Russia, Ukraine, the EU & the new pipelines in the new post-2009 gas world: a way towards new equilibrium

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New post-2009 gas world & its European dimension

- **Oversupply due to:**
  - **Demand-side** (market niche for gas sharpened):
    - overall decline = economic crisis + energy efficiency
    - gas substitution = subsidized RES vs (oil-indexed) gas + cheap US imported coal (US shale gas domino effect #2) vs (oil-indexed) gas
  - **Supply-side** (competition within this sharpened market niche increases): Qatari “garbage gas” to EU prior to Fukushima (US shale gas domino effect #1)
- **Institutional** => 3rd EU Energy Package => concurrent with EU oversupply situation which triggered liberalization (upside-down gas reforms)
- **Political** (RF-UA gas transit crises => consequences for EU/Ukraine/Russia)

Russia-EU-Ukraine's new circumstances: 22 days vs. 40+ years

- "Matrix effects" & "Domino effects": 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
  - new perceptions as starting points for objective "domino effects" in social life: => political statements & decisions => legal documents => investment decisions for new equilibrium to be reached => when investments are made = "no return' points passed through
  - ***"No return" points for each party*** => What are they? Whether they are reached/ passed through already?

EU-Ukraine-Russia: in search for new post-2009 equilibrium with different aims & different responds

- 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?). Whether common denominator could be found?
- => to find new equilibrium within multidirectional individually enforced changes => a long & winding road to new compromise… but
- Narrowing corridor for new equilibrium – but it still there

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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, etc.), LNG, shale gas, UGS => ***to diminish dominant role of Russia as major supplier***
  - **Alternatives to (RUS) 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 ?)

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), …, new market organization => Third Energy Package
- Third 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) (see below)
  - 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 !!!**

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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 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) stipulates 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 (Third EU Energy Package) in UA => *legal obligations* for alternative supplies, interconnectors, reverse flows, unbundling Naftogas Ukraine, MTPA => new & incremental risks for transit via Ukraine

New risks, new challenges, new responds, "no return" points: Ukraine (3)

- UA aim: to reach "no return" point before expiration of 2009-2019 RUS-UA gas contract =>
  - to negotiate new gas import contract with Russia within new economic & legal – competitive – environment (even before first new molecules of alternative gas reach UA) =>
  - After FID are taken on projects aimed to provide alternative gas supplies,
  - Alternative supplies (even if just expected in near future but proven by FID) will enable to change pricing formula => to deviate from PP-indexation to spot/hybrid pricing & lower prices
  - to create new perceptions as new negotiating position
- **"No return" point is almost reached? If not yet (?)** – is it just a matter of time (trend towards "away from Russian gas" is not to be changed?)?

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New risks, new challenges, new responds, "no return" points: Russia (1)

- 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 responsible for gas delivery to EU delivery point => risk of legal claims of EU customer against RUS supplier in case of non-delivery / violation of contract => EU customers has 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):
    - MTPA vs transit flows (risk of contractual mismatch)
    - Forthcoming unbundling of Naftogas UA => risk of factual unilateral change (disappearance) of one Contracting Party

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 =>
- Dilemma:
  - **Two routes (incl. transit)** to each major markets (“least radical” scenario):
    - (a) UA GTS + Nord Stream – to North-West Europe,
    - (b) UA GTS + South Stream – 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 – to North-West Europe,
    - (b) South Stream – 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…

