

# «European gas market under Third Energy Package: contractual structure & pricing mechanisms – a view from outside of the EU»

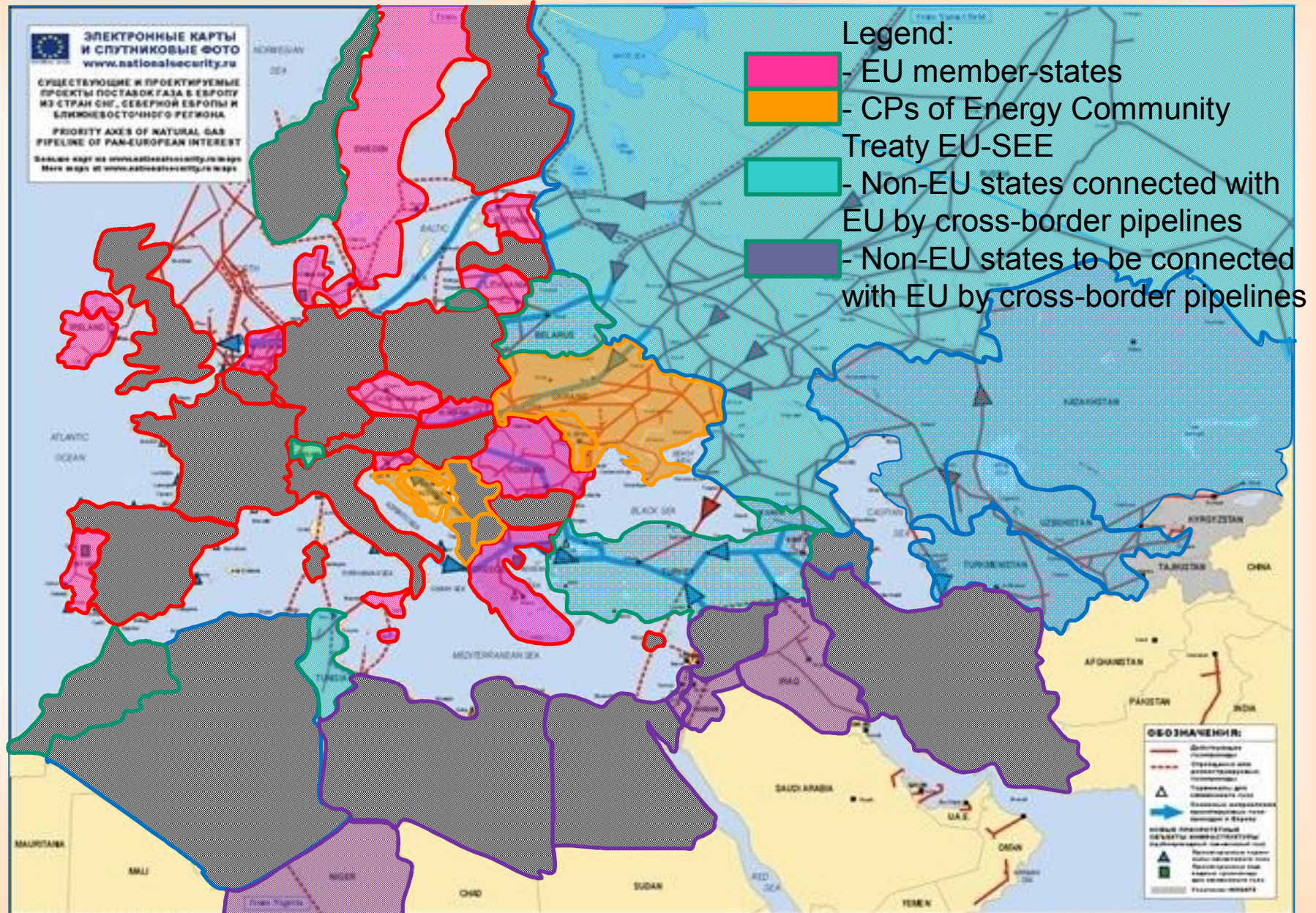
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Presentation at the European Gas Conference 2011,  
Vienna, Austria, 25-28 January 2011

# Table of Content

- **Why attention to Third EU energy package from non-EU producers?**
- Evolution of gas pricing & contractual structures in Europe and CIS: 1962-2010
- Future architecture of the EU internal gas market according to 3<sup>rd</sup> EU Energy package (2009)
- Some key problems of the 3<sup>rd</sup> EU Energy package – and possible solutions:
  - Contractual mismatch problem – to provide long-term access to transportations capacity
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  - Gas pricing: overall spot/futures pricing – or slow adaptations of LTGEC pricing formulas

