

# **Russia and the EU: in search for new equilibrium in the new post-2009 European gas world?**

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Presentation at the Budapest Energy Club meeting,  
Budapest, Hungary, 27.03.2014

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# Table of contents

- 1) New post-2009 gas world & its material & perceived realities in Broader Energy Europe**
- 2) EU respond to new realities: diversification
- 3) Ukraine respond to new realities: diversification
- 4) Russia's respond to new realities: diversification
- 5) New pipelines by-passing UA vs modernization of UA GTS: comparative economics in project financing world

# New post-2009 gas world & its European dimension within Broader Energy Europe

## 1) Oversupply due to:

### a) **Demand-side** => market niche for gas narrowed in EU:

- i. overall decline = (i) economic crisis + (ii) energy efficiency
- ii. gas substitution = (i) subsidized RES vs (oil-indexed) gas + (ii) cheap US imported coal (*US shale gas domino effect #2*) vs (oil-indexed) gas

### b) **Supply-side** => competition within this narrowed market niche for gas in EU increases:

- i. Qatari LNG (*"garbage gas"*) to EU prior to Fukushima (*US shale gas domino effect #1*)

## 2) **Institutional** => 3rd EU Energy Package => concurrent with EU oversupply situation which triggered liberalization (upside-down gas reforms)

## 3) **Political** => RF-UA gas transit crises => consequences for EU/Ukraine/Russia & whole Broader Energy Europe

# Russia-EU-Ukraine's new circumstances: 22 days vs. 40+ years => RF-UA vs RF-EU

- Ukraine as integral element of Russia-EU gas supply chain =>
- “Matrix effects” & “Domino effects” of Russia-UA Jan'06/09 gas crises for Russia-EU gas relations/supply chain:
  - 22 days of interruptions of Russian gas supplies to the EU via Ukraine = 3 days in Jan'2006 + 19 days in Jan'2009:
  - has overbalanced previous 40+ years (since 1968) of stable & non-interruptible supplies =>
  - has changed *perceptions* within *all three parties* on stability & non-interruptible character of future gas supply through this chain => each party has its own vision & answers & lines of actions
- New perceptions as starting points for objective “domino effects”:
  - political statements & decisions => legal documents => investment decisions aimed at new *perceived* equilibrium to be reached
  - when investments are made, ‘no return’ points are passed through
- **“No return” points for each party** => What are they? Whether they are reached/ passed through already by each party?

## **EU-Ukraine-Russia: in search for new post-2009 equilibrium with different aims & responds & lines of actions**

- **EU:** *to diminish dominant role of Russia as major gas supplier*
- **Ukraine:** *to escape monopoly of Russia as one single gas supplier*
- **Russia:** *to escape monopoly of Ukraine as one dominant gas transit route*
- The aims seems to be totally different (are they?) => to find new equilibrium within multidirectional individually enforced changes
- Narrowing corridor for new equilibrium – but it is still there => a long & winding road to new compromise... (if a goodwill is there)

# Table of contents

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# New risks, new challenges, new responds, “no return” points: the EU (1)

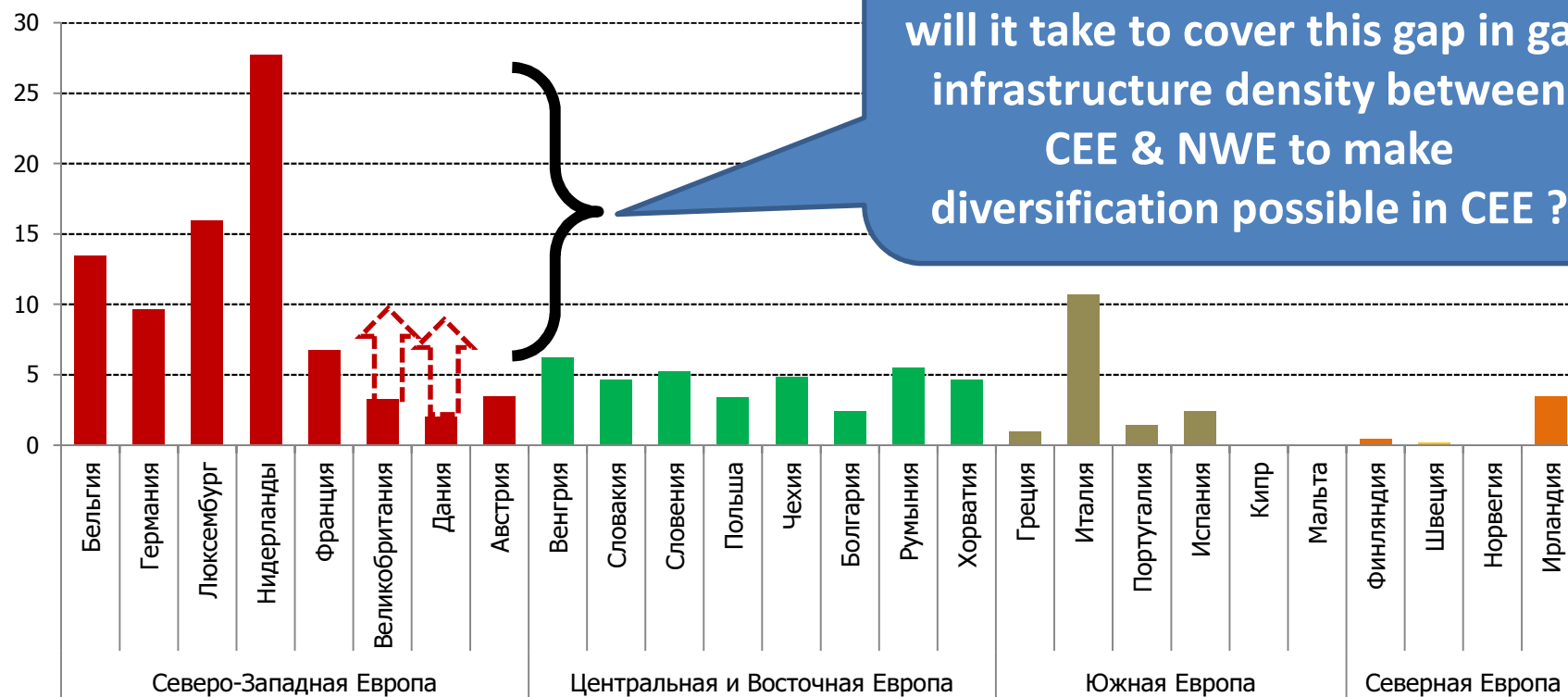
- Perception: *as if* non-reliable future supplies from Russia via Ukraine to EU =>
- Responds: organization of new internal EU gas market architecture with **multiple supplies** & (high) **flexibility**
- **Multiple supplies** by:
  - **Alternatives to Russian gas (supply side)**: SOS Directive (3+ gas supply sources/MS, ‘N-1’ rule, etc.), LNG, shale gas, UGS
  - **Alternatives to (Russian) gas (demand side)**: climate change => decarbonization => RES, energy efficiency => shrinking gas share in fuel mix => the loser would be a less competitive gas supplier
    - perception: most distant & costly in production & oil-indexed-priced Russian gas ?
  - => **to diminish dominant role of Russia as major supplier**



