

CEER

**Council of European
Energy Regulators**



Current challenges for the gas market
EU Gas Target Model
Security of gas supply

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2nd MEDREG – CEER Roundtable
Malta, 19 May 2016

Contents

Natural gas – an energy source with a changing face

- What (kind of) future for gas in the EU ?
 - ▶ living in a hub-based world
- Energy Union environment
- EU Gas Target Model
- Security of gas supply
- Regions – What regions?
- Conclusion



Changing fate of natural gas (EU)

... „ Energy Source of the 21st century ”

- „ Sunset fuel ” (2010)
- „ Golden Age of Gas ” (2011)
- „ Bridge fuel to low-carbon future ” (2012)
- „ Limited role of gas in decarbonisation scenarios ” (2013)
- „ Managing an energy source in decline ” (2014)
- „ Gas – is it bouncing back? ” (2015)



Energy Union



- Riga process
- **ENERGY UNION concept**
 - ▶ 2014 – 2016
 - ▶ summer/winter packages
 - ▶ State of the Energy Union
- Interaction with the outcome of Paris COP 21



Energy Union strategy

1. Energy security, solidarity and trust
2. A fully integrated European energy market
3. Energy efficiency contributing to moderation of demand
4. Decarbonising the economy
5. Research, Innovation and Competitiveness

Energy Union drive

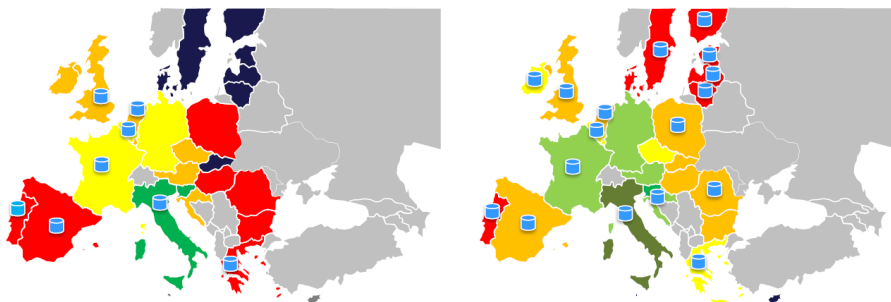
Towards an Energy Union

resilient Energy Union
Climate Change Policy

Connecting Gas Markets

NOW

AFTER 2022



Number of supply sources a country may potentially access to through infrastructure
(at least 5% share)

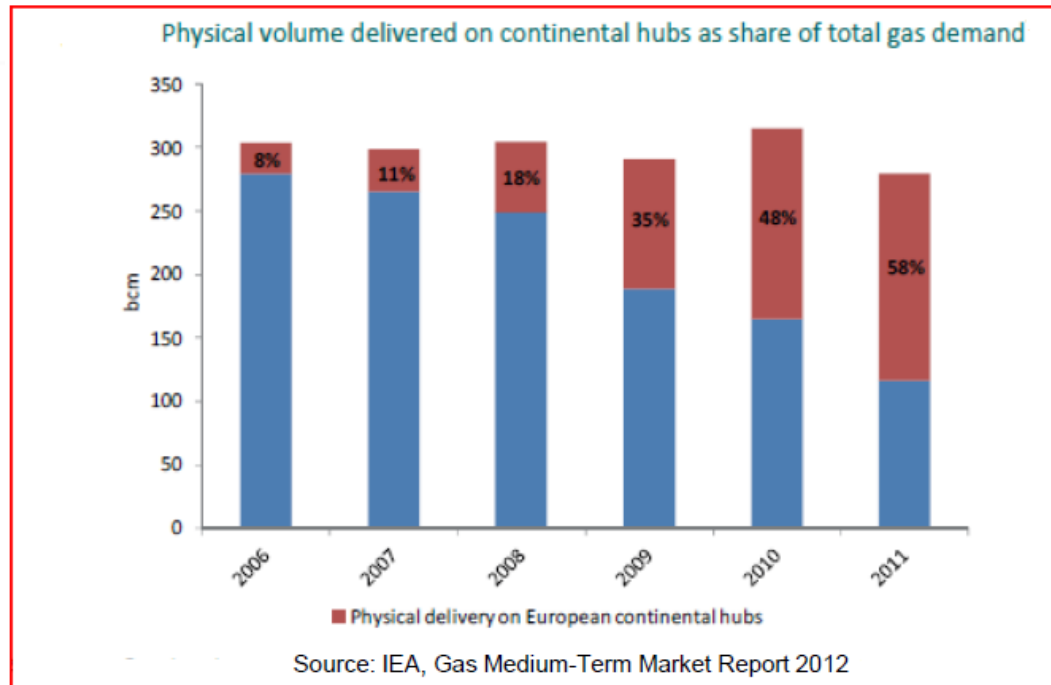
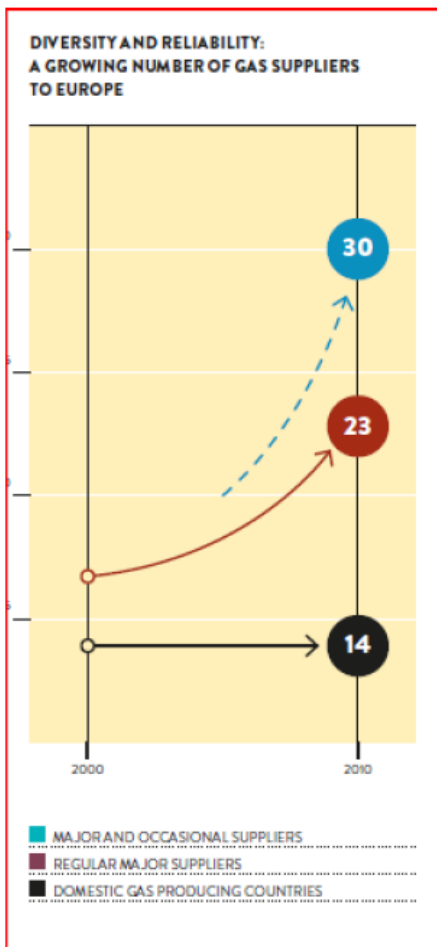
1 2 3 4 5 6 7 Presence of Liquefied Natural Gas Terminal(s)

