



# **PKN ORLEN Investor and Analyst Days**

## **UPSTREAM**

May 16-17, 2013



**ORLEN**

# Competitive advantages

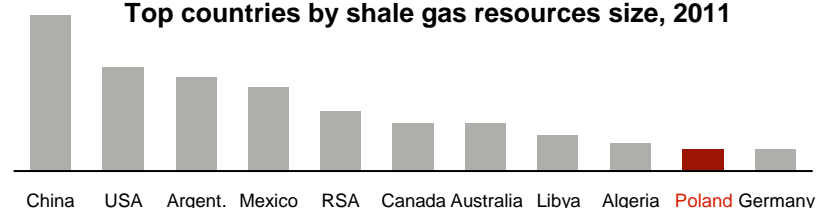
## Upstream development based on sound assumptions ...

- **Six organic projects** in exploration/appraisal phase
- **Access to producing assets** through optional M&A projects
- **Stable geopolitical regions:** focus on Central Europe and optionally North America
- **Potential strategic partnerships**

## ... and focused on own prospective licenses ...

- **10 unconventional concessions** with over 9 thousand km<sup>2</sup>, possible **acquisitions of additional acreage**
- **3 conventional exploration projects for crude oil and gas** in Poland and Latvia (offshore)

Top countries by shale gas resources size, 2011



## ... with advanced unconventional gas project 'Lublin Shale'

- Advanced **seismic analysis**
- 4 vertical and **2 horizontal** wells completed
- Two frac jobs scheduled for 2013
- **Production possible from 2016\***



\* After exploration phase if production economics confirmed  
Source: PKN Orlen

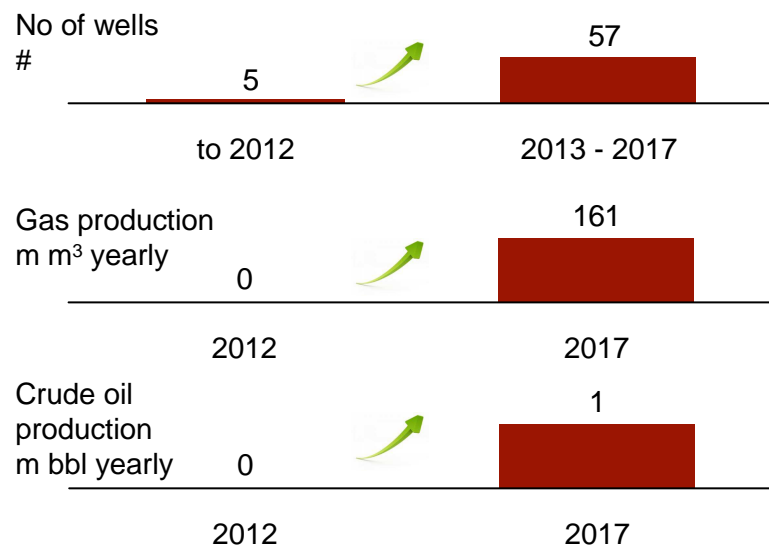
**Prospective concessions and advanced unconventional gas projects**



**ORLEN**

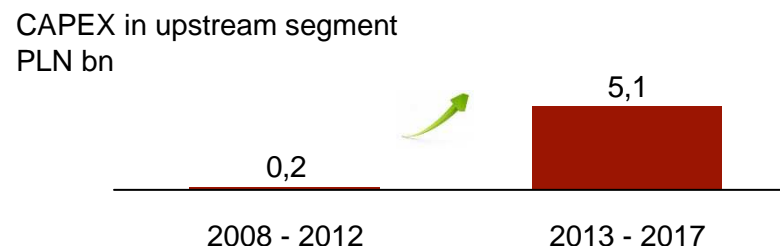
## Value creation levers

### Intensification of exploration and hydrocarbon production start-up...

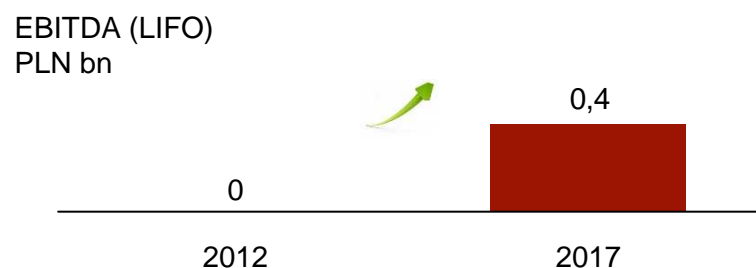


### ... will be possible due to significant CAPEX increase ...

- **Base capex PLN 2,4 bn:** mainly on shale gas projects
- **Accelerated capex PLN 2,7 bn:** access to producing assets, additional concessions and/or M&A - depending on strategic fit and valuation

