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ACER workshop on the launch of updated the Gas Target Model

16 January 2015, Brussels

Workshop Agenda

1. Introduction	
Opening Remarks	Alberto Pototschnig, ACER Director
Workshop Organisation IEM in gas – regulators' strategic work	Walter Boltz, Chair of ACER Gas Working Group
Completing the internal gas market	Florian Ermacora, Head of Unit B2 Wholesale markets, electricity and gas, DG Energy, European Commission
2. Security of Supply and upstream competition	
Enhancing security of supply and upstream competition – GTM recommendations Q&A, discussion	Walter Boltz, Chair of ACER Gas Working Group
3. Wholesale market functioning	
Measuring the status quo and metrics – quantitative analysis	Nathan Mcwhinnie, Ofgem
Self evaluation process and market integration tools – GTM recommendations Q&A, discussion	Francesco Cariello, AEEGSI
4. Role of gas in complementing RES electricity generation	
Better coordination between electricity and gas – GTM recommendations Q&A, discussion	Johannes Heidelberger, BNetzA
5. New developments in the gas supply chain	
New developments in the gas supply chain – GTM recommendations Q&A, discussion	Dennis Hesseling, ACER
6. Conclusions and closing of the workshop	

Five key objectives for the Internal Energy Market (IEM) by 2025:

- Establishing liquid, competitive and integrated wholesale energy market
- Enhancing Europe's security of supply and channeling the external element of IEM
- Moving to a low carbon society with increased renewables and smart, flexible responsive energy supply
- Developing a functioning retail market that benefits consumers
- Building stakeholder dialogue, cooperation and new governance arrangements

➢ Part of this work is the review and update of the **Gas Target Model**

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GTM review and update - Content

Executive summary	
1. Introduction	
2. Context	• Demand/supply
3. Security of supply and upstream competition	• Objective, status quo, recommendations
4. Wholesale market functioning	• Objective • Updated criteria, status quo • Self-evaluation process • Conclusions
5. The role of gas in complementing RES electricity generation	• Objective, status quo, recommendations
6. New developments along the gas supply chain	• Description of the technologies • Growth forecast • Recommendations
Annexes	

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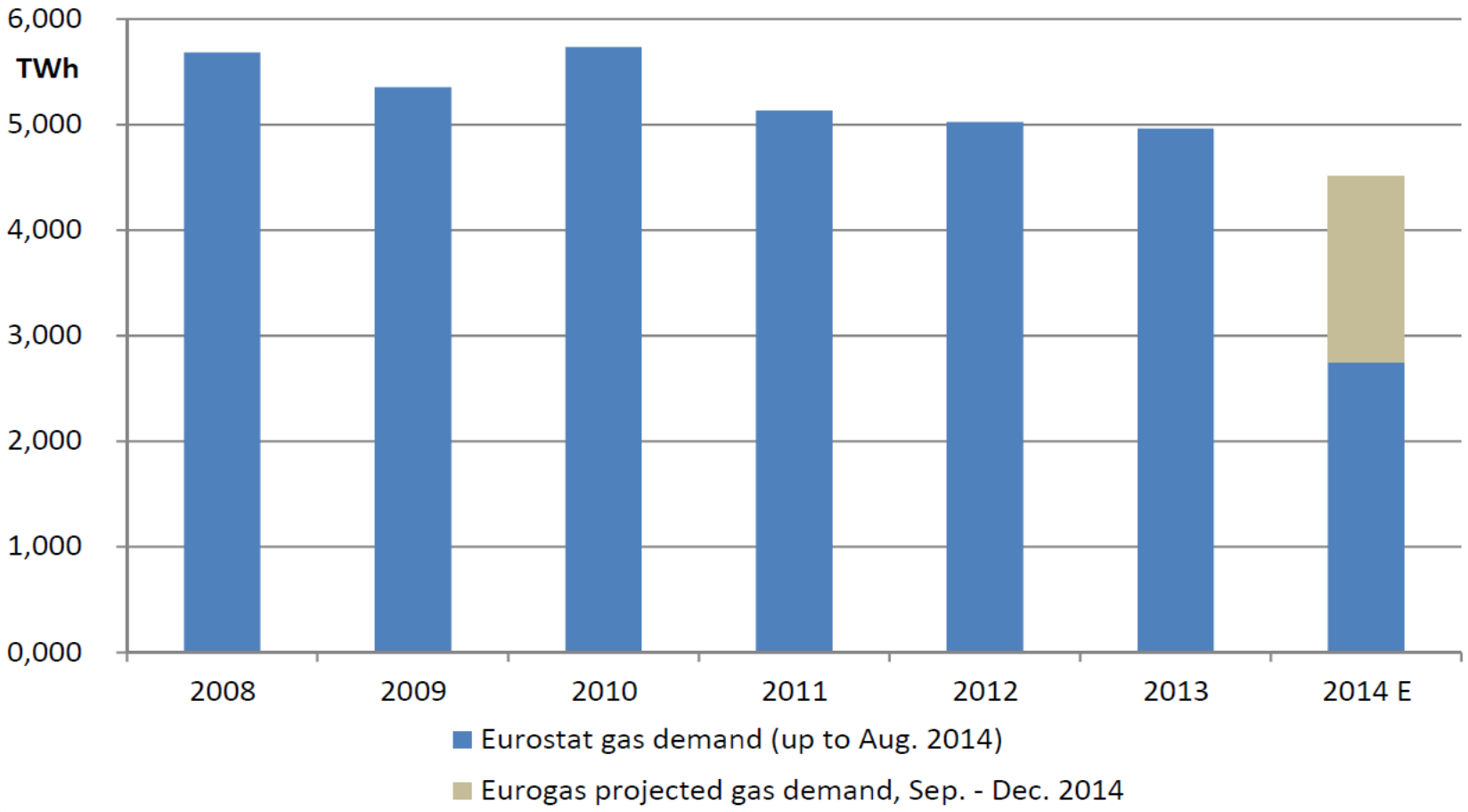
2. Security of supply and upstream competition

Walter Boltz, Chair of ACER Gas Working Group

Gas demand in the EU-27

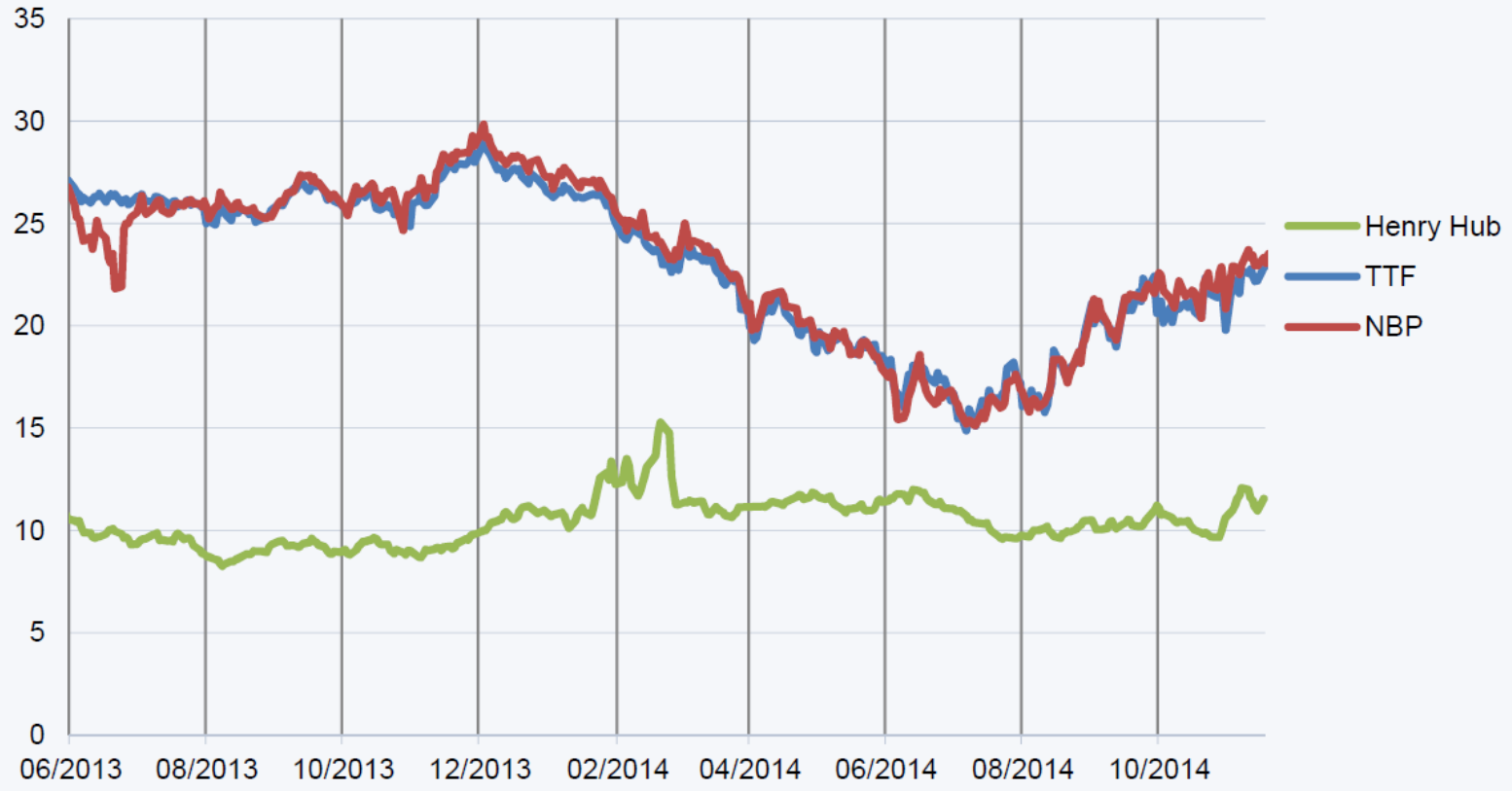
Gas demand in Europe has decreased since 2008, and most projections predict a continuous decrease until 2025



European and US wholesale gas prices

Europe is at a serious competitive disadvantage compared to North America and areas of the Middle East

Spot market gas prices in Europe and the USA (EUR/MWh)



Status quo

IEM as precondition for enhanced security of supply

- Priority of market-based measures
- Intervention only in specific cases (limited)

We maintained the following criteria developed in the GTM 2011:

- all Member States should try to reach a position in which their Residual Supply Index (RSI) exceeded 110%; and
- 3 supply sources

➢ 13 Member States do not meet the GTM target. These include almost all Eastern European states

Member State	Number of sources	RSI
Austria	3	143%
Belgium	8	279%
Bulgaria	2	13%
Croatia	5	125%
Czech Republic	3	159%
Denmark	2	22%
Estonia	1	0%
Finland	1	0%
France	13	137%
Germany	4	116%
Greece	9	131%
Hungary	4	60%
Ireland	2	8%
Italy	12	108%
Latvia	1	0%
Lithuania	1	0%
Luxembourg	4	0%
Netherlands	6	189%
Poland	3	56%
Portugal	2	93%
Romania	4	104%
Slovkia	2	369%
Slovenia	5	74%
Spain	12	159%
Sweden	1	0%
United Kingdom	11	142%
GTM target	≥ 3	≥ 110%

SoS and upstream competition – measures 1 / 3

Measures to safeguard and increase existing gas sources

- Ensure that accessibility of existing gas sources is more geographically widespread
- Infrastructure investment decisions to adequately reflect value of improved SoS + upstream competition
- Physical reverse flow, spare capacity

