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Modernisation of the regulatory framework for LNG terminals

A report for GATE terminal

June 2020

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Executive Summary (1/2)

1 Situation in 2003 – rTPA was introduced when markets were still poorly developed

Market context

- In 2003 most gas markets in Europe were national gas markets with little competition, with only a few CAPEX-intensive LNG terminals, that could be regarded as monopolies

Motivation for rTPA for LNG terminals at the time

- Motivation of EC to select rTPA for LNG terminals was aimed at creating effective competition and preventing abuse:
  - Abuse of horizontal market power (e.g. prices that are too high)
  - Vertical foreclosure of downstream markets by incumbents (e.g. discrimination of third party users of LNG infrastructure)

2 Developments since 2003 – the gas market has changed fundamentally, creating competitive regional markets (particularly in North-West Europe) with LNG being an integral part of it

Gas market

- Market concentration in upstream and downstream markets has reduced
- National markets have been replaced by competitive regional markets, especially in North-West Europe (NWE)

LNG terminals

- Competition between terminals has developed
- Less CAPEX intense options have become available
- LNG has become part of a wider gas market with piped gas

Note: We refer to North-West Europe (NWE) as including UK, France, Netherlands, Belgium,and Germany

Executive Summary (2/2)

3 Advantages of nTPA – In more competitive markets negotiated TPA has advantages over rTPA and exemptions, which policy makers should consider for LNG terminals

Advantages of nTPA over rTPA

- nTPA increases operational freedom to respond to customers' demand; rTPA can lead to a slower response
- nTPA provides investors with risk and return to respond efficiently to demand; rTPA may have incentive issues

- Where effective competition takes place between terminals, nTPa avoids the inefficiencies of competition based on regulatory terms

Advantages of nTPA over exemption regime

- nTPA allows investors to set up a continuous investment cycle. The rTPA system allows exemptions, but these come with uncertainty about the status of investments after the exemption expires, and uncertainty in the application phase
- nTPA reduces the administrative burden in regions where exemptions are the de-facto norm

4 Policy recommendation – Provide EU Member States with the option to introduce nTPA for LNG terminals where this better suits the development of the market

Differences by region

Regional gas markets have developed differently across the EU, and the need for regulation of LNG terminals differs (e.g. NWE now has a competitive, liquid gas wholesale market)

Allow most suitable regime based on criteria

- Sufficient competitive pressure (measured based on structural indicators such as market shares, capacity)
- No fundamental barriers to entry (e.g. physical space available, permits possible, investment costs moderate)

Such an approach would be equivalent to the regulation of storage facilities

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1

Situation in 2003– summary: The decision to regulate LNG import terminals in 2003 was made against the gas market situation at that time

1a

Second Gas Directive in 2003

- **Mandatory rTPA for LNG**: Directive introduced mandatory regulatory Third Party Access (rTPA) for gas transport and LNG import terminals (with option to apply for limited period exemptions for new infrastructure)
- **Choice for gas storage**: Directive allowed Member States to choose between rTPA or a light touch regulation in the form of negotiated TPA (nTPA) for gas storage

Setting

1b

Market situation 2003

- **National gas markets with little competition in most Member States in 2003**, with only a few CAPEX-intensive LNG terminals, that could be regarded as national monopolies

1c

Regulation should be used to prevent:

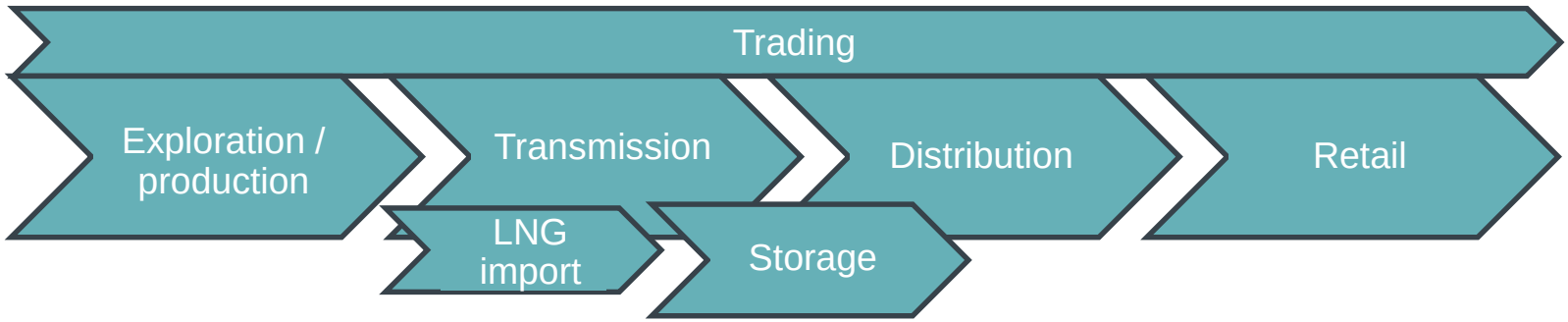
- **Abuse of horizontal market power** (e.g. too high prices)
- **Vertical foreclosure of downstream markets by incumbents** (e.g. discrimination of third party users of LNG infrastructure)

1a

In 1998 the EU started a process of market liberalisation and regulation to promote a competitive internal gas market

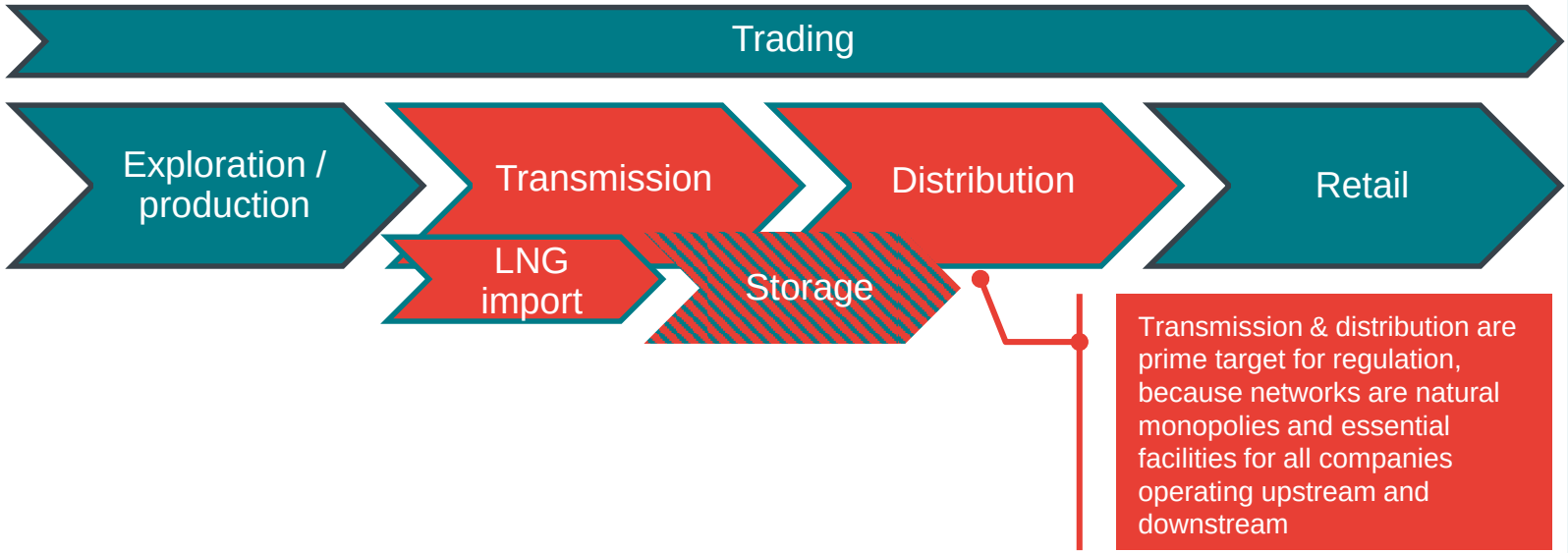
Before 1998

Approach to allow and overlook regional, vertically integrated monopoly companies*



Since 1st Gas Directive (1998, Directive 98/30/EC)

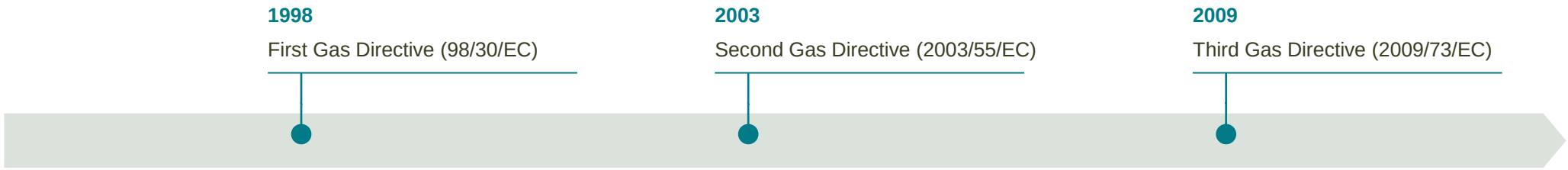
Approach to mimic competition by regulating "essential facility" infrastructure and make this available to (new) market players to allow competition on up- & downstream markets



* Prior to the introduction of the 1st Gas Directive in 1998, the EU gas sector was dominated by large vertically integrated companies operating in national markets. These companies were often in control of multiple parts of the value chain, i.e. they controlled assets that allowed them to produce or procure the gas, transport the gas to customer, and sell this gas to customers or trade further.

