

# Some key issues of global LNG agenda and prospective development of the Black Sea-Danube-Northern Mediterranean market for small-scale LNG

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

**Adviser to Director General, Gazprom export LLC;**

**Co-chair of Work Stream 2 “Internal Markets”, Russia-EU Gas Advisory Council**

**International Forum "LNG IN THE EURO-MEDITERRANEAN CORRIDOR and the role of logistic system of Genoa and Liguria“, 19-20 November 2020, GENOVA, Live streaming from Palazzo Doria Spinola Sala del Consiglio Metropolitan**

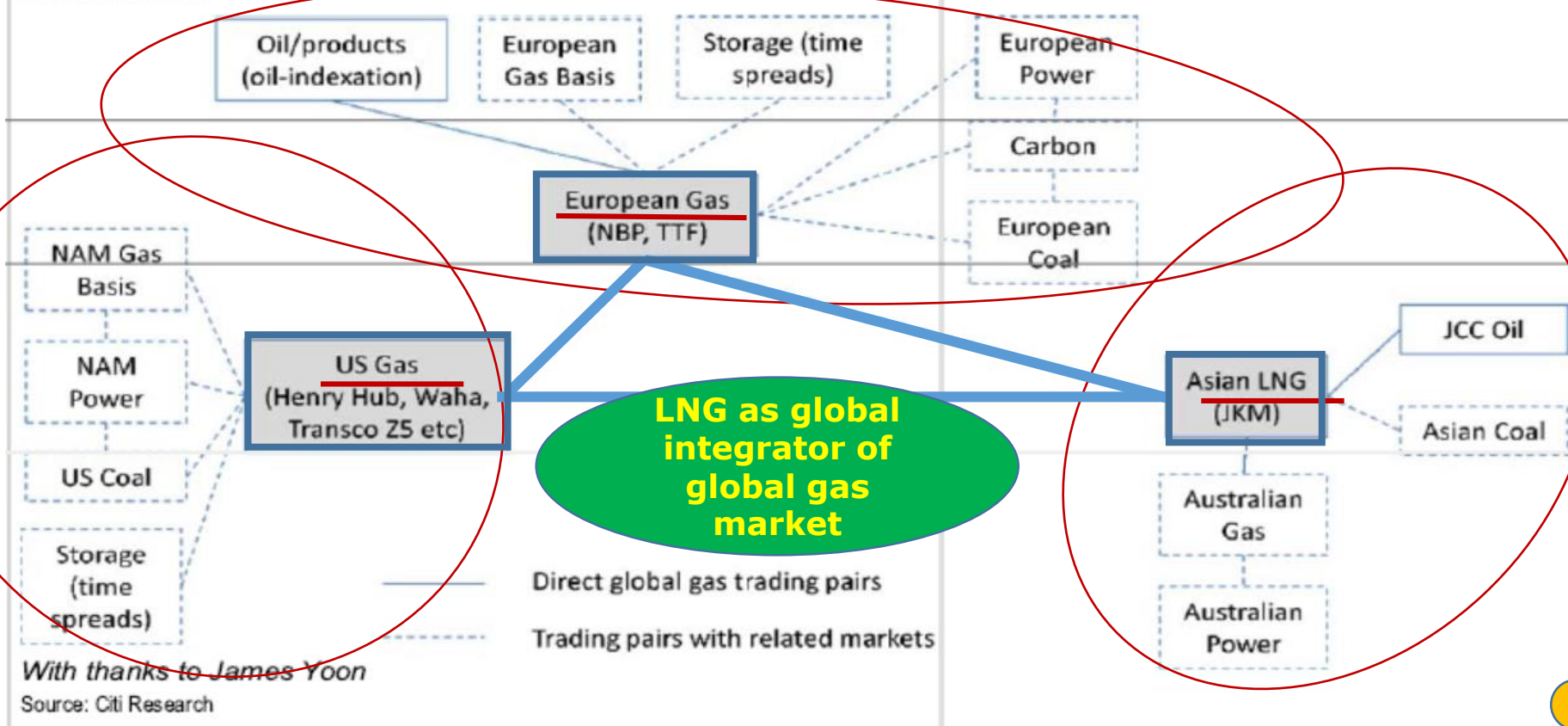
**Disclaimer:** Views expressed in this presentation do not necessarily reflect (may/should reflect) and/or coincide (may/should be consistent) with official position of Gazprom Group (incl. Gazprom JSC and/or Gazprom export LLC), its stockholders and/or its/their affiliated persons, or any Russian official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

## Table of content

- **Some key issues of global LNG agenda**
- **East Med: why pipeline & not FLNG development ?**
- **Prospective development of Black Sea-Danube (& Northern Mediterranean) small-scale LNG market**

