

Debate on some elements of adaptation of Russia's/Gazprom's gas export policy

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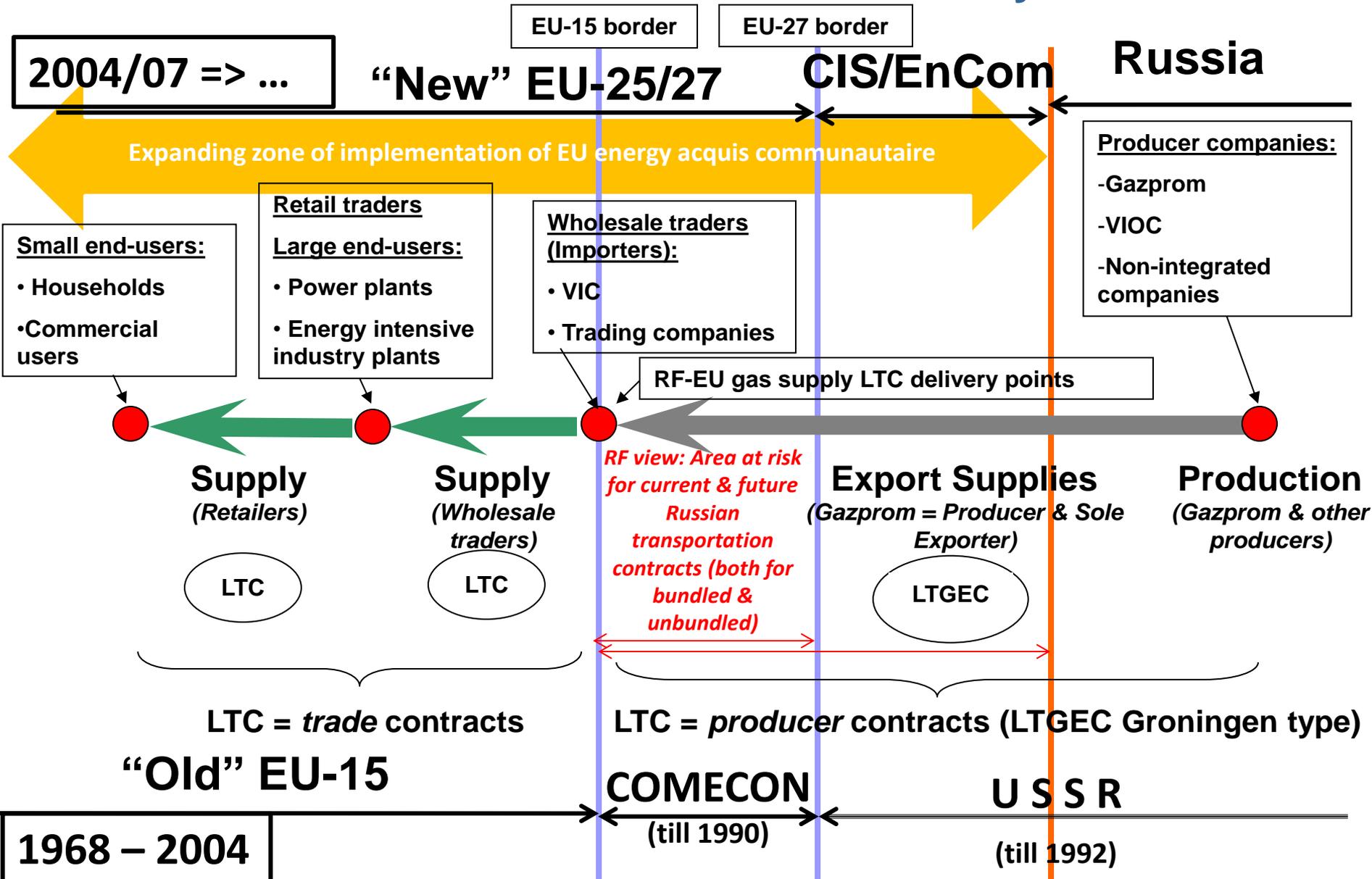
- 1) Adaptation within new EU gas market architecture (new supply flexibility)**
- 2) Diversity of pipelines routes (“multiple pipelines” concept)
- 3) Ukrainian transit & “Russian gas ring”
- 4) EU responds to new Russian challenges: the options
- 5) Specificity of Russia’s “multiple pipelines” concept in Asia Pacific

Preconditions for new Russian gas supply model to Europe: commodities market

1) Changing contracting structures & pricing mechanisms – operation within new EU gas market architecture:

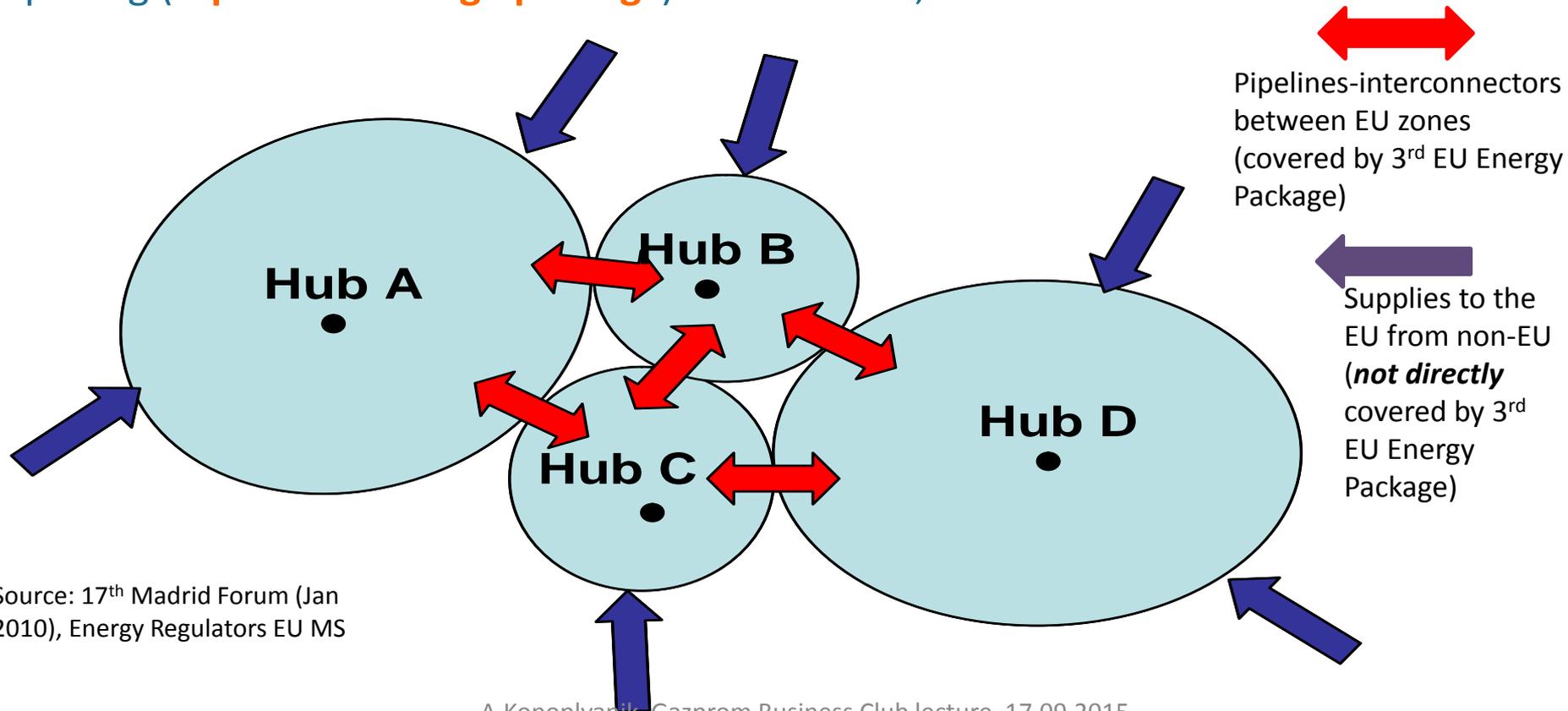
- a. From the **chain of three consecutive LTC** with supply and transportation contracts (first bundled, then unbundled, but to be mutually correlated) - to the system of “**entry-exit**” **market zones** with VTP (hubs) within unbundled commodity and capacity markets
- b. Unbundled **commodity** market: mature & oversupplied (either contractually or physically) market, “gas-to-gas” competition, two market segments – contractual & spot – in competitive coexistence
- c. Unbundled **capacity** market: supplier as a shipper only; capacity allocation: (i) auctions by default, (ii) more than 2 IPs/cross-border pipelines, conditional booking of new capacity by shipper – “open seasons” (Art.20(d))

Russia-EU gas value chain: three-step LTC Groningen-type structure since 1968 till nowadays



Organization of (emerging) internal EU gas market according to Third EU Energy Package: radical change of previous wholesale EU gas market architecture

- No single (homogenous) internal EU gas market in the near future even as economic model
- All market areas to be organized as **entry–exit zones** with **virtual (aimed to be) liquid hubs** => Towards uniform capacity allocation (“**bundled products**”) & gas pricing (“**spot & exchange pricing**”) mechanisms;



Source: 17th Madrid Forum (Jan 2010), Energy Regulators EU MS

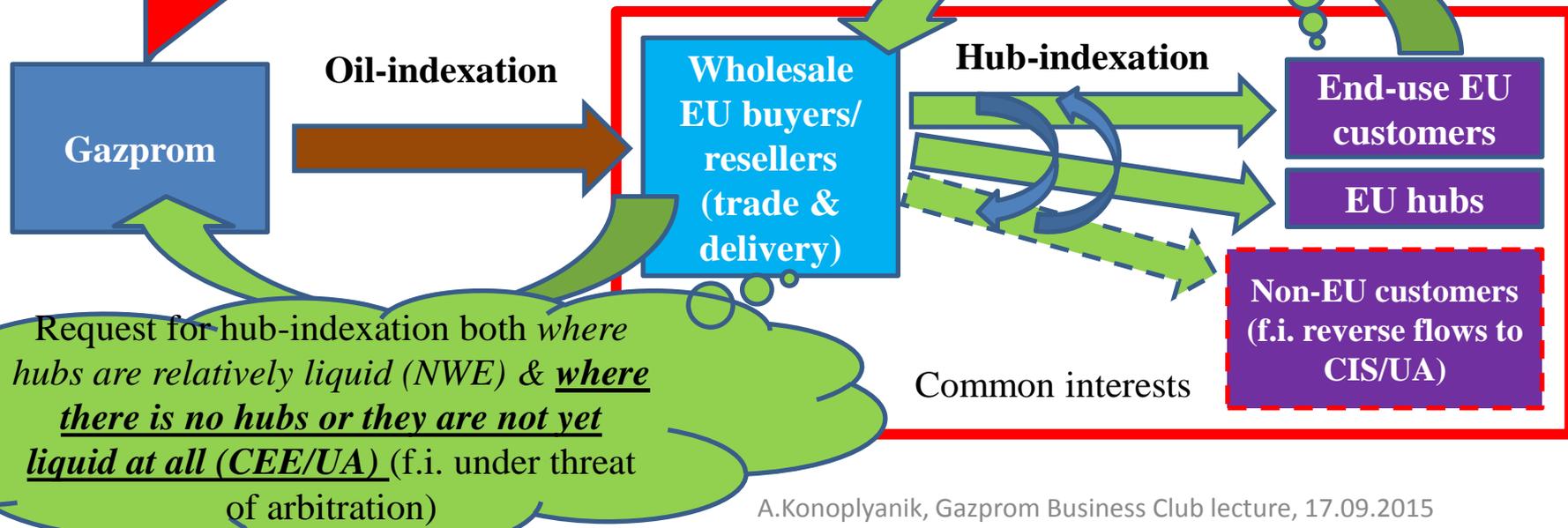
New model for EU: Evolution of gas value chain & pricing mechanism of Russian gas to EU (1)

Past (Pre-2009) – growing EU market



Nowadays (Post-2009) – oversupplied (in NWE segment -?)
EU market with not yet clear future trends