Supply Sources: Azerbaijan (new source), Algeria, Libya, Norway, Russia, EU Production, LNG (treated as one source)

Reference year 2013

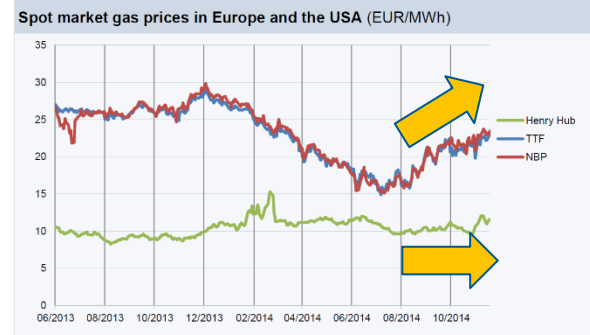
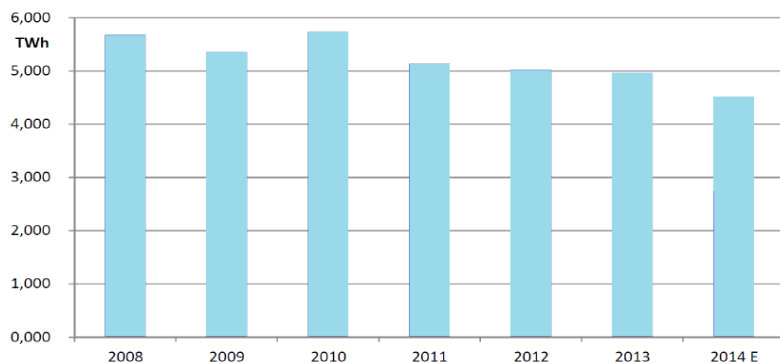
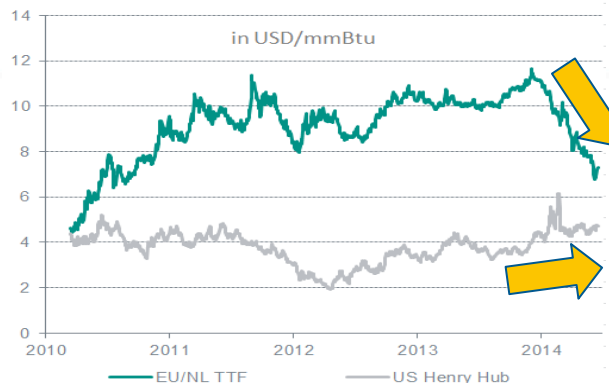
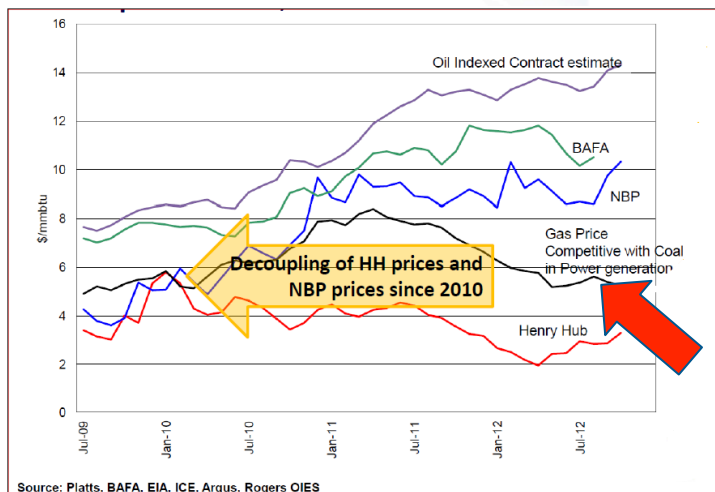
Source: European Commission

EU gas market growing ever more dynamic



- Increasing number of players on wholesale market
- Increasing share of short-term trading

... yet ever more challenging



Implementation of Third Package

Formal (3rd Package) process

- ▶ New institutional framework (ACER, ENTSOs)
- ▶ Framework Guidelines in priority areas defined by the Commission
- ▶ Network Codes developed by ENTSOs, to be enforced by the EC after Opinion by ACER

