ENTSOG Workshop on Network Code Implementation and the future Development of Gas Legislation – 19 September 2018

Meeting Slides

ENTSOG Market team

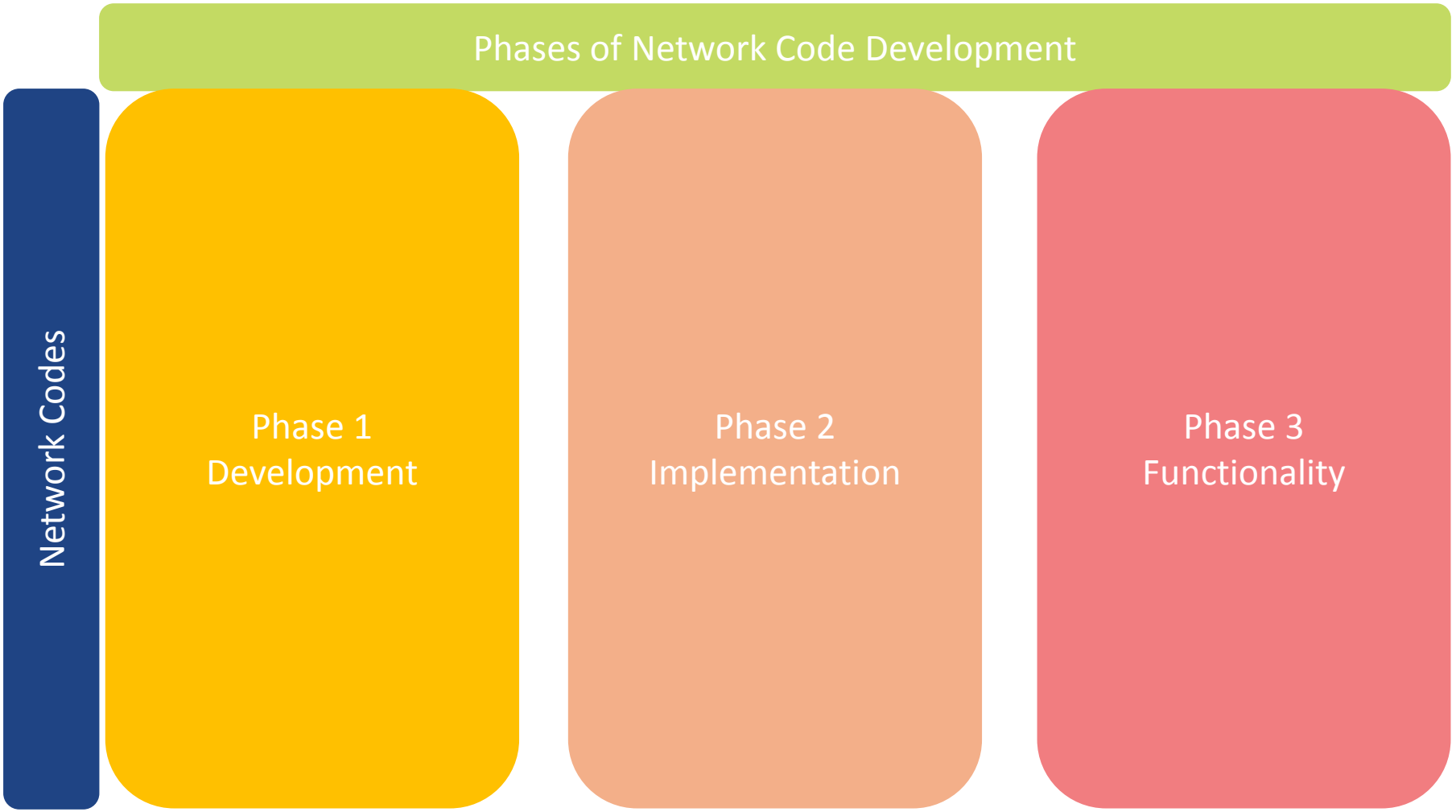
Agenda

Agenda

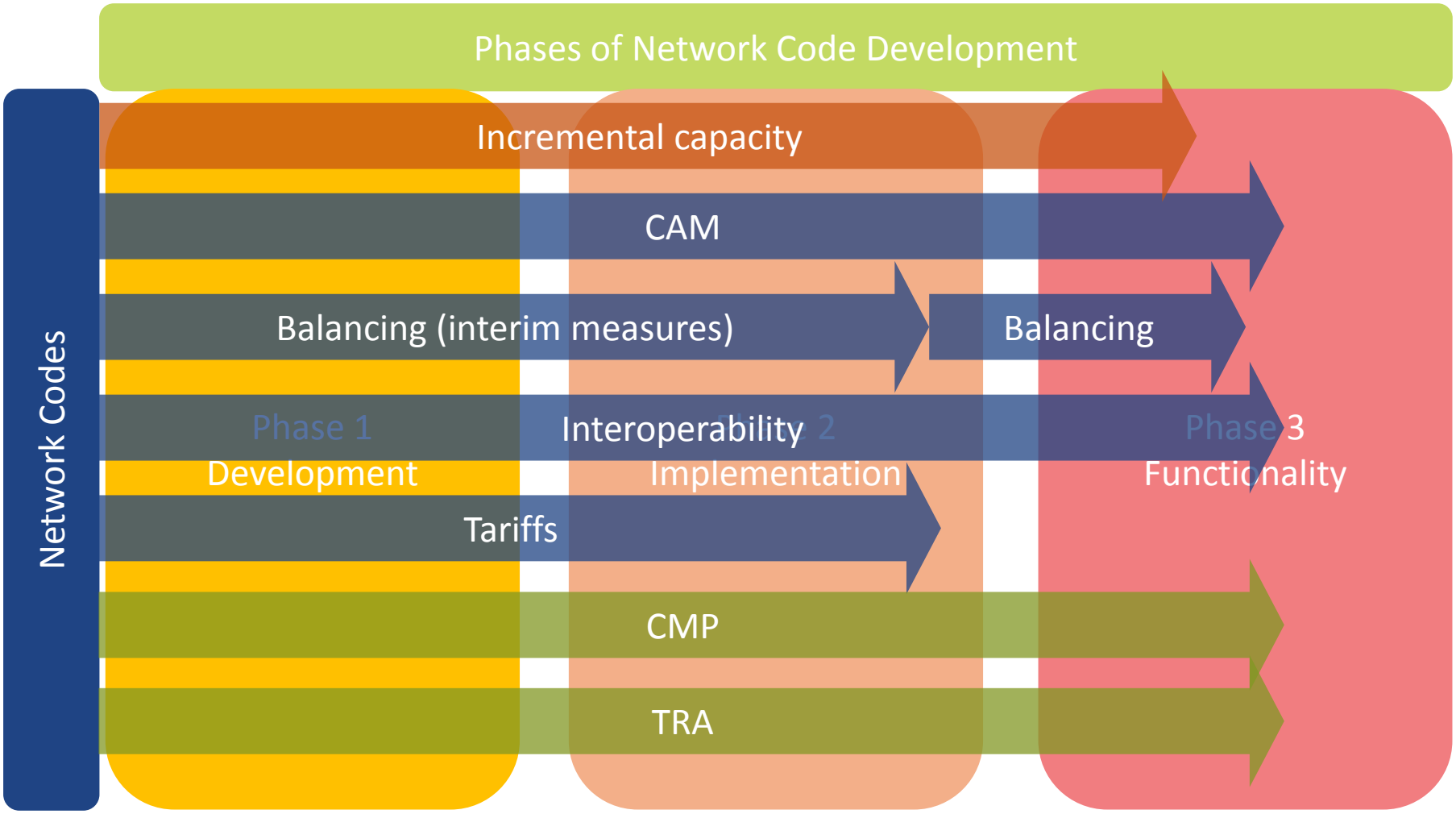
AGENDA TOPICS	Duration	Timetable
Welcoming coffee / registration	30 min	10.00-10.30
Opening	5 min	10.30-10.35
Network Code Monitoring	65 mins	10:35-11:40
Q&A	*10 min*	*11.40-11.50*
GT&Cs	30 mins	11:50-12.20
Q&A and morning wrap up	*10 min*	*12.20-12.30*
Lunch		12.30– 13.30
FUNC Process	60 mins	13:30-14:30
Q&A		
Future Developments	60 min.	14.40 – 15.40
Q&A and wrap up of the day	*15 min*	*15.40-15.55*

1. OPENING

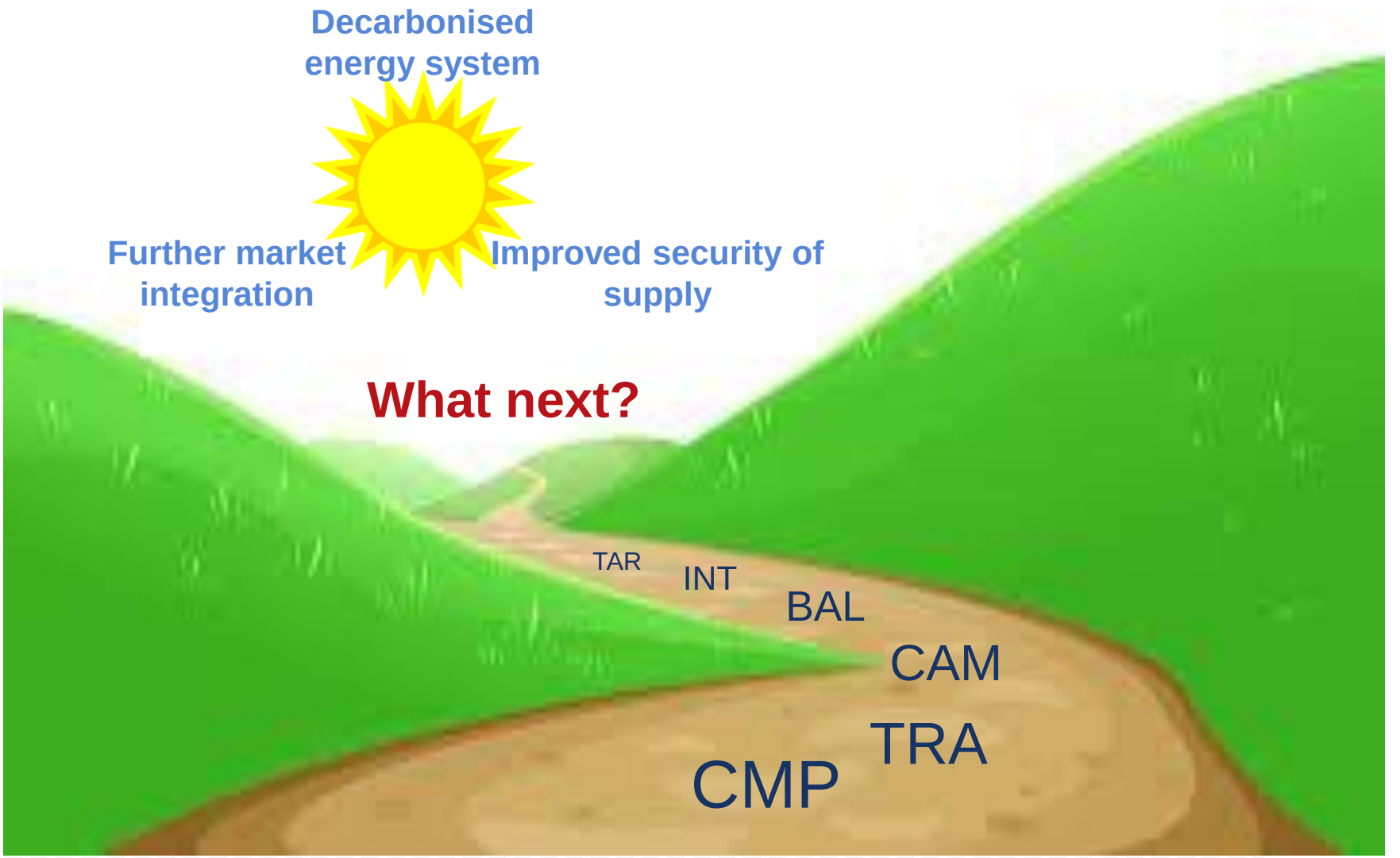
Network Code Development Process



Network Code Development Process



What more is needed?



What Next?

1. Monitoring

Continue to focus on implementation of the current legislation

2. Functionality

Check and ensure NCs work properly

- What is not working well?
- What is missing?
- What changes are needed?

3. Future role of gas

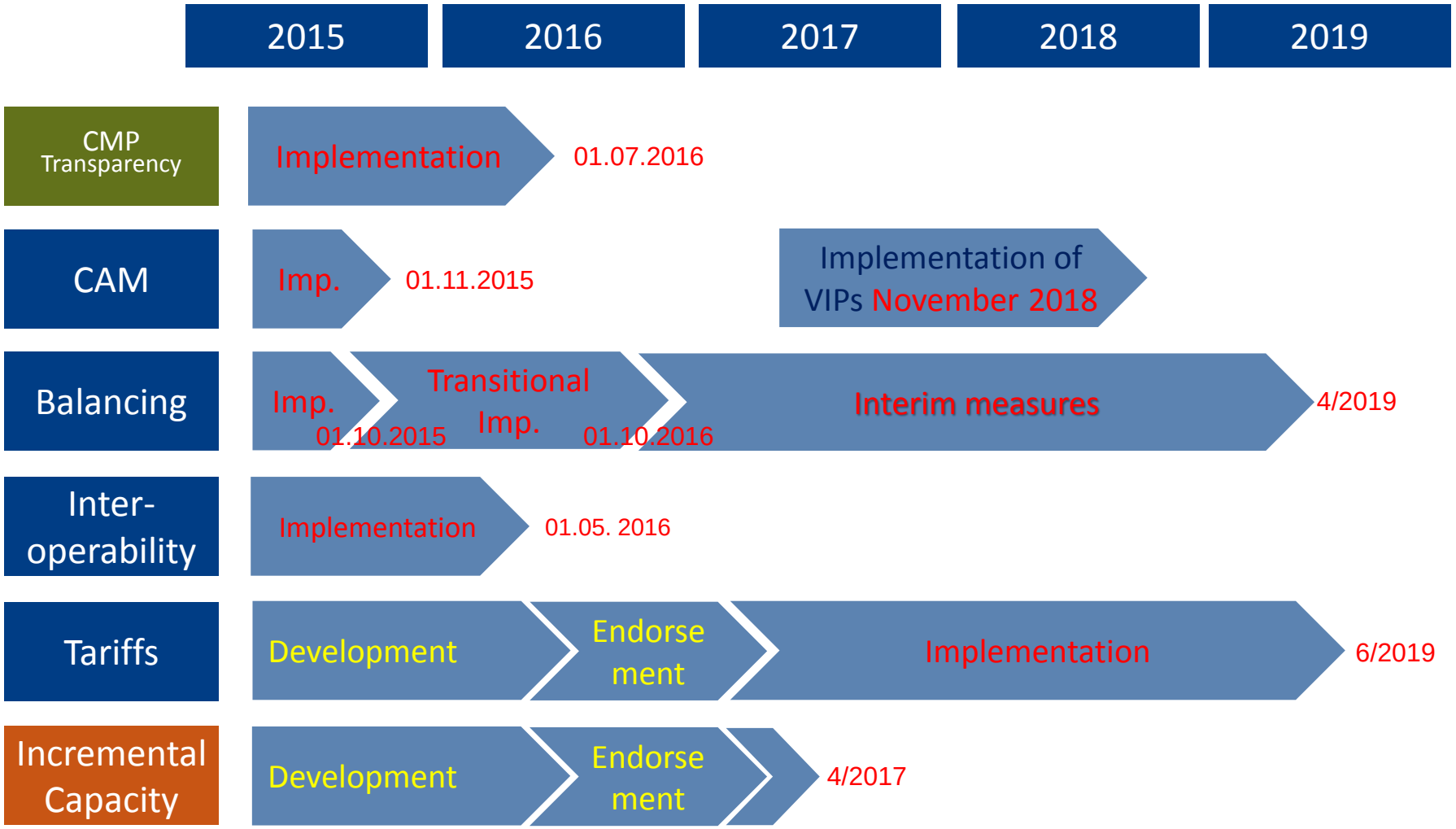
Longer term:

- Decarbonised energy system
- Security of supply
- Well functioning markets

2. NETWORK CODE MONITORING

2.1. Overview

Network Codes



2.2. CAM NC

Implementation Monitoring results 2017

43 TSOs monitored

- 37 implemented all mandatory provisions of CAM NC
- 6 (previous year 9) partially implemented the CAM NC
  - some TSOs granted derogation under article 49 of Gas Directive
  - some TSOs applied interim measures from the Commission Regulation (EU) No 312/2014
- Further developments compared to the report for the year 2016

The clear majority of TSOs have implemented all the mandatory requirements from the CAM NC