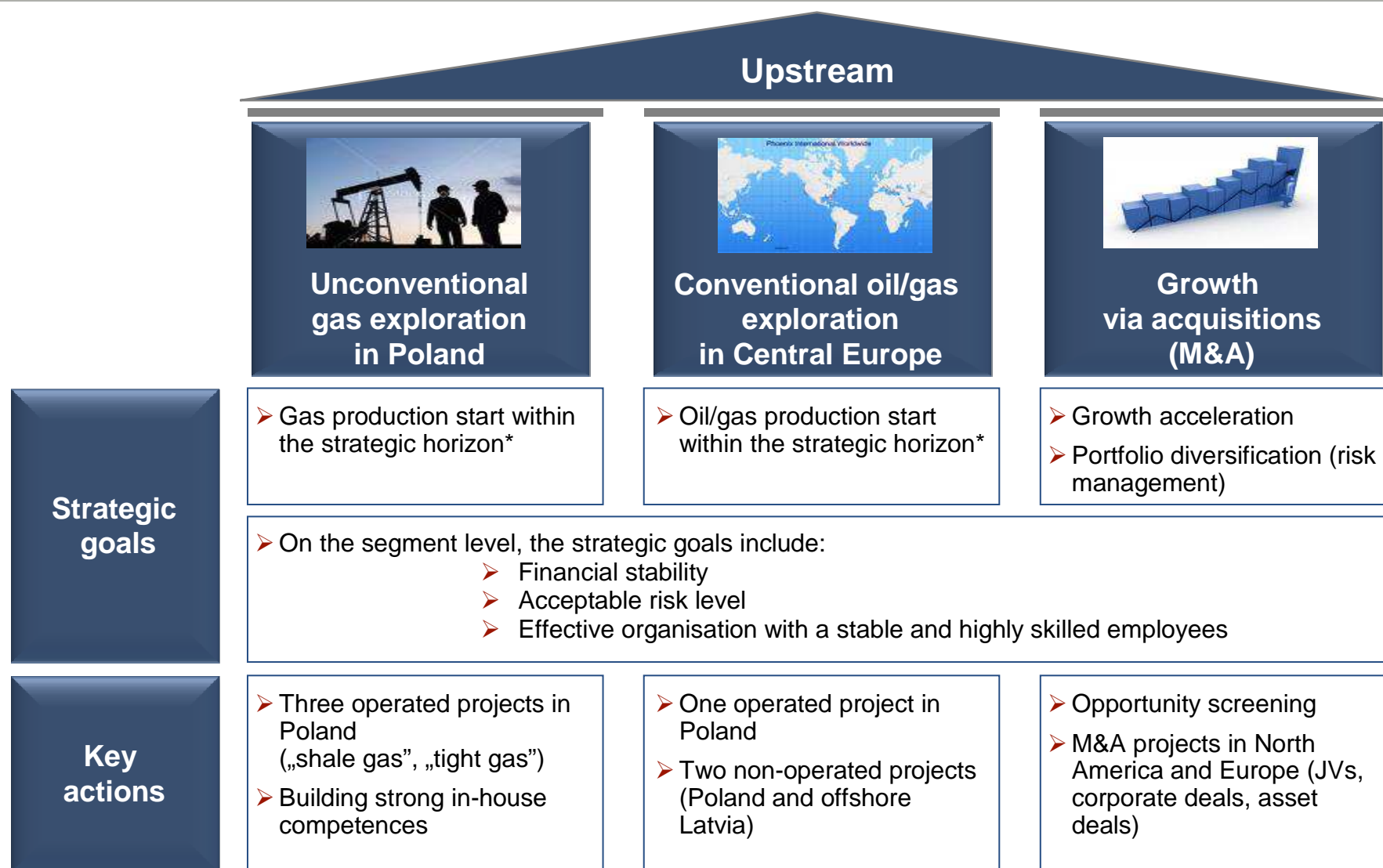


### ... which will allow to generate first profits within the Strategy timeframe



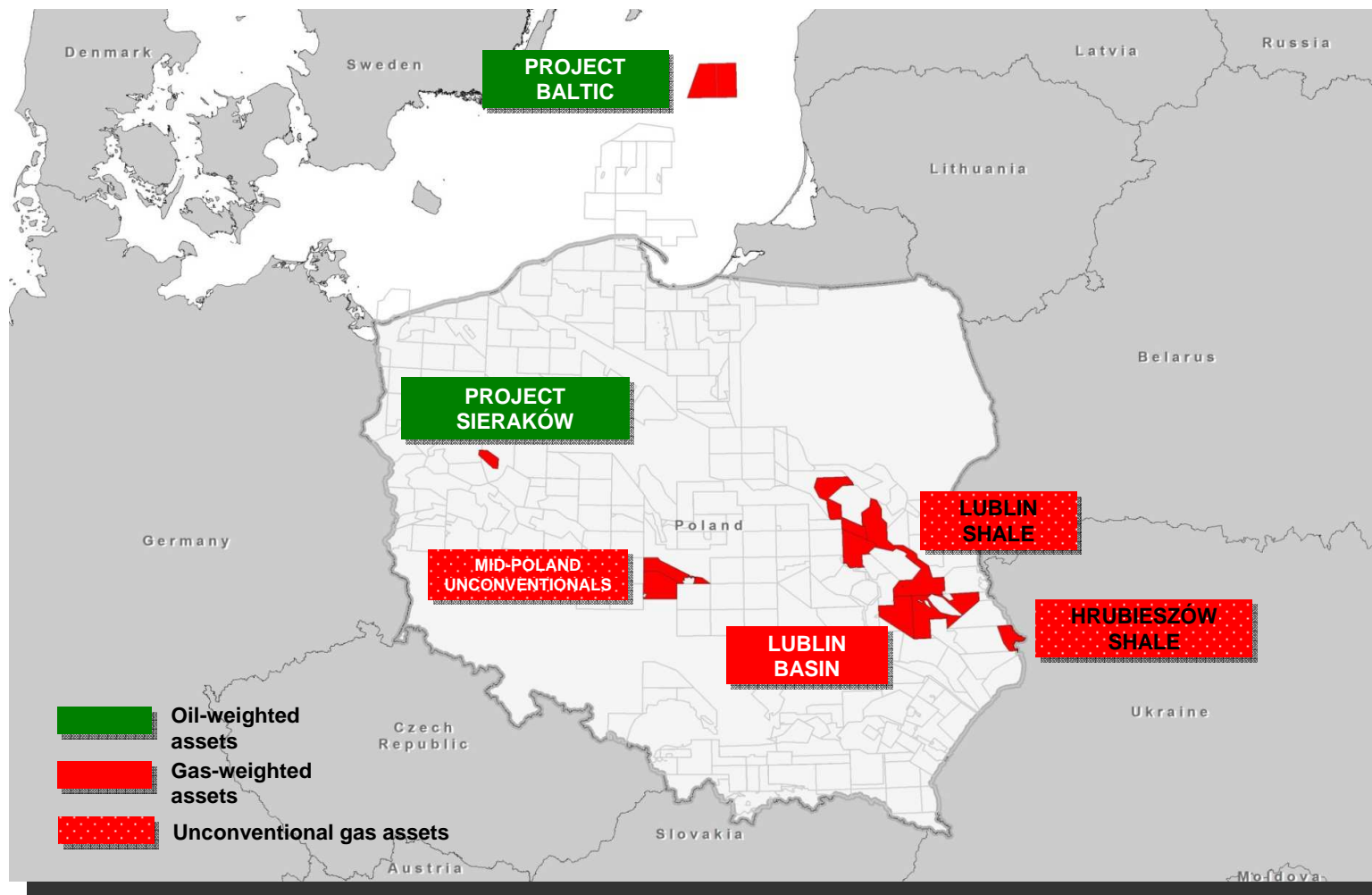
### Intensification of exploration and start of oil and gas production

