

Russia and Third EU Energy Package: key points of disagreements - & how to move to mutually beneficial solutions on them

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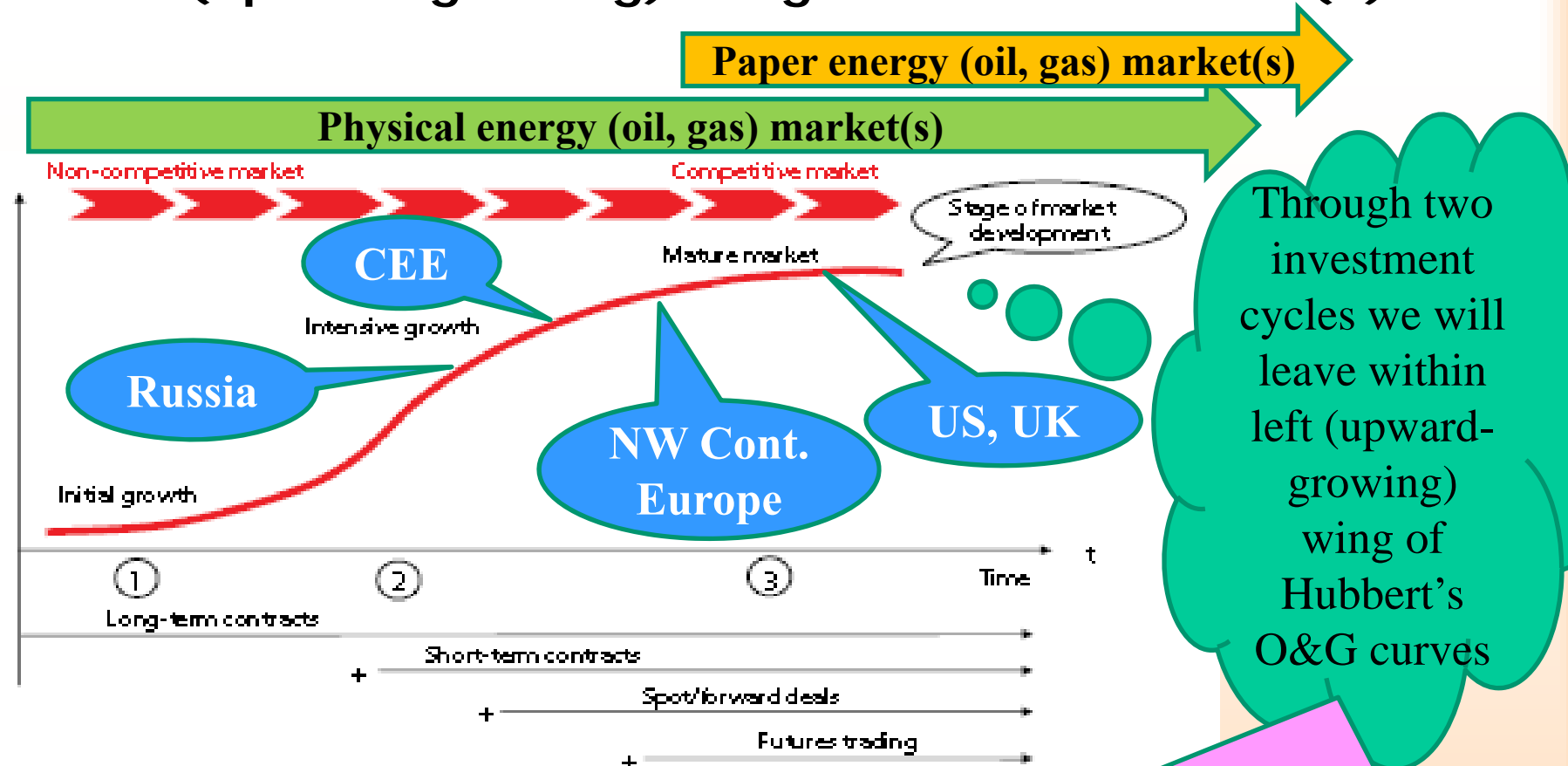
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- **A piece of theory on evolution of energy markets, contractual structures, pricing mechanisms & different interests of market players**
- EU gas market structure under 3rd Energy Package: new risks & uncertainties for non-EU suppliers & how to overcome them
- Gas pricing scenarios for EU gas market: what type of compromise might be possible

Evolution of oil & gas markets: correlation of development stages, contractual structures, pricing mechanisms on the left (upward-growing) wing of Hubbert's curve (1)



Through two investment cycles we will leave within left (upward-growing) wing of Hubbert's O&G curves

No single & universal gas market model for every individual region worldwide ("Putting a price on Energy", Energy Charter Secretariat, Brussels, 2007)

- ① Pricing mechanism's development stages:
 - cost-plus
 - escalation formulas (based on alternative fuels prices)
 - based on futures prices (commodities markets)