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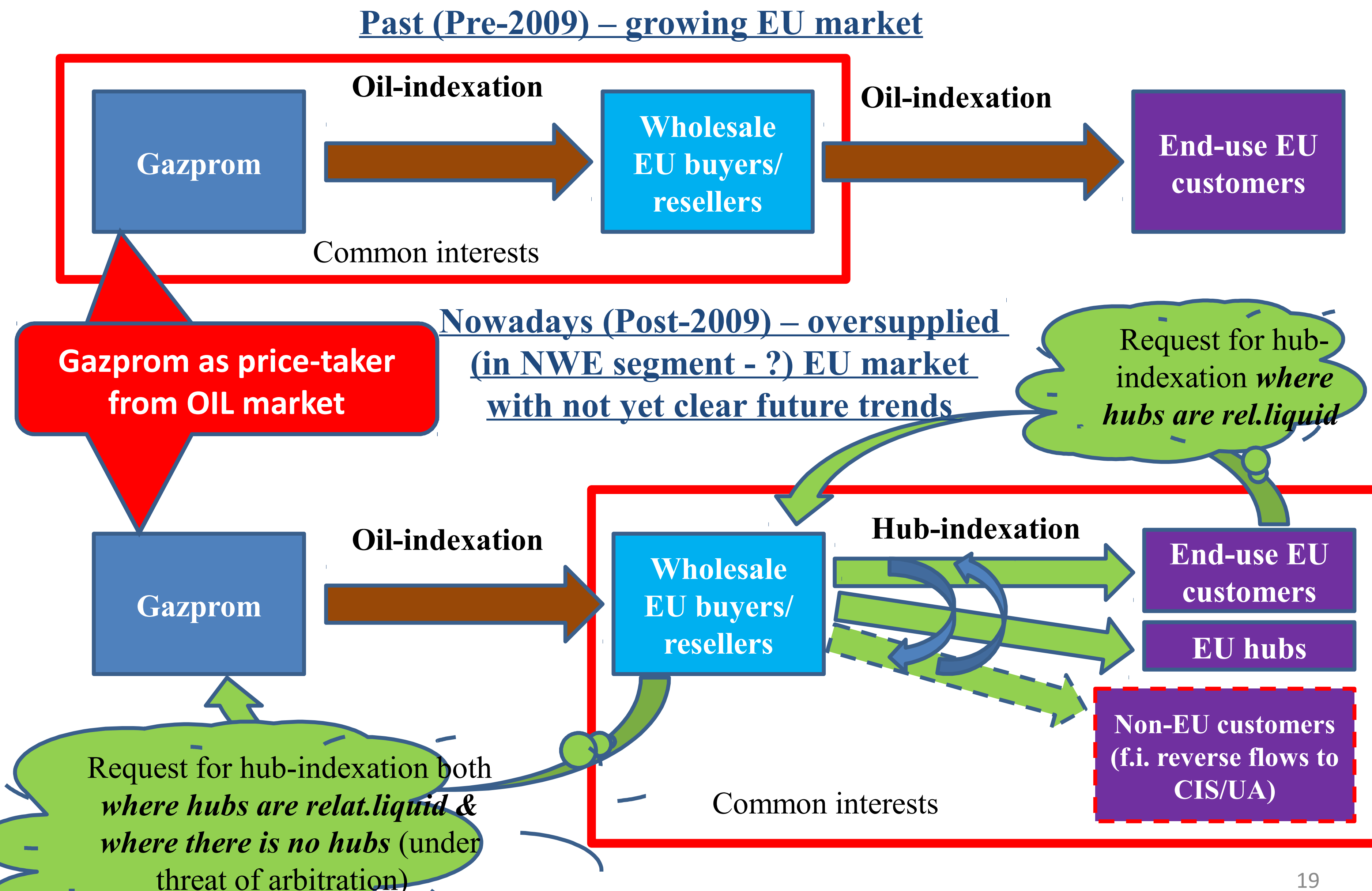
New RF models for EU

