KUALA LUMPUR 2012 WORLD GAS CONFERENCE

25th world gas conference

"Gas: Sustaining Future Global Growth"

Development of Coalbed Methane in Russia: First Results and Prospects

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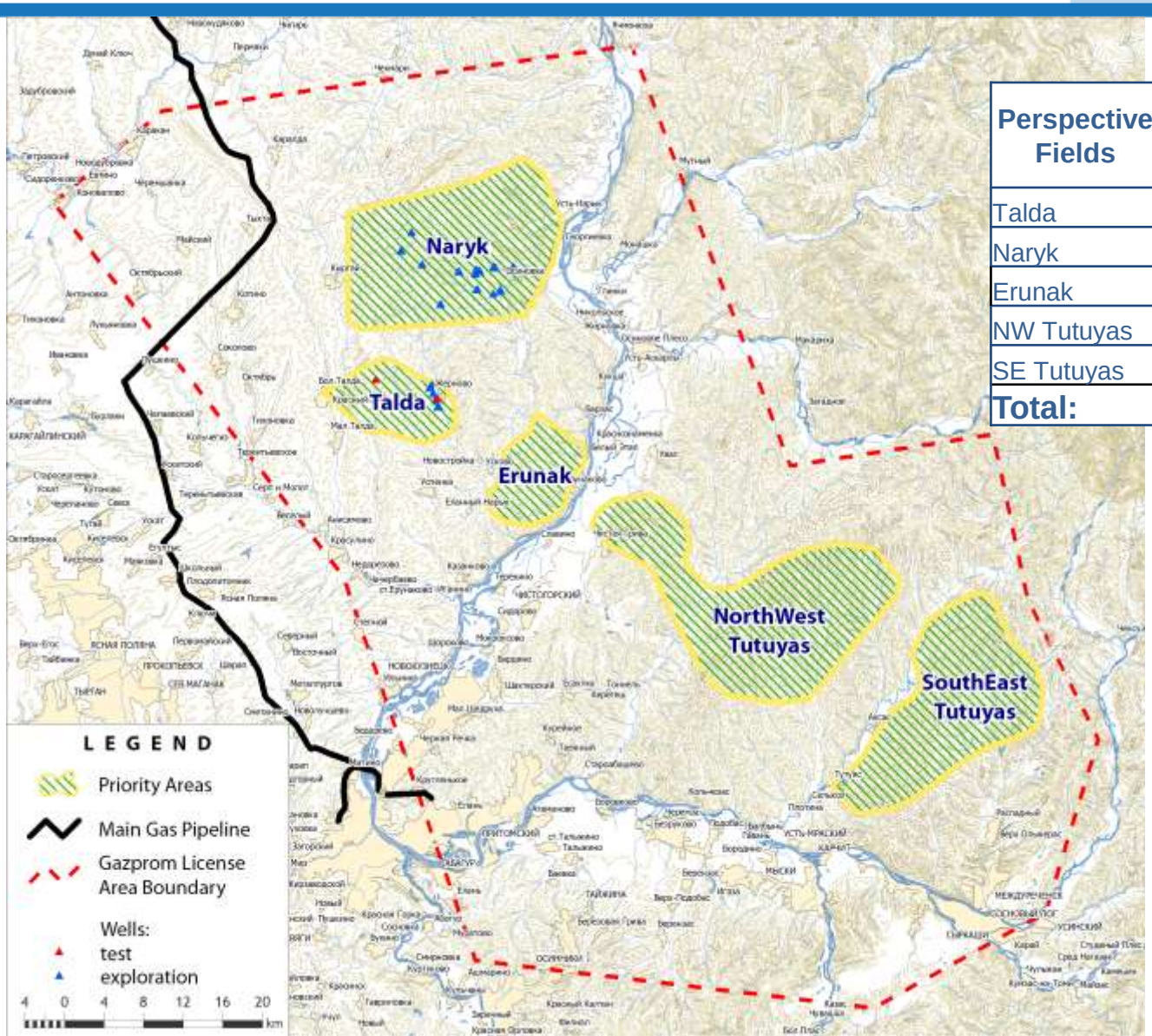
OUTLINE