Source: based on Andrei Konoplyanik

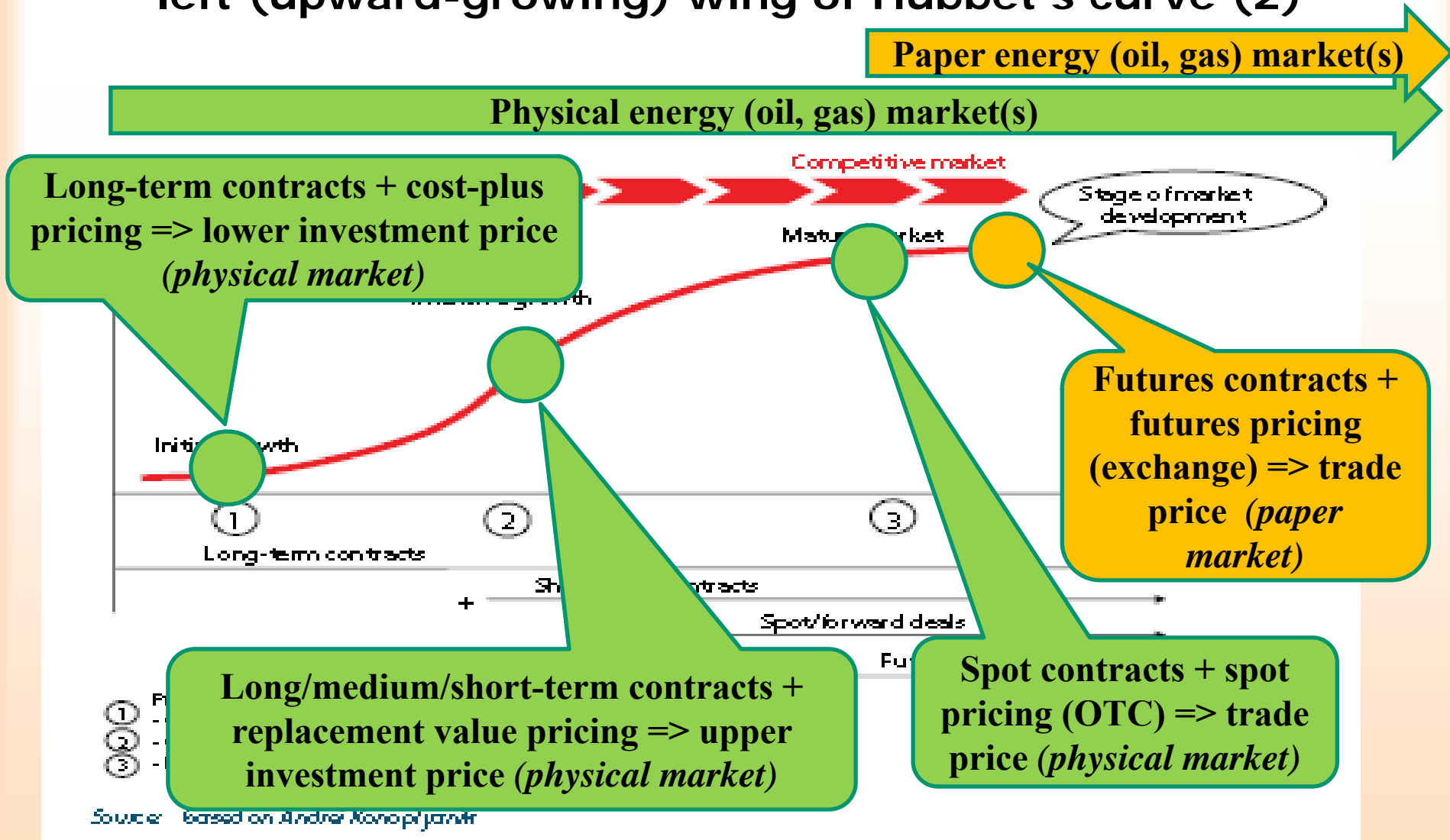
Three major pricing mechanisms in international energy

- **Cost-plus (net-forward):** price linked to cost of energy production & delivery/transportation (incl. RROR) to the consumer/delivery point => utilized at non-competitive markets of physical energy => low benchmark price level acceptable for producer & achievable by consumer => **lower investment price**
- **(Net-back) replacement value:** price linked (with discount) to price of competing energies in the end-use => utilized at competitive markets of physical energy => upper benchmark price level achievable by producer & lowest possible price available for (acceptable by) consumer => **upper investment price** (*'Note de Pous'/Groningen LTGEC model, 1962 + Res.1803 UNGA, 1962 + Art.18 ECT, 1994-1998*)
- **Spot/exchange:** equilibrium supply/demand price at competitive markets of physical (spot/forward) and/or paper (financial derivatives linked to futures contracts) energy acceptable for trader/speculator => **trade price**

Market stages, pricing mechanisms & contractual structures: coexistence not substitution (increasing multiplicity of choices for market participants)

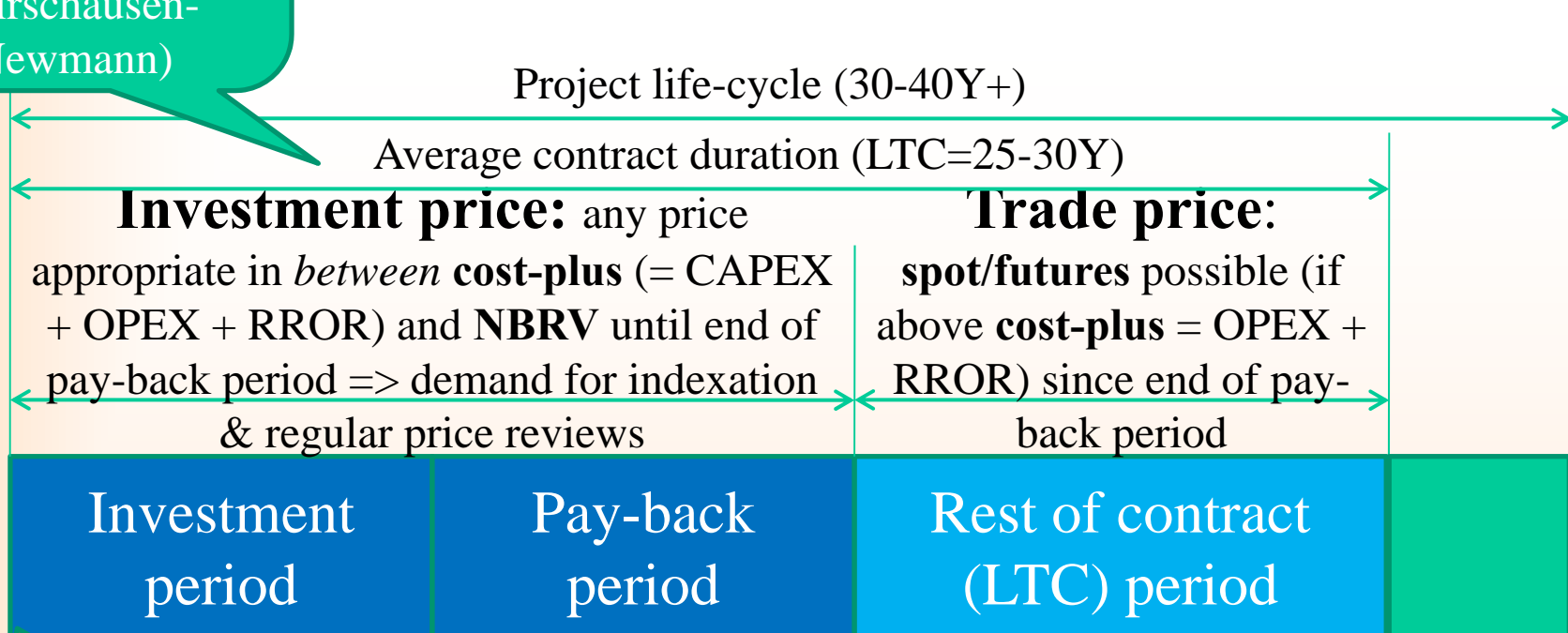
Energy markets development stage	Physical energy markets	Paper energy markets
Initial growth => <i>non-competitive market of physical energy, no paper energy market possible</i>	Cost-plus (LTC)	-
Intensive growth => <i>competitive market of physical energy, no paper energy market available</i>	+ Net-back replacement value (LTC)	-
Mature market => <i>competitive markets of both physical & paper energy</i>	+ Spot (OTC)	+ Futures-options (exchange & OTC)

