

# “Россия, Украина и ЕС в меняющемся европейском газовом мире: каковы пути к поиску нового равновесия?”

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# Table of contents

- 1) **New post-2009 gas world & its material & perceived realities in Broader Energy Europe**
- 2) EU's respond to new realities: diversification (importer's angle)
  - a. From Groningen model LTGEC to Third EU Energy Package in gas (new institutional structure of supplies)
- 3) Ukraine's respond to new realities: diversification (transit state angle)
  - a. Russia-Ukraine supply contract: price & payment issue
  - b. Reverse flows issue
- 4) Russia's respond to new realities: diversification (exporter's angle)
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  - b. Diversity of pipelines routes

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

## 1) Economic changes => 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 => in electricity oil-indexed gas vs:
  - subsidized must-run RES
  - imported US coal (*US shale gas domino effect #2*)

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

## 3) **Political changes** => 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

- 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) **factual history** 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 => difficult task to find new equilibrium (narrowing corridor for it) within individually enforced multidirectional changes:
  - political aspects – currently *disunite*,
  - technical, economic, legal aspects – can unite...

# Table of contents

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  - a. From Groningen model LTGEC to Third EU Energy Package in gas (new institutional structure of supplies)
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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 (diminish dominant role of Russia as major supplier):**
  - **Alternatives to Russian gas (supply side):** Reg.994/2010 (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
    - General perception in EU: this will be most distant & costly in production & oil-indexed-priced Russian gas
- **BUT** (in: “Reducing European Dependence on Russian Gas: distinguishing natural gas security from geopolitics,” (ed.) J.Stern, OIES, October 2014):
  - **“The main finding of this paper is that there is limited scope for significantly reducing overall European dependence on Russian gas before the mid-2020s. ...**
  - **Russian gas deliveries to Europe will be highly competitive with all other pipeline gas and LNG (including US LNG) supplies throughout the period to 2030, and Gazprom’s market power to impact European hub prices may be considerable. ”**

