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Key elements of the 2025 vision on Gas

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**3rd Package is
not the end of
the process**

- Gas sector has also evolved and further change can be predicted
 - Declining demand in general and especially in power generation
 - Global price effects of shale gas in US (EU?)
 - Growth of LNG trade will link Europe more closely to the global market
 - New usage of gas in transportation possible
- 3rd Package is still being implemented. Crucial to complete this process. But changes and improvements needed (e.g. upstream competition not as effective as it could be)

**Timescales are
long**

- New measures take a long time to conceive, develop and translate into legislation and be implemented – cannot wait until we know complete outcome of 3rd Package

**Need for early
start**

- We need to start work now
 - on measures that address predictable problems and weaknesses
 - on developing a concrete idea in which direction the gas market develops

- The development and implementation of the 3rd Package and its associated Framework Guidelines and Network Codes remains our major focus and commitment
- 2014 deadline for the IEM completion is soon approaching. Therefore, there is a need for strategic foresight to guide our post-2014 work and for a vision to serve as a bridge towards the future
- We are developing an overarching strategy paper on key factors, challenges and possible responses for the coming years to 2025
- Part of this work is the enhancement of the gas and electricity target models

Demand

- Industrial demand very dependent on competitive gas prices
- Use in power generation will continue but role will change and volumes will decline sharply
- Use of gas in heating likely to decline
- Potential for new demand in mobility
- Very likely gas demand will not surpass pre-crises levels

Supply

- Conventional EU production will decline
- Dependence on imported gas will grow
- LNG will continue to grow but fluctuate according to prices
- Uncertain potential for unconventional sources in Europe

Sustainability

- Gas is the cleanest of the fossil fuels – should replace coal in electricity generation, industry and oil based transport fuels
- Gas will achieve this role only if the price is “right”
- Gas-fired power can complement growth of wind and solar energy – but again price is key

Gas market characteristics are changing

- Continuous growth in gas demand until 2008 → declining gas demand since then (wholesale and retail)
- Oil-price indexation → more than 50% of gas is priced according to hub prices, or other price baskets
- Long-term contracts → clear trend to more flexible and more short term oriented contracts