Implementation Monitoring results 2017

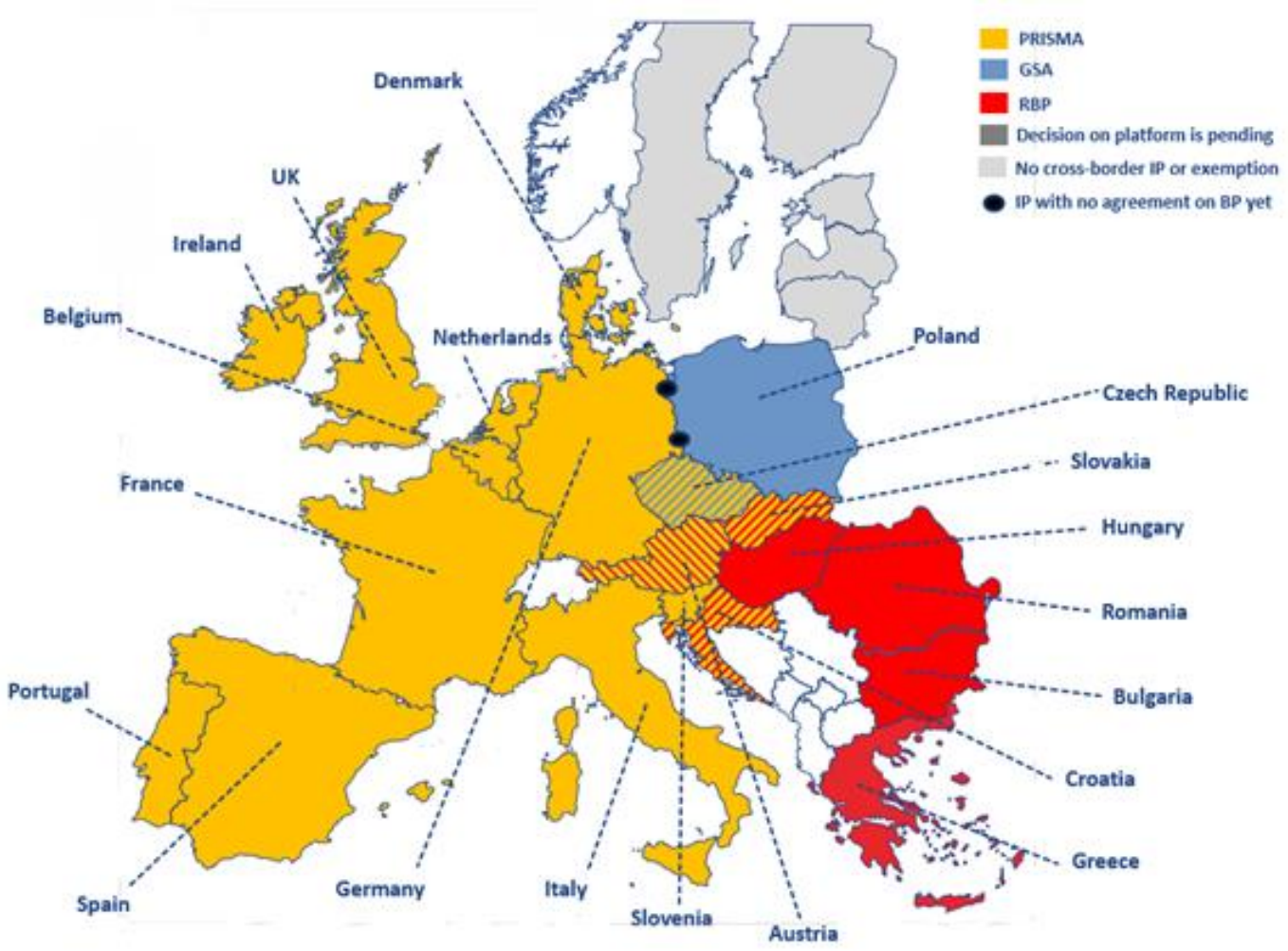
CAM NC amendment EC 984/2013 Δ 459/2017 (April 2017)

- ✓ Article 12.1 Quarterly product offer in 4 auctions
- ✓ Article 21.3 Conversion service
- ✓ Article 26.3 Inc. Capacity: Market demand assesment
- ✓ Article 32.1 Offer of interruptible capacities

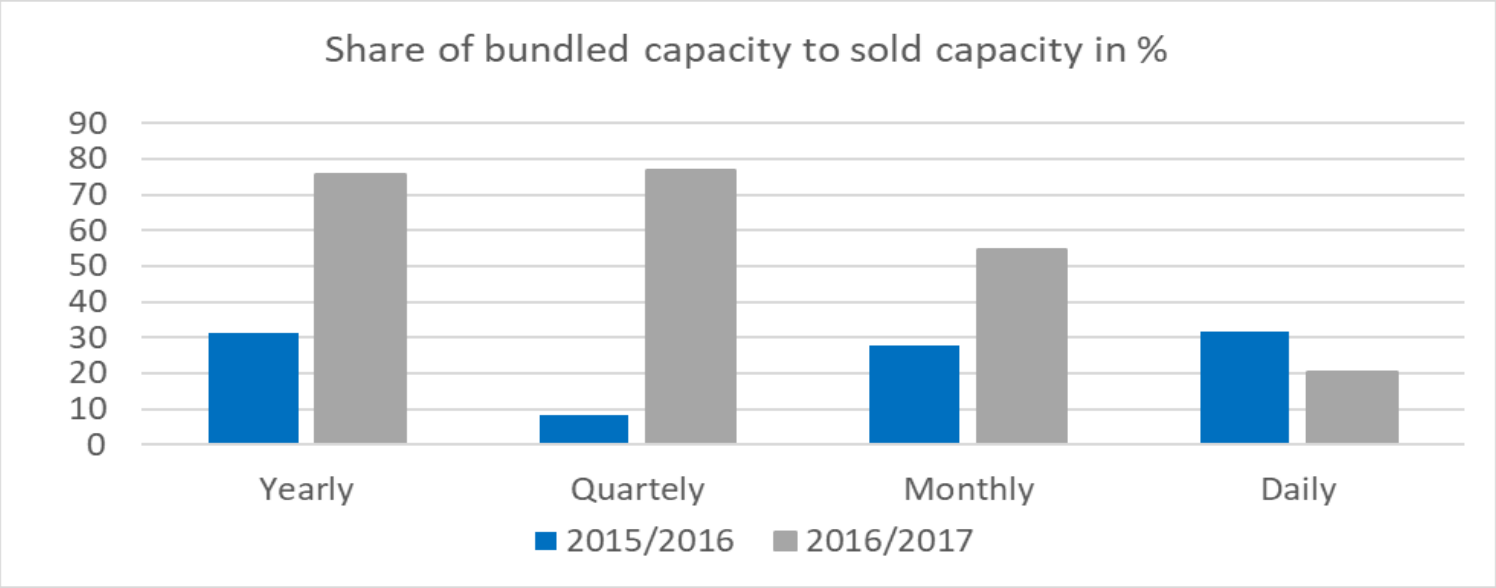
Vast majority of the TSOs implemented new articles. Exceptions only in case the NRA was approving methodologies and IPs sold out

Vast majority of the TSOs implemented new articles.

Booking platforms in EU



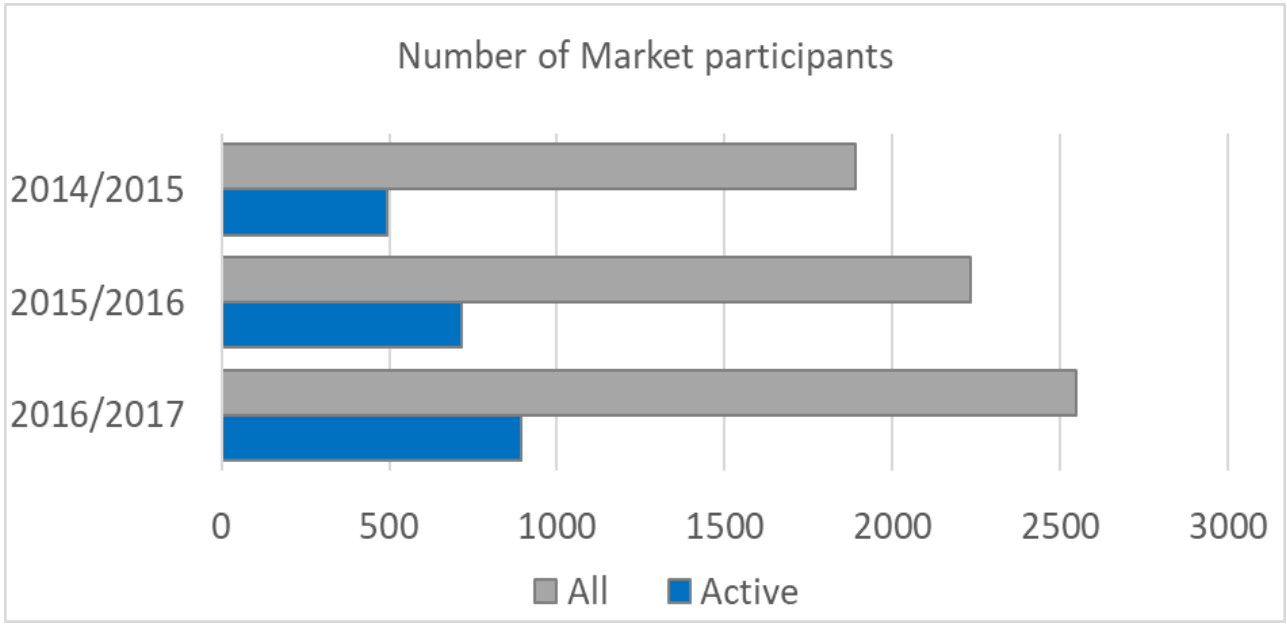
Effect monitoring – Bundled Capacity



Product	Yearly	Quarterly	Monthly	Daily
Year 2015/2016				
Bundled Cap.	25,369.2	1,054.1	6,408.7	9,056
Firm total Cap.	80,892.4	12,937.9	22,999.9	28.425
Ratio	31.36%	8.15%	27.86%	31.86%
Year 2016/2017				
Bundled Cap.	2,535,733	13,766	16,866	6,182
Firm total Cap.	3,358,315	17,944	30,855	36,751
Ratio	75,51%	76.72%	54.66%	20.24%

For yearly, quarterly and monthly product the share of bundled capacity sales has increased

Effect monitoring – Market participants



CAM.3	Number of market participants		
Gas year	2014/2015	2015/2016	2016/2017
Active	494	714	894
All	1,892	2,233	2,546

Since 2014 the number of both active and all market participants has gradually increased

2.3. CMP

CMP Implementation Monitoring Report 2017

No. of TSOs	Oversubscription and Buy-Back scheme (OS+BB) or Firm Day-Ahead UIOLI mechanism (FDA UIOLI)*	Surrender of Contracted Capacity	Long-Term UIOLI (LT UIOLI)
38			
1			
1			
9			

Fully implemented

OS&BB: The NRA has not approved the proposed scheme yet (Hungary)

Implementation in 2018 (Romania)

No IPs/Derogation

CMP Effect Monitoring Report 2017

Results of Effect Monitoring Exercise

CMP.1: Additional capacity volumes made available through each CMP on congested IPs

MWh/h/y	OS&BB	FDA UIOLI	Surrender	LT UIOLI
Offered	-	999.687,98	-	-
Allocated	-	9.456.544	-	-
Ratio	-	**9,46%**	-	-

CMP.2: Part of the capacity reallocated through CMP among total capacity reallocated on congested IPs

MWh/h/y	CMP Mechanism	Secondary Market
Offered	999.687,98	1031.048,42
Allocated	9.456.544	876.409,30
Ratio	**9,46%**	**99,86%**

Except of IPs where FDA UIOLI has been implemented, there was no offer of additional capacity at congested IPs based on Oversubscription, Capacity surrender and LT UIOLI