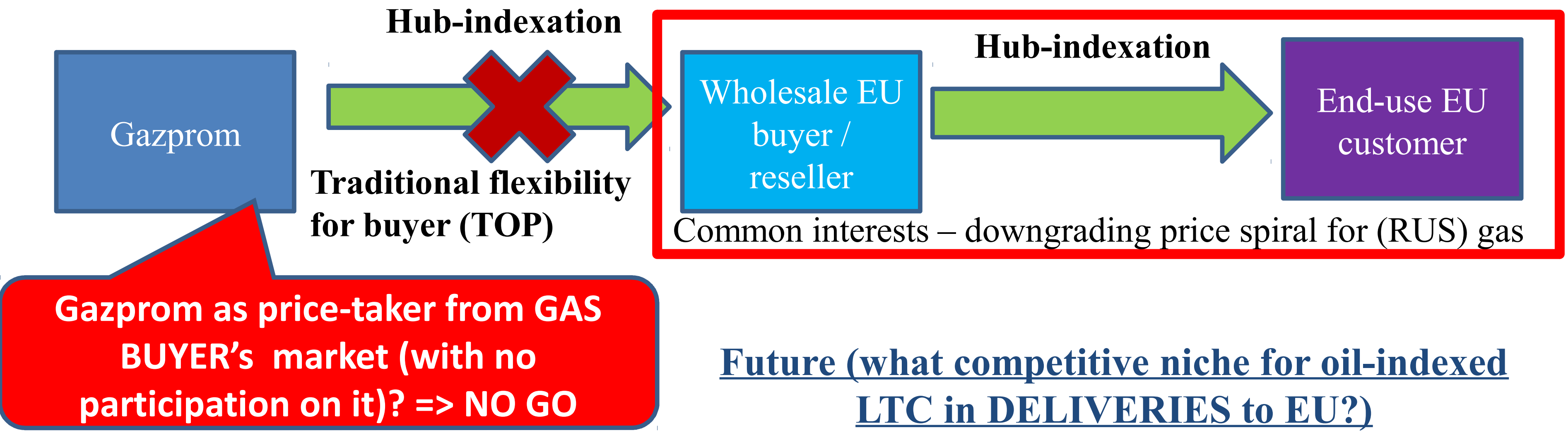
1) Diversification of delivery routes: at least two pipelines to each key market
   - Risk evaluation/mitigation: from state planning & direct control of single supply routes - to competitive choice of multiple routes (costs X risks)
   - Economic justification of new pipelines: not new gas but to exclude transit monopoly (by-passes)
2) Changing contractual structures & pricing mechanisms:
   - Adaptation of supply model which has been in place **since 1968** & have been effectively working **till 2009** (single route + 3 LTC to each market)
   - To live in new architecture of the EU gas market (from chain of 3 bundled LTC to E-E unbundled zones with VTP)
   - Capacity market: to live in unbundled gas market (as a shipper only)
   - Commodity market: to live in oversupplied market (gas-to-gas competition)
   - Permanent risk of multiple contractual mismatches within cross border supplies

New model for EU: Evolution of gas value chain & pricing mechanism of Russian gas to EU (1)