# New risks, new challenges, new responds, “no return” points: the EU (2)

- (High) *flexibility* by:
  - Diminishing barriers for gas flows: CMP rules (UIOLI, SoP), interconnectors, reverse flows, spot trade, demand for softening LTGEC provisions (TOP, hub-based pricing, etc.), ..., new market organization => Third EU Energy Package
- Third EU Energy Package (03.09.2009 => 03.03.2011):
  - Set of legal instruments providing *multiple supplies* & *flexibility* within EU (28) & Energy Community Treaty (28+9) area based on new principles of internal market organization
  - from a chain of 3 consecutive LTCs (1968-2009) – to Entry-Exit zones with Virtual Trading Points (hubs) (2009-onwards)
  - New architecture of EU gas market under development => Gas Target Model + 12 Framework Guidelines + 12 Network Codes + ...
- => **“No return” point has been passed by EU as a whole !!!**
- **BUT:** economic realities in NWE & CEE are different => not possible to implement EU legally binding decisions on diversification (basis for competition) in synchronized manner

## Gas transportation infrastructure density in the EU (*trunk pipelines only, km/100 km<sup>2</sup>*), (preliminary results – the comparative order does matter)

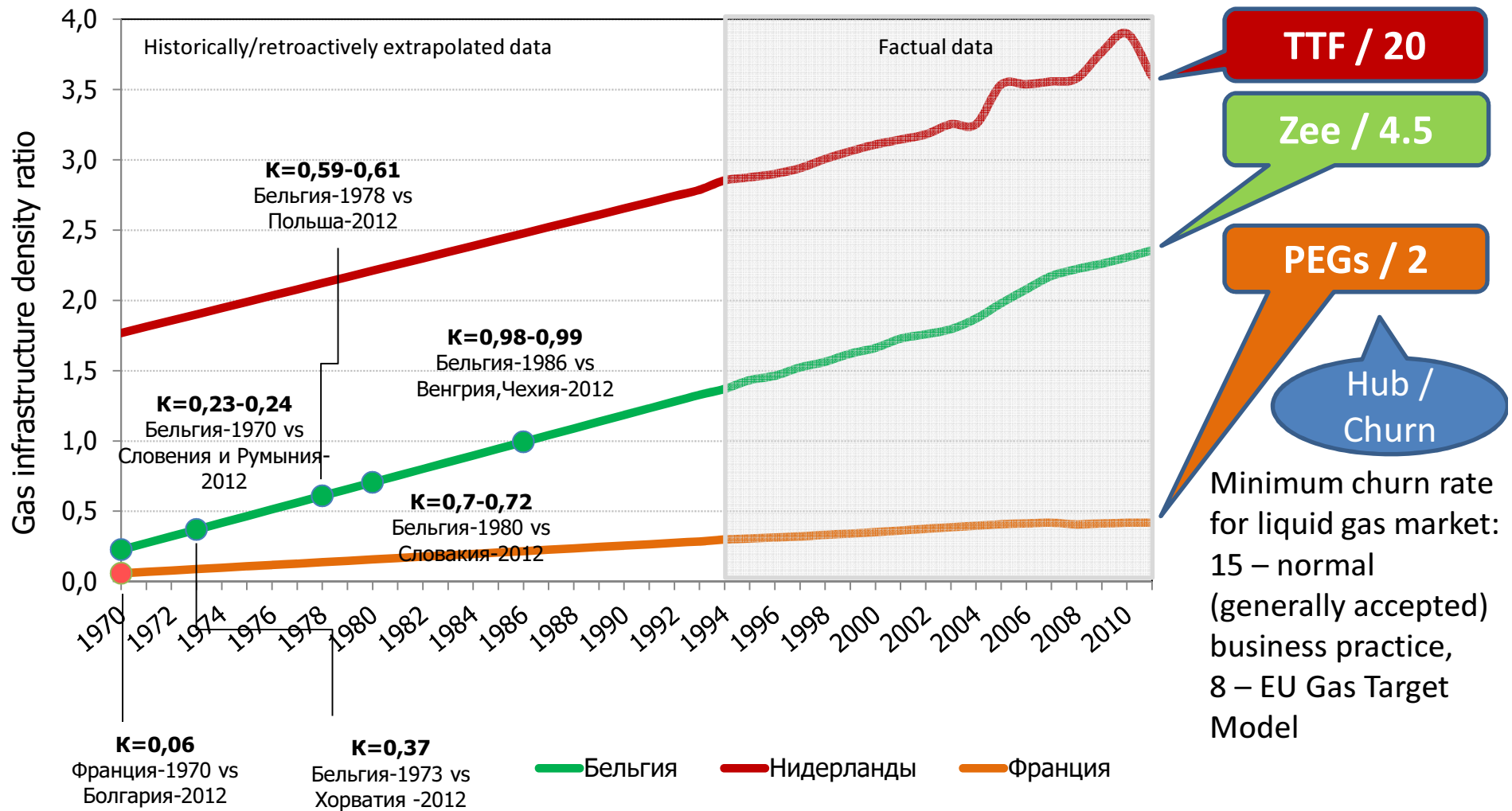


How much will it cost & how long will it take to cover this gap in gas infrastructure density between CEE & NWE to make diversification possible in CEE ?

Figures for UK & Denmark should be much higher if offshore pipelines are added (to be done at the next step of analysis)

Calculations made by E.Orlova, PHD postgraduate student, Chair “International Oil & Gas Business”, Russian State Gubkin Oil & Gas University, based on the data for 2011/2012, kindly provided by ENTSOG

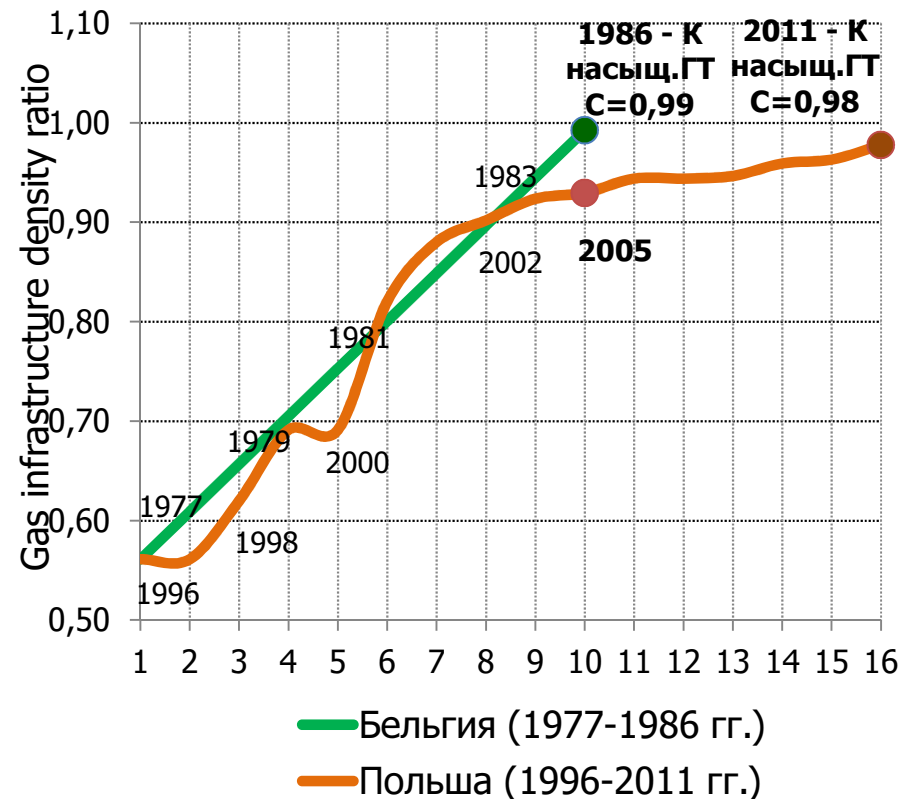
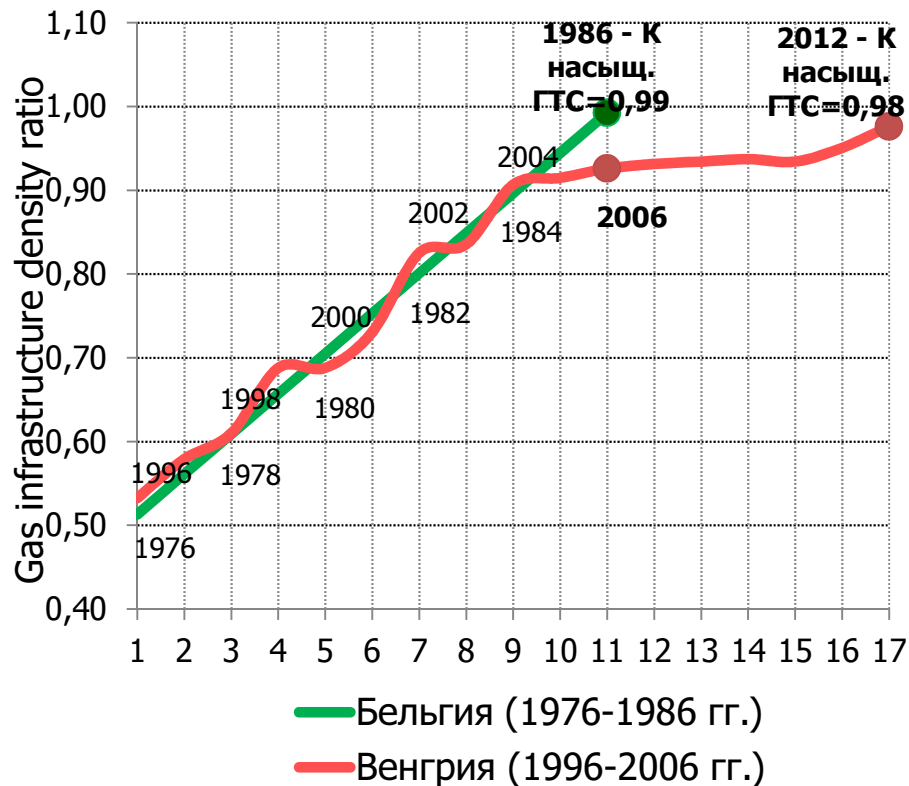
# Gas infrastructure\* density (km/100 km<sup>2</sup>), NWE (Belgium, Netherlands, France) vs CEE: time gap measured by decades