1a

The Second Gas Directive in 2003 introduced mandatory rTPA for transmission and LNG, while allowing nTPA or rTPA for storage

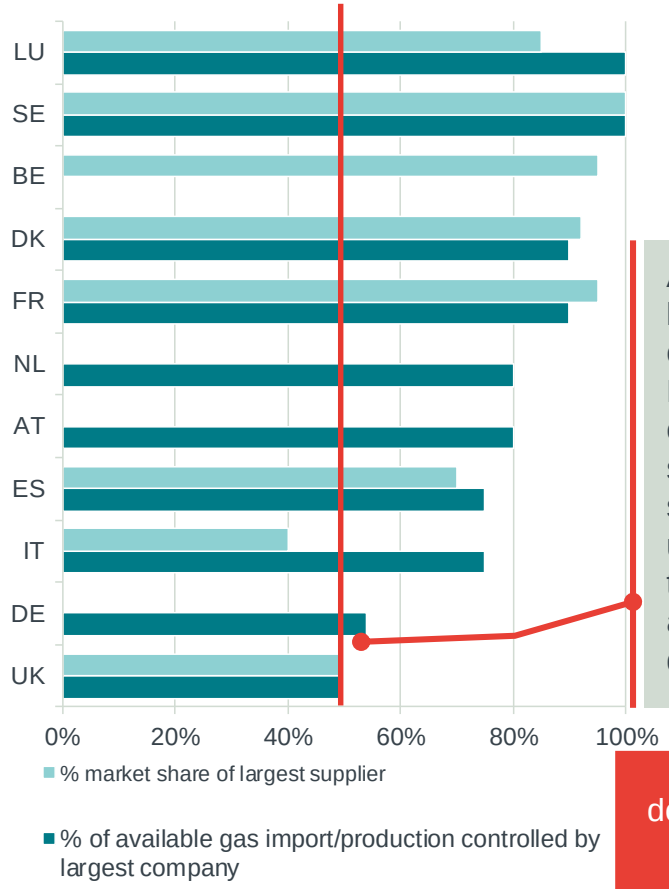


	1998 First Gas Directive (98/30/EC)	2003 Second Gas Directive (2003/55/EC)	2009 Third Gas Directive (2009/73/EC)
Transmission	▪ MS introduce nTPA or rTPA ▪ Unbundling of accounts	▪ **rTPA only**, motivated by a general concern that nTPA is not successful in providing entrants access ▪ Functional unbundling	▪ rTPA only ▪ Ownership unbundling models
LNG facilities	▪ MS introduce nTPA or rTPA	▪ **rTPA only**, motivated by a general concern that nTPA is not successful in providing entrants access ▪ Unbundling of accounts	▪ rTPA only ▪ Unbundling of accounts
Storages	▪ MS introduce nTPA or rTPA ▪ Unbundling of accounts	▪ MS introduce **nTPA or rTPA** ▪ Unbundling of accounts	▪ MS introduce nTPA or rTPA based on published criteria ▪ Functional unbundling
New facilities		▪ Exemptions granted by NRA subject to review of EC based on 5 criteria	▪ Exemptions granted by NRA subject to review of EC based on 5 criteria ▪ NRA to set capacity allocation mechanism, congestion management procedures must be in place ▪ Amendment in 2019 to consult other affected MSs

1b

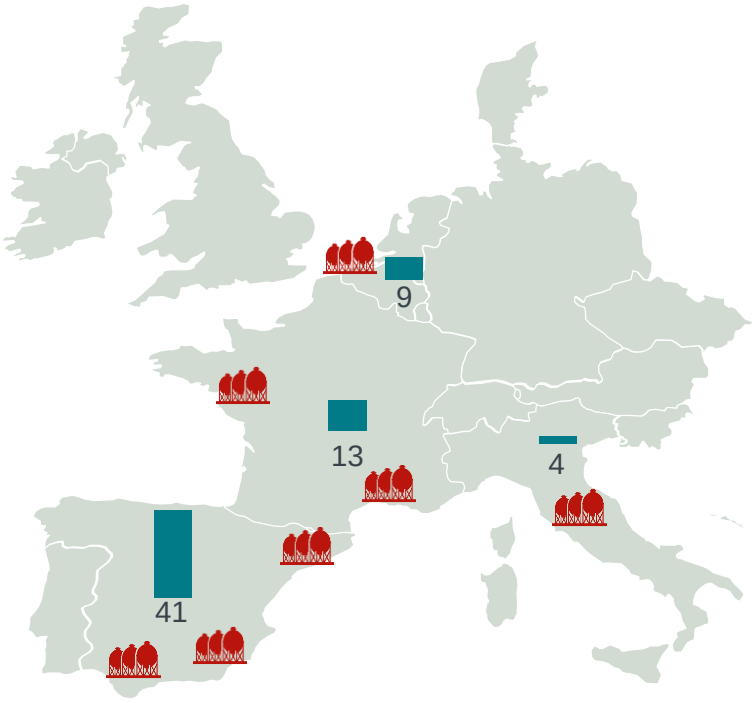
The decision for rTPA for LNG terminals in 2003 was based on an underdeveloped gas market & few LNG terminals in EU at the time

Gas market concentration presented by EC in 2003



Almost all of the largest gas companies in all Member States controlled large shares of the supply and/or upstream markets that there would be a presumption of dominance (50%)

EU LNG terminals in 2003 with nominal capacity (bn m³(N)/a)



All LNG terminals operated in markets with dominant companies. rTPA was a tool to break these dominant positions and facilitate new entrants

The European gas industry has gradually changed from **dominant integrated energy companies** and rigid long-term contracts to a **competitive and interconnected** market.

In **2003** the situation was characterised by **only few LNG terminals** in the EU, **all of which were onshore** and totalling to an **import capacity of only 66 bn m³(N)/year.**

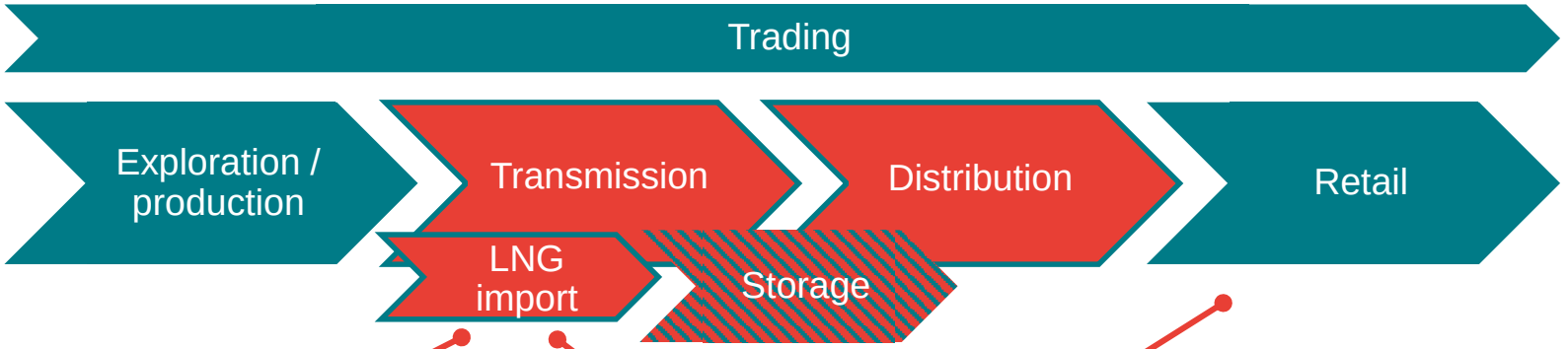
Source: EC, 2003. Data was not provided for all countries, e.g. due to commercial sensitivity

Source: GIE, 2010

1c

Motivation for rTPA for LNG in 2003 was to prevent abuse of horizontal market power & vertical foreclosure of downstream markets by incumbents

Gas transmission, distribution and LNG were seen as **natural monopoly and essential facility**



Regulating these essential facilities was aimed at restricting the use of horizontal market power and vertical foreclosure

Horizontal concern: Concern that, within the market for gas infrastructure, **prices and outputs are not at the competitive level** because a single or small group of companies has control over the market. This is particularly relevant if the infrastructure has the characteristics of a natural monopoly:

*"In a situation of **natural monopoly**, there is no scope for building a competing infrastructure, be it for economic, technical or other reasons. As a general rule, the access regulation of an infrastructure should be stricter, the more it displays characteristics of a natural monopoly." (EC, 2009)**

Vertical concern: Concern that the owner of gas infrastructure creates a competitive advantage in a downstream market by denying or overpricing capacity for competitors downstream:

"Traditionally LNG has been imported by national incumbents who also own LNG terminals, and this situation has prevented LNG imports from increasing downstream competition." (EC, 2007).

***** Example Zeebrugge: In 2002, the Belgian regulator pointed out that Montoir-de-Bretagne was the only terminal that could physically compete with the Zeebrugge terminal (CREG, 2002).

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2

Developments until 2020- Summary: Fundamental changes in NW-Europe gas market, alleviating concerns from 2003

2a Gas markets developed significantly

- **Competition has increased, market concentration decreased**
- **Market integration:** development of an integrated internal market for natural gas in (Northwest) Europe

2b Competition intensified for LNG terminals

- **Number & capacity of LNG terminals in EU multiplied**
- **Competition between LNG terminals emerged**
- LNG has become part of a **wider gas market** with piped gas
- **Evolution of FSRUs** has added new option to add LNG capacity quickly and with lower CAPEX

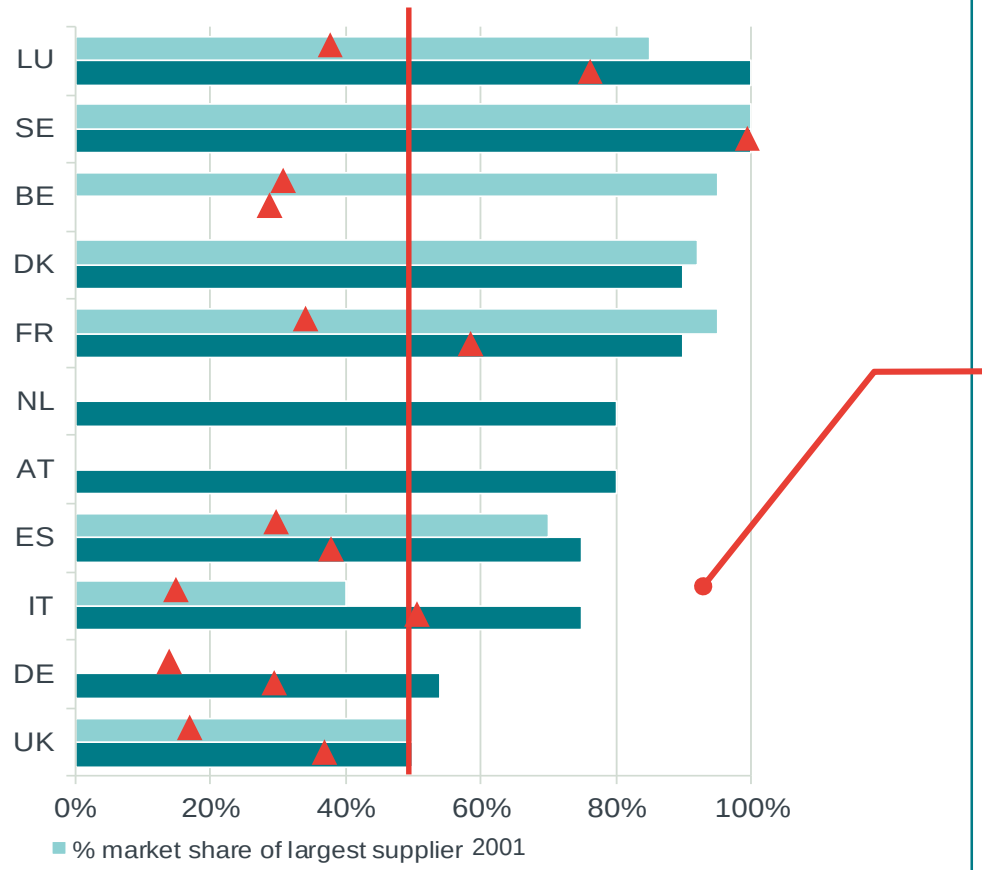
2c Concerns motivating rTPA alleviated

- **Horizontal concerns have decreased:** More terminals are actively competing with each other
- **Vertical concerns have decreased:** Control over LNG terminals does not prevent other market players from sourcing gas

2a

Gas markets have seen a decrease in market concentration in many EU countries, particularly in North West Europe

Decrease in gas market concentration



In 2001, almost all countries had concentrated gas markets.