Aim:
Develop the rules



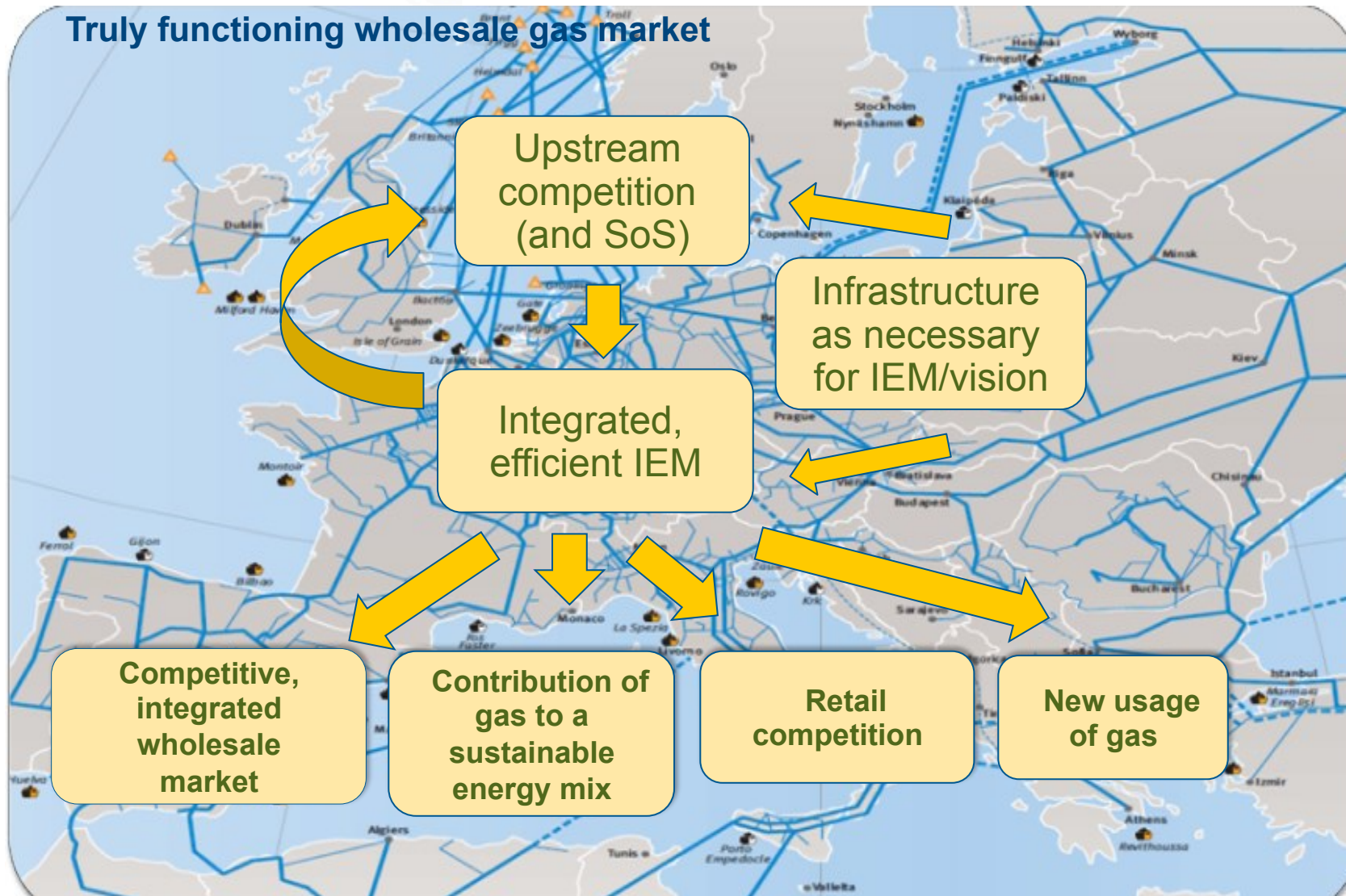
“Voluntary” process

- ▶ ‘Pilot projects’ for the early implementation of principles set in FGs and NCs
- ▶ Definition of cross-regional projects
- ▶ Very close monitoring of progress
- ▶ Strong involvement of all stakeholders

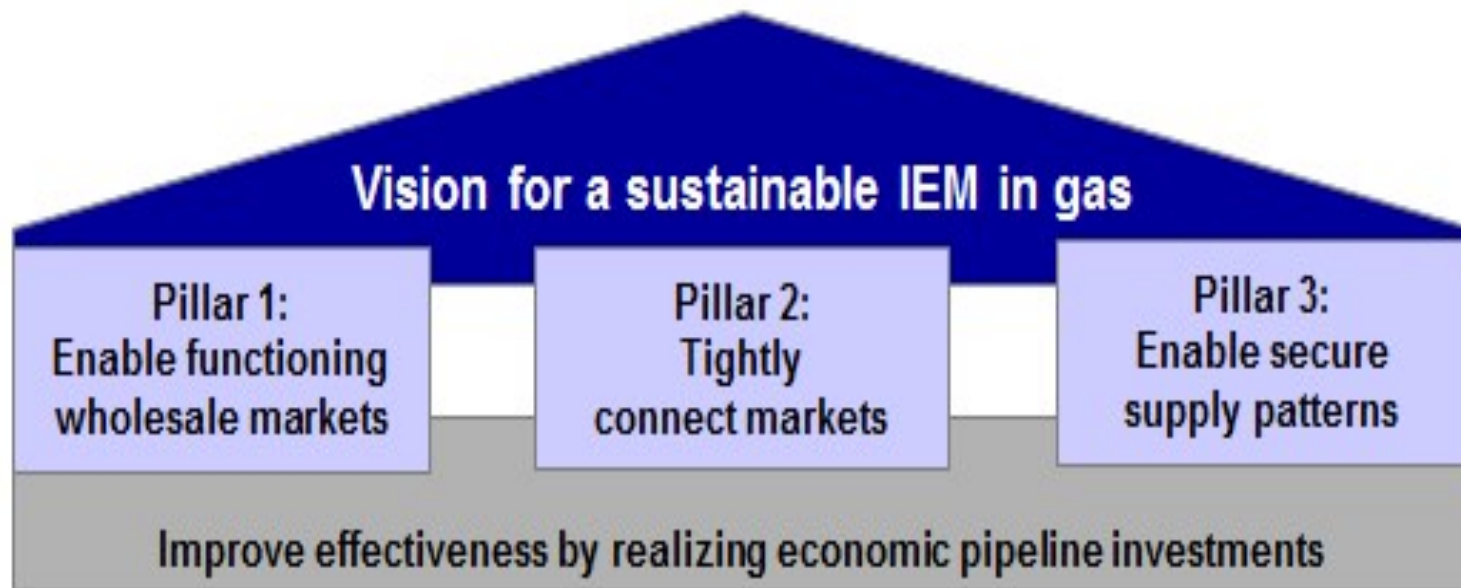
Aim:
Implement the rules earlier

Challenges for the future gas market(s)