Gazprom as price-taker from OIL market



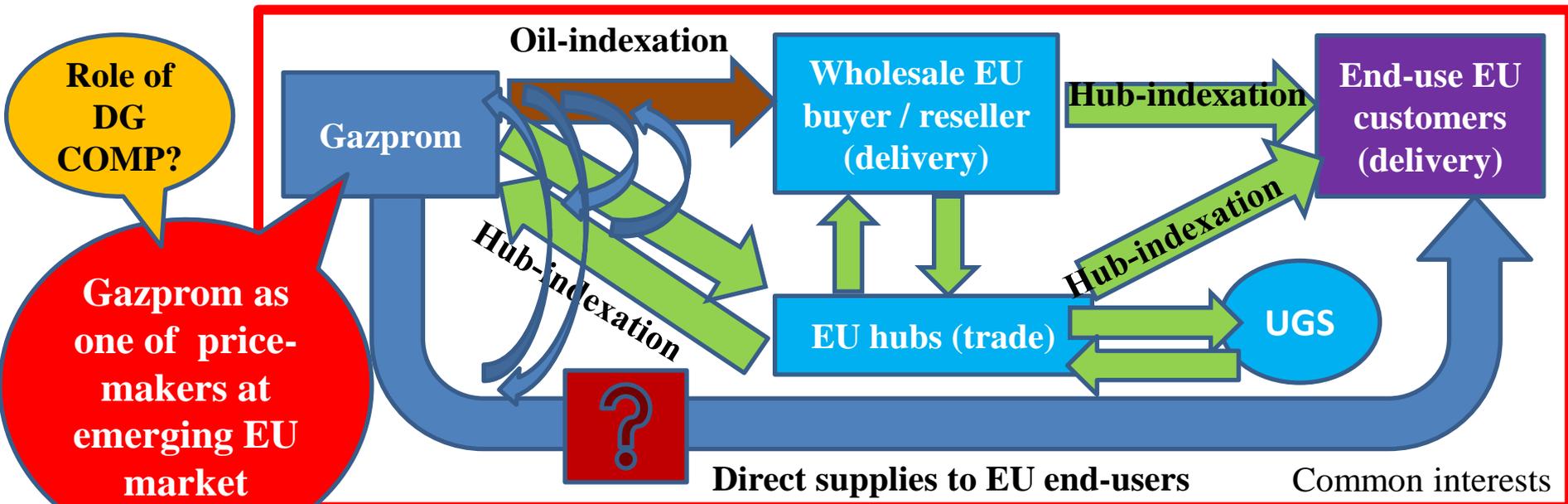
New model for EU: Evolution of gas value chain & pricing mechanism of Russian gas to EU (2)

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



Gazprom as price-taker from GAS BUYER'S market (with no participation on it)? => NO GO

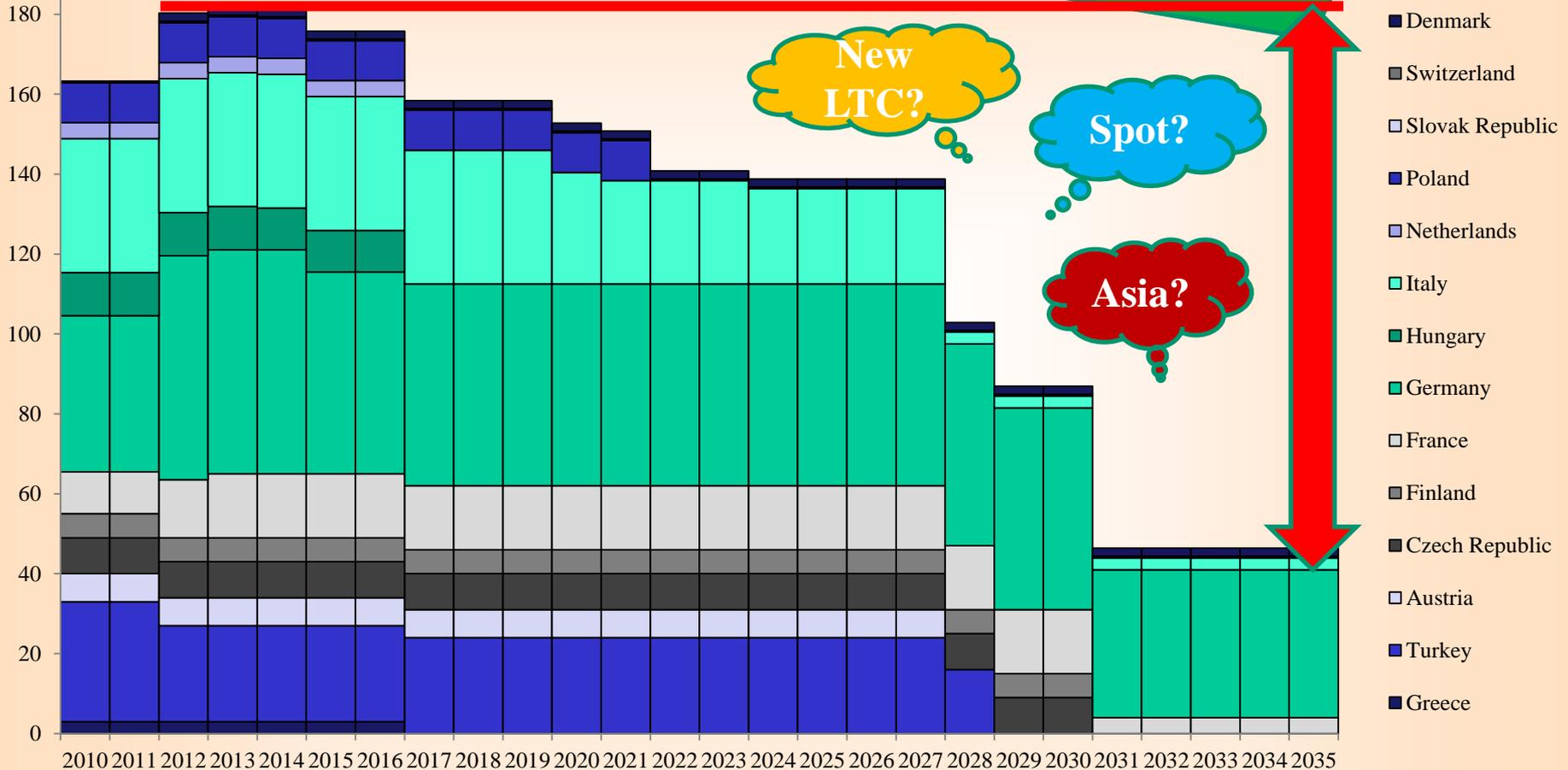
Future (what competitive niche for oil-indexed LTC & spot deliveries & trade to/within EU?)



Contracted volumes of Russian gas supplies to Europe

bcm

Expanding niche for (at least partial?) substitution of terminating EU LTC supplies at the border by spot deliveries & trade at EU hubs; or partial redirection of terminating EU LTC to the East?



Source of primary chart):ERI RAS (T.Mitrova), reproduced in & taken from «The Russian Gas Matrix: How Markets Are Driving Change», Ed. by J.Henderson & S.Pirani, Oxford University Press, 2014, Fig.3.1/p.53.

