

# **Economic rationale for development of new gas infrastructure for Russian gas supplies to the EU (to find new Russia-EU-Ukraine-Turkey equilibrium)**

**Prof. Dr. Andrey A. Konoplyanik,**

Adviser to Director General, Gazprom export LLC,

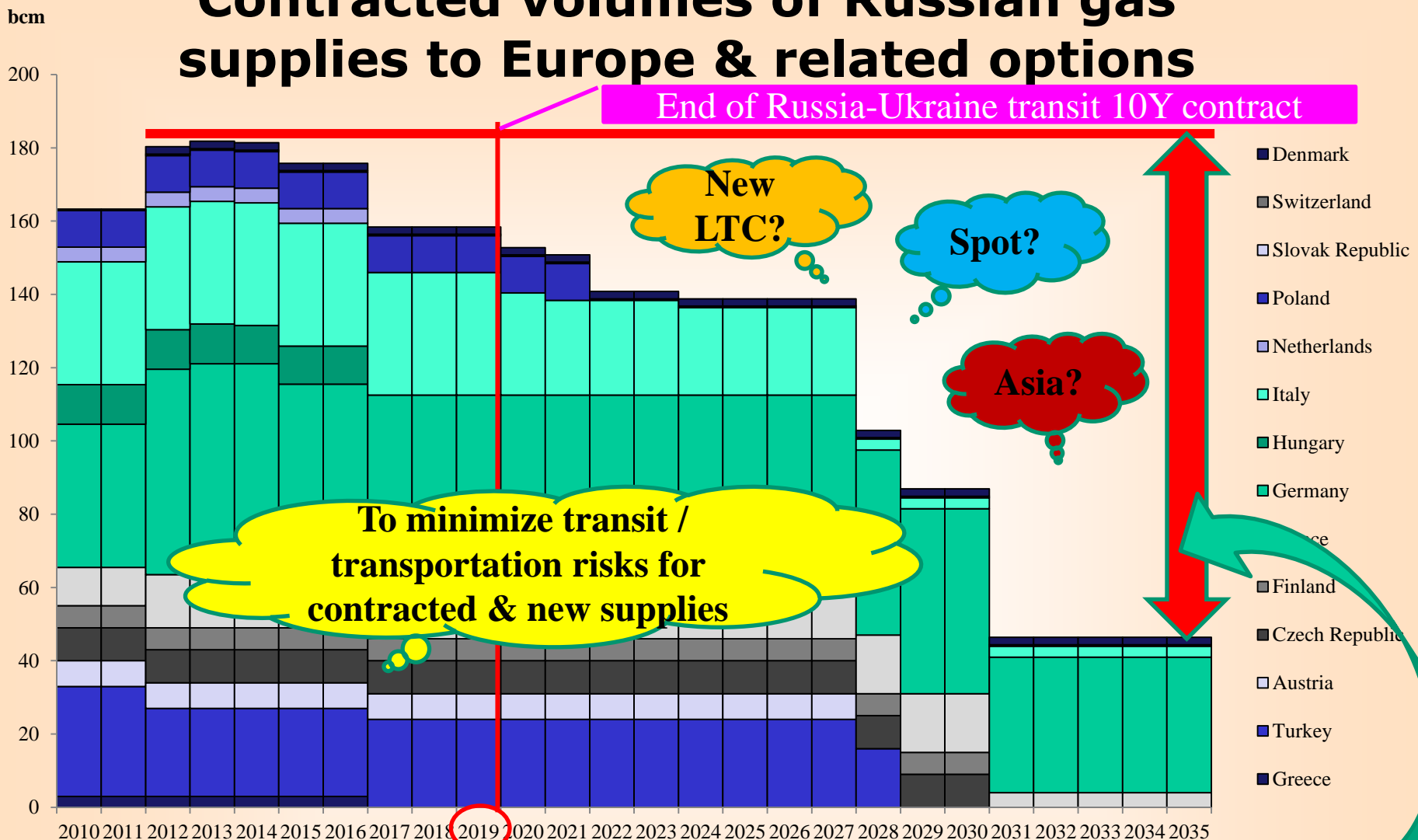
Professor at the Chair “International Oil & Gas Business”,

Russian State Gubkin Oil & Gas University,

Co-Chair Work Stream 2 “Internal Markets” Russia-EU Gas Advisory Council

Presentation at “Gazprom export day” in Saint-Petersburg State Economic University (SPbSEU/FINEC), Saint-Petersburg, 05 April 2016

# Contracted volumes of Russian gas supplies to Europe & related options



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

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

# Table of content:

- 1) How to minimize new risks for existing contractual obligations of Russian gas supplies to Europe?
  - a) Ukrainian risks
  - b) Turkish risks
- 2) How Russia – EU cooperation can help

# How to minimize new risks for existing contractual obligations of Russian gas supplies to Europe? (**Ukrainian** risks)