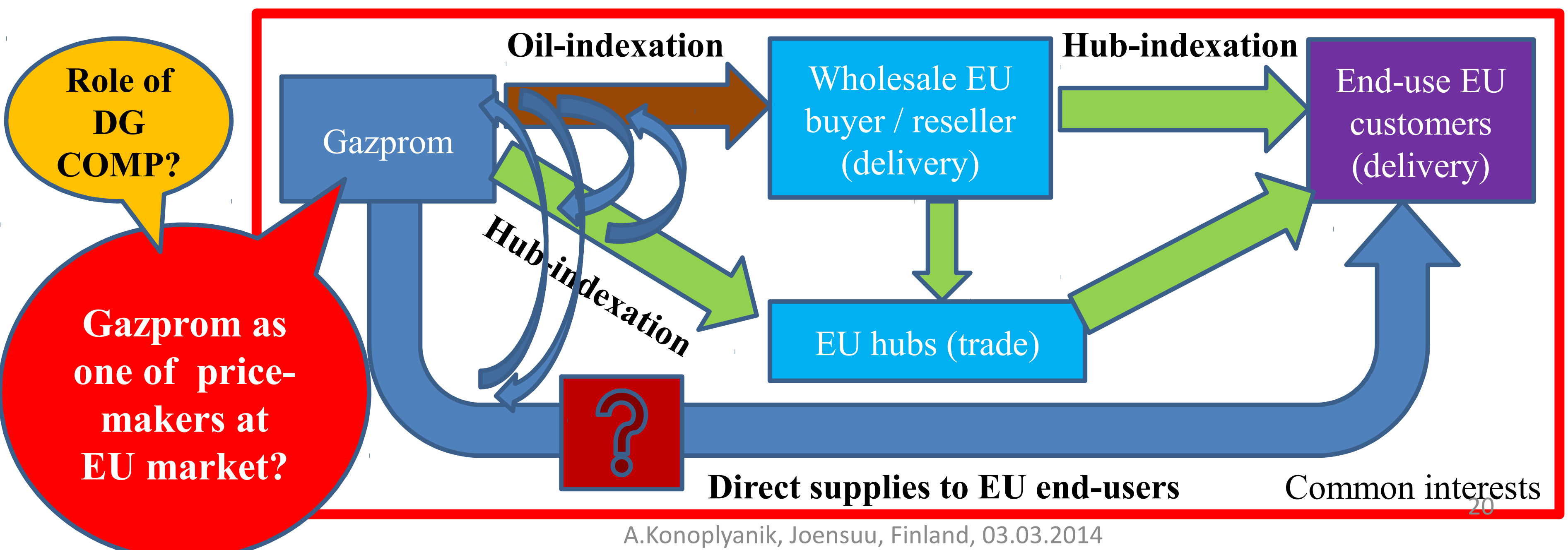


New model for EU: Evolution of gas value chain & pricing mechanism of Russian gas to EU (2)

Future ("NO GO" contractual scheme under any (?) supply-demand scenario)



