



# **The Impact of the 2008-09 Recession and Economic Crisis on Russian and European Gas Markets**

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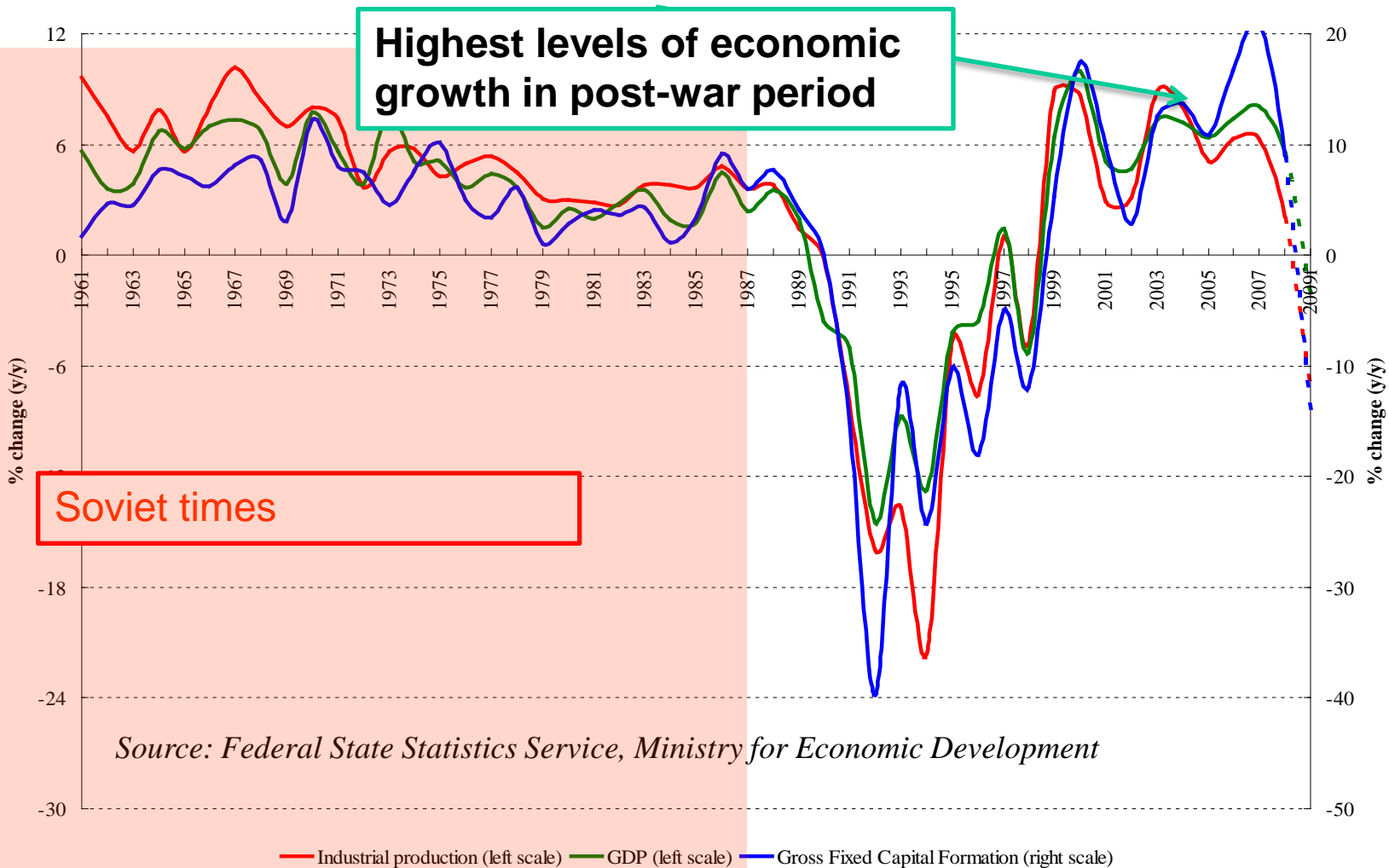
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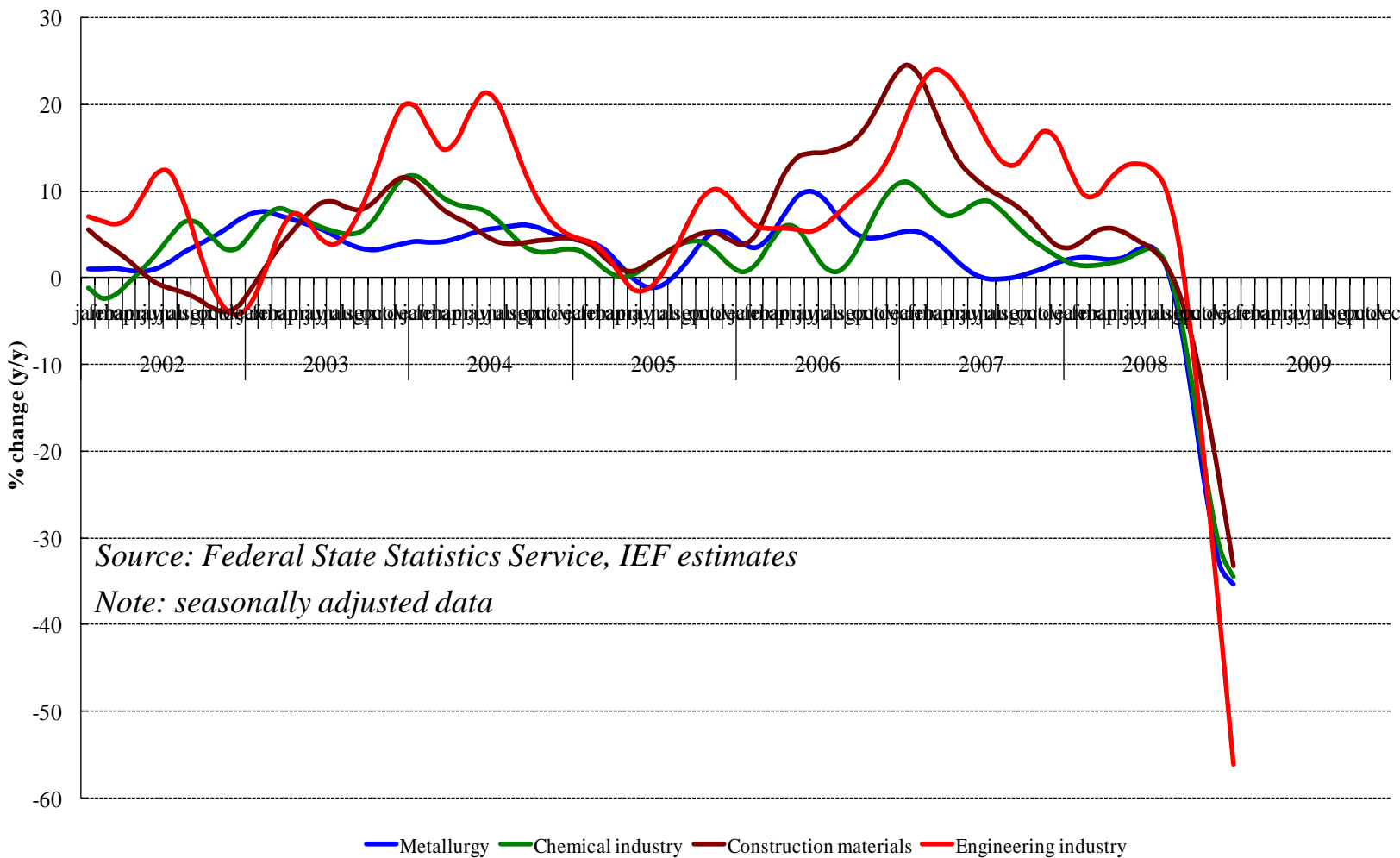
# THE RUSSIAN GAS MARKET