1. CBM Resources in Russia: volumes, location, and development state
2. GAZPROM CBM License Area in the Kuznetsky Coal Basin:
   - Resources, Reservoir Geo-Physical characteristics;
   - Pilot Test Programme Results;
   - Modern Exploration and Development State;
   - Outlook for Commercial CBM Production;
3. Government Support of the CBM Project Implementation
4. Conclusions

CBM Resources in Russia

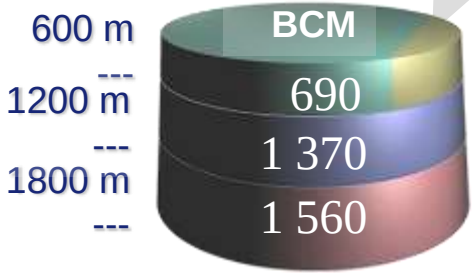
Basins	Resources, BCM
Total, including:	83 700
West Siberian	33000
Tungusskiy	20 000
Kuznetskiy	13 100
Lenskiy	10 000
Taimyrskiy	4 000
Pechorskiy	1 942
South Yakutian	920
Bureinskiy	105
Zyryanskiy	99
Donetskiy	97

Gazprom License Area: Resources and Perspective Fields



Perspective Fields	Area, km^2	CBM Resources, BCM	Resource Density, BCM/km^2
Talda	74	88,4	1,2
Naryk	197,9	409,6	2,1
Erunak	77,7	56,5	0,7
NW Tutuyas	300	216,2	0,7
SE Tutuyas	230	197,2	0,9
Total:	**879,6**	**967,9**	**1,12**

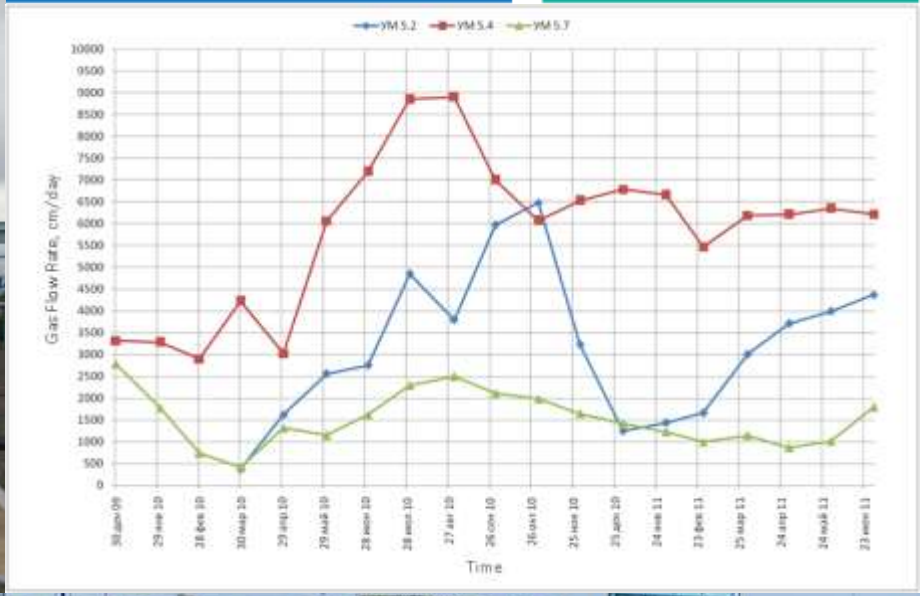
350 BCM within mine fields



Geo-Physical Reservoir characteristics

Characteristics	Talda Field	Naryk Field
Age	Permian	Permian
Rank (Vitrinite Refl., %)	Bituminous (0,72 – 1,2)	Bituminous (0,72 – 1,2)
Production interval, m	350–950	300–1200
Thickness, m	1–4 (average: 2,5)	1–10,5 (average: 5)
Seams	12	17
Gas content, cu-m/t	10–27	10–25
Permeability, mD	1–10	1–5
Gas Rate, Mcu-m/day	1–11	1–5
Water Rate, cu-m/day	3–99	3–50