# Three drivers of PKN ORLEN's upstream strategy



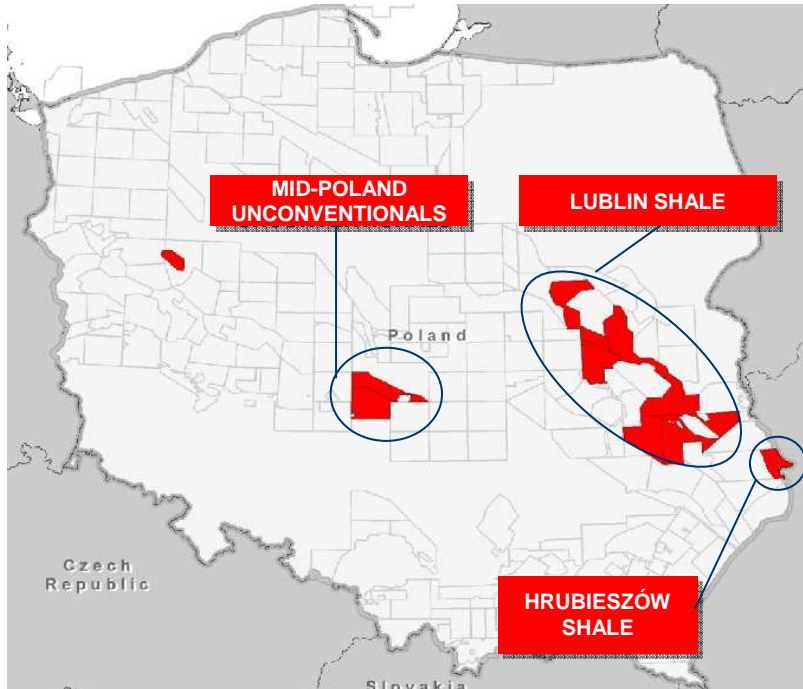
\* After exploration phase if production economics confirmed  
Source: PKN Orlen

## Operations – organic projects overview



Source: PKN Orlen

# Unconventional gas projects in Poland – overview



## Lublin Shale

- Project operated by ORLEN Upstream (100% WI)
- Total area: 7040,2 sq km
- Archival seismic and well data analyzed; new 2D seismic acquired & analyzed;
- 6 wells drilled to date (more details on following slides)

## Mid-Poland Unconventionals

- Project operated by ORLEN Upstream (100% WI)
- Total area: 1607,7 sq km
- Archival 2D seismic surveys under analysis. Archival 3D surveys to be reprocessed by Q3 2013
- New 700 km 2D seismic survey planned for 2013
- First exploration drilling planned for 2015

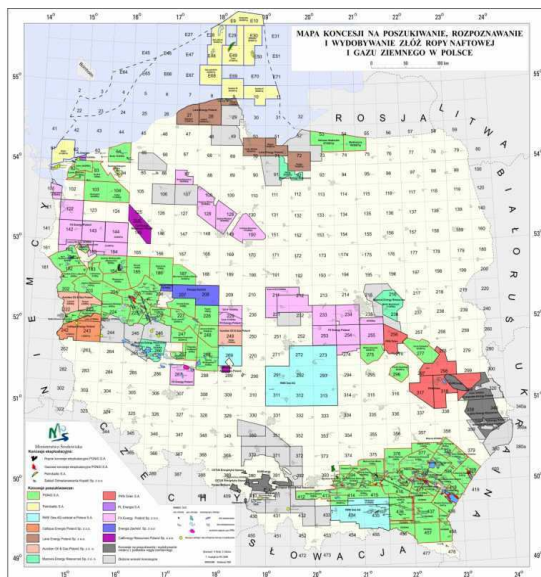
## Hrubieszów Shale

- Project operated by ORLEN Upstream (100% WI)
- Total area: 414,5 sq km
- Archival 2D seismic surveys reprocessed and currently under analysis
- Archival well data acquired and under analysis
- New 50 km 2D seismic survey planned for 2013
- First exploration drilling planned for 2014