# Russian GDP Growth Rates: 1961-2009



**GDP fell by 7.9% in 2009**

# Russian Industrial Production, 2002-09



**Industrial output down 10.8% in 2009, but up 2.7% in the year to December**



## 2009: THE HARDEST YEAR IN GAZPROM'S HISTORY

- **Gas production 462 bcm, the company's lowest ever**
- **Big fall in European and CIS export sales**
- **TWO "GAS WARS":**
  - **January dispute with Ukraine: Gazprom lost \$100m + per day, and its reputation suffered in Europe**
  - **No Turkmen gas imported from April-December 2009**



# Russian gas production 2004-09 (Bcm)

Source:	2004	2005	2006	2007	2008	2009
Gazprom						
<b>GAZPROM</b>	<b>545.1</b>	<b>548.4</b>	<b>556.0</b>	<b>548.6</b>	<b>549.7</b>	<b>462.2*</b>
<b>OTHER PROD'ERS</b>	<b>88.4</b>	<b>92.2</b>	<b>100.2</b>	<b>104.1</b>	<b>113.9</b>	<b>120.2*</b>
<b>TOTAL RUSSIA</b>	<b>633.5</b>	<b>640.8</b>	<b>656.2</b>	<b>652.7</b>	<b>663.6</b>	<b>582.4*</b>

\*preliminary figures

**2009: Russian production fell by nearly >80 Bcm; Gazprom production fell by nearly 90 Bcm; independent production increased**



# But Some Companies Increase Production

## NOVATEK:

- 32 Bcm in 2009 – potential to grow rapidly
- A powerful new part-owner (Gennady Timchenko)
- 50.1% of Yamal LNG
- Supply contracts with OGK-1 power company

## THE OIL COMPANIES:

- Priority for associated gas in Gazprom's pipelines meant that most maintained production in 2009
- Rosneft contesting third-party access case

**Is the Russian government making space for non-Gazprom output to increase?**





## Production and import projections 2009-12

<u>Bcm</u>	2008 actual	2009 prelim	2010	2011	2012
<b>GAZPROM</b> (Source: Gazprom*)	<b>549.7</b>	<b>462.2</b>	<b>529</b>	<b>532</b>	<b>542</b>
<b>TOTAL RUSSIA</b> (Source: MinEcDev't**)	<b>663.6</b>	<b>582.4</b>	<b>643</b>	<b>655</b>	<b>669</b>
<b>OTHER RUS. PRODUCTION***</b>	<b>113.9</b>	<b>120.2</b>	<b>114</b>	<b>123</b>	<b>127</b>
<b>CENTRAL ASIAN IMPORTS*</b>	<b>61</b>	<b>33.6</b>	<b>32.8</b>	<b>33.9</b>	<b>37.9</b>

\*Gazprom investment forecast 11.09; \*\* December 2009 = +20 cf September 2009, Interfax Dec 10-16, 2009, p.14 \*\*\*residual

**Gazprom/Russian production does not regain  
2008 levels till 2012**

# Central Asian supplies

## TURKMENISTAN:

- Chinese exports have started (~ 6bcm in 2010)
- \$10bn (Chinese and Middle Eastern) investment agreed for Yolotan
- Exports to Iran could increase
- 'Up to 30 Bcm' to Russia in 2010 = 10 Bcm, probably

## UZBEKISTAN AND KAZAKHSTAN:

- Uzbekistan: 15.5 Bcm to Russia in 2010
- These purchases fit with Russian foreign policy