# Expanding opportunities for arbitrage operations within global gas market in formation – and between energy markets

Figure 3. Various arbitrage opportunities within global gas and across energy commodities as the global gas market is becoming much more interlinked



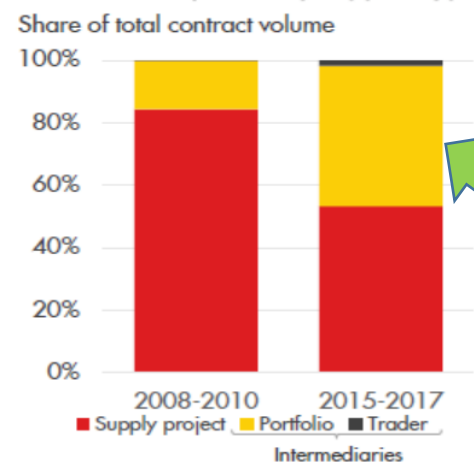
Source of diagramme: Ed Morse.  
 Global Gas: War and Peace - Russia's stance on a Gas-OPEC & market share war to dictate global gas' future, other energy. // Citi, 18.11.2019  
 (\*) Managing Director, The Gas Value Chain Company GmbH, Germany (former RWE)

**“From price differences – to price differentials (spreads)”**  
 Dr. Wolfgang Peters (\*)

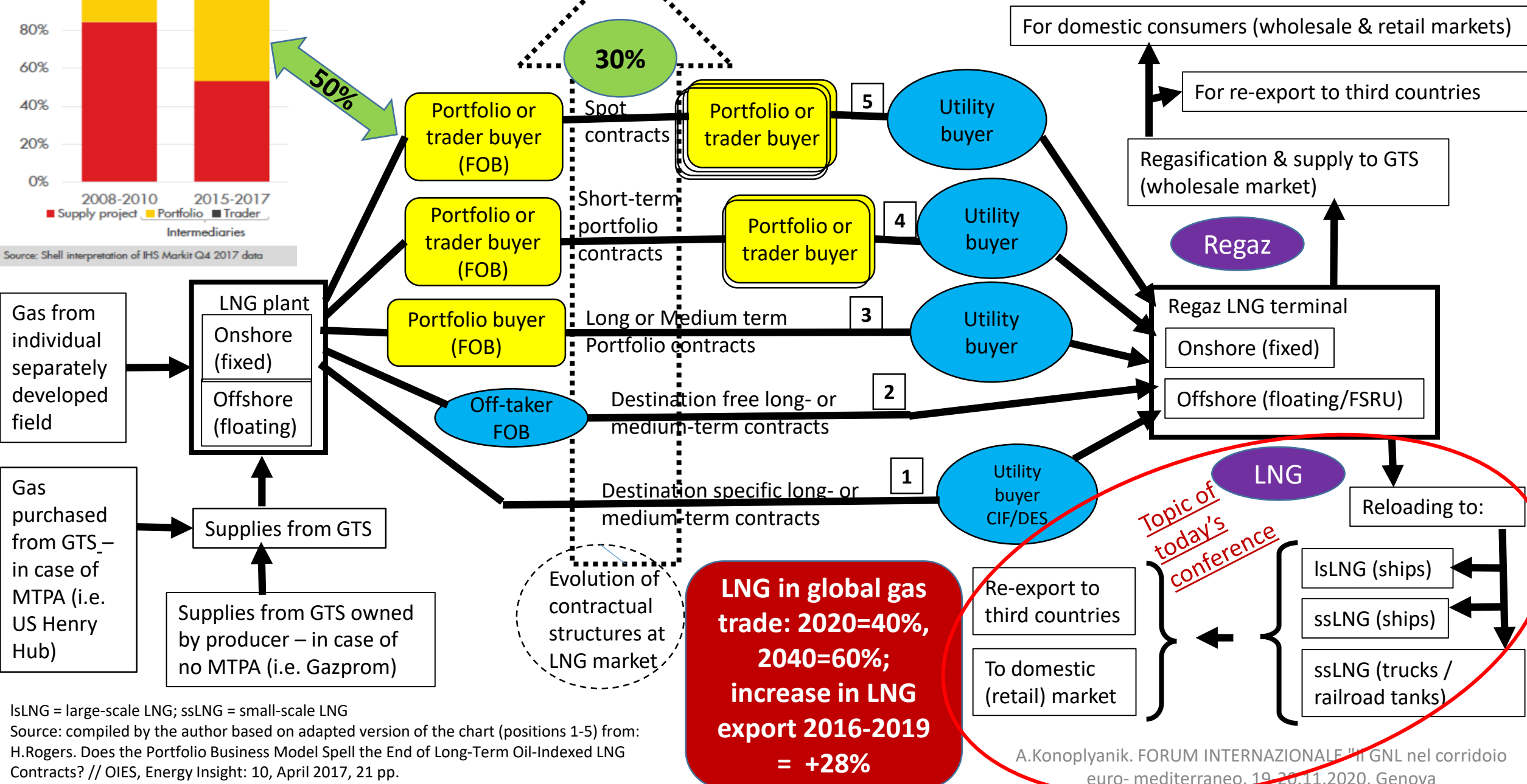
In the past “gas regions” (mostly of pipeline gas) were isolated from each other. Gas prices in one region did not influence gas prices in another one. Today these price differences are qualified as “spreads”. This is a trade term, not statistical term. Price differences can be qualified as price differentials (“spreads”) if one can earn on buying-and-selling at different markets (arbitrage operations). This is possible within free flow of goods based on availability of diversified infrastructure. This is what happened at global LNG market when US LNG has entered it in 2016 with new contractual model: FOB-based pricing & open supply destinations for off-takers - different from traditional CIF/DES pricing model. This paved the way to portfolio LNG trade.