Evolution of oil & gas markets: correlation of development stages, contractual structures, pricing mechanisms on the left (upward-growing) wing of Hubbert's curve (2)



EU import LTC signed (pipeline + LNG): 1980 (30Y) => 2004 (15Y), (Hirschausen-Newmann)

Economic preconditions for different pricing mechanisms at different stages of investment project life-cycle



Energy resource enters the market; upfront CAPEX & OPEX assessment incl. risks for acceptable ROR; higher price needed

Energy resource is already at the market; CAPEX recouped; technological possibilities to switch between competing energies in end-use; OPEX determines benchmark price level; lower price needed to stay with acceptable ROR

What is the area for reaching compromise on price between producer & consumer in the competitive market?
(S-curve approach for indexation in Continental Europe within contractual pricing - author's vision/proposal for discussion)

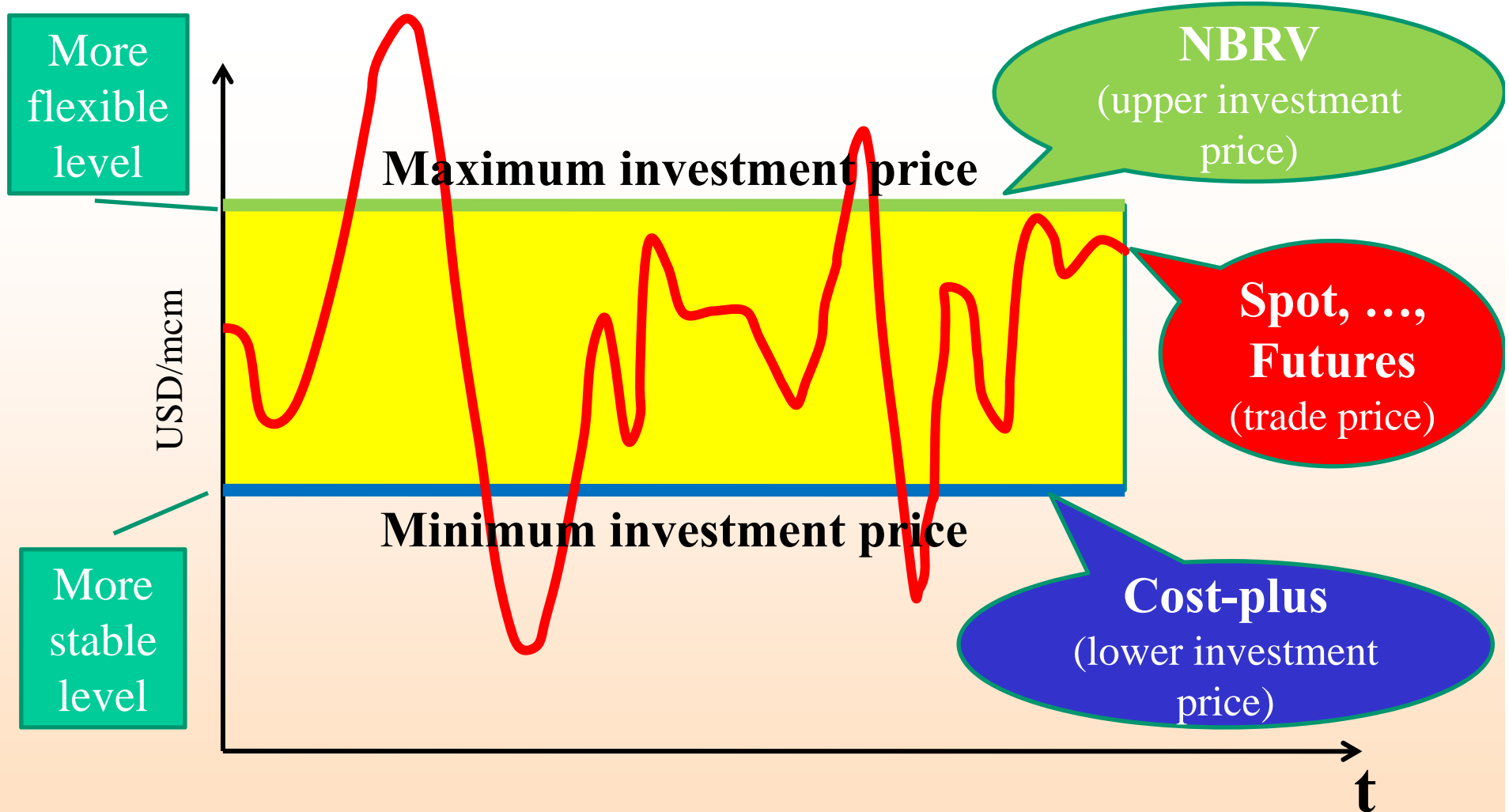
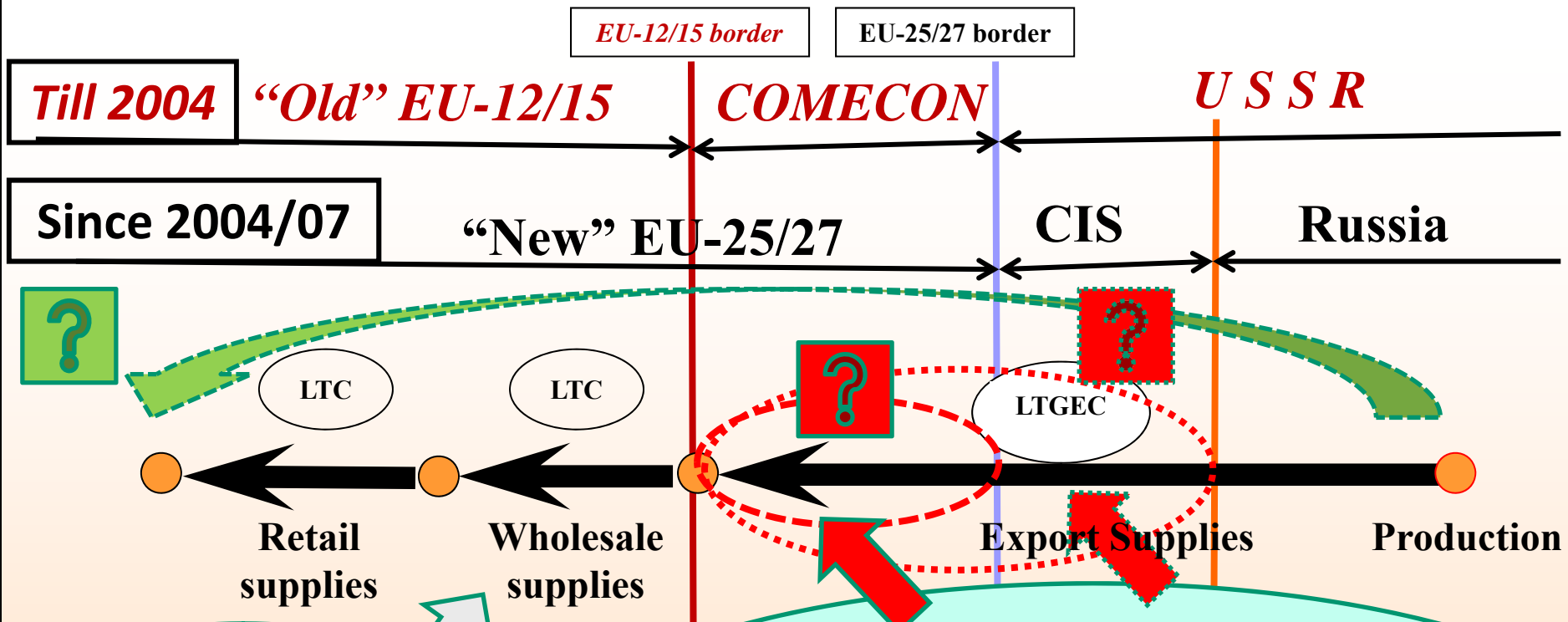