\* Trunk lines & transmission lines ;

Calculations made by E.Orlova, PHD postgraduate student, Chair “International Oil & Gas Business”, Russian State Gubkin Oil & Gas University, based on the data for 2011/2012 kindly provided by ENTSOG; Churn rates (July’2013): ICIS Heren European Gas Hub Report October 2013

# Gas infrastructure density (km/100 km<sup>2</sup>): NWE (Belgium) vs CEE (Hungary, Poland)



## Stagnation of infrastructure density ratio in CEE\* after joining the EU? Is it really so? Why so???

\*Preliminary results;

Calculations made by E.Orlova, PHD postgraduate student, Chair “International Oil & Gas Business”, Russian State Gubkin Oil & Gas University, based on the data for 2011/2012, kindly provided by ENTSOG

# Table of contents

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- 3) Ukraine respond to new realities: diversification**
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# New risks, new challenges, new responds, “no return” points: Ukraine (1)

- **UA: Euro-integration** vs. **CIS-integration** => this “no return” point was passed in 2004 => Euro-integration choice de facto in place *in energy sector* since then =>
- Since Spring'2004 => UA demand to unbundle supply & transit contracts & to move to “European formulas” in RUS-UA gas trade:
  - UA expectations: to receive higher transit rates
  - UA reality: has received higher import prices
- Since 2006/2009: UA disagreement on import pricing formula & price level resulted from the move to “European formulas” => transit crises Jan'2006 & Jan'2009 resulted, inter alia, from disagreements with “European formulas” in supply contracts
- Perception of further RUS supply risks => search for multiple supplies => ***to escape monopoly of Russia as one single supplier*** =>

## New risks, new challenges, new responds, “no return” points: Ukraine (2)

- UA economic & legal motivation to diminish dependence on RUS gas supplies:
  - **Economic:** High import price & RUS/Gazprom unwillingness to soften pricing policy (no price review results achieved yet – though price concessions) stipulated UA search for:
    - **alternatives to RUS gas (supply side):** domestic production – onshore & offshore, shale gas, LNG import, reverse flows & UGS, and
    - **to deviate from (RUS) gas (demand side):** switch gas to coal, nuclear, energy saving & improving efficiency
  - **Legal:** Euro-integration policy, membership in Energy Community Treaty => implementation of EU energy acquis (Second => Third EU Energy Package) in UA => **legal obligations** for alternative supplies, interconnectors, reverse flows, unbundling Naftogas Ukraine, MTPA => **BUT: new & incremental risks for transit via Ukraine (both for RF & EU)**
- **“No return” point almost reached? If not yet (?)** – is it just a matter of time since trend “away from Russian gas” is not to be changed in UA?

# Table of contents

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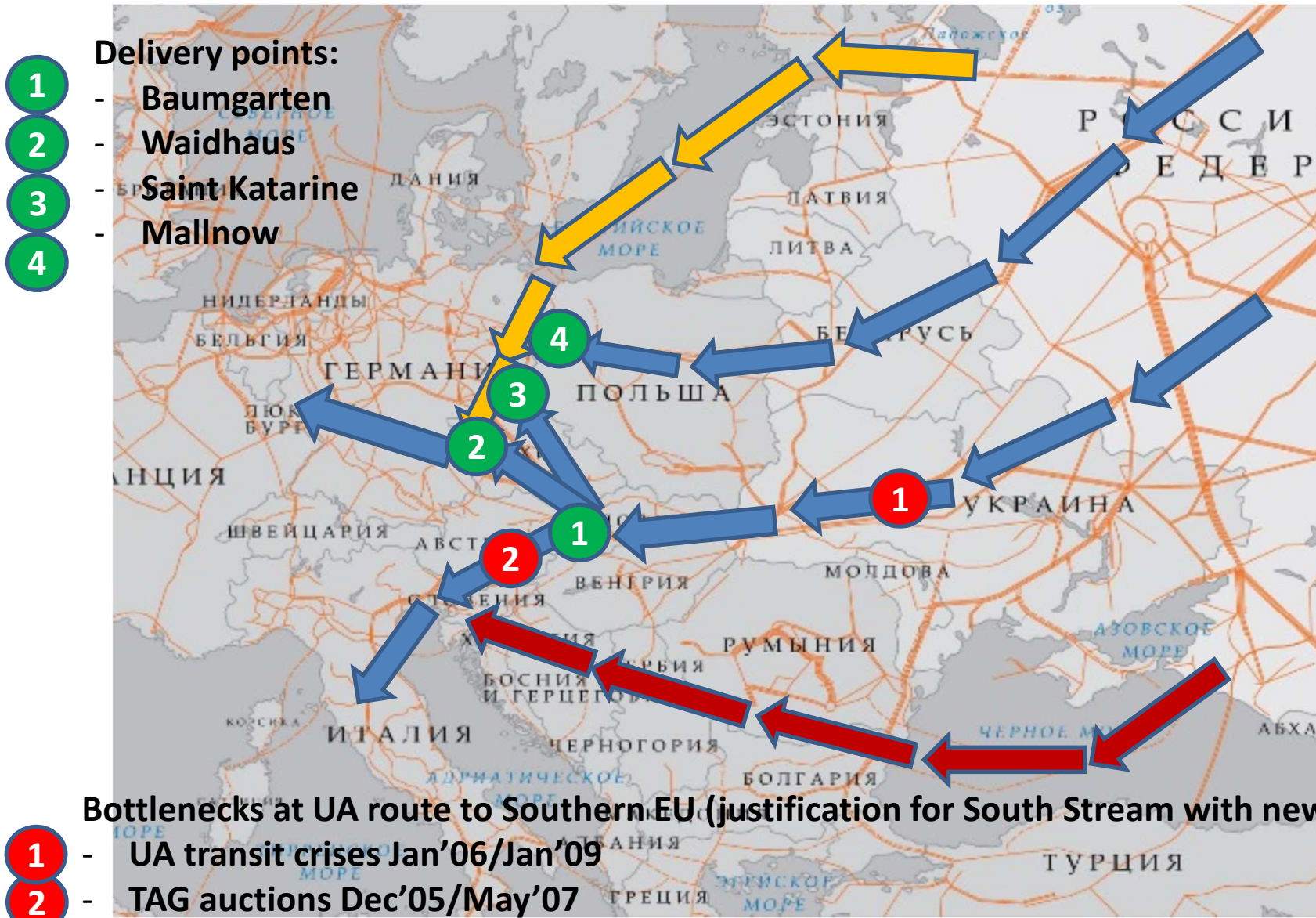
# New risks, new challenges, new responds, “no return” points: Russia (1)