- Ensure that Member States cooperate fully in a supply emergency and do not restrict cross-border flows to protect national interests

SoS and upstream competition – measures 2 / 3

Measures to make appropriate use of storage and LNG

- Priority of market based measures and signals
  - Unbundling of storage products
  - System balancing prices to reflect value of lost load
  - Entry-exit tariffs to recognise role of storage
- In addition, regulatory intervention in the event of politically motivated physical supply interruption may be justified
- Associated interventions, e.g. through funding of PCIs

SoS and upstream competition – measures 3 / 3

Measures to diversify upstream supply sources

- Incentivise European TSOs to jointly develop highly complex projects bringing gas from relatively distant / new geographies
- As last resort in case of overdependence on a particular source of gas legal limitation of the share taken from that source should be considered

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3. Wholesale market functioning

Launch of the updated Gas Target Model

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Measuring the status quo and metrics

Quantitative analysis

Nathan Macwhinnie - Ofgem

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Contents

- Where we are today
- What is the driver and conceptual framework for the revised Gas Target Model metrics
- What those new metrics are, why we chose them, and what we haven't included

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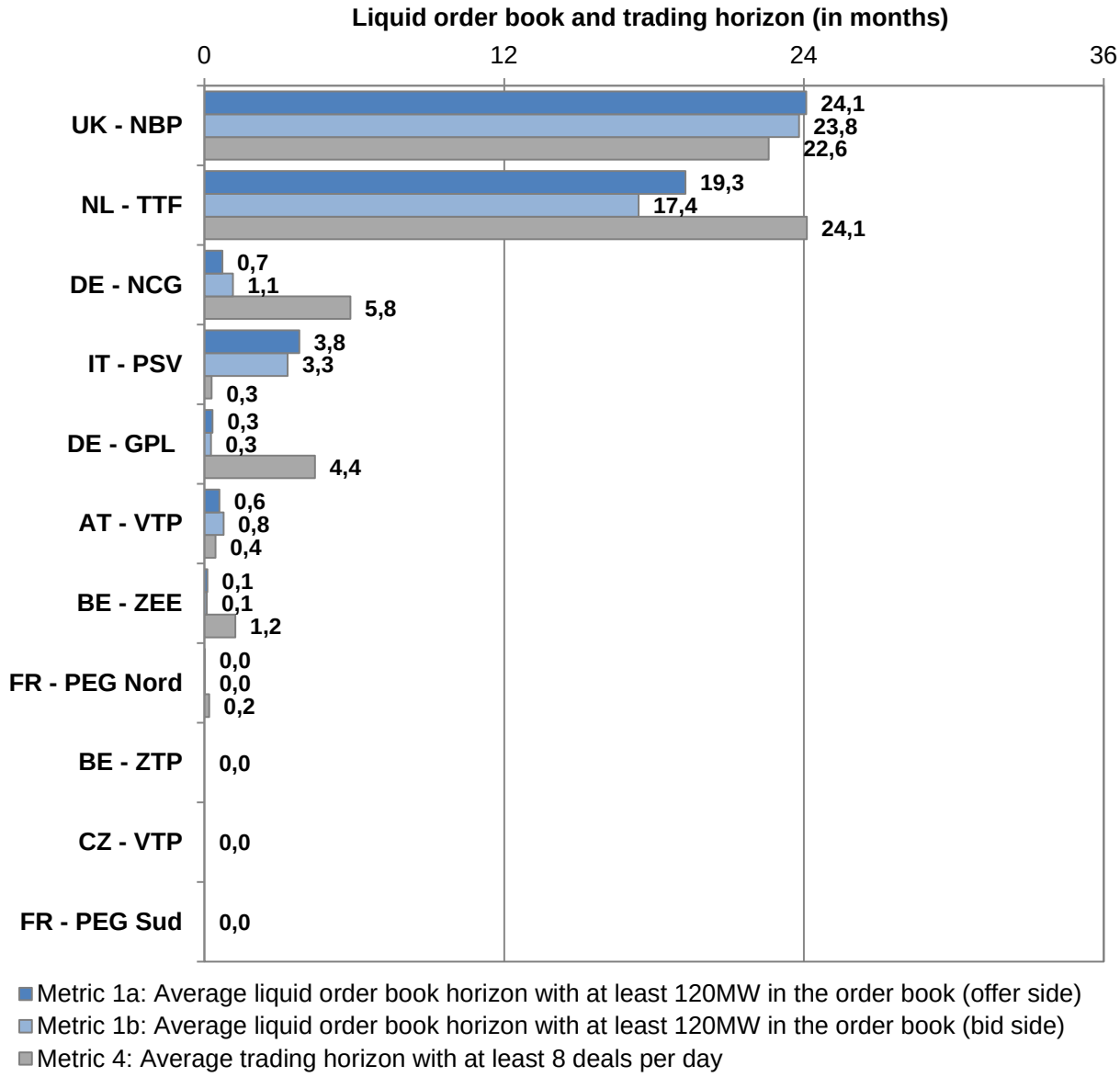
Status quo – vs GTM 2011 criteria

Member state	Churn rate	Zone size (TWh/year)	Number of sources	HHI	RSI
Austria	3	105	3	7,500	143%
Belgium	6	197	8	1,709	279%
Bulgaria		39	2	7,587	13%
Croatia		535	5	5,987	125%
Czech Republic		95	3	9,051	159%
Denmark		45	2	2,570	22%
Estonia		9	1	10,000	0%
Finland		36	1	10,000	0%
France	3	485	13	1,240	137%
Germany	4	438	4	1,982	116%
Greece		49	9	5,181	131%
Hungary		113	4	3,198	60%
Ireland		52	2	1,215	8%
Italy	3	799	12	2,093	108%
Latvia		15	1	10,000	0%
Lithuania		39	1	10,000	0%
Luxembourg		12	4	3,185	0%
Netherlands	7	424	6	2,488	189%
Poland		193	3	4,550	56%
Portugal		55	6	2,821	93%
Romania		157	4	3,270	104%
Slovakia		70	2	9,595	369%
Slovenia		12	5	5,027	74%
Spain		365	12	2,000	159%
Sweden		13	1	2,766	0%
United Kingdom	15	910	11	950	142%
GTM target	≥ 8	≥ 215	≥ 3	< 2,000	≥ 110

Status quo:

Quantitative analysis reveals highly limited forward trading across the EU



What is the new approach?

- The key driver of the new metrics (and broader GTM work) is unchanged:

  Third Package requirement of ... *"facilitating the emergence of a **well-functioning** and transparent wholesale market."* Article 1 of REGULATION (EC) No 715/2009 (gas transmission)

- GTM 2014, however is clear "well functioning" means a wholesale market with a liquid spot but also, crucially, a liquid forward and/or futures market

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What is the broader conceptual framework to assess market functioning?

That a well-functioning wholesale market:

1. Meets **''Market Participant Needs''**. Products and liquidity are available that enable effective management of wholesale market risk.
2. Has **''Market Health''**. Wholesale market area is demonstrably competitve, resilient and a has a high SoS

GTM2011	
~~Churn rate~~	~~> 8~~
A Herfindahl-Hirshmann Index	< 2000
Different supply sources	3
RSI	> 110% (>95% of days/year)
~~Market zone size~~	~~> 20 bcm~~

GTM2014 metrics: Informing the 'Evaluation'
Market Participant Needs
Order book volume
Bid offer spread
Order book price sensitivity
Number of trades
Market Health - Competition, Security of Supply
A Herfindahl-Hirshmann Index
Different supply sources
Residual Supply Index
Market concentration for bid and offer activities
Market concentration for trading activities

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''Market Participant Needs'' metrics

Metric	Rationale
Order book volume	Sufficient volumes of gas for delivery of gas exist ''reasonably'' far into the future are bid and offered to support effective risk management.
Bid offer spread	Low bid offer spreads mean low transaction costs and support market participants who have less flexibility over when they can trade.
Order book price sensitivity	Lower sensitivity means lower costs for participants who need to transact substantial volumes and have less flexibility over when they can trade
Number of trades	Sufficient trading activity is necessary to give market participants confidence prices are transparent and represent a reliable market price.

’’Market Health’’ metrics as per GTM 2011 with two additions

Metric	Rationale
Market concentration for bid and offer activities	The more competitive a market, the more likely, the market to have strong SoS, and work in the interests of energy consumers.
Market concentration for trading activities	

Why not other metrics?

- Doesn't fit our chosen conceptual framework. However, this doesn't mean irrelevant or unimportant. Key examples include:
  - » Churn
  - "spot price conversion''
- Why we choose threshold values based on TTF and NBP levels

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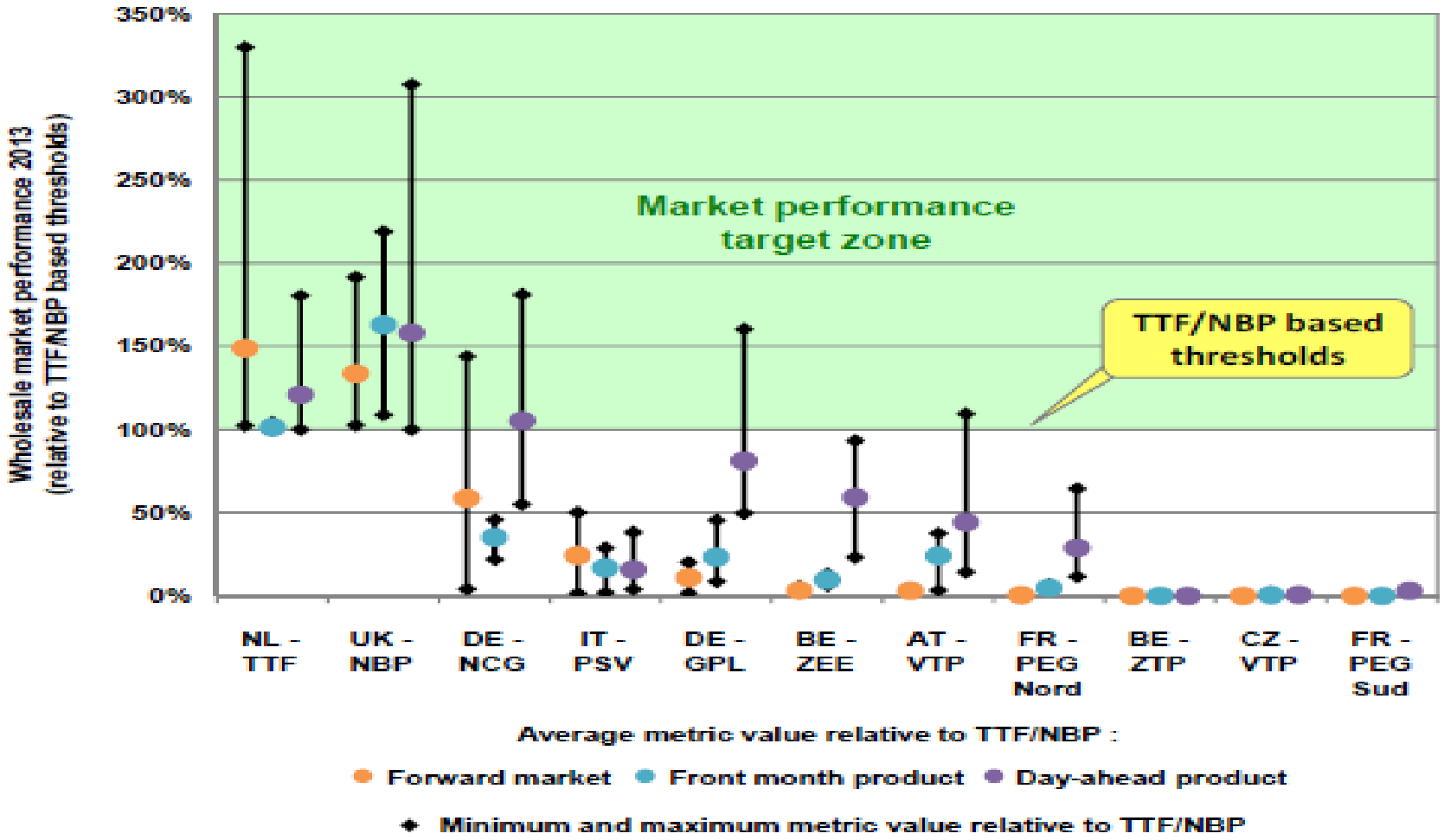
Assessment against new criteria



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Questions?