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Third EU Energy Package affects Russia-EU Gas supply chain: how to materialize potential benefits

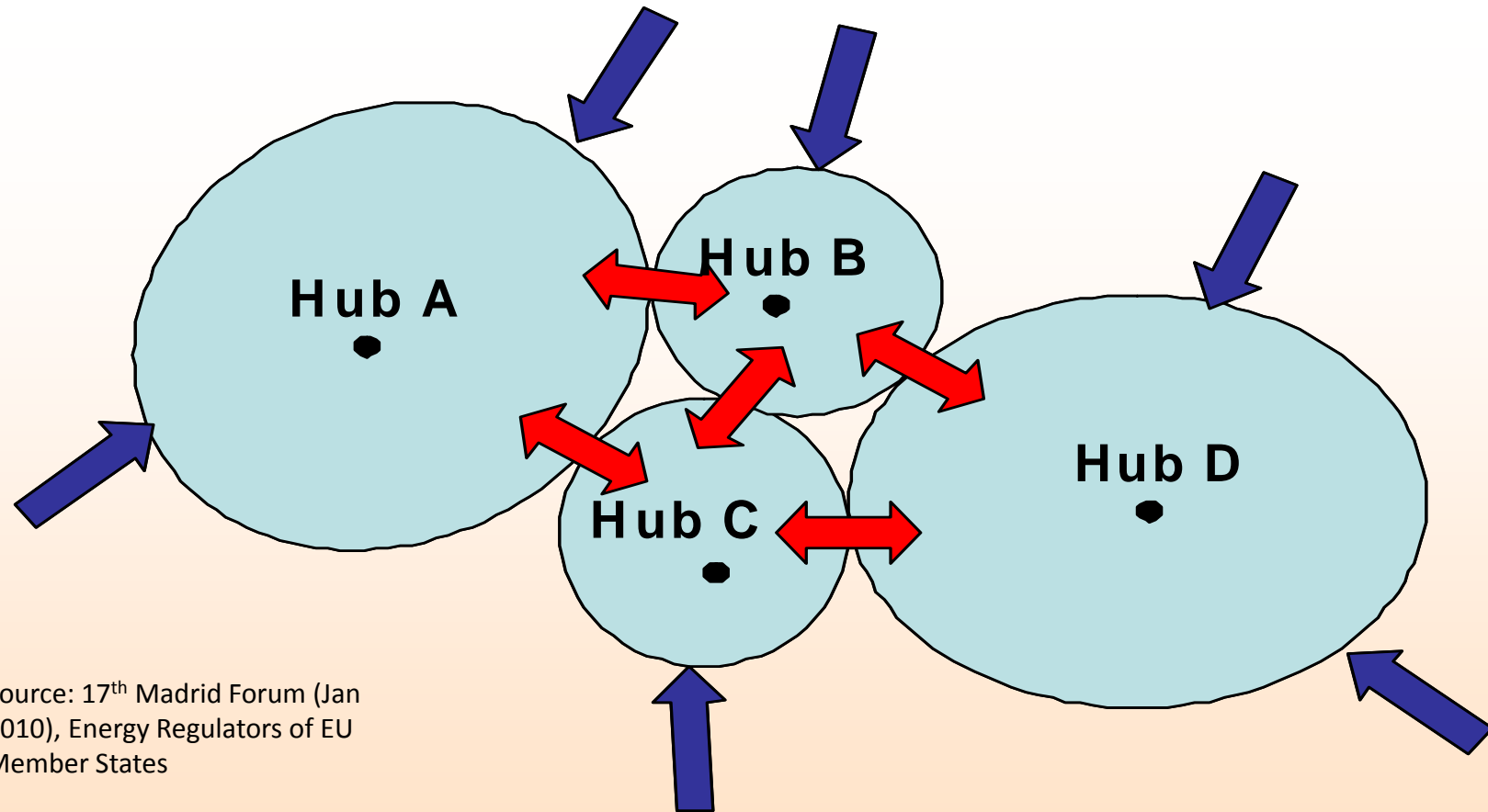


Third EU Energy Package = reform of internal EU wholesale trade ...