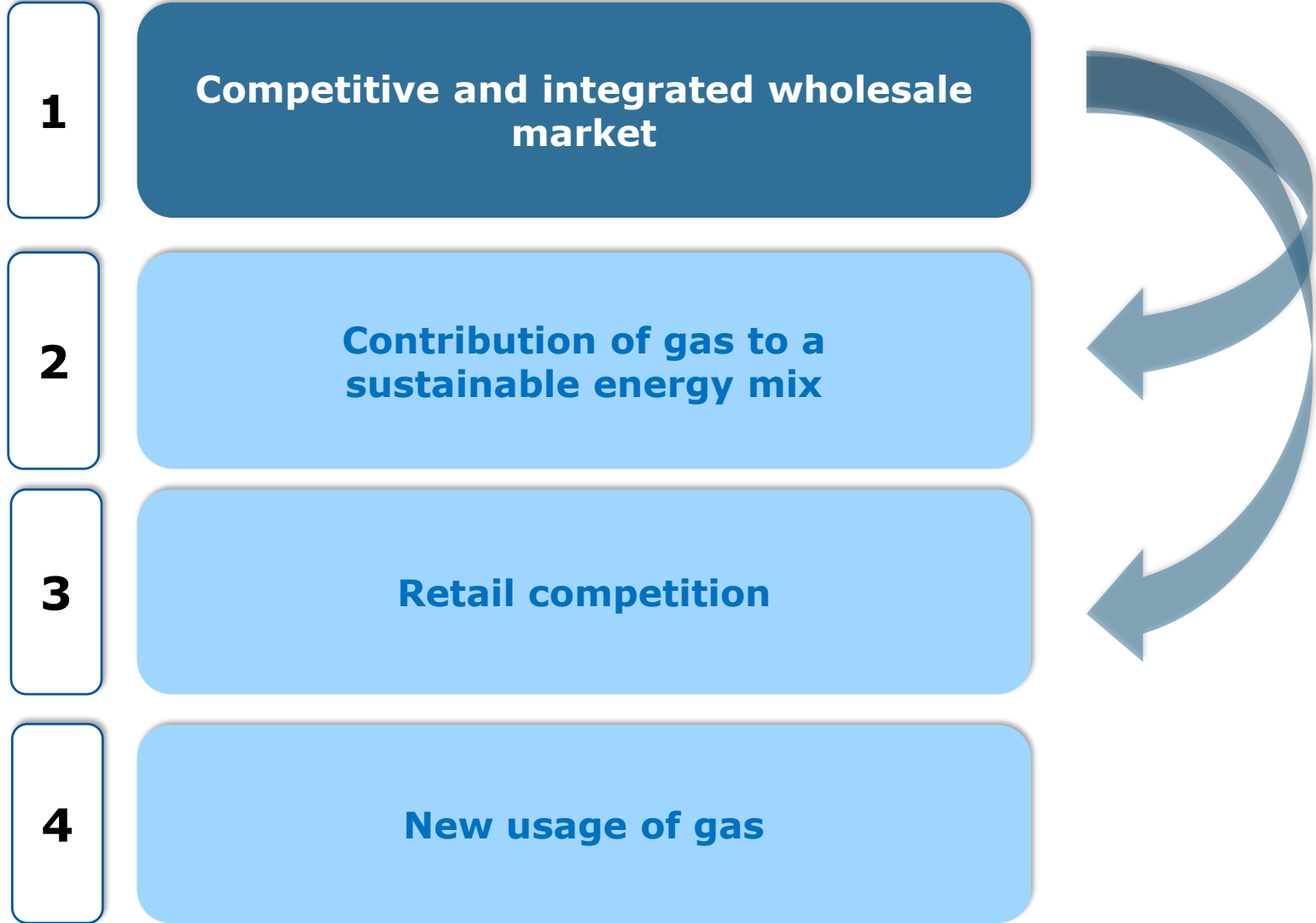
New challenges

- Growing interrelations between electricity and gas
- Higher flexibility requirements to back-up intermittent renewable electricity generation
- Will gas be the fuel of choice for this?
- Changing role of gas storage and LNG