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

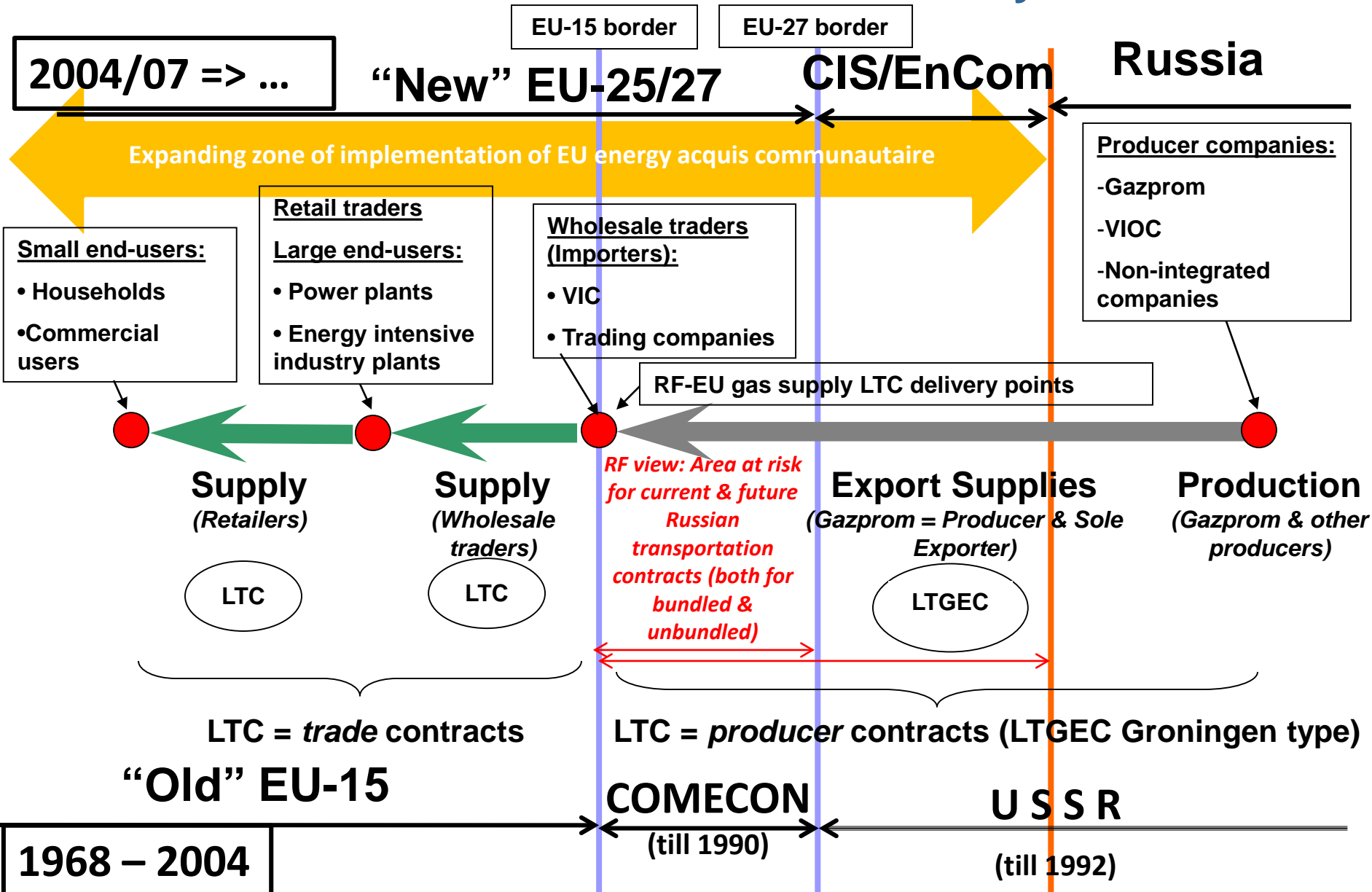
- (High) *flexibility* by:
  - Diminishing barriers for gas flows: CMP rules (UIOLI, SoP), interconnectors, reverse flows, spot trade, demand for softening LTGEC provisions (TOP, hub-based pricing, etc.), ... => new market organization => Third EU Energy Package
- Third EU Energy Package (03.09.2009 => 03.03.2011):
  - From chain of consecutive LTCs (1962-2009) – to Entry-Exit zones with Virtual Trading Points (hubs) (2009-onwards) => radical change
  - 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 => transition period (“learning by doing”)
  - New architecture of EU gas market *still in the making* => Gas Target Model + 12 Framework Guidelines + 12 Network Codes + ...
- => **“No return” point has been passed by EU as a whole !!!**
- **BUT:** economic realities (& their technical background) in NWE & CEE differ significantly => not possible to provide synchronous development of market zones, to implement legally binding EU decisions on diversification (“3+ sources” rule - Reg.994/2010) which is an objective basis for competition => infrastructure density issue...



