

# Assessing Gazprom's Ability to Sharply Increase Its Exports to Europe



- Understanding developments in pipeline capacity
  - Moderate export case
- Evaluating how the Ukrainian position is changing
- Assessing sustainability of exports in case of restructuring of Gazprom
  - “Business-as-usual”
  - “Soft breakup”

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# Moderate Case: Export by Terminal, bcm

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2010	2015
<b>Uzhgorod</b>	<b>93.1</b>	<b>97.2</b>	<b>102.5</b>	<b>94.0</b>	<b>86.4</b>	<b>85.5</b>	<b>82.3</b>	<b>75.1</b>	<b>69.5</b>	<b>81.4</b>	<b>94.8</b>
- Velke Kapusany	80.3	83.7	89.5	81.8	74.4	73.2	69.5	64.9	58.0	67.4	78.2
- Drozdowichi	3.8	3.9	4.1	3.6	3.0	3.0	3.0	-	-	-	-
- Beregdaroc	8.8	9.4	8.7	8.0	8.2	8.4	8.6	8.8	9.9	12.0	13.6
- Satu Mare	0.2	0.2	0.2	0.6	0.8	1.0	1.2	1.4	1.6	2.0	3.0
<b>Izmail</b>	<b>16.7</b>	<b>15.7</b>	<b>16.5</b>	<b>17.8</b>	<b>19.0</b>	<b>18.2</b>	<b>18.4</b>	<b>16.6</b>	<b>14.5</b>	<b>14.6</b>	<b>20.2</b>
<b>Vyborg</b>	<b>3.6</b>	<b>4.2</b>	<b>4.2</b>	<b>4.3</b>	<b>4.4</b>	<b>4.5</b>	<b>4.7</b>	<b>4.8</b>	<b>5.0</b>	<b>6.0</b>	<b>7.0</b>
<b>Brest/Kondratki</b>	<b>3.4</b>	<b>3.5</b>	<b>3.5</b>	<b>13.0</b>	<b>24.4</b>	<b>29.0</b>	<b>36.0</b>	<b>47.0</b>	<b>57.0</b>	<b>67.0</b>	<b>67.0</b>
- Brest	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
- Germany	-	-	1.5	10.0	21.4	26.0	33.0	33.0	33.0	33.0	33.0
- Slovakia	-	-	-	-	-	-	-	11.0	21.0	31.0	31.0
<b>Blue Stream</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.0</b>	<b>3.0</b>	<b>6.0</b>	<b>9.0</b>	<b>16.0</b>	<b>16.0</b>
<b>NGG</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total:</b>	<b>116.8</b>	<b>120.5</b>	<b>126.7</b>	<b>129.0</b>	<b>134.1</b>	<b>139.3</b>	<b>144.4</b>	<b>149.5</b>	<b>155.0</b>	<b>185.0</b>	<b>205.0</b>

- Bypass to Slovakia is built in 2004 and gets full capacity in 2007
- Maximum flow is diverted from Ukraine to Belarus