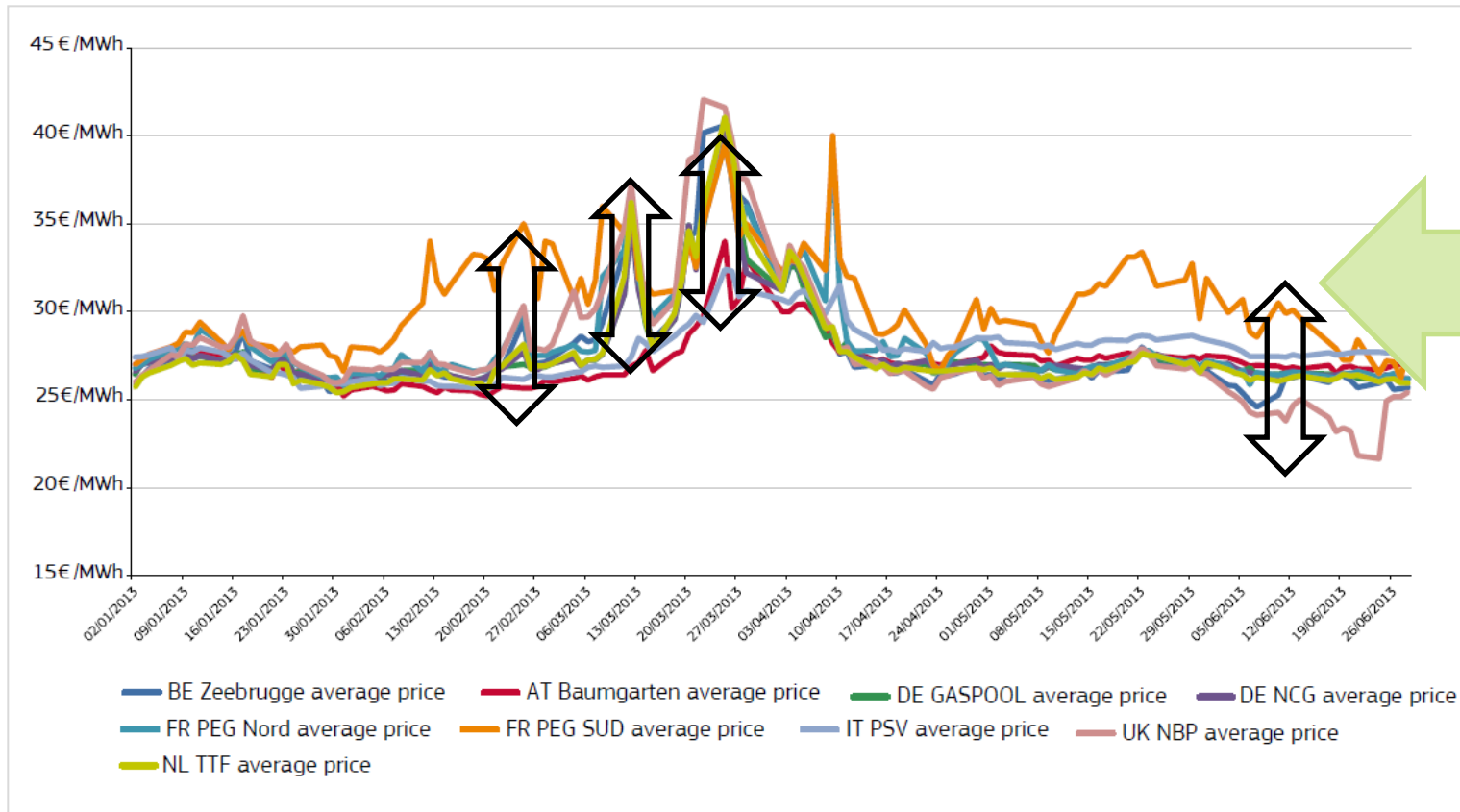
Difficulties

- Declining gas demand
- Massive price spread between Europa and US
- Structural problem: need for gas fired power plant to back-up intermittent RES generation →← gas is priced out of electricity generation – will this change?
- Retail markets: very different levels of competition across Member States

Possible fields of action



Gas prices show that we still don't have a European market, while...



Datasource: ICIS Heren

Source: Eu Commission,
Quarterly Report on European Gas markets Q2 2013

Measure	GTM* criteria	Status quo
Infrastructure RSI	RSI > 110% for more than 95% of the days	<i>Not yet assessed ?</i>
Size of Entry-Exit zones	≥ 20 BCM (215 TWh)	Only 6 national markets ≥ 20 bcm demand
Pluralism of sources of supply	≥ 3 significant sources	Importing entities < 3 in Baltic States, FI and SE
Market concentration	HHI < 2000	Problematic in most markets (except for UK and DE)
Liquidity of the market	Churn rates > 8	Only TTF and NBP achieve churn > 8 (ZEE close to 8)

.....GTM criteria generally not yet met

*According to CEER (2011): Vision for a European gas target model.

Possible areas for action

Increasing diversity of gas sources

- Historically gas sources have been limited → market dominance of one or two suppliers
- Need to encourage new sources and diversification
 - LNG, pipelines from new areas, European production, biogas...