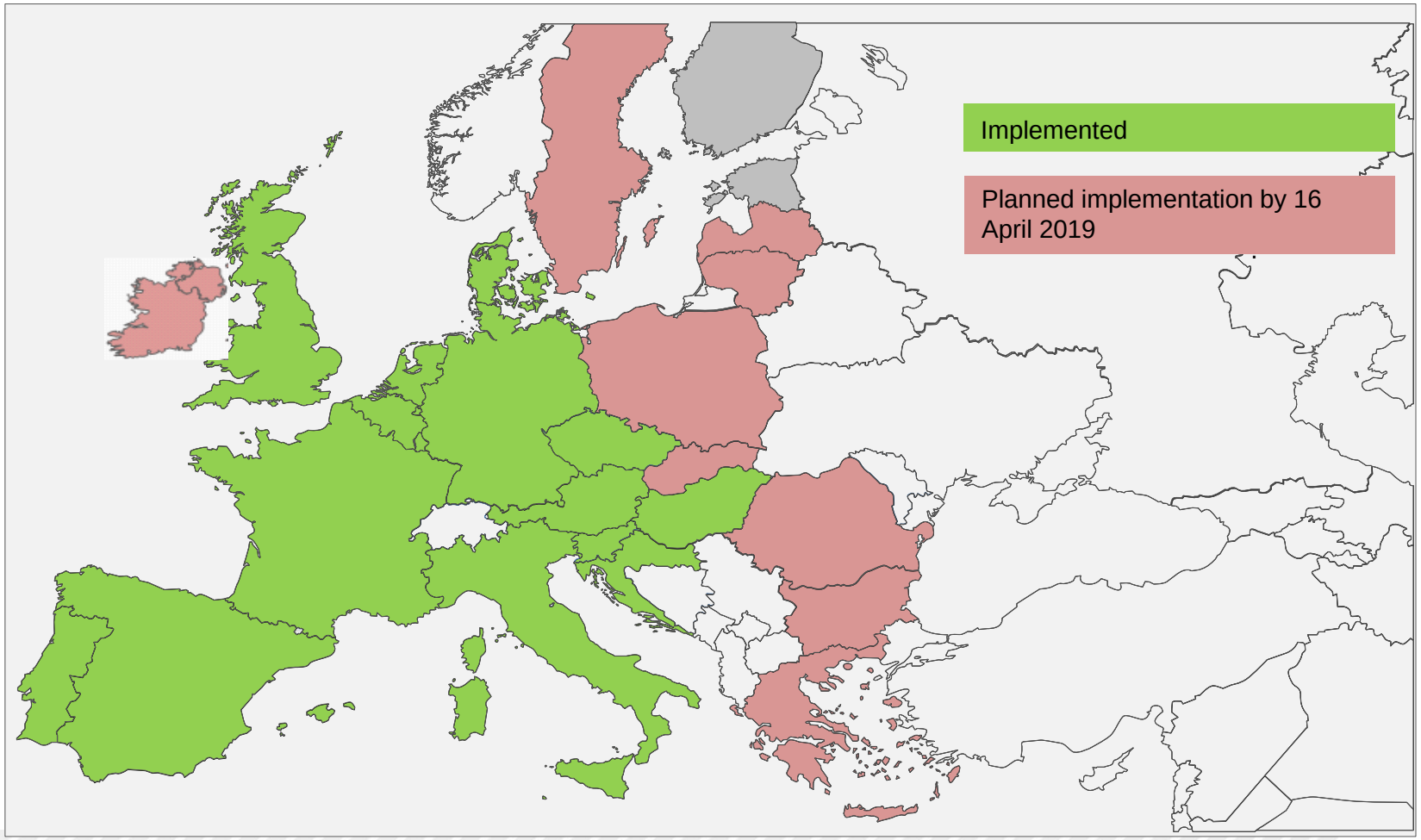
2.4. BAL NC

- Implementation Monitoring

- Effect Monitoring

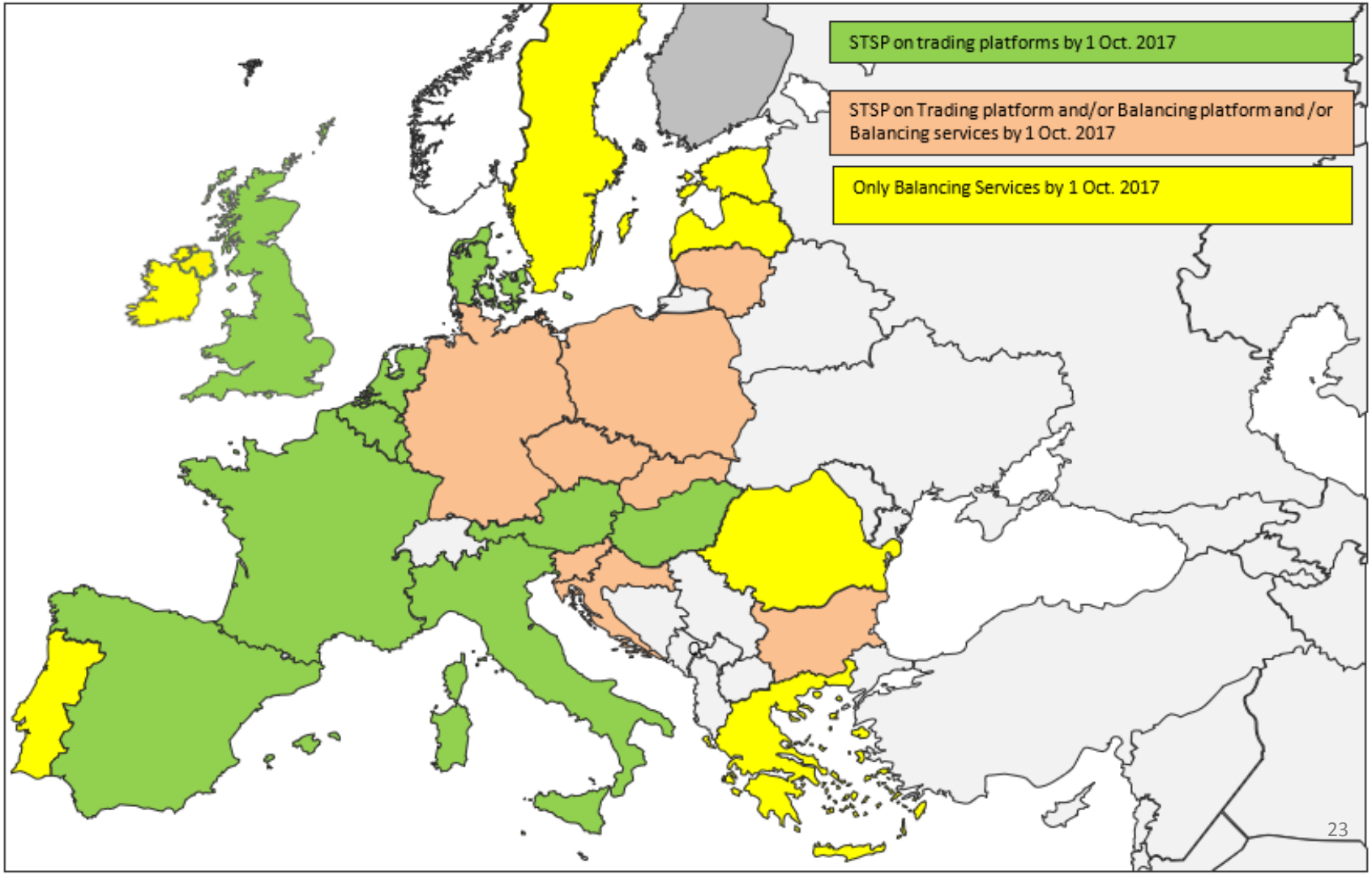
BAL Implementation

Implemented in 15 Member States covering over 85% of the EU gas demand



Short Term Standardised Products and balancing services

by 1 October 2017

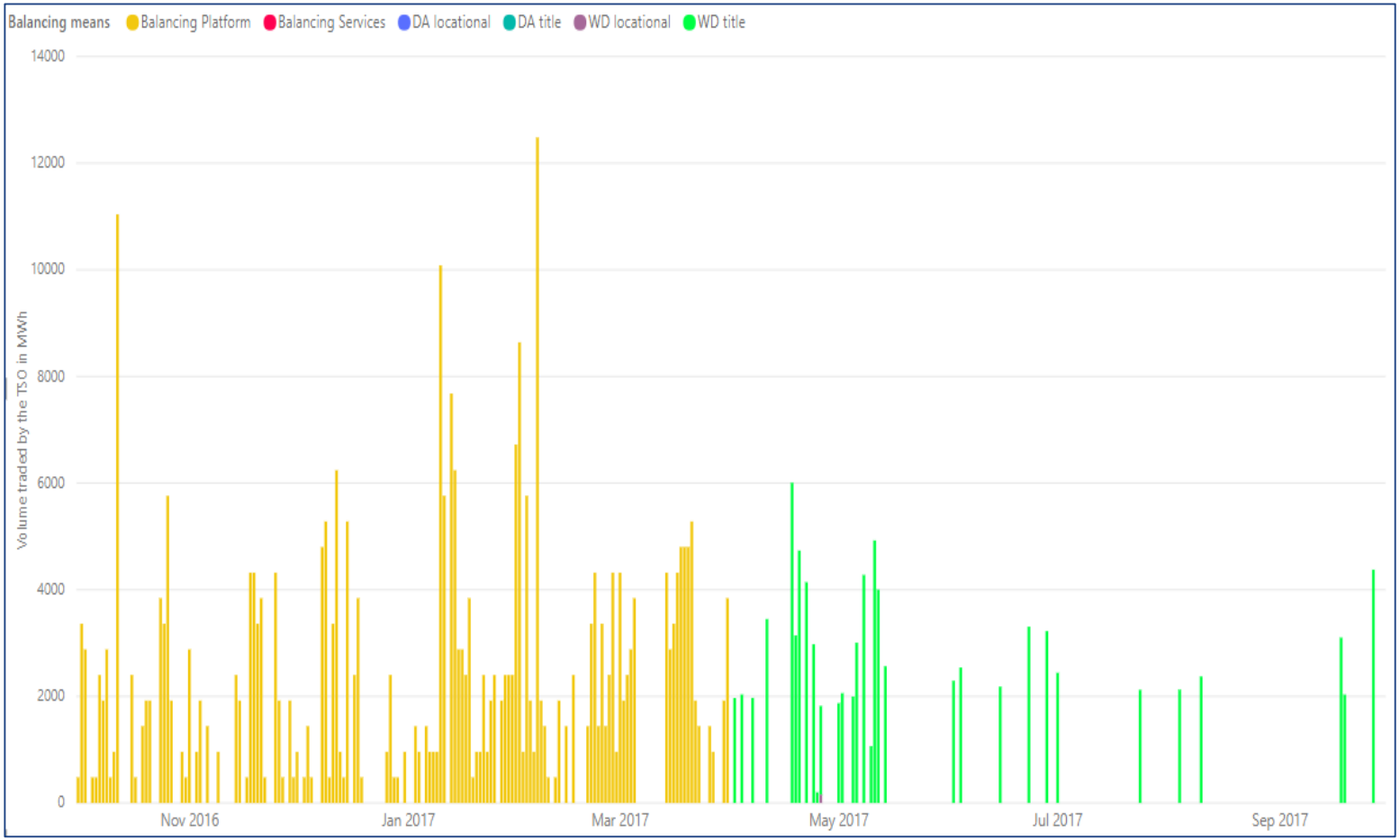


Effect monitoring – Balancing Actions

Cluster	Balancing zone	WD title	DA title	WD locational	DA locational	WD temporal	WD temporal locational	Balancing Platform	Balancing Services
2015	AT	100.0							
	BELUX-H	100.0							
	BELUX-L	100.0							
	DE-GASPOOL	59.9	36.8	0.8	0.3			0.0	2.2
	DE-NCG	51.0	19.5	0.0	0.0	0.0	29.2	0.2	0.2
	DK	100.0							
	FR-PEG Nord	98.1		1.9					
	FR-TRS	98.7		1.3					
	HU	99.8		0.1					
	NL	45.3				54.7			
	SI	26.8	72.4						0.8
	UK-GB	100.0							
2016	CZ	78.4	21.6						0.0
	ES	59.8	40.2						
	HR	21.3	0.0	0.0	0.0			78.6	0.0
	IT	99.4	0.6	0.0	0.0				
	PT								100.0
Interim measures	BG-N								100.0
	BG-T								100.0
	EL								100.0
	IE								100.0
	LT	10.3							89.7
	LV								100.0
	PL-H	99.9							0.1
	RO								100.0
	SE								100.0
	SK							100.0	
	UK-NI								100.0
Derogation	EE								100.0

Balancing platform and balancing services could be in place without being much used (e.g. DE, SI, CZ and PL-H). They are kept as back-up. It is part of the learning curve.

Example: Daily TSO's balancing volume in Croatia



Croatia has moved on 1st April from Balancing Services (yellow) to Within-Day title gas (green) as a result of full implementation of the Balancing Code.

BAL 2 indicator

YEARLY VOLUME TRADE PER TSO, MARKET ENTRY VOLUME AND PERCENTAGE OF TSO GAS TRADED COMPARED TO THE MARKET VOLUME

Cluster	Balancing Zone	Yearly TSO balancing volume (in MWh)	Yearly entry market volume (in MWh)	GY 2016/2017 Bal.2 Indicator (in %)	Variation compared to GY2015/2016
Cluster 2015	AT	158,512	373,014,839	0.04	–
	NL	2,550,089	1,029,483,441	0.25	104 %
	UK-GB	3,143,770	979,465,472	0.32	4 %
	HU	726,845	210,780,949	0.34	–64 %
	BELUX-L	422,272	111,705,948	0.38	1 %
	BELUX-H	1,412,219	356,520,731	0.40	45 %
	DK	344,182	56,927,043	0.60	–22 %
	PEG Nord	3,656,770	577,783,874	0.63	10 %
	TRS	2,125,910	240,284,794	0.88	–24 %
	GASPOOL	10,030,974	991,620,921	1.01	–4 %
	SI	262,404	25,482,798	1.03	–59 %
	NCG	45,910,016	1,007,979,642	4.55	–13 %

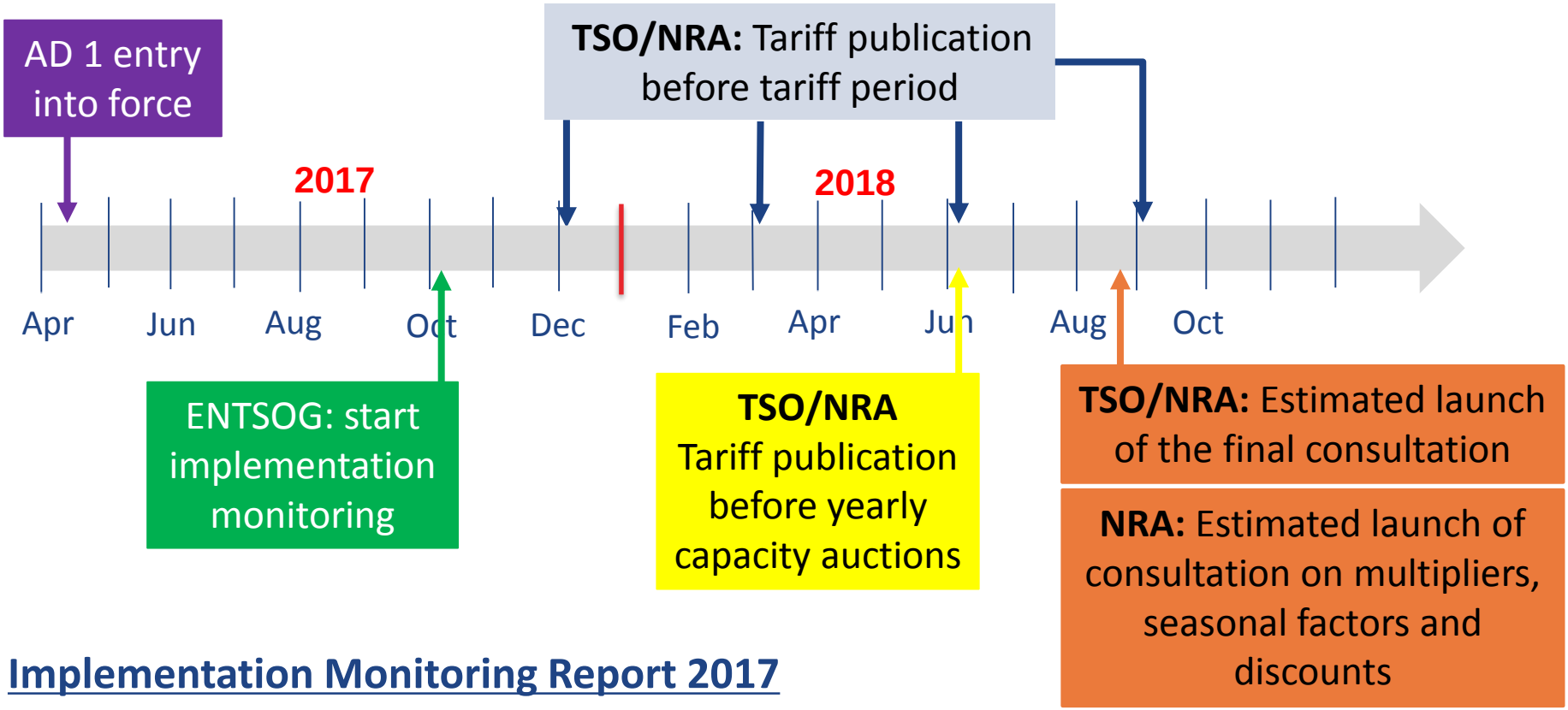
Conclusion and next steps

- Implementation is progressing leading to visible effects.
- The main remaining challenge will be the removal of the interim measures in place by the 16th of April 2019.
- Markets' merger could be a way to increase liquidity in small markets. For instance :
  - ✓ Denmark and Sweden plan to merge the Swedish balancing zone with the Danish balancing zone by April 2019.
  - ✓ It is planned to merge the gas markets of Lithuania, Latvia, and Estonia into a single Entry-Exit system. The aim is to have the merge of the Baltic States complete by April 2019.

2.5. TAR NC

- Implementation Monitoring
- Effect Monitoring

TAR NC Implementation Monitoring

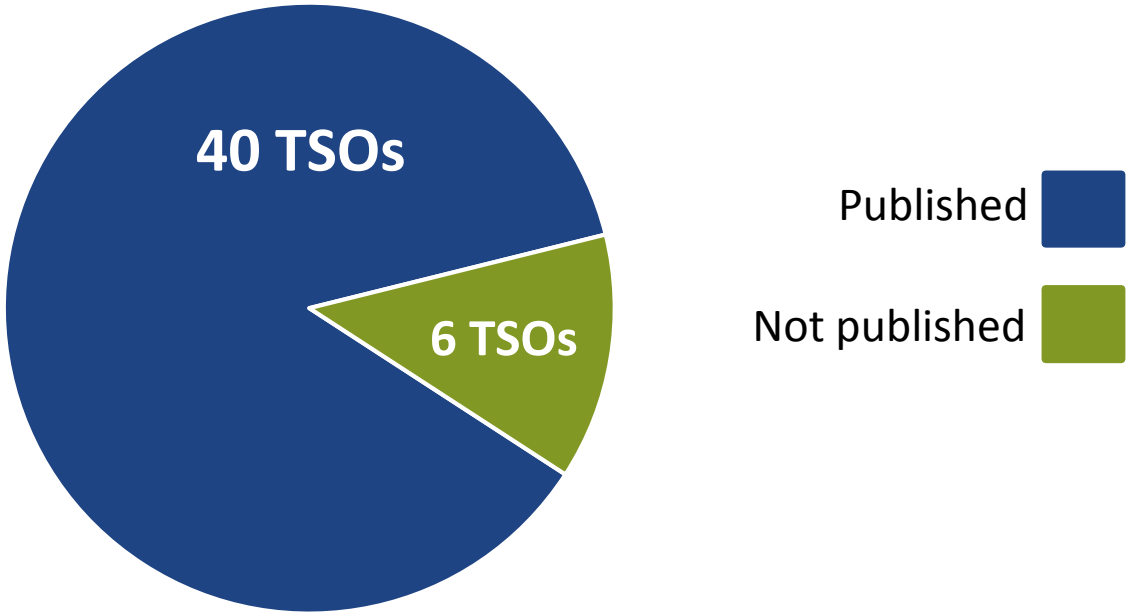


Implementation Monitoring Report 2017

- **Implementation status:** as of 31 Dec 2017
- **Data collected:** 46 European TSOs
- **Scope**: TAR NC application dates 1 and 2

TAR NC Implementation Monitoring

Main findings for publication requirements



- Reasons for non-publication: NRA responsibility, derogation applications, pending decision on responsibility
- For improvement: user-friendliness, publication in English

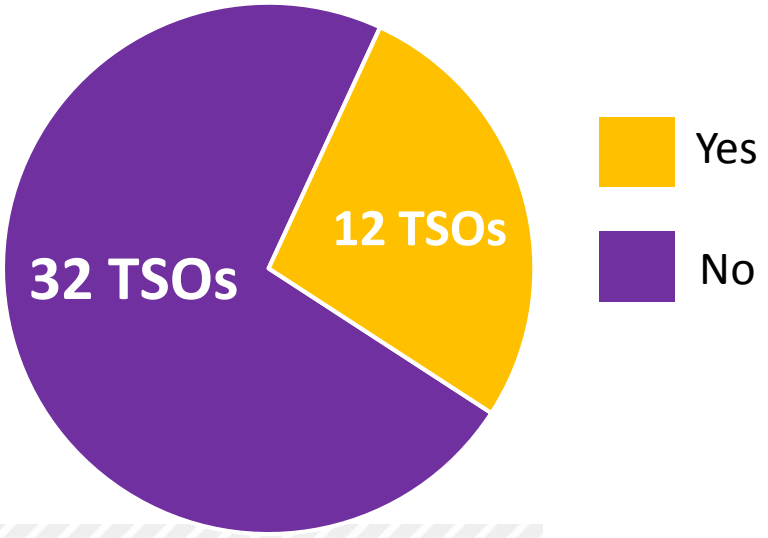
TAR NC Implementation Monitoring

Additional topics covered in the 2017 report

- Consultation requirements:
  - ✓ 'Intermediate', 'Final', ACER's consultation template
- General provisions
  - ✓ Attribution of auction premium from bundled capacity sale
    - Final and transitional provisions

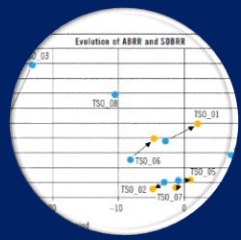
Key challenges with TAR NC implementation?