# “Energy Europe” is much broader than just geographical EU



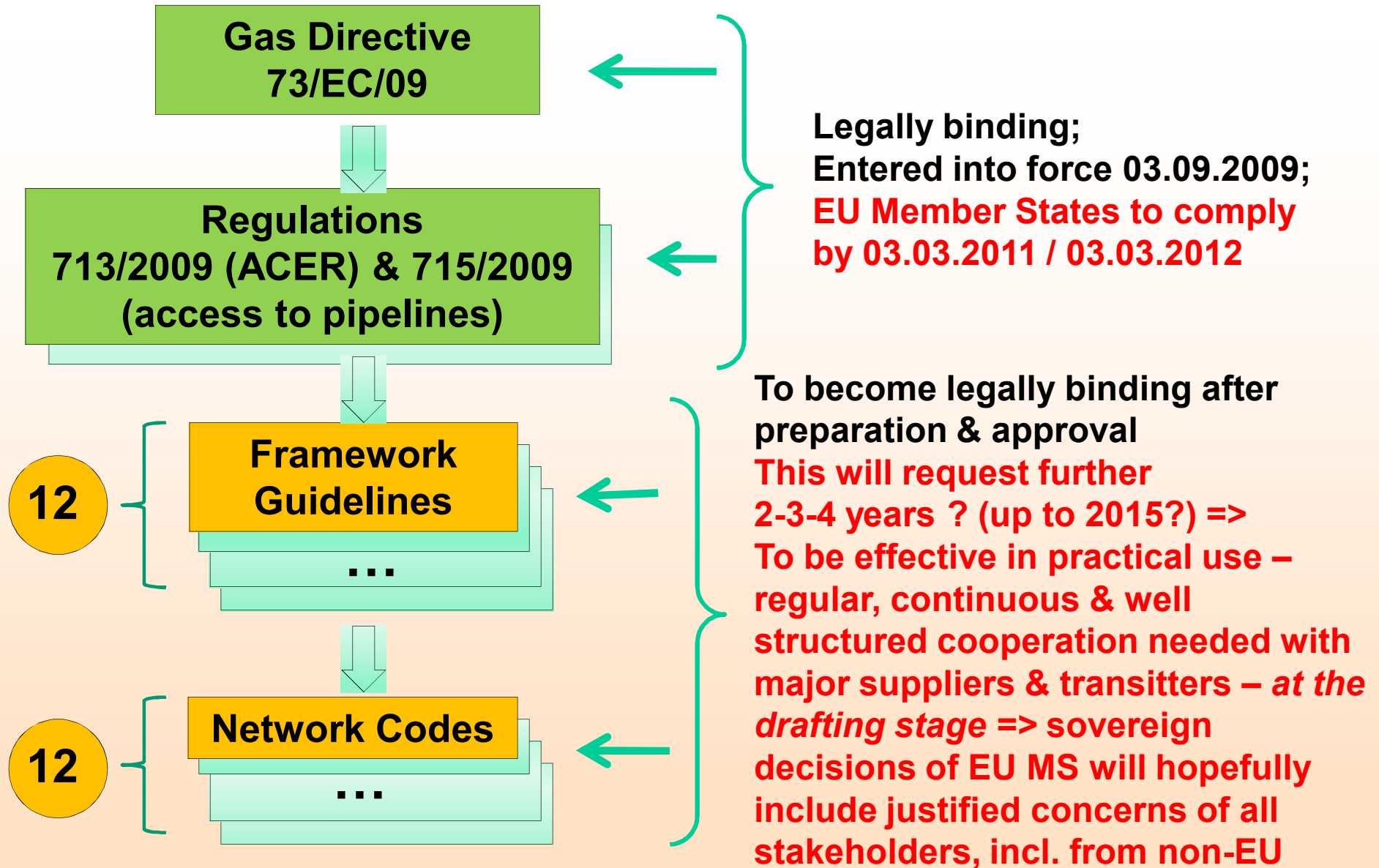
# Instruments for implementing key provisions of EU Gas Directives outside the EU

Export of EU «acquis communautaire» through:

- *First EU Gas Directive (1998)* => Energy Charter Treaty (1994/98)
- *Second EU Gas Directive (2003)* => Energy Community Treaty EU-SEE (2006)
- *Third EU Gas Directive (2009)* => "Third party clauses" of Directive 73/EC/09 + sanctions for violation of Directive's provisions (up to 10% of global turnover of mother company) => **legal collision/"grey zone"** (?): how internal EU law (*EU acquis communautaire*) corresponds with international law provisions of the EU (ECT, PCA, etc.) => to be discussed with stakeholders



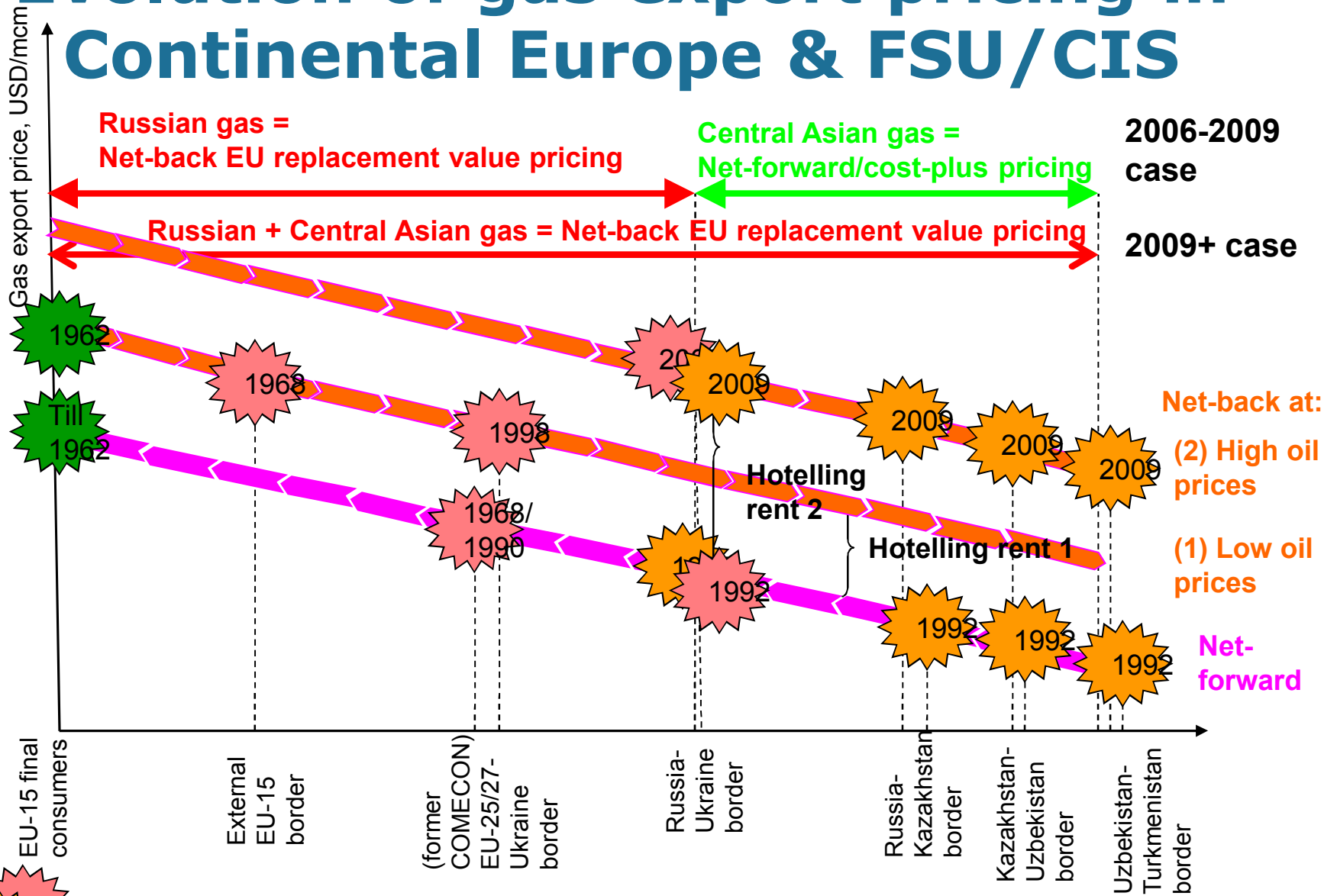
# Third EU Energy Package (gas)