Creating alternative infrastructure

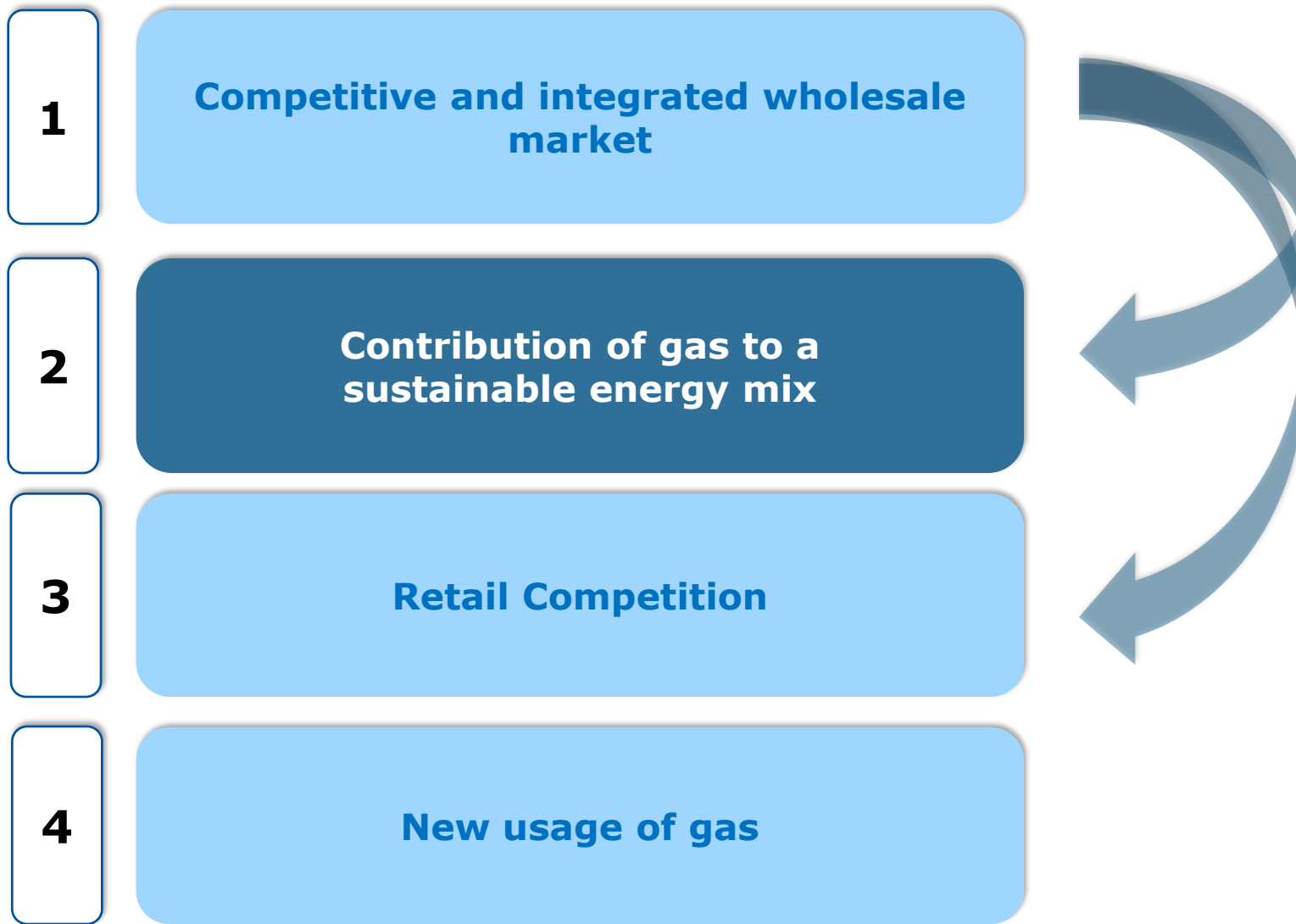
- Without alternatives in transportation capacity, sources of gas cannot compete
 - Many markets still rely on one source/transport route for the majority of imports
 - In markets with declining demand, TSOs might need incentives to maintain infrastructure in order to promote competition
- However, necessary to avoid redundant infrastructure that increase tariffs and do not provide additional benefit

Access arrangements to facilitate competition

- Physical capacity needs to be complemented by tariff arrangements that facilitate competition over longer distances

..to complete vision of IEM

Possible fields of action



Nature of the problem

Growth of RES

- Electricity demand growth expected
- Decarbonisation means increasing % of RES-E
- Intermittent wind and solar will be dominant RES-E technologies
- Intermittency combined with short-term forecasting errors (<4hrs)