- CWD in multi TSO entry-exit zone
- TAR NC implementation in entry-exit zone with more than one MS
- Determining parameters for CWD considering complexity of transmission system



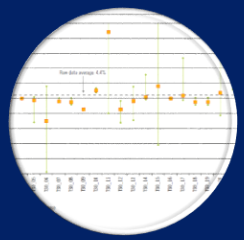
TAR NC Effect Monitoring (1/2)

5 indicators agreed and detailed for the Baseline for EM



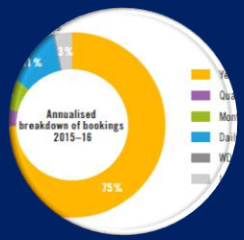
TAR.1

Level / variability of TSO under-/over-recovery



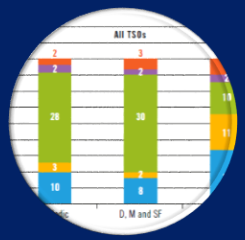
TAR.2

Range of tariff changes since previous TSO tariff period



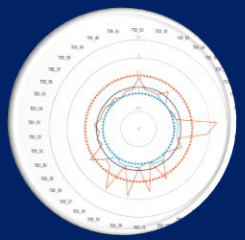
TAR.3

Evolution of ST-LT bookings



TAR.4

Publication of tariff information in English



TAR.5

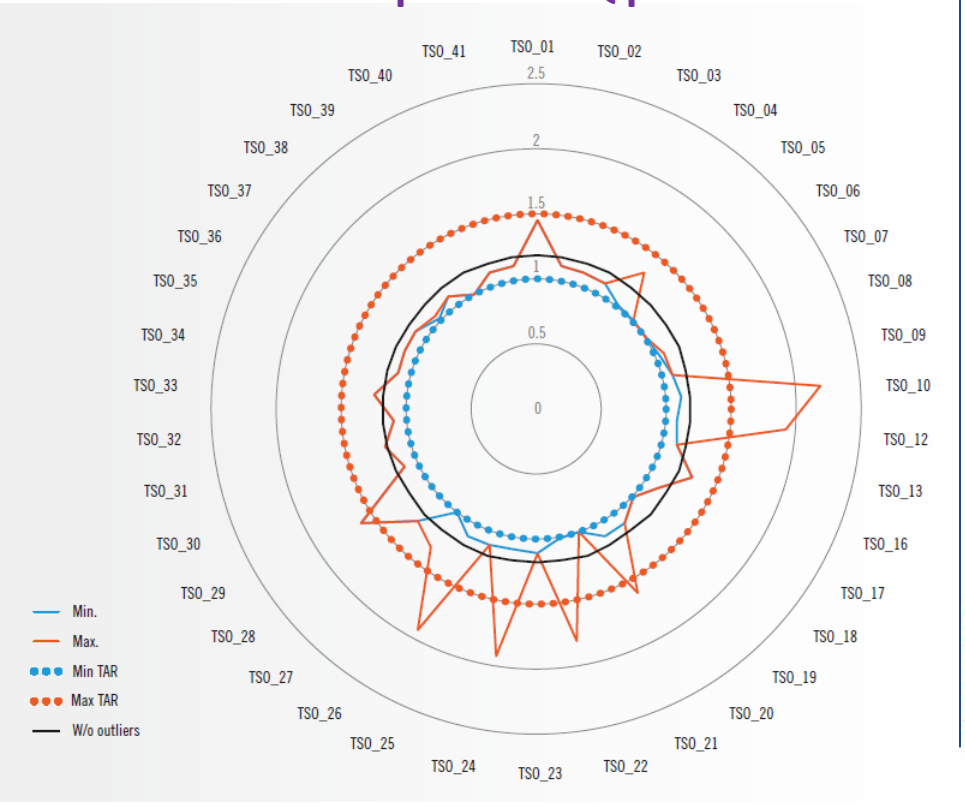
Multipliers for Q, M, D and WD products

➔ EM Baseline gives a picture of the current situation before TAR NC full implementation

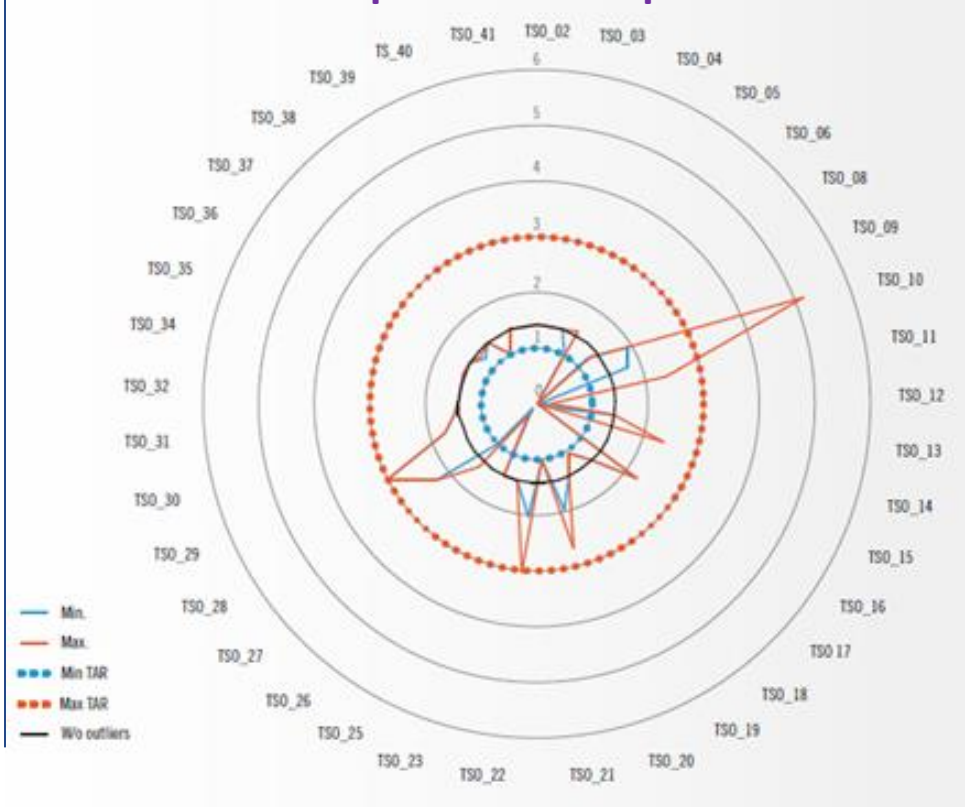
TAR NC Effect Monitoring (2/2)

Focus on TAR.5: multipliers for quarterly, monthly, daily and within-day products

Multipliers for Q products



Multipliers for WD products



Result: for 41 TSOs from 23 MSs. **Most TSOs already comply with multiplier ranges in TAR NC** for all types of products. **Some TSOs will have to adjust, or provide justification** in D or WD cases *(pictures for M and D are similar, please see report for details)*

2.6. INT NC

INT NC Monitoring report

Main findings

- General provisions (Art 3): Already in place at 70 out of 73 IPs (except LI-LV, RO-BG, AT-SK*)

*This IP is not in operation

- Information obligation (Art 4): 86% have identified information affecting Network User and informed them
- Rules for Flow Control (Art 6): at 96% of the IPs the rules for steering the gas flow are implemented
- Measurement principles for gas quantity and quality (Art 7): implementation progress above 92% except for the list of alarm (7.3h) which are implemented only by 87%
- Rule for matching process (Art 8): Lesser Rule (97%) is the most wide-spread rule
- Rule for allocation of gas quantities (Art 9): OBA (99%)
- Common set of Units (Art 13): 80% of TSOs have them in place, for 14% this Art. Is not applicable

Information based on position at 31st December 2017

INT NC Monitoring report

Main findings

- Additional Units (Art 14): 36% of the TSOs have additional units in place

Gas Quality

- Managing of cross-border trade restrictions due to GQ differences (Art 15): 83% have no restrictions, 13% not applicable (no IPs), 2 potential restrictions reported on 2 instances (DE-DK and HU)
- Short-term monitoring (Art 16 – publishing WI and GCV): 64% are publishing these parameters, for 20% this Article is not applicable, 16% are in the progress of implementation
- Information provision on short-term gas quality variation to sensitive users (Art 17): 60% implemented, 24% no applicable, 16% not implemented
- Managing cross-border trade restrictions due to differences in odourisation (Art 19): 77% see no cross-border restriction for 23% this article is not applicable

Information based on position at 31st December 2017

INT NC Monitoring report

Main findings

Data exchange

- Data exchange system security and availability (Art 22) 84% of TSOs comply with system security and availability requirements. Not applicable for 11% of the TSOs.
- Implementation of the common data exchange solutions (Articles 23(1) and 24): 69% of TSOs have already implemented the common solutions
- Continued application of existing solutions (Article 23(2)) Other solutions than the ones listed in the INT NC in place for 69% TSOs. 20% have no other solution in place next to the defined in the INT NC.

Information based on position at 31st December 2017

TAR NC

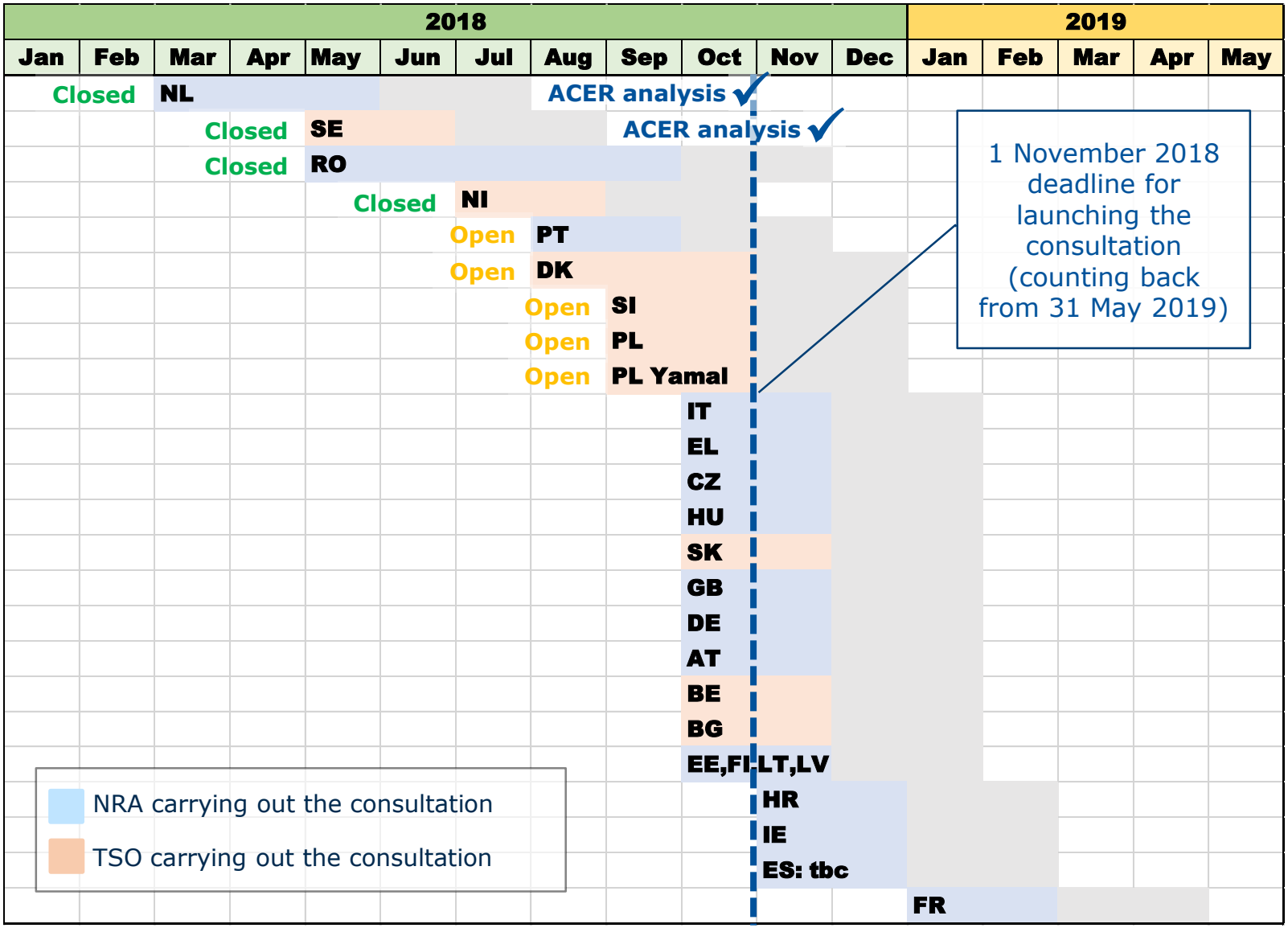
National consultations
ACER analysis

ACER analysis of the final consultation

- NRA/TSO should launch a final consultation
  - Containing all elements of Art. 26(1)
  - At least 2 months duration, Art. 26(2)

- ACER has 4 months to analyse each consultation
  - Criteria for the analysis are laid out in the consultation template (available here)

TAR consultation timeline



* Information updated on 17.9.2018

Process

- We have published our report/analysis for two consultations:
  - The Netherlands (link)
  - Sweden (link)

- Process:
  - Clearly written, understandable documentation.
  - Smooth and open communication process with NRA/TSO facilitates ACER's review.

Best practices

- Avoid delaying the start-date. Deadline for consultation launch Nov 2018 (counting back from the legal deadline).
- Plan the national processes properly. Make sure the consultation includes all elements listed under Art. 26.
  - Two consultations have been re-launched for this reason.
- Publish consultation in English for at least 2 months.
- Notify ACER when launching the consultation, Art. 27(1)
  - Provide ACER with a contact point.
  - Notify if availability is limited.
- Expect questions from ACER during the process.

Policy learnings

- The choice of RPM should be sufficiently justified in relation to:
  - The structure of the network
  - Art. 7 principles (cost-reflectivity, cross-subsidisation, cross-border trade, volume risk and transparency)
  - National policy goals in relation to the RPM should be explicit

- All services that are provided by the TSO to enable network users to gain '*access to the natural gas transmission networks*' should be included in the consultation.
  - In case of doubt, ACER looks at '*access to networks*' in a broad sense to decide if a service falls under the scope of the TAR NC
  - Services should be treated as transmission or non-transmission

Contact

ACER analyses and final consultations are available at:

Link

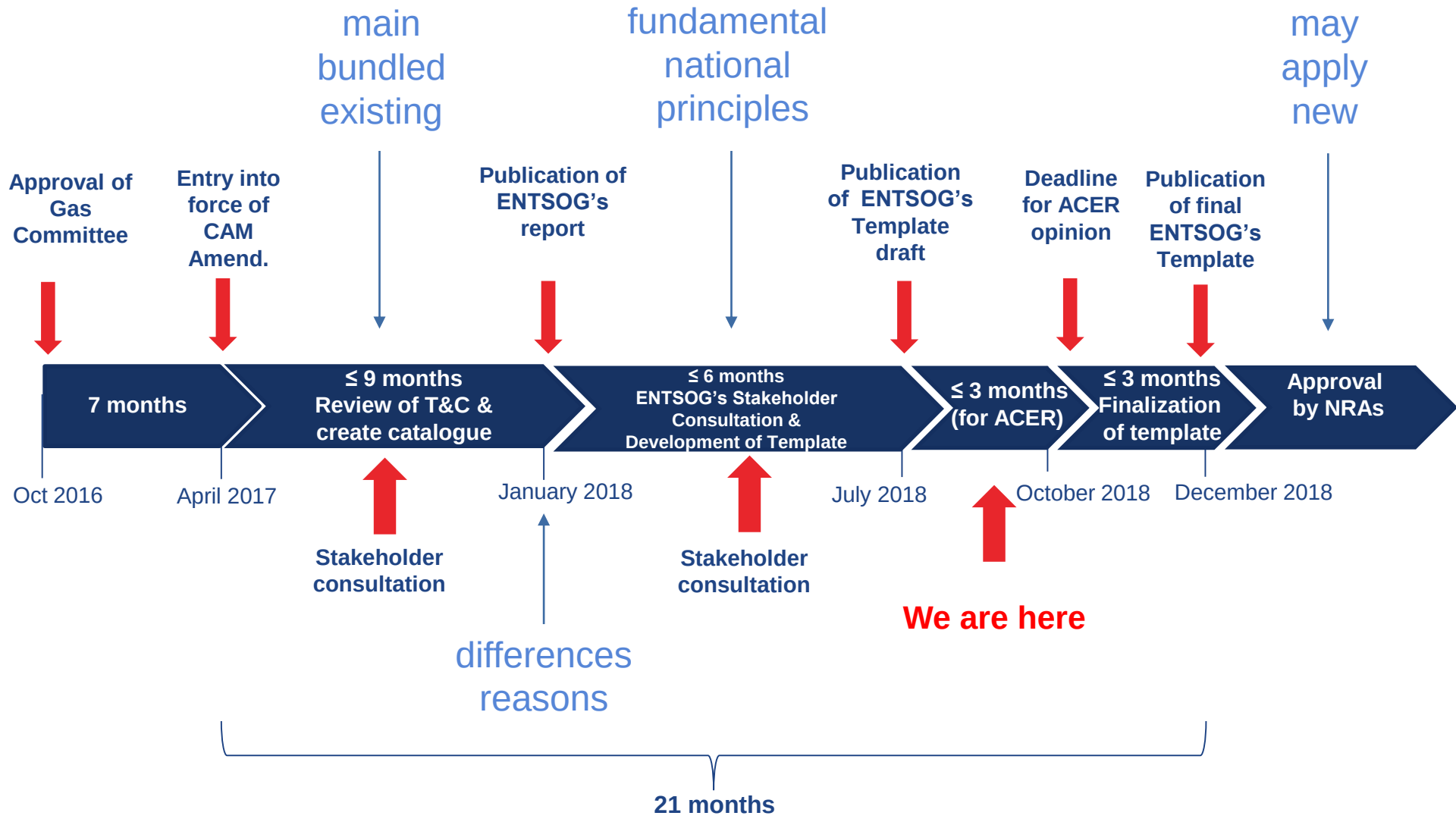
Stakeholders are welcome to contact ACER:

tariffs@acer.europa.eu

3. GT&Cs

3.1. Overview

Art 20 CAM NC: Scope and Timescales



What does the Article ask for?