Truly functioning wholesale gas market



GAS TARGET MODEL



First Gas Target Model - 2011

Background

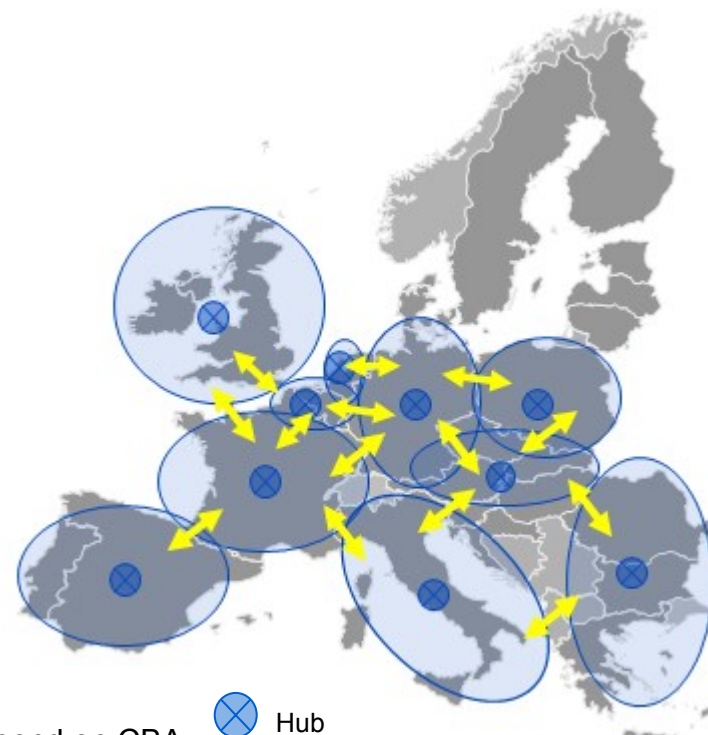
CEER Vision for a European Gas Target Model

- Published in December 2011; developed with strong stakeholder support
- Approach: 3 pillars and recommendations



Vision for the 1st GTM in a nutshell

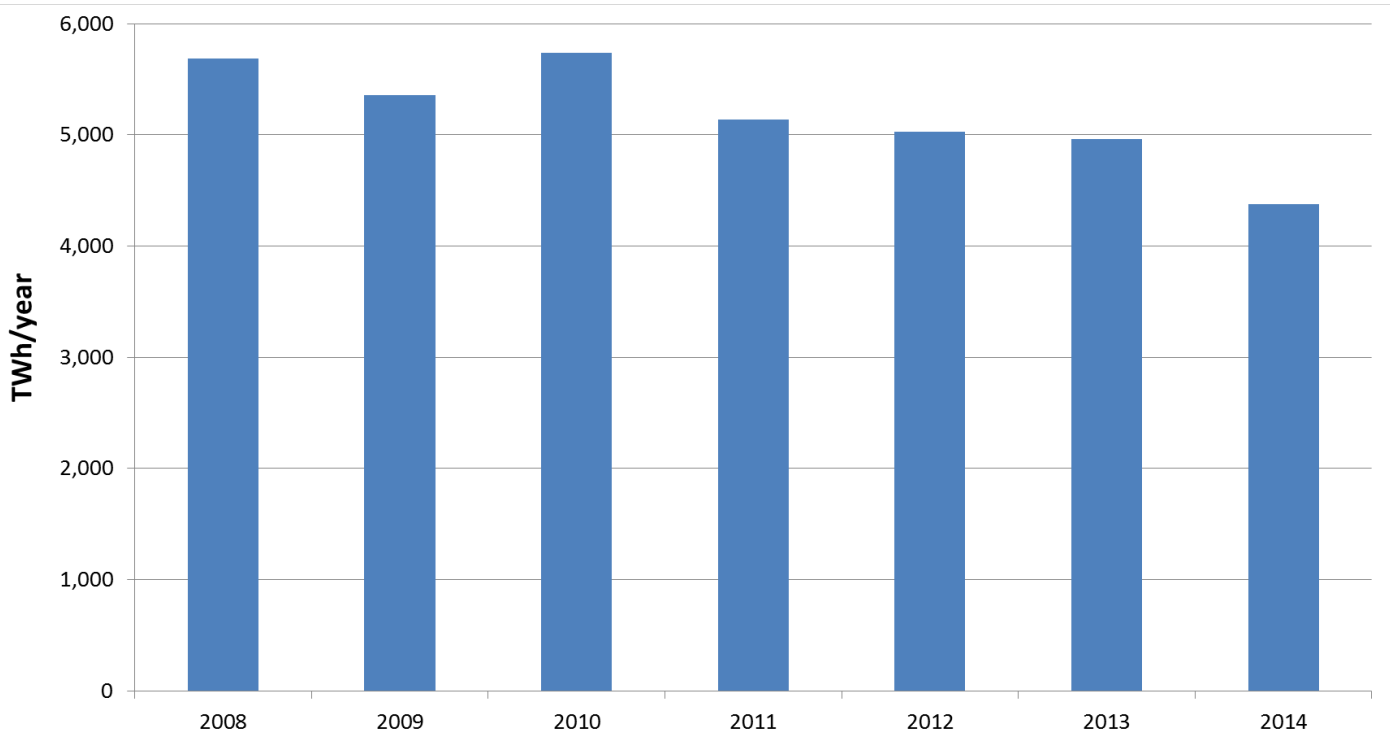
- Liquid hubs with sufficient and efficiently used infrastructure
- Functioning markets in all of Europe
- Ensure that gas flows to Europe
- Served as guidance for the FG/NC development



* Zones drawn for illustration. Size of zones will depend on CBA.