Potential role of gas plants

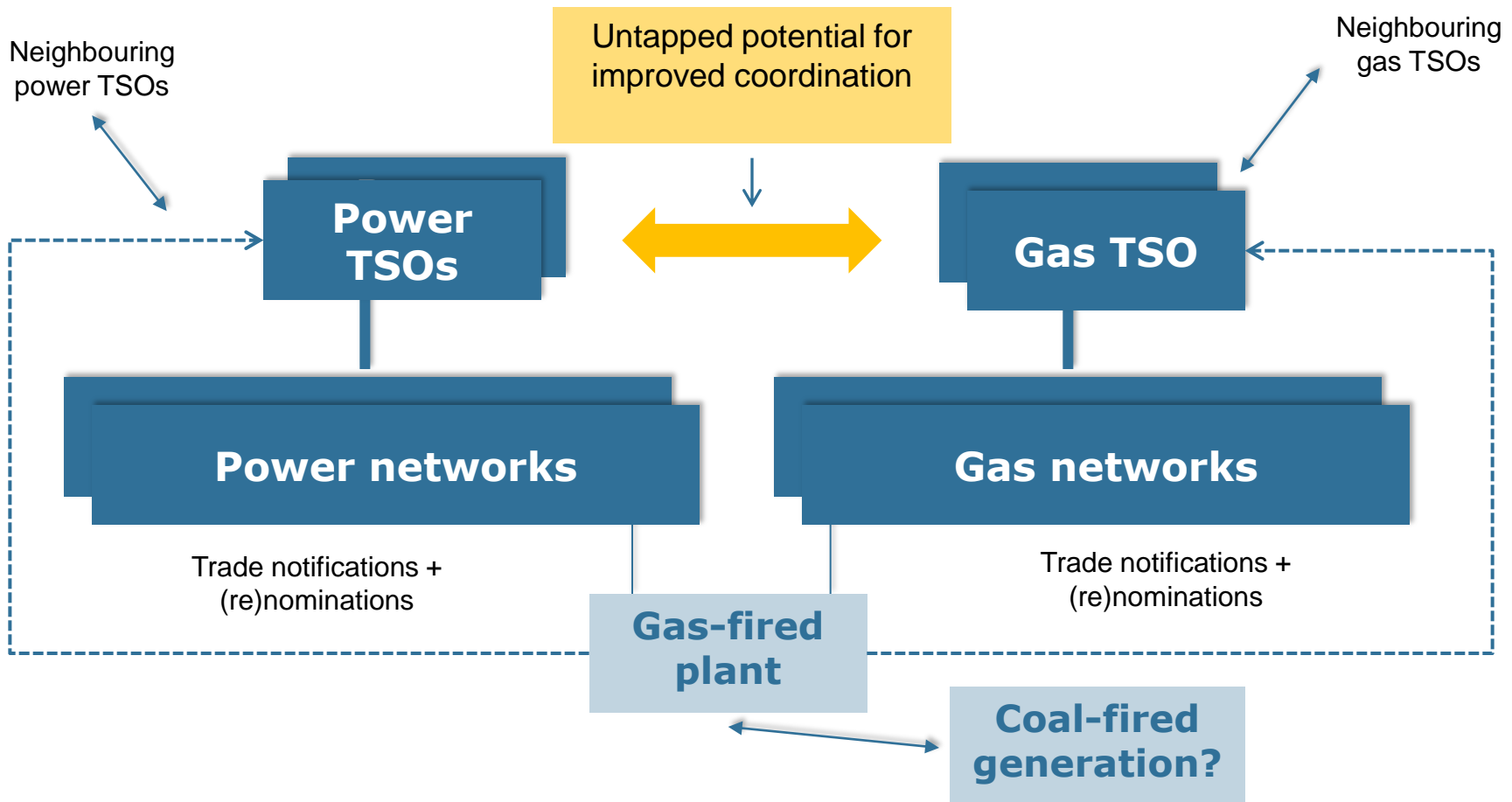
- Gas fired plants "should" become dominant thermal plant due to flexibility and low emissions relative to coal and oil
- Able to start and reach full output within one hour with high ramping rates
- Frequent within-day adjustments to complement uncertain RES-E
- Flexibility for network users and TSOs

Implications for gas

- Plant's gas offtake directly from transmission system
- Significant within-day variations – expected at D-1 and unexpected:
 - Need for intra day markets with short term products
 - Need to re-nominate offtake volumes to TSO
 - Need sufficient capacity reserves (IEA: 300 GW)