# Table of contents

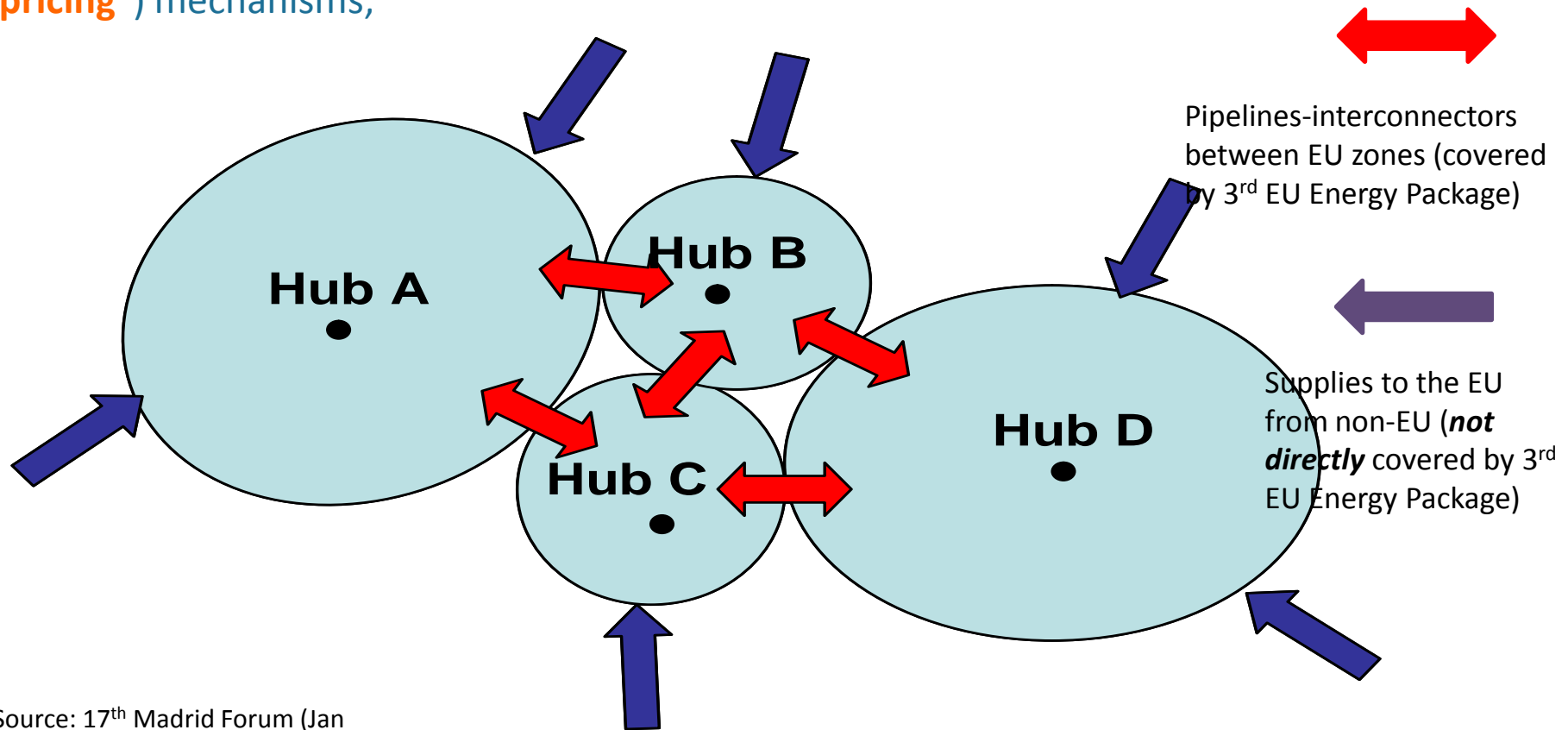
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  - a. Russia-Ukraine supply contract: price & payment issue
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# Russia-EU gas value chain: three-step LTC Groningen-type structure since 1968 till nowadays



# 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: 17<sup>th</sup> Madrid Forum (Jan 2010), Energy Regulators EU MS

# Table of contents

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  - a. From Groningen model LTGEC to Third EU Energy Package in gas (new institutional structure of supplies)
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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: continuous 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 UA disagreements with “European formulas” in RUS-UA supply contracts
- UA perception of further RUS supply risks & costs => search for multiple supplies => ***to escape monopoly of Russia as one single supplier & provide downward pressure on RUS gas price***

# 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 unilateral 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 is reached? “Yes” – in policy, “No” – in results, but** – is it just a matter of time since trend “away from Russian gas” is not to be changed in UA?