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Self-evaluation process and market integration tools

GTM recommendations

Francesco Cariello - AEEGSI

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Self-evaluation

- A technical assessment - to be performed in each Member State - of the market situation based on the indicative criteria (revised metrics)
- GTM invites regulators to perform such analysis on a regular basis – at least once every 3 years – with the involvement of relevant national authorities and stakeholders
- Key question to be answered: the natural evolution of the market can reasonably be expected to meet the criteria?

Transparent, objective, inclusive process, in close cooperation with Member States and with stakeholder involvement

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The process in brief

Analysis
- Periodic analyses by National Regulatory Authorities (NRAs) of market development
- Periodic analysis also to review achievements against commitments and proposals

Assessment
- Criteria not met: NRAs assess whether natural evolution is sufficient to meet criteria within 3-year period or more active intervention is required (incl. Network Code implementation)

Plan
- Where more active intervention required: NRAs propose – based on assessment – a plan to achieve target criteria (with Member States and stakeholder involvement, consultation, Cost Benefit Analysis-CBA)

Market integration tools
- Where market integration is considered the preferred option: GTM market integration tools (detailed CBA)

Surrogate measures
- Where none of these market integration options deliver a positive CBA: NRAs to propose equivalent surrogate measures

In all cases – regardless whether the market functioning criteria have been met – steps to **improve hub functioning** should be pursued

Best practice measures

GTM recommends – as a matter of best practice - some measures in order to promote key features which are considered to be highly desirable for an efficient gas market design: an adequate level of liquidity, a wide accessibility and the connection to a gas exchange.

- **improve liquidity** (spot and forward):
  - Code of conduct or Guidelines of good practice for the hub operator
  - Adoption of ''market makers'' in particular for markets highly concentrated or under development
- **improve accessibility**:
  - Licensing process as easy and ''low cost'' and ''European'' as possible
  - Admit also ''non-physical traders''
- **central counterpart – gas exchange**:
  - Enabling more transparent transactions and reliable price signals
  - Efficient credit risk management (esp. through clearing houses)

Market integration tools

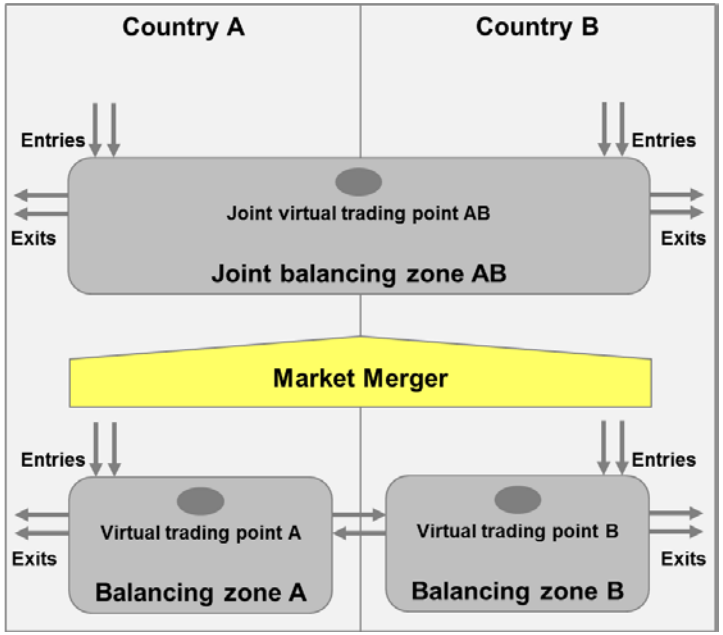
- As a result of the self-evaluation, if Member States is unlikely to have a functioning wholesale gas market by 2017, **structural market reform should be evaluated**

- The market reform should be:
  - Sensitive and appropriate, designed to reach the objectives of ''market health'' and meeting ''participants needs''
  - Subject to a rigorous cost-benefit analysis

- Option for structural reform may include, but are not limited to, the following **market integration tools**:
  - **Market merger**
  - **Trading region**
  - **Satellite market**

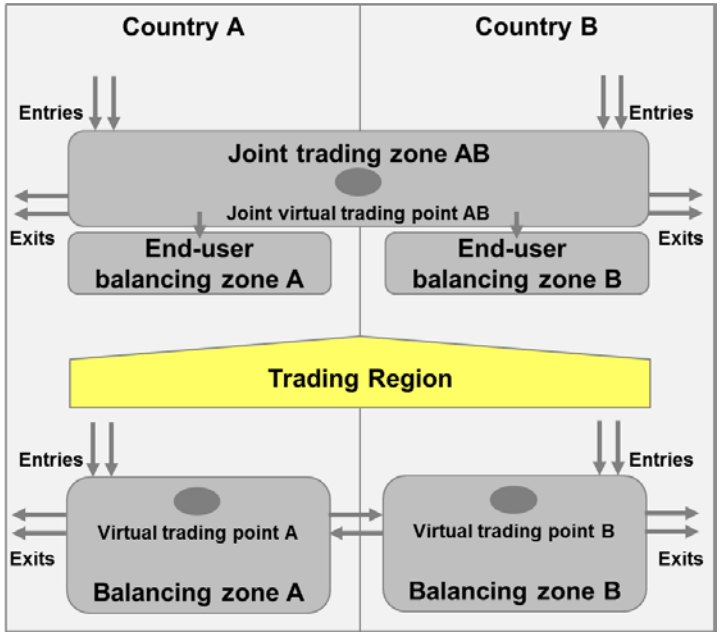
- The GTM 2014 does not prescribe an exhaustive list, the right structural market reform should be rooted in the specifics of each situation (for example, **market coupling** can also provide a tool for an efficient connection of neighbouring markets)

Market merger



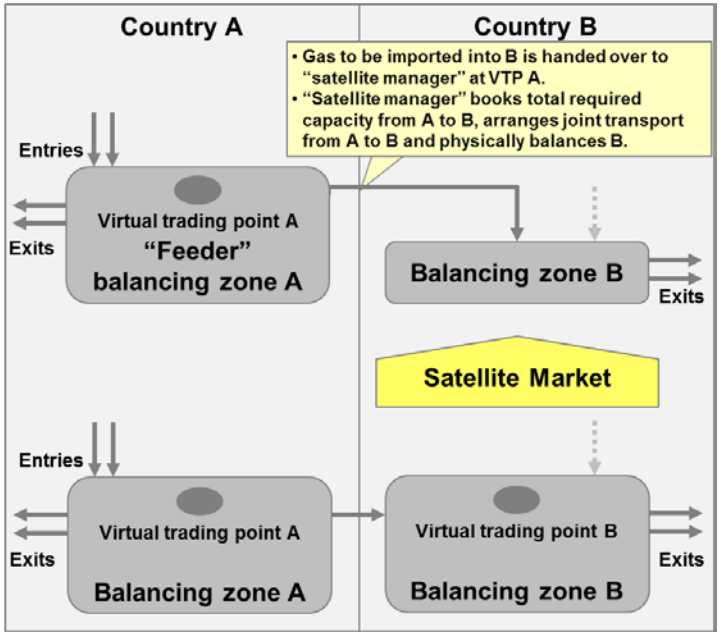
- **Starting Point** => two adjacent gas market area are directly connected and have at least one other relevant entry point from another gas market
- **Result** => two neighbouring gas market areas **fully merge** their balancing zones and their VTPs
- **Main Advantages** => integrated gas wholesale market (spot and forward) and integrated balancing zone incorporating all end users
- **Main drawbacks** => metering, allocation and balancing rules need to be fully harmonized cross-border; strong regulatory cooperation needed; potential legislative action in both countries; cross-border inter-TSO compensation may be required

Trading region



- **Starting Point** => two adjacent gas market area are directly connected and have at least one other relevant entry point from another gas market
- **Result** => two neighbouring gas market areas merge their VTPs but not their national end user balancing systems
- **Main Advantages** => integrated gas wholesale market (spot and forward); implemented quickly because no cross-border alignment of end user balancing rules are required
- **Main drawbacks** => potential synergies untapped; cross-border inter-TSO compensation may be required

Satellite market



- **Starting Point** => a gas market area (the ''satellite'') neighbours another gas mkt ares (the ''feeder'') with a better functiong gas mkt
- **Result** => a gas market area (the ''satellite'') does not maintain/establish its own gas hub but co-uses the hub of its main directly neighboring gas market area (the ''feeder'')
- **Main Advantages** => integrated gas wholesale market (spot and forward); implemented easily and quickly because no cross-border alignment of mkt rules required; implementation only affect the mkt organization of the satellite; positive externality for the feeder
- **Main drawbacks** => potential synergies untapped; restrict application

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CBA categories

For assessing the net benefits of a market integration or connection project, the following cost and benefit categories should be considered.

- **Investment effects**: additional investments needed and avoided investments (as some projects may become irrelevant under a wider market area perspective);
- **Implementation one-off costs**: project specific costs and costs for new entities to be created;
- **Network operating costs**: e.g. reduced system energy volumes and prices, impacts on fuel gas needs;
- **Gas price / trading efficiency**
- **Retail competition effects**
- **Operating costs for market participants**: efficiency gains,savings on hedging costs
- **Effects of additional capacity constraints**: reduced option value of transportation contracts

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4. Role of gas in complementing RES electricity generation

Johannes Heidelberger, BNetzA

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Recommendations – Role of gas in complementing RES electricity generation

Gas fired power generation...