Future (what competitive niche for oil-indexed LTC in DELIVERIES to EU?)



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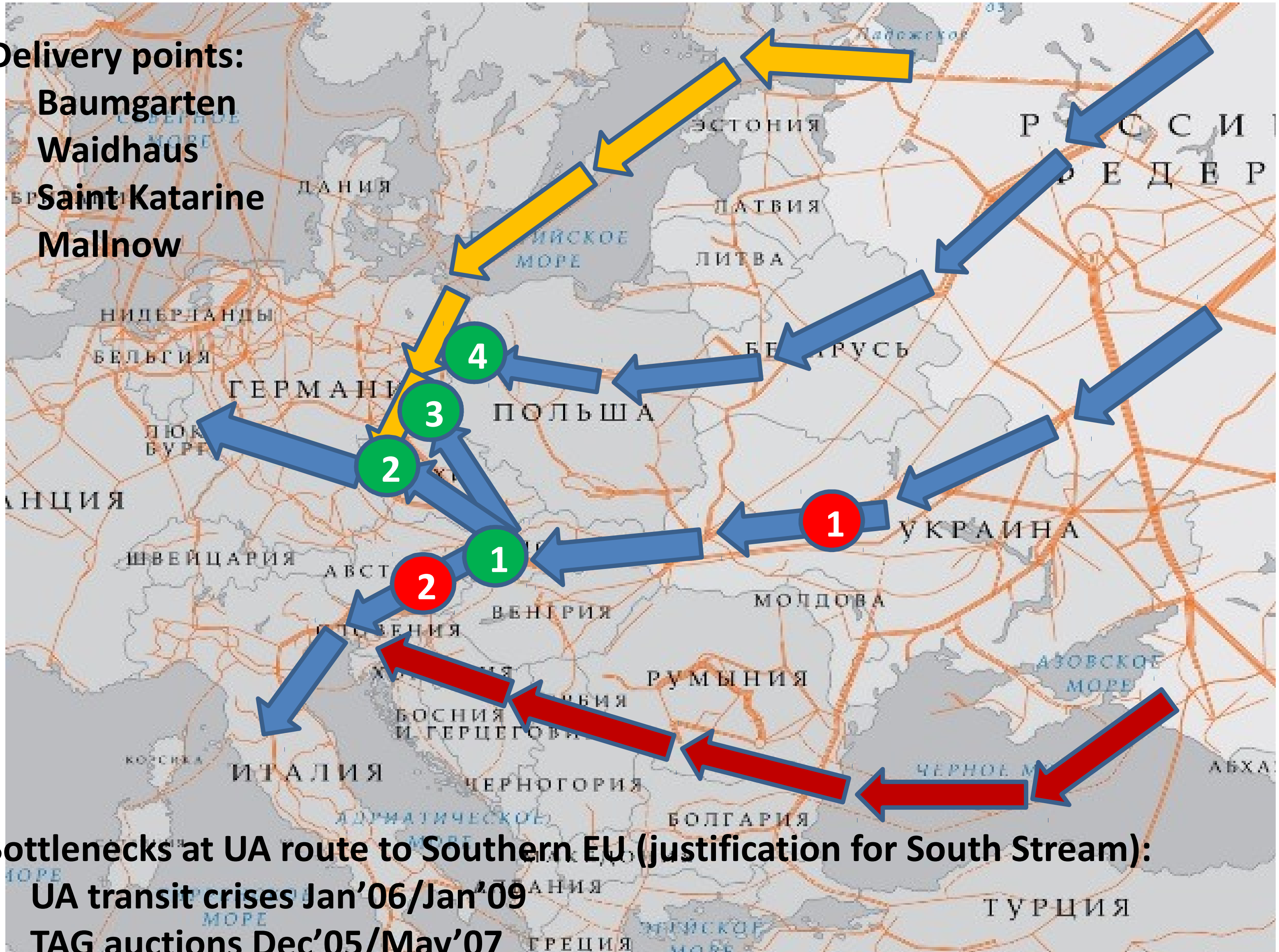
Russia: evolutionary steps in supporting transit security