# Global LNG market: evolution of contractual structures => increased flexibility, diminishing contractual duration

Term sales to importers by supplier type

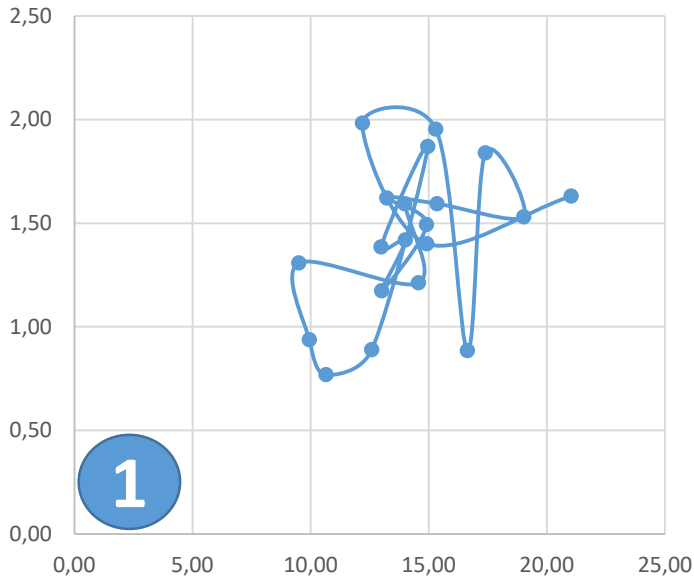


Source: Shell interpretation of IHS Markit Q4 2017 data



IsLNG = large-scale LNG; ssLNG = small-scale LNG  
 Source: compiled by the author based on adapted version of the chart (positions 1-5) from: H.Rogers. Does the Portfolio Business Model Spell the End of Long-Term Oil-Indexed LNG Contracts? // OIES, Energy Insight: 10, April 2017, 21 pp.

# General diminishment trend in duration and unit volume of new LNG contracts – “pendulum effect” reaction to market changes