Decreasing gas demand in the EU

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



Wholesale gas market functioning: Status quo

Large western European gas markets

- ▶ Except UK and NL, liquidity below target churn rate and uncertainty regarding further evolution of liquidity
- ▶ But existing and transparent gas trading in large market zones
- ▶ Pluralism of supply sources, also thanks to LNG, and diverse market structure with imports from multiple firms and production by multiple firms (where applicable)
- ▶ But dependence on large suppliers may increase again should gas demand pick up
- ▶ **Many consumers (in largest markets) already benefit from wholesale gas competition**

Central and Eastern Europe

- ▶ Most gas markets without transparent hub trading and – according to CEER criteria – relatively small to develop into competitive wholesale markets
- ▶ Often high concentration on the supply side
- ▶ Potential competition in some Central European member states
- ▶ But often large reliance on largest supplier, i.e. Gazprom
- ▶ **Lack of competition in smaller member states should not be ignored**

Gas Target Model 2015 – 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

EUROPEAN GAS TARGET MODEL
REVIEW AND UPDATE



Wholesale market functioning Objective

- **The aim of the revised Gas Target Model:**
 - make transparent what the goal of "**functioning wholesale markets**" as defined by Regulation 715/2009 shall mean in practice
 - help NRAs/Member States achieve that goal by providing them with a **process of self-assessment** and a **set of tools** suitable to improve wholesale market functioning
 - Enabling retail competition by having a **liquid spot and forward market** available in the balancing zone that also can be used to supply retail customers, as this substantially **lowers the entry barrier** for potential new retail competitors



Criteria to assess wholesale market functioning

GTM2015 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

Herfindahl-Hirshmann Index

Different supply sources

Residual Supply Index

Market concentration for bid and offer activities

Market concentration for trading activities

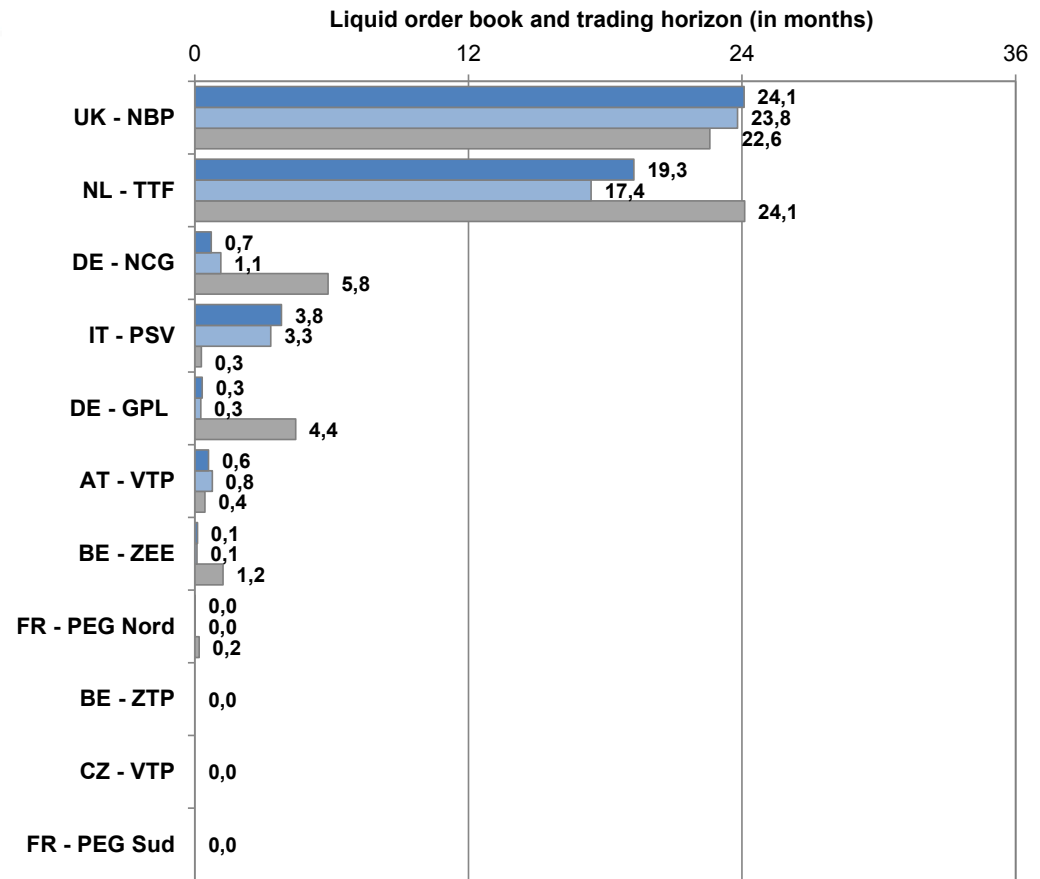
GTM2011

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

Forward market functioning

Status quo:

Quantitative analysis
reveals highly limited
forward trading
across the EU



- Metric 1a: Average liquid order book horizon with at least 120MW in the order book (offer side)
- Metric 1b: Average liquid order book horizon with at least 120MW in the order book (bid side)
- Metric 4: Average trading horizon with at least 8 deals per day

GTM2 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 an 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:
Can the natural evolution of the market be reasonably expected to meet the criteria?