# Table of contents

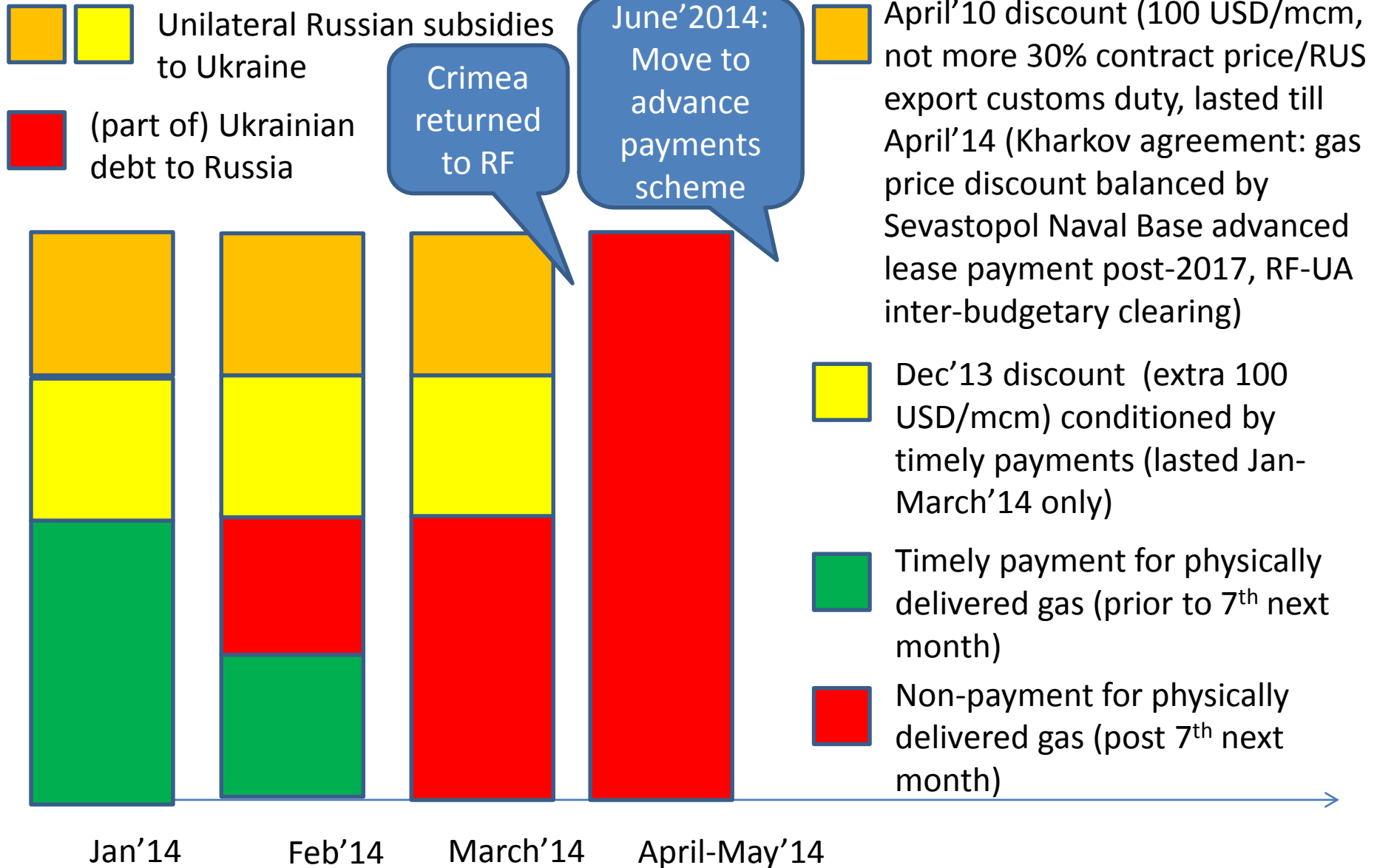
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# Why it is NOT justifiable (from economic & legal standpoint) to import NWE spot prices into RF-UA gas supply contract

- **EU/UA view:** to take as a basis for UA import gas RUS price a NWE spot price index which reflects competitive character of the NWE market where:
  - Multiple supplies/suppliers
  - Contractual/physical oversupply (excessive spot gas, inter alia, is mostly RUS/Gazprom TOP gas)
- **BUT =>** UA (yet): non-competitive market, no alternative to RUS gas;
- => Until there is no alternative to RUS gas RF/Gazprom has a legal right to obtain maximum marketable resource rent via diff. mechanisms, incl. oil indexation (*European formulas*)
  - International legal protection: UN GA Res.1803 (1962), ECT Art.18 (1994/98) – on sovereignty on natural/energy resources
- **BUT =>** RF/Gazprom long providing multiple unilateral discounts to UA to soften its transition to *European formulas*
- **AND:** the higher the import price, more stimuli for importer to substitute/deviate from... (oil market case 1970/80-ies)