Today most gas markets are considerably less concentrated, both at the upstream and downstream level:

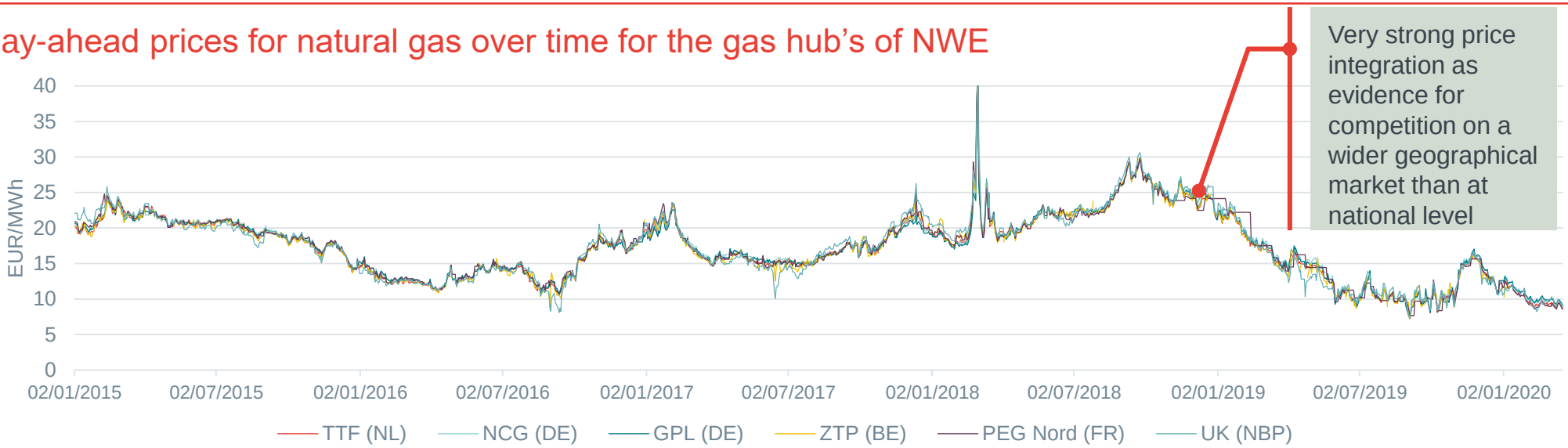
- Market shares of the largest companies have in many instances halved from 2001 to today.
- Today market shares of the largest companies are below 50% for most countries, and often below 40%

Source: EC, 2003; Eurostat, 2019. Data was not provided for all countries, e.g. due to commercial sensitivity. This applies to NL

2a

The regional nature of the market in NWE is illustrated by the correlation of gas prices at the different hubs

Day-ahead prices for natural gas over time for the gas hub's of NWE

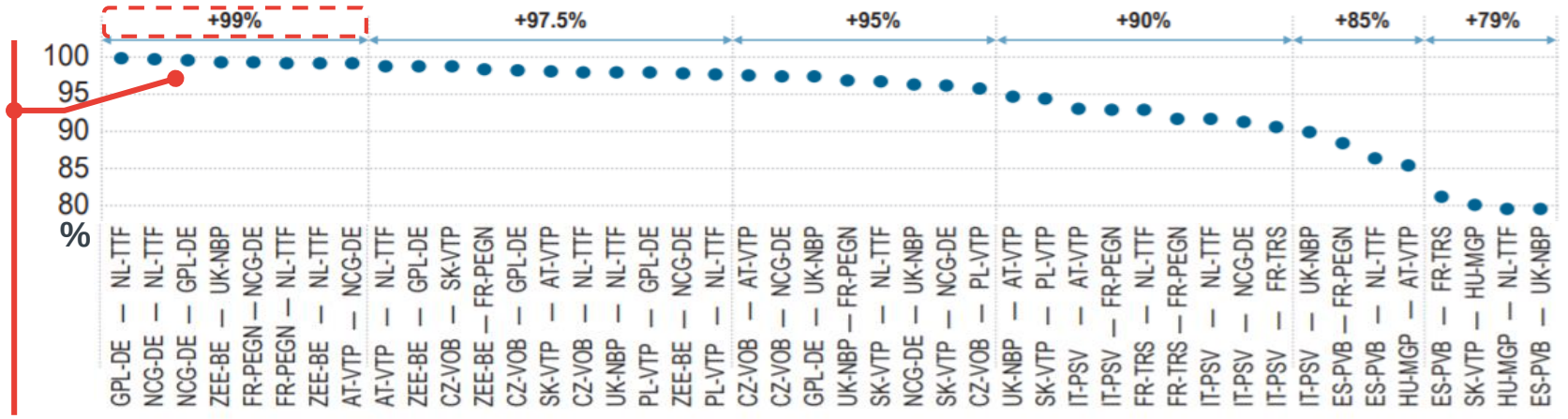


Very strong price integration as evidence for competition on a wider geographical market than at national level

Note: A cap of 40 EUR/MWh has been applied to the 01/03/2018 day-ahead prices in order to have a better view on the price integration across time
Source: Frontier based on Bloomberg

...show very high levels of correlation as can also be seen by looking at the Pearson correlation coefficient

Gas markets in NWE (TTF, NBP, NCG, GPL, ZEE and PEGN) show a high level of price integration (2018) signalising close to perfect co-movement of prices



Source: ACER, 2019

2a

Regional markets are also recognised in EC case law

The geographic market definition should no necessarily focus on national markets as competition between is taking place in wider regional markets, certainly in NW Europe

The relevant geographical market is defined upon the concept of substitutability, where regions belong to the same market in case their market products are substitutable to a sufficient degree.

Case law reference for the definition of the geographical market

> *""The majority of respondents […] indicated that Germany forms part of a regional geographic market […]. Most respondents considered this regional market to encompass several EEA Member States (in particular Germany, Belgium the Netherlands and the United Kingdom)."* (EC in COMP/M6910 Gazprom/Wintershall/Target Companies, paragraph 88)

> *"Also, participants active in Germany on the demand side of the upstream wholesale gas supply market indicated a capability of sourcing their gas directly from at least one of the United Kingdom, the Netherlands or Norway. At the same time, upstream producers confirmed that they would divert volumes to Germany, away from at least the Netherlands, in the event of a non-transitory, significant increase of German gas prices."* (EC in COMP/M6910 Gazprom/Wintershall/Target Companies, paragraph 89)

> *"Finally, there […] appears to be an increasing price convergence between the gas prices quoted at the gas trading hubs located in this putative regional gas market."* (EC in COMP/M6910 Gazprom/Wintershall/Target Companies, paragraph 90)

2a

However, we note that gas markets have different sizes and levels of maturity across Member States

2019 Maturity ranking of EU hubs based on 5 key elements

A ranking of how the criteria of depth, liquidity and transparency are met and to what degree is analysed by evaluating the number of active participants, the diversity of traded products, the traded volumes, the tradability index as well as churn rates of selected EU hubs.

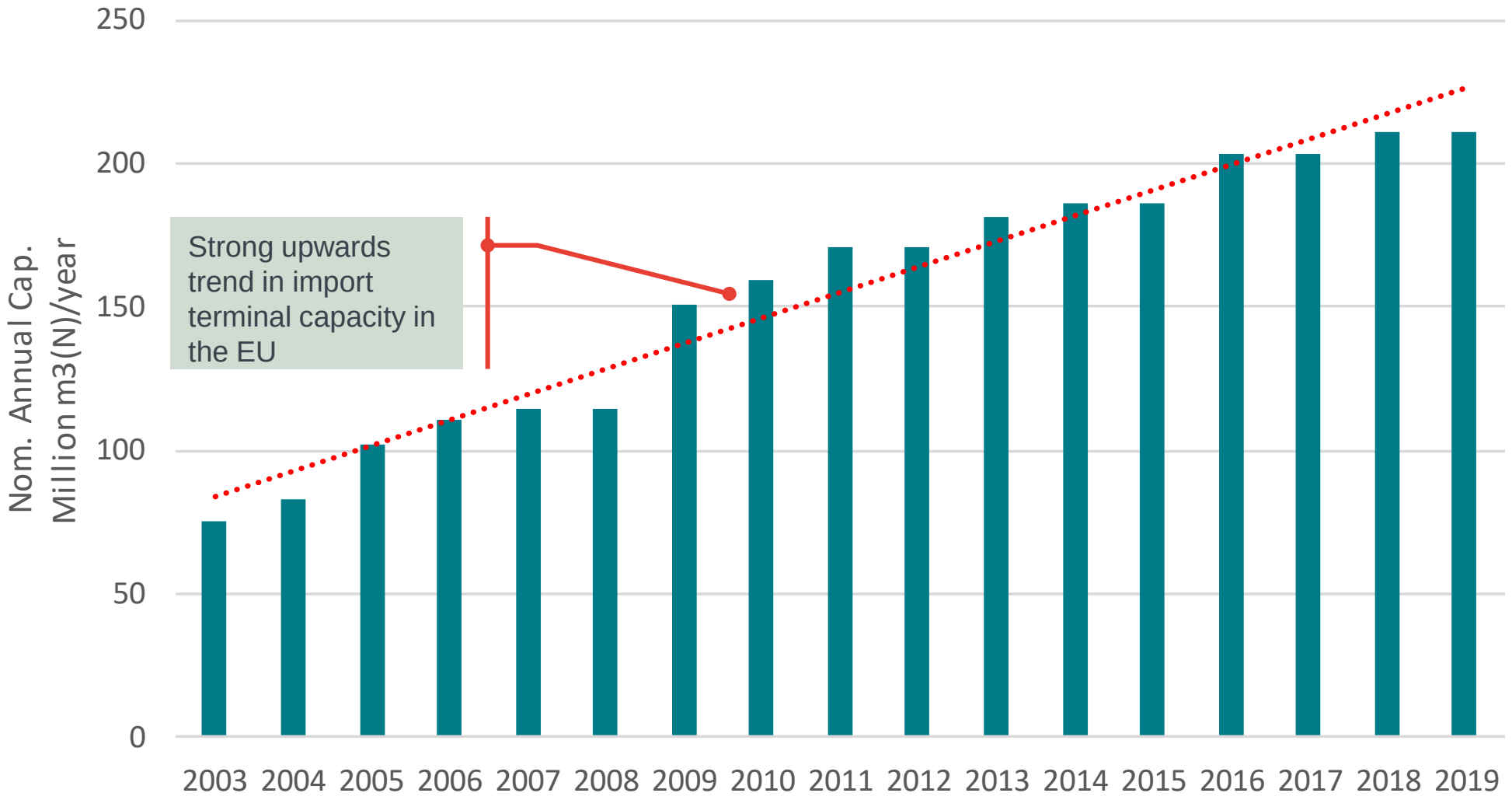
HUB	Market participants	Traded products	Traded volumes	Trada-bility index	Churn rate	Score (out of 15)
TTF	167	52	40'390	20	97.1	15
NBP	135	42	12'480	16	14.3	14
NCG	124	25	2'205	15	4.3	9
GPL	95	24	1'375	14	2.9	8
PSV	94	24	1'440	14	1.8	8
VTP	72	17	970	12	9.0	8
TRF	63	16	870	15	2.0	7
ZEE	52	17	380	7	1.9	7
ZTP	52	13	190	5		7
PVB	56	11	130	0	0.3	5
VOB	45	11	95	5	1.0	5