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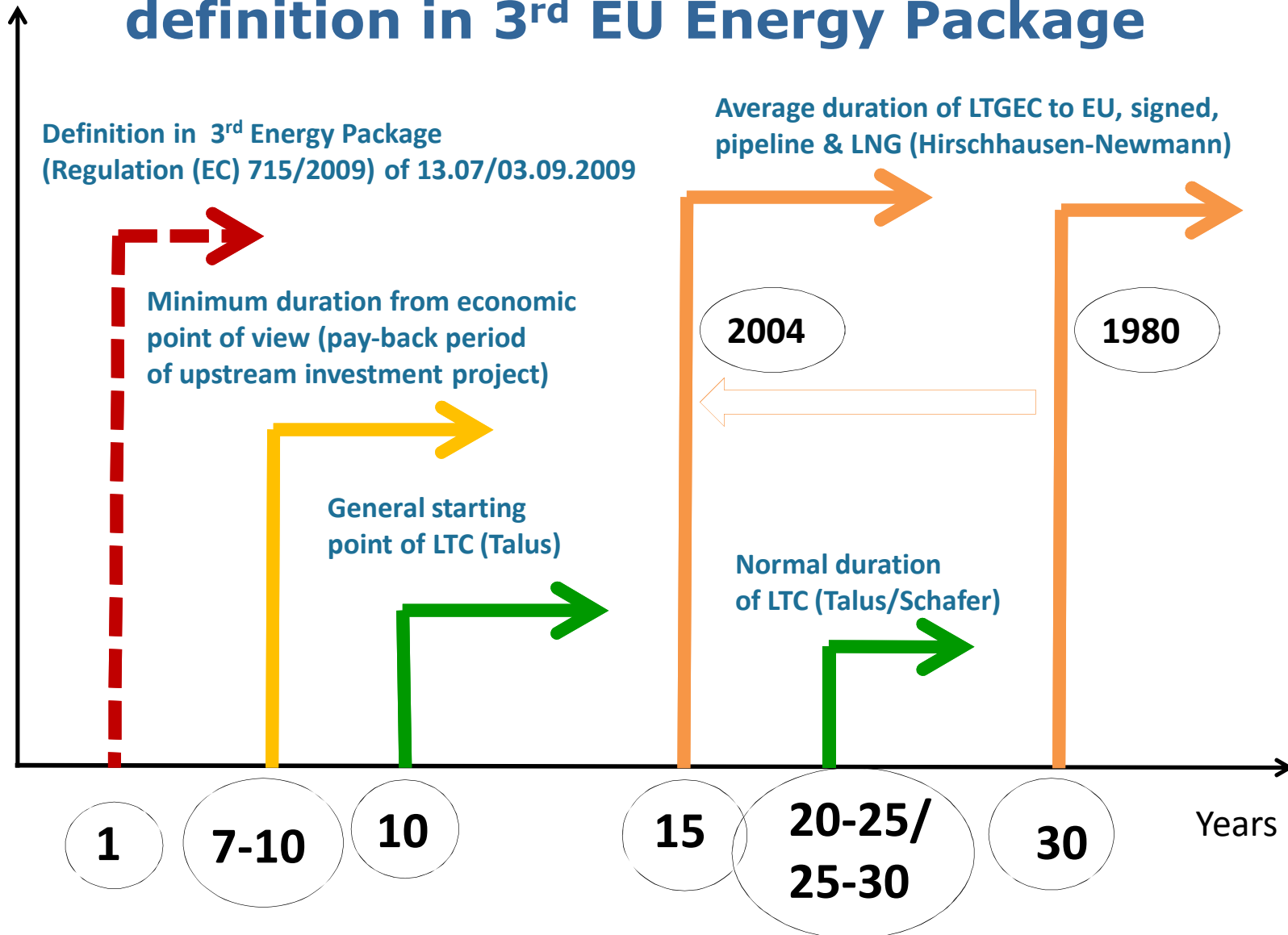
# Evolution of gas export pricing in Continental Europe & FSU/CIS



1962  
1968  
1998  
2009  
1992  
1992  
1992

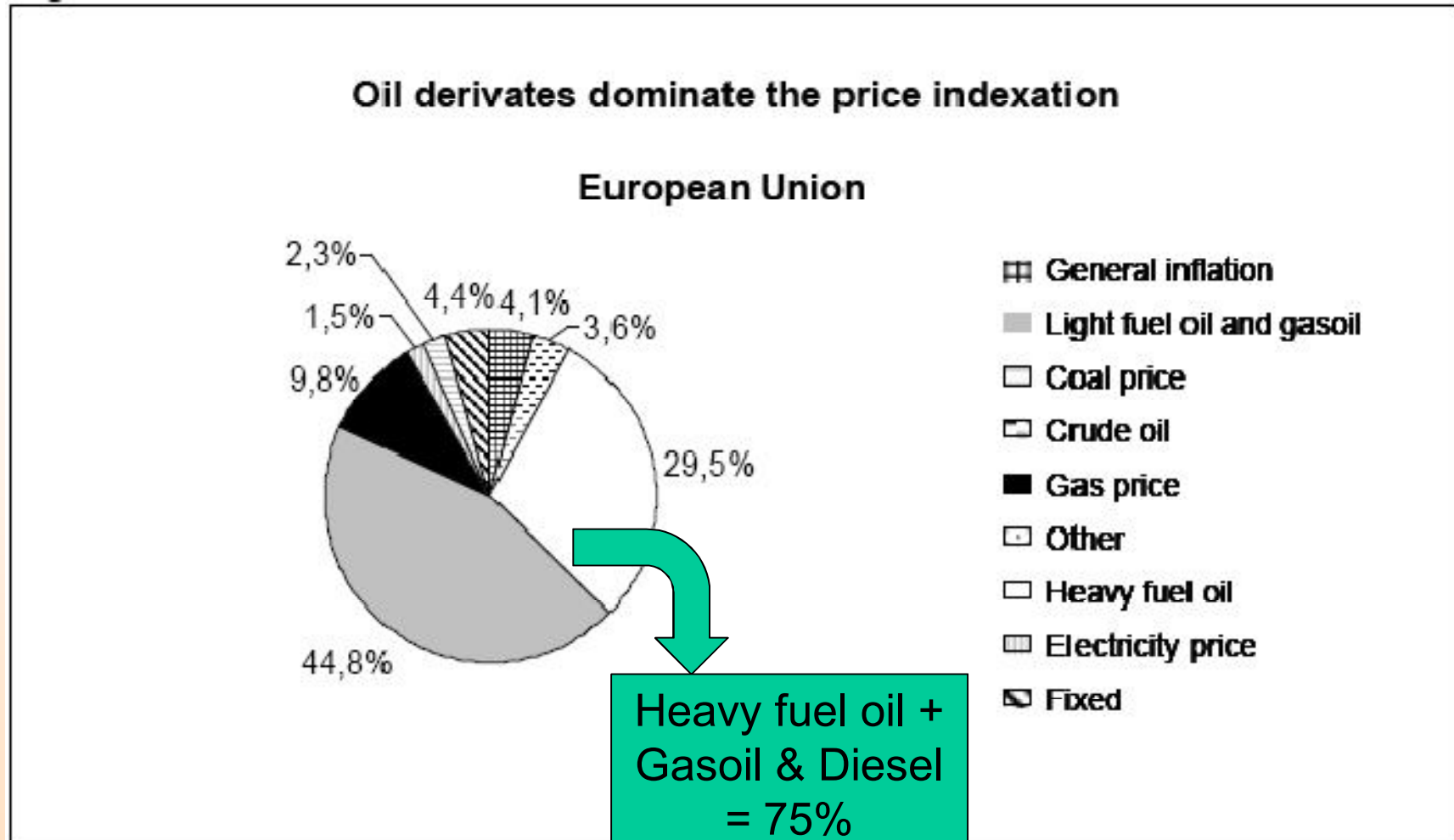
Year of establishing of/switching to new pricing system (pink – gas originated from RF, yellow – from CA, green – from EU)