# Structure of Russian gas price to Ukraine 2014



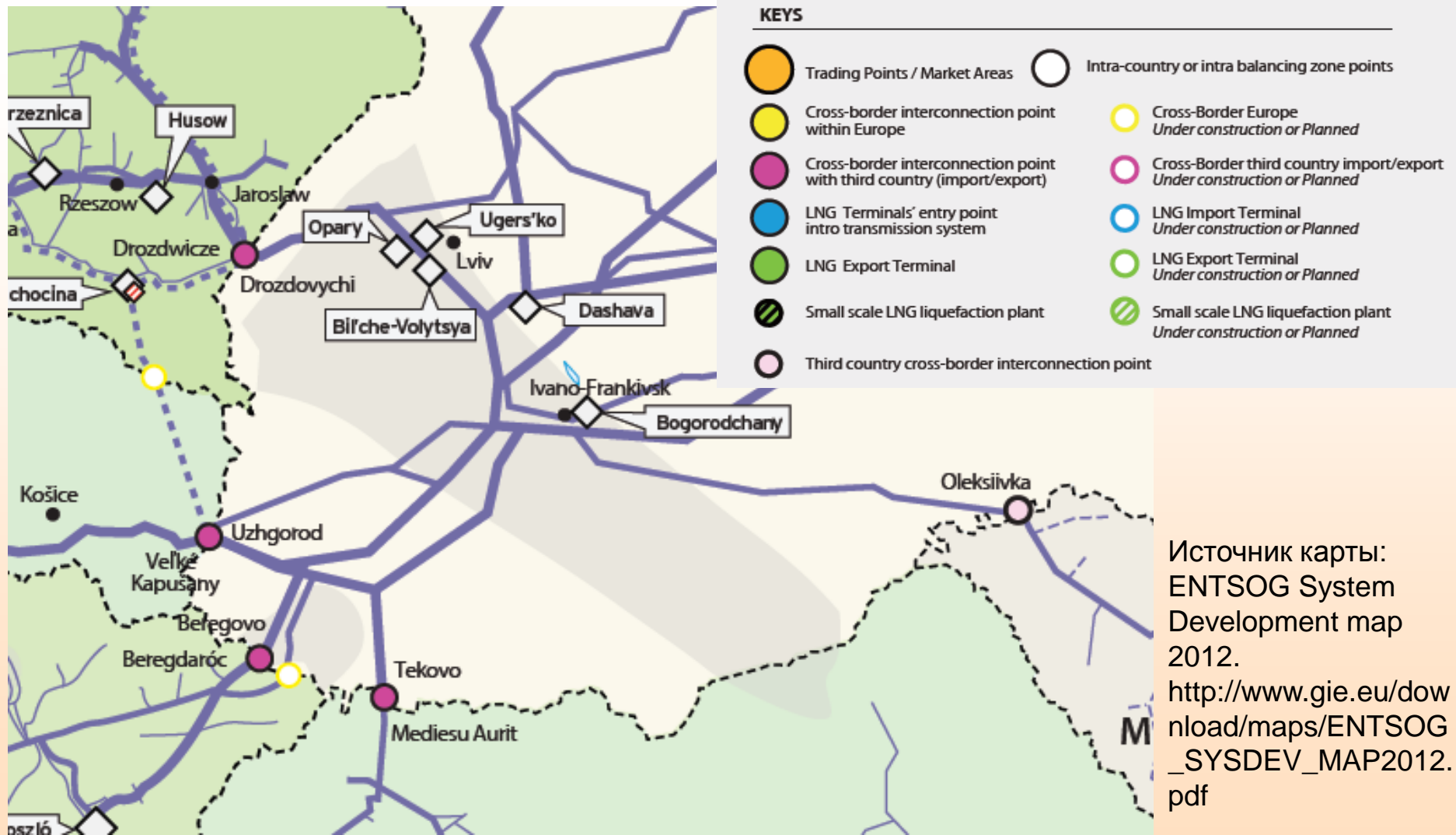
# Results of Russia-Ukraine-EU temporary gas agreement as of 30.10.2014 for the period from November 2014 till 31 March 2015

