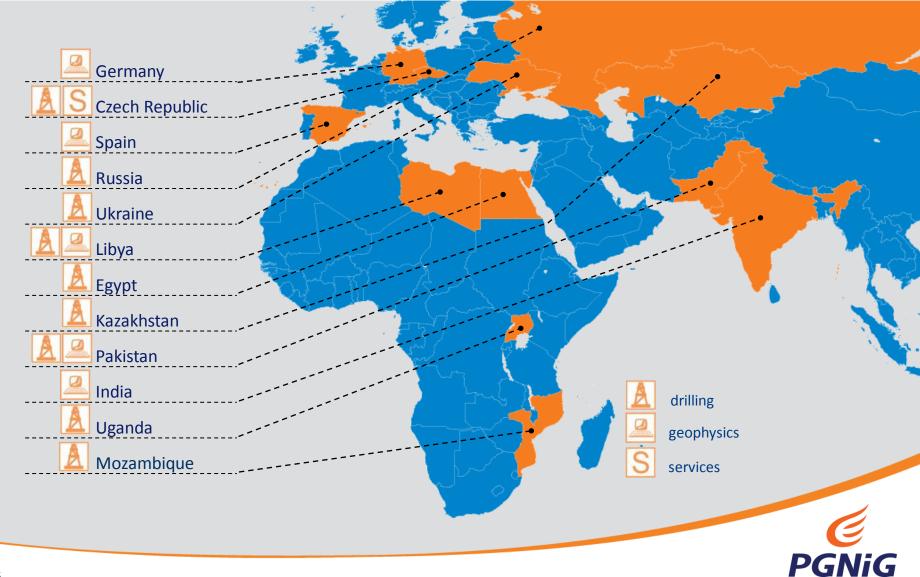
- servicing of wells with coiled tubing units
- well completion jobs
- wireline operations
- logging and hydrodynamical testing of wells design and performance of well stimulation jobs (nitrogen units, acidizing, perforations, fracturing)
- laboratory services including geochemical and non-destructive tests



PGNiG Group upstream Activity in the World



PGNiG Dependent Companies Activity in World



PGNiG Activity in the World ... **Drilling Companies**



Geophysical Companies



Well Service Companies



PGNiG SA - shale gas activity

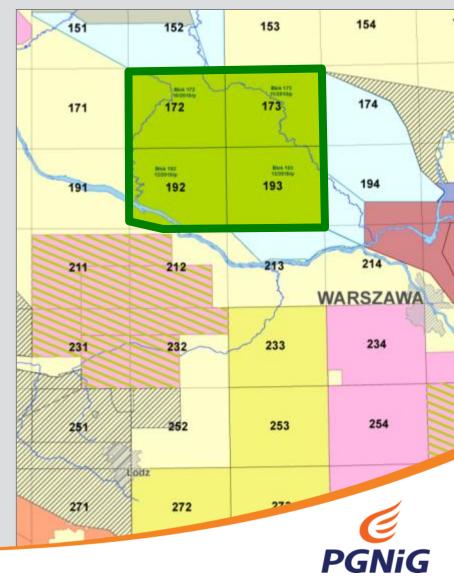


Shale Gas/Oil Prospective Areas in Poland (acc. to PGI; March 2012)

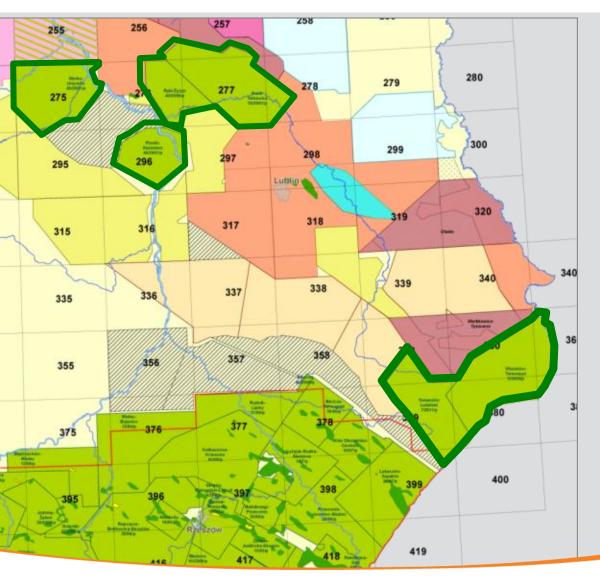
	Concession	n area km²
	1 Wejherowo	729.99
2 5 4	2 Kartuzy - Szemud	782.61
	3 Stara Kiszewa	1 178.14
3	4 Bartoszyce	669.36
	5 Górowo Iławeckie	1 094.39
	6 Blok 172	936.79
	7 Blok 173	936.69
	8 Blok 192	921.87
	9 Blok 193	942.03
	10 Kock - Tarkawica	1 028.64
	11 Ryki - Żyrzyn	426.86
	12 Pionki-Kazimierz	532.00
	13 Warka-Ursynów	734.42
	14 Tomaszów Lubels	(i 745.76
	15 Wiszniów-Tarnosz	yn 1 106.55
	Sum	12 766.10
Solution (12)		
PGNiG SA concessions A Gas prone areas within the Lower Paleozoic shale formations A		
Oil prone areas within the Lower Paleozoic shale formations		e
		PGNiG

Warsaw Basin

- The main objectives for Shale Gas are the Ordovician and Lower Silurian formations,
- Geological analyses of the Silurian and the Ordovician shales are being carried out,
- At the end of 2010 geophysical survey was completed – magnetotelluric and gravimetric survey (phase I),
- Works on seismic survey will be continued next year (phase II),
- Wells are planned to be drilled after completion of seismic survey.