...non-intermittent and reliable

...flexible

...system, ancillary, balancing services

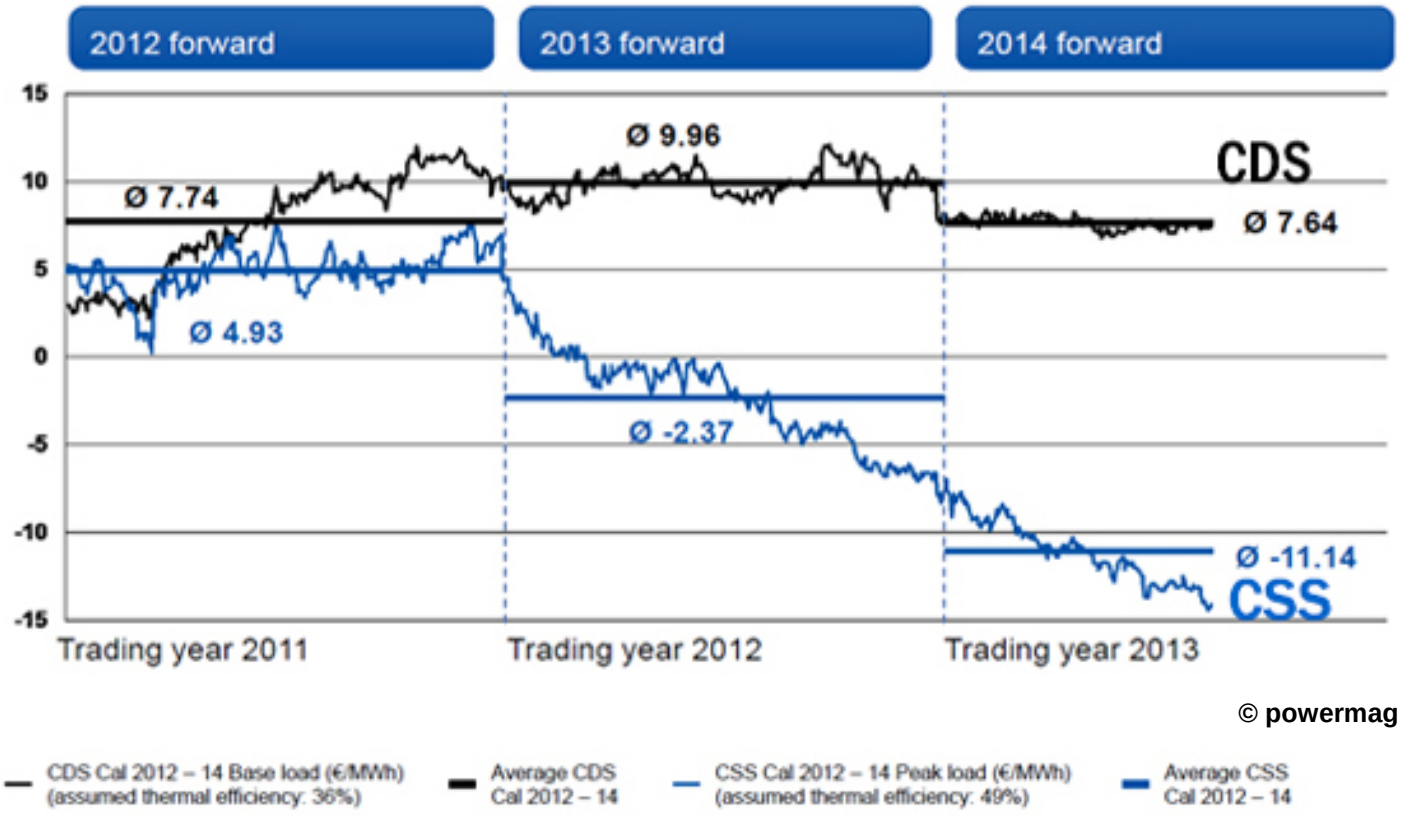
(inertia, reserve, reactive power, black start...)

...relatively low carbon (CCGT)

...relatively low fixed costs (OCGT)

Recommendations – Role of gas in complementing RES electricity generation

But...



...clean spark spreads down

Gas capacity / tariff aspects

There are still market situations where gas fired generation would be efficient…

…however: almost unpredictable

Booking yearly or monthly gas exit capacity with a TSO?…

…a gamble …rather close down plant (if there is no capacity remuneration mechanism in place)

Consequently: even less transport business for TSO…

…if generation could take place on Short term basis: win-win-win for generator, TSO, and market

Recommendation:

NC CAM style capacity products and draft NC TAR style tariffs (multiplier max 1.5) at exits to gas fired plant.

Gas capacity / tariff aspects

Day ahead capacity booking 16:30-17:00…

…by then, electricity balancing products not yet called (e.g. 4-hour strips within-day)

Electricity balancing market relatively profitable – no show stopper to charge full daily gas capacity tariff…

…but before the day, call of electricity balancing products is not yet known

Recommendation:

Look into application of within-day booking at exits to gas fired plant.

Aspects of gas balancing regimes

Participation in electricity balancing markets could require generation for only some hours of the day…

…therefore gas offtake structured: within-day-obligations potential issue

Within-day obligations serve to maintain system integrity…

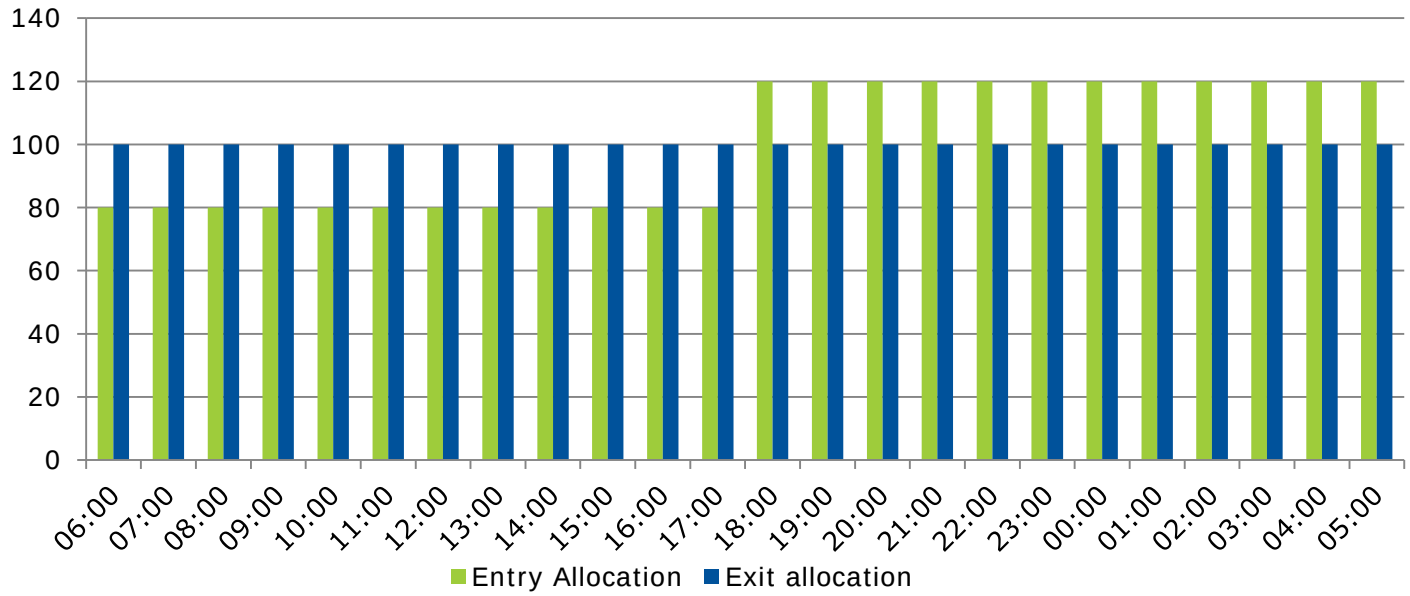
…to be strictly limited to the technically absolutely necessary

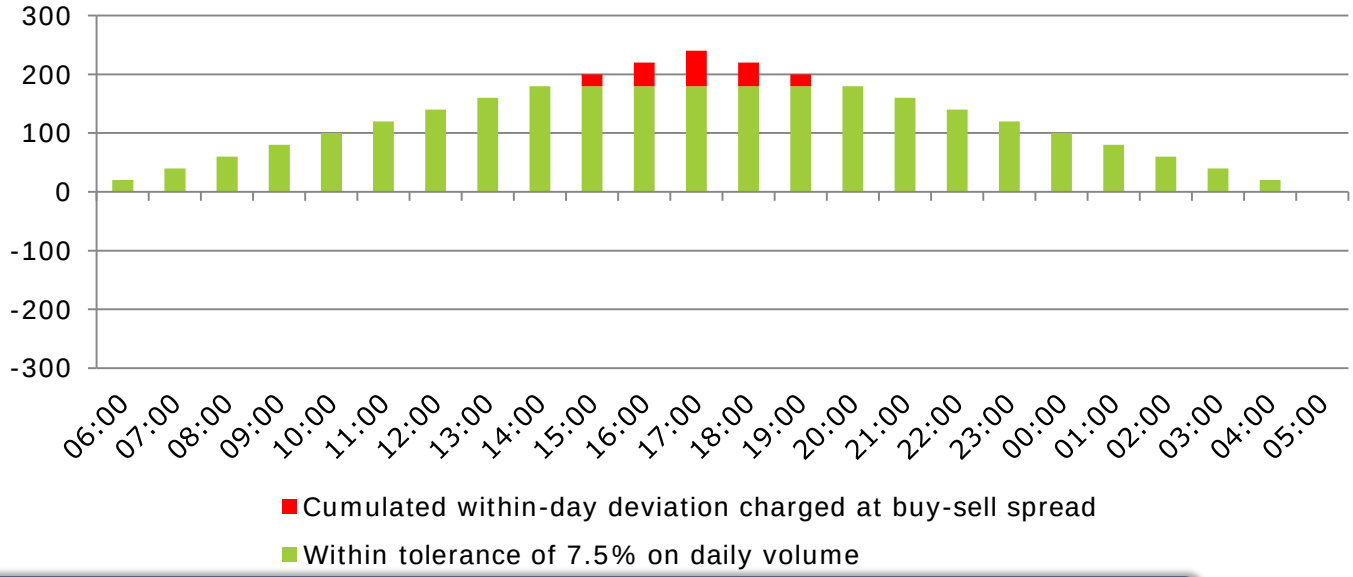
…alternatively: allow online flow control (OFC / automated nomination) to network users with a flexibility source