- Binding Protocol, to safeguard security of gas supplies during Winter season
- Temporary solution, only for the period mentioned, without prejudice for RUS & UA positions within their pending Stockholm arbitrations
- Purchase price in acc. with Supply Contract (19.01.2009) formula, discounted by:
  - 100 USD/mcm - if formula price exceeds 333.33 USD/mcm,
  - Customs export duty (30%) – if formula price is lower 333.33 USD/mcm
- Advanced payments, Gazprom will forgo invoking TOP clause
- Payment for transit services in acc. with Transit Contract
- 3.1 USD bln unpaid invoices for volumes delivered in 11-12.2013 & 04-06.2014:
  - First tranche: 1.45 USD bln – before first delivery in 2014,
  - Second tranche: 1.65 USD bln – before 31.12.2014
- Fixation of different views on the nature of 3.1 USD bln value:
  - Naftogaz: = full payment of unpaid invoices (based on 268.5 USD/mcm)
  - Gazprom: = partial payment of unpaid invoices (based on contract formula price)

# Table of contents

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  - a. From Groningen model LTGEC to Third EU Energy Package in gas (new institutional structure of supplies)
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# Ukraine: cross-border points where it obliged to possess physical reverse flow capacity due to its membership in Energy Community



Источник карты:  
 ENTSOG System Development map 2012.  
[http://www.gie.eu/download/maps/ENTSOG\\_SYSDEV\\_MAP2012.pdf](http://www.gie.eu/download/maps/ENTSOG_SYSDEV_MAP2012.pdf)

# UA reverse gas flows: conflict of public & contractual law, not a technical issue

- RF-UA Contractual law obligations (since Jan'1, 2009):
  - TOP mutual obligations (52BCM => 80%TOP => 41.6 BCM)
- UA Public law obligations (since Dec'3, 2013):
  - UA joined Energy Community Treaty since Feb'1, 2011 => obligation to apply EU energy acquis within UA (since 2015), incl. Regulation 994/2010 (inter alia, Art. 6.5 on reverse flows – “03.12.2013 at latest”)
- Conflict between two legal obligations for UA with different enforcement dates = direct economic losses for producer/gas resource owner (RF):
  - Reverse flows (from West) **to substitute** contract flows (from East); while both flows are de facto of the same (Russian) origin
  - Lower UA off-takes prevent pay-back of earlier Gazprom CAPEX in earlier advanced upstream developments aimed at guaranteeing fulfillment of its contractual supply obligations to UA
- The earlier obligation prevails (Pacta sunt servanda)

# Table of contents

- 1) New post-2009 gas world & its material & perceived realities in Broader Energy Europe
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# Preconditions for new Russian gas supply model to Europe (1)

## ➤ Changing contractual structures & pricing mechanisms => operation within new EU gas market architecture:

a. Since 2003 (2<sup>nd</sup> EU Energy Package):

a. Unbundled **capacity** market => today:

a. supplier as a shipper only,

b. capacity allocation – mostly by auctions, in rare cases – OSP

b. Unbundled **commodity** market => today:

a. mature & oversupplied (either contractually or physically),

b. “gas-to-gas” competition,

c. two segments – contractual & spot – in competitive coexistence

b. Since 2009 (3<sup>rd</sup> EU Energy Package): within unbundled commodity and capacity markets

a. From the **chain of three consequential LTC** with supply and transportation contracts, to =>

b. The system of “**entry-exit**” market zones with VTP (hubs)

# Preconditions for new Russian gas supply model to Europe (2)

➤ **Diversification of routes/means of supplies: from former GOSPLAN's *“no more than one pipe to each market”* to current *“no less than two pipes/means of supply to each market”* export concept:**