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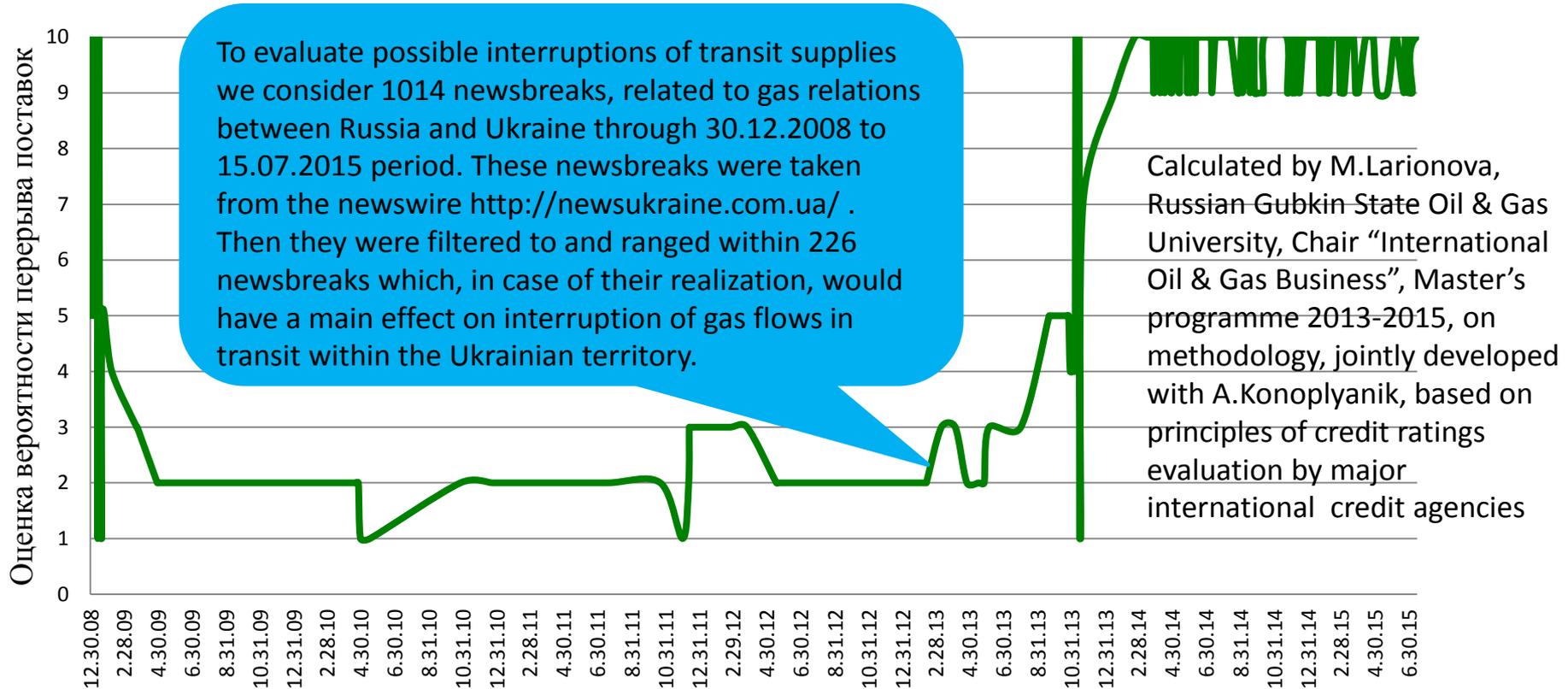
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Preconditions for new Russian gas supply model to Europe: capacities market

2) Diversification of routes/means of supplies: from GOSPLAN's (single pipe/corridor to export market) to "multiple pipelines" concept (at least two pipes / corridors or means of supply to each export market):

- a. Change of concept of risk assessment/minimization: from (cheaper) central planning & direct control on each export route through to delivery point – to (more costlier) competitive choice among few routes/means of supply (taking into consideration comparative costs & risks)
- b. Economic justification of new pipelines/means of supply to mature markets: not new gas, but transit risk mitigation & liquidation of transit monopoly

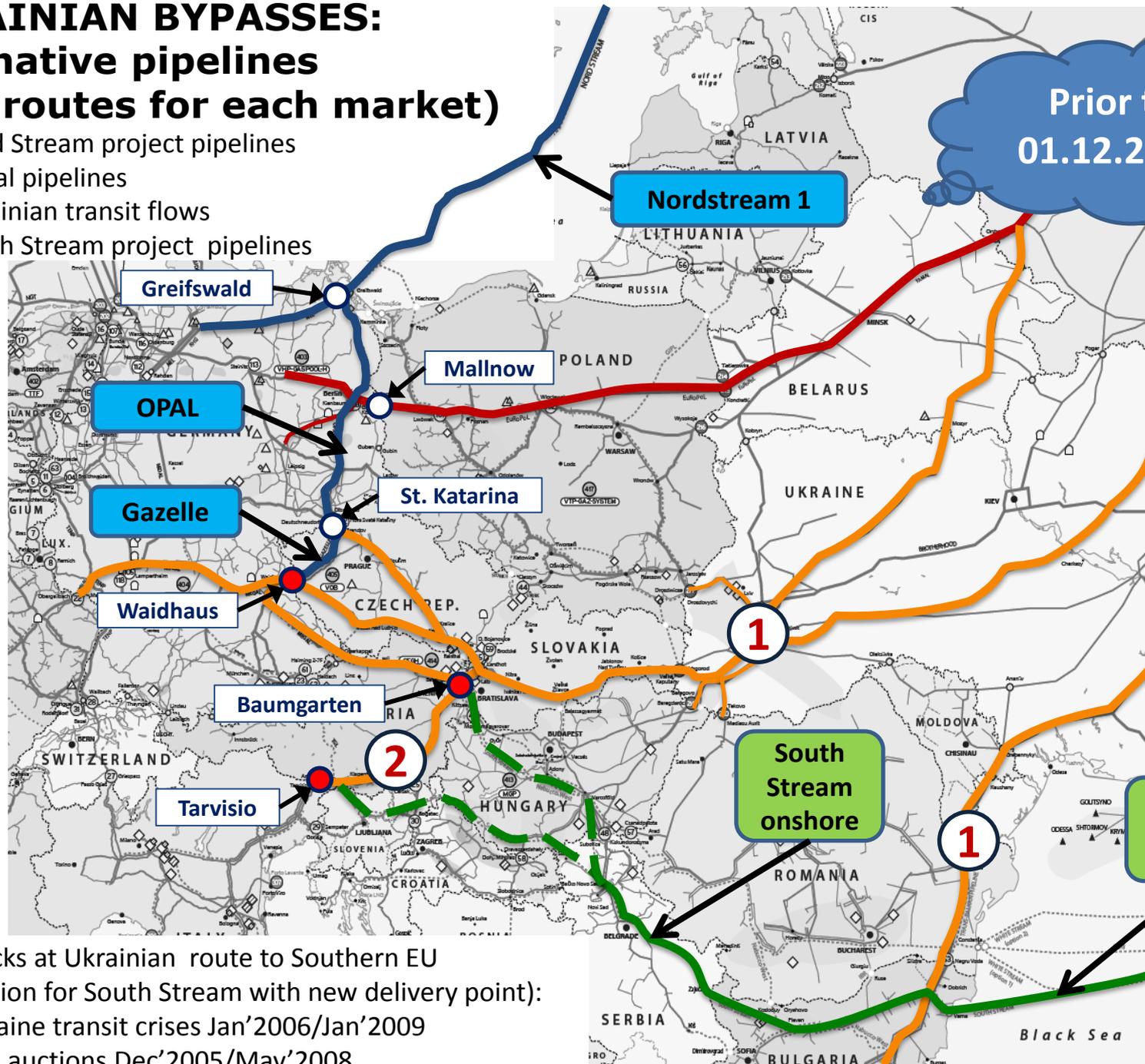
Ukraine: "transit interruption probability" index (2009–2015)