Informal consultations/WS-2 RF-EU GAC concentrate mostly on these aspects of EU TEP

... BUT direct economic consequences for Russian LTGEC both within the EU & Energy Community Treaty area, both clearly conflicting with existing trade model (in-EU on-border supplies to wholesale EU importers) but **potentially positive for new/adapted trade model (direct access to end-users)**

EU internal gas market architecture according to Third EU Energy Package (entry-exit zones with virtual trading points/hubs)



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



Pipelines-interconnectors
between EU zones



Supplies to the EU from non-EU

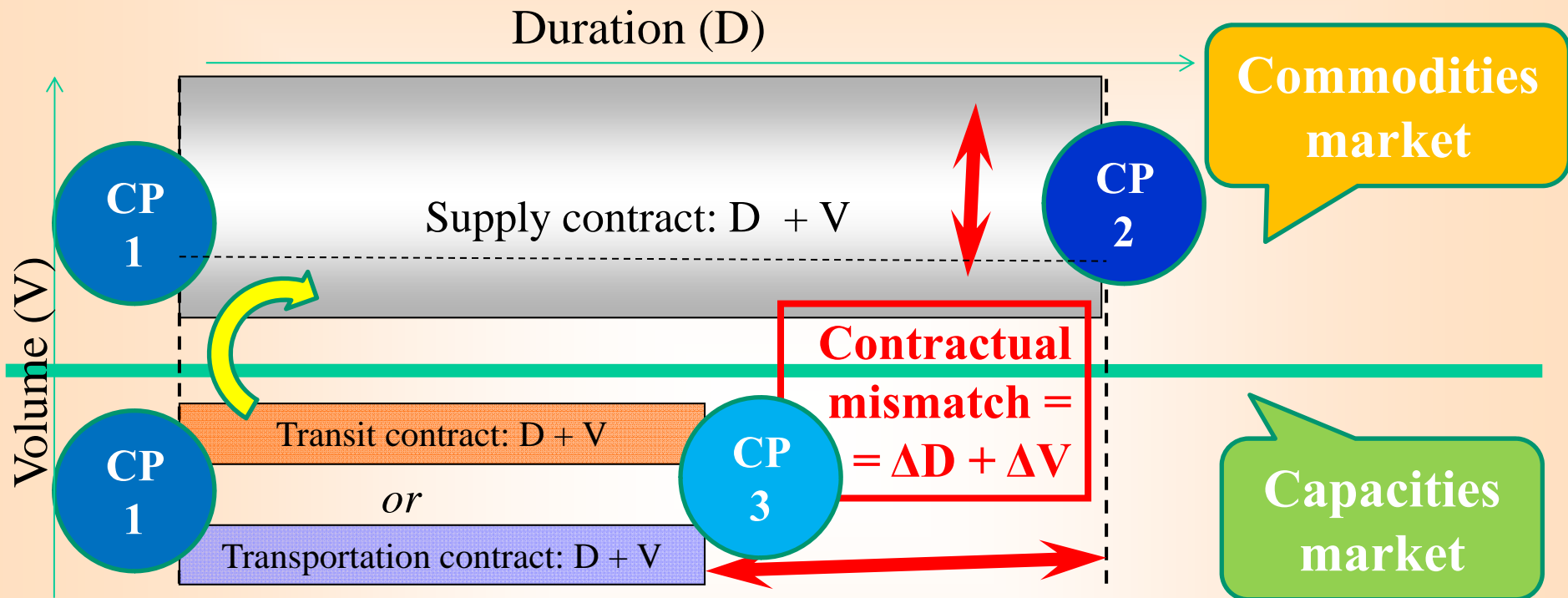
Avenues to develop [major] gas infrastructure projects destined for the EU

- 1) Supply to external EU border (no special EU rules needed)
- 2) Supply into EU territory based on:
 - (2.1) full implementation of 3rd Package core rules without any exemptions (ownership unbundling => supplier is a shipper only, TSO to invest (Art. 13.2), etc.) (rules still to be developed/tested)
 - (2.2) partial deviation from core 3rd Package rules via Art. 36 exemptions (exists => **current mainstream EU rules**)
 - (2.3) special PCI (*projects of common interest*) regime (exists)
 - (2.4) special PMI (*projects of mutual interest*) procedures to be developed based on “EU best plus” regime (to cover the whole project route from well-head outside the EU to end-user within EU) (combination of internal EU & non-EU rules on mutually complimentary basis) (proposed by RF/still to be developed/tested)

Whether 3rd EU Energy Package will overcome investment-related inefficiencies of 2nd EU Energy Package?

- 2nd EU Energy Package (2003):
 - Unbundling => separation of commodities & capacities markets => risk of “contractual mismatch”
 - MTPA => risk for Project Financing
 - 2nd Gas Directive Art.21-22 => derogation from core EU rules as a mainstream for investing in infrastructure => 22 major EU infrastructure projects (pipelines + LNG terminals) developed on the basis of Art.21-22
- 3rd EU Energy Package (2009):
 - Investors expectation: 3rd package will establish rules which will enable developing infrastructure projects WITHOUT any derogations, BUT
 - Real life: concentration on derogations from the rules (3rd Gas Directive Art.35-36) as mainstream of investor-friendly EU regulatory development

Contractual Mismatch Problem: major risk for contract parties in unbundled gas market



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 non-renewal transit/ transportation contract => risk non-fulfillment supply/delivery contract.