# Ukraine: transit risks & costs going up

- **Transit risks:**

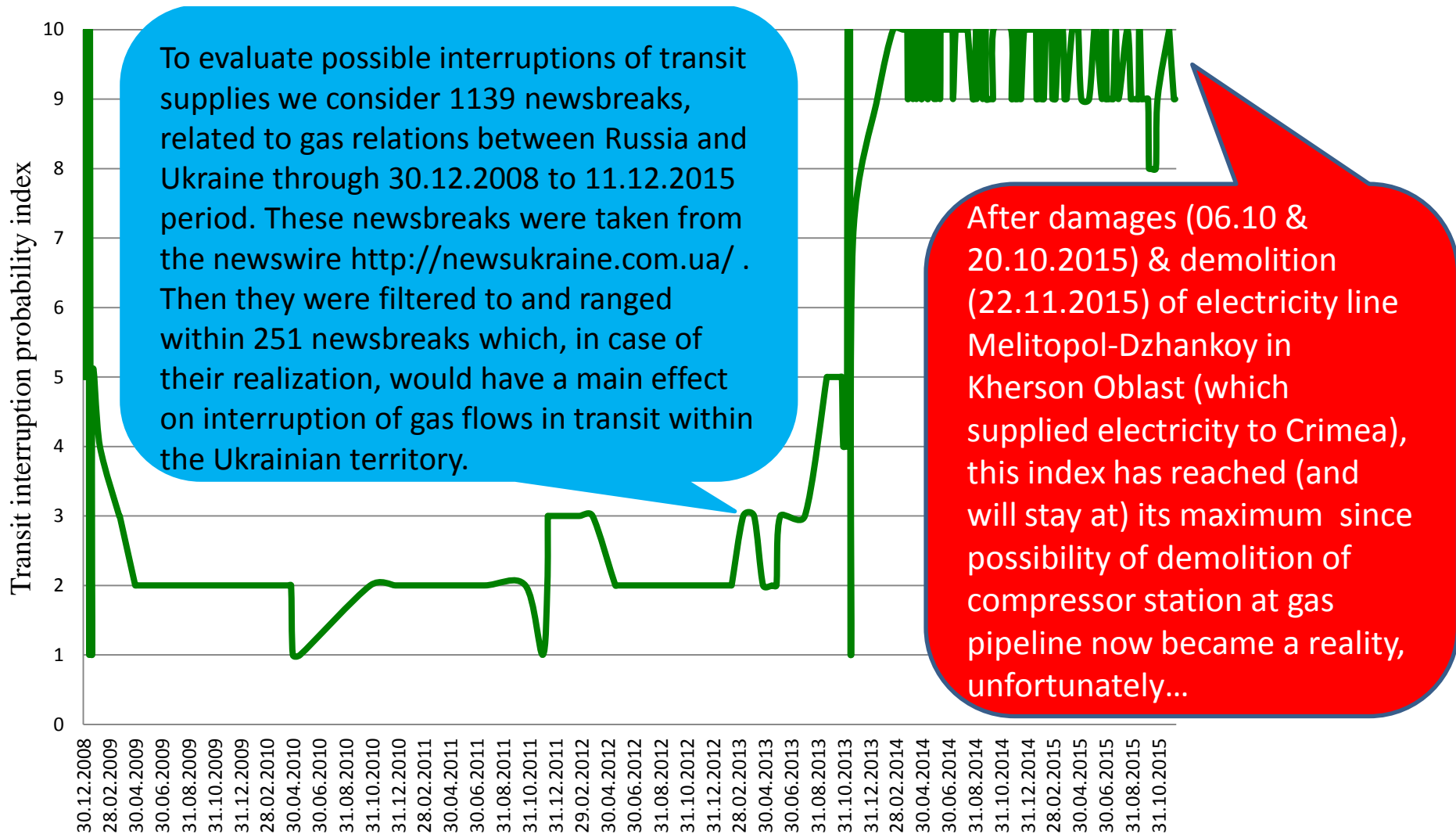
- “transit interruption probability” index at maximum,
- nevertheless EU insists on continuation of transit, why?
  - EU would not like to finance from EU public finance politically-friendly to EU post-Feb’2014 UA Gov’t with UA economy in crisis/close to default
  - EU would like that instead Russia will continue to finance current politically unfriendly to Russia UA regime with gas transit revenues

- **Transit costs:**

- From “distance tariff” to “entry-exit tariff” => immediate increase by 25-35% of acting transit tariffs for Gazprom, but:
  - “Pacta sunt servanda” = current transit tariffs governed by 2009-2019 Gazprom-Naftogas transit contract (UA TSO = Ukrtransgas)
  - What means “European methodology”? If Entry-Exit tariffs, then:
    - How CAPEX in modernization & development of UA GTS were calculated (ingredients of tariff to cover the costs/pay back investment)?
    - Whether cumulative debt of NAK “Naftogas of Ukraine” (from non-transit activities) is (not) included in “investment” component of tariff?