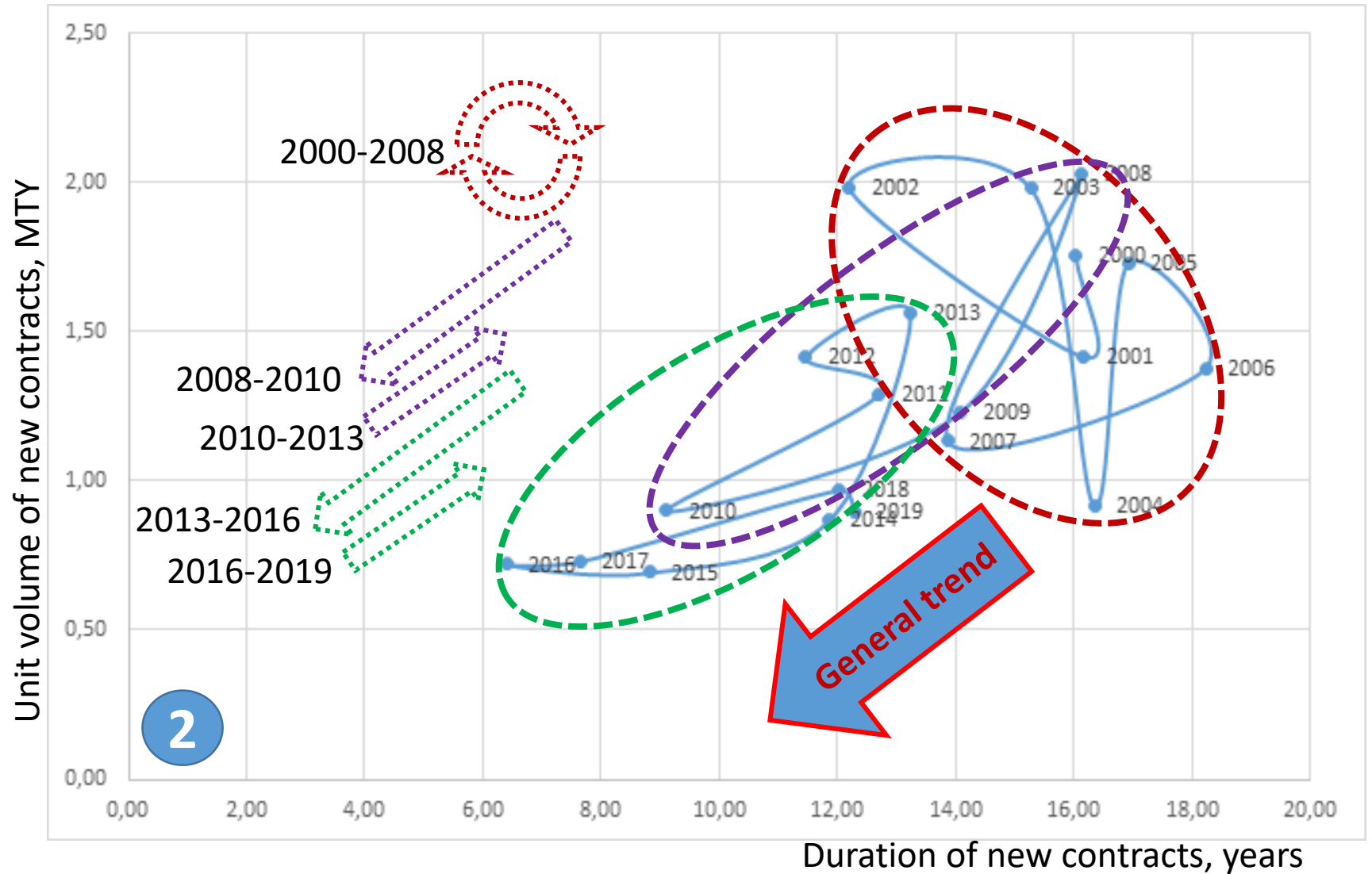


1

## Legend:

- (1) All contracts
- (2) All contracts less cancelled and non-binding, also excluding mega-projects since they are investment-based (long-term to pay-back investment/debt capital) and thus have different commercial logic compared to trade-based contracts (PSA)

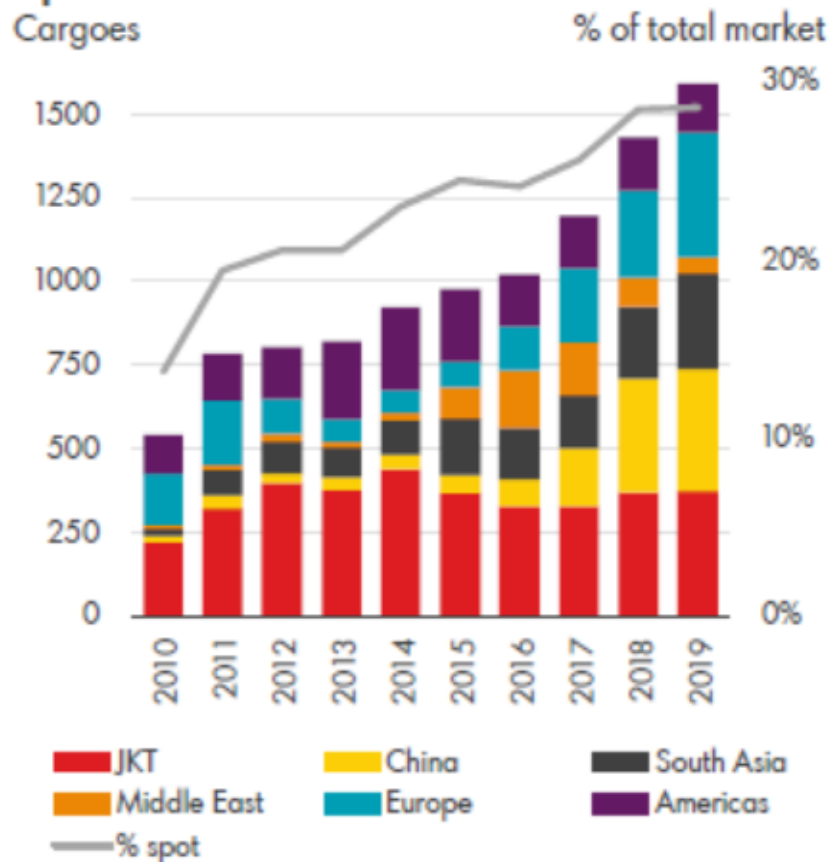
Calculated by Andrej Haug (Gazprom export/post-graduate Gubkin University) based on IHS Markit database; based on 948 contracts through 2008-2019