**Russia/Gazprom retains a strategic interest  
... but in the early 2010s has limited need for  
Central Asian gas**



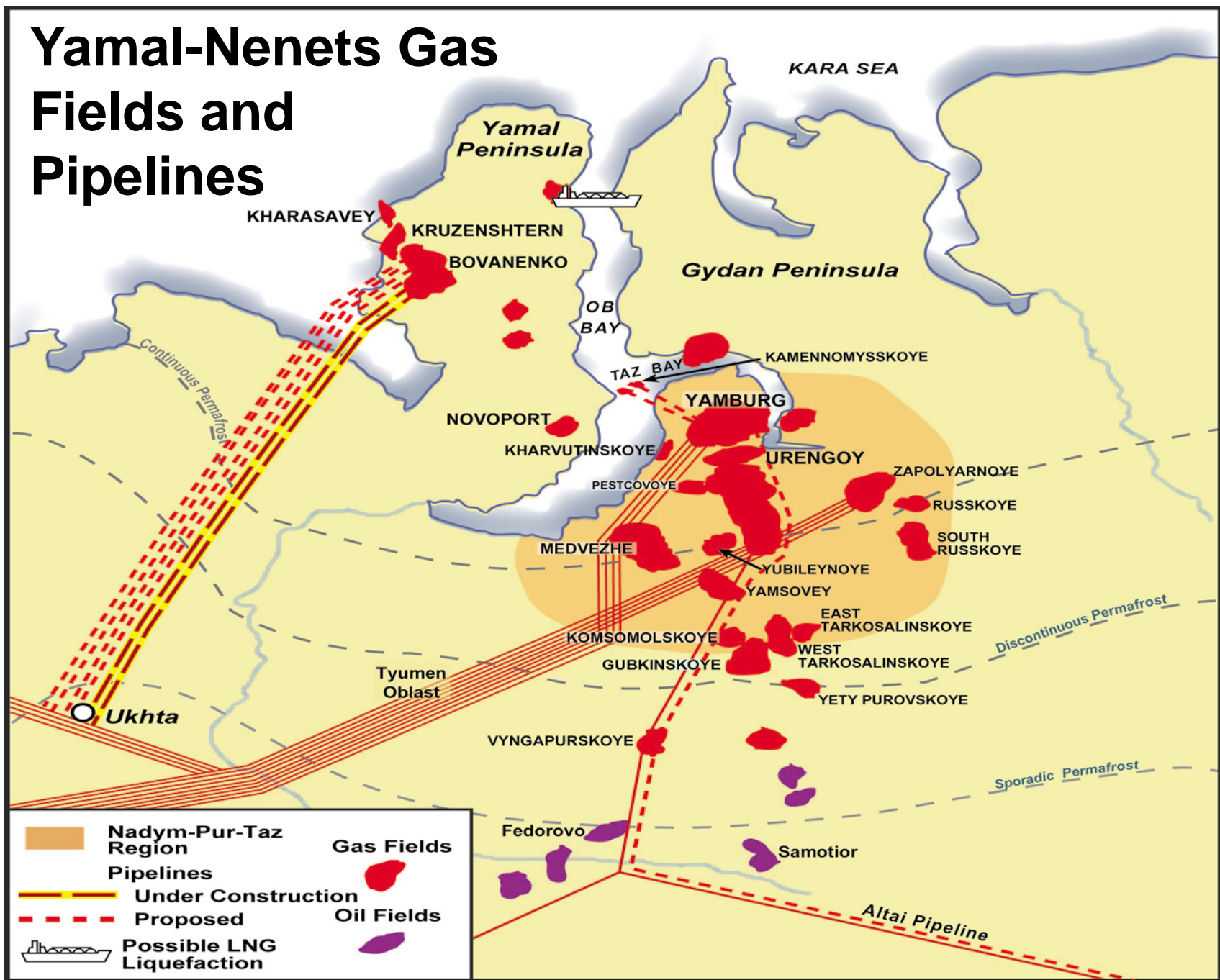
## Balancing Supply with Demand

- Medium term Gazprom's production increase will depend on Yamal Peninsula (Bovanenkovskoye field) development
- Gazprom has announced :
  - a one-year delay for Yamal – now end-2012 (instead of 2011)
  - and a 3-year delay for Shtokman

**HOW MUCH additional supply will Gazprom need AND WHEN?**

- Answer depends on when demand for Russian gas recovers: in Russia, in CIS, in Europe...
- and on independents' role

# Yamal-Nenets Gas Fields and Pipelines







# Shtokman Field and Nord Stream Pipelines



**Rethink on Shtokman due to US price outlook?**



## **Demand for Russian Gas in 2009**

**DOMESTIC DEMAND:** fell between -4% to -6.6% = 21-28 Bcm

**CIS MARKET:** Ukraine alone down 15-20 Bcm; Belarus 3-4 Bcm, Moldova another 1-1.5 Bcm

**Russia and CIS demand fell 40-55 Bcm in 2009**

**WILL 2010 BE BETTER?**



# Russian domestic gas prices 2008-09

Russian Fed'n Avge Group 4, all data ex. VAT), assuming \$1 = 29RR

	2008		2009	
INDUSTRY:	Rubles	\$US	Rubles	\$US
Price/mcm	2059	71	2389	82
HOUSEHOLD:				
Price/mcm	2030	70	2388	82
Netback European Price*	4349	150	6642	229
Gazprom EU price**	10202	352	11485	396

\*FTS formula equalising domestic and export prices for Nizhnegorodsk oblast \*\*10/08-7/09