- **Why Gazprom shall continue with UA transit after 2019 if it is more-and-more risky & costly?**

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



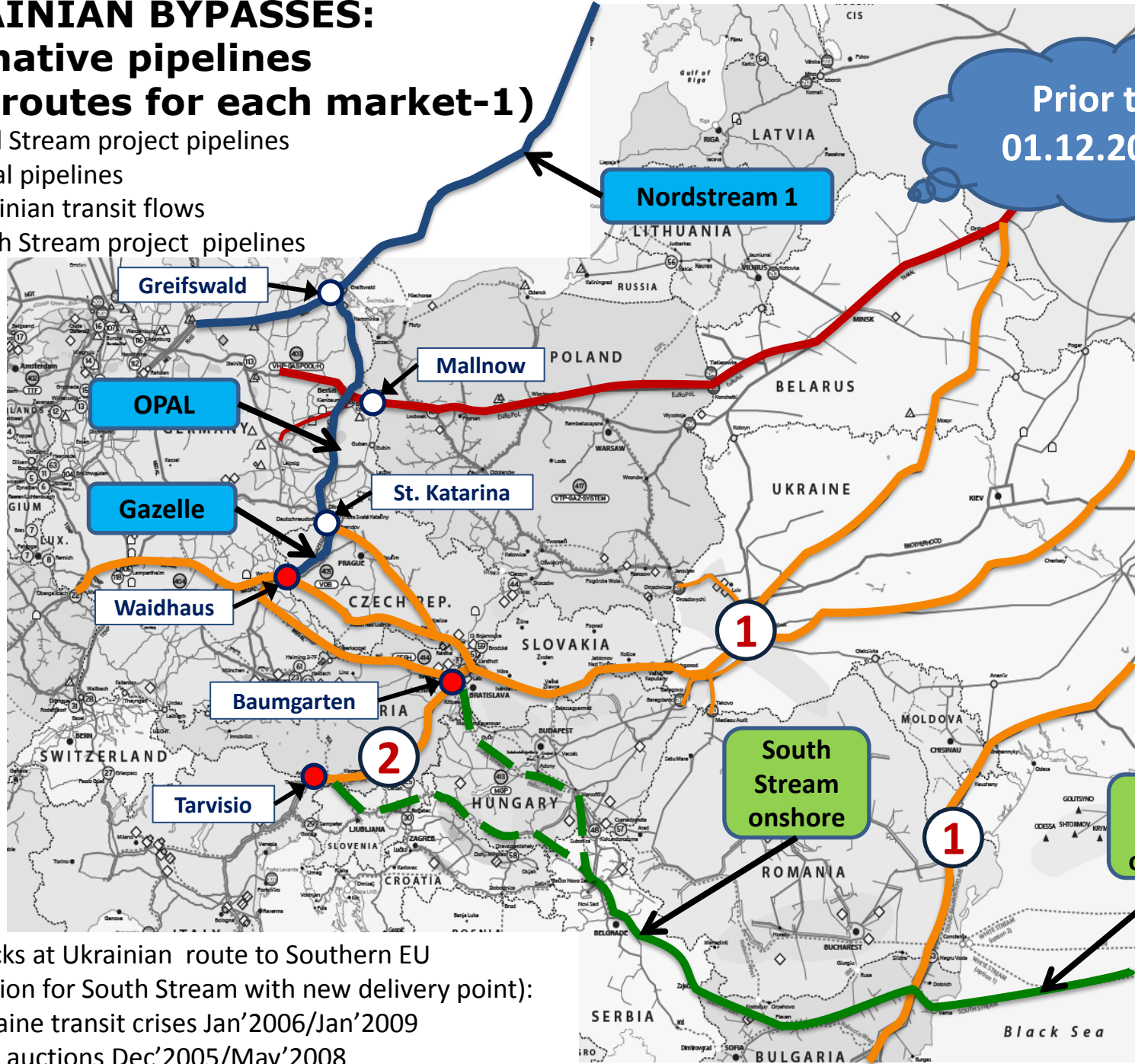
Calculated by M.Larionova, Russian Gubkin State Oil & Gas University, Chair "International Oil & Gas Business", Master's programme 2013-2015, on methodology, jointly developed with A.Konoplyanik, based on principles of credit ratings evaluation by major international credit agencies

# Legal & economic motivation for alternative (risk-avoidance) pipelines

- Legal motivation: Sovereign right for producer / exporter to evaluate supply / transit risk since:
  - it is his responsibility to timely deliver contractual gas volumes to delivery point/customer
  - “Sovereignty” means that development of natural resources *“must be exercised in the interest of their national development and of the well-being of the people of the State concerned”* (Res.1803 UN GA of 14.12.1962)
- Economic motivation: EU unbundling (since 2nd EU Energy Package 2003) predetermines free choice for supplier to choose least risky transportation route, if he considers it to be necessary, to fulfill its supply obligation, incl. after expiration of existing transit/transportation contract
- Resulting change of export strategy: **from “one market – one pipe” to “one market – two pipes” concept**