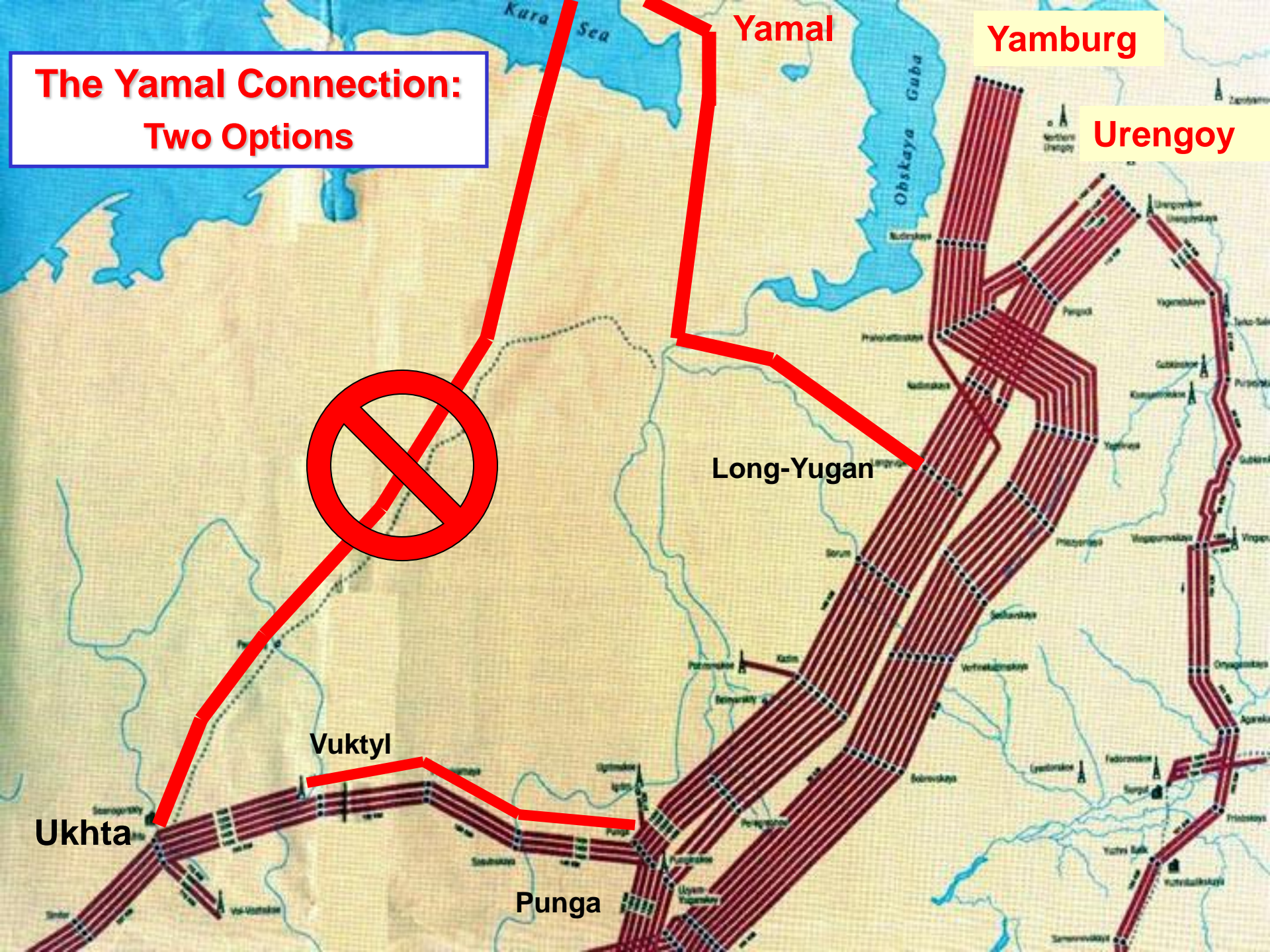
# Moderate Case: Gas Balance, bcm

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2010	2015
<b>Input:</b>											
Gazprom	534	554	545	522	526	528	530	532	535	568	600
Itera	-	-	7	17	18	20	21	23	24	32	32
Other Russian producers	10	10	11	10	10	10	10	10	10	11	12
Storage withdrawal	23	22	28	27	28	29	30	31	32	38	41
Imports	6	1	3	8	9	10	11	12	13	15	17
Transit	12	2	9	24	26	27	29	31	33	33	36
<b>TOTAL INPUT:</b>	<b>585</b>	<b>590</b>	<b>602</b>	<b>608</b>	<b>617</b>	<b>624</b>	<b>632</b>	<b>639</b>	<b>647</b>	<b>697</b>	<b>738</b>
<b>Deliveries/Use:</b>											
Fuel gas & transp. loss	49	52	52	51	51	52	52	52	53	57	61
Storage injection	26	37	35	35	35	35	36	36	36	41	42
Russian consumers	302	294	302	309	311	312	313	313	314	321	331
Foreign storage balance	2	2	2	2	2	1	1	1	1	0	0
Transit	12	2	9	24	26	27	29	31	33	33	36
<b>Exports:</b>											
- FSU	78	82	76	59	58	58	57	56	55	59	63
- Europe	117	121	127	129	134	139	144	149	155	185	205
<b>TOTAL DELIVERIES:</b>	<b>585</b>	<b>590</b>	<b>602</b>	<b>608</b>	<b>617</b>	<b>624</b>	<b>632</b>	<b>639</b>	<b>647</b>	<b>697</b>	<b>738</b>