- Russia/GG: Three stages of developing instruments of non-interruptible & secure transit within post-Soviet space:
  - 1990-ies:
    - YES: direct ownership => purchasing assets of pipeline companies in transit states (CEE – yes, UA/BEL – no) => to return to the old (post-1968) model
    - YES/NO: international legal instruments (ECT etc) => in the end, mistrust in international legal instruments from commercial standpoint
  - 1990-ies/2000-ies:
    - YES: Direct/indirect ownership => UA Pipeline consortium:
      - Bi-lateral/tri-lateral, etc.
      - EU companies (prior to 3rd Package) vs EU fin institutions (post 3rd Package)
      - Structure (33,3/33,3/33,3; 25+1/25+1/50-2 etc.)
    - NO: international legal instruments (ECT & Transit Protocol etc)
  - 2010-ies:
    - Ukrainian by-passes ("multiple pipelines" concept)

New model for EU: diversification of delivery routes

- From ***single*** transport/pipeline route (UA GTS) + LTC Groningen type with oil/PP-indexation to ***multiple*** routes (min 2 routes to each key EU market):
  - **To NWE** (to Vaidhaus – ***same DP***) = UA GTS + (Nordstream + OPAL + Gazelle):
    - Jan’06 + Jan’09 UA transit crises
  - **To SE** (***new DP*** - moved from Baumgarten to Italian border) = UA GTS + South Stream (offshore + onshore):
    - (i) Jan’06 + Jan’09 UA transit crises +
    - (ii) Dec’05/May’07 TAG auction as result of EU implementation of Oct’03 trilateral GP/ENI/CEC agreement on “destination clauses”

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



Delivery points:

1 - Baumgarten

2 - Waidhaus

3 - Saint Katarine

4 - Mallnow

Bottlenecks at UA route to Southern EU (justification for South Stream):

1 - UA transit crises Jan’06/Jan’09

2 - TAG auctions Dec’05/May’07

Russia: “no return” points for South Stream – passed/not passed?