# UKRAINIAN BYPASSES: alternative pipelines (two routes for each market-1)

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



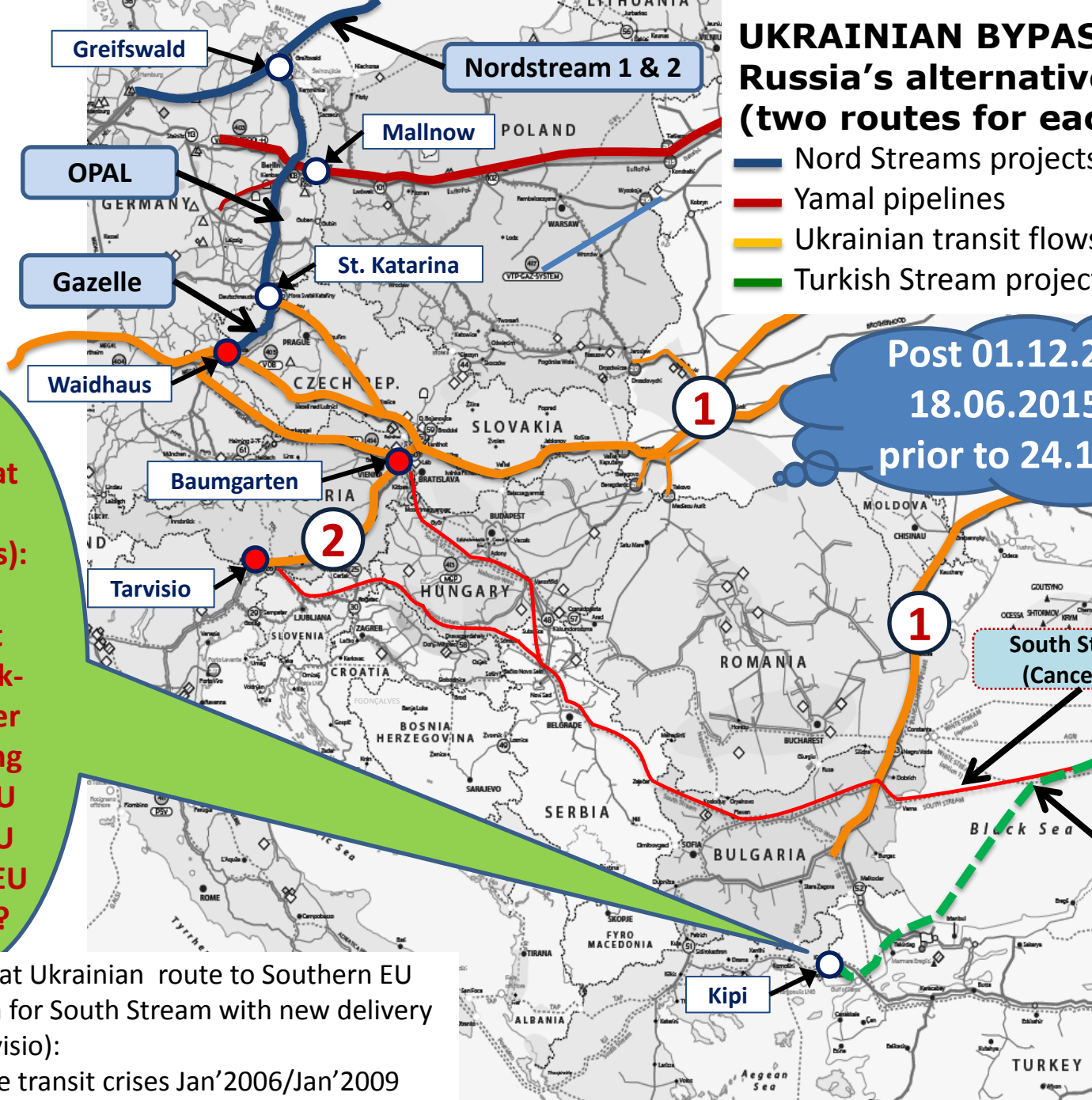
Bottlenecks at Ukrainian route to Southern EU  
(justification for South Stream with new delivery point):

- 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-2)

- Nord Streams projects pipelines
- Yamal pipelines
- Ukrainian transit flows
- Turkish Stream project (to EU border)



First 47BCM at 2019 (then less): How to move it from Turk-EU border to existing DPs in EU acc.to EU rules by EU entities?

Post 01.12.2014 & 18.06.2015, but prior to 24.11.2015

South Stream (Cancelled)

Turkish Stream

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

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

# “Russian gas supply ring” for Europe?

- “Russian gas supply ring” concept for Europe:
  - Based on rerouting of existing supply contracts via Northern & Southern wings
  - a mutual RUS & EU safeguard from new transit monopolies +
  - new revenues for UA through new use of UA UGS (a way for UA to raise gas-related revenues without transit of RUS gas) =>
  - addresses issue of major concern for EU (how to finance UA economy without/with minimum involvement of EU money) +
  - solve the issue of utilization of Slovak GTS (M.Sefcovic issue)
- Redirection of existing Gazprom’s supply (sales) contracts to new routes within EU = 100% financeable way for development of new transportation capacities in full compliance with Third EU Energy Package provisions:
  - Art.13.2 Third Gas Directive => CAM NC INC Art.20(d)
  - New capacity booking by Gazprom backed by existing rerouted supply contracts post-2019 (result of unbundling capacity & commodity markets) + TEP CMP rules (“ship-or-pay, UIOLI)