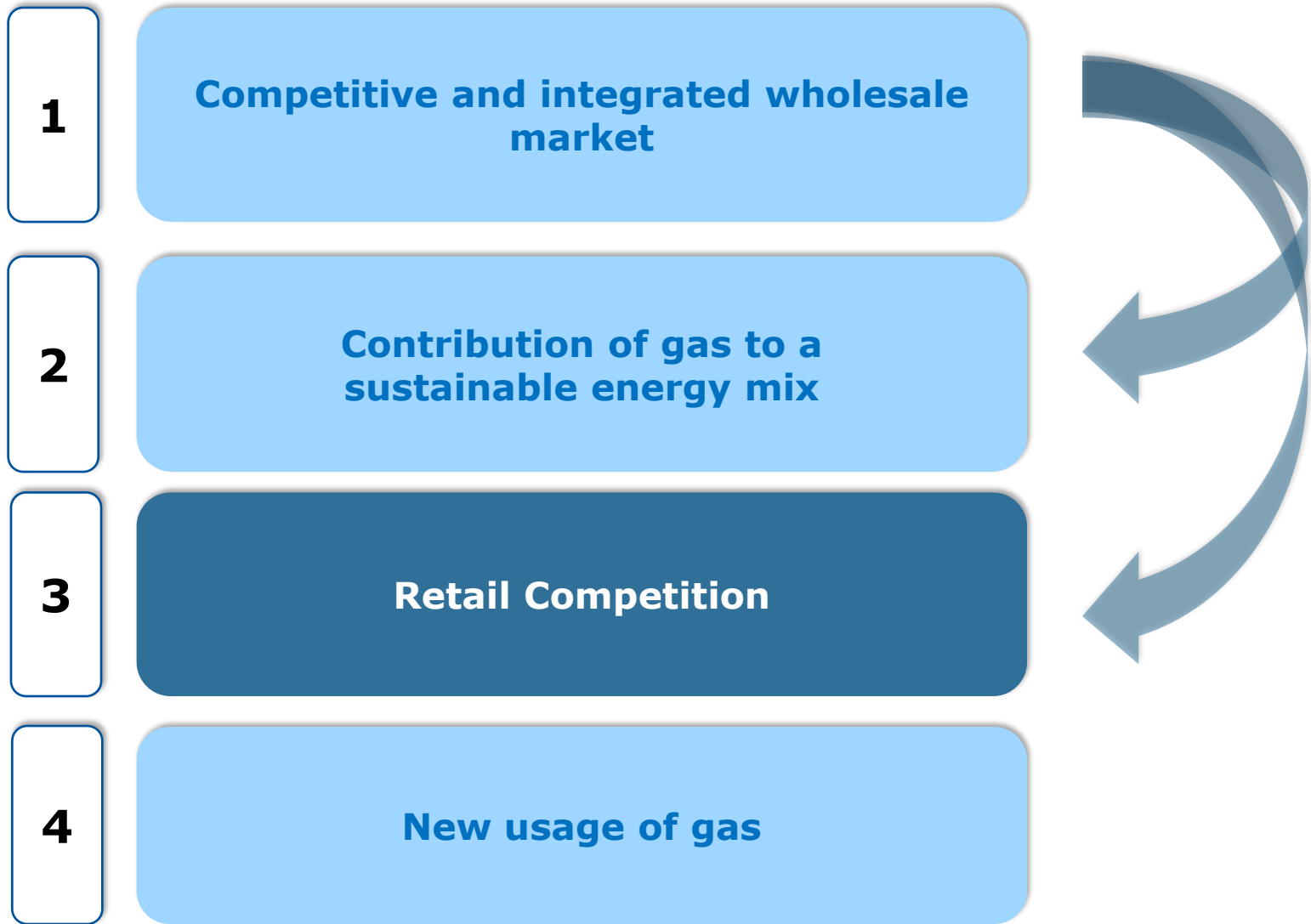
Costs help to inform case for alternative balancing options in power sector