(1) Very fact that Russia & Ukraine cannot solve issues between them bilaterally; at least one of them (UA) demands 3rd party (EU) as mediator/conciliator for searching temporary compromises + files a case against Russia in SCC, means its systematic mistrust to contractual partner ; (2) UA is in state of civil war, but considers RF as invader => **permanent transit risk for supplier since it is his responsibility to provide timely delivery of contracted volumes to delivery points** deep inside the EU non-dependent his issues with third parties => **sovereign right of resource owner (Russia) or its agent (Gazprom) to evaluate such risk & undertake adequate measures for its mitigation (incl. by-passes)**

UKRAINIAN BYPASSES: alternative pipelines (two routes for each market)

- █ Nord Stream project pipelines
- █ Yamal pipelines
- █ Ukrainian transit flows
- █ South Stream project pipelines



Bottlenecks at Ukrainian route to Southern EU
(justification for South Stream with new delivery point):

- ① Ukraine transit crises Jan'2006/Jan'2009
- ② TAG auctions Dec'2005/May'2008

UKRAINIAN BYPASSES: Russia's alternative pipelines (two routes for each market)

- Nord Stream project pipelines
- Yamal pipelines
- Ukrainian transit flows
- Turkish Stream project pipelines



47BCM at 2019:
How to move from Turkish-EU border to existing DPs in EU acc.to EU rules?

Post
01.12.2014 &
18.06.2015

South Stream
(Cancelled)

Turkish Stream

Bottlenecks at Ukrainian route to Southern EU
(justification for South Stream with new delivery point):

- ① Ukraine transit crises Jan'2006/Jan'2009
- ② TAG auctions Dec'2005/May'2008

Why NPV of 47 BCM contracted volumes of Russian gas supplies to Europe differs => why Russian participation is a must

bcm

200

180

160

140

120

100

80

60

40

20

0

2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035

Expanding niche for (at least partial?) substitution of terminating LTC supplies at the border by new EU LTC & spot deliveries & trade at EU hubs

$\sum V1 = \sum V2 = 47 \text{ BCM}$

$\sum V2 = \sum V1 = 47 \text{ BCM}$

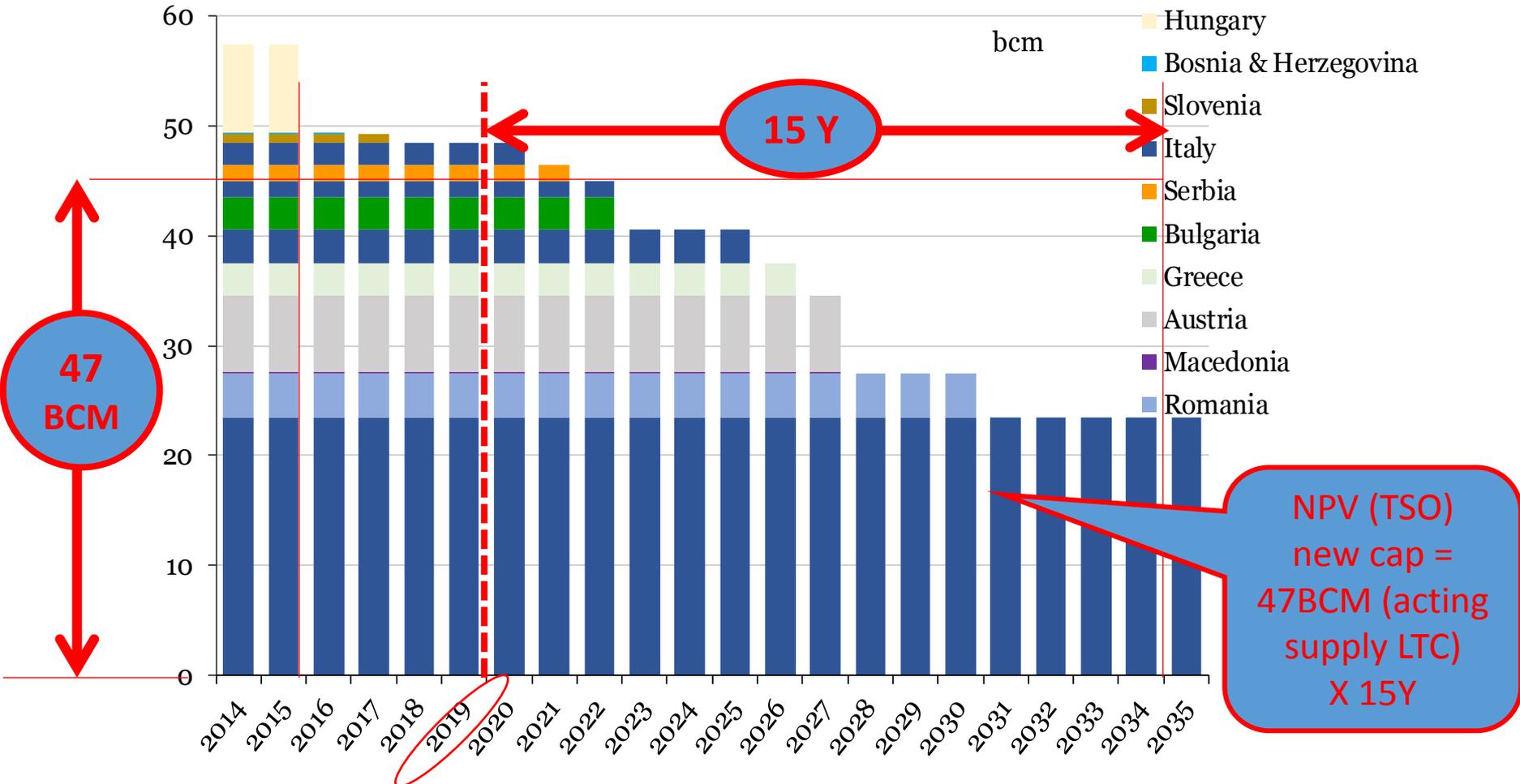
NPV1 < NPV2

NPV2 > NPV1

- Denmark
- Switzerland
- Slovak Republic
- Poland
- Netherlands
- Italy
- Hungary
- Germany
- France
- Finland
- Czech Republic
- Austria
- Turkey
- Greece

Source (primary chart): ERI RAS (T.Mitrova), reproduced in & taken from «The Russian Gas Matrix: How Markets Are Driving Change», Ed. by J.Henderson & S.Pirani, Oxford University Press, 2014, Fig.3.1/p.53.