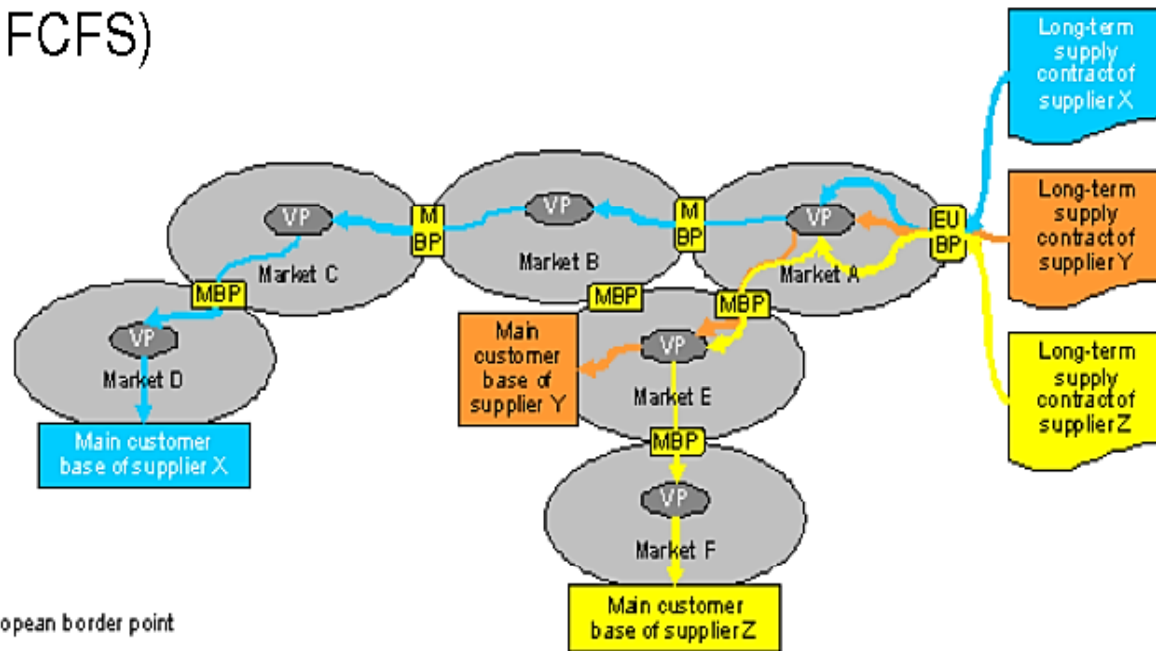
Core issue: guarantee of access to/creation of adequate transportation capacity for volume/duration of long term contracts

Long Distance Capacity bookings in the EU Regulatory Framework (appeared in GTM in result of Consultations)

- Introduction of Entry-Exit System in all countries
- Auctions as standard allocation (instead of, e.g. FCFS)

Yes, this is a given legal reality to be dealt with by any actor at the EU market, but ...

Whether Auctions are the best effective systemic solution?



Long Term Capacity bookings in the EU Regulatory Framework (appeared in GTM in result of Consultations)

- FG CAM reserves (at least) 10% for short-term, i.e. 90% can be booked on long-term Basis
- Capacity can be booked and structured for 15 years in advance (cf. ENTSOG NC)
- Inclusion of “incremental capacity”? [FG CAM: Coherence]