- Supply risks:
  - non-fulfillment of contractual obligations by UA (lower offtakes) = inter alia, negative upstream investment consequences for Russia
- Transit risks (within UA territory, post-2006/2009) – both materialized & perceived risks,
  - **Materialized:** not sanctioned off-take of gas in transit (at least 2 episodes – Jan’2006 & Jan’2009) => but:
    - it is RUS supplier who is fully responsible for gas delivery to EU delivery point (non-dependent e.g. transit problems) =>
    - risk of legal claims of EU customer against RUS supplier in case of non-delivery (supply contract) even if violation of transit contract =>
    - EU customers have not raised such claims in Jan’2006 / Jan’2009 cases, but what about the future if repeated?
  - **Perceived:** to materialize in near future – result of UA accession to Energy Community Treaty (see above):
    - MTPA vs transit flows (risk of contractual mismatch)
    - Forthcoming unbundling of Naftogas UA => risk of factual unilateral change (disappearance) of one Contracting Party to 10Y-long transit contract
    - Etc.

# New risks, new challenges, new responds, “no return” points: Russia (2)

- Change of the whole transit economics for supplier if precedent-based “risk” element included => responds:
  - **to escape monopoly of Ukraine as one dominant transit route** => to create *alternative & non-transit* routes => their economics compared to existing *transit* routes improved by increasing value of transit risks (see next chapter) =>
- Dilemma:
  - **Two routes (incl. transit) to each major markets (“least radical” scenario):**
    - (a) UA GTS + [Nord Stream/OPAL/Gazelle] => to North-West Europe,
    - (b) UA GTS + [South Stream (offshore + onshore)] => to Southern Europe,
    - Supply volumes to be distributed within each pair of routes, or
  - **One direct new (non transit) route to each major market (“most radical” scenario):**
    - (a) Nord Stream/OPAL/Gazelle => to North-West Europe,
    - (b) South Stream (offshore + onshore) => to Southern Europe
    - All transit volumes switched to new routes? => UA GTS dried up?
- **Different “no return” points under different scenarios: some are passed, other – not yet => no clear final picture yet...**