# “Long-term” (gas export contracts): different durations in historical European practice & its definition in 3<sup>rd</sup> EU Energy Package





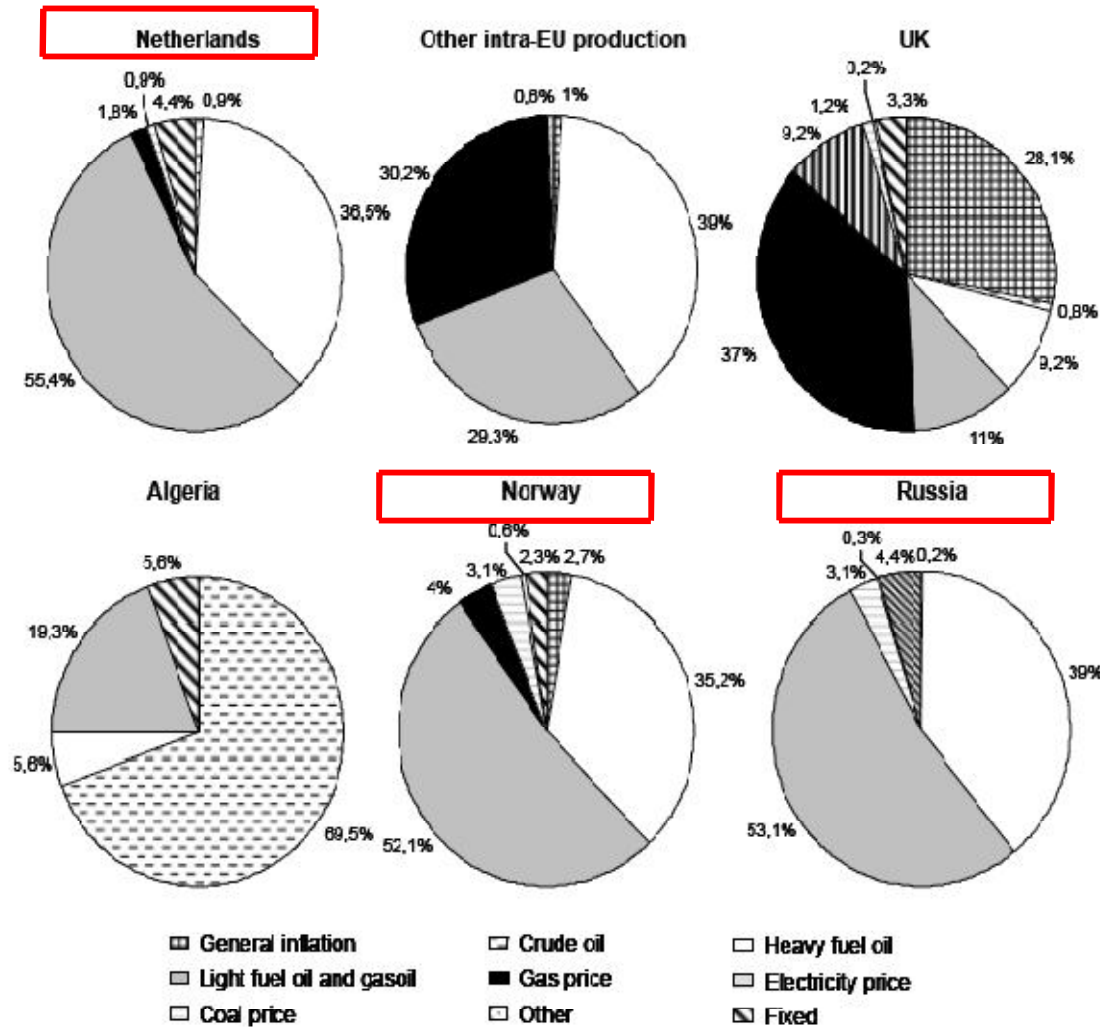
# Price indexation structure in the EU



Source: Energy Sector Inquiry 2005/2006

# LTGEC in the EU: Indexation by Producer

Indexation is not similar for all producing regions



Netherlands,  
Norway, Russia:  
HFO = 35-39%;  
diesel & gasoil =  
52-55%;  
Sum-total HFO+  
Diesel & Gasoil:  
Netherlands =  
92%,  
Norway = 87%,  
Russia = 92%