- ENTSOG assigned with such a task for the first time
- Questions:
  - ✓ Limits of the exercise (scope and spirit)
    - Harmonization of contract cannot imply harmonization of national law (contrary with proportionality and subsidiarity principle)
  - ✓ Application of the Template
    - How TSOs are going to apply it given that it only covers a part of TSOs products/capacities and only a part of the provisions governing the bundled capacities (restricted scope)?

Catalogue

- As a first step, ENTSOG created a catalogue of terms and conditions to be qualified as main
- 25 clauses identified as main by ENTSOG
- 1st public consultation feedback – stakeholders involvement
  - ✓ Duration 7 March – 7 April 2017
  - ✓ Feedback received from 13 stakeholders
    - Network users and associations of network users
    - Traders and associations of traders
    - Consultant
  - ✓ The stakeholders could provide their view on each provision and/or add additional comments and/or provisions.
  - ✓ Conclusion of the public consultation: 24 provisions identified as main out of 25 => 21 in final catalogue

Report

- ENTSOG analyzed existing transport contracts, identified and categorized differences (and similarities) in relation to the main terms and conditions and the reasons for such differences and published the findings in a report

- 23 contracts had been analyzed in order to identify and categorize differences

- Tables of comparison were created for each provision after validation of comparison parameters

- The 300+ pages Report was published on 6 January 2018

Report under construction

Specific object clause in the contract and/or GTCs and annexes [Yes/No]	Firm capacities are explicitly mentioned as an available product in the object clause? [Yes/No]	List with offered services? [Yes/No] if yes, which services are proposed?	Parties/actors explicitly mentioned in the object clause of the contract	Registration
Yes	~~Firm basis, At least firm/ interruptible~~Yes	~~Yes~~ Yes (in the GTC) - injection of natural gas into a transmission system - withdrawal of natural gas from a transmission system	~~TSO, Network~~ Network User	[not mentioned in the clause]
Yes	No ~~[but not mentioned in the clause]~~	No	TSO, Network User	[not mentioned in the clause]
Yes	No ~~[but not mentioned in the clause]~~	No	~~TSO~~TSO, Network User	[not mentioned in the clause]
Yes	No ~~[but not mentioned in the clause]~~	No	~~TSO, Network User~~Parties	[not mentioned in the clause]

Report – Main findings

- Wide range of differences appear, mainly due to specificities of national legal orders and markets
- Sector with strong public intervention:
  - ✓ contracts usually negotiated with the help of the NRA or approved by the NRA
  - ✓ directly imposed by a national legislative/regulatory act (i.e. national NC)
- Contracts are still governed by private law provisions, like commercial and civil law
- Fundamental principles of civil law remain country specific
- Many of the provisions are affected by fundamental principles of national law or jurisprudence

Template

- Based on the Report ENTSOG drafted and published a template for the main terms and conditions which were not affected by fundamental differences in principles of national law or jurisprudence.

- 2nd public consultation – stakeholders involvement
  - ✓ Duration 12 April – 30 April 2018
  - ✓ Feedback received from 13 stakeholders
    - Network users and associations of network users
    - Traders and associations of traders
    - Consultant
  - ✓ Stakeholders' opinion taken onboard

- 6 July 2018 submitted for ACER opinion – stakeholders involvement
  - ✓ ACER expected to provide it's opinion by 6 October 2018

- Final Template publication within 3 months. Template is not binding

Overall conclusions

- This is a complex task.
- Successes so far:
  - ✓ The report gives solid base for understanding the contractual arrangements in the MSs
  - ✓ Despite the complexity of the task, stakeholders, members and ENTSOG proven to collaborate towards the right direction by meeting the deadlines
  - ✓ The template is meant to encourage TSOs and NRAs to further align the current versions of the transport contracts affecting the bundled capacities
  - ✓ The potential for alignment has been realised
- Further consideration on how the non-binding template may be implemented is required by NRAs and TSOs

ACER Opinion on General Terms & Conditions

DISCLAIMER

All results shown are provisional and may be reviewed before the adoption/publication of the Opinion.

Last process steps

- Agency Opinion on Template
  - The Board of Regulators discusses the opinion on 19 Sept
  - The adoption is near, 6 Oct latest
  - This presentation shares provisional views

- Publication final Template by ENTSOG 6 Jan 2019

Legal background

- Use of the template is voluntary (Art 20(4) CAM NC):

*'TSOs, subject to the approval of the NRA, **may** apply the terms and conditions set out in the template in the case of newly contracted bundled capacity products.'*

Harmonisation

- Despite that the template is voluntary, it could serve harmonisation of contracts and practices that relate to it.

- ACER worked under this assumption.

Agency Opinion

- ENTSOG has fulfilled its obligation under Article 20(2) of the CAM NC.

- The Agency is of the view that the Template does not always go as far as would be desirable.

- Agency recommends to enhance the template
  - by providing its content in a form/structure ready to be used in contracts;
  - by elaborating best practices in the template

ACER
Agency for the Cooperation of Energy Regulators

Thank you for your attention!

www.acer.europa.eu

Template clauses

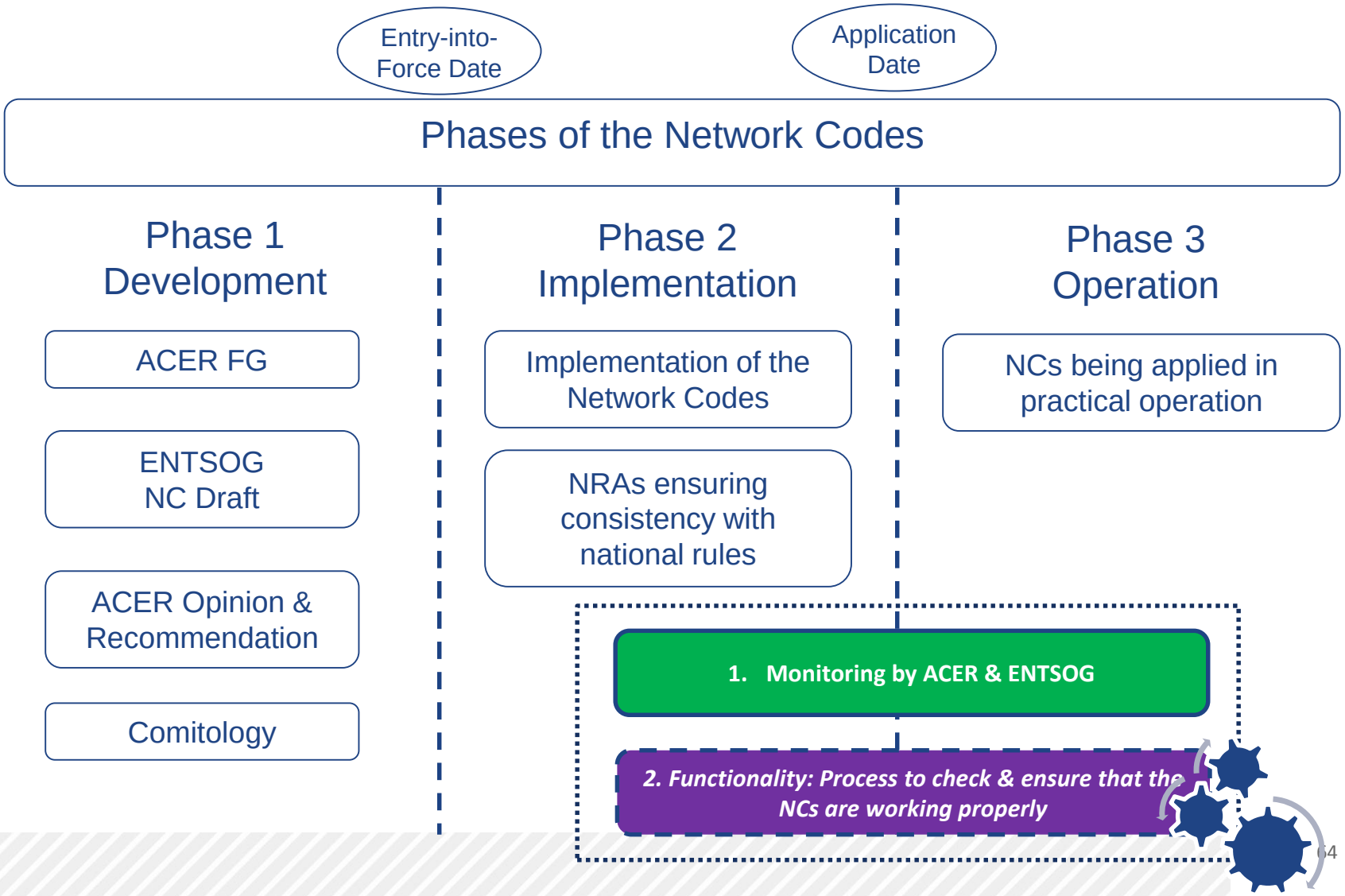
Clauses which should be *fully or almost fully harmonized*	• Parties • Confidentiality
Clauses which can be *largely be harmonized* and for whose non harmonizable content it is advisable, when appropriate, to provide best practices	• Object • Definitions • Permits and licences * • Main rights and obligations • Capacity allocation • Capacity allocation other rules • Nomination • Maintenance • Prices and tariffs * • Termination * • Entry into force
Clauses are *not harmonizable*, but should be included in the transport contracts according to national law (and for which, when appropriate, it is advisable to provide best practices)	• Liability * • Creditworthiness * • Force majeure * • Hardship * • Amendments * • Applicable law *

* Not in ENTSOG template

4. FUNC PROCESS

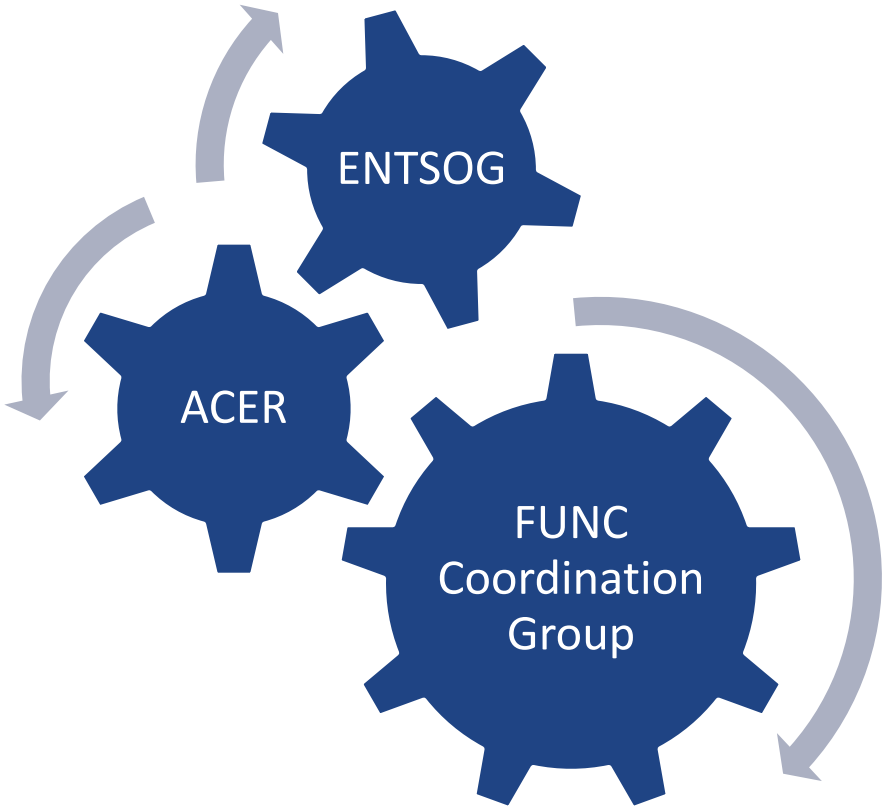
4.1. Overview

Activities in the Phases of Network Codes



Functionality process

Coordinated mechanism of ACER and ENTSOG



Process goals

The purpose of the Functionality process

- Option for stakeholders to provide input on their concerns with the existing gas-related legislation*
- Any issues associated with the NCs and GLs can be raised
- Ensure ENTSOG and ACER are working side by side with equal mandate in such discussions about gas-related legislation
- Issue solution(s)
- Run jointly by ACER and ENTSOG, supported by EC

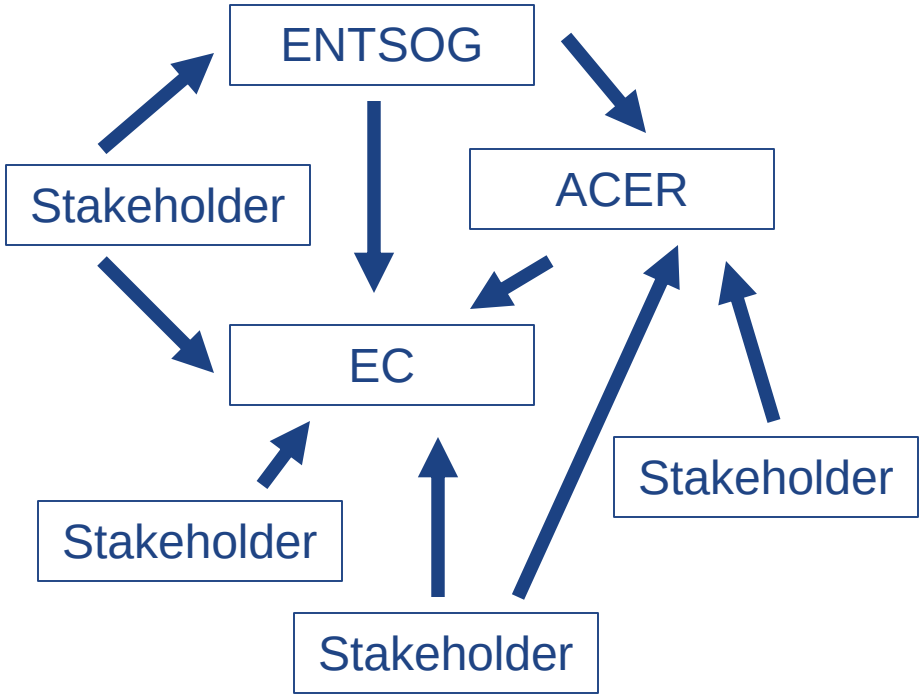
**The application of Reg. 713/2009 and Reg. 715/2009 is not affected.*
This process is without prejudice to the existing obligations and powers of TSOs and NRAs.

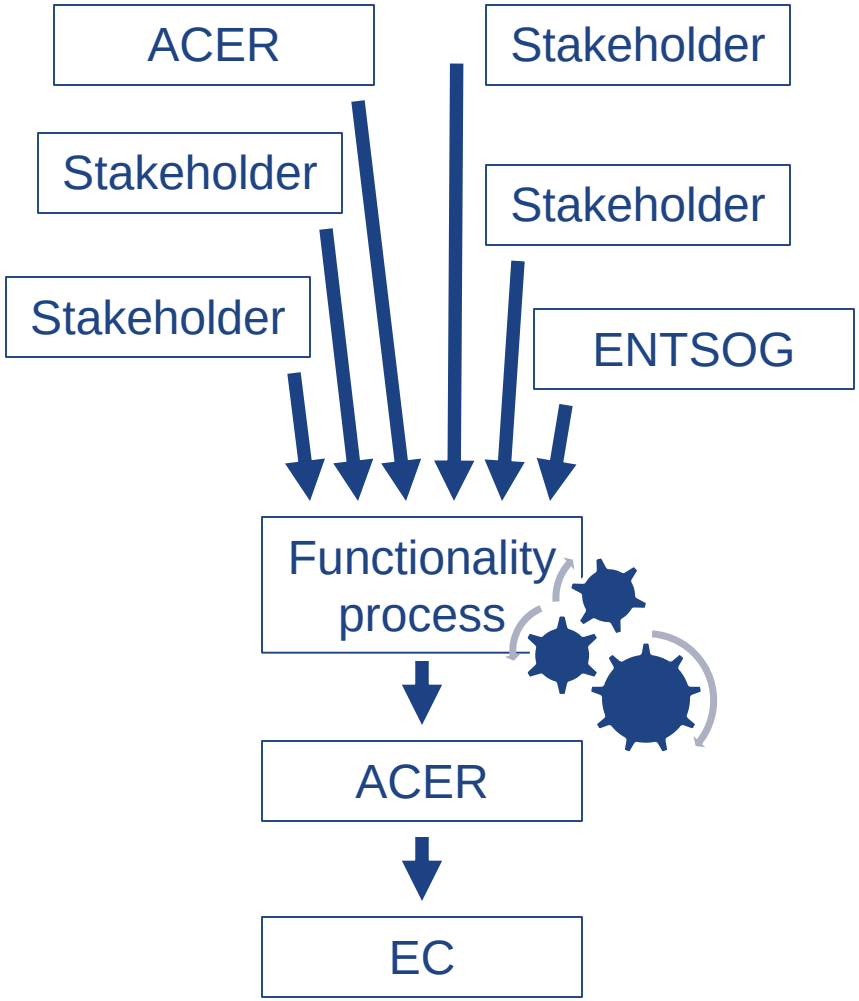
Process scope

The Functionality process scope:

- Related to and/or derived from NCs or GLs (CAM NC, CMP GL, BAL NC, INT NC, TAR NC, TRA GL)
- Issues previously being addressed will not be reconsidered unless change in materiality can be shown.
- Also other validation criteria can be used, if agreed between ACER and ENTSOG.