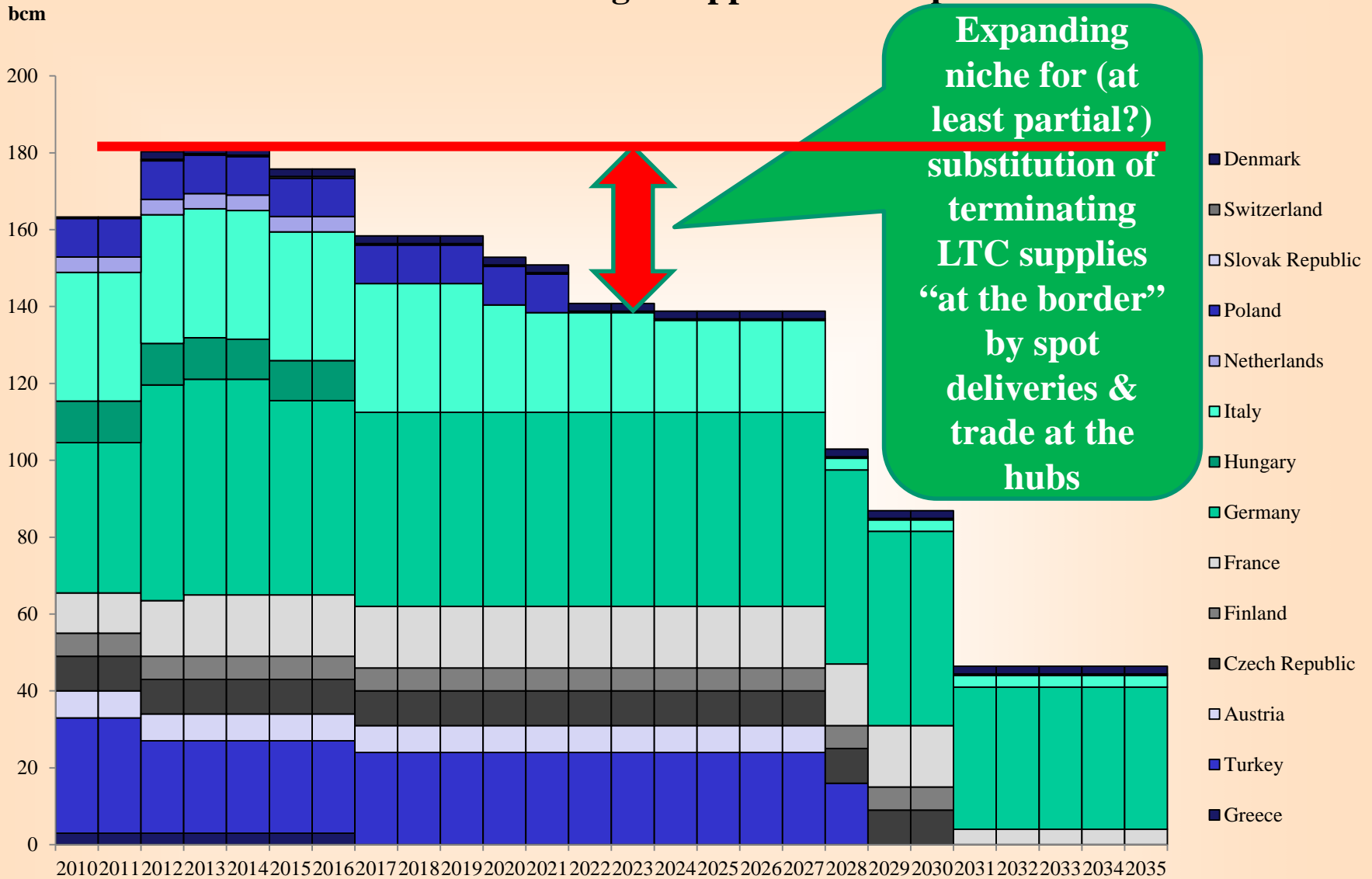
- 1) Change of the concept of risk assessment/minimization:
  - a. from central planning & direct control on each export route through to delivery point =>
  - b. to competitive choice among few routes/means of supply (taking into consideration comparative costs & risks)
- 2) Economic justification of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



# Table of contents

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# Contracted volumes of Russian gas supplies to Europe



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.