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

Market integration tools

- If – as a result of the self-evaluation – a MS is unlikely to have a functioning wholesale gas market by 2017, a **structural market reform should be evaluated**
- Such a 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**)



Cost-benefit analysis

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



Market integration projects

- Austria West and Germany NCG
- France: PEG Sud and TIGF
- Belgium and Luxembourg
- Austria East and Czech Republic
- Portugal and Spain
- Baltic States and Finland
- V4 countries



ACER
Agency for the Cooperation
of Energy Regulators



SECURITY OF GAS SUPPLY

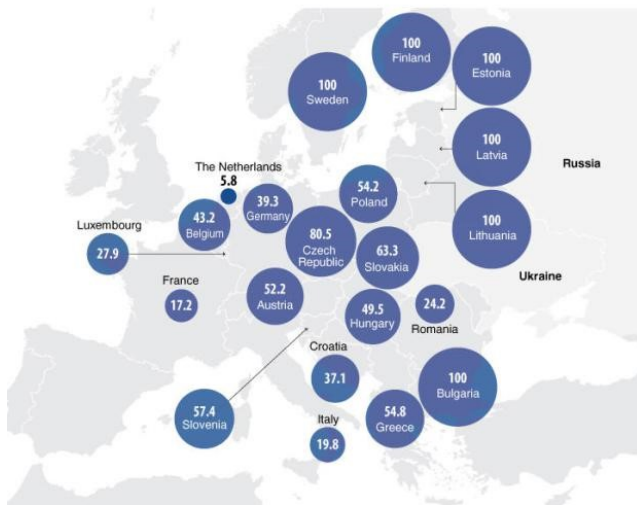


Security of gas supply

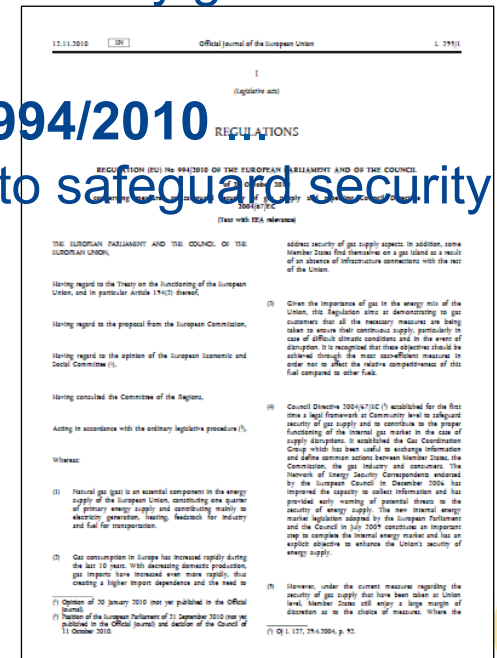
EU COUNTRIES' DEPENDENCE ON RUSSIAN GAS

(share of Russian gas in the overall amount, %)

81% of gas is delivered to the EU by pipelines
40% of gas supplied to the EU goes through Ukraine



- Security of supply – an elusive topic (state)
- How to define it and how to achieve/maintain it
- EU solution concept driven by gas winter crisis 2009:
- **Regulation (EU) No. 994/2010** concerning measures to safeguard security of gas supply ...





Regulation (EU) No. 994/2010

- Establishing structural frame and assigning responsibilities
- Focus on national (MS) measures – competent bodies
- Protected customers
- Structured measures – SoS planning (Prevention – Mitigation)
- MS risk assessments, preventive APs, emergency APs)
- Infrastructural standards/obligations (N-1 standard, reverse flow on ICs)
- Exemptions
- Governance

12.11.2010	
Official Journal of the European Union	
L 295/1	
I	
(Legislative act)	
REGULATIONS	
REGULATION (EU) No 994/2010 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 30 October 2010 concerning measures to safeguard security of gas supply and repealing Council Directive 2004/47/EC (Text with EEA relevance)	
THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,	address security of gas supply aspects. In addition, some Member States find themselves on a gas island as a result of an absence of infrastructure connections with the rest of the Union.
Having regard to the Treaty on the Functioning of the European Union, and in particular Article 194(2) thereof,	(7) Given the importance of gas in the energy mix of the Union, this Regulation aims at demonstrating to gas customers that all the necessary measures are being taken to ensure their continuous supply, particularly in case of difficult climatic conditions and in the event of disruption. It is recognised that these objectives should be achieved through the most cost-efficient measure in order not to affect the relative competitiveness of this fuel compared to other fuels.
Having regard to the proposal from the European Commission,	(8) Council Directive 2004/47/EC (*) established for the first time a legal framework at Community level to safeguard security of gas supply and to contribute to the proper functioning of the internal gas market in the case of supply disruptions. It established the Gas Coordination Group which has been useful to exchange information and define common actions between Member States; the Commission, the gas industry and consumers. The Network of Energy Security Correspondents endorsed by the European Council in December 2006, has improved the capacity to collect information and has provided early warning of potential threats to the security of energy supply. The new internal energy market legislation adopted by the European Parliament and the Council in July 2009 constitutes an important step to complete the internal energy market and has an explicit objective to enhance the Union's security of energy supply.
Having regard to the opinion of the European Economic and Social Committee (1),	(9) However, under the current measure regarding the security of gas supply that have been taken at Union level, Member States still enjoy a large margin of discretion as to the choice of measures. Where the
Having consulted the Committee of the Regions,	(10) Q 1 127, 284/2004, p. 92.
Acting in accordance with the ordinary legislative procedure (2),	
Whereas:	
(1) Natural gas (gas) is an essential component in the energy supply of the European Union, constituting one quarter of primary energy supply and contributing mainly to electricity generation, heating, feedstock for industry and fuel for transportation.	
(2) Gas consumption in Europe has increased rapidly during the last 10 years. With decreasing domestic production, gas imports have increased even more rapidly, thus creating a higher import dependence and the need to	
(3) Opinion of 20 January 2010 (not yet published in the Official Journal).	
(4) Position of the European Parliament of 21 September 2010 (not yet published in the Official Journal) and Decision of the Council of 11 October 2010.	



EC Revision of the Security of Gas Supply (SoS) Regulation – why now?

- Despite the improvements achieved with Regulation (EU) No 994/2010, there are still a number of problems:
 - ▶ Behavioural biases
 - ▶ External factors
 - ▶ Technical issues
- Obstacles established by the 2013 Review and the 2014 Stress Test
- With the design of the current Regulation, these problems cannot be overcome > need for a revised Regulation
- **SoS Package 2016** contributes to several priorities of the Energy Union Strategy
 - ▶ Low carbon energy system
 - ▶ Security of supply
 - ▶ Integrated energy market/competitiveness



SoS Revision – What is new ?