Russian gas supply contracts to Central & South-Eastern EU with UA transit till 2035 = 100% security for TSO project financing of new capacity

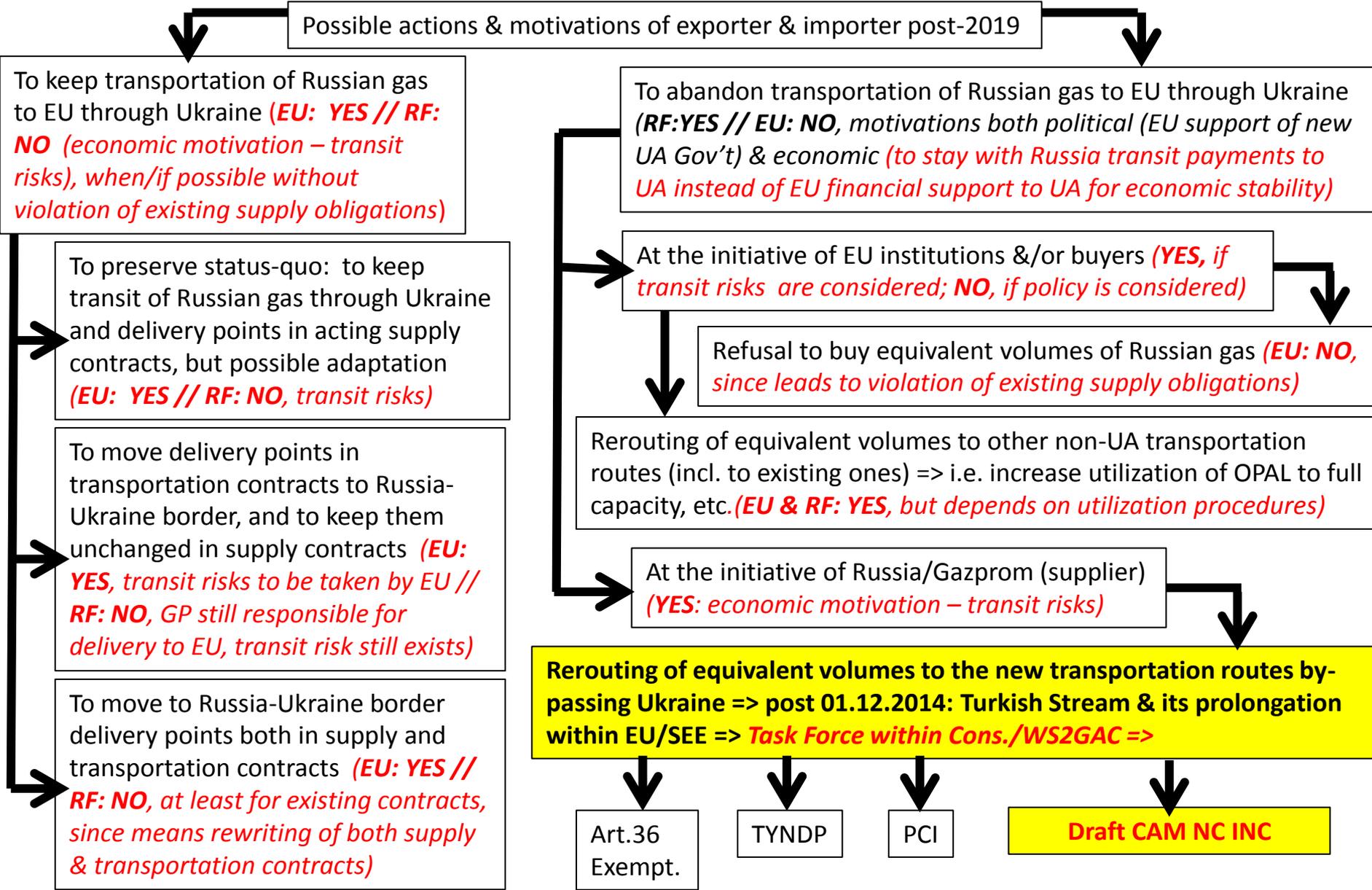


Source: calculated by E.Orlova (FIEF) based on based on: "Turkish stream": Scenarios of by-passing Ukraine and barriers of European Commission". Vygon Consulting, June 2015 (fig.4, p.30).

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Russia-Ukraine transit contract to EU will expire in 2019. What then? Possible scenarios & motivations for exporter & importer