Source: Russian Federal Tariff Service

**Russian domestic prices remain around one third of netback export prices (even using FTS methodology). But subsidies have been largely eliminated**



# **Gazprom Exports to CIS Countries 2003-08 (Bcm)**

	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006*</b>	<b>2007*</b>	<b>2008*</b>
<b>Ukraine</b>	<b>26.0</b>	<b>34.4</b>	<b>37.6</b>	<b>59.0</b>	<b>59.2</b>	<b>56.2</b>
<b>Belarus</b>	<b>10.2</b>	<b>10.2</b>	<b>19.8</b>	<b>20.5</b>	<b>20.6</b>	<b>21.1</b>
<b>Moldova</b>	<b>1.5</b>	<b>1.9</b>	<b>2.8</b>	<b>2.5</b>	<b>2.7</b>	<b>2.7</b>
<b>Caucasus</b>	<b>0.5</b>	<b>0</b>	<b>6.9</b>	<b>7.6</b>	<b>3.1</b>	<b>2.8</b>
<b>Kazakhst'n</b>	<b>-</b>	<b>0.8</b>	<b>4.0</b>	<b>6.5</b>	<b>10.0</b>	<b>9.6</b>
<b>TOTAL CIS</b>	<b>38.2</b>	<b>47.1</b>	<b>71.1</b>	<b>96.1</b>	<b>95.6</b>	<b>92.4</b>

Sources: Gazprom in Figures 2004, p.30, Annual Reports: 2004, p.47; 2005, p.55; 2006 p.49; 2008 p.51. \*includes RosUkrEnergO re-exports; statistical basis of data is different to previous years

**2009 exports were less than 60 Bcm**





# Russia/Ukraine: another gas war in 2010?

## REASONS FOR:

- Ukraine could reopen price negotiations
- Yanukovich could resurrect RosUkrEnergo (unlikely)
- The IMF-backed cash flow could be interrupted

## REASONS AGAINST:

- The IMF will likely still see Ukraine as a “domino that must not fall”, whoever is president
- The new president will be less antagonistic to Russia

**Ukraine is paying European netback prices. But it will struggle to pay at this level without IMF assistance**



## Russian Export Prices to CIS Countries (\$/mcm)

	2007	2008	2009	2010
	actual		estimated	
Ukraine	130	180	231	295*
Belarus	118	127	151	168
Moldova	170	236	238	233*

\*Q1 Prices only

**Export prices intended to reach “European” (netback) levels by 2011 – for Ukraine 2010; 2-3 times higher than Russian domestic prices**



# Gazprom's Gas Exports to Europe: consolidated and actual (Bcm)

	1995	2000	2005	2006	2007	2008
<b>Western Europe</b>	75.1	90.3	113.2	118.0	128.6	141.0
<b>Eastern Europe</b>	42.3	38.7	42.9	43.5	39.4	42.5
<b>Baltic States</b>	4.4	4.7	5.0	5.2	5.3	4.1
<b>TOTAL (consolidated)*</b>	121.8	133.7	161.1	166.7	173.8	188.5
<b>Actual**</b>			147.0	151.1	150.5	158.8

\*consolidated IAS figure including all gas sold by Gazprom affiliates in Europe; \*\*actual Russian gas volumes exported to Europe

**2009 – 140.2 Bcm actual (preliminary)**  
**2010: 160.8; 2011: 163.5; 2012: 170.9 Bcm**



## Short term outlook post-recession

- Recovery of gas sales/exports and production – depends on economic/gas demand recovery
- Gazprom's short term decisions:
  - Hold back Yamal development and allow independents/Central Asia to fill any gap?
  - Raise prices to CIS countries and accept demand reduction?
  - Maintain traditional European price formula and see others take market share?

**Even if Ukraine problems do not recur, this is a bleak short term outlook; Gazprom must take very difficult decisions**

## Medium/longer term outlook

- Yamal development and independent production: no major availability problem?
- Caspian/Central Asia will be strategically important but volumes much less than expected at least up to 2015
- Realistically before 2020 no significant Russian gas to China or North America (unless market conditions change radically)

**Gazprom “export diversification” strategy looks doubtful before 2020, but domestic and CIS markets could look more attractive than in the past**