- Russian gas use hit the bottom in 1998 (24% drop from 1990)
- 2015 consumption is anticipated at 12-15% below the 1990 level



**The Yamal Connection:  
Two Options**

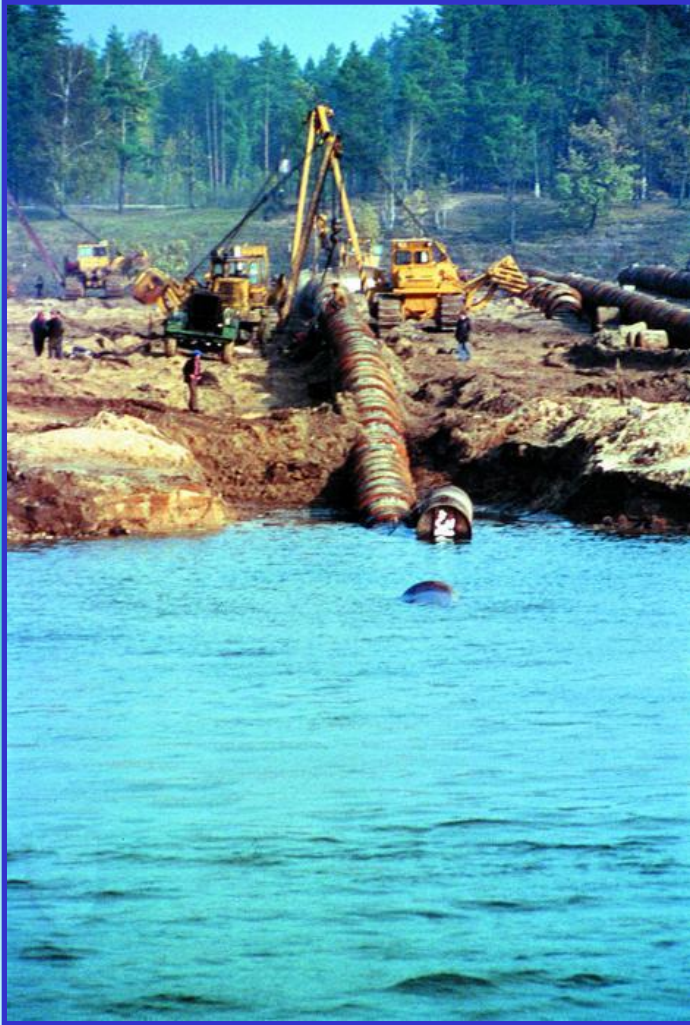




## NGG



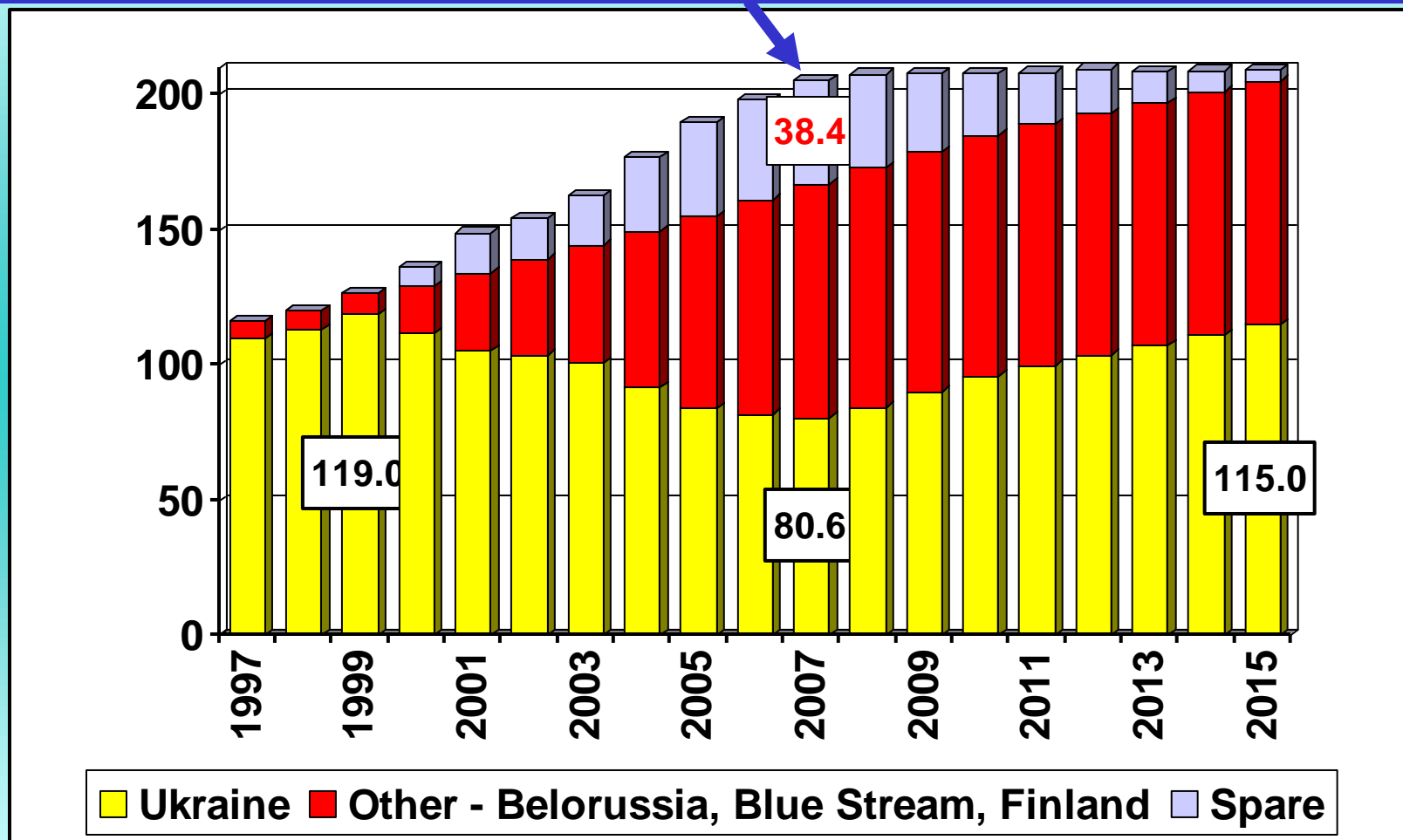
# Pipeline Expansion Projects: Summary



- The new projects required to meet the 205 bcm/year export target:
  - Torzhok - Polish border (2 x 56-in)
  - Kobrin - Slovakia (56-in)
  - The Blue Stream (48-in + 2 x 24-in)
  - Ananyev - Izmail - Turkey (48-in)
  - Tula - Torzhok (2 x 56-in)
  - Yamal - LongYugan (5 x 56-in)
  - feeding pipelines from new fields
- Remaining capacity is sufficient for the projection period
- Shtokmanovsky field may be developed earlier than Yamal