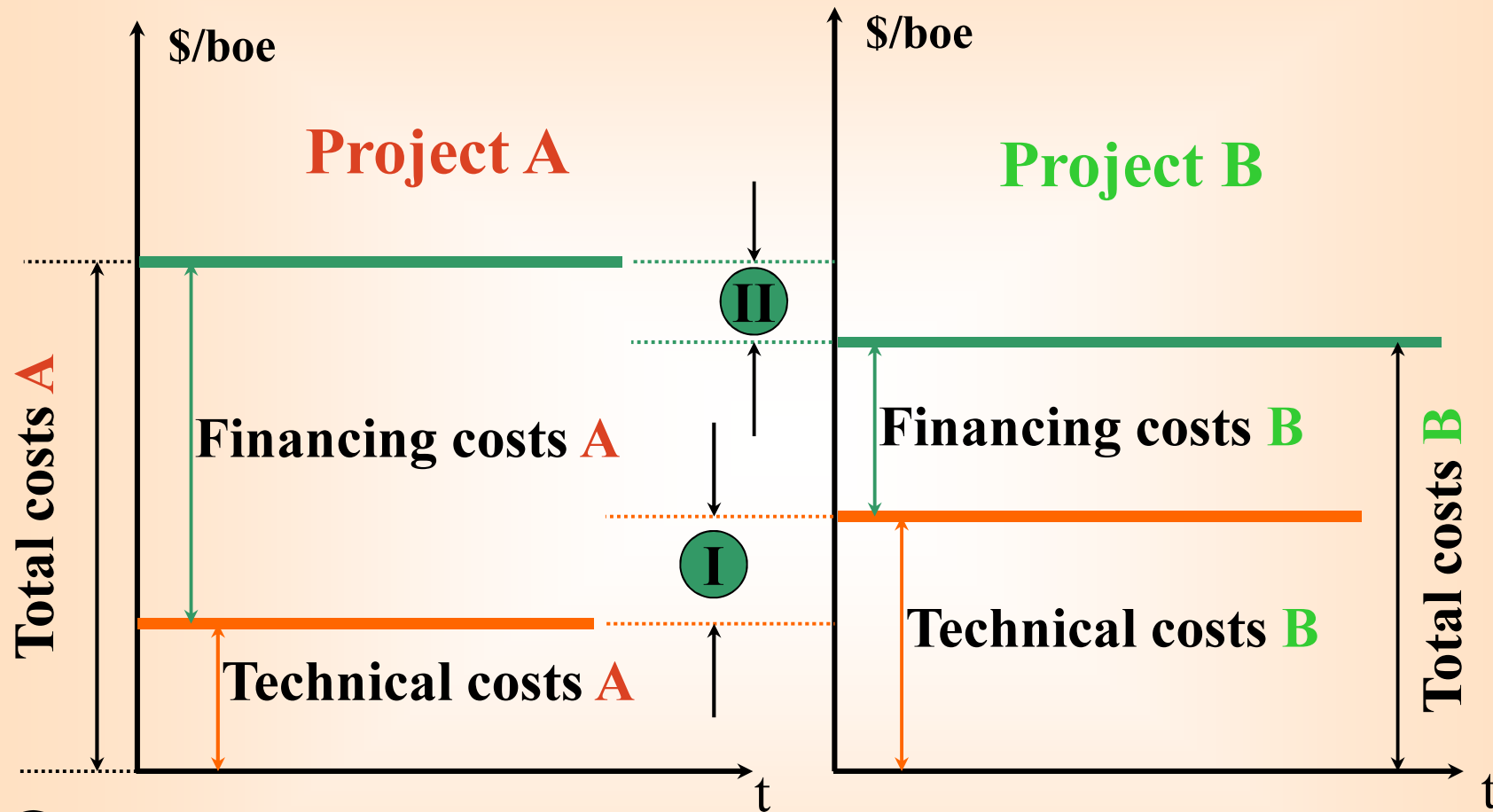
# Ukrainian by-passes: alternative gas pipelines to major RUS markets in EU (2 routes for each market)



# Table of contents

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# In project financing world both technical & financing costs does matter...




**I** "Natural advantage" of project A over project B ( $A < B$ )

**II** Final competitive *dis*advantage of project A over project B ( $A > B$ )

$$\text{Financing costs (LIBOR+)} = f [R(\text{country}) \times R(\text{company}) \times R(\text{project})]$$

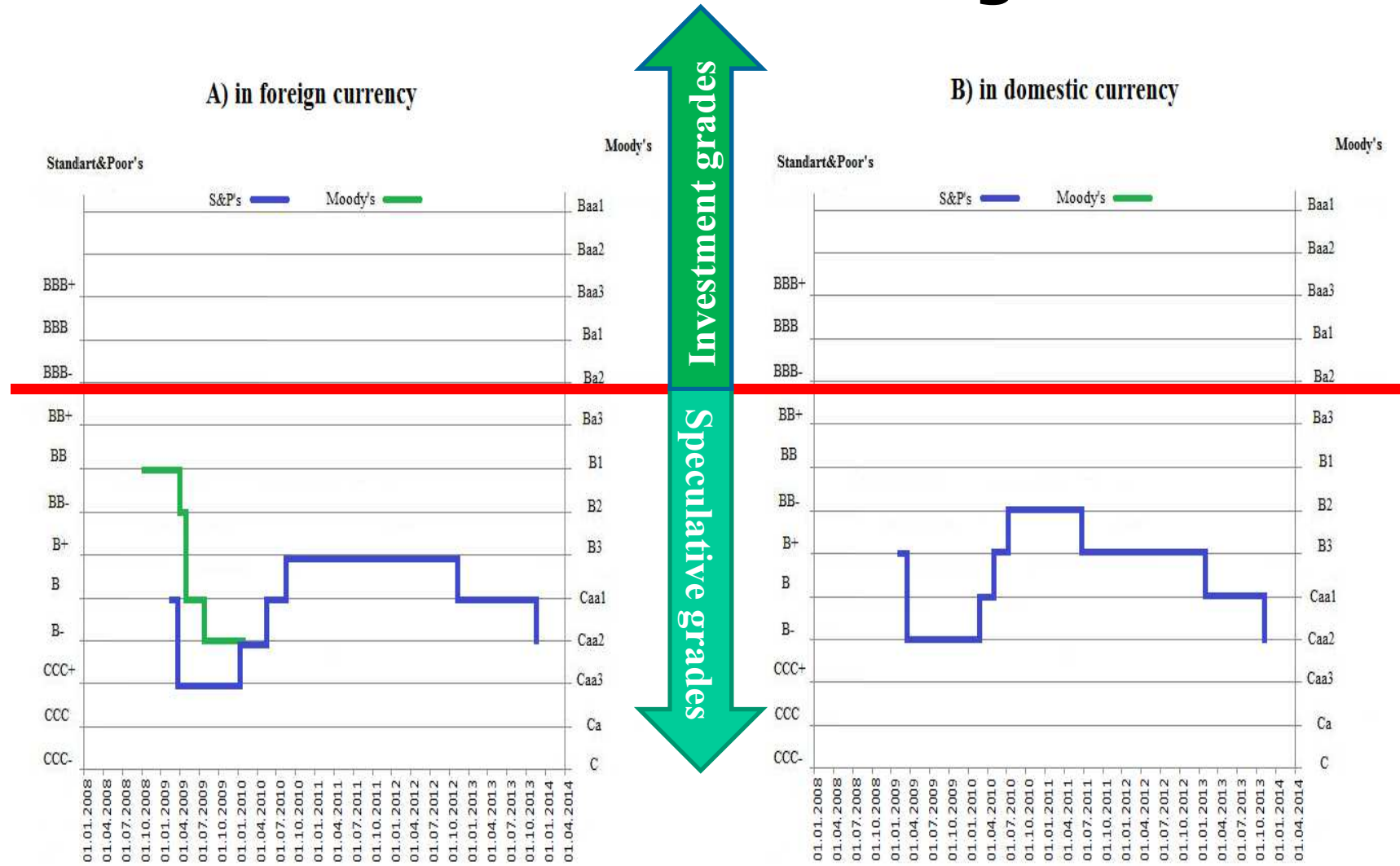
# Russia & Ukraine at the scale of major international rating agencies (long-term investment credit ratings in foreign currency)