# EUROPEAN GAS MARKETS



## Demand in Europe 35 - 1990 to 2008

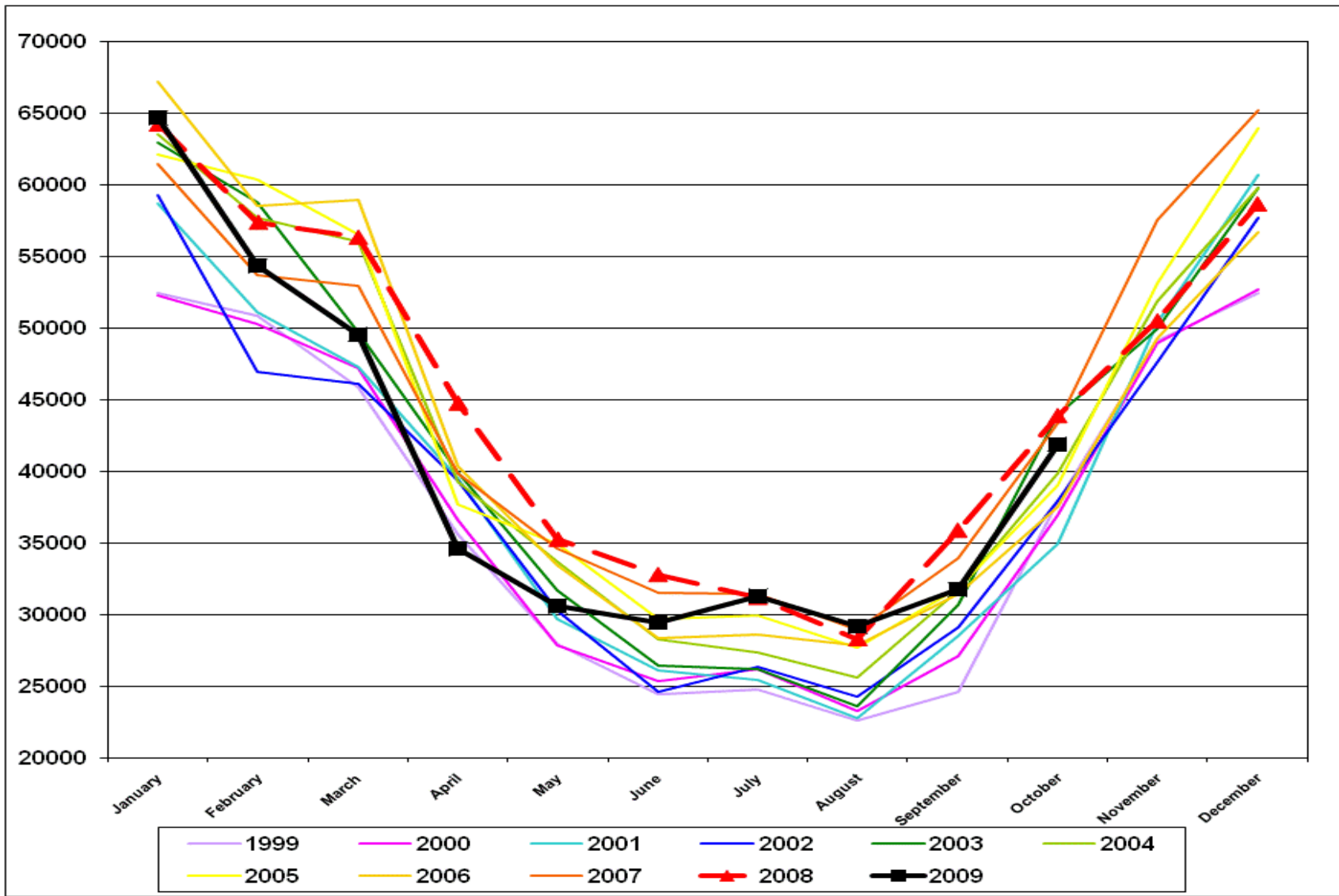
	Share Europe demand in 2008 (%)	Average growth per year (%)				
		1990-2008 Obs.	2000-2008 Obs.	2000-2008 T.cor.	2003-2008 Obs.	2003-2008 T.cor.
Europe 35	100.00	2.44	1.95	n/a	1.17	n/a
Germany	16.32	1.78	1.11	1.67	-1.12	-2.06
UK	16.86	2.98	-0.35	-0.38	-0.31	-1.20
Italy	14.46	3.29	2.30	1.71	1.79	-0.23
NL	8.23	0.59	-0.13	0.10	-0.77	-1.58
France	7.82	2.74	1.81	1.49	0.65	-2.24
Spain	6.50	11.43	10.92	10.16	10.41	8.41
Turkey	6.33	14.09	12.17	12.33	11.91	11.54
Total Big 7	76.52	3.17	2.10	2.08	1.42	0.02
Total EU27	90.83	2.11	1.42	n/a	0.53	n/a
TOTAL Europe 35	100.00	2.44	1.95	n/a	1.17	n/a
Total 19	91.86	3.13	2.08	2.09	1.30	-0.02