Robust Transparent Conceptual Process



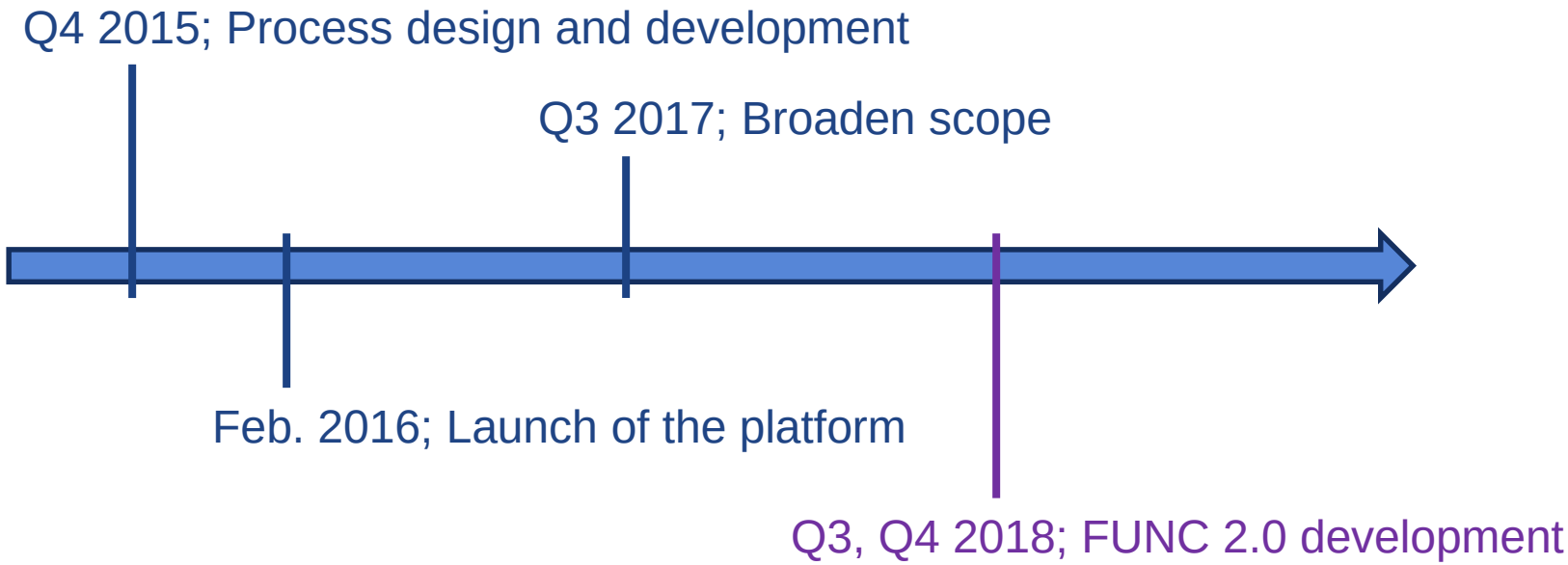


4.2. Issues overview & FUNC 2.0

Issues Overview

No	Posting party	Description	WG	Next steps	Step date
1	Statoil + 3 others	Communication protocol encryption	INT	Solution to be finalized	September
2	Easee-Gas	Gas Role model	INT	Presentation of the comments on document consistency check to the WG	September
3	*ERU*	*Tariff methodology*	*N/A*	*Issue withdrawn by user*	*N/A*
4	GTS	CAM NC text ambiguity in VIPs creation	CAP	Issue solution published	22 August
5	EFET	Ex-post interruptible cap. discounts	TAR	Issue solution published	5 July
6	GMT	Fallback solution for failed DA auctions	CAP	Publication of the solution	Sep/Oct
7	GMT	Data reliability	TRA	Solution to be finalized	September
8	EnC / UTG	INT NC on IPs 3rd	INT	Understanding confirmation with ACER	14 September
9	Easee-Gas	One invoicing format in DE	INT	Changes acknowledgement in WGs	August/September

FUNC 2.0


Q4 2015; Process design and development
Q3 2017; Broaden scope
Feb. 2016; Launch of the platform
Q3, Q4 2018; FUNC 2.0 development

4.3. Communication protocol

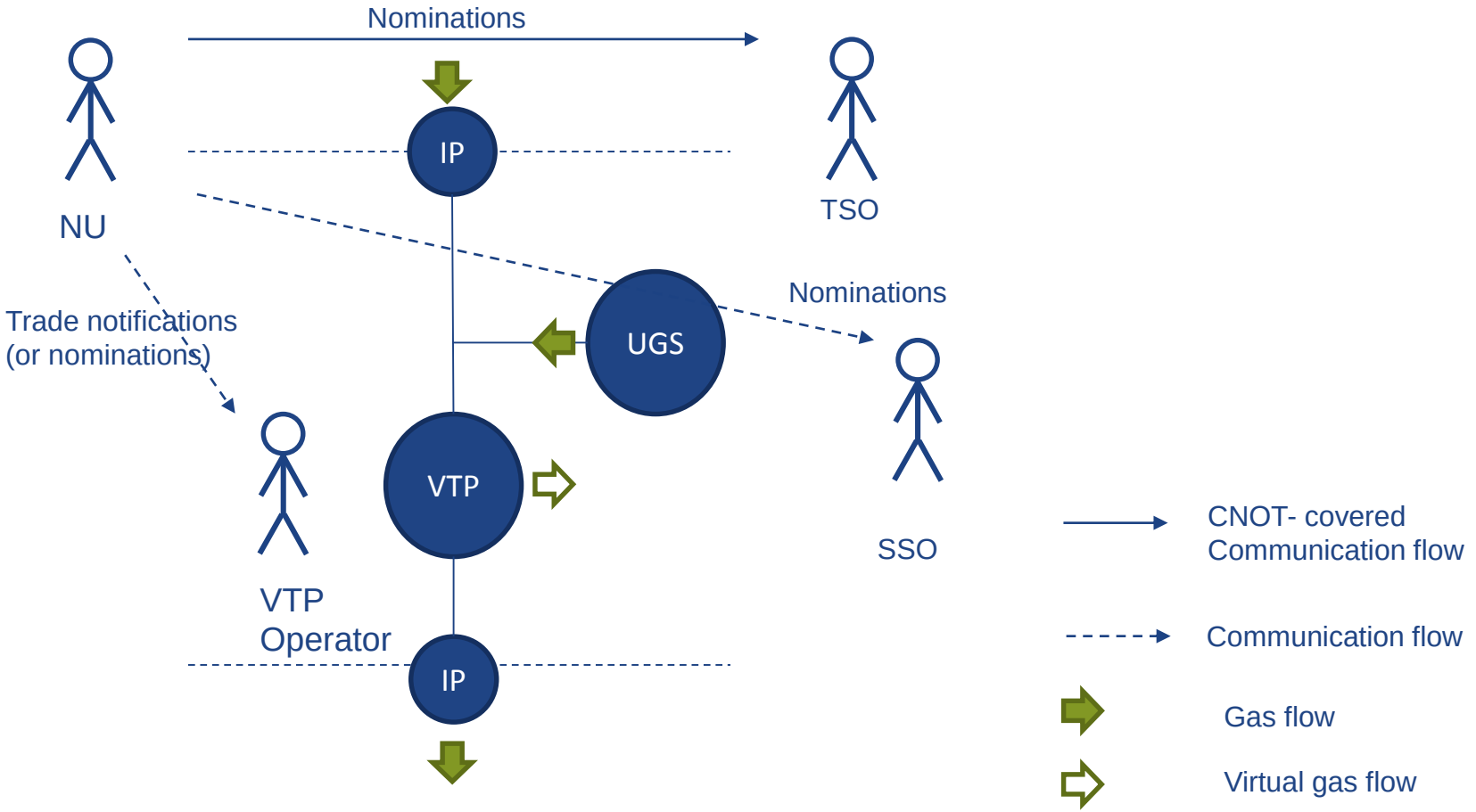
Data exchange at VTPs and UGS

Issue description (Equinor)

- **Issue subject**: Communication protocol and encryption (original title)
- **Reported issue**:
  - ✓ Storage operators and market area operators (Gaspool and Netconnect Germany) tell they do not need to follow article 23 (Implementation of Common Data Exchange Solutions. In this case, AS4).
  - ✓ This leads to an extra cost where network users need to keep AS2 and also ask their vendors to support new encryption algorithm to AS2.
  - ✓ In addition they also claim they are not obliged to support edig@s xml (file format) for nominations on the VTPs.
  - ✓ If the network code isn't covering these companies the Network Code on Interoperability and Data Exchange Rules, Commission Regulation (EU) 2015/703 has a reduced effect on harmonization.
- The issue has received the support of ENGIE, GasTerra and EASEE-Gas

Data exchange at VTPs and UGS

Issue context: Nominations and Matching process



Current ENTSOG CNOT only covers nominations at IPs

Data exchange at VTPs and UGS

Overview of steps taken so far

- Issue categorized as valid and of European scope
- Draft solutions jointly developed by ENTSOG and ACER
  - ✓ VTP issue: European solution (NC amendment)
  - ✓ Storage issue: National solution vs European fully fledged binding solution
- Stakeholder meeting on 16 May
- Public consultation open from 17 May to 13 June
- Consultation report published in August
  - ✓ 30 answers received
  - ✓ General support for NC amendment and CNOT extension

Next steps

- ENTSOG and ACER to agree on the solution by 25 September in view of PC results
- Stakeholder meeting on 2 October (discussion)
- Data exchange workshop on 4 October (information)
- Publication of the solution expected in October - November

Draft solutions presented for public consultation

Data exchange at VTPs and UGS

Potential solutions for VTPs

- Proposed solution: “European solution”
  - ✓ Make the INT NC apply to Virtual Trading Points
    - Insert in Article 1 (2): “Chapter V shall apply to IPs and virtual trading points”
    - Change Article 20 (1) “counterparties means network users active at IPS or Virtual trading points”

- Extend obligations to parties carrying out data Exchange of behalf of TSOs
  - ✓ Add Article 24a: Article 20 (2) – 23 shall apply both to the transmission system operator and entities who carry out tasks of the transmission system operator.

Data exchange at VTPs and UGS

Potential solutions for VTPs

- Proposed solution: “European solution” (cont.)
  - ✓ NC amendment to apply from XX.YY.2020:
    - New Art 26a: The implementation of the amendments in Article 1(2), 20 (1) and 24a shall apply from XX.YY.2020.

Note: While network users would anyhow receive a nomination confirmation after the matching process on day D, the allocation of trade notifications to balancing accounts on day D+1 is not mentioned in the issue raised.

- Rescoping of the ENTSOG CNOT for Nominations & Matching to include VTPs:
  - ✓ Modification of the Nominations & Matching BRS
  - ✓ Addition of the relevant rows to the ENTSOG CDES table

Data exchange at VTPs and UGS

Potential solutions for Storage Facilities

- Option 1: “National voluntary solution”:
  - ✓ Rescoping of the ENTSOG CNOT to include nominations to storage facilities, LNG terminals and other points subject to nomination (BAL NC article 18) and recommend a CDES for such data exchange requirements

- Option 2: “Fully fledged binding European solution”:
  - ✓ Rescoping of the ENTSOG CNOT as stated above
  - ✓ Depending on the outcome of the relevant impact assessment, amending the gas regulation (in the course of 2020 gas legislative package discussion) to extend INT NC obligations for TSOs in Chapter V to other system operators involved in points subject to nominations according to BAL NC Art 18 (e.g. SSOs, LSOs, etc).

Data exchange at VTPs and UGS

Public consultation overview

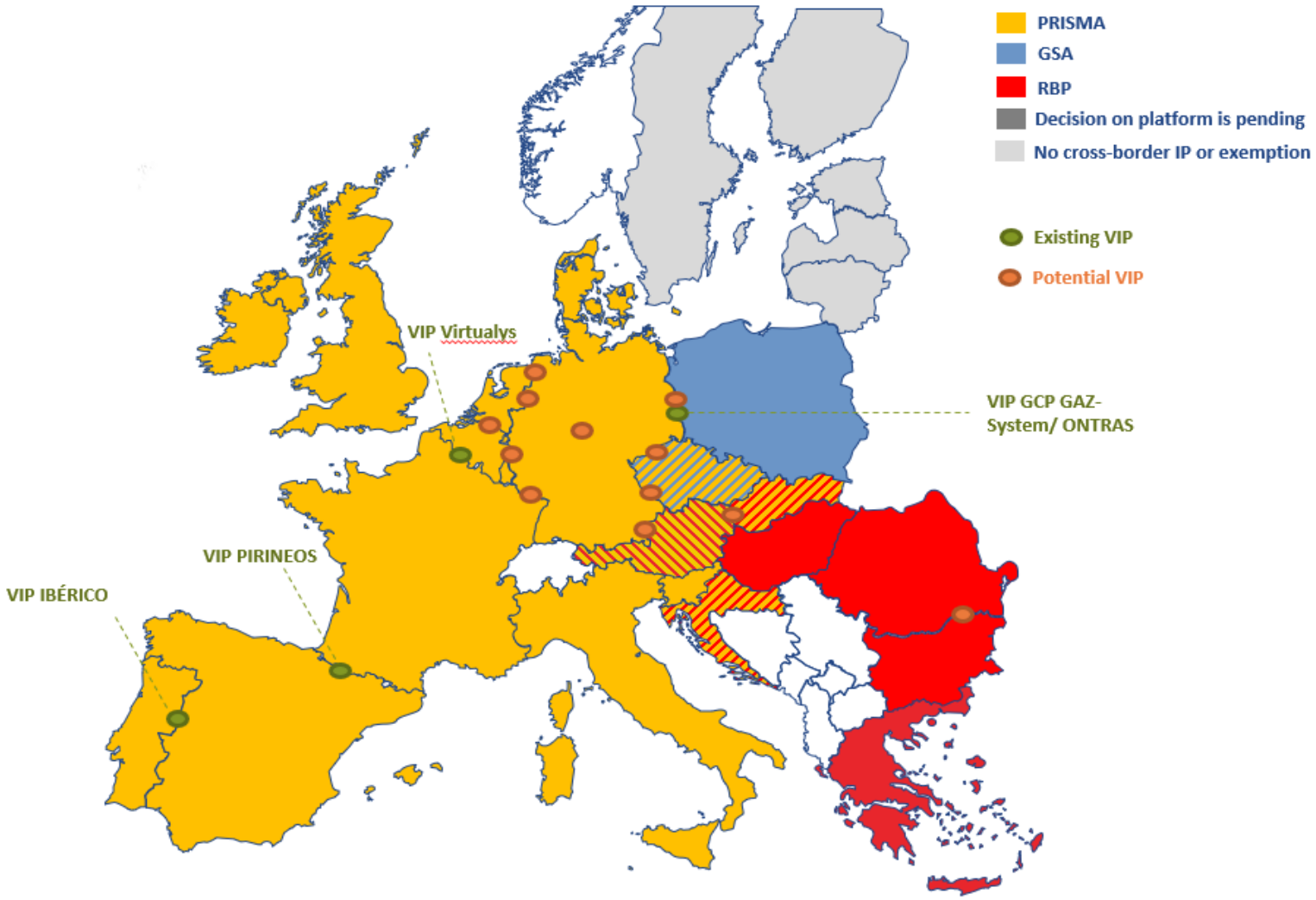
- 30 participants: 15 NUs, 7 TSOs, 5 SSOs, 2 MAMs, 1 NRA, 2 associations, 1 clearing responsible party, 1 LSO.
- VTP issue:
  - ✓ 24 vs 1 participants support an amendment of the NC to make VTP operators use common data exchange solution
  - ✓ One NU argued that there is a stronger case for harmonizing trade "nominations" than for trade notifications.
  - ✓ One NU considers allocation and processes connected to balancing should also be harmonized.
- Storage issue:
  - ✓ 18 vs 7 respondents believe lack of harmonization is a barrier
  - ✓ 19 participants would benefit from harmonization at other points requiring nominations (BAL NC Article 18)
  - ✓ 5 supported "National voluntary solution" vs 19 for "Fully fledged European solution"

4.4. VIP

Idea behind VIPs

- Merging of 2 or more physical IPs connecting two adjacent entry-exit systems into one bookable VIP, which connects neighbouring entry/exit zones
- Network users buy capacity at the VIP; gas is transported via physical IPs
- Aim is to reduce complexity for the network users

Existing and potential VIPs



Ambiguity in Art. 19(9) of CAM NC

- Main question for TSOs: **how to deal with existing contracts?**

- Ambiguity in Art. 19(9) of CAM NC on implementation of VIPs:

  - ✓ It is unclear what is meant with 'shall offer the available capacities', i.e. is available capacity the capacity that is not yet sold?