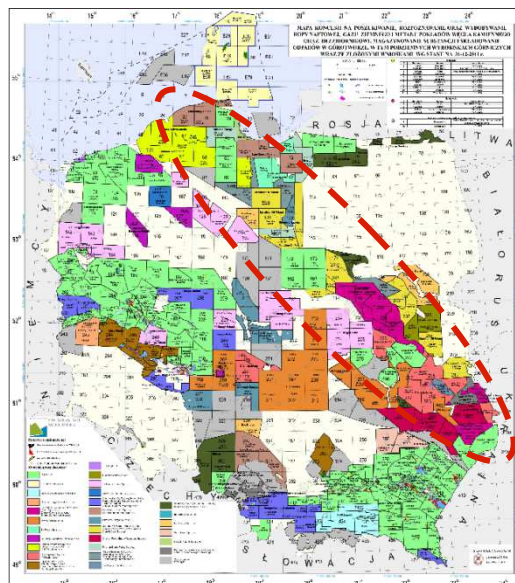


# PKN ORLEN: at the forefront of unconventional gas exploration in Poland

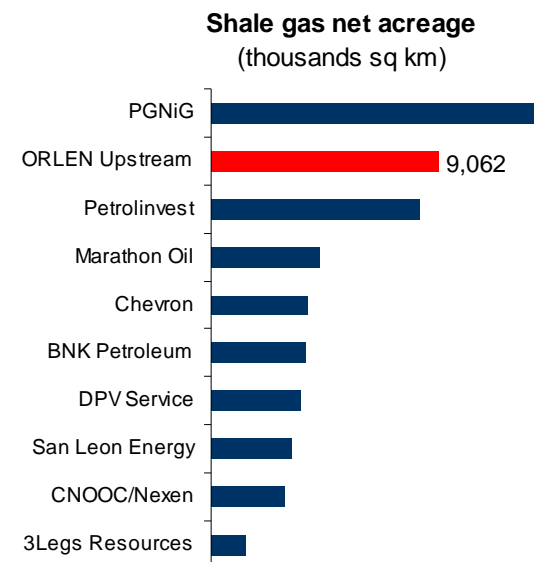
Concessions @ Q4 2008



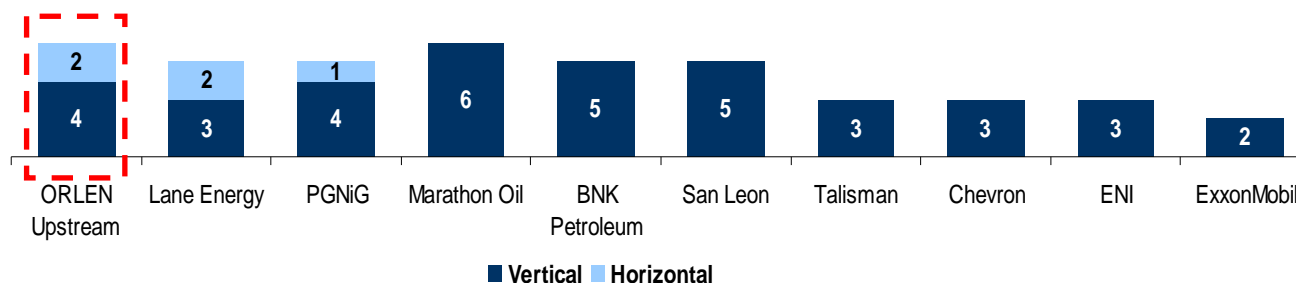
Concessions @ Q1 2013



TOP 10 shale gas players in Poland\*



Number of wells drilled by operators\*\*

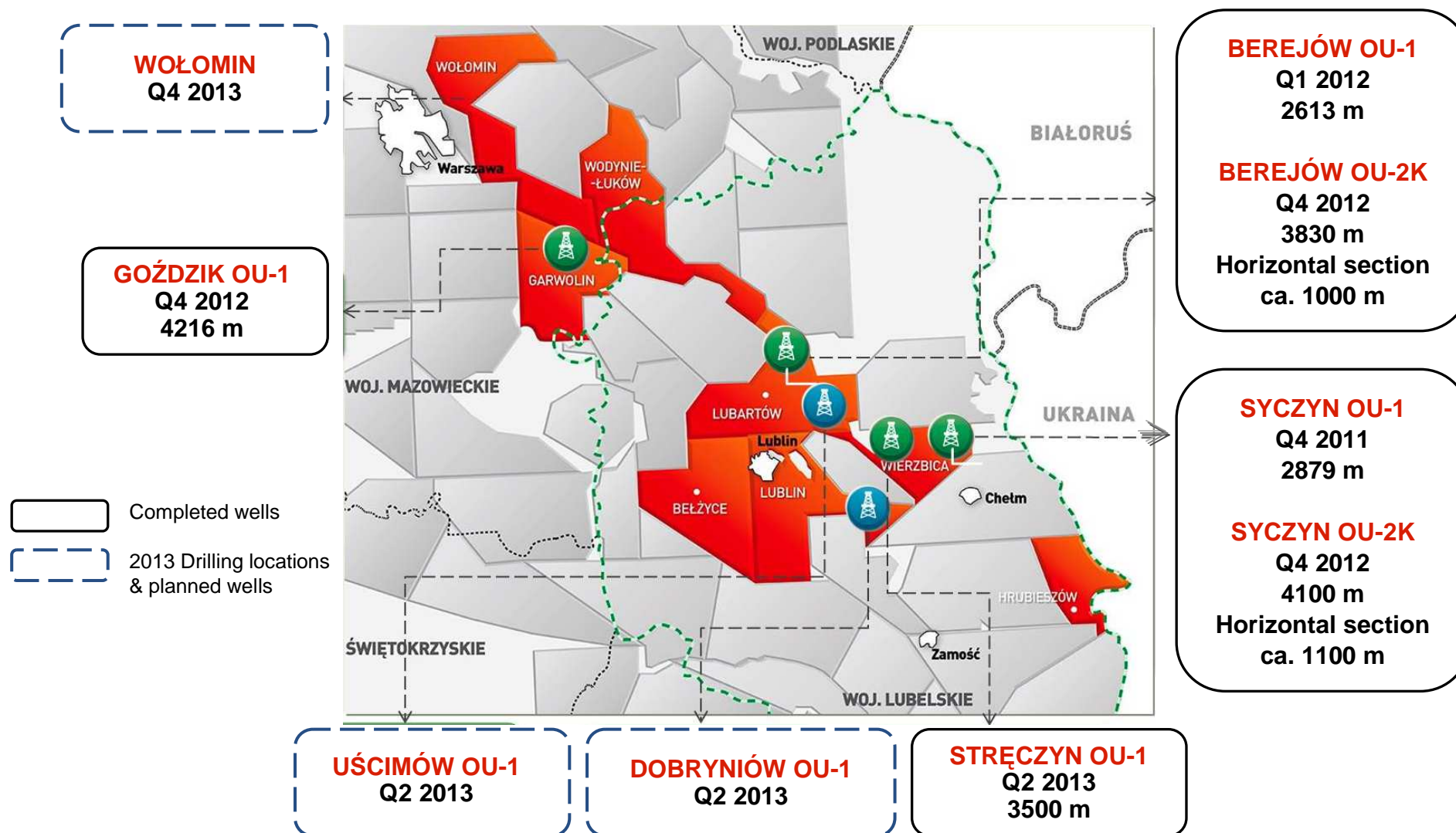


\* Acreage positions as of March 2013; \*\*Number of wells as of 4 March 2013 as reported by the Ministry of Environment  
Source: PKN Orlen



**ORLEN**

# Lublin Shale: ORLEN's flagship shale gas project

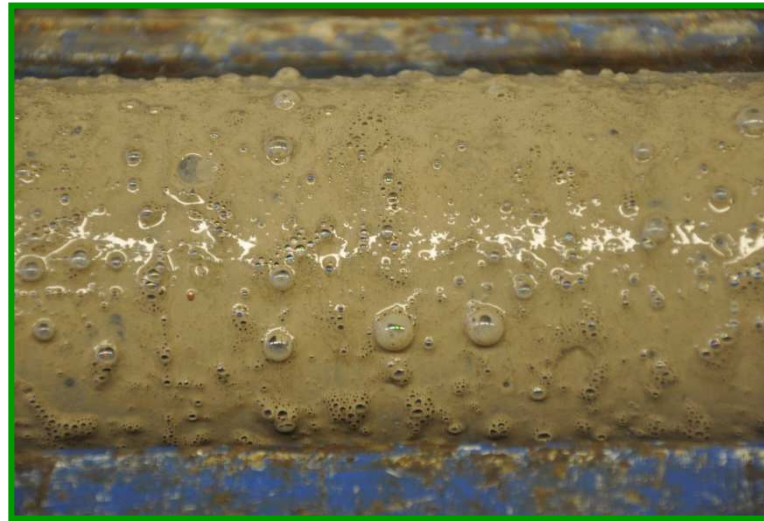