Source: A. Honore, forthcoming 2010, Oxford University Press

**Slow down of gas demand growth pre-dated recession**



# Gas demand slowed in mid 2008, declined in late 2008... and continued to fall into 2009

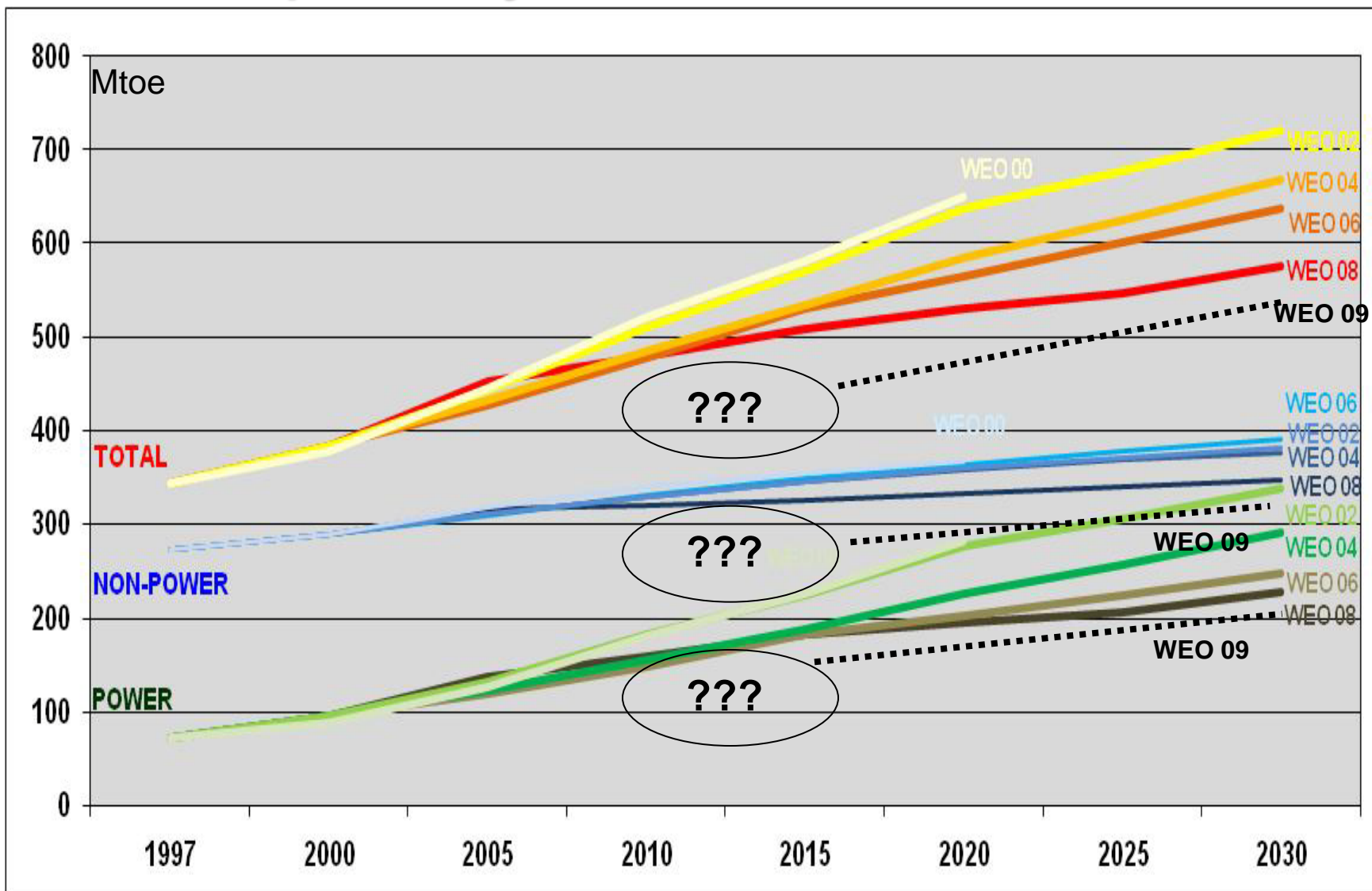


Source: IEA Countries: 18 (Aus, Bel, Cz Rep, Den, Fin, Fra, Ger, Gre, Hun, Ire, Ita, NL, Pol, Por, Spa, Swe, Tur, UK)





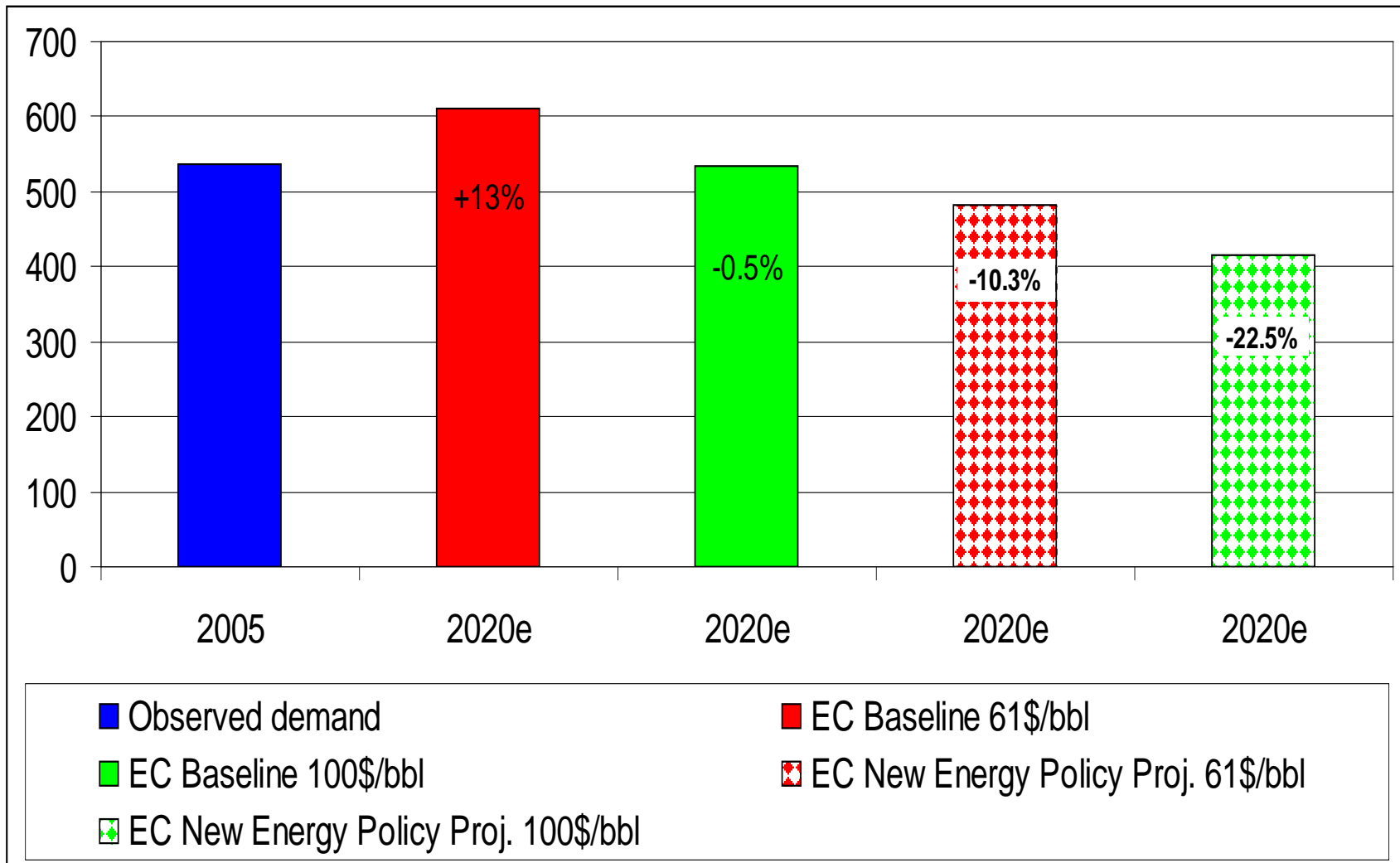
# Certainty about the future gas demand has changed over the past few years... What about 2008-2015 ???