	Moody's	Standard & Poor's	Fitch IBCA	Short description	LIBOR+ 
<b>Investment grades</b>	Aaa	AAA	AAA	Maximum safety level	Up to 4,25%
	Aa1	AA+	AA+	High level of reliability	
	Aa2	AA	AA		
	Aa3	AA-	AA-	Reliability above medium	
	A1	A+	A+		
	A2	A	A		
	A3	A-	A-	Reliability below medium	
	Baa1 (RF: since 08.10.08)	BBB+	BBB+		
	Baa2	BBB (RF: since 08.12.08)	BBB (RF: since 04.02.09; negative outlook 21.03.14)		
Baa3	BBB-	BBB-		Up to 6%	
<b>Speculative grades</b>	Ba1	BB+	BB+	Non-investment, speculative grade	Up to 14%
	Ba2	BB	BB		
	Ba3	BB-	BB-		
	B1	B+	B+	Highly speculative grade	
	B2	B	B		
	B3	B-	B-		
	Caa1	CCC+	--	High risk, emitter is in difficult situation	Up to 19%
	Caa2 (UA: 31.01.14)	CCC (UA, 21.02.14)	CCC (UA, 07/28.02.14)		
	Caa3	CCC-	--		
Ca	CC	--	Highest speculative rating, default possible		
C	C	--			
--	--	DDD	Default	Up to 2204%	
--	SD	DD			
--	D	D			

**LIBOR 1Y**  
**19.03.2014:**  
**USD=0.56,**  
**GBP=0.90**  
**14.03.2014:**  
**EUR=0.52**



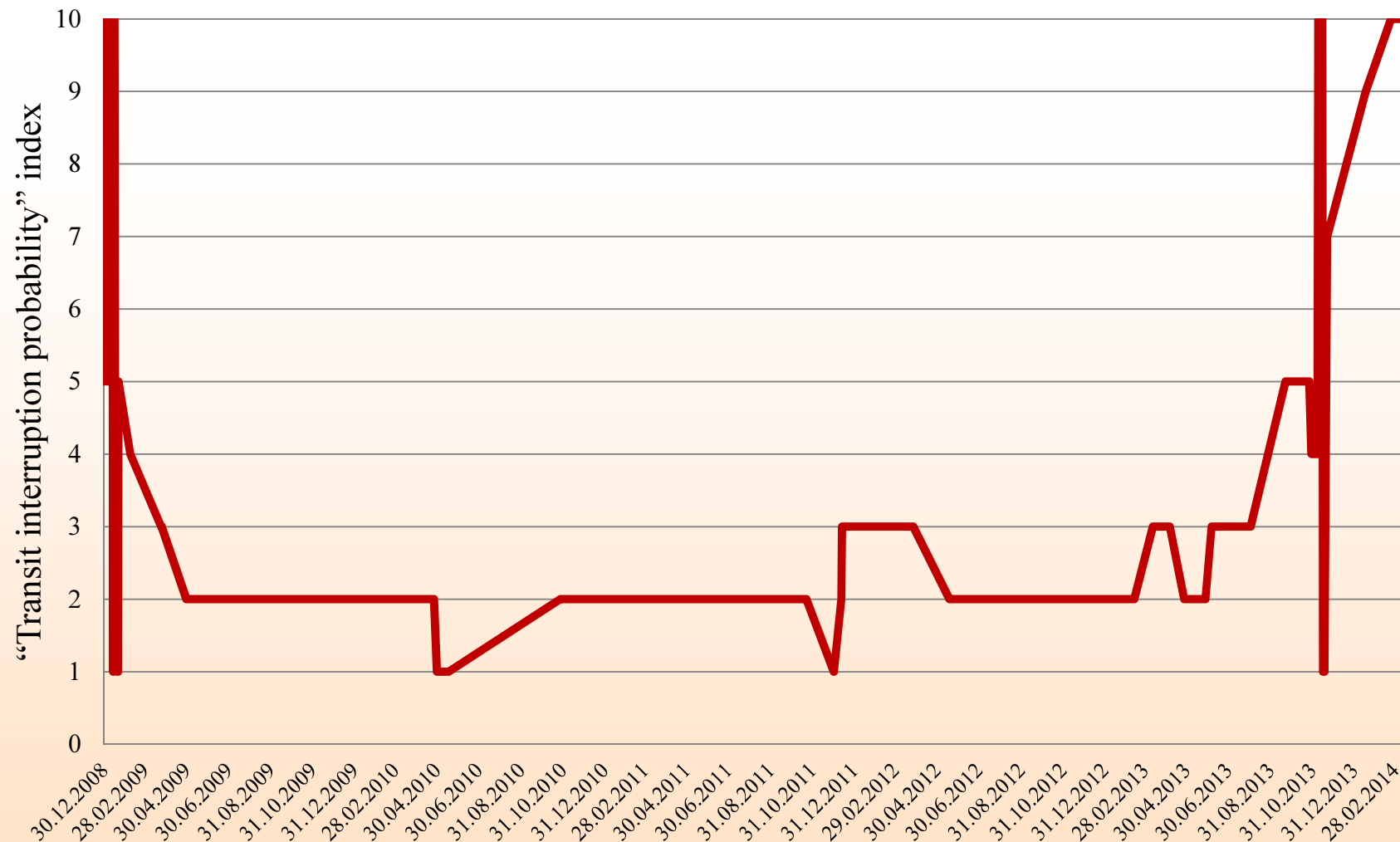
# NJSC Naftogaz of Ukraine: evolution of long-term credit rating