Fine, though worsen pipeline ROR / economics / financing

Fine, validates LTGEC

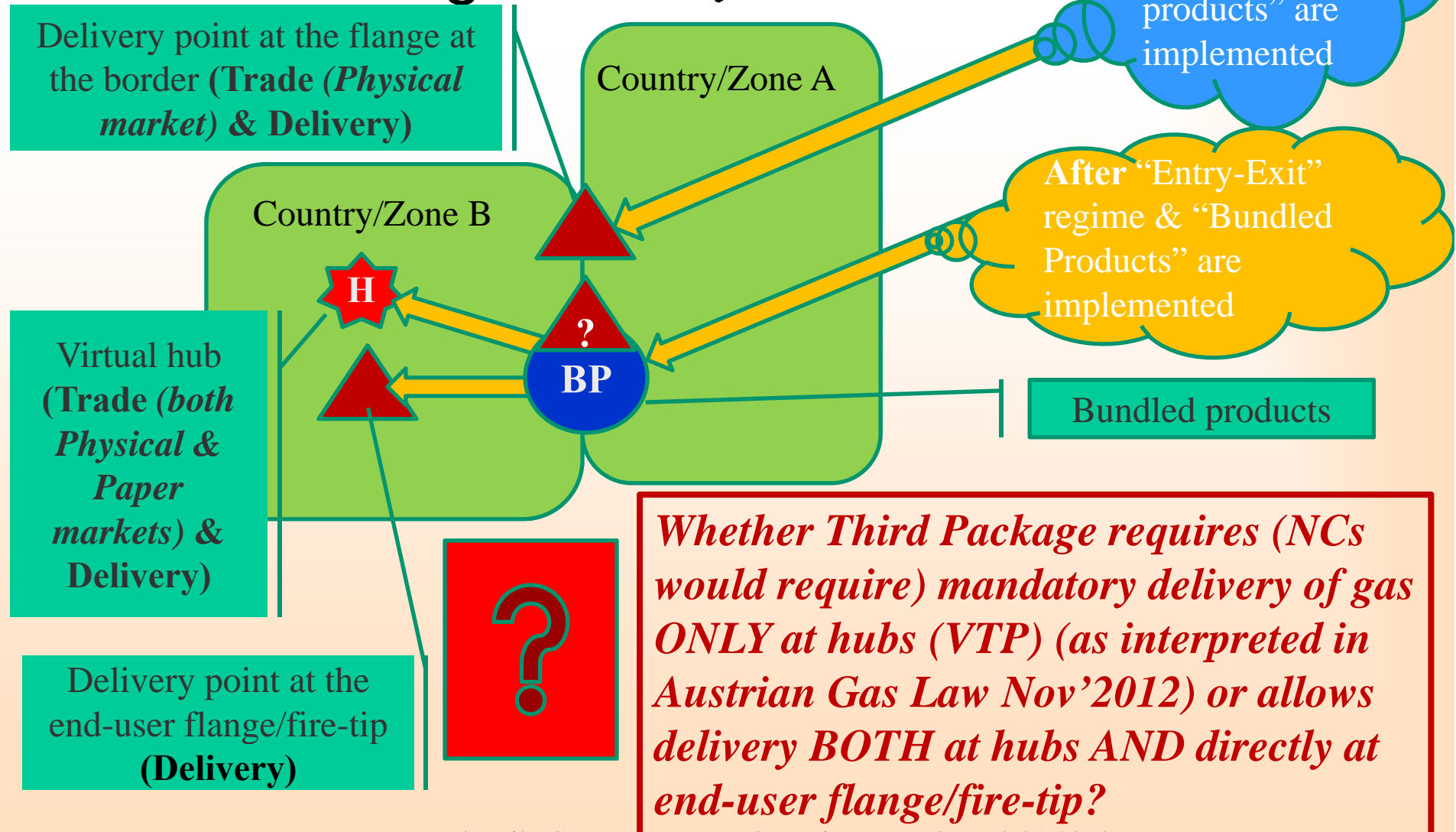
Fine, prevents contractual mismatch

10% <1yr

90% up to 15yrs

Alternative: Draft proposal on EU-coordinated Open Season procedure as integral instrument of systemic (existing + incremental) capacity development

Substance of debate on transition from point-to-point to entry-exit system (*one*-segment or *two*-segment EU Gas Target Model)



Vision of possible “two-segment” EU gas market model under GTM (RF proposal for discussion & consideration within RF-EU Consultations/WS-2 GAC)

➤ Long-term supplies (firm contracts, main/basic demand load):

More flexible LTGEC (re off-taking of contractual volumes (TOP), pricing formulas & price review rules)

+ long-term access to transportation capacity for full duration & volume of LTGEC (open seasons)

+ modified pricing formulas linking gas to its replacement fuels (indexation not only to petroleum products => coal, RES, spot, etc.)

➤ Short-term supplies (interruptible contracts, additional/semi-peak & peak demand load):

Spot contracts & prices (delivery & trading) => (physical market)

+ exchange pricing (futures..., gas indexes, forward curves) => (paper market)

US & UK gas market models are not appropriate in Continental Europe/Eurasia (“Putting a price on Energy”, Energy Charter Secretariat, Brussels, 2007)

Initially GTM did not consider risks & uncertainties for this market segment => these questions have been added on a step-by-step basis in result of RF-EU informal expert Consultations

Initial drafts of GTM covered only this segment of gas market, long-term long-distant supplies and related risks & uncertainties stayed beyond consideration of justified concerns of market participants

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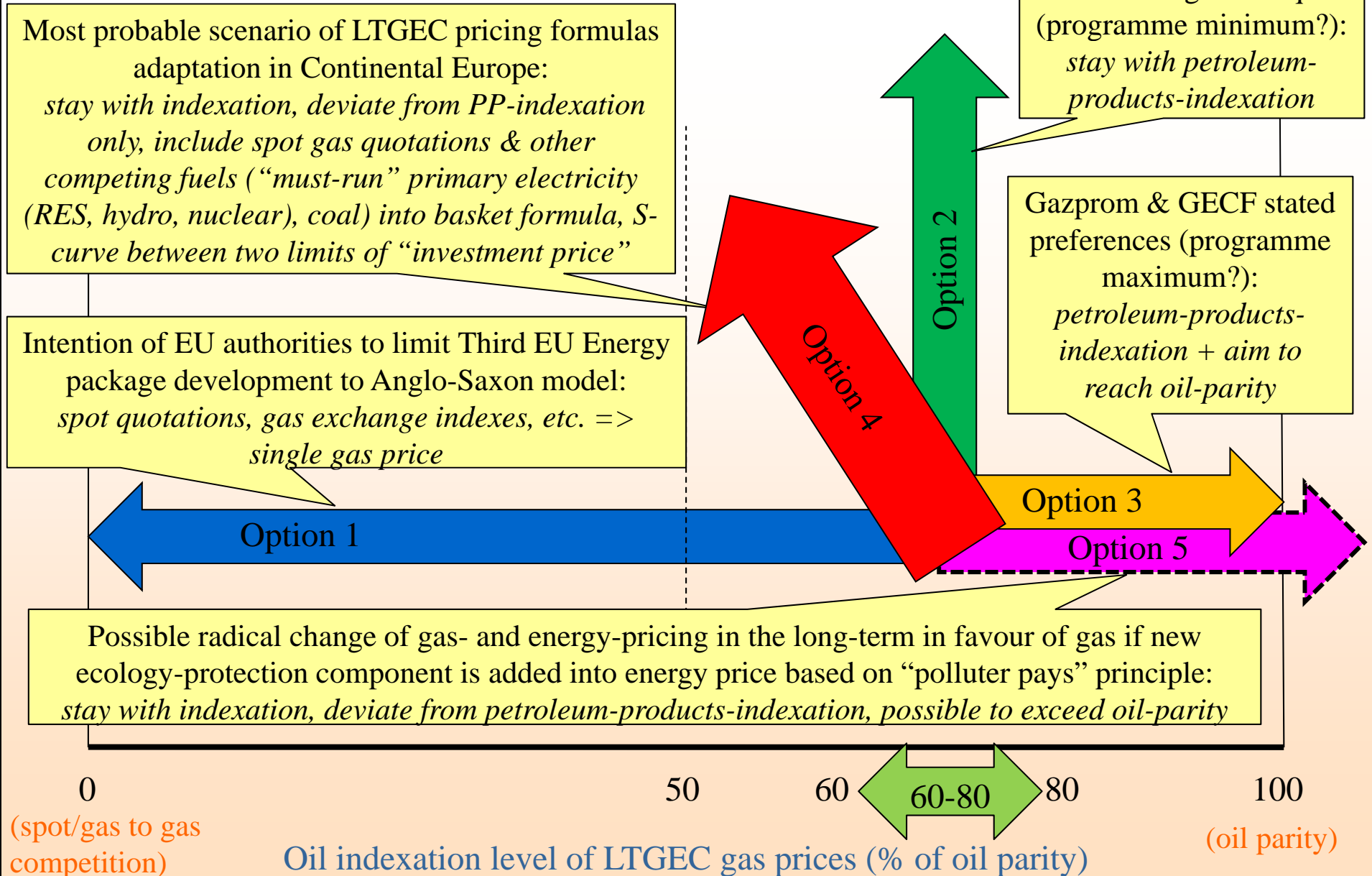
Gas pricing prospects in Europe: “between Komlev & Stern”?(*)