Major gas exporters  
to the EU: mostly oil  
indexation

Source: Energy Sector Inquiry 2005/2006

Dr.A.Konoplyanik, European Gas Conf 2011, Vienna, 25-28.01.2011

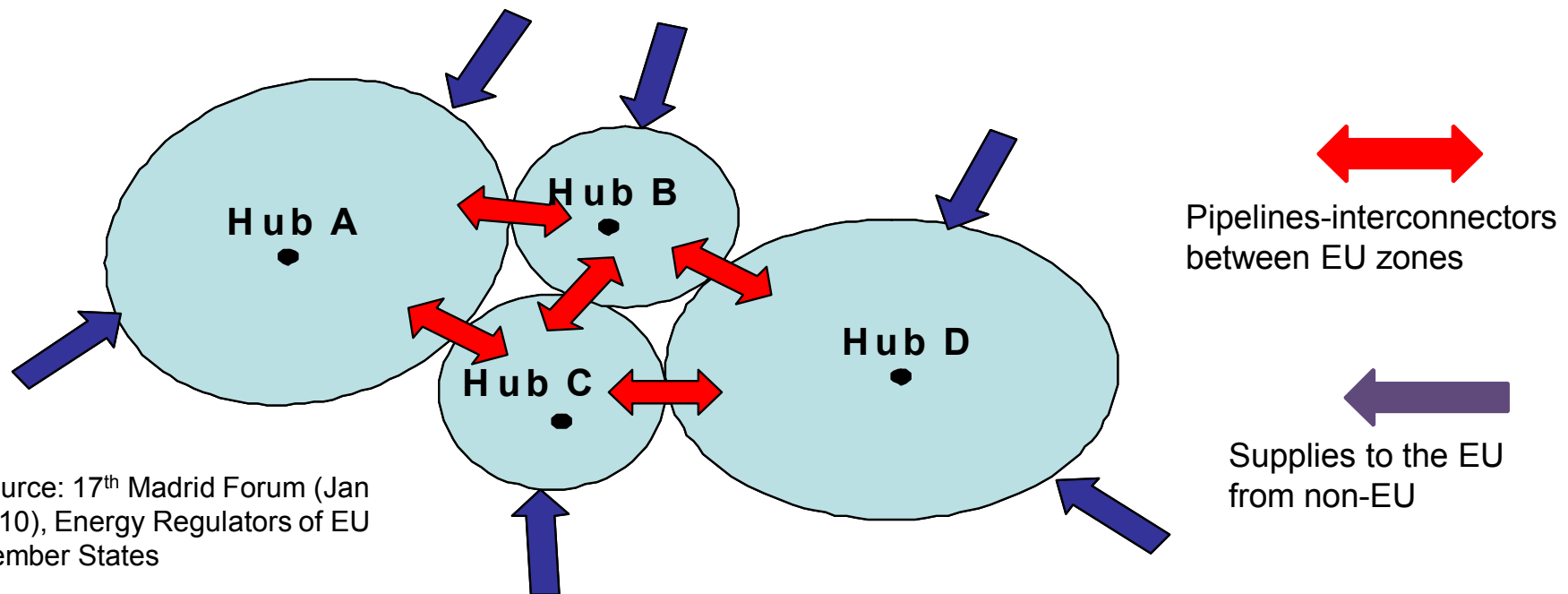
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# Future organization of the common internal EU gas market according to 3<sup>rd</sup> EU Energy Package

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

- (1) Capacity allocation: **short**-term vs. **long**-term? At zone borders? At hubs? Bundled products – only on volumes (of throughput capacity) or on duration of access as well? How to overcome inconveniences of the 3<sup>rd</sup> Package ? (f.i.: long-term = (1 year+) => “contractual mismatch” problem)
- (2) Gas pricing at hubs: on **all** gas volumes or just on a **portion** of gas supplies? When hubs would become really liquid? All or only few of them? Which ones?



Source: 17<sup>th</sup> Madrid Forum (Jan 2010), Energy Regulators of EU Member States

Dr.A.Konoplyanik, European Gas Conf 2011, Vienna, 25-28.01.2011

## Key provisions of the EU Gas Directives (1998/2003/2009) and the problems they created

Future internal EU market is the “designed market” => Key CEC/DG COMP assumption/philosophy: *“The more competition (number of players / intermediaries) – the better it is for end-users” (???)* => the policies:

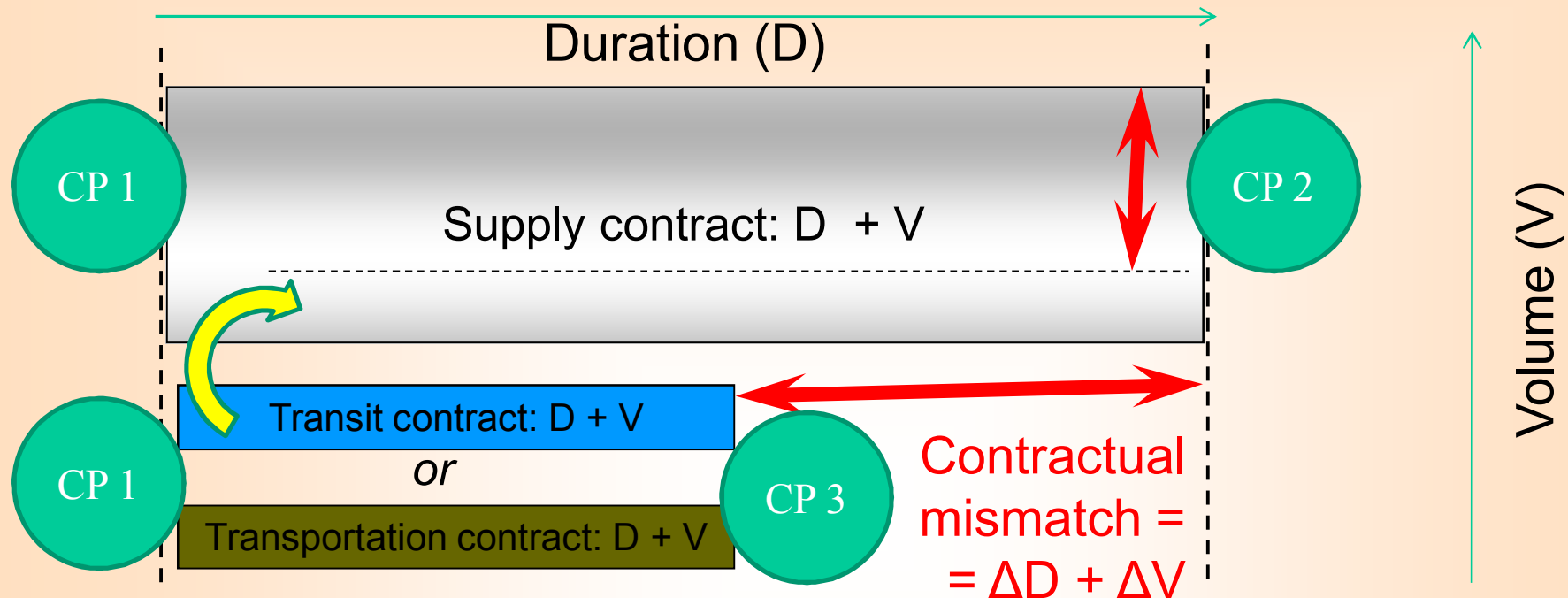
Key provisions 2 <sup>nd</sup> , 3 <sup>rd</sup> EU Gas Directives	Problems they creates (incremental risks for trade & investment)
Segmentation of VIOC (unbundling)	“Contractual mismatch” (long-term supply vs. transportation contract: correlation in duration & volumes)
Mandatory third party access (MTPA) to gas transportation infrastructure	Bankability of investment projects (MTPA discriminates project financing)
Switch from LTGEC to spot trade (transition from “physical” towards “paper” energy markets)	Increased price volatility & diminished price predictability (energy price at “paper” markets losing its guidance for long-term & capital-intensive investment decisions)