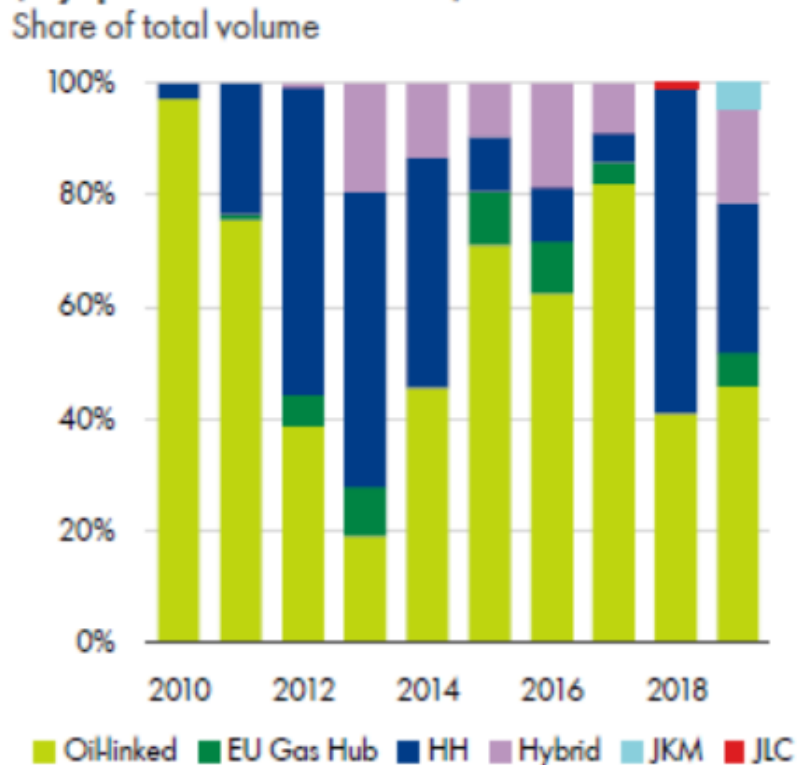
2

# World LNG market today is at commoditization development stage – same as oil market was in the 1980-ies

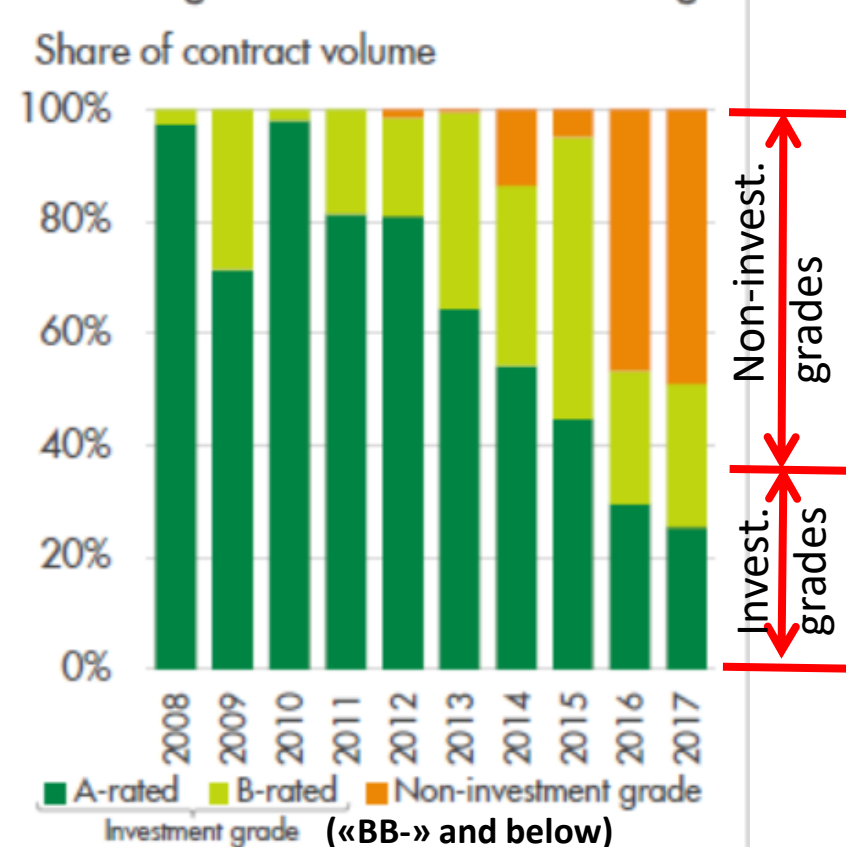
## Spot LNG deliveries



## Share of new LNG contract volumes (by price indexation)



## New long-term contract credit rating



A.Konoplyanik. FORUM INTERNAZIONALE "Il GNl nel corridoio euro- mediterraneo. 19-20.11.2020, Genova

Source: Shell interpretation of IHS Markit, S&P Global Platts and ICE 2019

Diminishment of unit volumes & durations of contracts eases entry to LNG market of new participants (consumer states & their companies) with worsening credit ratings. This increases risks & financial costs (of raising debt capital => LIBOR+) of LNG market development. Demand for hedging instruments: expansion of FSRU/FLNG, accelerated transition to financialization of LNG market development (paper LNG market based on standard contract), and increasing role of (reverse to) LTC.

## Table of content

- **Some key issues of global LNG agenda**
- **East Med: why pipeline & not FLNG development ?**
- **Prospective development of Black Sea-Danube (& Northern Mediterranean) small-scale LNG market**

# East Med gas development: why pipeline, not FLNG (incl. ssLNG)?

## • Why pipeline to continental EU from East Med?

- Pipeline gas = delivery to (creditworthy though over-supplied) EU wholesale market
- Economy of scale to prove CAPEX => large-scale pipeline capacity (10 BCM, USD 7bln, EU PCI project)
- NWE (not SEE) as major end-use gas market in EU => East Med pipeline gas mostly to “transit” SEE (low density of demand in mostly rural SEE) => long distance pipeline (1900 km to Greece only, up to 3 km water depth)