- **S.Komlev/Gazprom/GECF:** LTGEC to continue dominate + stay with PP-indexation (+ aim at oil parity)
- **J.Stern/3rd EU Energy Package (first draft GTM)/EU energy regulators:** market share for LTGEC to stay, but (soft – J.Stern) switch from PP-indexation to spot/futures quotations as LTGEC pricing mechanism (f.i., in 5 years – J.Stern /similar to “RF-Belarus 2007 model”) => **BUT:** 3rd package does NOT prescribe any specific pricing model NOR only single one pricing model (like spot / futures / hubs / etc.) => “market” does not mean “single price” market
- **Any alternative/compromise options?** (if aim is to support long-term gas market share of Russian gas at EU market)

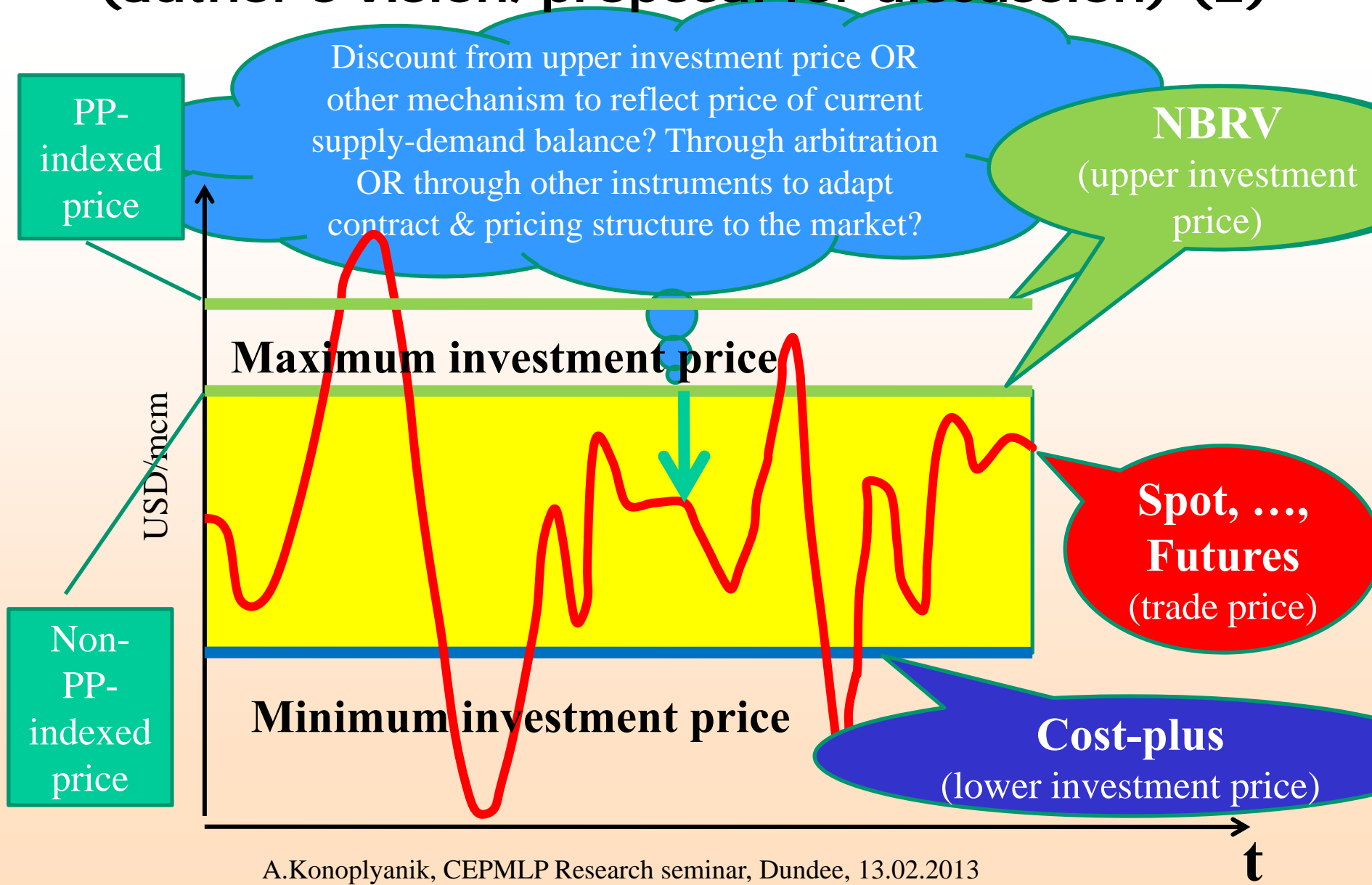
(*) acc. to Jan Klepac, Executive Director of Slovak Gas & Oil Association, Sept’2012

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Evolution/adaptation of gas pricing mechanisms in Europe: major options



S-curve approach for indexation in Continental Europe within contractual pricing (author's vision/proposal for discussion) (2)



Gas in EU inter-fuel competition & pricing

- Then (1960-ies): inter-fuel competition for gas mostly in end-use (gas vs. RFO/LFO)
- Now (2010-ies): inter-fuel competition for gas mostly in electricity generation:
 - “clean” gas vs cheap “dirty” coal: but what about decarbonisation/climate change policies,
 - “clean” non-subsidized gas vs “clean” subsidized RES: but what about (i) state subsidies => correlation w WTO rules, (ii) market distortions => (un)fair (?) competition
- Competition moves from energy end-use in gas to electricity generation => centre of gas pricing moves there as well?
- If so, what influence it will have on gas pricing?

**Thank you for your
attention!**

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Reserve slides

Draft proposal for EU-Coordinated “Open Seasons” as Universal Mechanism of Long-, Medium-, and Short-Term Allocation of Capacity