Recommendation: Careful design of WDOs

Recommendations – Role of gas in complementing RES electricity generation

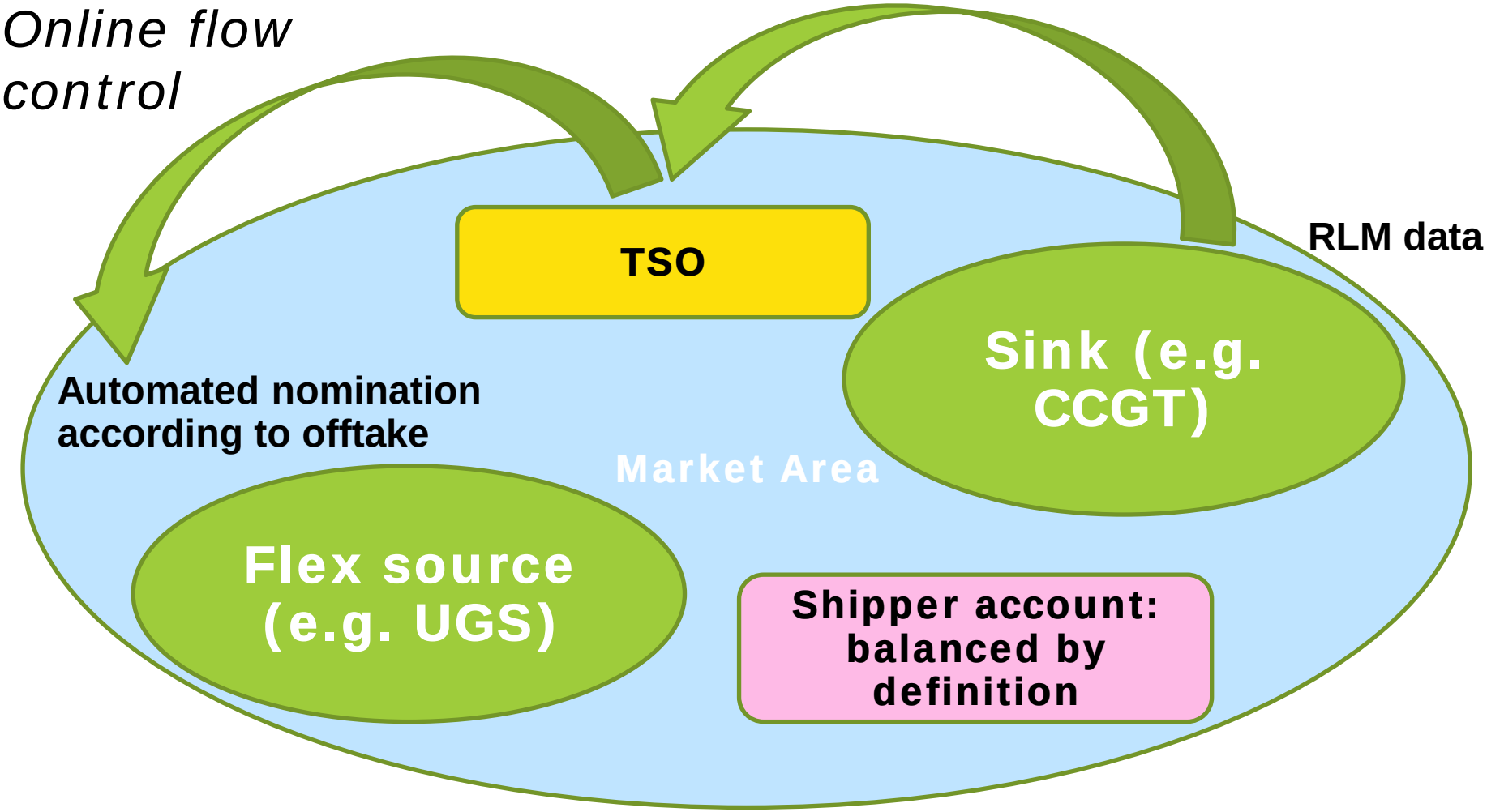
Example: „tolerant“ within-day-obligation





Recommendations – Role of gas in complementing RES electricity generation

Example: Online flow control



Aspects of gas flexibility sources

Important flexibility source for unpredictable loads are underground storages…

…however, in some markets with regulated storage access, withdrawal capacity comes with hefty chunks of mandatory working gas volume

Requirement for gas fired power complementing RES is high capacity / low commodity

…therefore, flexible combinations of withdrawal capacity and WGV required

Recommendation: allow for tailored combinations of withdrawal capacity and working gas

Coordination aspects between gas and electricity systems and markets

TSO might require buffering and ramp rates…

…while electricity TSO needs balancing energy quickly (but there might be indications): early warning and information flows crucial

Exchange traded gas only available three hours from the next full hour…

…NC Balancing now requires half-hourly trade notification at VTP. Can exchanges shorten lead-time as well?

Recommendations: Improved information flows, cooperative review of industry timelines

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5. New developments in the gas supply chain

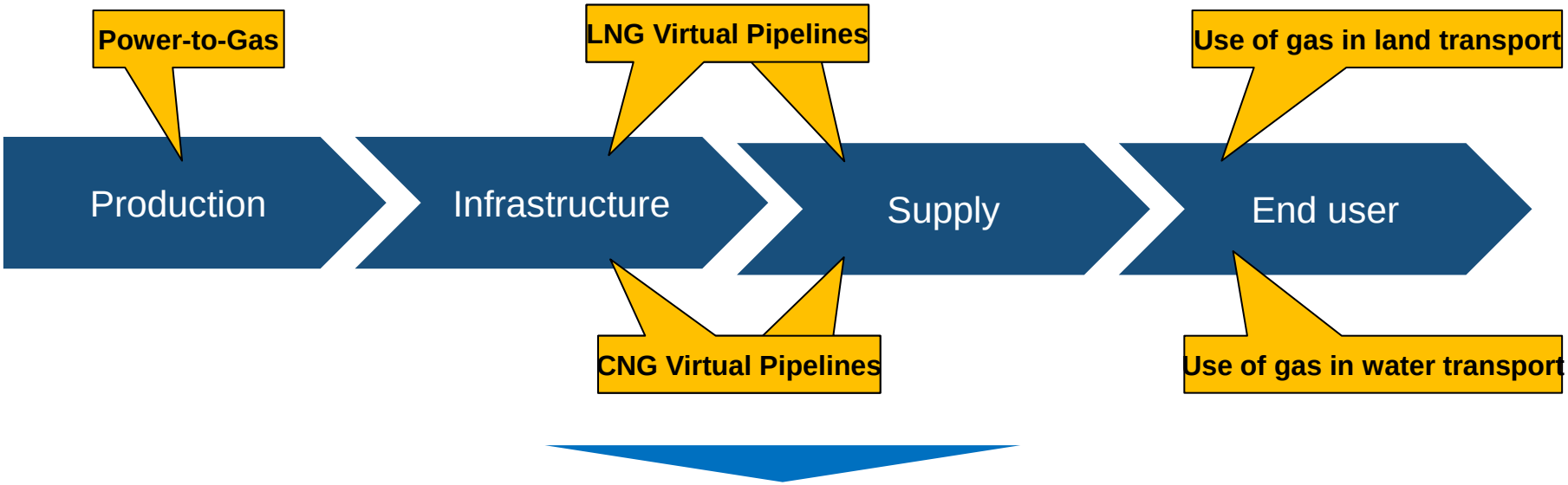
Dennis Hesseling, Head of ACER Gas Department

Outline

- **Description of new uses for gas**

- **Development prospects**
- **Recommendations**

The new uses for gas have different roles across the gas supply chain



Virtual pipelines are closely related to the development of the use of gas in the transport sector, particularly in the case of LNG

Gas can be used in vehicles either as CNG or LNG

- Natural gas has been in use as an alternative fuel for road vehicles since the 1930s.
- Natural gas has been gaining ground worldwide and in the EU due to a combination of stricter environmental requirements and low gas prices.
- Natural gas vehicles can be fuelled wither with CNG (gas compressed at ~200 bar) or with LNG (liquid natural gas at -162ºC).

CNG vs. LNG

CNG	LNG
▪ More easily available, especially through the gas network in urban areas ▪ Infrastructure cheaper to build ▪ Flexible urban use	▪ More energy content per volume (triple that of CNG) ▪ Superior autonomy ▪ Requires continuous use (boil-off problem)
   Used mainly in urban transport (cars, taxis, buses, city service trucks, dailies)	Used mainly by trucks travelling long distances 

- Retrofitting of existing vehicles (with petrol or diesel motors) is possible to allow dual-fuel operation (gas/petrol or gas/diesel)
- There is a limited supply of new models (mainly dual fuel)
- EU Standards for LNG and CNG vehicles have already been issued (Regulation R-110, June 2014)

LNG stations are supplied through trucks; CNG stations are supplied either from the network or with LNG (L-CNG)

Gas supply from network

Compressor

CNG filling station

CNG Supply Chain

gasification

LNG Supply Chain

LNG Terminal

LNG Trucks

LNG Storage

LNG filling station

New regulations in the water transport sector favor the use of LNG-fuelled ships

The International Marine Organization (IMO) is imposing restrictions to the allowable level of SOx in marine fuels' emissions (MARPOL 73/78 – Annex IV):

- In SOx Emission Control Areas (SECAs): 0.1% as of 1/1/2015
- In IMO members' territorial seas: 0.5% as of 1/1/2020

EC has adopted these restrictions with Directive 2012/33/EC

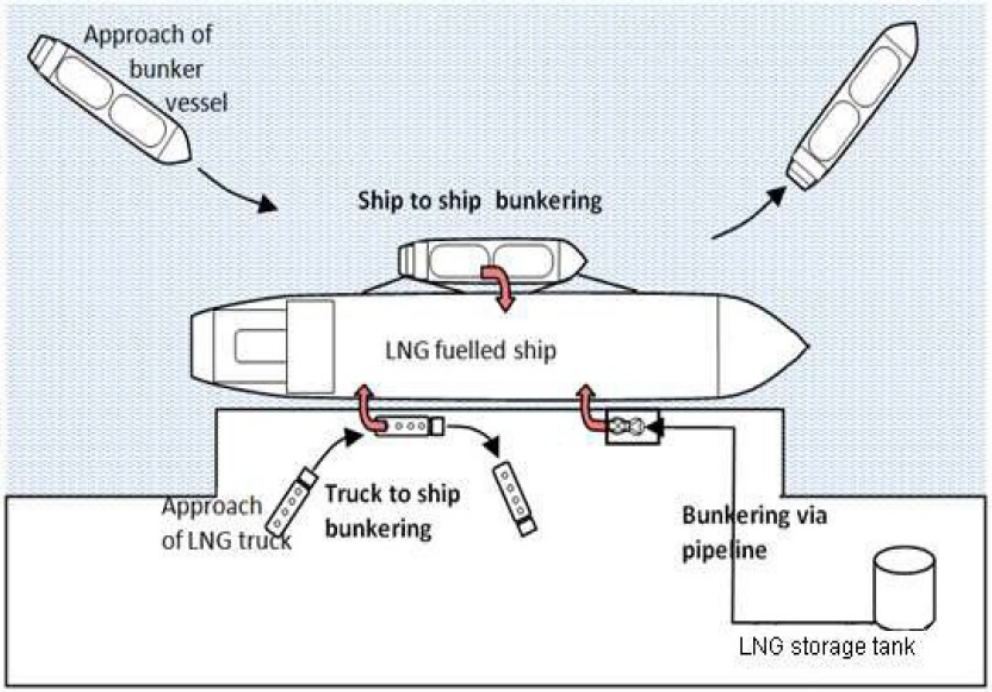
Existing and potential new ECAs

Ship owners have three choices in order to meet the new requirements, particularly in SECA regions:

- Use of HFO and install an exhaust scrubber.
- Switch to MGO or other low sulphur fuel, such as the Ultra-Low Sulphur Fuel Oil.
- Switch to LNG.

- **LNG is an attractive fuel choice**, particularly if its future price differential with HFO it could be used in non-SECA areas as well.
- The use of LNG however is dependent on the availability of **sufficient bunkering infrastructure** to allow ship refueling.

Depending on the available infrastructure and size of ships there are three options for LNG bunkering



Source: German Ministry of Transport and Digital Infrastructure

LNG bunkering options

- **Ship-to-Ship (STS):** applied to ships with a bunker volume in excess of 100 m^3 (bunker vessel's capacity 1,000 – 10,000 m^3)
- **Truck-to-Ship (TTS):** applied to ships with a bunker volume below 200 m^3.
- **Terminal-to-Ship (TPS):** applied to ships of all bunker sizes. Close proximity to the terminal is required.