- Project sponsors are Greek-Italian gas utilities (JV) => long-term shippers contracts needed (public EU money not enough) => shippers upfront booking needed to guarantee pay-back (if not, remember NABUCCO, White Stream, etc...)
- To guarantee investment pay-back (debt financing) => LTC TOP (w price-indexation?) => large end-users/shippers needed

## • Why not FLNG (incl. ssLNG) for the whole Med area (EU + non-EU)?

- LNG = delivery both to wholesale (if through regas) and retail (if directly to end-use) markets of all Med counties involved (most of them – East & South Med - less creditworthy than EU, but under-supplied)
- FLNG (at producer end) can be more bankable (financeable) option within current state of the market & ssLNG end-use
- Arbitrage operations within & beyond Med area
- Coastal Med area = big cities => (i) traditional gas consumption centers (markets) + (ii) with ssLNG also as new EU consumption centers (markets) - for onshore & offshore CNG/LNG-fueled transportation
  - Bunkering: coastal & long-distance navigation
  - Onshore transportation: (i) long-distance trans-EU transportation (heavy vehicles); (ii) local trucking service (in/around-cities) – commercial sector, communal transport (both EU/non-EU)

## • Role of East Med Gas Forum

- Launched Jan'2019, 7 states (Cyprus, Egypt, Greece, Israel, **Italy**, Jordan, Palestine)
- 23.09.2020 officially turned into international organization (France wants to join as full member + US & EU as observers)
- To maximize mutual benefits to the parties involved => to monetize most effectively East Med Gas => cooperation to justify CAPEX (whether economy of scale upstream is the only & best option?)
- Shorter-term commercial interests of the project sponsors & financiers vs longer-term economic development interests of the parties (Member States) involved
- Different economics of pipeline gas & ssLNG (FLNG) in the Med area