- Onshore part within Russia:
  - No “no return” points any more
- Offshore part:
  - Dec.7, 2012 = “no return” point passed for construction of first line (15.75 BCMA)
  - “No return” point for overall throughput capacity not yet passed
- Onshore part within EU:
  - Construction started, but “no return” point is not passed yet regarding procedure (no clear view on procedure yet). Options:
    - bilateral RUS-EU MSs agreements (IGAs) => debate with CEC continued, ***but*** “no go” for EU as multiply & clearly stated
    - RF-EU bilateral infrastructure agreement => RF presented its draft to EU => low interest from EU => “ a long & winding road” & low probability
    - Art.36 (derogations if Gazprom is shipper & TSO) => too late: FID already taken/construction started
    - Art.13.2 (no derogations needed if Gazprom as shipper only => TSO shall invest in case of market demand for capacity) => GAC: such procedures does not exist in EU => Strawman proposal (17.09.2013) => RUS/GG among “Prime movers” of ENTSOG “Incremental proposal” => reserve option that might be come a mainstream

3rd EU Energy Package: two "standard" procedures to build new capacity in EU

3rd EU Gas Directive

Art. 13.2

Standard **"no-exemptions"** procedure ***(in the making)*** = ***"bottom-up"*** approach based on market demand for capacity = would be a mainstream procedure for "New capacity" => should be (would be?) based on EU-wide "coordinated open season"

Art. 36

Standard **"exemptions"** procedure ***(in place since 2nd Energy Package)*** = ***"top-bottom"*** approach (SOS-based, etc.) or when derogation from the rules of acquis = FACTUAL mainstream procedure = exemptions from the EU acquis as a general rule (22+ major EU gas infrastructure projects post-2003)

Workable but (might be) not best effective procedure:
(1) too lengthy (**Nabucco**: 28 months to receive exemptions, while Turkmen-Uzbek-Kazakh-China pipeline was agreed on & built from the scratch in shorter time),
(2) not necessary optimal, might deprive project financeability (**OPAL** case: 2 years+ partial pay-back, etc),
(3) each exemption based on individual perceptions, etc.

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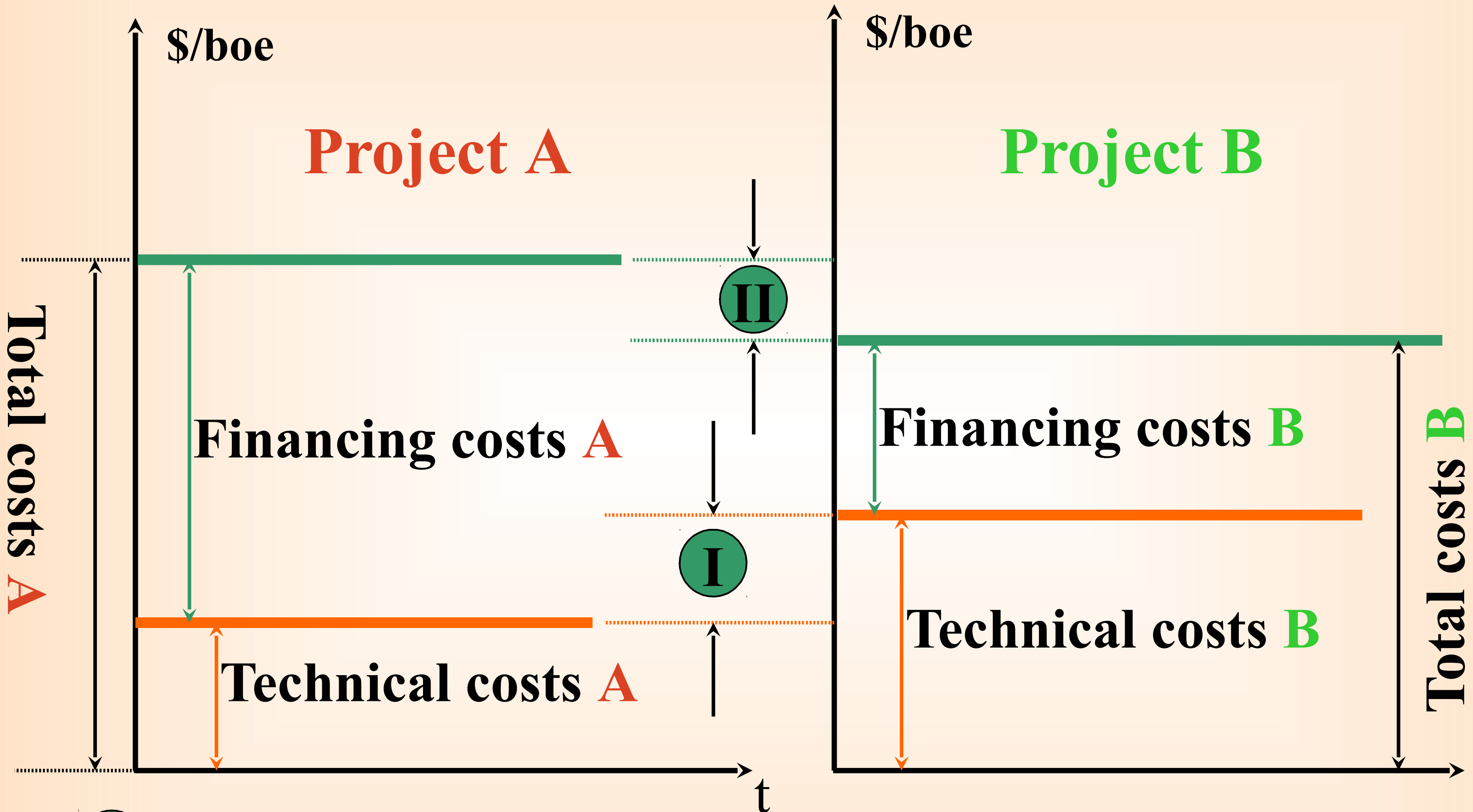
"NATURAL" VS. "FINAL" COMPETITIVE ADVANTAGES OF ENERGY PROJECTS