Calculations made by M.Larionova, Russian Gubkin State Oil & Gas University, Chair “International Oil & Gas Business”, Masters programme 2013-2015, based on credit rating agency’s data. 24  
 A.Konoplyanik, Budapest Energy Club, 28.03.2014

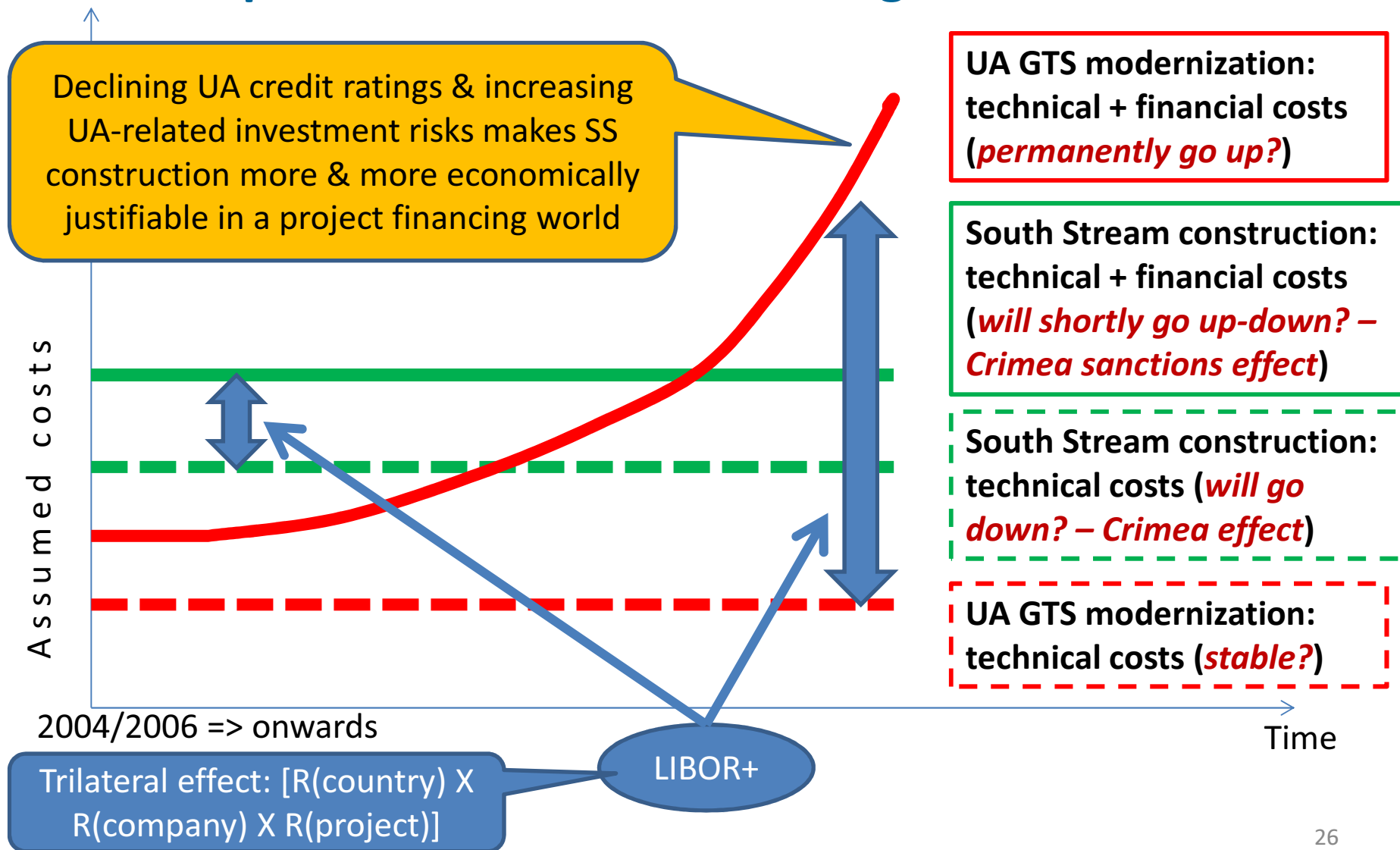


# Ukraine: “transit interruption probability” index



Calculations made by M.Larionova, Russian Gubkin State Oil & Gas University, Chair “International Oil & Gas Business”, Master’s programme 2013-2015, based on the methodology jointly developed with the author

# 'South Stream' construction vs UA GTS modernization: illustrative example of 'project financing' cost comparison, if incl. comparative risks & credit ratings within time frame



**Thank you for your  
attention!**

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