# Ukrainian Transit in Total Export Flow, bcm/year

Export capacity may exceed 200 bcm/year, but not enough gas & market space





# Ukrainian Flow Scheme

Summer peak,  
No winter flow

Belarus

Poland

Russia

Mostransgaz:  
Winter peak

Slovakia

Ukraine

Hungary

Moldova

Romania

Russia

March 22, 2001

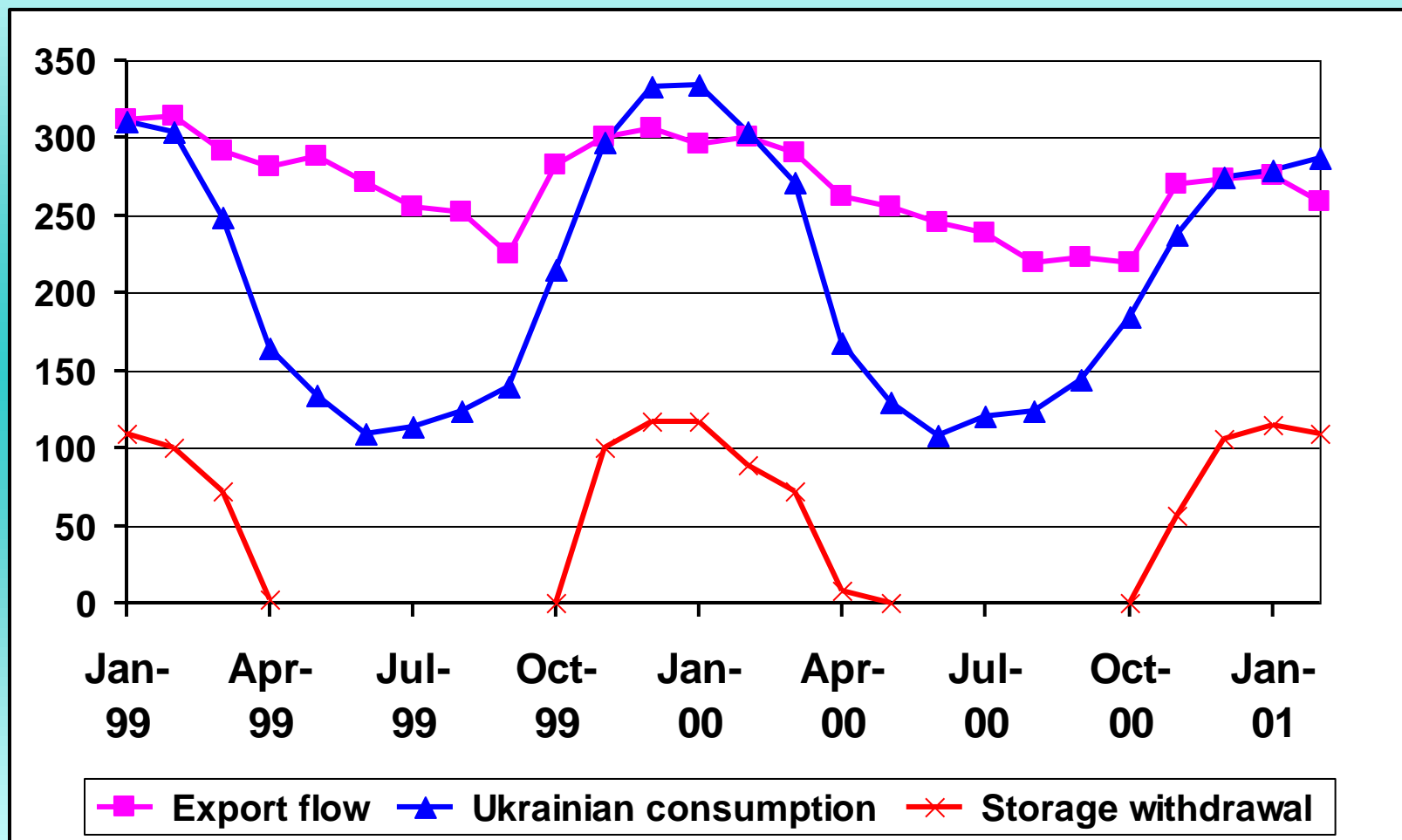
East European Gas Analysis

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# The Role of Ukrainian Storage Facilities, mmcm/day



# The Role of Ukraine

- **Ukrainian underground storage facilities provide over one-third of winter export flow**
- **Maximum daily withdrawal from storage facilities exceeds the incremental winter flow of the Mostransgaz pipeline system**
- **Belorussia has smaller storage capacity and smaller winter peak**