Note: Details relating to the criteria used: (i) Market participants: Counts the number of active market participants; (ii) Traded products: Measures the products available for trade OTC and exchange; (iii) Traded volumes: Measures the volumes that are traded in the hub; (iv) Tradability index: Index to evaluate liquidity based on bid-offer spreads; (v) Churn rate: Multiple of traded volume to actual physical throughput.

Source: Oxford Institute for Energy Studies, 2020

2b

LNG regassification capacity in the EU has more than tripled since 2003, giving more market participants access to, and choice of, LNG facilities



Source: GIE, 2019

2b

In NWE these terminals are actively competing with one another

Authorities observe competition – a number of authorities recognise that there is competition between terminals in the NWE region

CEER

"*Competition between LNG terminals can currently be observed at the regional level. It is notably the case for the North-West Europe region, where several terminals, operating under different regimes, are located: Gate, Zeebrugge, Dunkerque, Isle of Grain, and Montoir-de Bretagne***."** (CEER, 2019)

EC research

" There is competition between terminals and the access from the terminals to liquid markets in NW Europe" (REKK for EC, 2017)

Competition in primary capacity - Users have a range of Open Seasons to contract capacity

Examples of recent Open Seasons

- GATE (NL), March 2019
- Fos (FR), March 2019
- Wilhelmshaven (DE), May 2019
- German LNG terminal, Brunsbüttel (DE), October 2019
- Isle of Grain (UK), March 2020 (on hold)
- Swinoujscie (PL), March 2020

Competition in other services - Trans-shipment takes place at various NWE terminals

Trans-shipment activity at:

- GATE (NL), exempted from regulation
- Zeebrugge (BE), regulated
- Montoir (FR), not regulated
- Isle of Grain (UK), exempted from regulation

2b

The change to a competitive regional market has also been recognised in the most recent report for the EC

Trinomics, REKK & Enquidity for EC, 2020, Study on Gas market upgrading and modernisation – Regulatory framework for LNG terminals

Change from national to regional markets...

"LNG markets in the EU historically operated to a large extent at national level, such that LNG imported into one country was mainly consumed in the same country. However, in the past decade gas systems and market areas have become more interconnected, enabling increased gas flows between different countries in the EU. In recent years, competition has also intensified between terminals with similar capacities in the same regions, as LNG imported in the Netherlands can, for example, be easily transported to Belgium, and vice versa" (Page 22)

..with strong competition

"Physical access to cross-border transmission networks varies across terminals in the EU. Some terminals – like those in Northwest Europe – are well connected to neighbouring markets and present ample downstream distribution opportunities to their users. Well-managed pipelines connect France to Belgium, Belgium to the Netherlands, and the UK to all three countries. These physical interconnections have bred strong inter-terminal competition in the region, as shippers can elect to use any of the terminals to serve the same markets" (Page 30)

2b

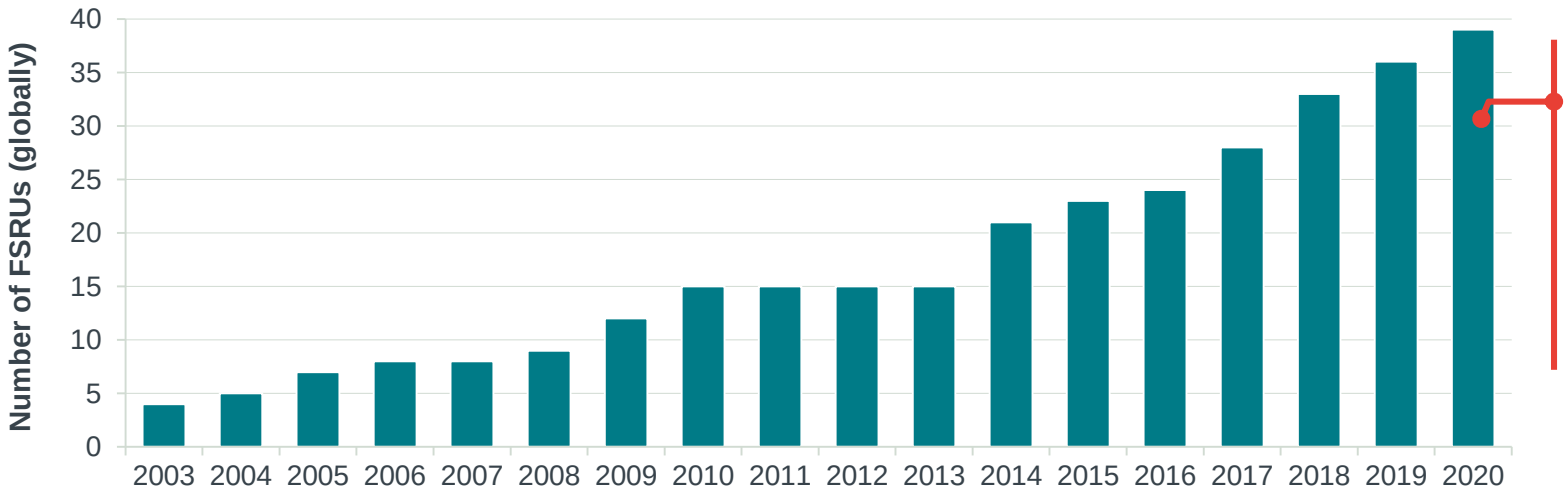
Furthermore, FSRUs have created lower barriers to entry for parties interested in LNG terminal capacity

Three main advantages of FSRU in relation to onshore terminals...

	Onshore Terminal	FSRU	Impact
CAPEX for new-built (with 180'000 m^3 storage capacity)	$750M	$450M	**Lower capital cost** and less capital outlay leads to better cash flow and return on investment
Months to build	36-40 months	27-36 months	Shorter schedule allows **higher competitiveness**
Possibility to **lease**	No	Yes	Option to lease ameliorates cash flow and **lowers overall project CAPEX**

Source: Oxford Institute for Energy Studies, 2017

...have led number of FSRUs to grow rapidly and become a viable alternative to onshore terminals.



The strong growth of FSRUs demonstrate the important alternative to onshore terminals they represent

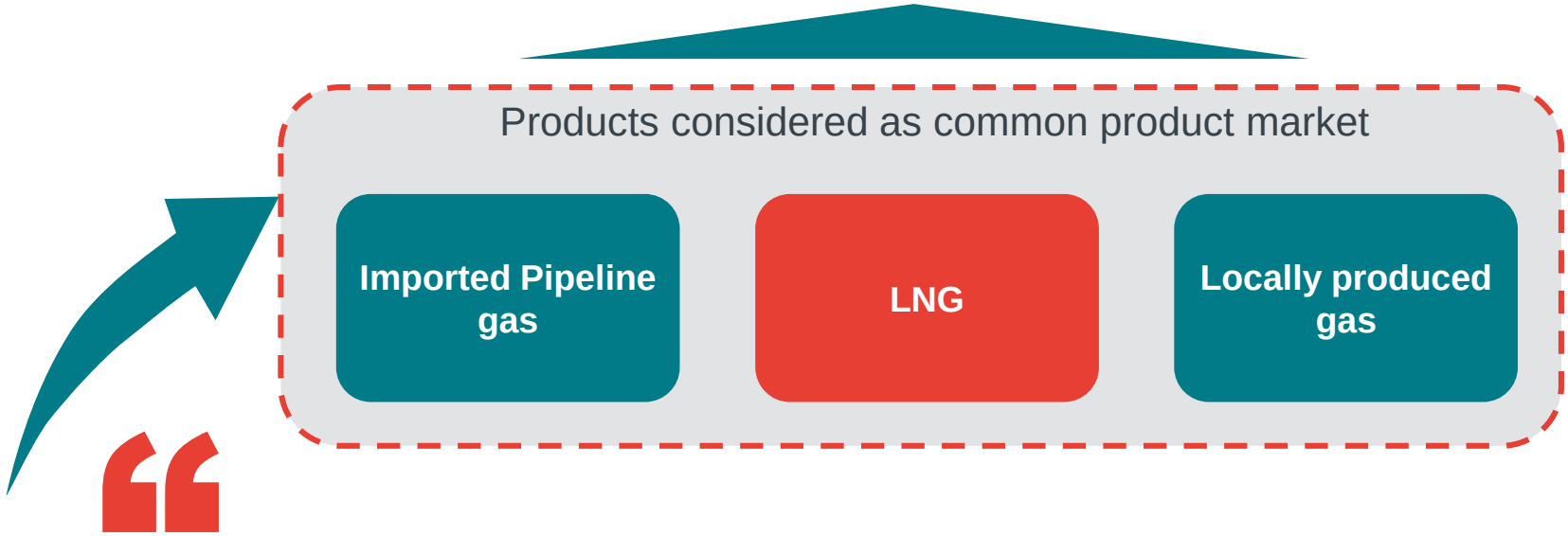
Source: GIIGNL, 2019

2b

Additional competitive constraints on LNG terminals come from other gas import or production infrastructure, as recognised in case law

The definition of LNG and imported pipeline gas as common market implies disciplining effect of pipeline gas for price-setting of LNG terminals

The relevant product market is defined upon the concept of substitutability, where products belong to the same market in case there are substitutable to a sufficient degree.