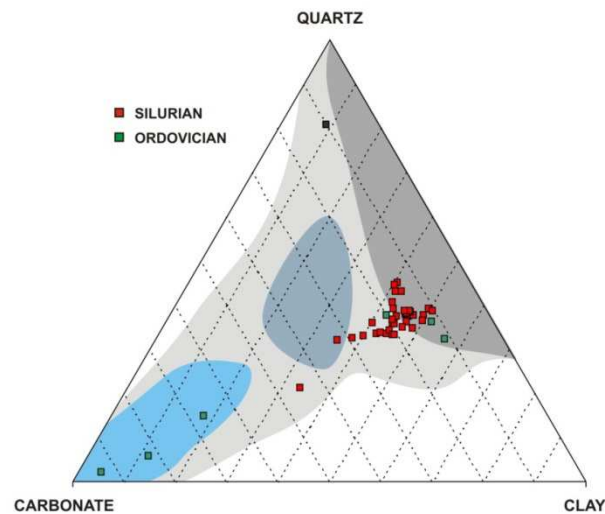


Source: PKN Orlen



# Lublin Shale: initial results

Complexity analyses from the first wells fall within satisfactory ranges for all key parameters and provide solid foundation for further exploration



## Average gas composition:

- C1: 72-74%
- C2: 6-18%
- C3: 0,9-5,0%
- C4+: 0,2-2,5%

Different colors denote content ranges for different types of proven US plays  
Light-grey color denotes content range for all proven plays in the US

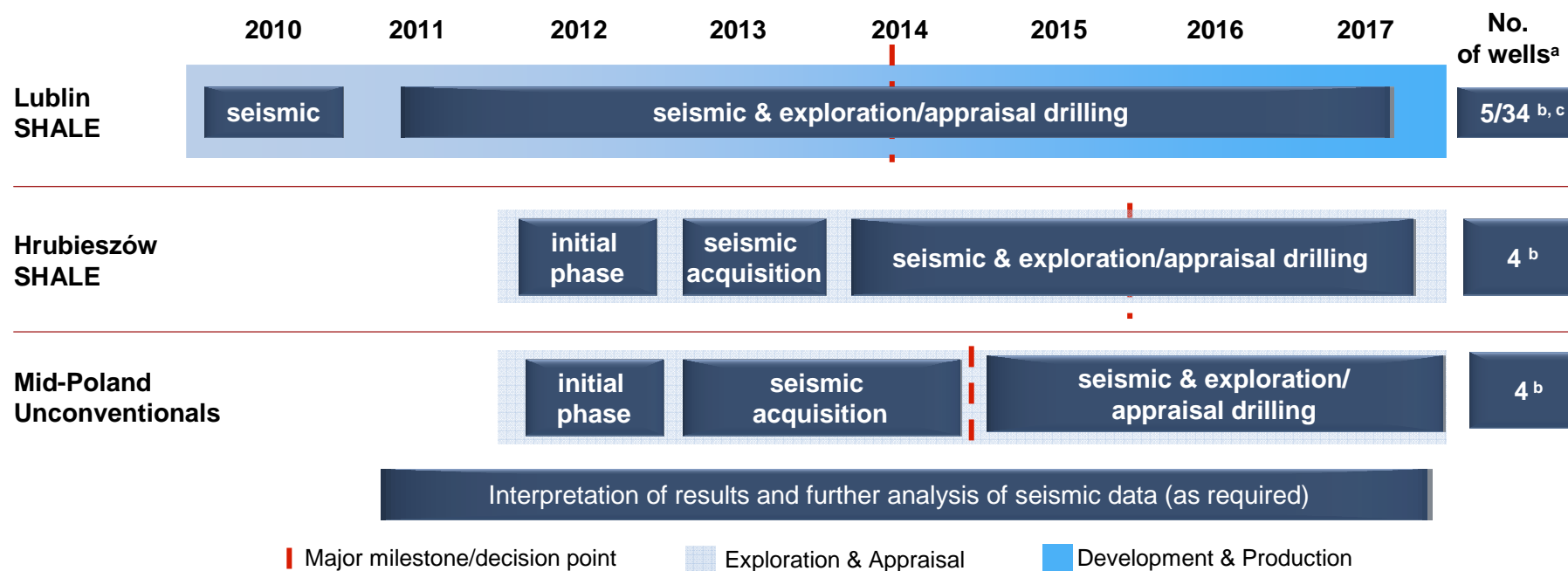
## Lublin shale vs. North American shale plays