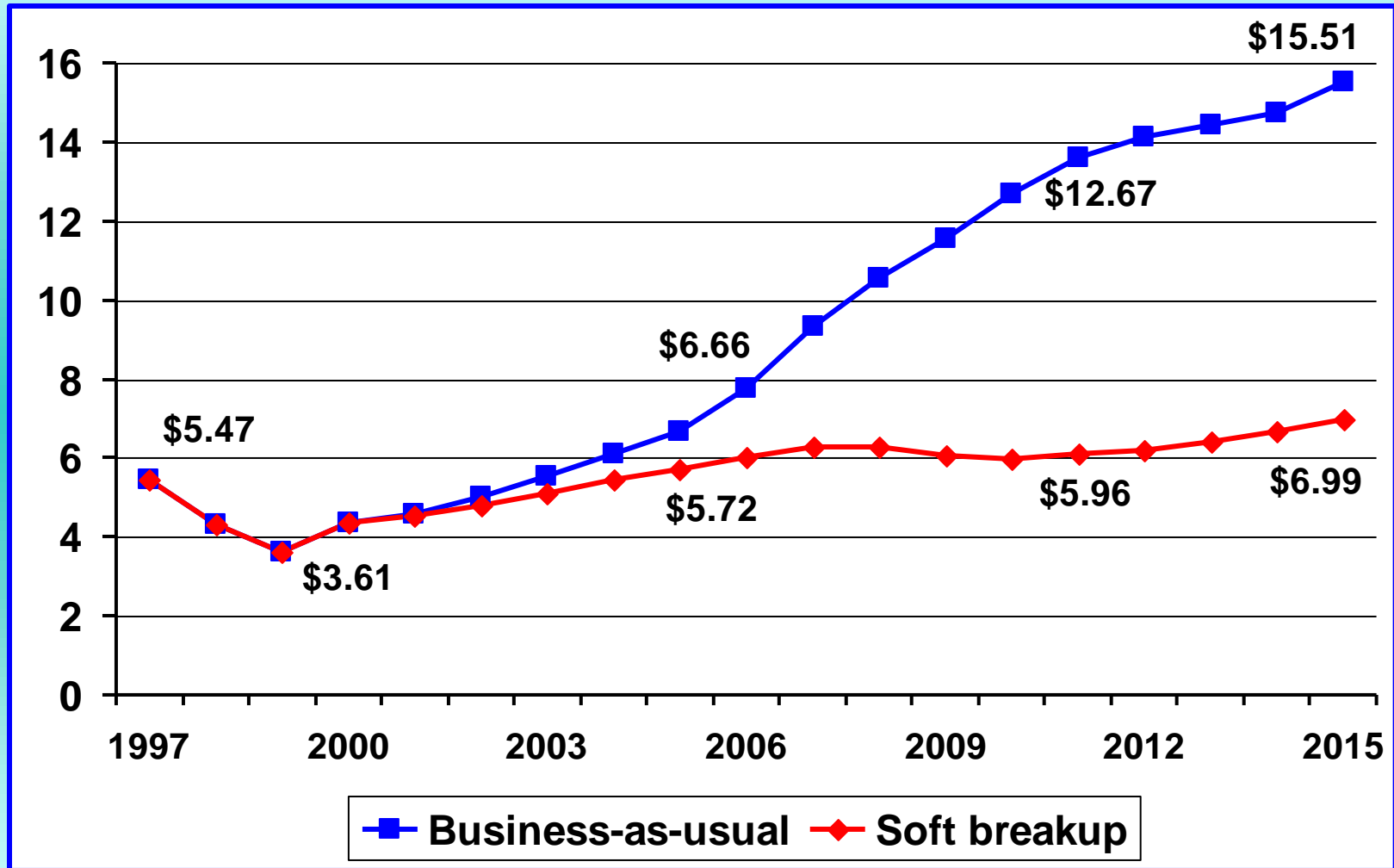


# **“Soft Breakup” Assumptions**

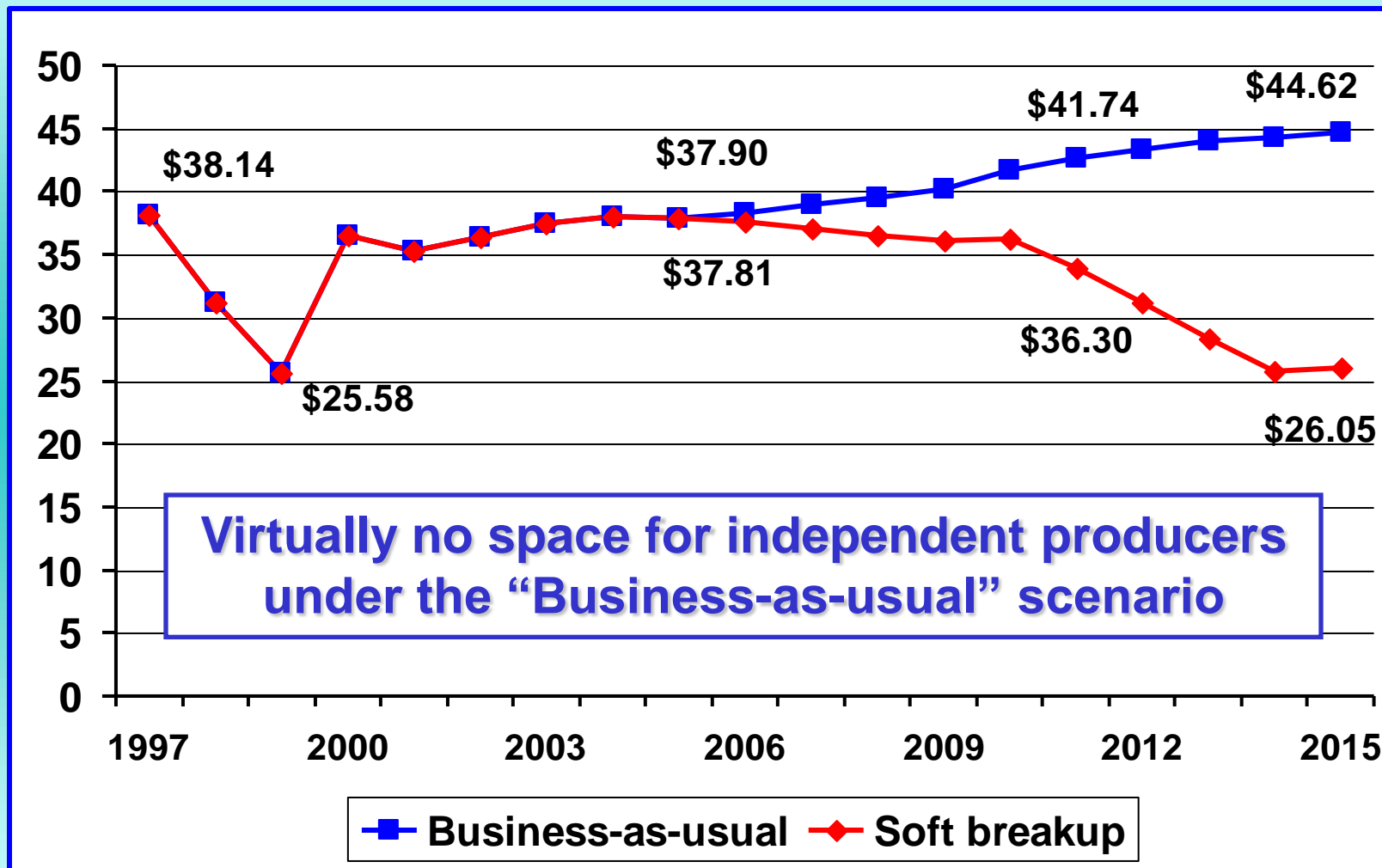
- **Gazprom keeps all producing fields, including Zapolyarnoe**
- **All other new fields (Yamal, smaller fields of Nadym-Purtaz, Gydan peninsula) are developed by independent producers**
- **Gazprom may keep a minority interest in these fields, as it does in East-Tarkosalinskoe, operated by ITERA**
- **Independent producers export the new gas to Europe, because the low domestic or CIS market can not provide enough incentive the development of new fields**
- **Gazprom’s exports are gradually replaced by those of independent producers, including the reimbursement gas for transit services of Ukraine and Belarus**
- **Gazprom sells gas to Russian customers and transit services to independent producers and traders**
- **Taxation rules stay the same (no favors to Gazprom)**



# Gazprom Production Cost, USD/mcm



# Average Transmission Cost: Russian Border, USD/mcm



# A Better Future for Gazprom



- Transit revenue has a much more favorable taxation than export
- The pipeline system is the most valuable asset of Gazprom
- The best strategy for Gazprom:
  - focus on sales of transit services
  - all new fields after Zapolyarnoe developed by independent producers and all new gas exported by them to Europe and FSU (for instance, via Gazexport)

**Gazprom executives think separation means collapse**



# A Better Future for Gazprom



**Gazprom's  
market value  
would double!**

- or even triple and Mr. Vyakhirev will be happy again