  - ✓ It is unclear what is meant with criteria (a), i.e. can a VIP be created if the existing contracts are kept at the IP?
    - criteria (a): the total technical capacity at VIPs shall be equal to or higher than the sum of the technical capacities at each IPs contributing to the VIP;
    - in that case the technical capacity at the IP would be higher than the technical capacity at the VIP and the criteria is not met

Issue with implementation

- No harmonized implementation before the deadline, three interpretations were discussed:

  - ✓ Move all (new and existing) contracts to the VIP
  - ✓ Keep existing contracts at the IP, new contracts at the VIP
  - ✓ New contracts at VIP and provide an option to shippers to voluntarily move existing contracts to the VIP

Potential risks

- **Main risk for TSOs:** risk of cancellation existing contracts
  - ✓ If existing contracts are moved to the VIP, but court rules that NC CAM does not require this

- **Main impact on shippers:** change in tariff
  - ✓ The issue is material for shippers in case of non-equalised IP tariffs: old IP tariff may be lower or higher than new VIP tariff

- Consequence: Under a non-price cap regime, cancellation of existing contracts may lead to an increase of other tariffs to recover the reduction in revenues

- Other risk: if existing contracts are kept at the IP, existing capacity holders will pay different tariffs than new capacity holders

ENTSOG & ACER propose two options

- **Amend the CAM NC to remove the ambiguity**

Approach 1:

All capacity goes to the VIP

Approach 2:

Only new capacity at the VIP, existing (may) stay at IP

- **Aim: create legal certainty and harmonized implementation across Europe**

Approach 1: All capacity to the VIP

- Amend the NC to clarify that:
  - ✓ The sum of technical capacity of all IPs contributing to the VIP will create a single VIP
  - ✓ All existing contracts for capacity at IPs contributing to the VIP shall be transferred to the VIP

- Postpone latest implementation date of VIP (1. January/ 1. February 2020)

Approach 2: Dual system

- Change the NC CAM to clarify that the existing contracts remain on the IP and available capacities are marketed on the VIP
- Possibility to include an option for existing capacity contract holders to transfer on a voluntary basis their contracts from an IP to the respective VIP
  - ✓ Subject to NRA decision and in those cases where the single IP tariffs are equal to the VIP tariff
- Postpone latest implementation date of VIP (1. January/ 1. February 2020)

Approach 1 vs Approach 2

All capacity to the VIP	Dual system
Provides clarity on how to deal with existing contracts, thus limiting the legal uncertainty and risk that a court will rule that the implementation is not in line with the NC CAM	Provides clarity on how to deal with existing contracts, thus limiting the legal uncertainty and risk that a court will rule that the implementation is not in line with the NC CAM
Existing and new users pay the same tariff at the same point	Existing and new users may pay different tariffs
Creates a risk for those cases where VIPs are already implemented, unless it is codified that the already existing VIPs won't be touched	Creates a risk for those cases where VIPs are already implemented, unless it is codified that the already existing VIPs won't be touched
Question if NC can force existing contracts to be changed	More complex from an operational perspective / Capacity conversion service may be more complex

Alternative: only to postpone the implementation date

EC's interpretation letter to Art. 19(9) CAM NC

- **'Amendment is not required** to ensure correct implementation'
- 'Transfer of contracted and available capacity to the VIP is implicitly required pursuant to Article 19 (9) CAM NC'
- 'An interpretation of Article 19 (9) under which a transfer of contracted capacity is not required would prevent the implementation of VIPs in most or even all cases'
- 'Such an interpretation would undermine the application of the Article and contradict the main purpose of the NC CAM'
- 'Keep any delays resulting from the previously unclear situation to a minimum'

EC's interpretation letter to Art. 19(9) CAM NC

- 'It is not excluded that the wording of Article 19 (9) could be clarified in accordance with the above considerations on the occasion of future amendments to the NC CAM'

- 'It is ultimately for the Court of Justice of the European Union to provide a definitive interpretation of the applicable Union law'

Art. 19(9) NC CAM:

where two or more interconnection points connect the same two adjacent entry-exit systems, the adjacent transmission system operators concerned shall offer the available capacities at the interconnection points at one virtual interconnection point. In case more than two transmission system operators are involved because capacity in one or both entry-exit systems is marketed by more than one transmission system operator, the virtual interconnection point shall include all of these transmission system operators, to the extent possible. In all cases a virtual interconnection point shall be established only if the following conditions are met:

(a) the total technical capacity at the virtual interconnection points shall be equal to or higher than the sum of the technical capacities at each of the interconnection points contributing to the virtual interconnection points;

(b) they facilitate the economic and efficient use of the system including but not limited to rules set out in Article 16 of Regulation (EC) No 715/2009.

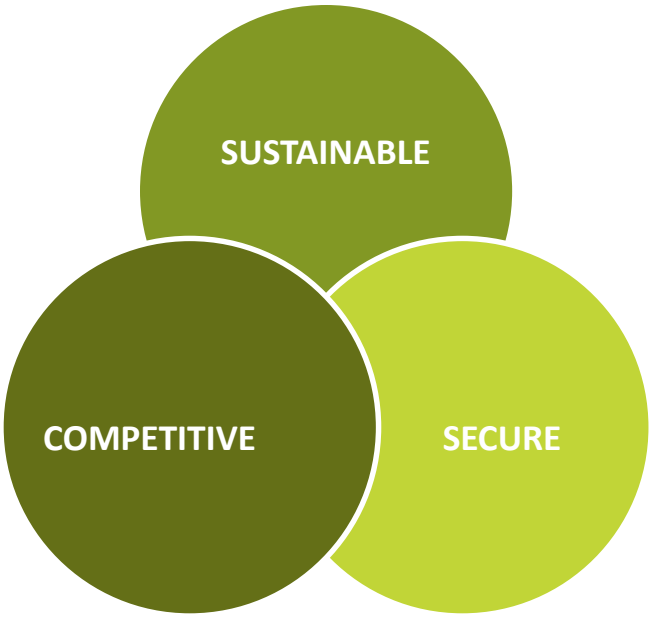
Adjacent transmission system operators shall start the necessary analysis and shall establish functional virtual interconnection points no later than 1 November 2018**.**

5. FUTURE DEVELOPMENT

5.1 Overview of ENTSOG's main themes

EU Energy Goals

EU Internal Energy Market Goals:



EU Energy Union Goals:

- SECURITY, SOLIDARITY & TRUST
- FULLY INTEGRATED ENERGY MARKET
- ENERGY EFFICIENCY
- DECARBONISING THE ECONOMY
- RESEARCH, INNOVATION AND COMPETITIVENESS

Clean Energy Package has addressed the electricity issues of the ENERGY UNION
- but has not addressed any gas issues or gas-electricity interactions.
A gas package will be more than just mirroring from electricity to gas legislation.

ENTSOG work with Stakeholders and expected process for Gas Package

2018	2019	2020
Year of studies & of thinking/ideas	Year of drafting & Impact Assessment	Legislative & political process

- ***The dynamics of the launched/announced EC studies forms important drivers, but overlaps between the studies need systematic and coherent messaging***
- ***ENTSOG has established its basis for input to studies, legislative/political process and follow-up actions.***
- ***Testing ideas/concepts through stakeholder dialogue needed.***

Vision	Quantification and fact based answers to EC studies	Engagement and inception of TSOs concepts	ENTSOG regulatory input proposal

Establish readiness for dialogue with Commission, Parliament and stakeholders

ENTSOG's understanding of Gas 2020 package scope:

3 pillars of the package

1. Mirroring the common topics	*2. Strengthening the functioning of the market*	*3. Future role of gas*
• **Governance** • **Open and fair retail markets** • **Smart metering** • **Consumer protection**	• **Benchmarking of the NC implementation and systematic plan for EU action** • **Combine capacity and commodity release** • **EU benchmarking of TSOs revenues**	• **EU Energy (hybrid) system** • **Natural Gas as a bridge and CCS/CCU framework** • **Biogas – green gases in local production** • **Hydrogen – P2G and sector coupling**
"Parked" until electricity market design will clarify, but possibly with new outcome for the NCs(?)	EC starts to work on this pillar by launching several new studies to be held in 2018/2019	ENTSOG answer to this pillar to be discussed with the stakeholders

Not what would be the percentage of gases in the fuel mix, but which sectors can develop using it

and HOW?

Quantification of the existing potential

Cost efficiency with green gases vs full electrification in studies:

- ***Ecofys "Gas for Climate" study 2018 estimates €138 Bn per annum savings***
- ***Eurogas 2018 PRIMES study 2018 estimated savings of €335Bn based on all electric vs higher share of bio/syn gas scenarios.***
- ***Frontier Economics 2018 FNB Green Gas Study estimated €12Bn per annum savings in Germany alone***

1 100 TWh
EU Gas storage capacity

372 TWh
EU wind & solar generation 2016
(Eurostat)

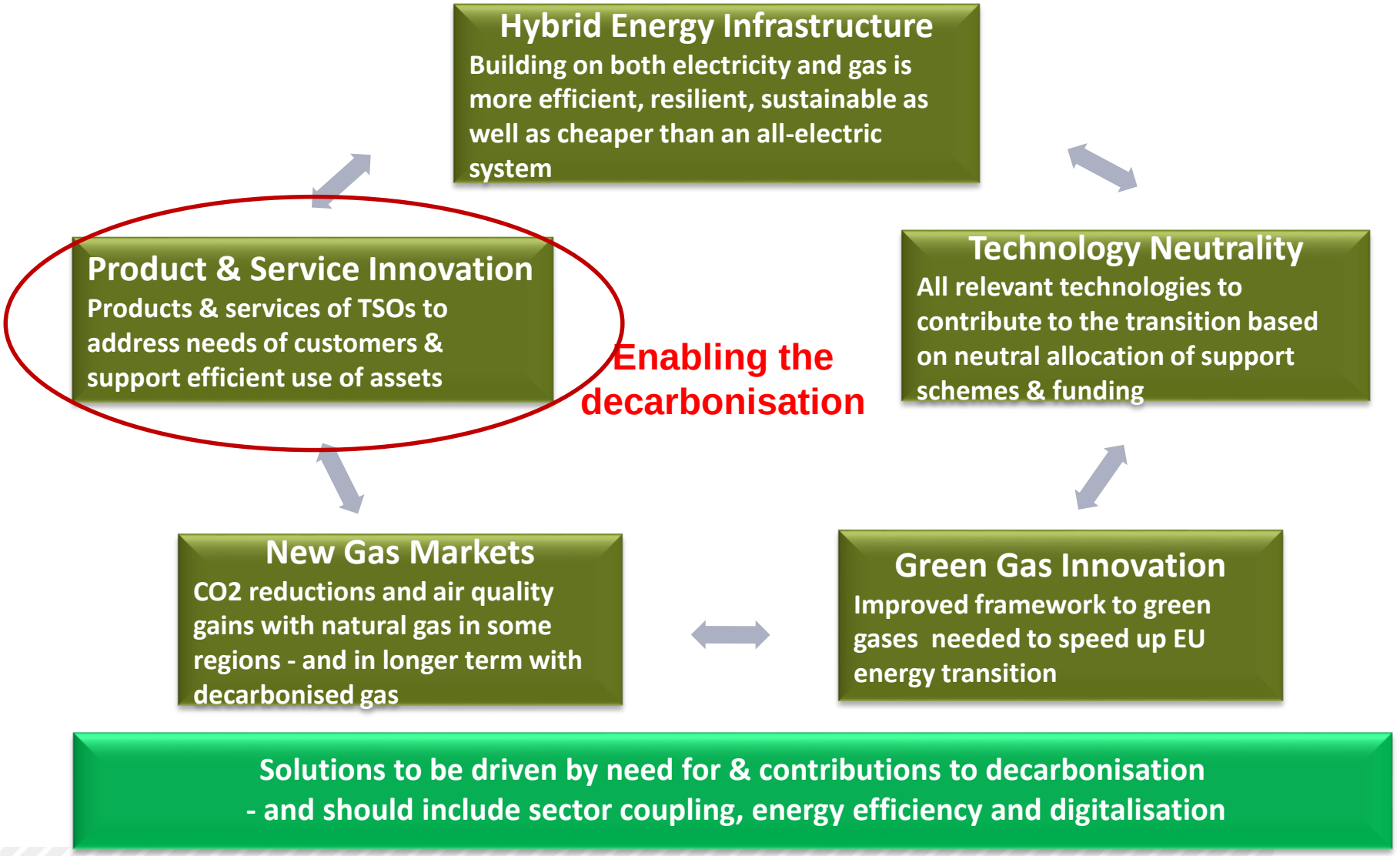
900 GW
EU Gas storage withdrawal capacity

270 GW
EU wind & solar power capacity

Gas storages can store around 3x the current yearly energy production from variable e-RES

Gas storages power capacity is more than 3x the current wind and solar power capacity

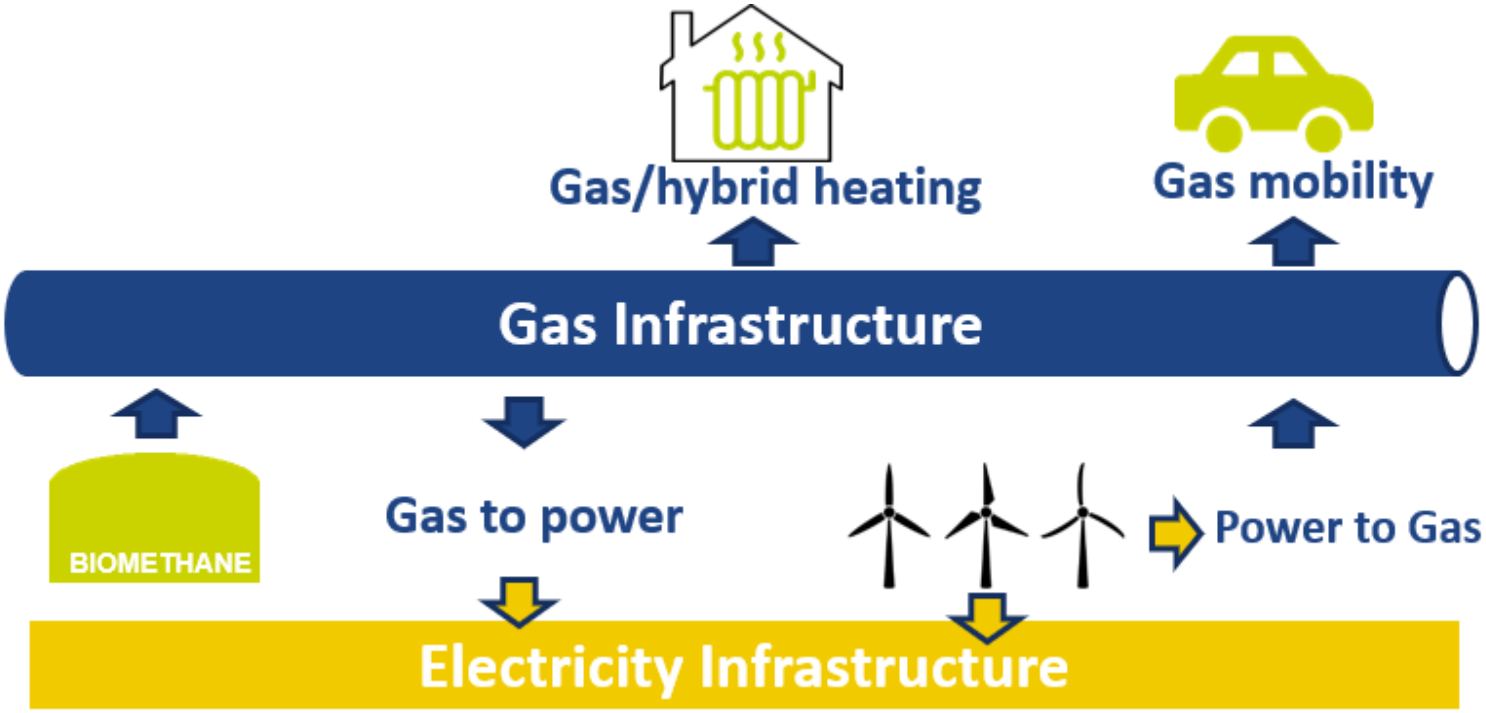
ENTSOGs Key Messages for Gas Package 2020



Context for gas grids input to decarbonization

Why gas TSOs products and services innovations are needed?

- *Developing and integrating renewable sources of energy is key for a low-carbon future, BUT… It will challenge the electricity system.*
- *Today's EU gas infrastructure - with existing power plants - is already able to complement renewable generation and integrate renewable gases.*



It is fundamental to take a holistic approach to the energy system

ENTSOG dialogue with stakeholders

As always, we want to use our inclusive stakeholder engagement processes

Next events to follow and information to follow.

5.2 The need to develop new products and services

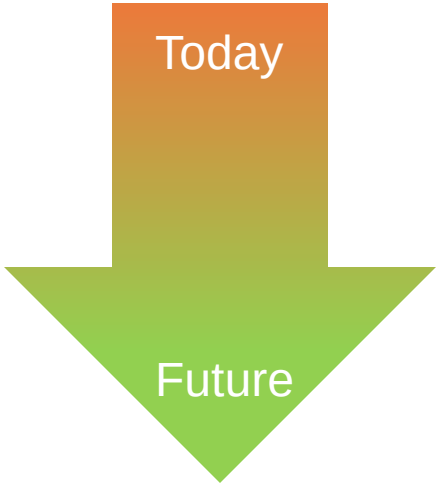
Product & Service Innovation : Why?