The supply chain of LNG bunkering is the same for applications in deep-sea trading and inland waterways

Satellite LNG storage
(e.g. port)

LNG Truck

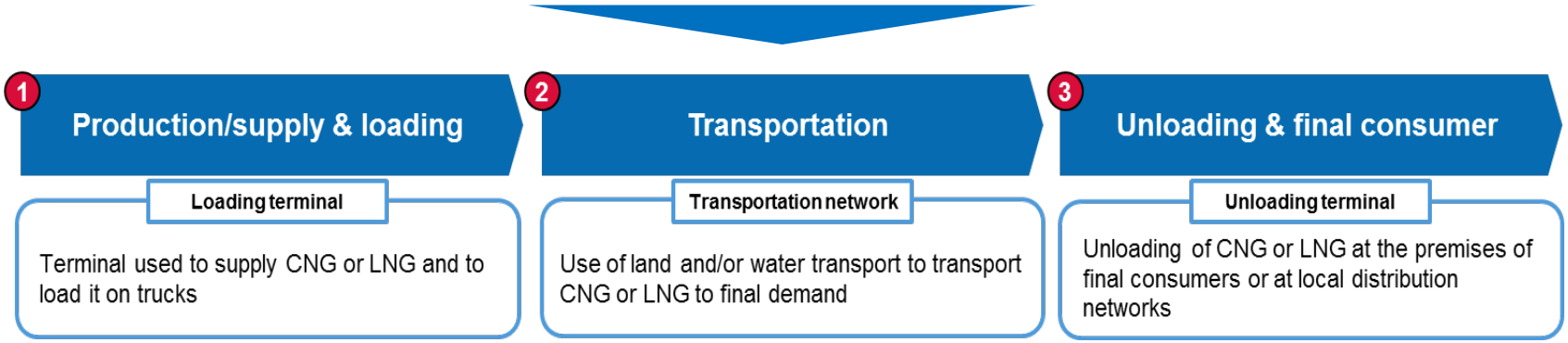
LNG Terminal

LNG barge

Deep sea
vessels / inland
waterways

The concept and approach are the same for both CNG and LNG virtual pipelines…

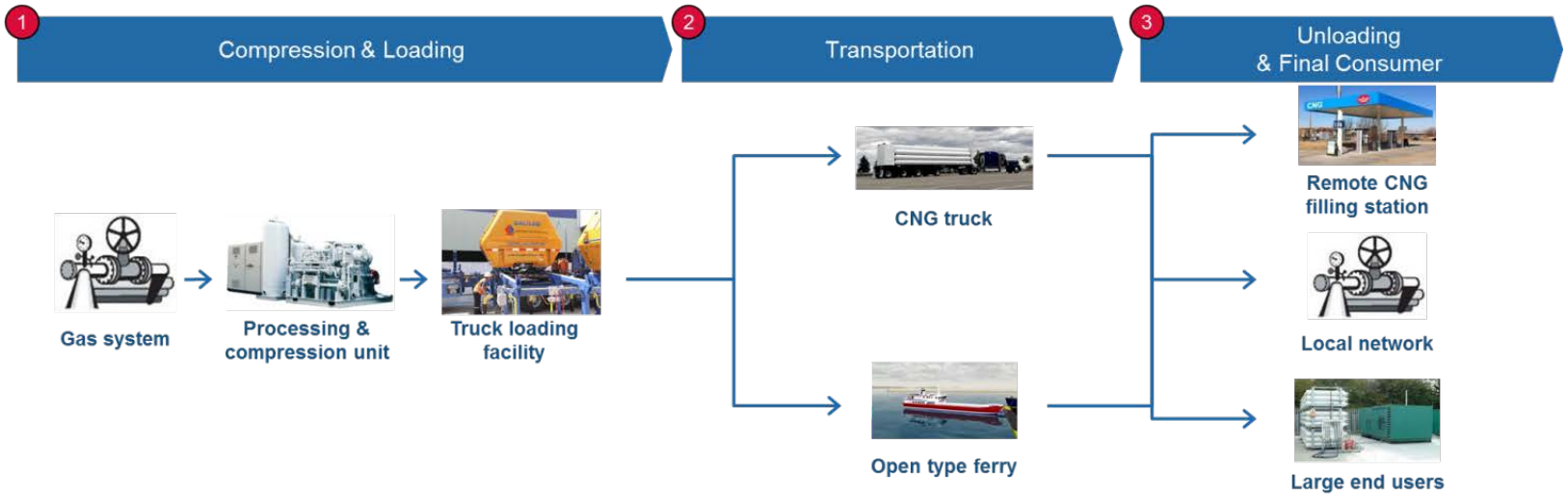
A virtual pipeline is defined as the **supply chain transporting natural gas to final consumers in the form of CNG or LNG**, using road and sea means of transportation, such as trucks, vessels, and rail.

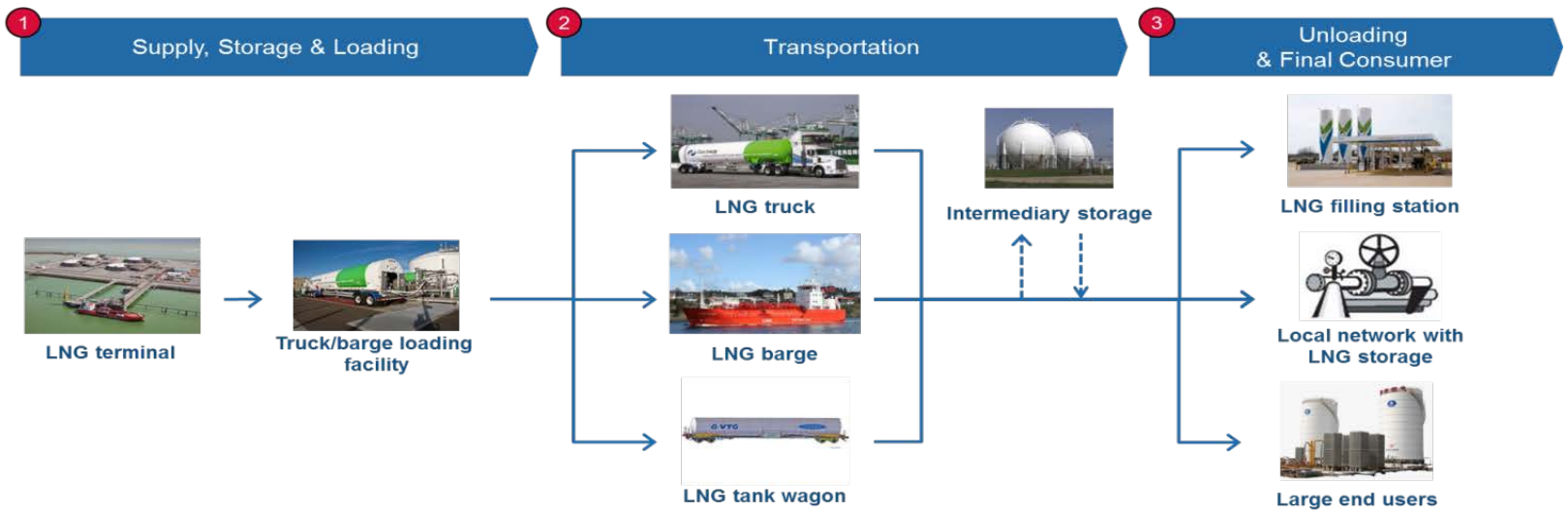


Usually, virtual pipelines are used:

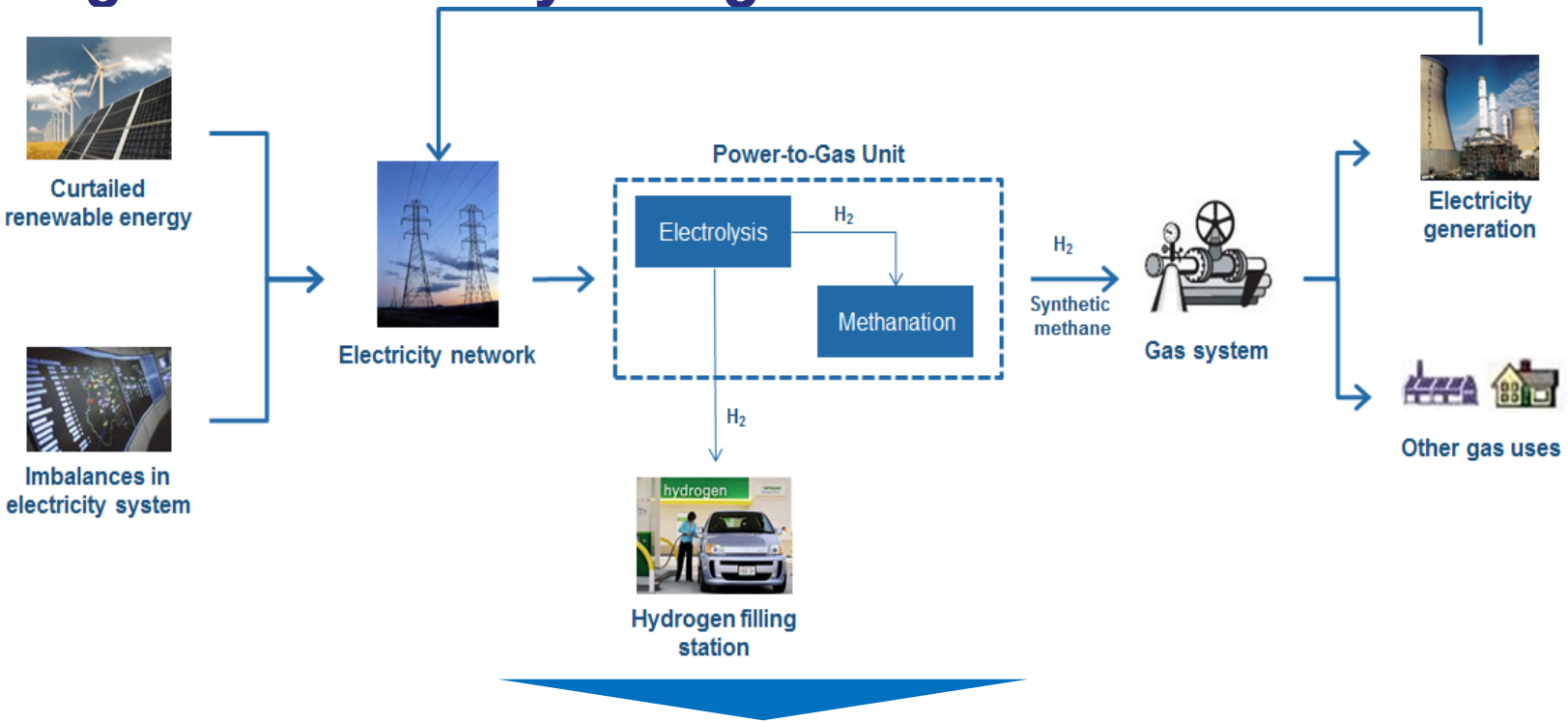
- For gasification of regions, to create a critical mass of consumption prior to development of a transmission system
- Where construction of transmission systems is not economically or technically feasible

...but their applications differ





Power-to-Gas (P2G) is an energy storage technology linking the electricity and gas infrastructure