# Russian gas supply ring for Europe? (proposal for discussion/consideration/evaluation)



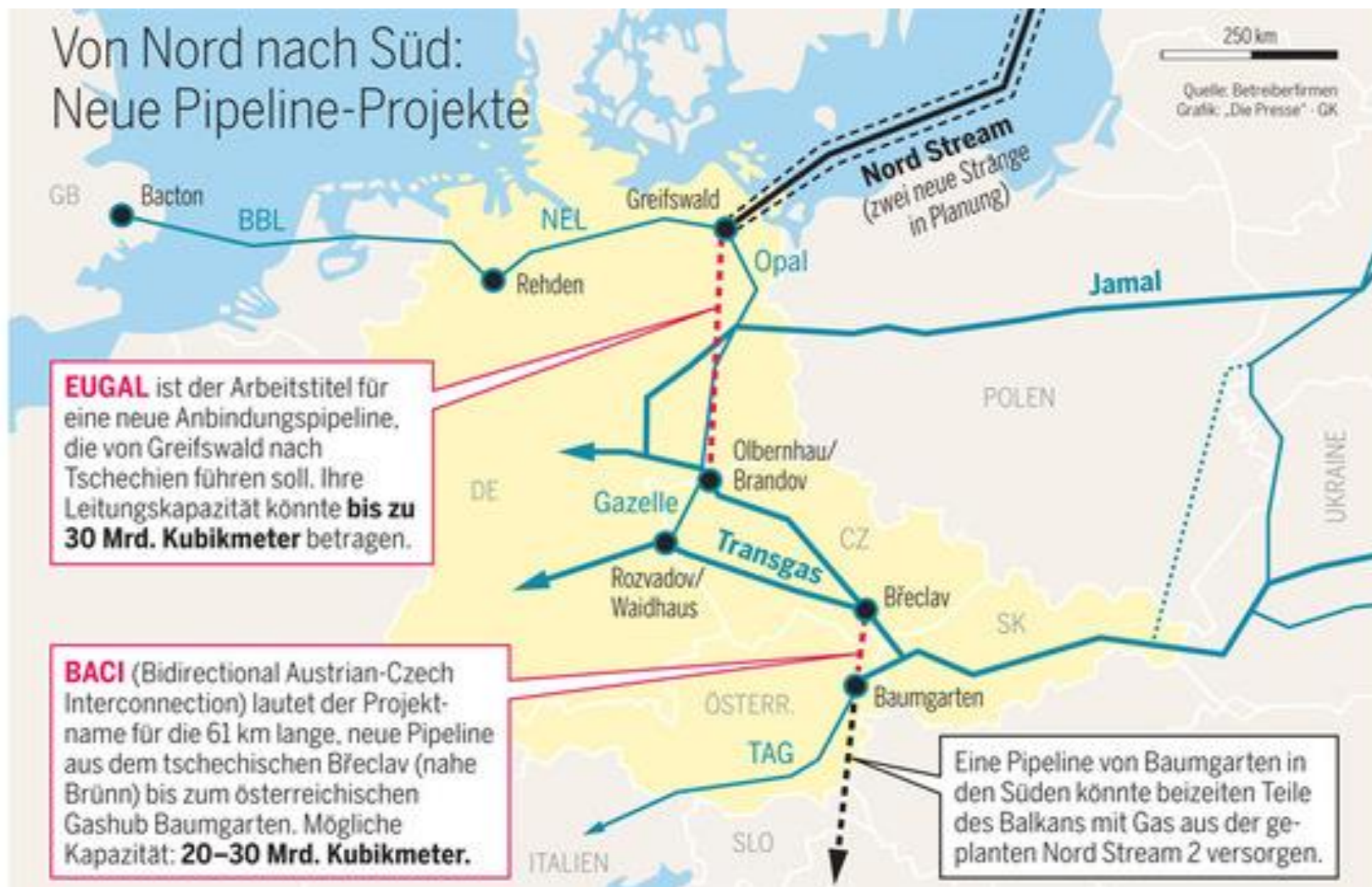
Nordstreams 1 & 2

First South Stream, then Turkish Stream, then ...

Hub in Baumgarten

UGS in Western Ukraine

# Nordstream-2 system within Russian gas ring: view from Austria



Source: [http://diepresse.com/home/wirtschaft/international/4956692/Gas\\_Neue-Rohren-fur-sieben-Mrd-Euro?\\_vl\\_backlink=/home/index.do](http://diepresse.com/home/wirtschaft/international/4956692/Gas_Neue-Rohren-fur-sieben-Mrd-Euro?_vl_backlink=/home/index.do)