	Barnett	Montney	Haynesville	Marcellus	Lublin Shale*
TOC [%]	4.5	1.0 - 5.0	0.5 - 4.0	1.0 - 5.0	0.8 - 3.5
Quartz Content [%]	35 - 50	45 - 60	34	20 - 60	16 - 33
Clay Content [%]	<35	n/a	33	20 - 35	40 - 56
Total Porosity [%]	4.0 - 5.0	2.0 - 4.5	8 - 15	1.6 - 7.0	up to 4.7**
Net Thickness [ft]	100 - 600	450 - 525	200 - 350	50 - 250	200

\* Initial findings based on limited exploration work performed; \*\* effective porosity  
Source: PKN Orlen

# Unconventional oil/gas in Poland: following a carefully worked out exploration/appraisal plan

- Every project schedule contains stop-loss points allowing to cease/quit a project and thereby limit the risk of excessive capex spending



Excluding 15 wells on conventional projects; b) Base case wells + additional wells depending on the results to date (stop loss);

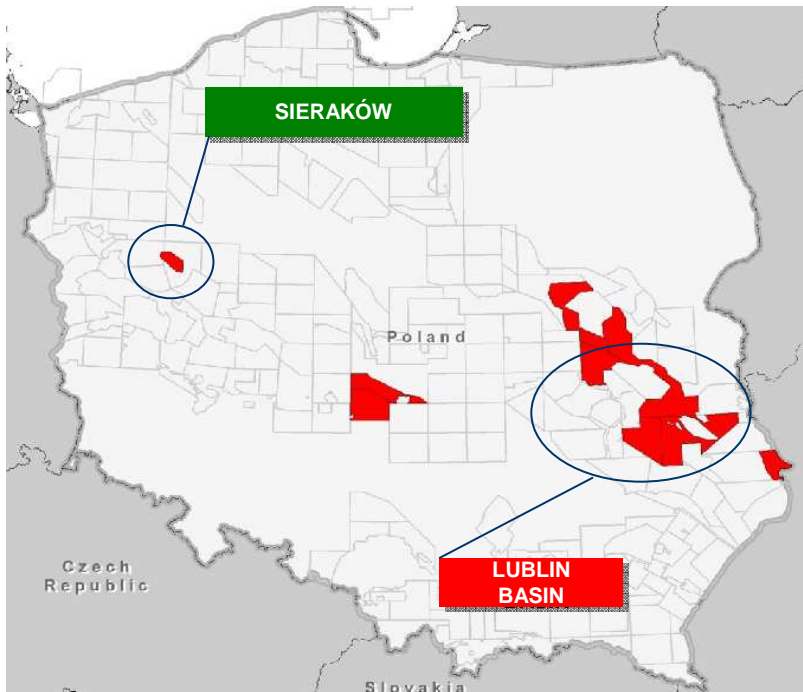
c) 5 wells completed until 31 Dec 2012

Source: PKN Orlen



**ORLEN**

# Conventional oil & gas projects in Poland – overview



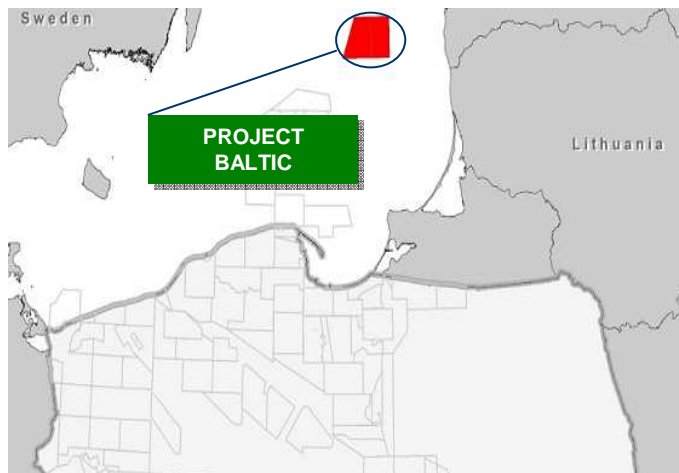
## Sieraków

- JV with PGNiG (the operator)
- ORLEN has 49% interest
- Concession area: Wronki and Gorzów Wielkopolski-Międzychód
- Primary target: oil in Main Dolomite formations
- Appraisal well Sieraków-3 currently drilling
- Expected commercial production in 2016

## Lublin Basin

- Project operated by ORLEN Upstream
- 5 exploration concessions covering 4 668,5 sq km
- Data appraisal completed – initial understanding of geology revised
- Prospective drilling locations identified
- Further seismic data acquisition scheduled for 2013 (2D and 3D)