"*The Commission found that, in countries where import infrastructures for LNG are present, LNG would constitute a direct competitive constraint to gas imported via pipelines*." (EC in COMP/M6477 BP/ Chevron/ ENI/ Sonangol/ Total/ JV with reference to COMP/M4545 Statoil / Hydro)*

"Increasing global LNG oversupply as well as large volumes of regasification capacity helps competition to unfold between LNG and pipelined gas in the EU."(EY/REKK, 2018)

* We note that in M8771 Total / Engie the Commission reviewed the market definition but ultimately left the market definition open.

2c

Therefore, the concerns that motivated rTPA have reduced over time with the development of competitive markets

The original motivation for rTPA was based on market failures in an immature gas market. Effective competition in the NWE market takes away these concerns

Addressing the horizontal concern

The horizontal concern that LNG terminals hold and abuse market power has been reduced by:

- The market share each terminal holds for delivery to the regional market
- Observations that competition is taking place between terminals
- The competitive pressure from pipeline import and production capacity
- Lower barriers to entry

Addressing the vertical concern

The concern that control over LNG terminals allows for effective foreclosure of mid- or downstream competitors has been reduced by:

- The market share each terminal holds for delivery to the regional market
- The access mid- and downstream players have to alternative sources of gas on a well-functioning regional gas market
- Unbundling that has occurred since 2003

The balance between the costs and benefits of the rTPA regime has changed since 2003. A review and modernisation of the regulatory framework for LNG terminals is required

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3

Advantages of nTPA– Summary: In competitive markets nTPA has advantages over rTPA and TPA exemptions

3a Advantages of nTPA over rTPA (in regions where the need for regulation is no longer prevalent)

- Provides operational freedom to LNG facilities to offer services in line with market demand
- Creates investment signals based on market demand rather than regulatory incentives that risk a non-optimal level of investment

3b Advantages of nTPA over TPA exemptions

- nTPA removes the uncertainty of the exemptions procedure (when nTPA provides an alternative)
- nTPA removes the additional burden of the case-by-case exemption regime under rTPA

3c

Introducing nTPA has advantages in competitive markets and does not hinder market functioning as can be seen with exemptions in NWE.

3a

nTPA provides operational freedom to LNG facilities to offer services in line with market demand

The nTPA regime **facilitates the reaction of LNG facilities to specific customer needs**, LNG customers value flexibility and a range of products, and combinations can be offered to customers on commercial terms that reflect their needs. Strict or inflexible oversight from regulators hinders the development of new services (Trinomics, REKK & Enquidity for EC, 2020)

- For example, the Spanish regulator noted that the definition of services, access regulations and tolls have not evolved according to market needs (CNMC, 2018). Sedigás notes that despite its advantageous geographical position and flexibility of slots, it is not able to offer competitive prices for bunkering activities as a result of its regulatory environment (Sedigás, 2018). This leads to allocative inefficiencies and unserved demand.
- Flexibility is especially relevant given LNG terminals will need innovation to sustain in the fast-paced gas industry in times of decarbonisation (e.g. by integrating operations with other parties (e.g. CCS) or import green gases.

Where effective competition takes place between terminals, nTPa avoids the inefficiencies of competition based on regulatory terms

It is currently uncertain whether terminals in GB will operate under the same regulatory conditions as in the EU

3a

nTPA avoids incentives in rTPA that may lead to a non-optimal level of investment

Incentives induced by regulation that is not set in line with market development can lead to investments that are economically non-optimal, with knock-on effects on other investments

- **Overinvestment** can take place when operators are insulated from downside risk that market parties would bear, leading to gold-plating of facilities and ultimately higher costs for consumers.
- **Underinvestment** can take place when operators do not carry out additional investments that would serve the market (i.e. “sit & relax”) or when regulation is not in line with the risks parties face
- **Asset or technology choice**: Current regulation might provide incentives to invest in particular assets or technology, while these might not be optimal in a market environment (e.g. pipeline versus LNG).

Where effective competition takes place between terminals, nTPa avoids the inefficiencies that are an inherent risk of regulatory regimes

3b

Removing uncertainty and reducing administrative burden are advantages of nTPA over an exemption regime

nTPA removes the **uncertainty** of the exemptions procedure (when nTPA provides an alternative)

- An important reason for investors to seek exemption from TPA regulation is need to secure commercial agreements with terminal users. The uncertainty induced by the case-by-case exemptions can be avoided by a default nTPA regime. This would avoid:
  - **Uncertainty before the exemption decision**: This uncertainty impacts new investors, as parts of their investment will be sunk before the decision has been made. nTPA allows investors to approach potential customers with greater certainty on the terms that can be offered.
  - **Uncertainty at expiry of the exemption**: In the last years of their exemption, LNG facilities face a situation of uncertainty concerning the regime after exemption, which impacts on contracting and investment. In particular, it creates uncertainty for the investors when investments in new capacity and services are considered.
    - While it is in theory possible to request exemptions for expansions (e.g. Isle of Grain), this would create different conditions within a single terminal.

Case-by-case exemption regime is **an additional burden** on the development of terminals

- The current case-by-case option of exemption **adds to the lead time of investments and increased administrative costs**. Allowing Member States to opt for nTPA would reduce the burden on project developers (and regulators) and allows operators to respond to market demand faster.

In regions where the need for regulation in form of rTPA does no longer exist, the option of nTPA would allow LNG terminals to avoid the drawbacks of case-by-case exemptions.

3c

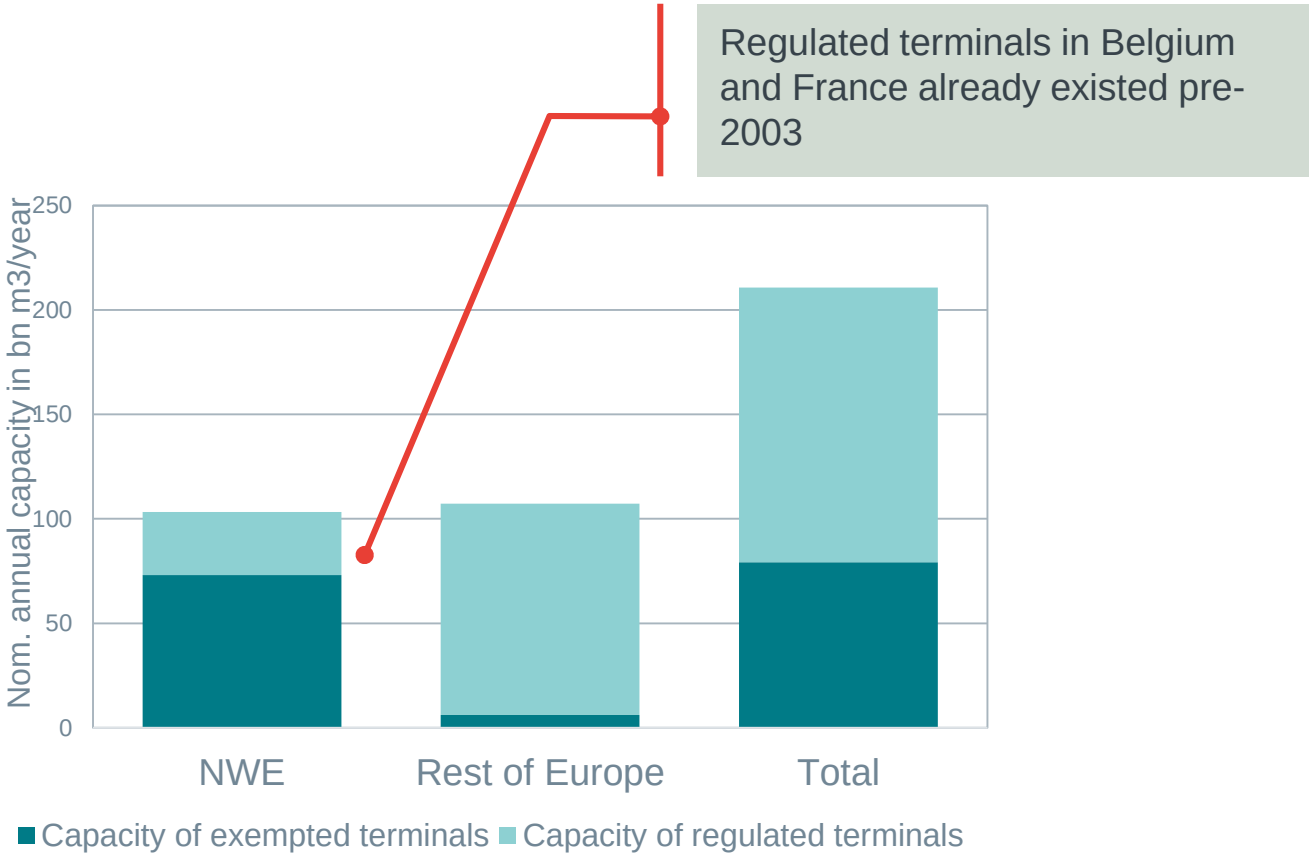
A large share of capacity has been exempted from regulation, suggesting compatibility between market functioning and commercial freedom

Exemptions have shown to not be hindering the market development in a region like NW Europe where more than 70% of the capacity is exempted.

The exemptions from TPA are the de-facto norm in NWE, rather than the exception. It would therefore be logical to recognise “exemptions” as a default regime, while allowing light-touch regulation where required.

Most terminals in NWE have received exemptions from the authorities. The exemptions are based on a range of criteria (Directive 2009/73/EC), including those that ensure that the gas market continues to function well

- Terminals must enhance competition in gas supply and enhance security of supply;
- Exemption must not be detrimental to competition or the effective functioning of the internal market in natural gas.