**What to do  
after  
24.11.2015?**

# How to minimize new risks for existing contractual obligations of Russian gas supplies to Europe? (**Turkish** risks)

# TurkStream: what's new at Gazprom site (as of 27.02.2016)



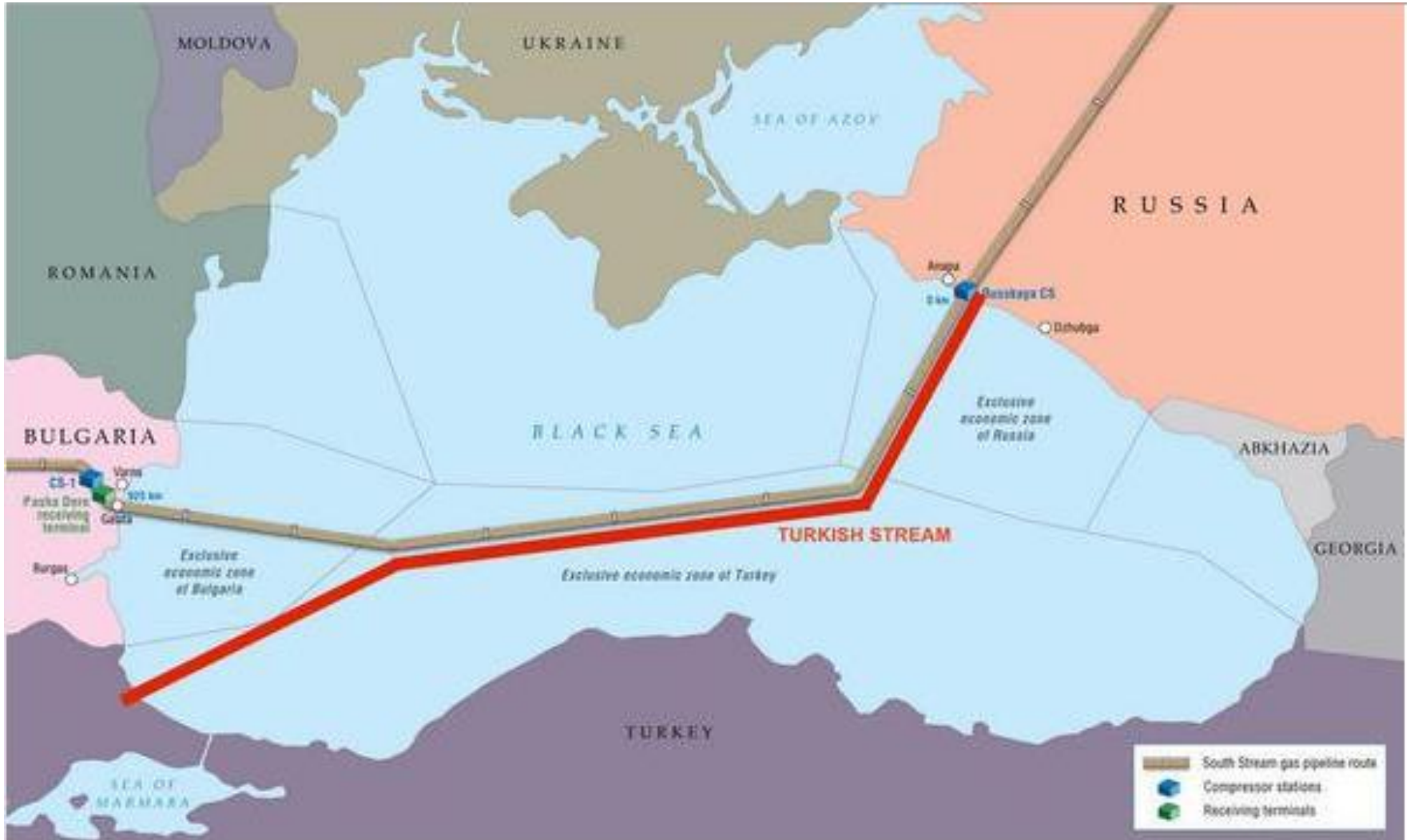
**Route:** 660 km of the offshore pipeline route will be laid within the old corridor of South Stream and 250 km – within a new corridor towards the European part of Turkey. The onshore gas pipeline section will stretch for 180 km from the Black Sea coast of Turkey to the border between Turkey and Greece.

**Capacity:** The annual gas pipeline capacity will total **63 BCM**. The offshore gas pipeline will consist of **four strings** with the capacity of **15.75 BCM each**. Gas from the first string is intended exclusively for the Turkish market.

**Project history:** On **December 1, 2014** Gazprom and Turkish company Botas Petroleum Pipeline Corporation signed the Memorandum of Understanding on constructing the TurkStream gas pipeline. In **February 2015** the key reference points of the route and technical solutions for the gas pipeline in Turkey were approved. **On May 8, 2015 Gazprom moved on to the construction stage of the TurkStream offshore gas pipeline.** Gazprom will be solely responsible for the construction of the offshore section. Turkish gas transportation facilities will be built jointly. **The first string is forecast to be constructed by December 2016.**

Source: <http://www.gazprom.com/about/production/projects/pipelines/turk-stream/> 15

# TurkStream: why such complicated route? To bypass (former) Ukrainian EEZ...



Source: <http://middleeastnewsservice.com/tag/turkish-stream/>

A.Konoplyanik, GPE day in FINEC, SPB,

05.04.2016



# Black Sea delimitation prior to and after reunification of Crimea with Russia



600 foot depth contour



The new reality:  
Turkish &  
Ukrainian EEZs  
do *not* interlock  
anymore

Map source:  
[http://img1.liveinternet.ru/images/attach/c/0/113/415/113415843\\_large\\_16012\\_102020\\_54593033675\\_5644072863940384821\\_n.jpg](http://img1.liveinternet.ru/images/attach/c/0/113/415/113415843_large_16012_102020_54593033675_5644072863940384821_n.jpg)

Source: Lamont-Doherty Earth Observatory of Columbia University

# Black Sea delimitation prior to and after reunification of Crimea with Russia: consequences for risk-avoidance offshore pipelines

- South Stream (via Turkish EEZ)
- ..... Turkish Stream
- Possible “New” Stream (?) (via new / expanded Russian EEZ)