Source: **Source: A. Honore, forthcoming 2010, Oxford University Press, from WEO 2000, 2002, 2004, 2006, 2008 and 2009**



# EC scenarios for natural gas demand in EU27 by 2020 (bcm)



Sources: EC (2008), 2<sup>nd</sup> Strategic Energy Review (COM(2008) 781 final), Annex 1, p.19



## Gas Supply and Import Capacity

- European domestic gas production is flat or declining BUT:
- Major pipeline infrastructure is under construction: Nord Stream, Medgaz
- More pipelines planned: South Stream, Nabucco, Galsi
- Major new LNG capacity has just opened or is under construction in: UK, France, Italy, Netherlands and others

**Weak and uncertain demand makes it very difficult for buyers to sign new long term take or pay contracts**



# **Oversupply/weak demand highlights a lack of economic logic in gas pricing**

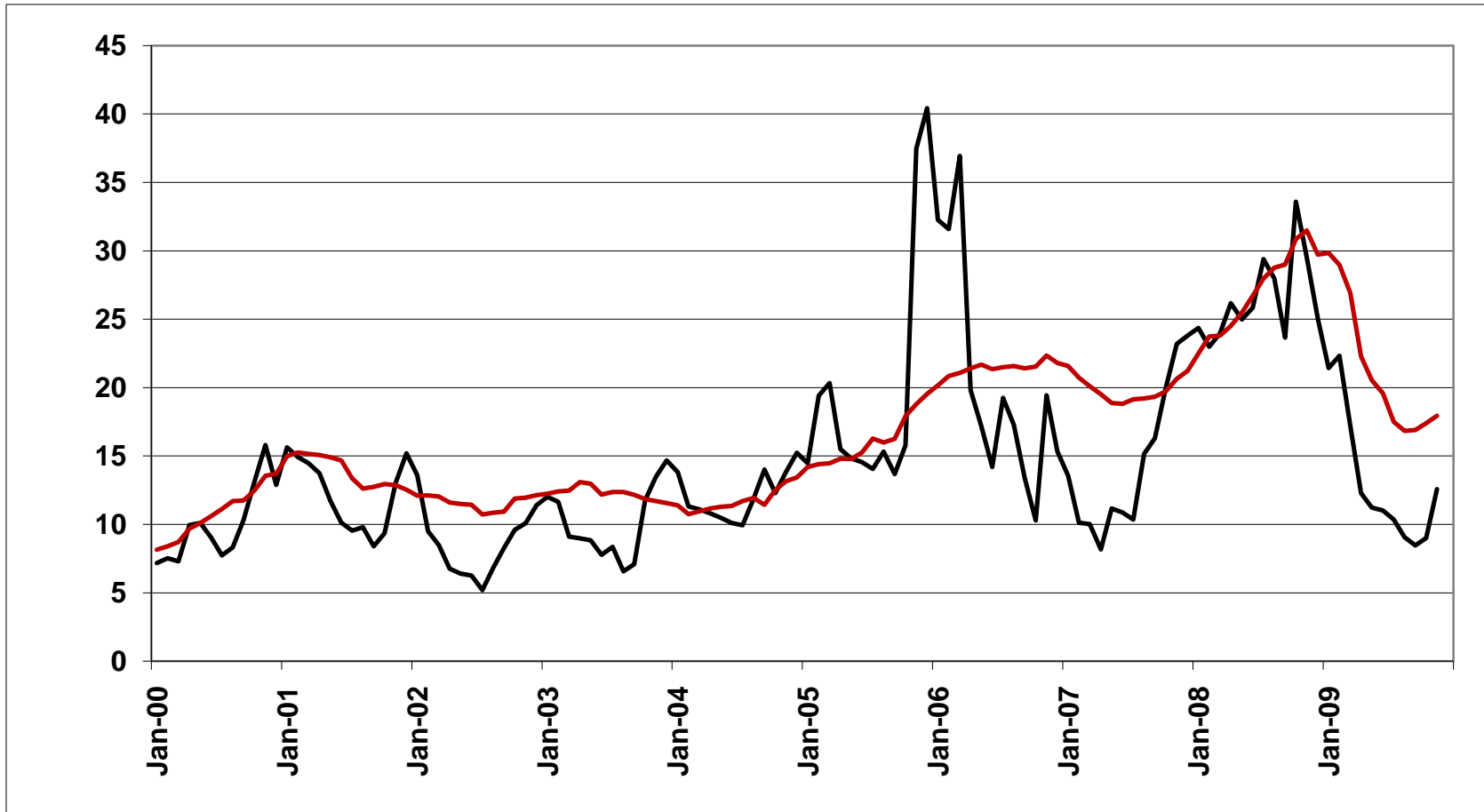
## **CONTINENTAL EUROPE long term contracts:**

- **traditional netback market pricing based (largely) on oil products is no longer logical because:**
  - **gas and oil product markets have diverged**
  - **very little switching capacity remains**
- **gas prices are under increasing pressure due to supply surplus**