# Table of contents

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

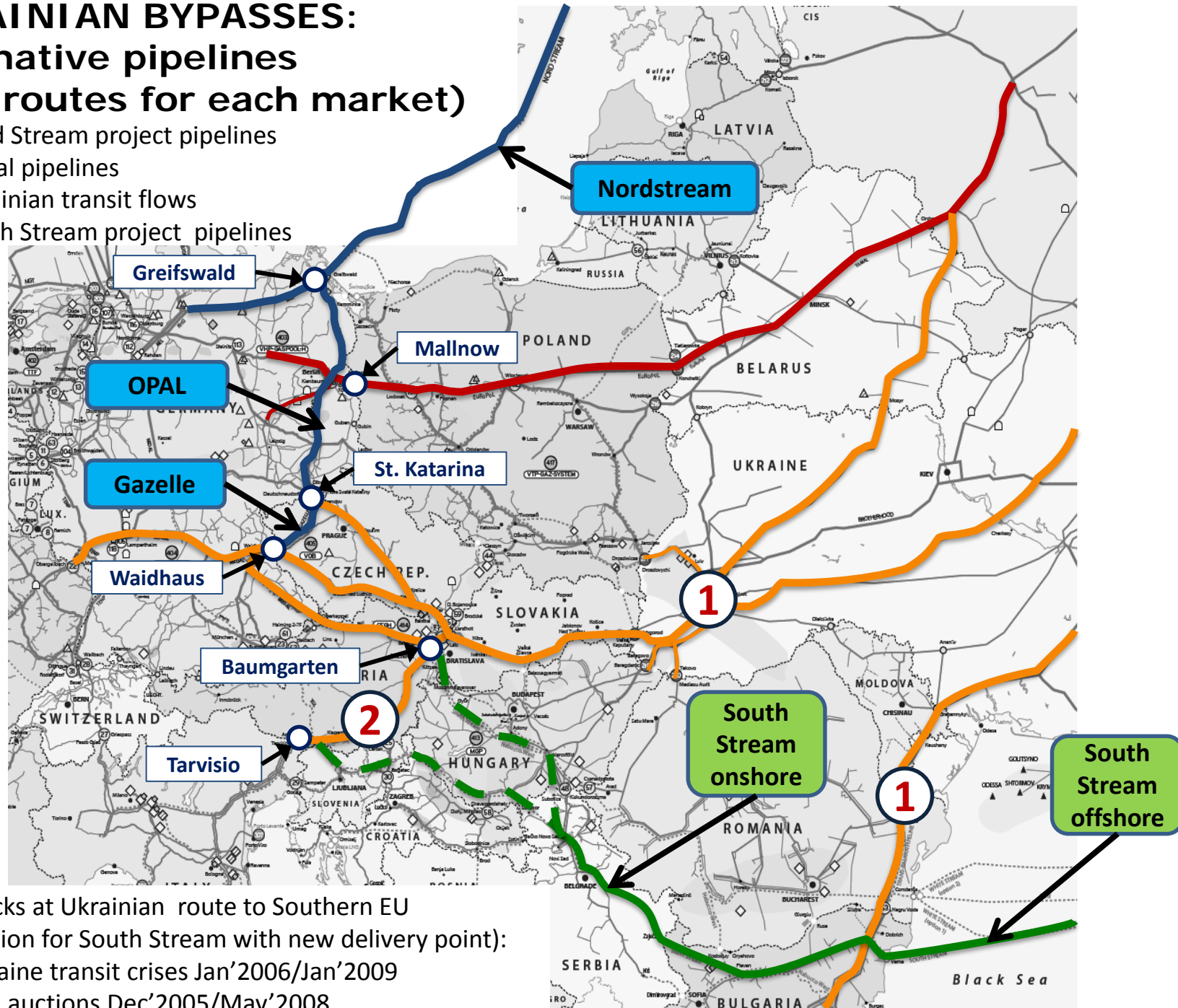
- **Supply risks:**
  - non-fulfillment of contractual obligations by UA (lower offtakes) = inter alia, negative upstream investment consequences for Russia
- **Transit risks** (within UA territory, post-2006/2009) – both materialized & perceived risks,
  - **Materialized:** not sanctioned off-take of 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 & adaptation to EU internal market rules:
    - 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
    - Totally new proposed transit structure (UA-EU-US consortium), 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 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

# Thank you for your attention!

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