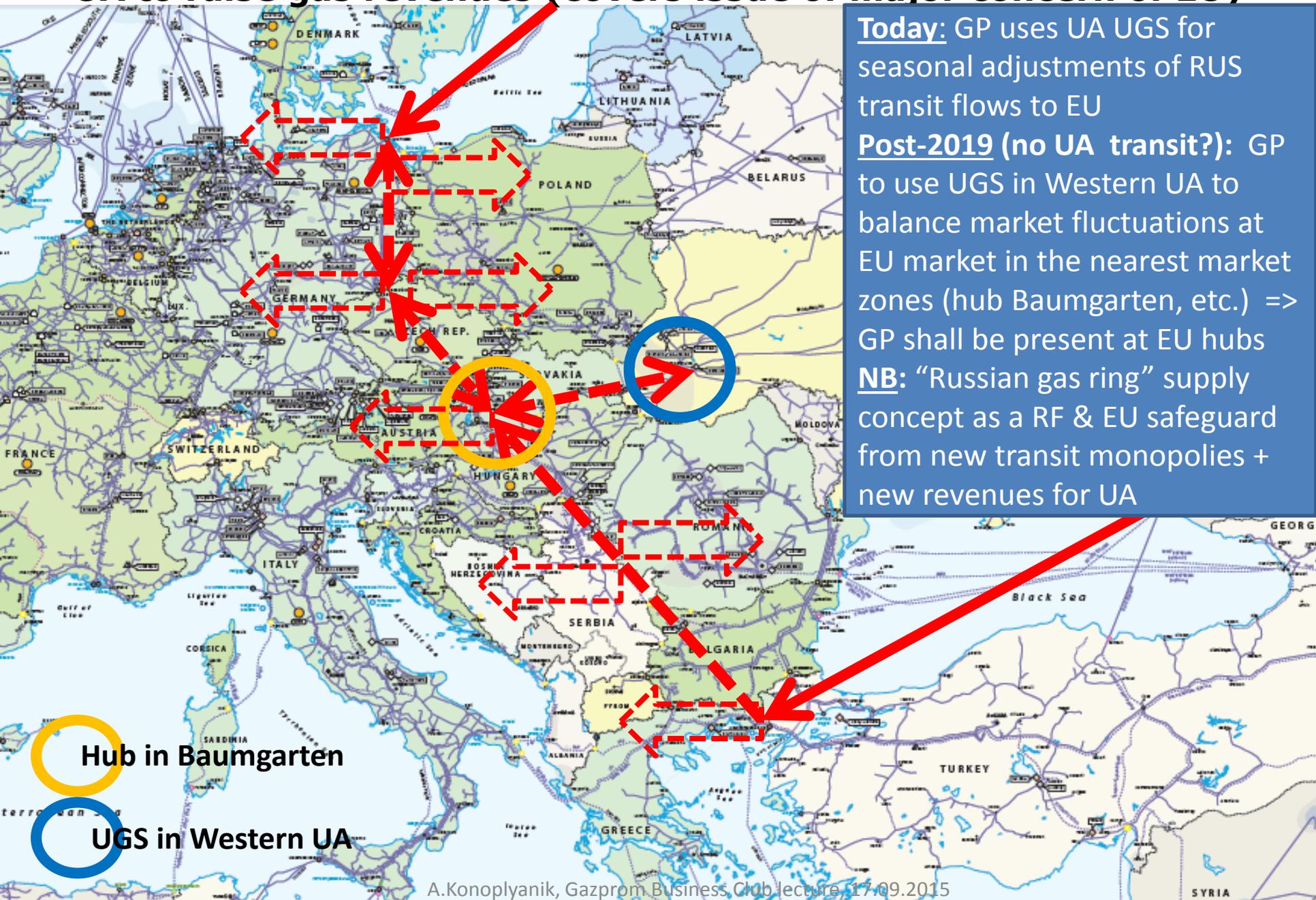
EU support for transit via Ukraine: the end or the means? (1)

- EU has multiply stated its support for continuation of RUS gas transit via UA post-2019 => (it seems that) this is why EU opposes redirection of RUS gas supplies to new transportation routes to EU post-2019
- But (it seems that) EU (CEC) support for existing & future transit of RUS gas via UA is not the end, but just the means; the real goal is:
 - to provide UA with steady financial flow of transit revenues from RUS supply contracts to EU via UA (with currently “unfriendly” to RF political regime in UA) – instead of donating corresponding EU financial aid to UA, and
 - financing/guaranteeing pay-back of UA-EU-USA GTS consortium (acc.to UA Law 4116a) in modernization of US GTS (*RUS participation in consortium forbidden by UA law, but transit of RUS gas is the only way to make consortium financeable*):
 - either under existing supply formula (RUS supplies directly to inside EU through UA) => RUS will continue taking transit risk via UA,
 - or by newly EUC proposed formula: delivery of RUS gas at RUS-UA border, in which case:
 - either EU companies will take the transit risk via UA by themselves (*which they are not willing yet*),
 - or there might be possible role for de facto EU *Single Purchasing Agency* mentioned in the Energy Union Package ? [*“options for voluntarily demand aggregation mechanisms for collective purchase of gas during a crisis and where Member States are dependent on a single supplier”*] ?

EU support for transit via Ukraine: the end or the means? (2)

- Whether EU will change its opposition to US by-passes if alternative means for UA to earn money are presented instead of gas transit revenues?
- An idea: “Russian gas circle” with expanded trade at the hub (Baumgarten) which requires regular use of UGS => role for UA UGS ? =>
- UGS in Western UA to be used not for seasonal adjustment of RUS transit flows to EU, but to adjust market fluctuations at the hub (Baumgarten),
 - this will also make Mr.Shevkovich happy since Slovak system will be fully utilized for direct &/or reverse flows both for supplies and UGS use
 - UA will be further integrated into EU energy system

Russian gas ring diminishes UA transit risk + a non-transit way for UA to raise gas revenues (covers issue of major concern of EU)



Today: GP uses UA UGS for seasonal adjustments of RUS transit flows to EU
Post-2019 (no UA transit?): GP to use UGS in Western UA to balance market fluctuations at EU market in the nearest market zones (hub Baumgarten, etc.) => GP shall be present at EU hubs
NB: “Russian gas ring” supply concept as a RF & EU safeguard from new transit monopolies + new revenues for UA

Hub in Baumgarten
UGS in Western UA

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Project-oriented & regulatory options

- Project-oriented respond from business & EU authorities: fragmented approach (“spaghetti pipelines”/not full compliance with stated demand for new capacity)
 - DG ENERGY: Central East South Europe Connectivity (CESEC)
 - Eastring (Routes A &/or B), Tesla, TAP expansion, etc.
 - Vertical Gas Corridor
- Available regulatory EU options and new respond:
 - Exemptions route (Art. 36 Third Gas Directive)
 - TYNDP/PCI procedure
 - Draft CAM NC INC (draft Amended Regulation 984/2014 Art. 20(d):
 - From draft Art.20(h) – RUS/GG experts proposal to ACER’s draft Art. 20(d) => the latter de facto presents updated version of RUS/GG experts’ proposal on “Coordinated Open Season Procedure”
 - Proposal at WS2 RF-EU GAC for “Early implementation” of Art.20(d) procedure => test study either for Turkish stream or/and Nordstream-2 extensions inside EU