- Shift to a regional approach
- A new explicit solidarity principle
- More transparency intended to improve risk assessment and prevention
- Increased oversight of obligations under the supply standard
- More specific/effective obligations regarding infrastructure
- Obligations between EU Member States and Energy Community Contracting Parties



SoS Revision: **Shift to a regional approach**

- Regional approach considered to be the most effective tool to improve prevention (better estimation of risk magnitude, early identification of synergies and inconsistencies)
- Regional approach ensuring a consistent and larger response in a severe crisis
- Risk Assessments, Preventive Action Plans and Emergency Plans prepared at regional level – with obligatory use of templates
- Improved oversight
 - ▶ Peer reviews: with experts from Competent Authorities outside the region + ENTSOG + Commission (as an observer)
 - ▶ Gas Coordination Group: to advise on the consistency of regional Plans
 - ▶ Commission's opinions and, ultimately, decisions

SoS Revision: Definition of regions



- A definition of regions proposed based on:
 - ▶ Existing groups (TEN-E), adapted to SoS needs
 - ▶ Likely cooperation options, i.e. who needs to cooperate with who?
 - ▶ Market development and maturity
- Possibility to modify SoS regions in the future
- Cooperation mechanisms to be agreed among MSs within each region

SoS revision: **A new explicit solidarity principle**

- Based on a two-step approach:
 1. Reset to "default" values any increased supply standard upon the declaration of an emergency in a MS
 2. Where step 1 is insufficient and the supply to households, essential social services and district heating cannot be satisfied (within a MS):
 - ▶ The gas supply to consumers other than households, essential social services and district heating cannot continue in MS directly connected
 - ▶ Those MS directly connected must take the necessary measures to ensure that gas will be supplied to the MS in a severe emergency
- Applies among all MS (not limited to regions)
- Decoupled from the definition of protected customers



SoS revision: **More transparency to improve risk assessment and prevention**

- Existing mechanism are maintained, but notifications will no longer be in an aggregated manner
- The Commission may request amendments to the measures before they enter into force
 - ▶ Targeted mechanism for access to information in specific circumstances even if an emergency has not been declared. (e.g. reduction in gas flows)
 - ▶ Automatic notification of certain gas supply contracts upon signature or amendment:
 - Contracts, individually or cumulative with other contracts, between a supplier (or its affiliates) and a buyer (or its affiliates) covering 40% of the national gas market
 - In duly justified circumstances, the CA or the Commission may require other security of supply relevant contracts.



SoS revision: **Increased oversight of obligations under the supply standard**

- New **non-market based preventive measures** shall be subject to an Impact Assessment before they enter into force, covering:
 - ▶ Impact in the national and internal market
 - ▶ **Impact on SoS of other MSs > role of NRAs**
 - ▶ Cost and benefits
 - ▶ Necessity and Proportionality
 - ▶ Openness
 - ▶ Phase-out strategy
- The Commission may request amendments to the measures before they enter into force

SoS revision: **More effective obligations on infrastructure**

- N-1 standard remains, but is complemented by:
 - ▶ Hydraulic calculations at national level
 - ▶ Calculation of N-1 under several hypothesis
 - ▶ ENTSOG EU-wide scenarios
- Reverse flow obligations along the "supply corridor":
 - ▶ National decisions replaced by joint decisions
 - ▶ ACER to deliver an opinion on all joint decisions and the Commission may request amendments
 - ▶ In the absence of a joint decision, the Commission may take a decision on the basis of an opinion prepared by ACER with a proposal
 - ▶ Exemptions limited in time – existing ones to be revised following the new procedure



SoS revision: **Role of the Energy Community**

- All SoS measures with cross-border impact should also apply as obligations between EU MSs and Energy Community Contracting Parties
- Mutual obligations would enter into force conditional to Energy Community CPs having agreed and implemented reciprocal obligations towards EU MSs





What is worrying regulators?

Council of European
Energy Regulators

Fostering energy markets, empowering consumers.

CEER response to European Commission Consultation paper of the Revision of Regulation (EU) No 994/2010 concerning measures to safeguard security of supply and repealing Council Directive 2004/67/EC

Ref: C15-GWG-118-03
7-April-2015

Council of European Energy Regulators asbl
Cour de Saint-Michel 30a, Box F – 1040 Brussels, Belgium
Arondeement judiciaire de Bruxelles – RPM 0801 035.445

Council of European
Energy Regulators

Fostering energy markets, empowering consumers.

**Security of Gas Supply
A CEER Concept Paper**

Ref: C15-GWG-122-04
21 July 2015

Council of European Energy Regulators asbl
Cour de Saint-Michel 30a, Box F – 1040 Brussels, Belgium
Arondeement judiciaire de Bruxelles – RPM 0801 035.445

CEER

Ref: C15-GWG-09-03

**CEER amendment proposals for the Revision of
Regulation 994/2010 concerning measures to
safeguard security of gas supply**

10 May 2015

1 Introduction

This paper provides an outline of the views and suggestions by European national energy regulatory authorities (NRAs) as regards security of gas supply policy, where it interacts with the design and functioning of natural gas markets. It includes proposals for amendments to the European Commission proposal for a revised Security of Supply (SoS) Regulation, published on 16 February 2015¹.

The Council of European Energy Regulators (CEER) has long been interested in security of supply. In 2015, we issued a response to the European Commission's public consultation². We complemented this work in our Concept Paper on Europe's Gas Security of Supply³, with policy recommendations concerning measures to safeguard security of gas supply in both the mitigation and prevention stages.