# Project Baltic – oil project offshore Latvia



## Project Baltic

- Project executed in cooperation with Kuwait Energy Company (the operator)
- 2 exploration and production concessions in the Latvian shelf area of the Baltic Sea
- ORLEN Working Interest is 45%; the remaining interest held by KEC (45%) and the Latvian government (10%)
- Primary target: oil in Cambrian formation
- Well was spudded on 12 May
- Drilling in progress



Source: PKN Orlen

**ORLEN**

# M&A activity overview & goals

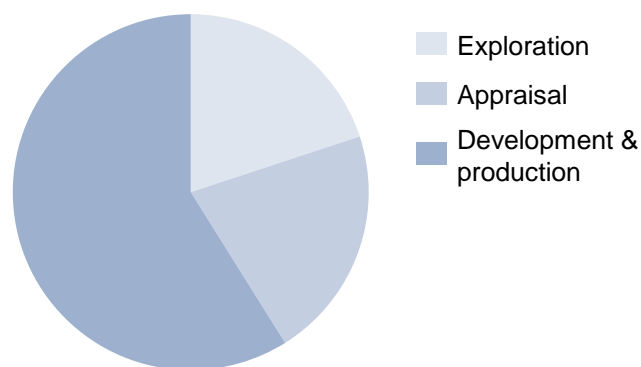
## Key goals of M&A activity

- Diversified resource base (exploration/production)
- Accelerated growth
- Acceptable level of investment risk
- Profitability and self-financing
- Know-how increase; ability to enter more sophisticated projects
- New markets and platform for further development

## ORLEN's approach to partnership

- Partnership experience in place (two conventional projects run with partners: PGNiG, KEC)
- With respect to its unconventional gas assets in Poland PKN ORLEN is open for dialogue with strategic partners experienced in shale gas exploration and production
- The M&A activity assumes risk sharing with partners e.g. via farm-ins into non-operated positions.

## Long-term portfolio structure by project stage



Portfolio diversification aims to provide ORLEN with stable rate of return at acceptable risk levels