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

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

FINANCING ENERGY PROJECTS: FROM EQUITY TO DEBT FINANCING

<u>Equity/debt financing ratio:</u>

Pre-1970's = ~ 100 / ~ 0

Nowadays = ~ 20-40 / ~ 60-80,

f.i. most recent:

BTC pipeline, Nordstream = 30 / 70

Sakhalin-2 (PSA, 2 fields+pipeline+LNG plant):

- 1st phase = 30 / 70,
- total project (1st +2nd phases) = 20 / 80

➔ Increased role of financial costs (cost of financing) of the energy projects

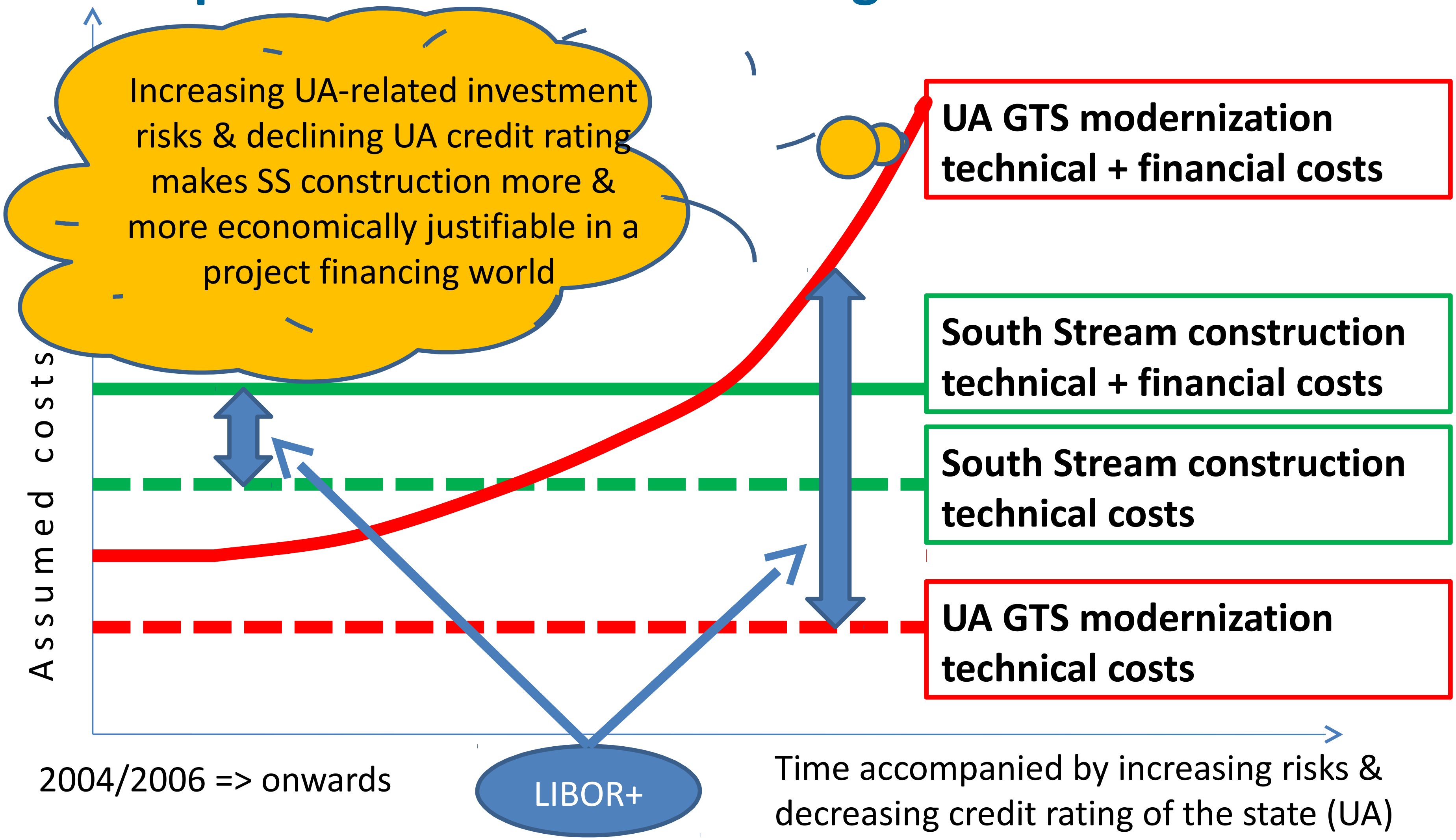
➔ Availability and cost of raising capital = one of major factors of competitiveness with growing importance in time (bankability/financiability of energy projects)

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

	Moody's	Standard & Poor's	Fitch IBCA	Short description	LIBOR+
Investment grades	Aaa	AAA	AAA	Maximum safety level	Up to 4,25%
	Aa1	AA+	AA+	High level of reliability	
	Aa2	AA	AA		
	Aa3	AA-	AA-		
	A1	A+	A+	Reliability above medium	
	A2	A	A		
	A3	A-	A-		
	Baa1 (RUSSIA: rating awarded 08.10.2008)	BBB+	BBB+	Reliability below medium	Up to 6%
	Baa2	BBB (RUSSIA: rating confirmed 31.08.2011)	BBB (RUSSIA: rating confirmed 02.09.2011)		
	Baa3	BBB-	BBB-		
Speculative grades	Ba1	BB+	BB+	Non-investment, speculative grade	Up to 14%
	Ba2	BB	BB		
	Ba3	BB-	BB-		
	B1	B+	B+	Highly speculative grade	Up to 19%
	B2	B (UA, 07.12.2012)	B		
	B3 (UA, 05.12.2012)	B-	B-		
	Caa	CCC+	CCC (UA, 28.02.2014)	High risk, emitter is in difficult situation	
	--	CCC	--		
	--	CCC-	--		
	Ca	CC	--	Highest speculative rating, default possible	
	C	C	--		
	--	--	DDD	Default	Up to 204%
	--	SD	DD		
	--	D	D		
	--	--	--		

09.11.2012, LIBOR 1Y: USD=0.86, EUR=0.52, GBP=1.07

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



Thank you for your attention!

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