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# Contractual Mismatch Problem



**Contractual mismatch:** between duration/volumes (D/V) of long term supply/delivery contract (LTGEC; CP1-CP2) and transit/transportation contract (CP1-CP3); the latter is integral part to fulfill the delivery contract => risk of non-renewal transit/transportation contract => risk of non-fulfillment supply/delivery contract.

**Core issue:** guarantee of access to/creation of adequate transportation capacity for volume & duration of LTGEC

# Table of Content

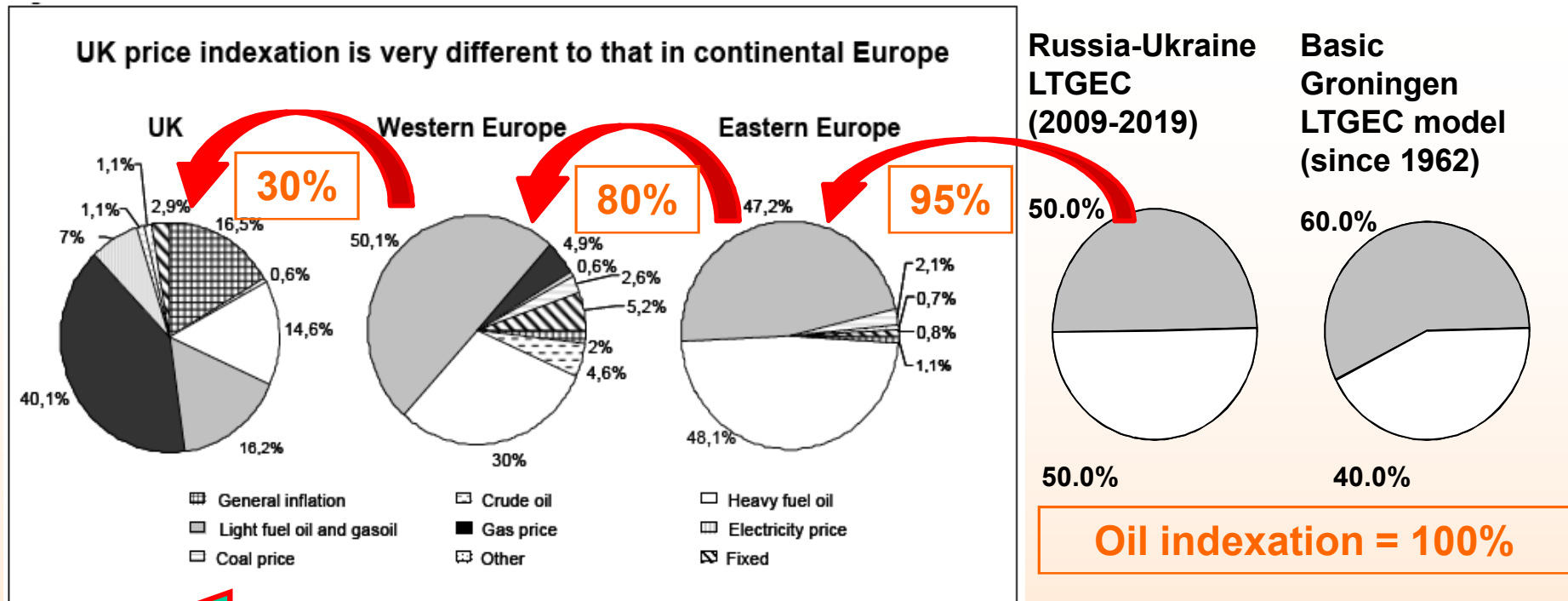
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# LTGEC in Europe: Indexation by Region - Historical Evolution from Less to More "Liberalized" Markets



Source: Energy Economics, 2005/2006

Evolution of LTGEC pricing formula structure: from more simple to more complicated

NB: Russia-Ukraine 2009 LTGEC structure rationale: more practical (understandable & sustainable) to start with less sophisticated pricing formula => similar to basic Groningen formula

Further development (most likely): towards EE-type => WE-type => UK-type price

indexation => **away from oil parity?**

# Liquidity of European gas hubs (churn ratio)

	2007	2008	2009
United Kingdom: National Balancing Point (NBP)	13.5	14.4	14.5
Belgium: Zeebrugge (ZEE)	5.1	5.0	5.0
Austria: Central European Gas Hub (CEGH)	2.6	2.9	3.0
Netherlands: Title Transfer Facility (TTF)	3.7	3.2	3.0
Italy: Punto di Scambio Virtuale (PSV)	1.7	2.0	2.1
Germany: NetConnect Germany (NCG, EGT prior 2009)	1.6	1.8	2.1
Germany: GASPOOL (BEB)	-	-	2.2
France: Point d'Echange de Gaz (PEG)	-	-	1.2

For comparison:

**USA (oil):** NYMEX (WTI) (Feb.2010)

**1680-2240**

**UK (oil):** ICE (Brent) (Feb.2010)

**2014**

**USA (gas):** NYMEX Henry Hub (av.2009)

**377**

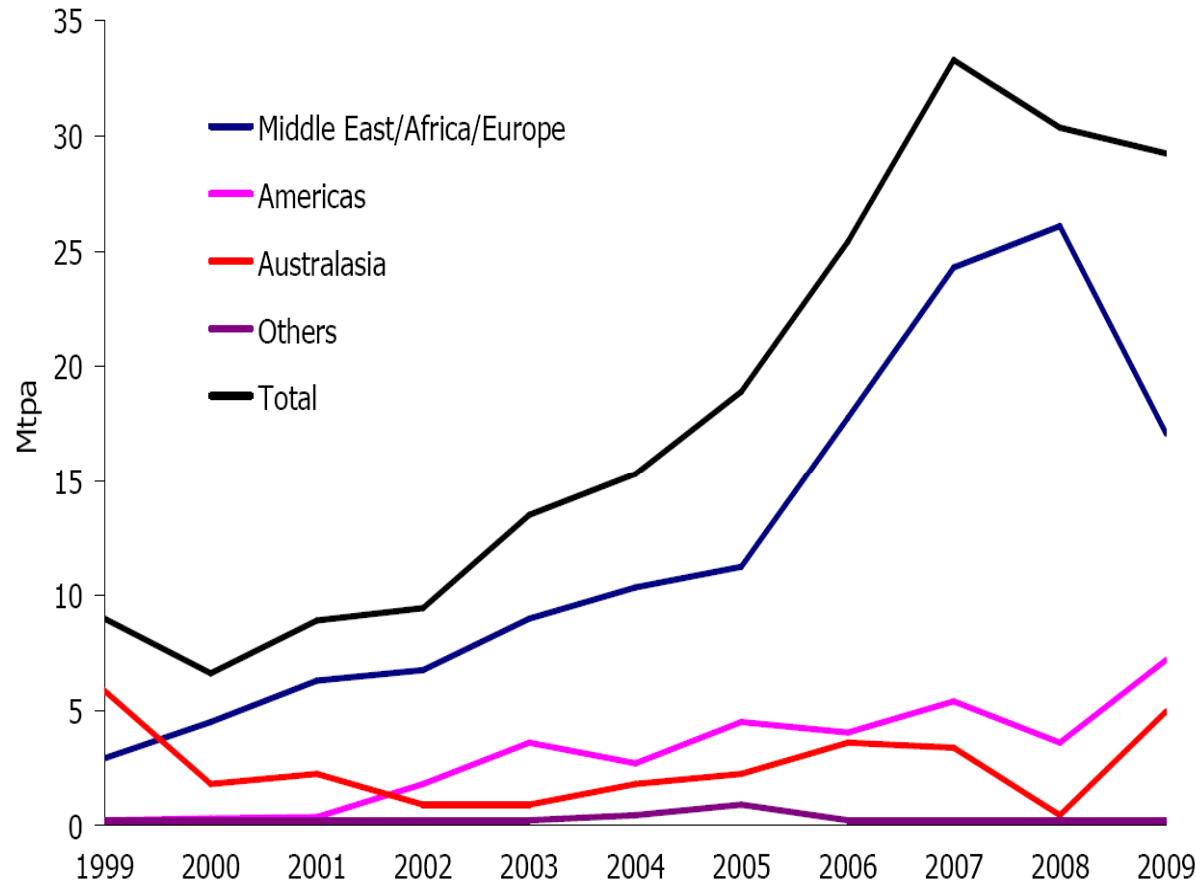
**Break-even churn level for liquid marketplace 15**

*Churn* is the commonly used parameter for measuring liquidity level of marketplaces; defined as the ratio of traded volumes to physical gas deliveries from the marketplace after trades

Source: "Gas Matters", IHS-CERA, IEA, M.Kanai (ECS)



# Spot & Short-Term LNG Exports (flexible sales)



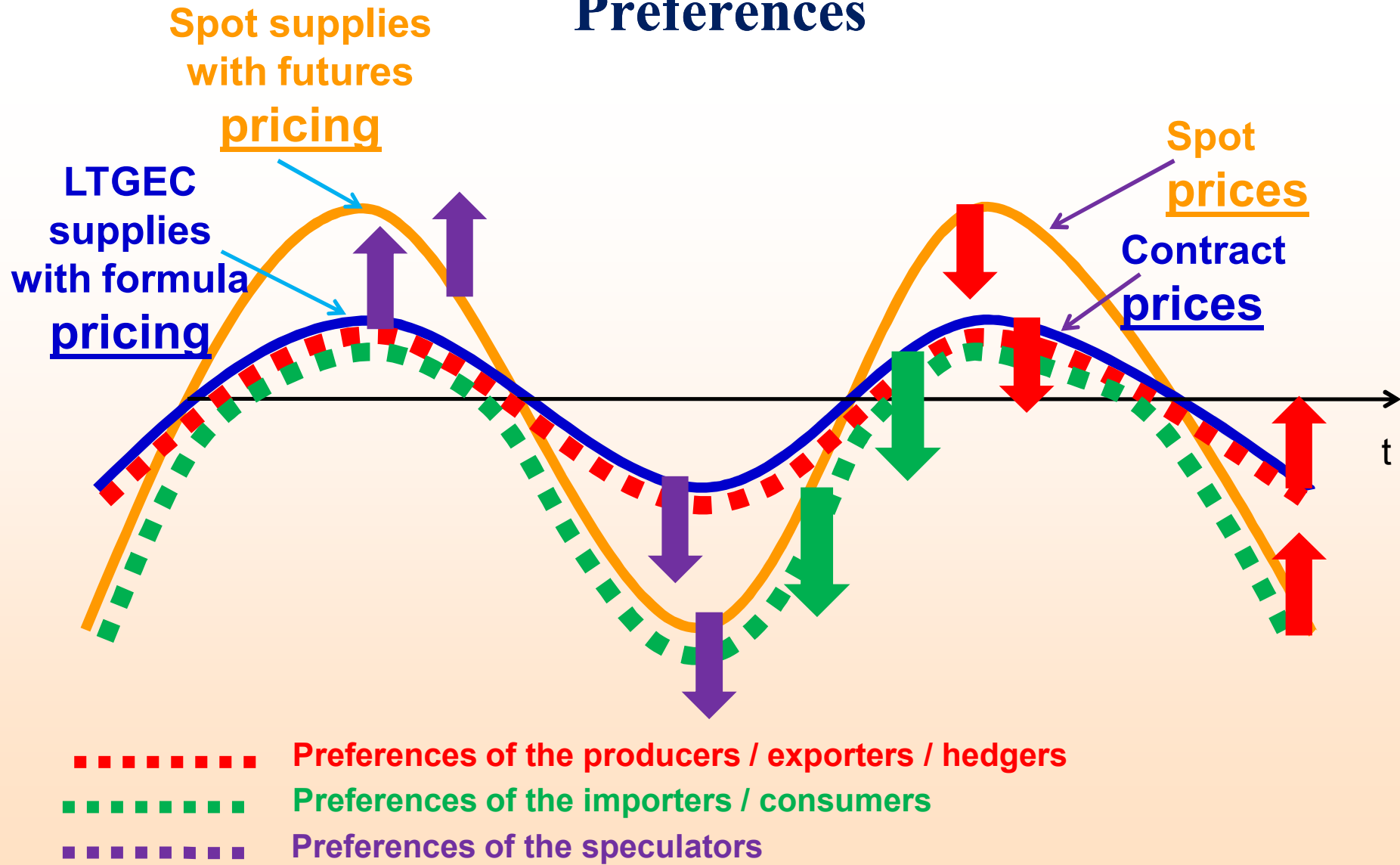
Source: GIIGNL

Flexible sales as percentage of total LNG exports	
<b>2005</b>	<b>15%</b>
<b>2006</b>	<b>17%</b>
<b>2007</b>	<b>21%</b>
<b>2008</b>	<b>19%</b>
<b>2009</b>	<b>16%</b>