Source: GIE, 2019

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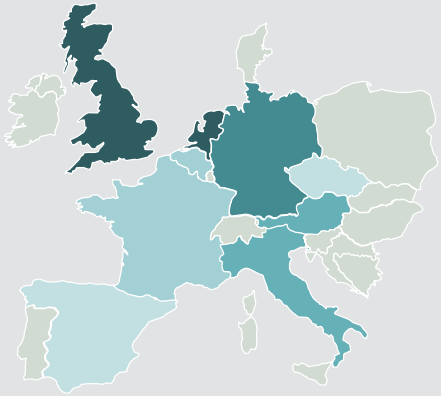
4

POLICY RECOMMENDATION – SUMMARY: Empower EU Member States to opt for nTPA for LNG import terminals if certain criteria are met

4a **Differences by region**



Need for regulation of LNG terminals differs across regions

4b **EU MS should get the option to decide for rTPA or nTPA based on certain criteria** (equivalent to storage approach)

- Market concentration
- Effective competition between LNG terminals
- Barriers to entry
- Effective access

4c **Design for nTPA,** where this is an option, will consider the three following areas of regulation

- Third Party Access
- Tariffs
- Unbundling

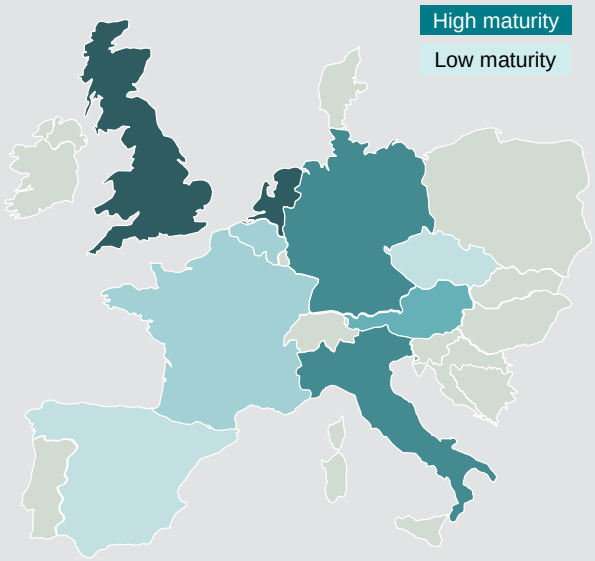
4a

Developments in gas markets in general, and the LNG market in particular, have been different across the EU since 2003

Differences in the development of the markets reflect the **need for a flexible regulation** across regions

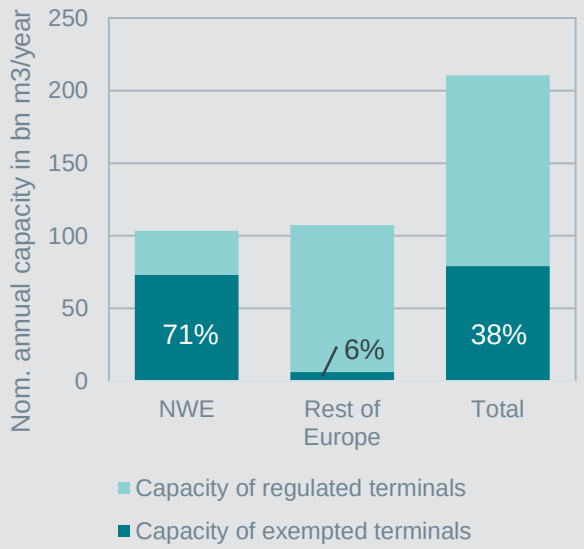
Differences across regions can be seen by looking at the three following indicators: A **maturity ranking** of EU gas hubs, the **distribution of exemptions** across the EU as well as **differences in pipeline infrastructures**.

Maturity ranking of EU gas hubs



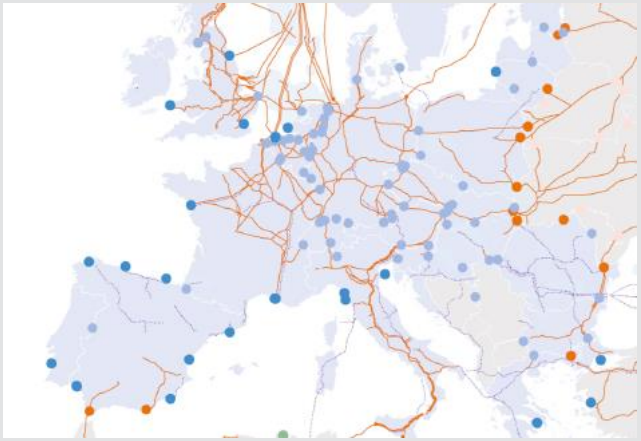
The map shows **differences in the maturity level of EU gas hubs** based on a combination of the number of active participants, the diversity of traded products, the traded volumes, the tradability index and the churn rates.

Distribution of exemptions



The chart shows a **very high fraction of import capacity that is TPA exempted in NWE** and a **very low fraction of exempted capacity in the rest of Europe**. In fact, only one LNG terminal outside of NWE is TPA exempted (even only partly).

Differences in pipeline infrastructures



Interconnection and supply sources vary by country. The level of **effective competition might therefore be different**, and might be regional or national. For example, CEER regards NWE as a regional rather than national market.

Source: Oxford Institute for energy studies, 2019; GIE, 2019; EPRS, 2016; CEER, 2019

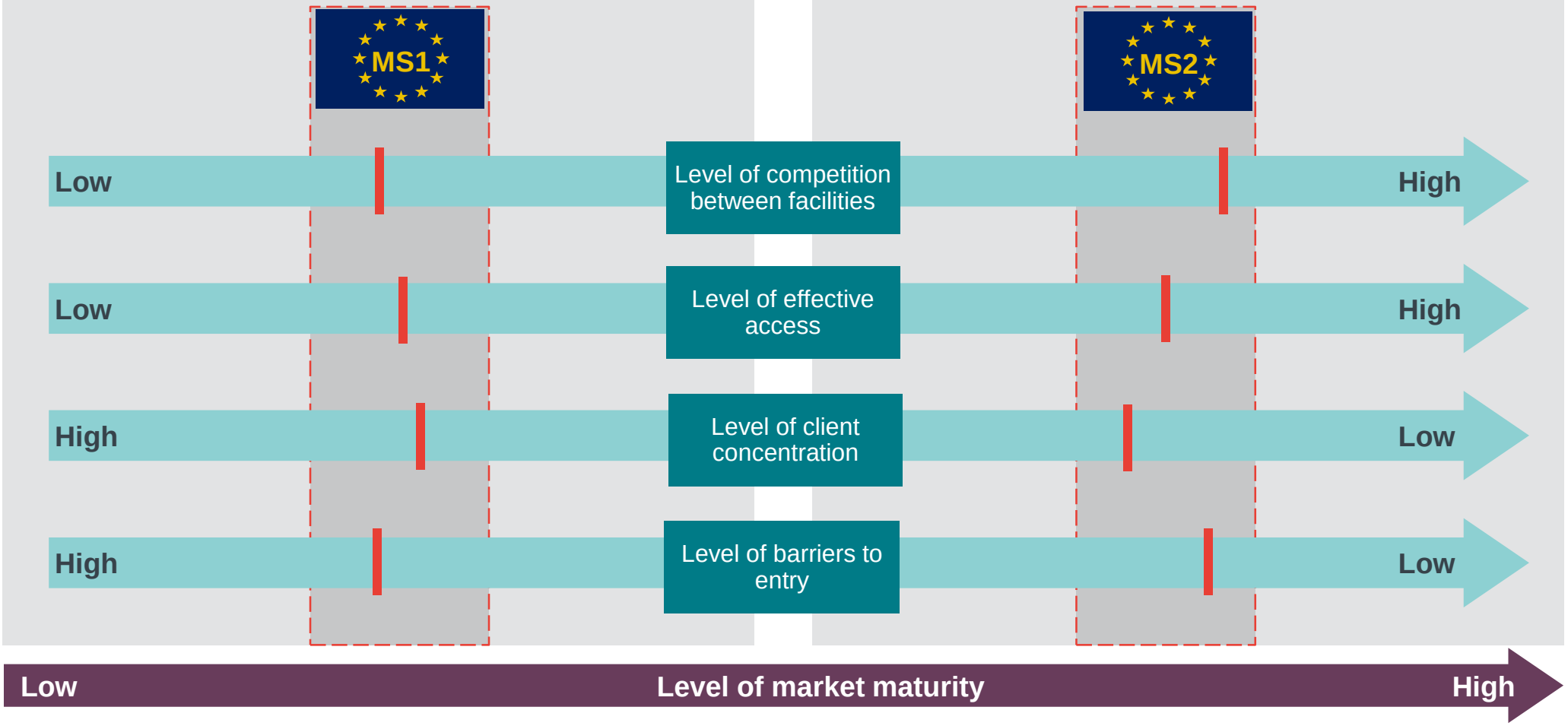
4b

This suggests tailoring the form of regulation to the status in different Member States by allowing MS to select nTPA or rTPA

Member states **evaluate the status of market maturity** based on the following criteria **to select the appropriate regulation regime. This evaluation should take place at regular intervals to adjust to changing circumstances**

MS showing **low levels in identified criteria** of market maturity will select **"Regulated Third Party Access"**

MS showing **high levels in identified criteria** of market maturity will select **"Negotiated Third Party Access"**