EU: fragmented approach? (1) Central East South Europe Connectivity - CESEC

CESEC – Projects in the region



An Overall Plan
Sofia, 9 February 2015

Directorate General for Energy



	Projects	Status	Capacity	Commissioning date
1	Reinforcement of HU network	PCI	Up to 10bcm/a	2019
2	New pipeline in RO	PCI	Up to 10bcm/a	2019
3	Krk LNG terminal	PCI, PECE	Up to 6bcm/a	2019
4	Pipeline Zlobin – Slobodnica	PCI, PECE	11bcm/a	2019
5	BIH – HR Interconnector	PECE	Up to 5bcm/a	2019
6	HR – SB Interconnector	PECE	6-7bcm/a	2023
7	Interconnector Bulgaria – Romania	-	1.5bcm/a	2015
8	Interconnector Bulgaria – Serbia	PCI, PECE	Up to 3bcm/a	2017
9	Reverse flow on the Trans-Balkan	PCI	Up to 27.5bcm/a	2018
10	Reinforcement of the BG network	PCI	-	2019
11	Interconnector Greece - Bulgaria	PCI	Up to 5bcm/a	2019
12	Compressor station in Kipi	PCI	Up to 12bcm/a	2020
13	Trans-Adriatic Pipeline	PCI	Up to 20bcm/a	2019
14	LNG terminal in Greece	PCI	Up to 11bcm/a	2016

Energy

EU: fragmented approach? (2)

Some South East Europe Pipeline Projects in public debate



- Eastring – Route A
- Eastring – Route B
- Tesla
- TAP
- ➔ Direction of flow

- Eastring – governments of Slovakia, Hungary, Romania and Bulgaria signed Declaration at Riga Summit 21st May 2015, supporting new interconnections. Proposal by Eustream – Slovak TSO
- Tesla – no details but supposedly as if Gazprom project (Euractiv 30th April 2015)
- TAP – secured exemption 2013. Exemption expires if construction not started by 16th May 2016, and not operational by 31st December 2020

EU: fragmented approach? (3)

Basic components of the Vertical Corridor (IENE)

THE VERTICAL CORRIDOR FROM THE AEGEAN TO THE BALTIC

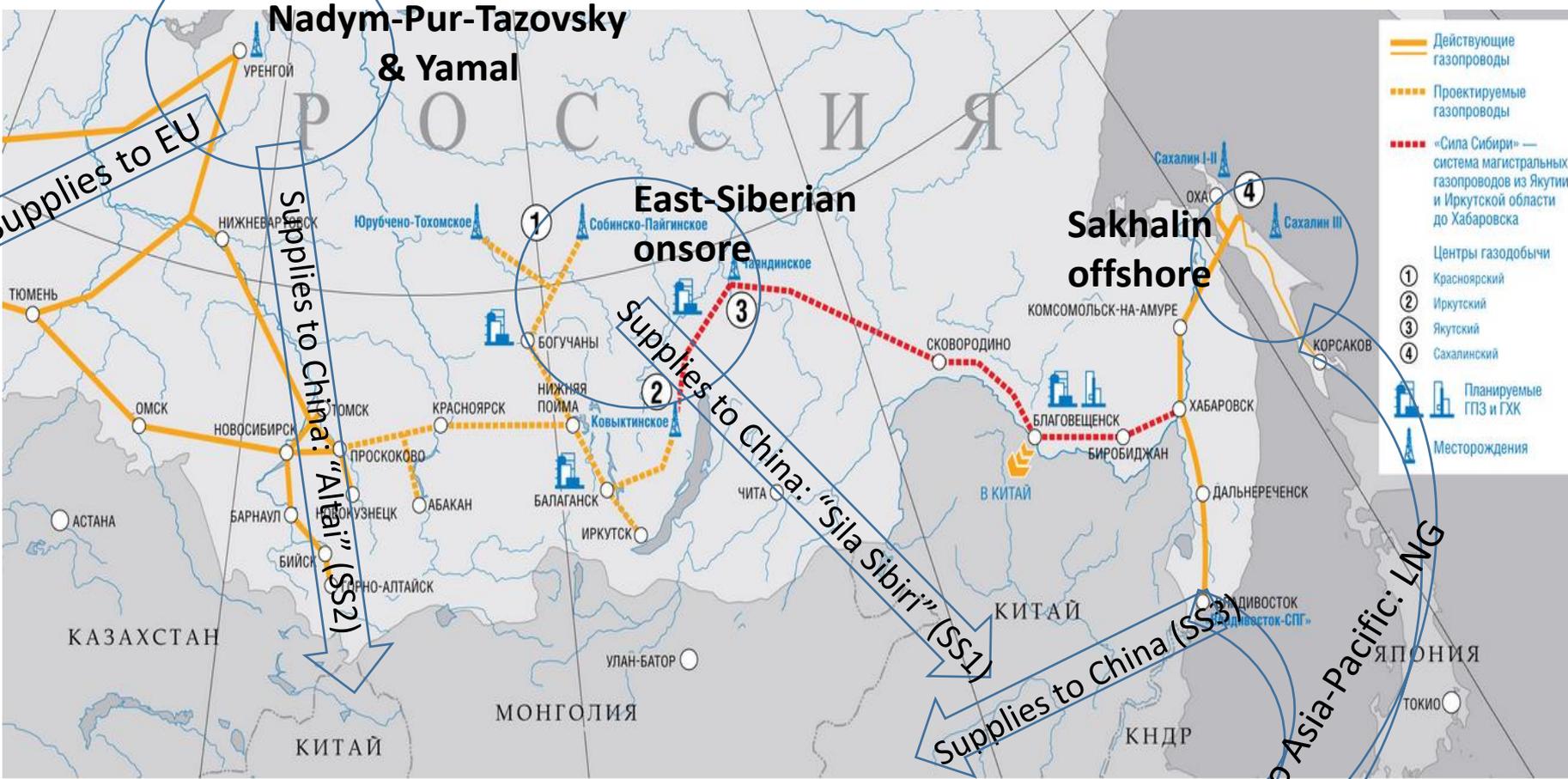


Source: THE “VERTICAL CORRIDOR” FROM THE AEGEAN TO THE BALTIC. - An IENE Study Project (M26), May 2015, Athens, p.33 (Figure 7)

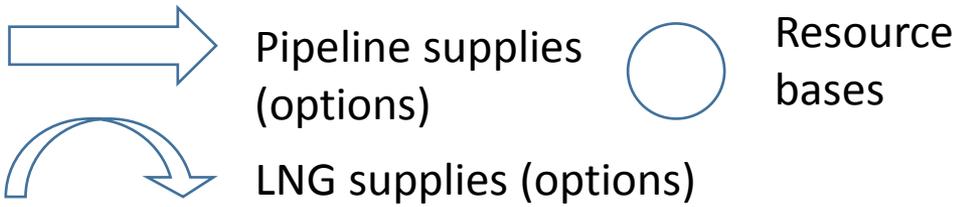
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Russia & Europe *in the past* vs Russia & Europe & Asia *in the future* (new factual Russia's gas export model)



Source of original map: <http://www.gazprom.ru/about/production/projects/pipelines/ykv/>



Thank you for your attention!

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