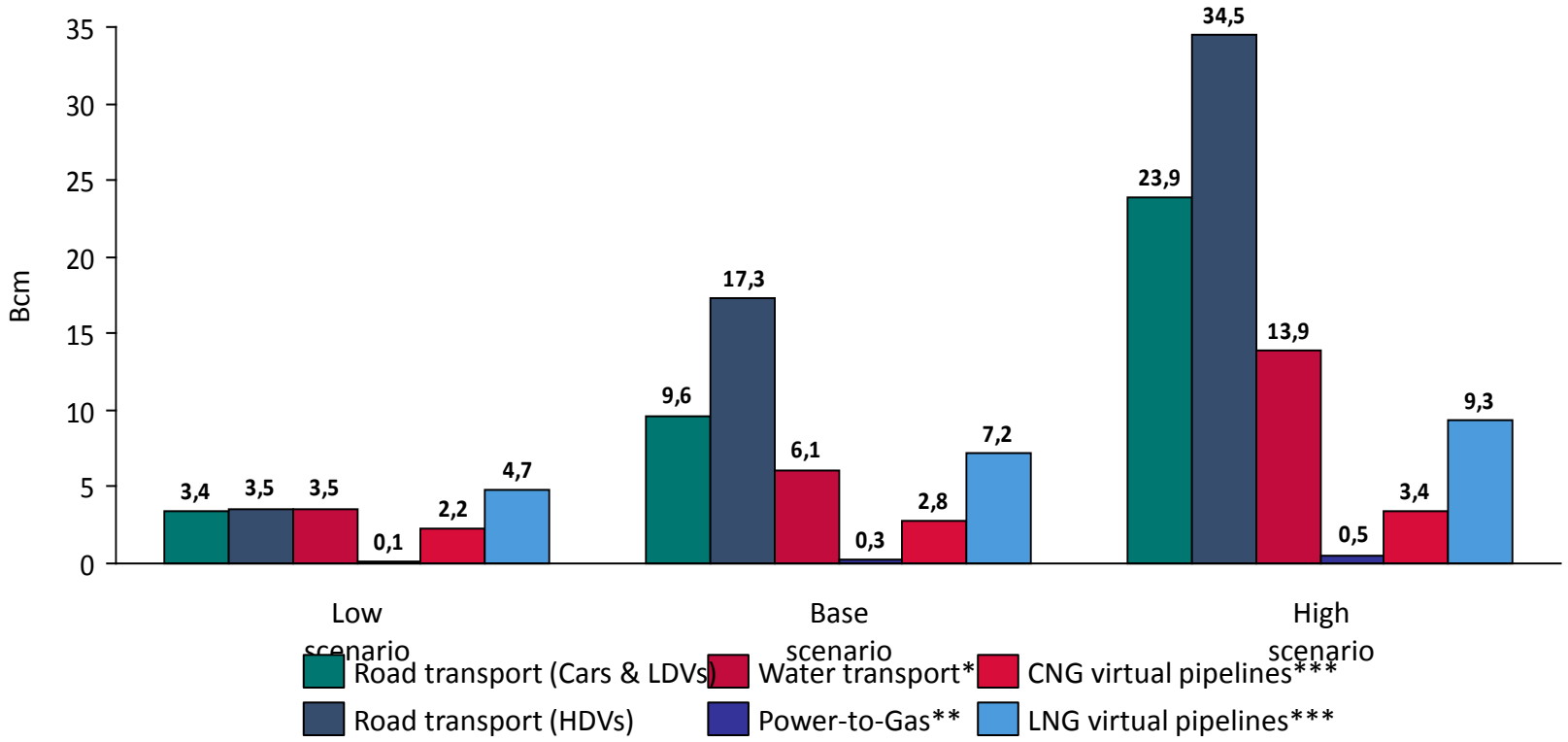
- P2G is currently at a **pilot development phase** (most applications in Germany with over 15 pilot and demonstration projects)
- The output of the P2G process (hydrogen or synthetic methane) mainly depends on the **gas system limitations for hydrogen injection** (currently not an issue)
- The future commercial deployment of P2G is expected to be used for absorbing **curtailed renewable energy** and acting as a **balancing tool** by the electricity TSOs

Technical characteristics

- Current capacity of P2G units reaches 2 MW
- Units can be stacked for larger capacity
- Hydrogen output: 4 – 8 kWh/Nm3 H_2

- Description of new uses for gas
- **Development prospects**
- Recommendations

Aggregated new use of gas could constitute 3-15% of EU gas consumption in 2025, transport sector largest growth potential



* Water transport: Data used are projections for 2020

** Power-to-Gas: Hydrogen output converted to natural gas equivalent, using GCV of Russian gas

*** Virtual pipelines: Supply of CNG and LNG filling stations not included in the values

Growth of NGVs is driven mainly by low gas prices

- The introduction of stricter regulations by the EU concerning pollution and tailpipe emissions and the plans to minimize dependency on oil favour the development of a market for alternative fuels in transport.
- NGVs fuelled with CNG have to **compete** with the “established” fuels (petrol & diesel) as well as **with other alternative technologies** (electric, hydrogen fuelled and LPG fuelled cars).
- For trucks driving long-distances LNG is currently **the only practical choice of alternative fuel**, competing only against diesel.
- The growth of NGVs is driven mainly by the low prices of gas in the present and the medium-term future.
- Penetration of natural gas depends on comparative fuel prices, convenience to the drivers (e.g. autonomy, availability of sufficiently wide network of filling stations), incentives, and availability of models from vehicle manufacturers.

Deployment of NGVs depends on economics & infrastructure

Factors influencing further growth of NGVs in the EU

EU and State policies

- A prerequisite for growth is to ensure (through a **sustained** taxation regime favorable to gas) that a sufficient price differential between gas and oil products continues to exist.
- Financial and fiscal incentives can also be helpful in promoting penetration of CNG and LNG in road transport.

Infrastructure (filling stations)

- Presently the network of CNG stations in most EU MS is limited.
- LNG stations are very few and missing in key countries.
- Plans for expansion exist and new stations are been built. The Alternative Fuels Infrastructure (AFI) Directive aims to develop the required network of stations throughout the EU but sets no quantitative targets.

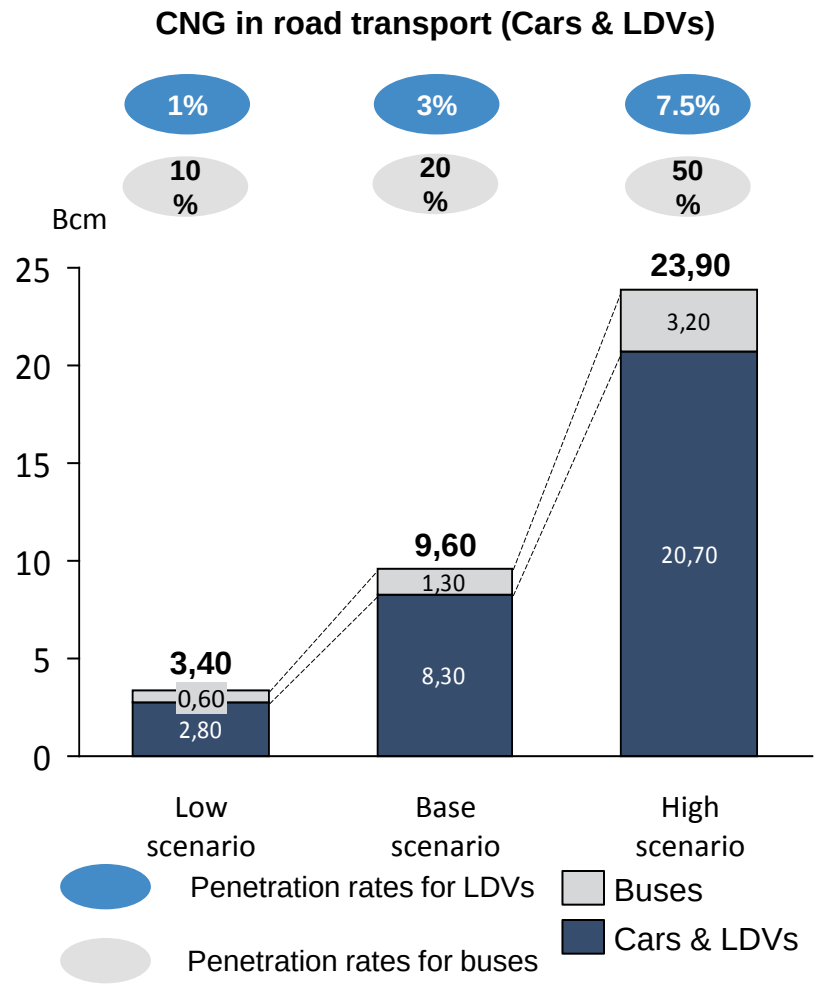
Harmonised standards

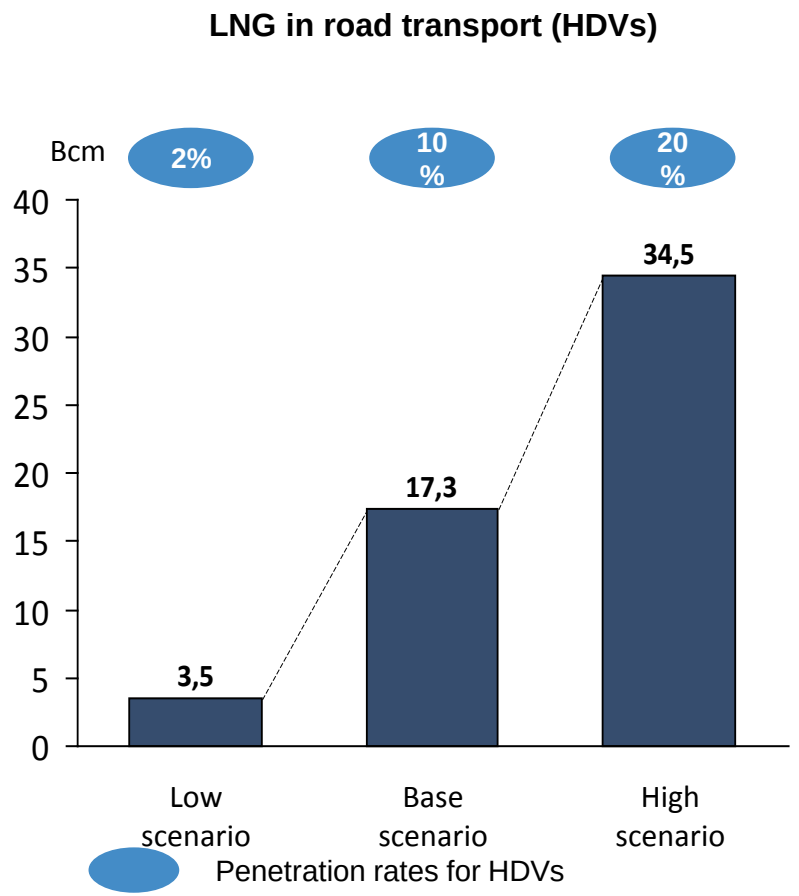
- EU technical standards for CNG & LNG vehicles exist since 6/2014
- International standards (ISO) for filling stations are under develop-ment and due in 2016. The AFI Directive authorizes the European Commission to assure that standards are established.

Availability of new vehicles

- Currently the range for new NGV models available (mainly dual fuel) is limited for both LDVs and HDVs and includes models by few manufacturers.