Gas plants are link between sectors

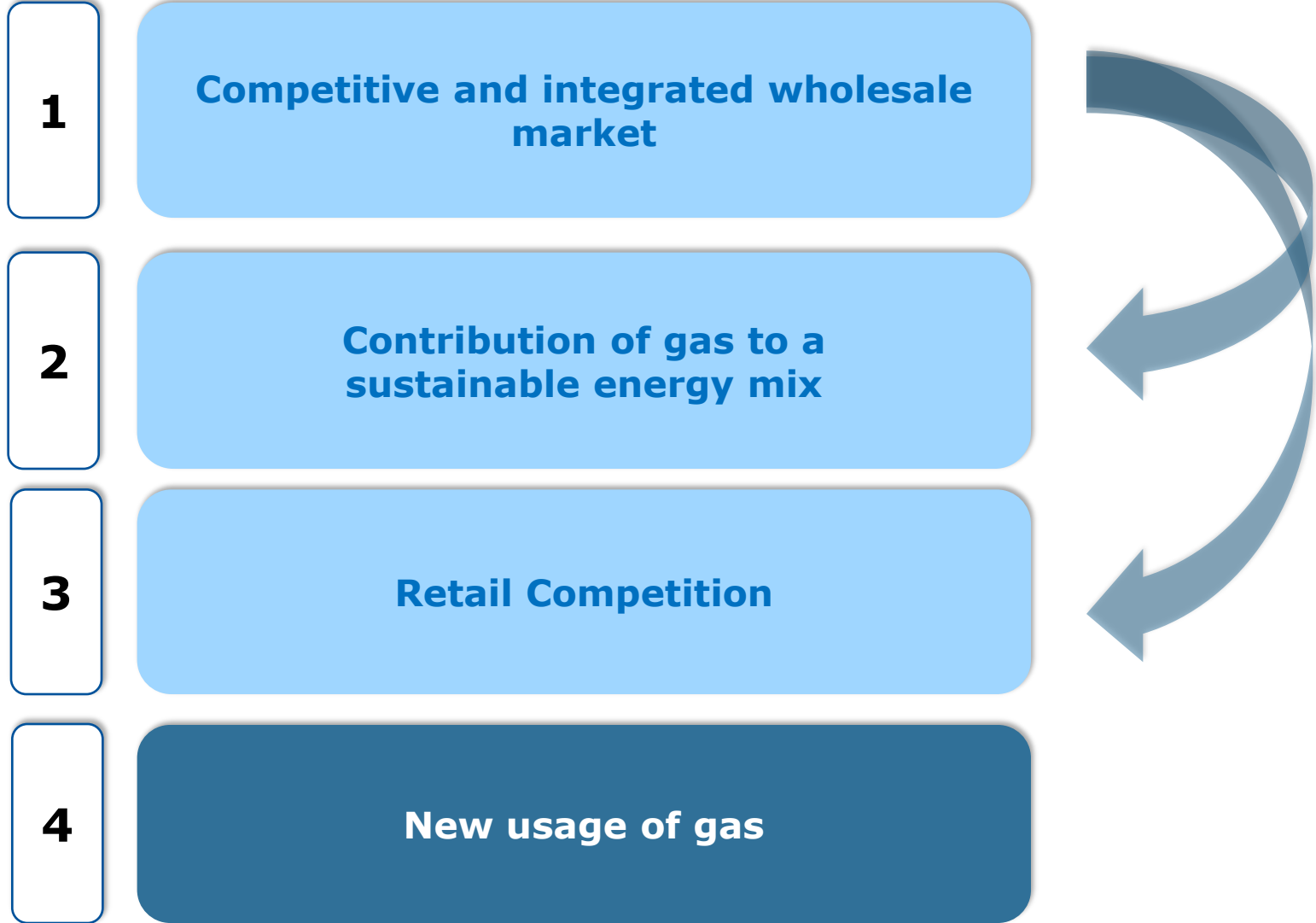


Under network codes, emphasis is on cooperation between TSOs for same energy type (e.g. for x-border balancing) and not between TSOs in gas and power within an area. Plant must operate within separate balancing arrangements of each sector.

Possible fields of action




Possible fields of action



- Natural gas for vehicles
 - LNG
 - Compressed Natural Gas (CNG)
- Biogas
- Power to gas



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**Thank you for
your attention !**