Reunification of Crimea with RF opens opportunity (& 24.11.2015 incident & event afterwards votes for its use) to avoid Turkish transit => My proposal: offshore pipeline route to Bulgaria/Varna directly via new (expanded) RF EEZ in Black Sea, now by-passing both Ukrainian & Turkish EEZs, with all its positives: shorter line via shallower waters => benefits to both RF & EU

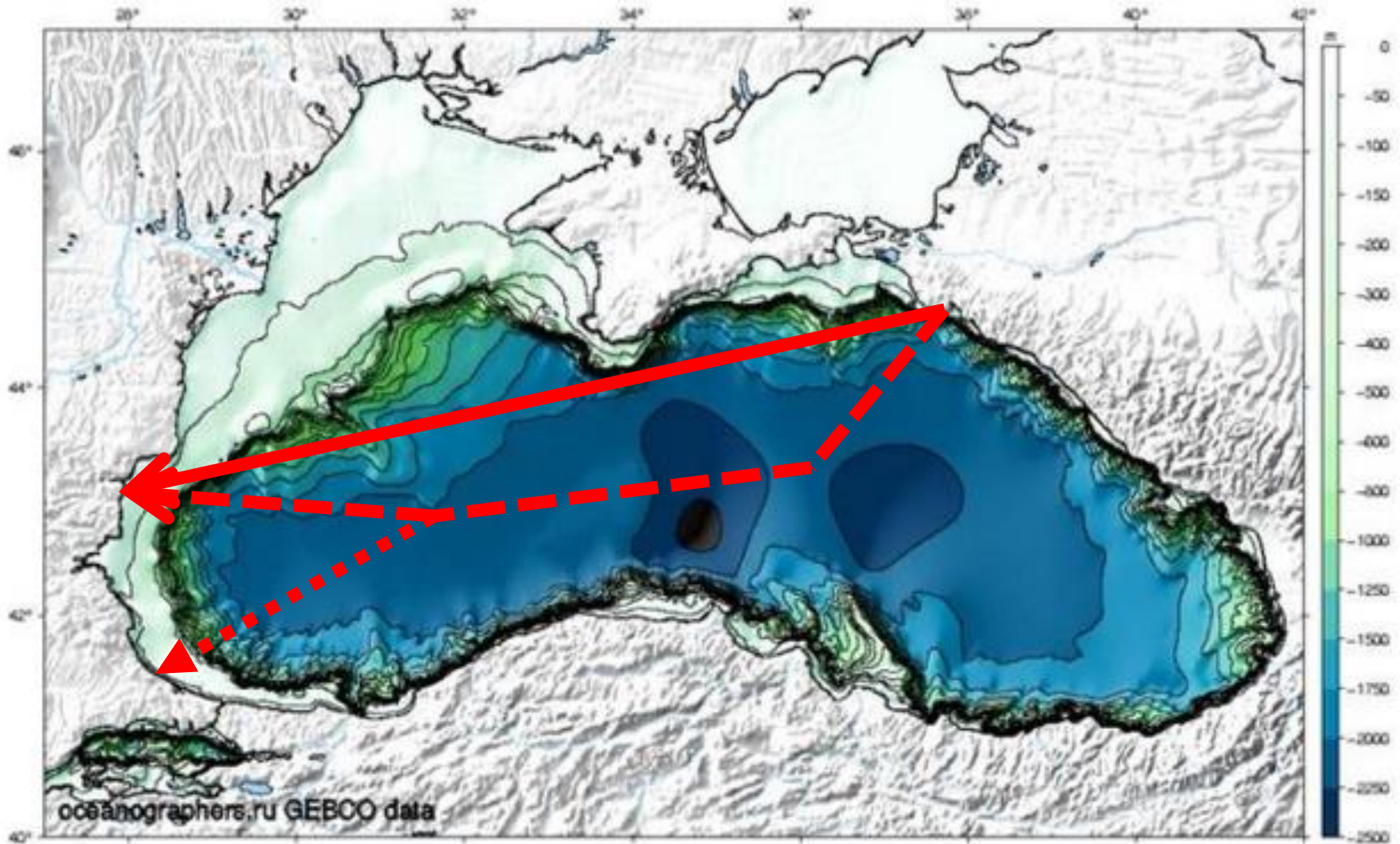
Map source:

[http://img1.liveinternet.ru/images/attach/c/0/113/415/113415843\\_large\\_16012\\_102020\\_54593033675\\_5644072863940384821\\_n.jpg](http://img1.liveinternet.ru/images/attach/c/0/113/415/113415843_large_16012_102020_54593033675_5644072863940384821_n.jpg)




A.Konoplyanik, GPE day in FINEC, SPB, 05.04.2016



# Black Sea: map of water depths & offshore routes



Map source:  
<http://www.perekop.info/black-sea-history/>

-  South Stream (via Turkish EEZ)
-  Turkish Stream
-  Possible "New" Stream (?) (via new/expanded Russian EEZ)