Pilot Test Programme



Pilot Production Project in the Talda Field

Number of Wells	20
Production Volume	30 MMcu-m/year
CBM Utilization	- Power Station (2-10 MW) - Autonomous Gas Filling Compressor Station - mini LNG Plant (~ 1 ton /hour)

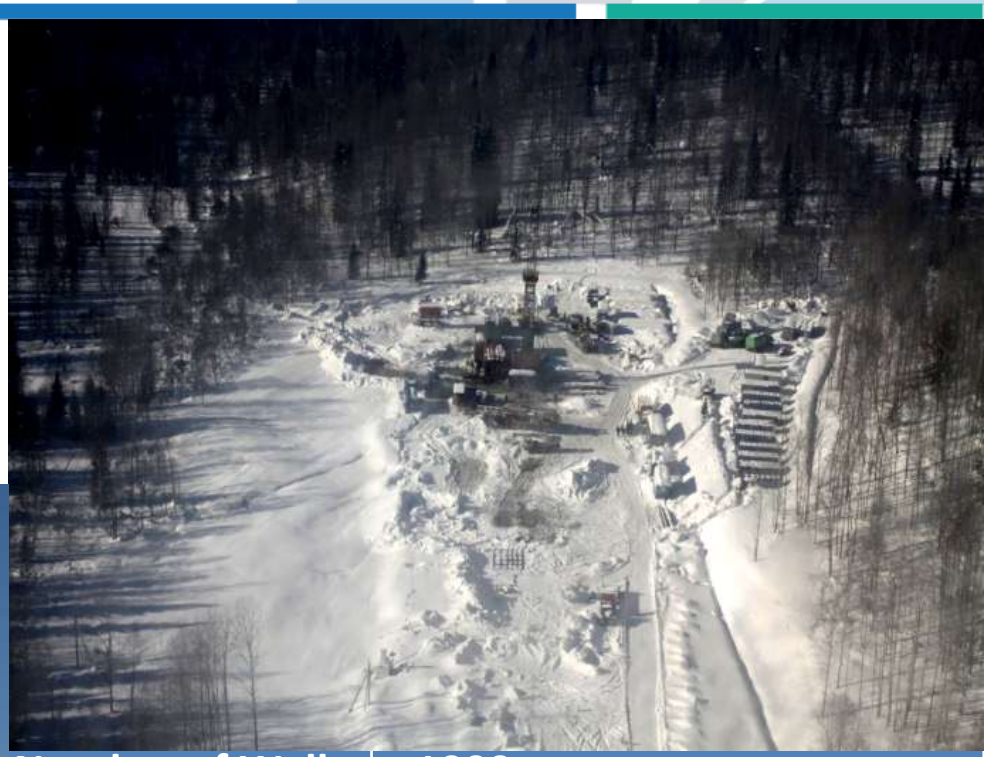
Planned Commercial CBM Production in the Naryk Field

2010-2013:

Exploration works and test production from 30 exploration wells

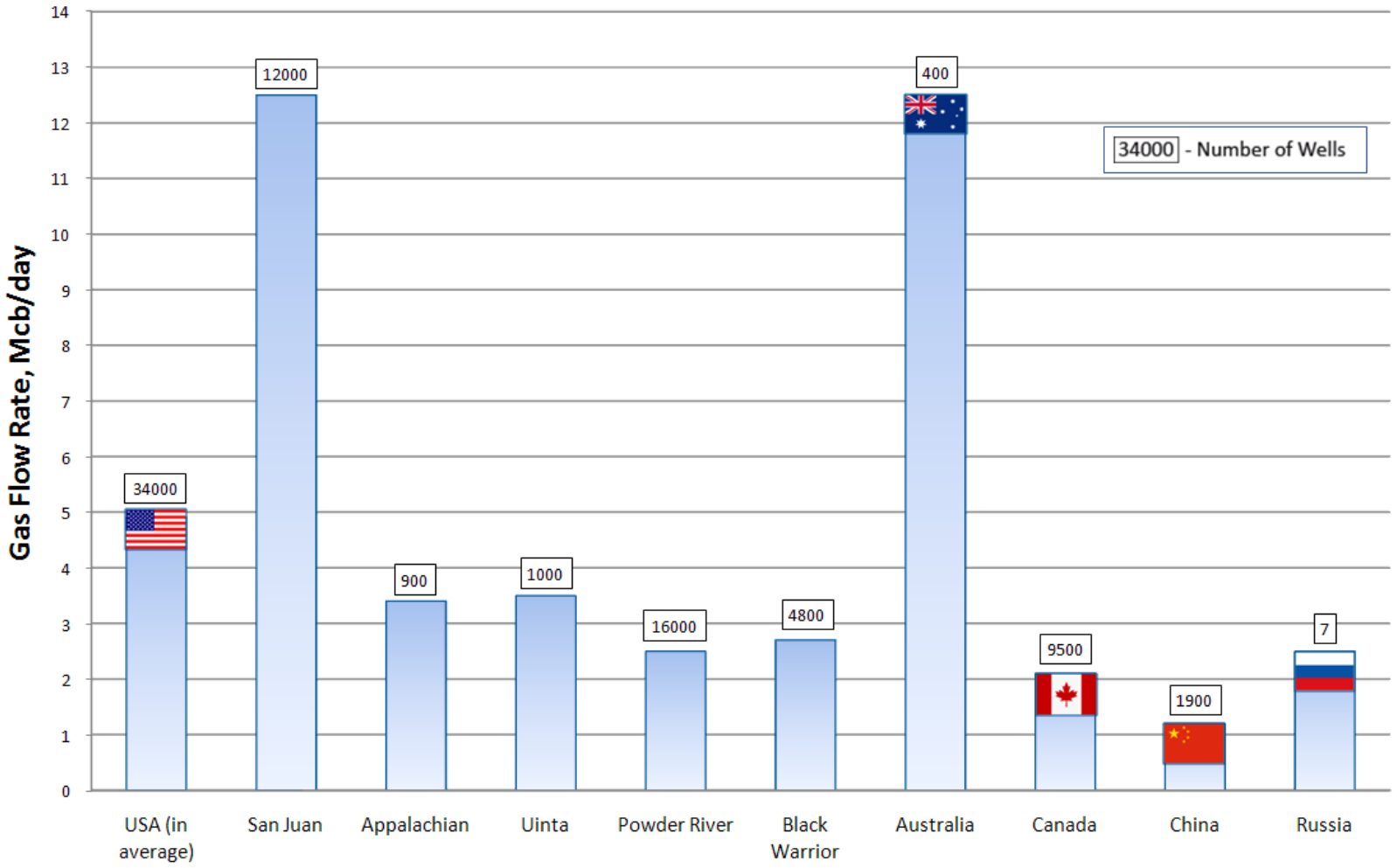
2013-2014:

Preparation and Improvement of Feasibility Study

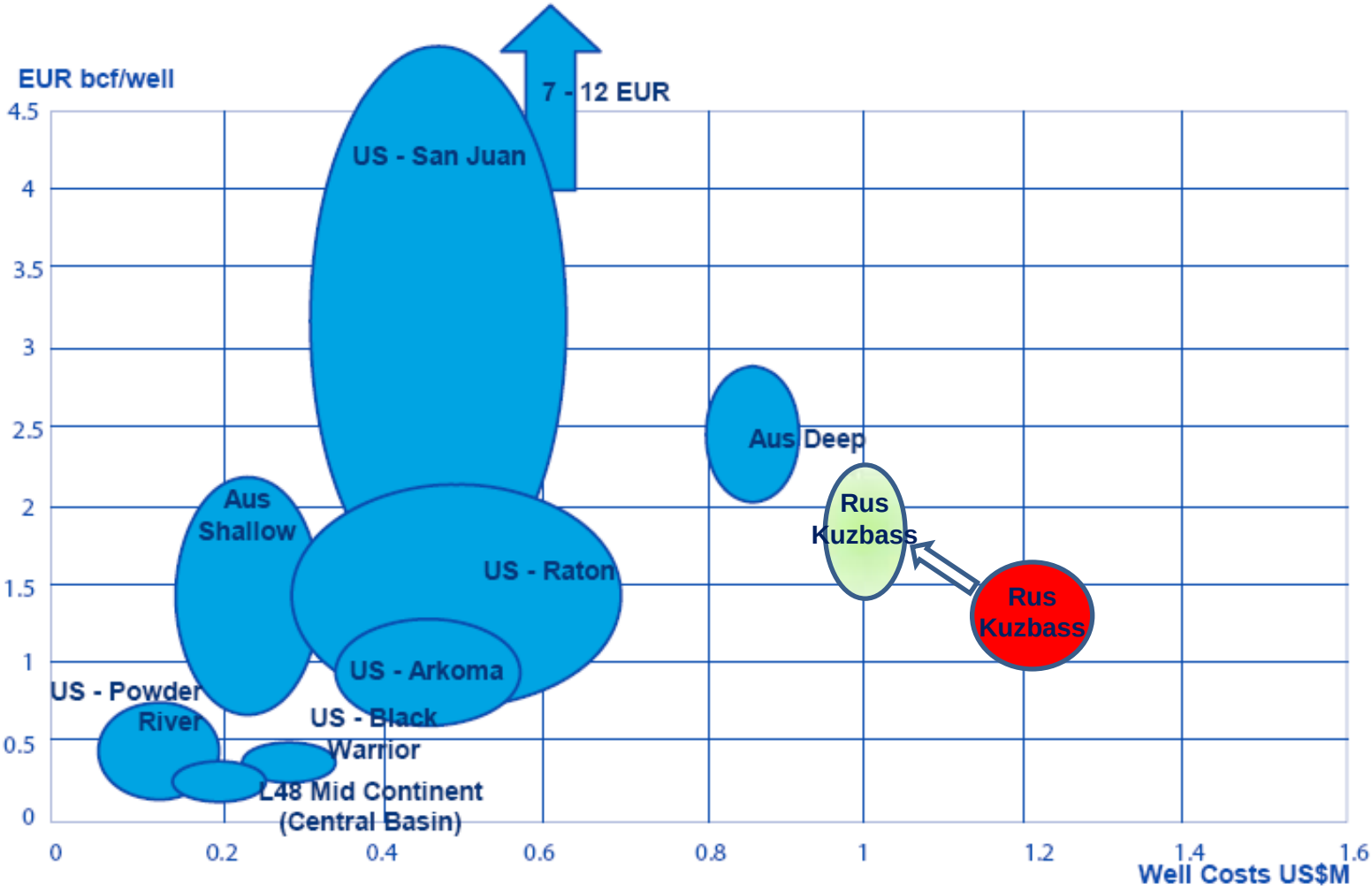


Number of Wells	~1000
Production Volume	1-1.5 Bcm per year
CBM Utilization	- Boilers and Power Stations - Industrial and commercial customers - Households

World Average CBM Well Gas Flow Rates



CBM Well costs



Source: WoodMac, BP

Government Support of the CBM Project Implementation

CBM production is stimulated by;

- Exemption from assessed tax;
- Reduction of income tax rate;
- Exemption from royalty (discussed).

Additionally to increase safety of mine work

- Coal producers are obligated to extract CBM before underground coal recovery if gas content exceeds 13 cu-m per ton
- In doing so, they recoup the cost of drilling, completing and connecting wells from royalty payment

Conclusions

1. Russia possesses huge CBM resources, but most of them are undeveloped and located in hard-to-reach sparsely populated areas

2. Kuzbass with CBM resources of 13 000 BCM is very attractive development option due to advantageous position and the fact it has been thoroughly studied

3. Commercial development of CBM resources in Kuzbass is mainly restrained by:
   - Large proven reserves in conventional gas deposits;
   - Low economic efficiency;
   - Uncertainty of transition to large-scale production
4. Basic conditions promoting CBM project implementation are:
   - Optimization of construction cost;
   - Technology improvement to increase gas rate;
   - Government support.

Thank You for Attention!