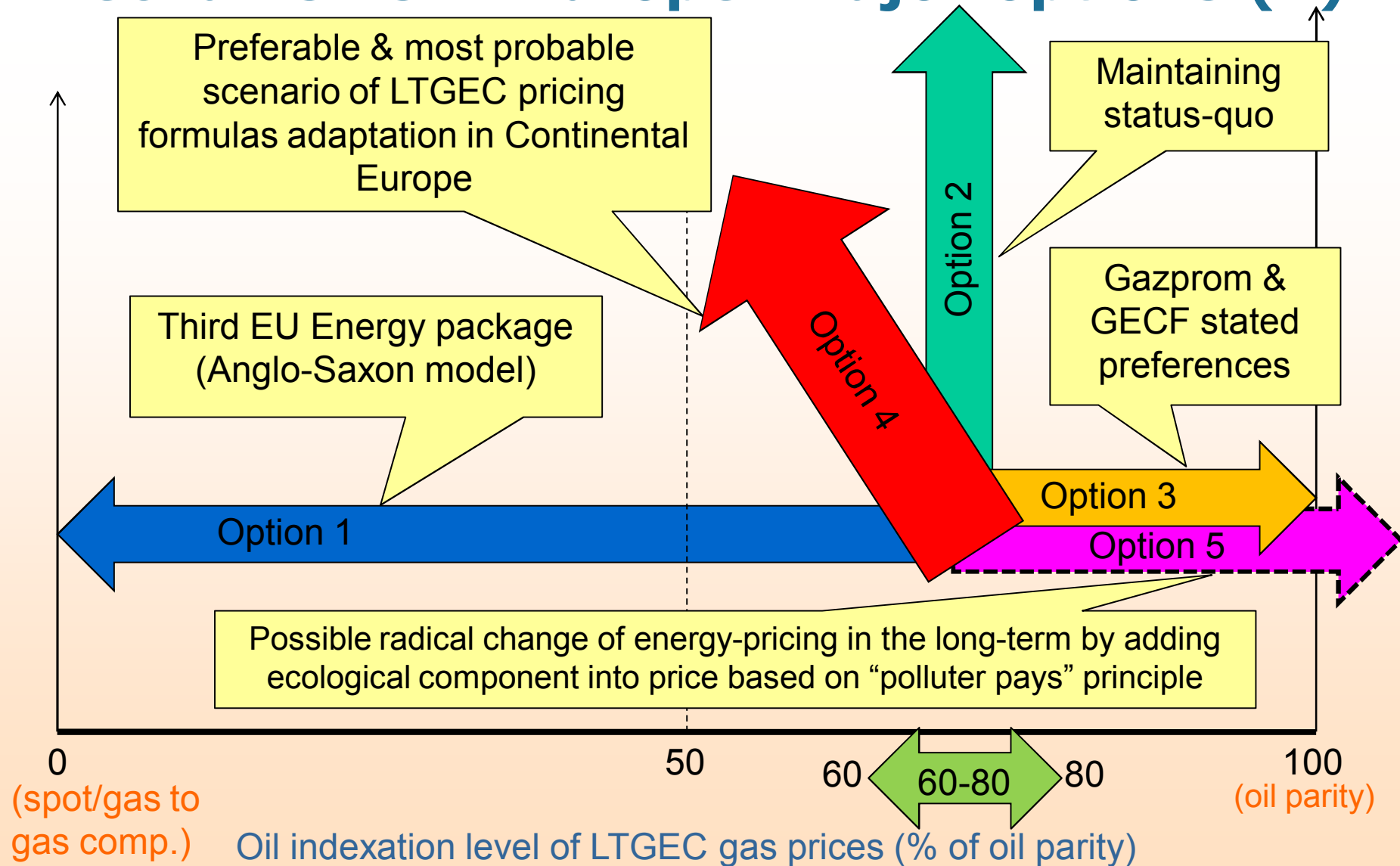
**Source:** Morten Frisch. "Gas market dynamics and the future pricing of spot LNG". Presentation at GASEX 2010 Conference, Taipei, Taiwan, 24 November 2010, p.8

**Note:** Spot & short-term LNG exports or flexible sales are understood to be sales of duration of **up to 4 years** (Ibid., p.8)

# Producers, Consumers & Speculators Price/Pricing Preferences



# Evolution/adaptation of gas pricing mechanisms in Europe: major options (1)



## Evolution/adaptation of gas pricing & contractual mechanisms in Europe: major options (2)

- **Option 1:** to substitute gas price indexation in LTGECs by spot/futures quotations => **NO**
- **Option 2:** to maintain status-quo (LTGEC with dominant oil indexation) => **NO**
- **Option 3:** to maintain oil-indexation within LTGEC and to move to oil parity => **NO**
- **Option 4:** to adapt mostly oil-linked gas price indexation in LTGEC by pricing formulas linked to broader spectrum of parameters & non-oil gas replacement values => **YES** (long-term capacity allocation **must** be available to exclude contractual mismatch problems - supply vs. transportation):
  - **Long-term supplies (basic/base-load) :** more flexible LTGEC (+ access to pipeline adequate to LTGEC volume / duration: n x 1 year) + "modified" gas replacement value formulas (price indexation **not** limited to oil-pegging);
  - **Short-term supplies (supplementary/peak- & semi-peak load) :** short-term (< 1 year)/spot contracts + futures quotations
- **Option 5:** to develop new pricing concepts leading to exceeding oil parity by gas prices (LTGEC + new indexation ingredients, like comparative ecological (dis)advantages of different fuels, etc.) => **NOT NOW**

# Thank you for your attention

Views expressed in this presentation do not necessarily reflect (may/should reflect) and/or coincide (may/should be consistent) with official position of JSC Gazprombank, its stockholders and/or its/their affiliated persons, and are within full responsibility of the author of this presentation.

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