- After having established a standardized TSO product range facilitating the IEM, the new challenges regarding decarbonization and sector coupling needs **more flexible new products and services.**

- ENTSOG **proposes to work on a tool box of new products & services which should :**
  - ✓ **enable and accelerate the energy transition**
  - ✓ **support efficient use of assets**
  - ✓ **address needs of customers**

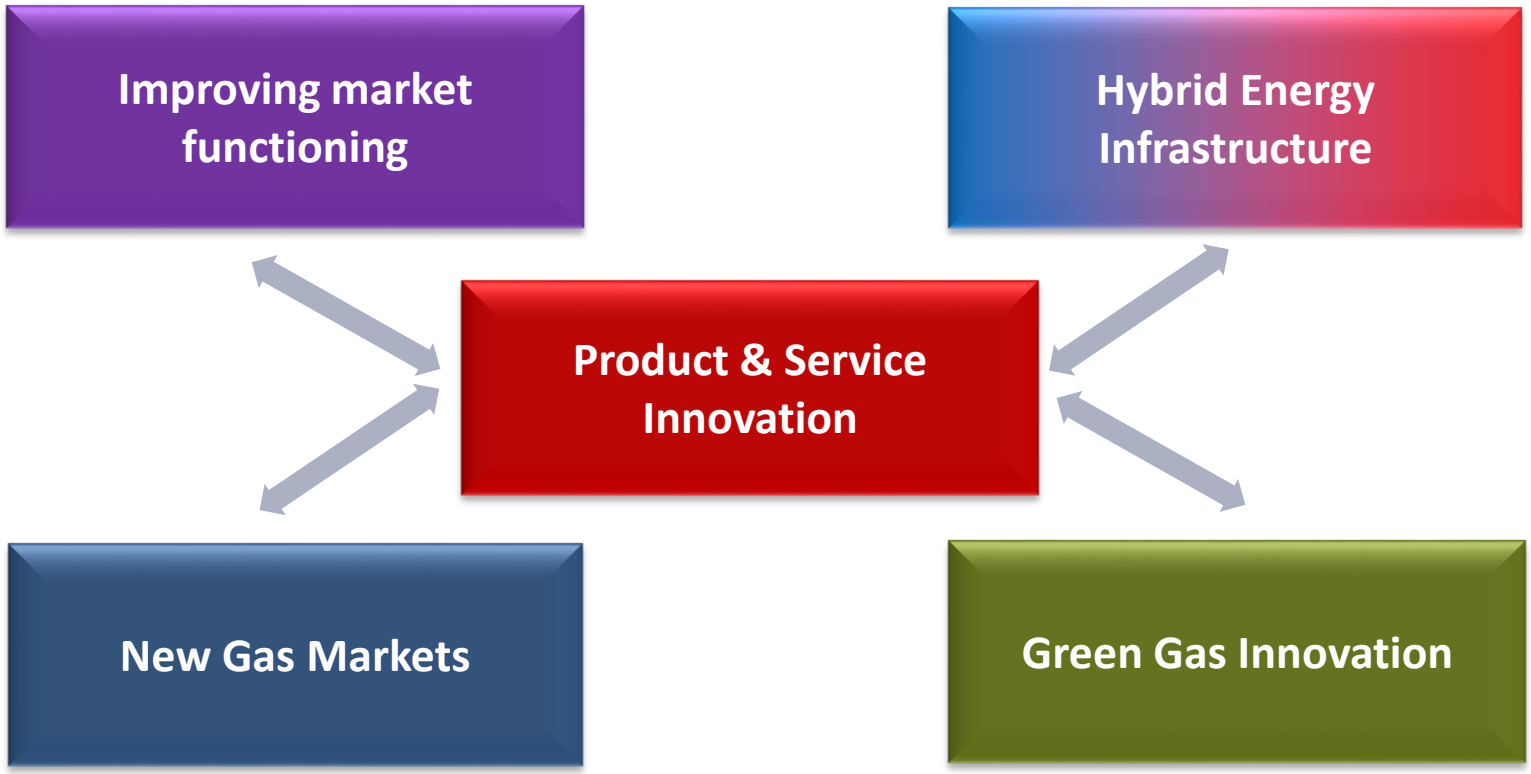
Current versus future needs

- Structured standardised products
- Limited scope for innovation
- Limited scope for customer driven products



- More flexibility in what products are offered
- Enable ability to innovate
- Respond to customer needs

Key role for products and services



Product & Service Innovation : initial thoughts

- New products could facilitate the production of renewable gases and the use of gas, like :
  - ✓ Facilitate the connection of green gases
  - ✓ Further enable the interaction with electricity
  - ✓ New services associated with gas quality, transport services, etc.

- TSO should be allowed to innovate for the benefit of the market and to accelerate the energy transition, for example :
  - ✓ R&D enabling the production of renewable gases
  - ✓ Pilot projects to demonstrate feasibility

Product & Service Innovation : What does market participants think about it?

Which new kind of product & service would you like to see offered by TSOs in the context of:

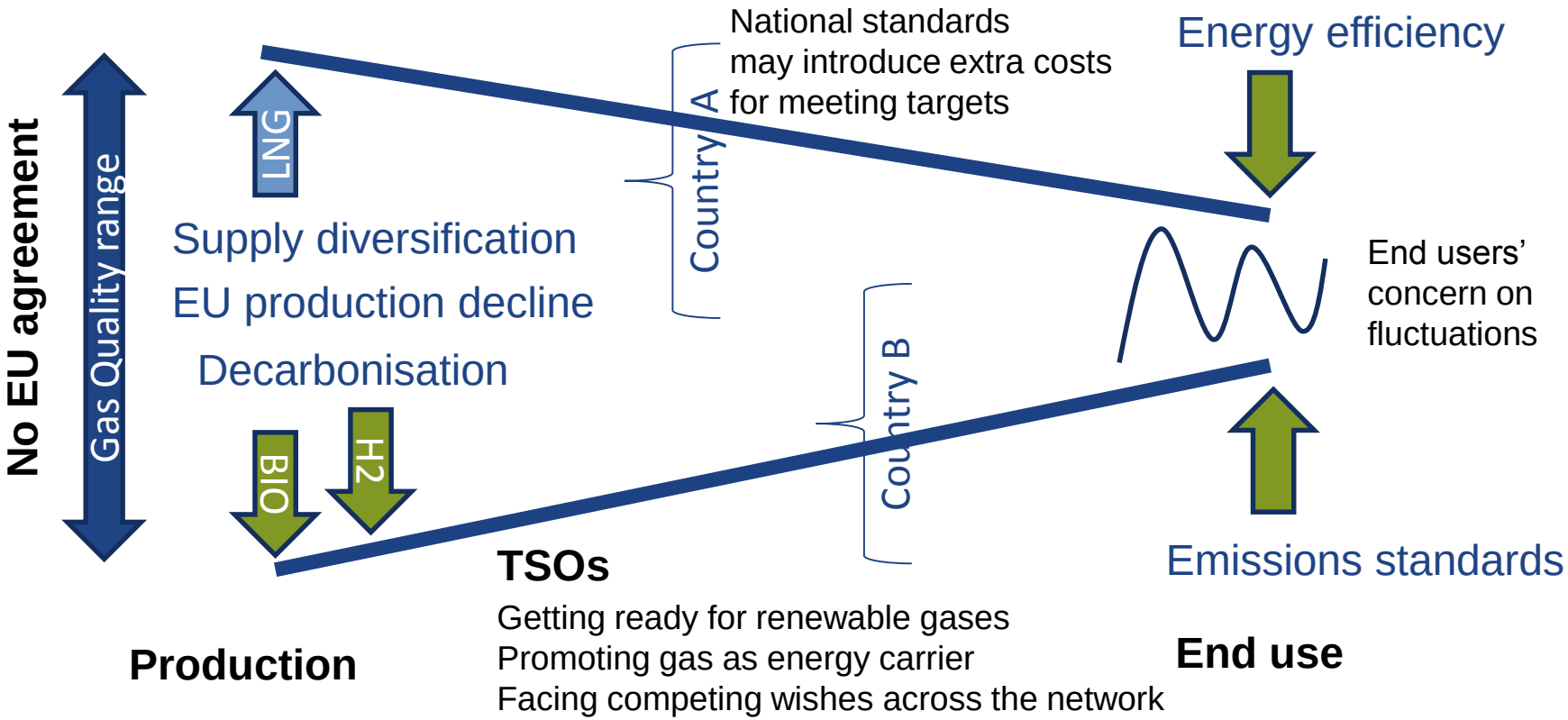
1. improved market functioning
2. market development (production of renewable gases, development of new uses, …)
3. sector integration (power, gas, transport, heat)

Q&A : other remark from the audience?

5.3 Gas quality implications

Flexibility for gas quality

Problem description – current challenges around gas quality

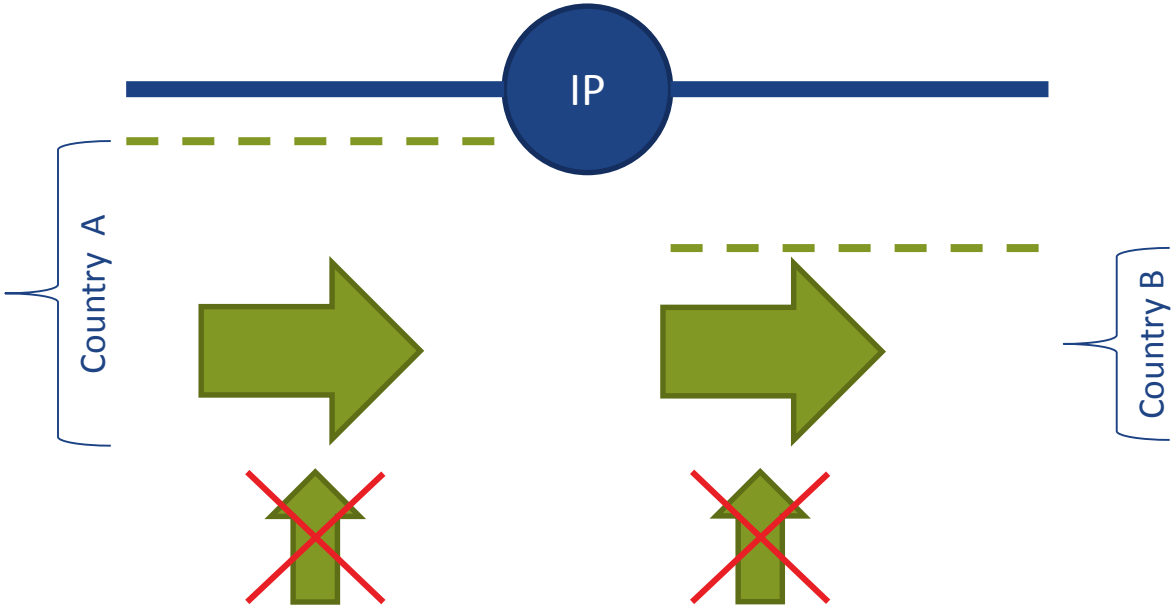


Solutions: Flexible standards + information provision

Flexibility for gas quality

Cross-border trade restrictions for green gases

- Restrictions can appear when standards are different
- Today TSOs avoid restrictions by cooperating on the basis of INT NC
- Potential for cross-border (or national) restrictions may increase as renewable gases projects develop and compete for the renewable technical gap.
- Standards should not be a barrier for renewable gases



Country B's standard limits additional injection

Country A's project takes all the "green" gap (can happen within a country)

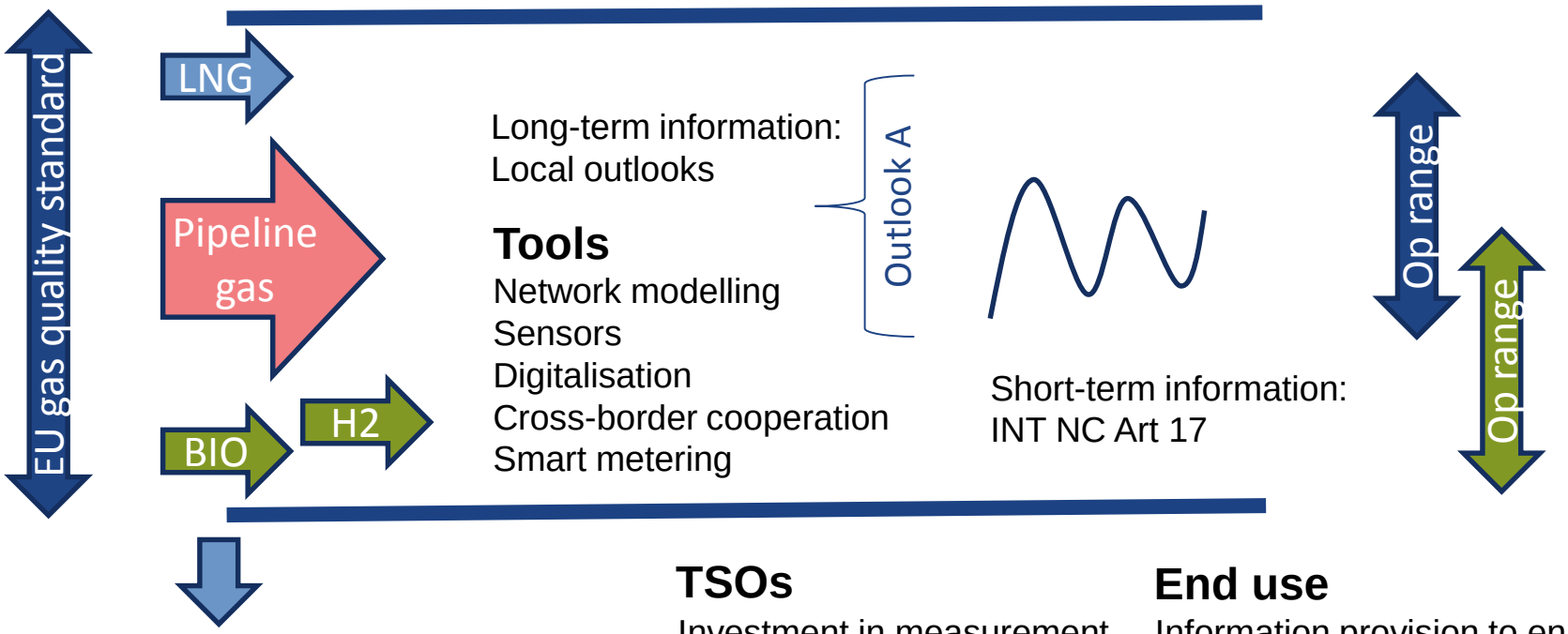
Flexibility for gas quality

Proposals and solutions at hand

- Facilitate renewable gas injection and diversification of supplies
- Keep gas as an attractive energy carrier for end users
- Prioritize information provision by TSOs –and DSOs - and data exchange over gas treatment
- Explore solutions for:
  - ✓ Sharing transmission network flexibility in a non-discriminatory way
  - ✓ Opening the network for increasing shares of renewable gases
  - ✓ Adopting regional and local solutions
  - ✓ Facilitating end user readiness
    - Short-term information provision (INT NC Art 17)
    - Long-term information: local and regional outlooks, historic data
- Gas quality innovation projects should be supported
- Support and facilitate agreement on a European standard that contributes to energy policy goals and advances the decarbonization
- Ensure cost recovery mechanisms when additional TSO investments are needed

Flexibility for gas quality

Solutions at hand: flexibility and information provision



Production

Non-discriminatory flexibility offer at entry points

TSOs

Investment in measurement and IT equipment for renewable gases.
Cost and benefit reflective recovery mechanisms.

End use

Information provision to enable risk analysis, optimization and mitigating measures

Thank You for Your Attention

Market Brussels Team

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Pillar 3 Rationale and regulatory enablers/blockers

Rationale	Missing regulatory enablers/ Existing regulatory blockers
1. Hybrid Energy System A Hybrid Energy System building on both electricity and gas systems as cross-border energy carriers is more efficient, resilient, sustainable as well as cheaper than an all-electric energy infrastructure. Need to ensure that interaction between the 2 systems is fully enabled.	Regulatory framework for sector integration between electricity and gas: • establish incentives within both sectors, • allow for cross-sectorial optimization based on utilization of existing infrastructure • value of optionality/flexibility
2.Technology Neutrality All relevant existing and future technologies should contribute to the energy transition. Technology neutral regulation and subsidy schemes promote more optimal investments and more efficient allocation of private and public money.	• Facilitate technology-neutral incentive structures for investments and R&D prioritization • Keep the sustainable investments palette open to all technologies contributing to decarbonisation
3.Green Gas Innovation Innovation in biogas and hydrogen is already taking place. However, an improved framework to promote green gases is needed to speed up the pace of EU energy transition. Active TSO involvement will provide an increased speed of transition.	• Facilitate EU-wide renewable and decarbonised gas certification • Develop concept for maintaining competitive EU gas market for both imported and local gas supplies • Enable TSOs, DSOs, SSOs, LSOs pro-active contribution to scaling up the technologies: development and operation of facilities, connection and tariffs conditions, data flows on gas quality and local physical flows • Facilitate P2G facilities – both in gas and electricity systems
4. New Gas Markets Transition to natural gas represents in some geographical areas of EU, and for some areas of energy consumption such as transport, quick and relatively cheap climate gains by replacing coal and oil – addressing both CO2 and air quality in general.	• Enable equally gas filling and loading station infrastructure in road and maritime transport • Improve framework for shifting from high-carbon fuels in power production, heating transport and industry
5. Product & Service Innovation Products and services of the TSOs should be addressing needs of customers, supporting efficient use of assets as well as promoting the energy transition – calling for more regulatory flexibility and room for development.	• Evaluate options for handling different and varying gas qualities – including applying smart technology/digitalization • Check the balance between capacity/volume-based pricing/products if price differentiation between different customers segments could be useful • Broaden TSO product palette (physical/virtual) addressing flexibility/storage, electricity merit order, small scale LNG, long distance transport