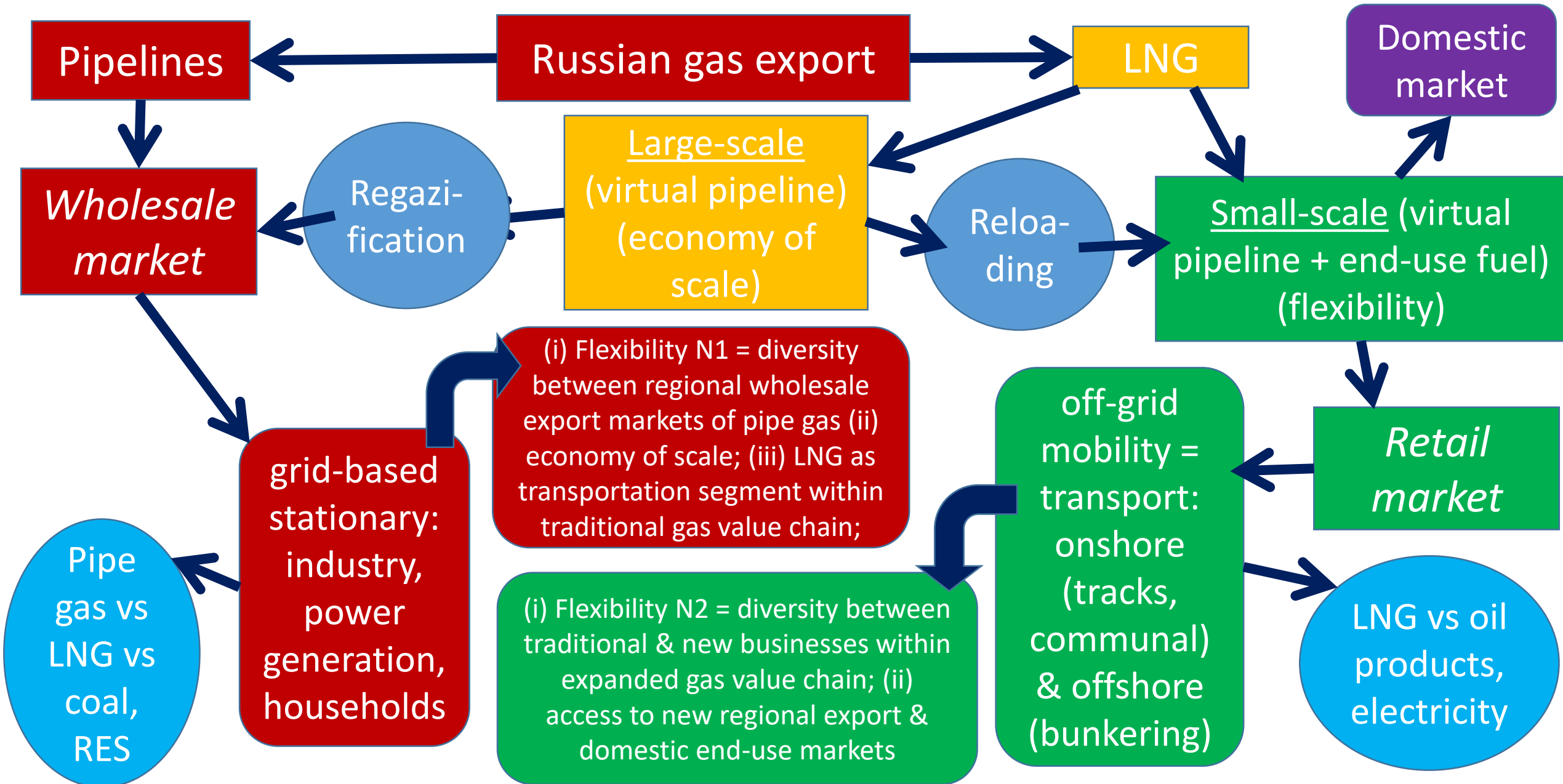
**Our today's host**



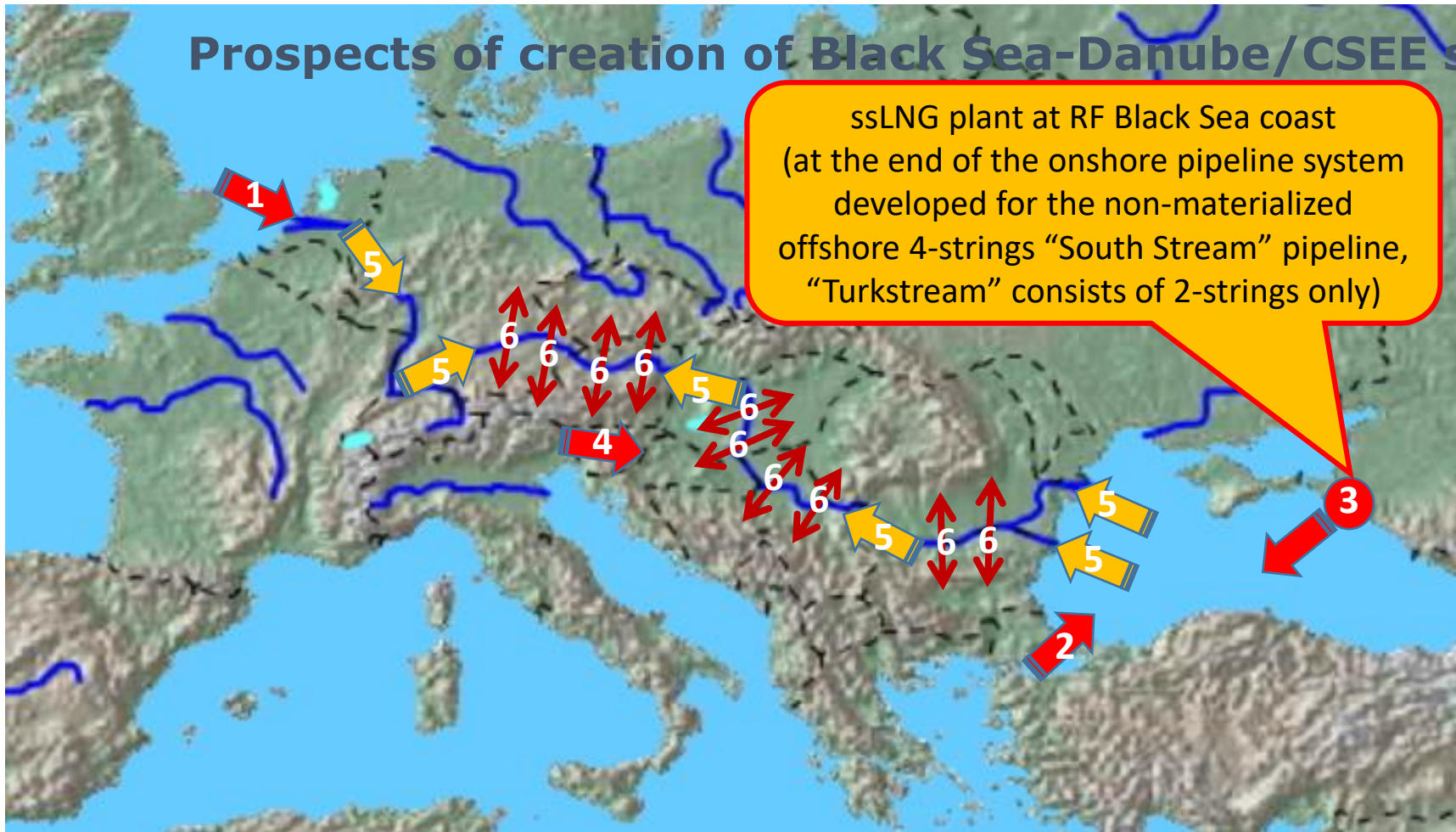
## Table of content

- **Some key issues of global LNG agenda**
- **East Med: why pipeline & not FLNG development ?**
- **Prospective development of Black Sea-Danube (& Northern Mediterranean) small-scale LNG market**

# Russian gas export strategy development & prospective role of LNG



# Prospects of creation of Black Sea-Danube/CSEE ssLNG market



ssLNG plant at RF Black Sea coast  
 (at the end of the onshore pipeline system developed for the non-materialized offshore 4-strings "South Stream" pipeline, "Turkstream" consists of 2-strings only)

## Legend:

- 1-4 = ssLNG supplies to SEE**
  - 1** = from NS area (re-loading) by barges via Rhine-Danube waterway from the North;
  - 2** = through Turkish Straits (limited);
  - 3** = from Black Sea RF ssLNG plant, (i) in changeable cryogenic tanks, by container vessels of sea-river class upstream Danube, &/or (ii) bunkering ships, within (& beyond?) Black sea area;
  - 4** = by trucks via N.Italy (currently from Spain) & prospectively from coastal regaz/FSRU in North Med;
- 5** = supplies within Rhine-Danube waterway by barges/see-river vessels;
- 6** = ssLNG fueling gas stations in Danube cities (i.e. floating, on anchored barges, modular packaging, with changeable cryogenic tanks) => 53 cities on Danube

## Black sea plant

Location	Black sea coast of Russia
Capacity	0.5 – 1.5 mtpa
Status	Prefeasibility study
Delivery countries	Countries of South-Eastern Europe, countries of Danube river region, Turkey.

- potential bunkering areas



Source: A.Konoplyanik, W.Boltz. WS2GAC co-chairs proposal for joint RF-EU research, 29<sup>th</sup> WS2 GAC meeting, Berlin, 21.10.2019;  
 for ssLNG plant: K.Neuymyn (Gazprom). Development of Small and Medium-Scale LNG Infrastructure in Russia. Presentation at 9<sup>th</sup> SPB International Gas Forum, 1-4.10.2019

# 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.**