4b

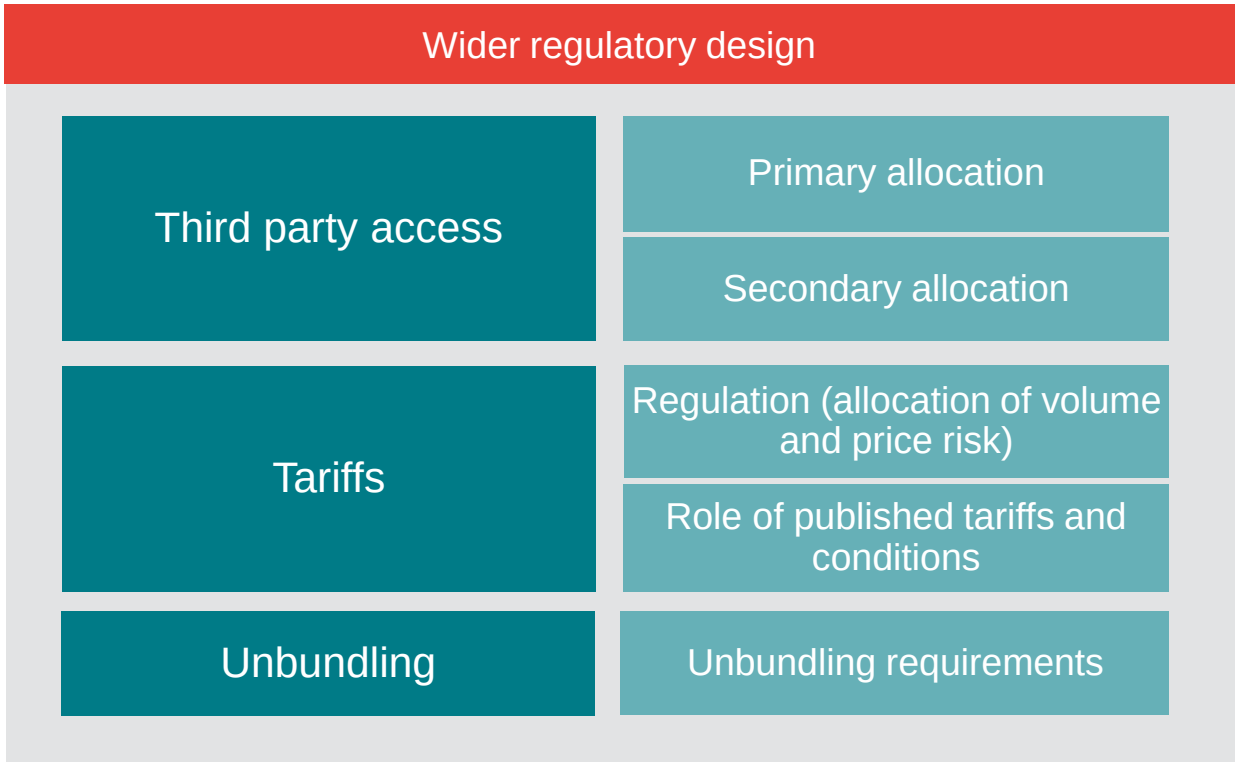
As a starting point we propose following the guidelines set out for storage today, and allowing MS to set other relevant criteria if needed

	Commission guidance storage	Comments for LNG
Effective competition between facilities	▪ Is there competitive competition between facilities and with the wider market? ▫ Is there competitive pressure to lead to efficient outcomes? ▫ Sufficient number of independent providers?	▪ For LNG these will have to be structural indicators like capacity available ▪ More performance indicators (such as prices) could be collected from market parties.
Effective access	▪ Are market parties able to get access to the facility? ▫ Is there a high proportion of LT-capacity allocated without a non-discriminatory manner being applied?	▪ Open Seasons or other market-based mechanisms to allocate capacity
Concentration of clients	▪ Is capacity mainly used by a small set of concentrated market parties and does this distort the market?	▪ Where required, additional conditions such as imposed on exempted LNG terminals could prevent concentration
Barriers to entry	▪ Are there barriers to entry? ▫ Technical, is there physical space available? ▫ Administrative, e.g. will permits be given? ▫ Economic, e.g. high investment costs?	▪ Barriers to entry have been reduced given the entry observed and developments like FSRUs. However, local constraints will need to be considered here in line with the national/regional approach suggested

Source: EC, 2010

4c

Where nTPA better suits the market based on outlined criteria, Member States can adopt nTPA as part of the wider regulatory design



The CEER (2019) notes that the lack of tariff transparency prevents a true level playing field:

"However, exempted terminals are not obliged and, as a matter of fact, do not publish some commercial information e.g. tariffs or contracts as they are considered commercially sensitive. which hinders the existence of a true level playing field between LNG terminals. This is particularly the case when in a given area regulated LNG terminals offer the same types of services as the nearby exempted LNG terminals"

In order to facilitate further competition between terminals, a key part of the proposal is to **publish tariffs** under an nTPA regime. Trinomics, REKK & Enquidity (2020) explicitly refer to publicly available tariffs to create a level playing field between terminals. Such pro-competitive measures also fit a framework in which terminals have the freedom and commercial incentives to compete.

4c

The proposed nTPA regime enables the benefits of commercial freedom, while providing safeguards to ensure effective competition

A well-designed nTPa regime will provide terminals the commercial freedom to operate efficiently, while ensuring that potential anti-competitive effects do not materialise

			Proposal nTPA LNG terminals and regulatory environment
Third party access	Primary allocation	Allocation mechanism	▪ Primary capacity allocation based on transparent, non-discriminatory, **market based procedures** like Open Season or other appropriate procedures: ▫ Open Seasons should be considered to allow interested parties to gain access to terminal capacity, and at the same time facilitate competition between terminal providers. ▫ Auctions could also be used to allocate capacity with reserve prices balancing interests of capacity providers and users
		Max. contract lead time / duration	▪ Contracts length should **allow for integration** with upstream contracts/commitments of users ▪ Mandatory short-term contracts should **not undermine financeability** of the terminal as a whole
		Max. share of dominant player	▪ Mandating a **cap** on **dominant downstream** users could be appropriate to limit any remaining vertical concerns
	Secondary allocation		▪ **UILIO** as of today to be maintained, mainly to prevent capacity hoarding
Tariffs	Regulation (allocation of volume and price risk)		▪ Risk to be managed by **private investors**
	Role of published tariffs and conditions		▪ A standard bundled product should be defined to form the basis of an annually **published tariff** ▪ Terms and conditions accounting for customer's needs to be detailed in bilateral negotiations and allowing terminal operators to use the **terminal flexibility** and efficiently
Unbundling	Unbundling requirements		▪ **Unbundling conditions** strengthen the non-discriminatory operations of the terminal by removing anti-competitive incentives and limiting information flows

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2a

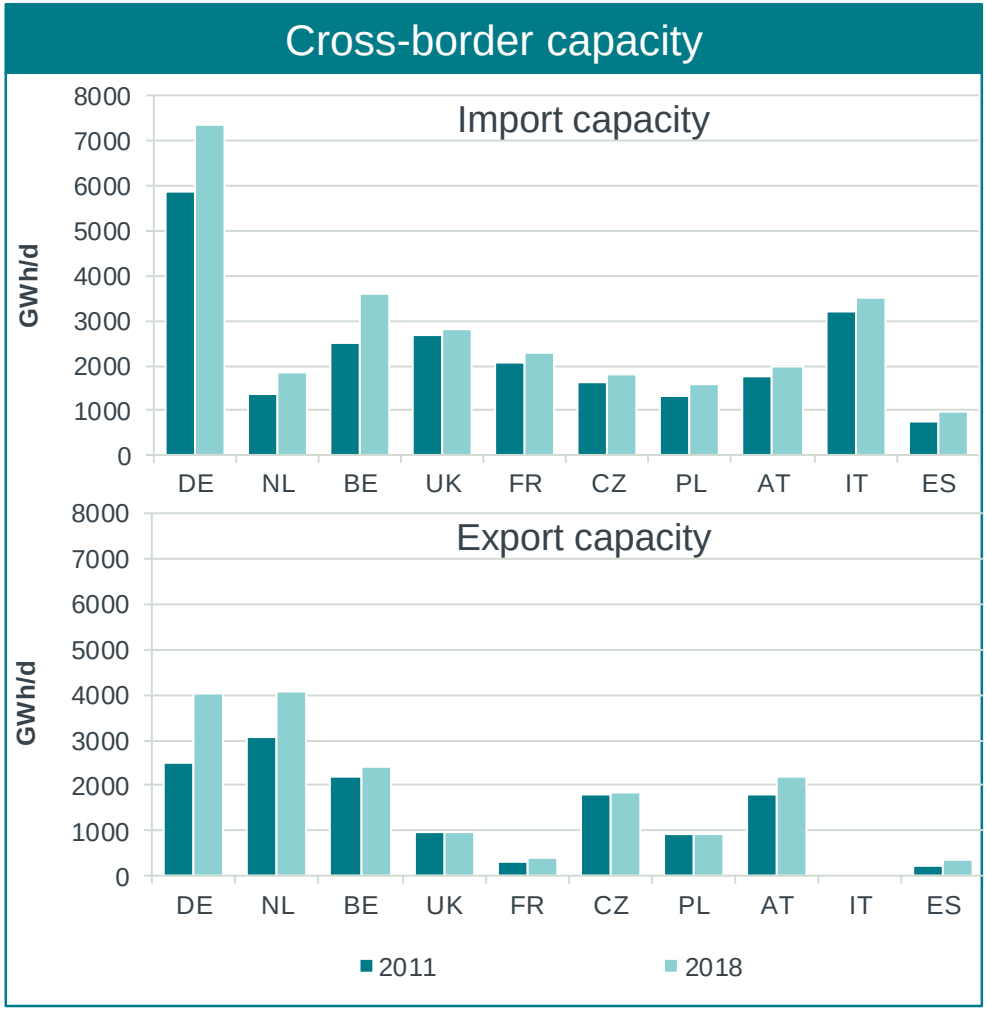
Cross border capacities have increased since 2003, allowing for marker integration

Increased transmission capacity across Europe created conditions for market integration between countries

Through a range of Open Seasons, the cross-border capacity has increased substantially, as highlighted for 2011-2018. This structural change enables an easier interplay and creates more competition between countries. Furthermore, it allows a broader geographical market definition.

Open Seasons	Start of procedure	TSO
Open Season 2005	2005	GTS
Open Season France - Belgium 2007	2007	Fluxys, GRTgaz
Integrated Open Season GTS - Gasunie Deutschland	2009	GTS, Gusunie
Open Season France - Spain 2009	2009	TIGF, Enagas
Open Season Czech Republic – Poland	2009	RWE Transgaz net (Net4Gas), Gaz system
Open Season Energinet.dk 2009	2009	Energinet.dk
Open Season Belgium Luxembourg	2009	Fluxys
Open Season France - Luxemburg 2009	2010	GRTgaz, CREOS
Open Season France - Belgium 2010	2010	Fluxys, GRTgaz
Open Season GTS 2017	2012	GTS
Open Season South-North-Interconnection (Transitgas / Oltingue) 2012	2012	FluxSwiss, GRTgaz
….	….	…..