## ORLEN has been very active in market screening in key selected markets (2009-YTD'13)

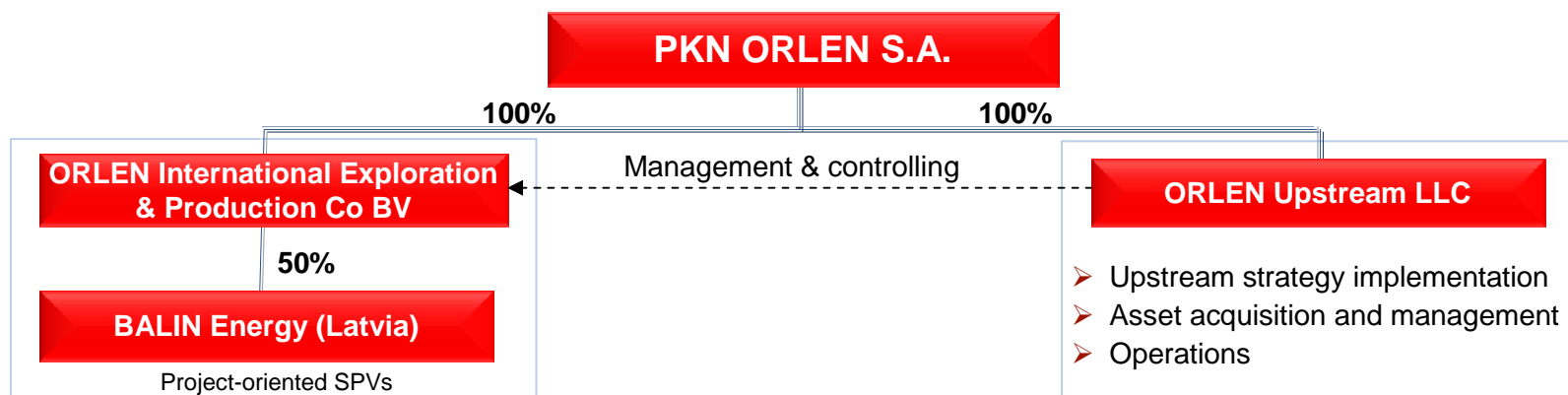


Source: PKN Orlen

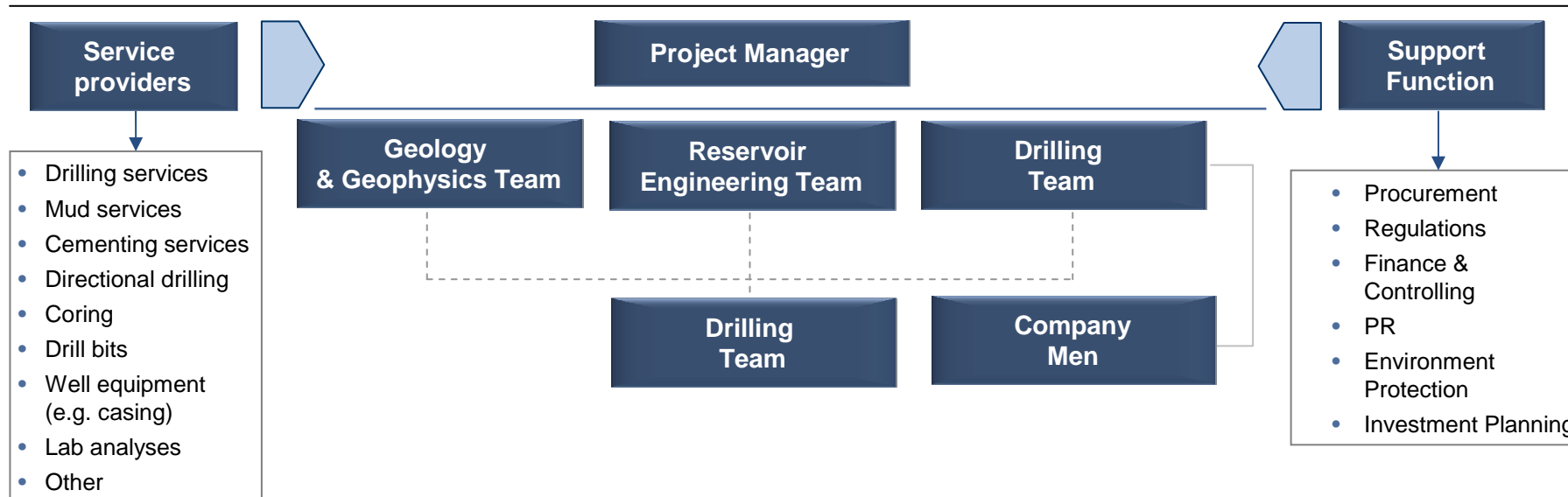
**ORLEN**



# ORLEN Upstream – organization



## Organisational structure at projects operated by ORLEN



Source: PKN Orlen



**ORLEN**

# TRANSPARENT

Meetings with local authorities

Supporting local education, sports and environmental protection activities

Meetings with local communities

Dialogue with suppliers

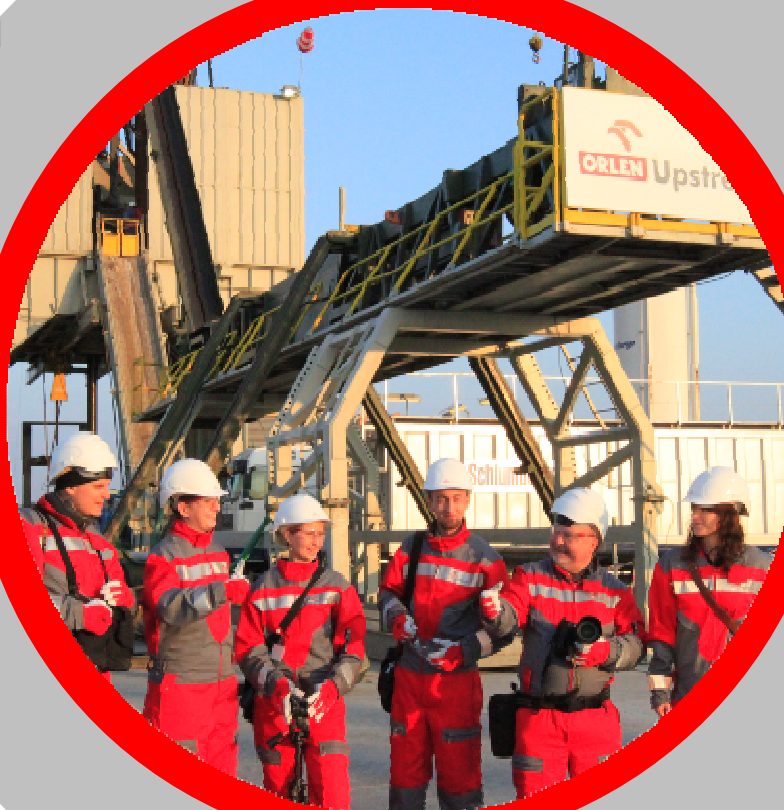
# OPEN TO DIALOGUE

Attending local events (e.g. conferences)

Meetings with local media

Pre-spud meetings before commencing work

Drill-site meetings



Source: PKN Orlen

# ORLEN

# Integrated management system



## **QUALITY MANAGEMENT SYSTEM - ISO 9001:2008**

- operations based on all applicable requirements for the oil & gas industry
- internal policies and procedures, committed and qualified team of employees
- continuous development and meeting expectations of all entities



## **ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2004**

- analysis and management of environmental impact on business operations
- owing to well-defined procedures and equipment enable using the environment responsibly



## **OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM: PN-N 18001:2004**

- high safety level ensured by appropriate management
- compliance with rules of industry regulations
- meeting stakeholders' expectations



## **CIPS certificate of excellence awarded by the Chartered Institute of Purchasing & Supply**

- the first accreditation in Poland
- confirms best practice in purchasing and supply management processes
- guarantees that ORLEN Upstream is following global standards

## Upstream at PKN ORLEN – key fundamentals of our balanced approach

### Financing

- Fully financed from PKN ORLEN's operating cash flow
- Base capex of PLN 2,4 bn (annual capex of approx. PLN 0,6 bn in peak years)
- 2017 EBITDA: PLN 0,4 bn
- Strong and stable cash flow contribution going forward

### Risk awareness

- Risk analysis at all levels (geology, regulations, taxes, environment, gas market, resources, society)
- Mitigation tactics developed to address the risks
- Stop loss approach in each project

### Six organic projects

- 3 conventional and 3 unconventional projects (total of 57 wells planned depending on the progressive results)
- 10 concessions/licences targeting unconventional prospects
- 9 concessions/licences targeting conventional prospects\*

### Portfolio diversification

- Acquisition of producing and development stage assets as a mean of balancing the current portfolio of the segment
- Stable and liquid markets
- Pro-active approach to opportunity generation

### Strong competences

- Strong in-house team of highly qualified technicians and management professionals
- Employee development program in place
- Close cooperation with best-in-class suppliers



\* 5 concessions in Poland target both conventional and unconventional prospects (Project Lublin Basin and Project Lublin Shale)  
Source: PKN Orlen

**ORLEN**

# Thank you for your attention

[www.orklen.pl](http://www.orklen.pl)

**For more information on PKN ORLEN, please contact our Investor Relations:**

Phone: + 48 24 256 81 80

Fax: + 48 24 367 77 11

E-mail: [ir@orklen.pl](mailto:ir@orklen.pl)