Gas consumption in the land transport sector can be significant in the next decade, provided that the appropriate conditions for market development exist

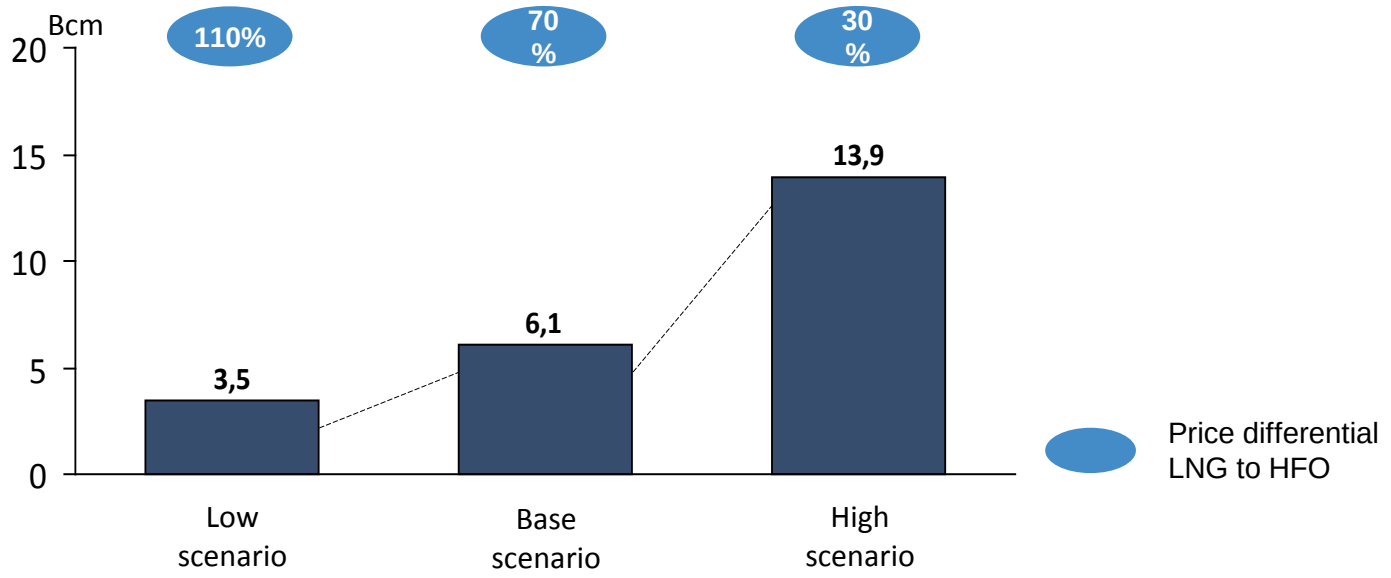




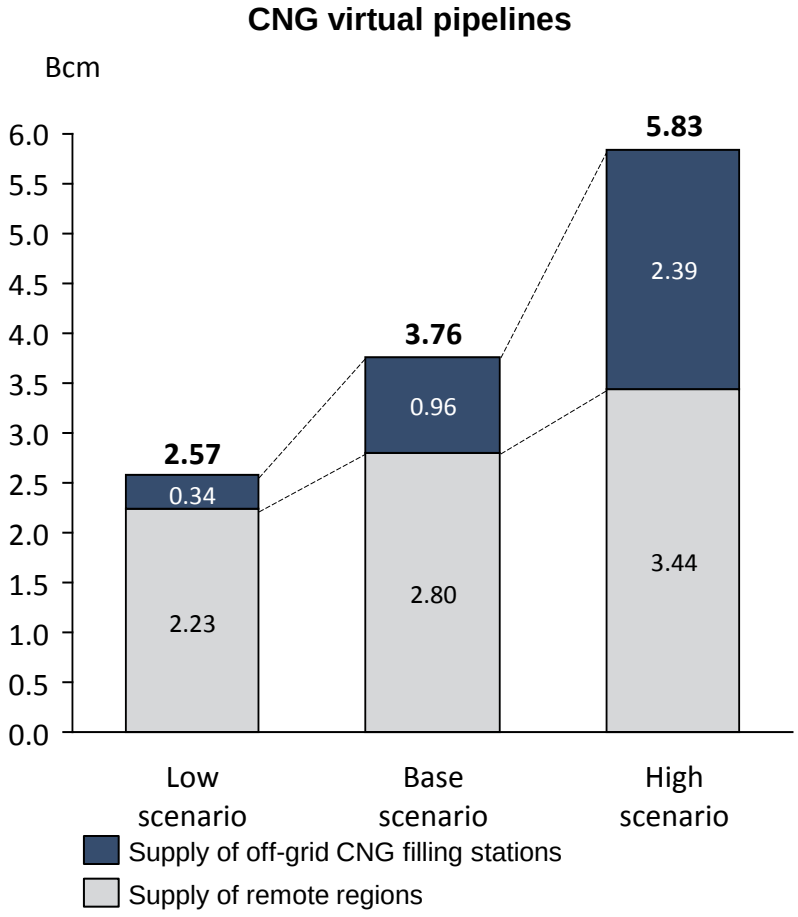
The development of an LNG market as fuel for ships is highly dependent on its price level compared to HFO

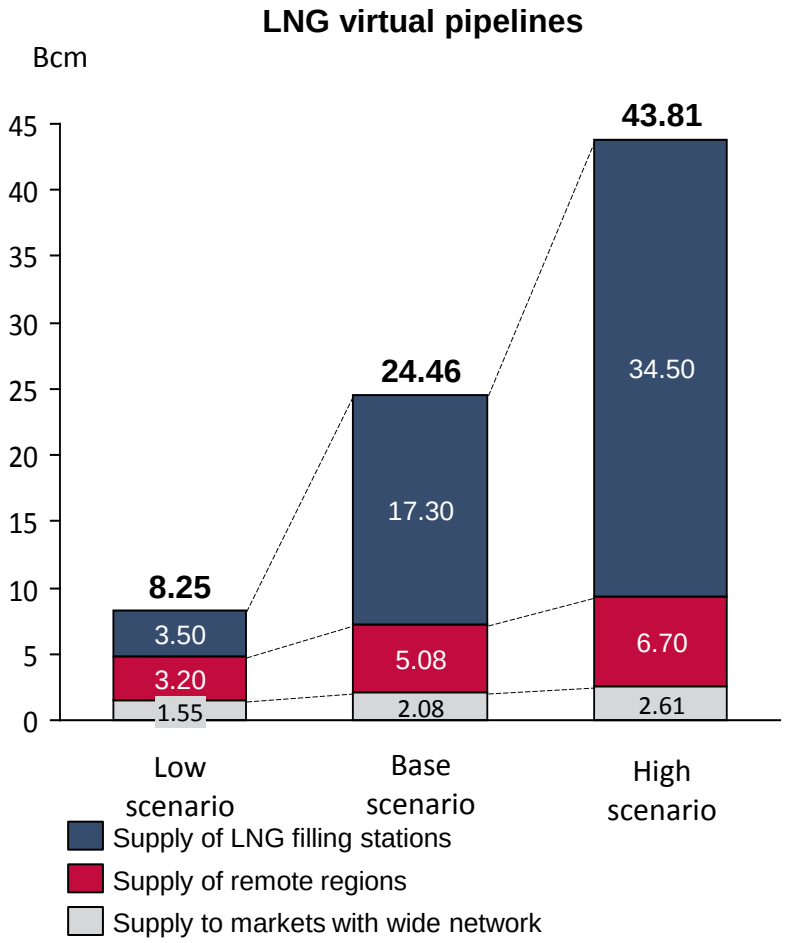
Scenarios based on DNV worldwide projections

Scenarios	LNG World Consumption (bcm)	Description
Low	11.29	Price of LNG assumed to be 110% of HFO
Base	19.68	Price of LNG assumed to be 70% of HFO
High	44.85	Price of LNG assumed to be 30% of HFO

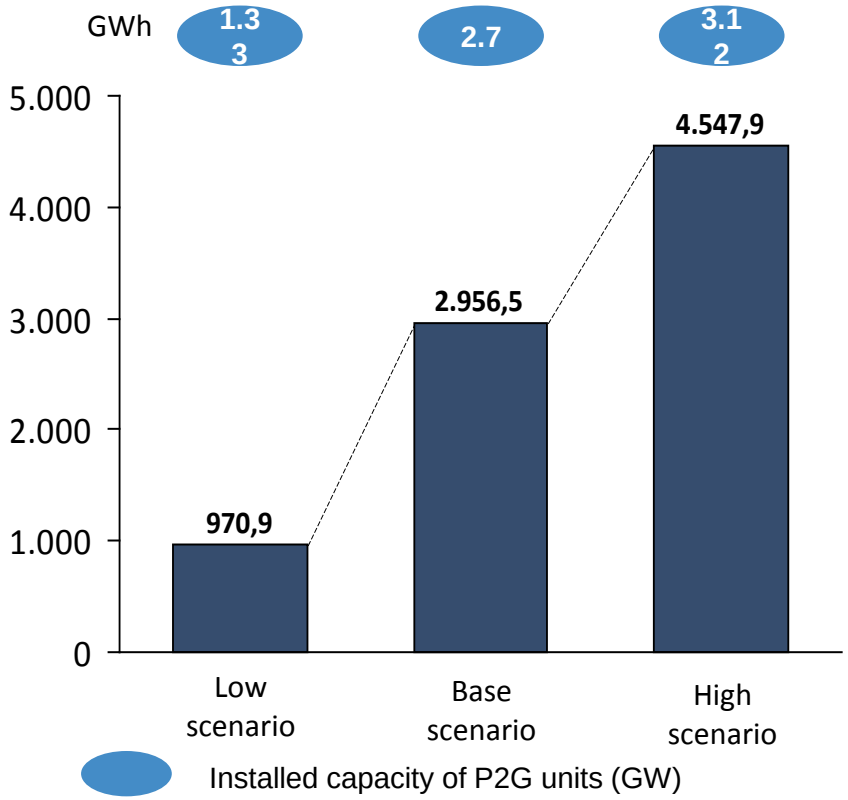


A large part of the expected size for virtual pipelines is linked to the development of the use for gas in transport





The output of P2G is expected to be limited in 2025



The examined time period is only 3 years after the expected full-scale commercial deployment of the P2G technology. Maturity of the application and a larger integration of RES in the EU-wide power system could lead to larger market sizes post 2030

- Description of new uses for gas
- Development prospects
- Recommendations

Key points to be addressed

- Which of these activities should be regulated (in particular loading/bunkering activities at LNG storage facilities)
- LNG and CNG filling stations should not be considered as suppliers of gas, and consequently should not be subject to TPA or licensing procedures
- A level-playing field between piped and non-piped supplies must be facilitated, in order for gas-to-gas competition to take place if the market demands it
- Particularly in the case of P2G: the technical provisions for the injection of hydrogen and synthetic gas into the gas system, the pricing regime, the role of the P2G operators, the balancing aspect and the integration in the electricity system

Recommendations

New development	ACER/NRA position
CNG virtual pipelines	• The national distribution Network Codes foresee supplies with CNG virtual pipelines, including clear provisions as to the connection of CNG shipments and dispatching of gas from CNG containers
LNG virtual pipelines	• Examine the appropriateness of establishing an EU-wide approach for cases where LNG storage and loading facilities should be regulated
CNG/LNG in land transport	• Ensure that CNG and LNG filling stations are considered end customers rather than gas suppliers, and therefore they are not obliged to conform to the requirements imposed on gas suppliers • NRAs will include the supply of gas to the filling stations in their market monitoring practices
LNG in water transport	• Establish a common approach setting out whether and when the bunkering of a vessel with LNG is a regulated activity or not • Where the loading service provided by the LNG terminal is unregulated, enforce provisions accounting for the use of assets for both regulated and unregulated activities and reductions to the operator's RAB, where appropriate
Power-to-gas	• Examine the regulatory framework and the impact of P2G technology, particularly as a tool for electricity balancing and demand-side response

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6. Conclusions and closing of the workshop

Dennis Hesseling, Head of ACER Gas Department

Link to the Gas Target Model:

http://www.acer.europa.eu/Events/Presentation-of-ACER-Gas-Target-Model-/default.aspx

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Thank you for your attention!

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