Source: ENTSOG, 2011, 2018

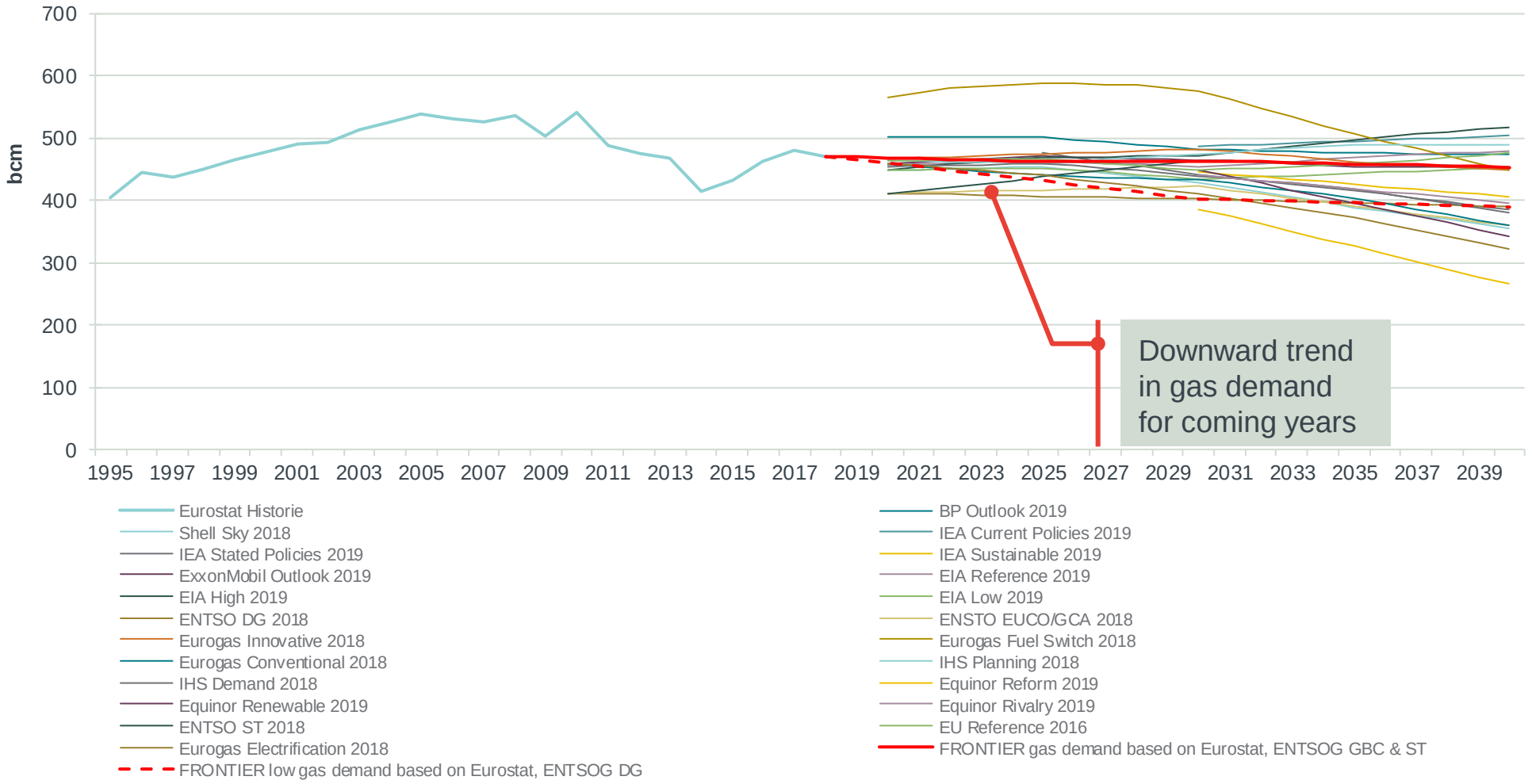


2a

Gas demand is likely to decrease, suggesting stronger competition between import capacity owners

Overview of different gas demand forecasts suggests decreasing gas demand

A further structural change on the broader gas market is an **expected decrease of gas demand**. The implied stronger competition between capacity owners will increase the likelihood of a well-functioning market without need for regulation.



2a

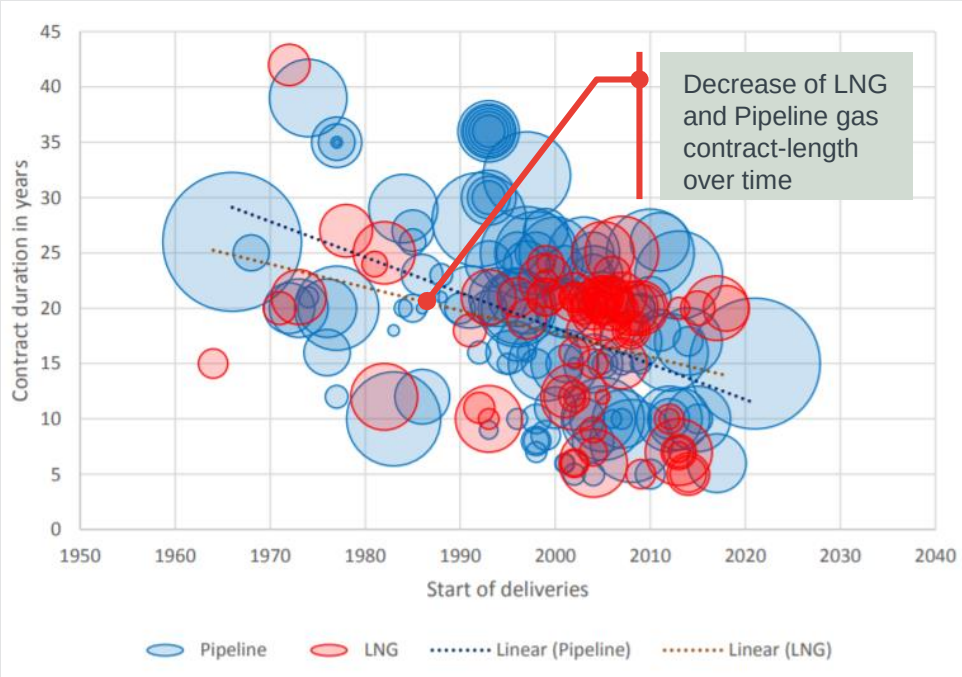
Long-term contracts are supplemented with short-term trading arrangements

The increase in short-term trading suggests **"new entrants" are able to source gas with a well-diversified portfolio**.

This **decreases the entry barriers** to the market and simultaneously **increases the flexibility** of the players. Together, these factors foster a **dynamic and well-functioning market**.

Contract duration by start-up year of delivery of long- and mid-term commodity contracts in EU and CH

Both LNG and pipeline gas show a **decrease in contract lengths** over time. Together with the expiration of existing long-term contract, this implies a **faster reaction on short-term changes** in demand and supply.

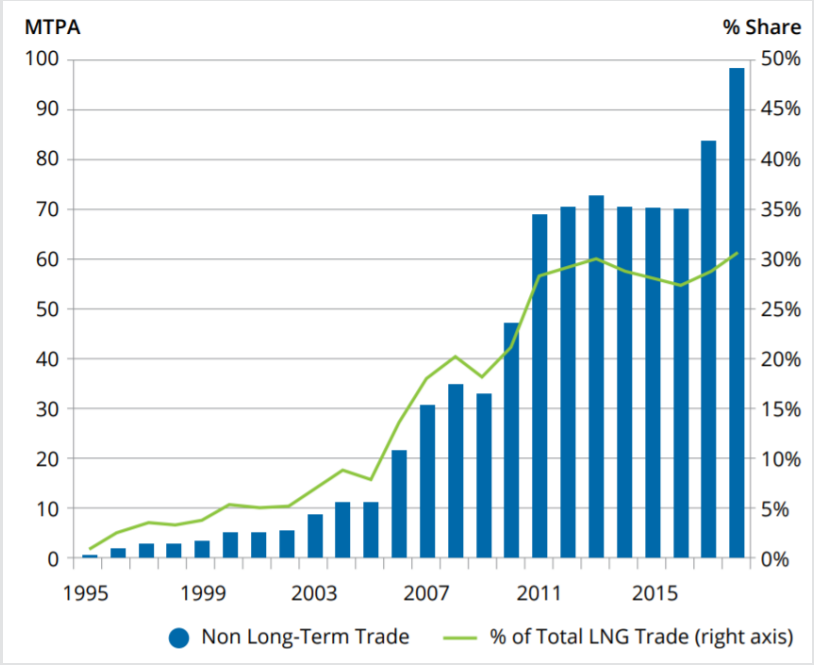


Note: Size of circle represents the size of the annual volume of closed contracts

Source: EY/REKK, 2018

Global **non long-term traded LNG volumes** from 1995 to 2018

The **volumes traded under the short-term contracts have increased significantly** since the regulation design in 2003.



Note: Non-long-term LNG trades defined as volumes traded under contracts of less than 5 years or on the spot market

Source: IGU, 2019

4c

Background: Comparison of different regimes in the EU gas sector

Restrictions by EU Vertical Block Exemption Regulation (VBER) → these also apply in exempted and regulated cases

Proposal nTPA LNG terminals closely linked to approach for storage nTPA

			No TPA regulation (e.g. some storage regimes)	LNG TPA exemption	nTPA storage	rTPA pipelines
Third party access	Primary allocation	Allocation mechanism	▪ No restrictions	▪ Some form of market-based allocation usually required	▪ No restriction, but CEER recommendation to be market-based	▪ **Auction** of capacity via booking platform
		Max. contract lead time / duration	▪ **5+ year** contracts with **dominant player** ≥30% may be deemed excessively long	▪ Usually no (additional) restriction ▪ Some NRAs insist on short-term capacity	▪ No (additional) restriction	▪ **≤ 80%** ≤ **15y** ahead ▪ ≤ 90% ≤ 5y ahead ▪ ≤ 100% ≤ 1y ahead
		Max. share of dominant player	▪ Restricted by VBER to 80% (dominant player = market share ≥ 30% for contract >5Y)	▪ Some decisions impose (additional) restrictions of max. share of dominant player	▪ No (additional) restriction	
	Secondary allocation		▪ No restrictions	▪ Must prevent hoarding and faciltiate secondary trading		▪ **UIOLI** according to CMP guidelines
Tariffs	Regulation (allocation of volume and price risk)		▪ **No tariff regulation**, risk lies with operator	▪ **No tariff regulation**, risk with operator (or mitigated by LTC)		▪ **Revenue or price cap regulation**; low risk & incentive for operator
	Role of published tariffs and conditions		▪ No obligations, but for abuse of power (under EU comp. Law)	▪ Moderate/low obligations to publish tariffs, but for abuse of power	▪ To be published as part of commercial terms, scope to deviate left open	▪ Obligation to publish all tariffs (incl. min. tariff for auction)
Unbundling	Unbundling requirements		▪ No restrictions	▪ Possible to get exempted from OU, but **accounting unbundling** required	▪ **organisational unbundling** sufficient	▪ **Ownership unbundling** required

NC CAM

Low Level of regulation/restrictions **High**