At this stage of the legislative process, CEER would like to contribute concrete recommendations which build from our previously advocated view to 'prevent first, then mitigate'. CEER promotes using market-based instruments as long as possible (in the prevention phase), before moving into the mitigation phase (of state interventions via emergency plans).

As argued in CEER's earlier papers (cf. response and concept), CEER fully endorses the role of markets in order to deliver secure gas supplies. In the European gas market model, Member States do not contract gas for their citizens; instead a market approach is applied whereby gas is bought by gas companies in order to meet their contractual commitments with end-users. Moreover, in this market-driven supply of gas, national borders disappear since gas companies operate their contracts and trade gas internationally. This market policy is further encouraged and facilitated by the Third Energy Package and the Network Codes as well as the TEN-E Regulation (Regulation 347/2013).

Full implementation of these legislative packages is a major priority for CEER. In order to move to an effective internal gas market which delivers access to gas according to market principles, and thus contributes to security of gas supply. That being said, the maturity of the market (its organisation and functioning) largely determine the duration of the prevention phase in which gas disruptions are still handled by the market. A well-functioning gas market will ensure a more market-based approach for SoS. In order to encourage the process to move to mature and resilient gas markets everywhere in Europe, it is important to limit possible distortive interference of direct SoS measures as much as possible. Ensuring coherence between the implementation of a European SoS policy and the Third Energy Package and the TEN-E regulation, and making use of synergies between them, is a key concern for CEER.

¹ https://ec.europa.eu/energy/sites/ener/files/consultation/15_02_ACT_text_v10.pdf

² http://www.ceer.eu/boards/bodres/CEER_HOM/CEER_PUBLICATIONS/CEER_PAPER/2015/C15-GWG-118-03_SoS_Concept_Paper_CEER_150407.pdf

³ http://www.ceer.eu/boards/bodres/CEER_HOM/CEER_PUBLICATIONS/CEER_PAPER/2015/C15-GWG-122-04_SoS_Concept_Paper_21072015.pdf

What is worrying regulators?

- Role of NRAs
 - ▶ in national/regional planning (RA, PAP, EAS)
 - ▶ in infrastructural planning
- Discrepancies btw. SoS Regulation and TEN-E Regulation
- Lack of clear criteria in market- vs. state intervention measures
 - ▶ regulator(y theory) prefers market mechanisms (e.g. NC BAL – establishing market-based price of SoS)
- Solidarity remuneration (methodology)

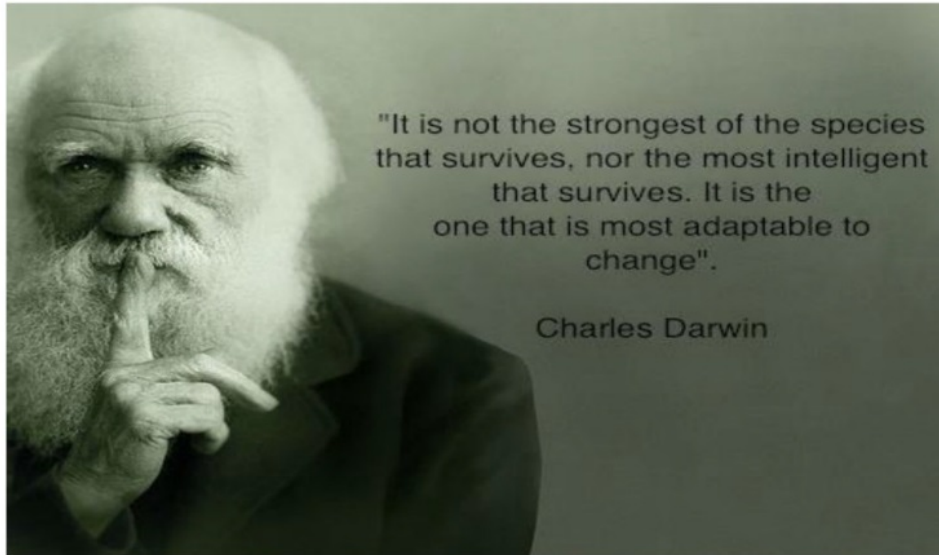


What seems to be worrying MSs?

- Concept(s) of defining regions
 - ▶ area-based
 - ▶ corridor-based
 - ▶ border/flow-based
- Specific positions are dominating MS concerns
- Already adopted level of national supply security standard(s)
 - ▶ falling to common default level
- Already established national SoS tools
 - ▶ e.g. past investments in specific infrastructure



Natural gas – facing the challenge of adaptation



- Wholehearted effort to streamline
- Employ creative thinking
- Cooperation is the key

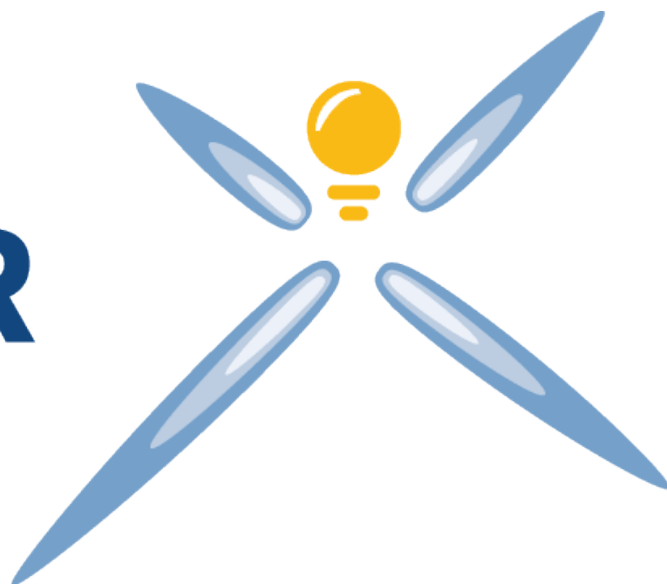
or else ...



Thank you for your attention!

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