# What after 24.02.2016?

# 24.02.2016 Gazprom, DEPA and Edison signed Memorandum of Understanding

- Memorandum of Understanding on natural gas deliveries **across the Black Sea from Russia via third countries** to Greece and from Greece to Italy in order to establish **a southern route** to deliver Russian natural gas to Europe.
- In working towards that goal, the parties are committed to take advantage of the work done by Edison and DEPA within the **ITGI Poseidon project** to the fullest extent possible.
- The potential development of a new supply route is planned to be implemented **in full compliance with EU laws**.
- **Note:** *ITGI (Interconnector Turkey – Greece – Italy) is a natural gas pipeline project proposed in the framework of the Southern Gas Corridor from Turkey to Italy via Greece. Poseidon is a construction project for the ITGI offshore section across the Ionian Sea to connect gas transmission systems of Greece and Italy. Edison and DEPA are equal partners to IGI Poseidon S.A.*

Source: <http://www.gazprom.com/press/news/2016/february/article267671/>

# What is ITGI Poseidon project

- **ITGI:** part of “Southern Gas Corridor” => 15 BCMY from Caspian, East Med &/or Middle East to Italy & Europe through Turkey & Greece.
- **Turkish grid:** will be upgraded to enable transit of gas for Italy & Greece
- **ITG:** in operation since Nov’2007, transport capacity 11.5 BCMY
- **IGI:** transport capacity 12 BCMY. IGI will be 800 km long & includes:
  - **IGI Onshore:** 600 km onshore pipeline in Greek territory (to be developed by Desfa, Greek Transmission System Operator);
  - **IGI Poseidon:** 200 km offshore pipeline across the Ionian Sea (under development by IGI Poseidon SA, a joint venture between Edison and Greek company Depa).
- **IGB:** The pipeline (appr. 180 km long) is designed to transport 3 to 5 BCMY, will connect Komotini in Greece to Stara Zagora in Bulgaria. The project is subject of EU financial support through the European Energy Program for Recovery (EEPR) to the amount 45 million EUR pursuant to Commission Decision C(2010) 5813, as amended by Decision C(2012) 6405.
- **ITGI** is a **Project of Common Interest** as it was included among the Southern Gas Corridor Projects in the European Economy Recovery Plan with a 100 mln Euros financing. Italy-Greece section of the ITGI pipeline was granted 25 years TPA Exemption (Art. 22 of Directive 55/2003)
- Among “Key benefits of the ITGI project” indicated that “Since the project is not sponsored by main gas producers, different sources of supplies could be transported.” => **AK: Gazprom (RUS gas) as one of such “sources”**

Source: <http://www.edison.it/en/itgi-pipeline>; <http://www.edison.it/en/igb-pipeline>

# ITGI Pipeline at website of Edison

30 July 2015

## ITGI pipeline

Initially ITGI was aimed at Azeri, Iranian, etc. (not Russian) gas supplies, but lost competition to TAP => now it can be revitalized as part of Russian risk-avoidance pipelines system (Russian gas ring) after transit contract with UA is over



- IGI Poseidon
  - IGI Onshore
  - IGB (under development)
  - ITG (in operation)
- IGI (under development)

- Turkish Grid (in operation) and/or TANAP (under development)
- Existing interconnections
- Under evaluation

Source: <http://www.edison.it/en/itgi-pipeline> (as of 27.02.2016)

# ITGI Pipeline at website of Edison - & what can go further

30 July 2015

## ITGI pipeline

### go further

← My proposal of new offshore route directly to Varna by-passing (between) Ukrainian & Turkey EEZs in Black sea



- IGI Poseidon
  - IGI Onshore
  - IGB (under development)
  - ITG (in operation)
  - Turkish Grid (in operation) and/or TANAP (under development)
  - Existing interconnections
  - Under evaluation
- IGI (under development)

Source of original map: <http://www.edison.it/en/itgi-pipeline> (as of 27.02.2016)



# **How Russia – EU cooperation can help**

# Russia-EU GAC: expert discussions continues

- Whatever will happen *offshore* EU, new regulatory EU rules for development new transportation capacity *onshore* EU (CAM NC INC + NC Tariffs) are to be tested, preferably before Comitology procedure will come to its end & will fix these rules “in stone”:
  - At WS2 GAC meeting 22.01.2016 EU side has agreed with (proposed by RUS side within WS2 GAC) “Reality check” for new EU regulatory rules for new onshore infrastructure development based on “as if” approach & realistic (not need to be real) case with primary attention to CAM NC INC Art.20(d) procedure (creation of new cross-border capacity),
  - ENTSOG INC team & Prime Movers (incl. Gazprom Group team) & EU TSOs established Ad Hoc group on “Reality Check” => meetings are under way (TELCO/WEBEX & Face-To-Face)
  - Case-study “Realistic project”: 10+BCM through GE-NE-BE-FRA
  - First results of Ad Hoc Group on “Reality Check” to be presented at next WS2 GAC meeting 22.04.2016
  - This might enable improvement of EU internal procedures on development of new transportation capacity in the Comitology process

# Thank you for your attention!

[www.konoplyanik.ru](http://www.konoplyanik.ru)  
[andrey@konoplyanik.ru](mailto:andrey@konoplyanik.ru)  
[a.konoplyanik@gazpromexport.com](mailto:a.konoplyanik@gazpromexport.com)

**Disclaimer:** Views expressed in this presentation do not necessarily reflect (may/should reflect) and/or coincide (may/should be consistent) with official position of Gazprom Group (incl. Gazprom JSC and/or Gazprom export LLC), its stockholders and/or its/their affiliated persons, or any Russian official authority, and **are within full personal responsibility of the author of this presentation.**