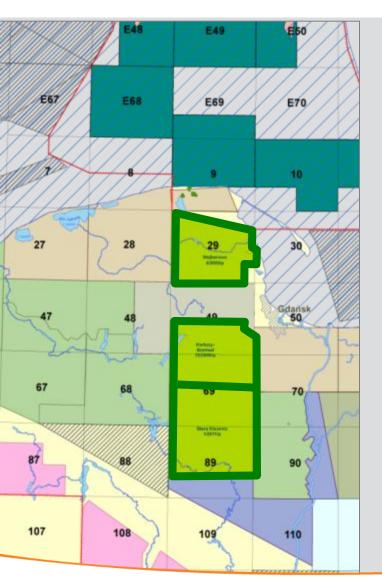


Lublin Petroleum Province



- The main objectives for Shale Gas are the Ordovician and Lower Silurian, Devonian and Carboniferous formations,
- Geological analyses of these shales are being carried out. Magnetotelluric and gravimetric surveys were completed in 2011,
- Seismic survey on concessions in the Lublin Petroleum Province is scheduled for 2012,
- Other plans: exploration well (planned to depth 4300 m) on Tomaszów Lubelski concession, spudded on March 26th 2012.

Gdańsk Petroleum Province



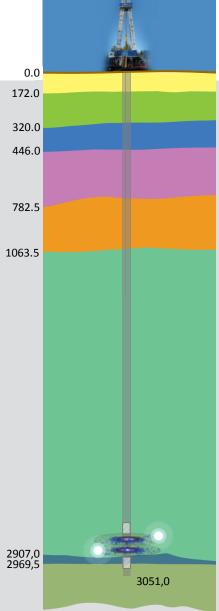
- The main targets for Shale Gas are the Ordovician and Lower Silurian formations,
- PGNiG SA drilled the first exploration well (Lubocino-1) at Block 29 - Wejherowo concession; the drilling had been preceded by seismic survey,
- Simultaneously in the Wejherowo concession 2D seismic survey was carried out. It resulted in time and depth maps of prospective horizons. After Lubocino-1 well and seismic data studies the horizontal well from cluster of Lubocino and another vertical exploration well will be drilled,
- Consecutive steps for 2012-2015: drilling works on Kartuzy-Szemud and Stara Kiszewa concessions.



Lubocino-1 well

- The first vertical exploration well, Lubocino 1, was drilled at the beginning of 2011. The well ended up in Cambrian deposits and drilled 1843.5 m of Silurian and 63 m of Ordovician strata. 800 m of core was recovered, which was further analyzed to examine geochemical, petrophysical and geomechanical parameters of the rocks. Wide spectrum of wireline logging measurements was also applied. The results of combination of both, laboratory and geophysical analysis, turned out to be very promising and confirmed the presence of unconventional gas within the Ordovician and Silurian strata.
- The 13 m vertical section in the Ordovician interval was hydraulically fractured and the gas flow was recorded. In 2012 the hydraulic fracturing will be performed in Silurian intervals to test their prospectivity for shale gas. Currently the 3D seismic survey is being acquired in the area of Lubocino-1 well in order to recognize in detail the pattern of faults and fractures in the region and allow to optimize the horizontal well trajectories in the future.
- The horizontal Lubocino-2H well will be drilled this year from the same drilling pad as vertical Lubocino-1 well.

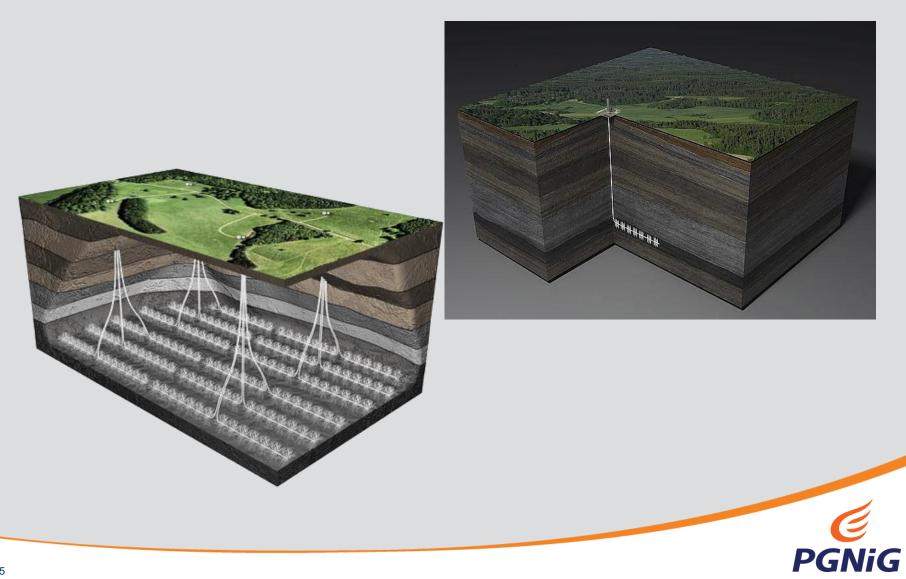






PGNiG

Future



Thank you