**Market growth requires change in pricing; but major producers do not want change!**



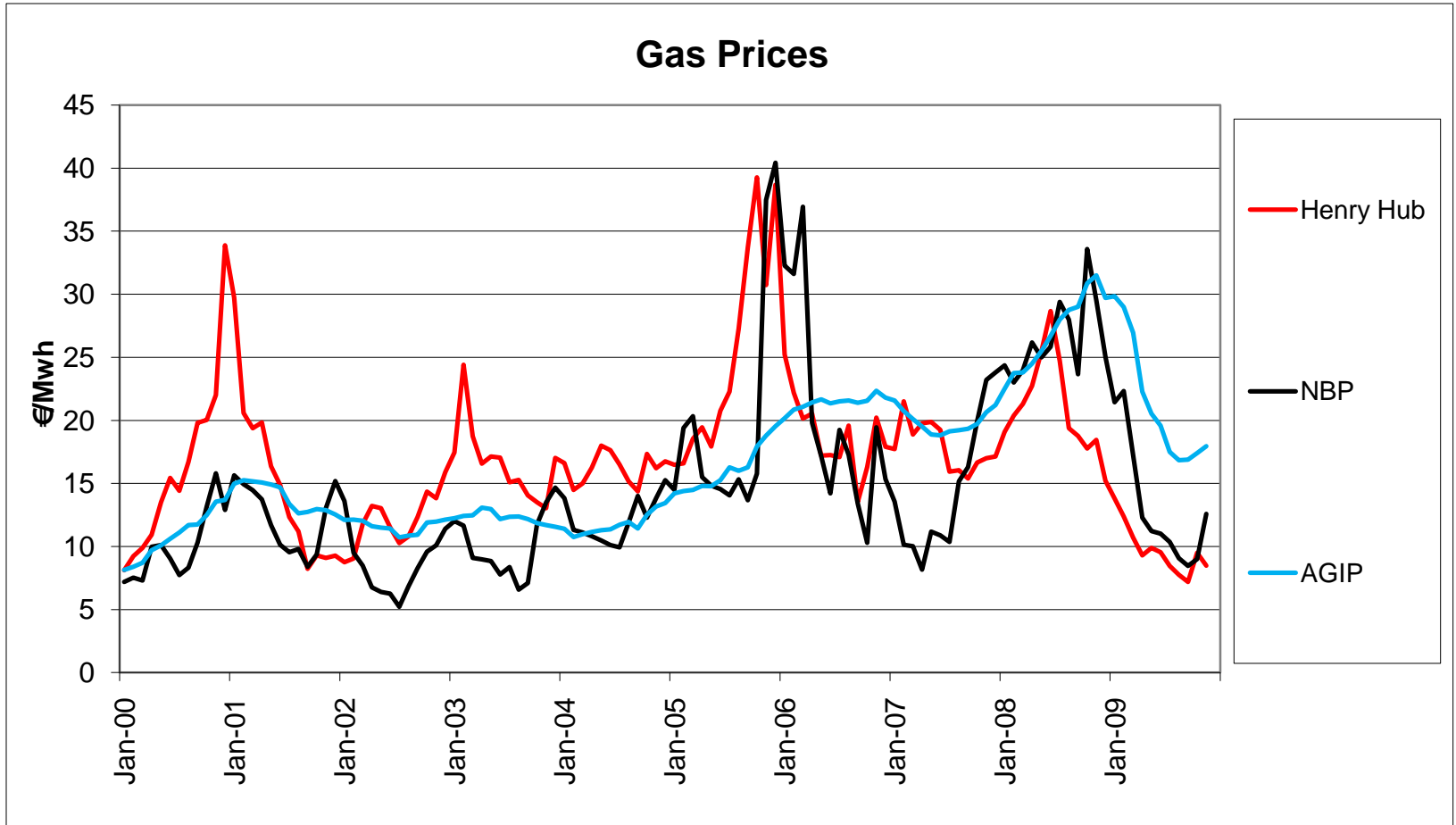
# NBP and German Import Prices 2000-2010 (Euros/Mwh)



**Oil linked prices likely to rise above Euros 20/MWh in 1H/10, hub-based prices likely to remain steady or even fall**



# US Henry Hub Compared with European prices (Euros/Mwh)



**For LNG to divert to US, Henry Hub must be >40c higher than NBP**



## Possible Steps in the Transition Away from Oil-Linked Pricing

- Hub based pricing seems the most likely outcome:
  - either NBP-based or average of NW Europe
- What kind of contractual transition measures are most likely:
  - an increasing % of spot gas in the base price and index;
  - “temporary relief” envisaging return to oil linkage in the future;
  - relaxation of Take or Pay?

**The trade-off for producers/exporters is between accepting lower base prices/indexation to spot prices, or relaxing Take or Pay and allowing buyers a choice of sources**



# Short term outlook post-recession

## GAS SURPLUS DUE TO:

- Likely weak demand recovery in 2010-11
- Surge of new LNG supplies; north west Europe already increased LNG imports in 2009 due to price differentials

## THIS WILL CAUSE:

- Take or Pay problems in long term gas contracts until 2011-12

- Increasing competition means that major importers can no longer force LTC gas on customers at twice the price of spot gas
- Oil-indexation is becoming an increasing problem





## Medium and longer term outlook

- Indigenous production and ACQ levels of contracted pipeline gas can cover demand up until 2014
- Long term contract pipeline gas+LNG below demand post 2016
- Uncertainties on future demand recovery (crisis & 20/20/20 policies), but post 2014, supply/demand balance tightens due to:
  - accelerating decline in Europe production
  - plateau in pipeline import potential (~2014),
  - post 2014-15 is also the period when LNG supply growth slows down

**Around 2015 market may change from surplus to shortage (perhaps within a short time?)**