

Joint ENTSOG-EnC Interoperability Workshop

4th edition



Welcome and agenda



Joint EnC-ENTSOG INT Workshop

Agenda

No	Description	Time	
1	Introduction and welcome	10.30	all
2	Implementation monitoring report of INT NC 2017	10.45	ENTSOG
3	Recommendations regarding technical cooperation with third countries	11:00	ENTSOG
4	Implementation of NC INT and DE in the Energy Community – progress report	11.15	ECS
5	UA-MD cross border case -Current status -TSOs' view on establishing IPs and IAs -Discussion	11.45	ECS, UTG, MDTG
6	Developments on gas quality and hydrogen ECRB review on gas quality in the Energy Community	12.15	ENTSOG ECS
	<i>Lunch break</i>	12.45-13.45	
7	ReCo as CNOT (common network operational tool) in emergency conditions and Incident Classification Scale	13.45	ENTSOG
8	TSOs experience in implementation of data exchange solutions	14.00	National Grid
9	Information about CEF (AS4 testing platform) and possible funding for AS4 implementation	14.35	ENTSOG
	<i>Coffee break</i>	14:45-15:00	
10	Functionality platform – issues related to INT NC	15.00	ENTSOG
11	Update on cybersecurity activities in the Energy Community Possible solutions for TSOs in case of communication loss	15.15	ECS ENTSOG
12	AOB	15.40	all
13	Conclusions and closure of the meeting	15.50	all



Implementation monitoring report of INT NC 2017

Antonio Gómez Bruque

Subject Manager, Interoperability



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



Recommendations regarding technical cooperation with third countries

Antonio Gómez Bruque

Interoperability Subject Manager

Recommendations regarding technical cooperation with third countries

Legal background

- Reg (EC) 715/2009 Article 8 (3c): *recommendations relating to the coordination of technical cooperation between Community and third-country transmission system operators*

Definition of third-country TSO

- Not located in the EU, including bundled companies.
- EnC CP TSOs welcome to apply for Observer status

Technical cooperation

- Participation in ReCo System is open to Observers (EnC + EFTA)
- Expert knowledge on Interoperability: public WSs and adaptation of the INT NC.
- External Contact Platform: Standing discussion platform with the Support of the Energy Community Secretariat

Recommendations regarding technical cooperation with third countries

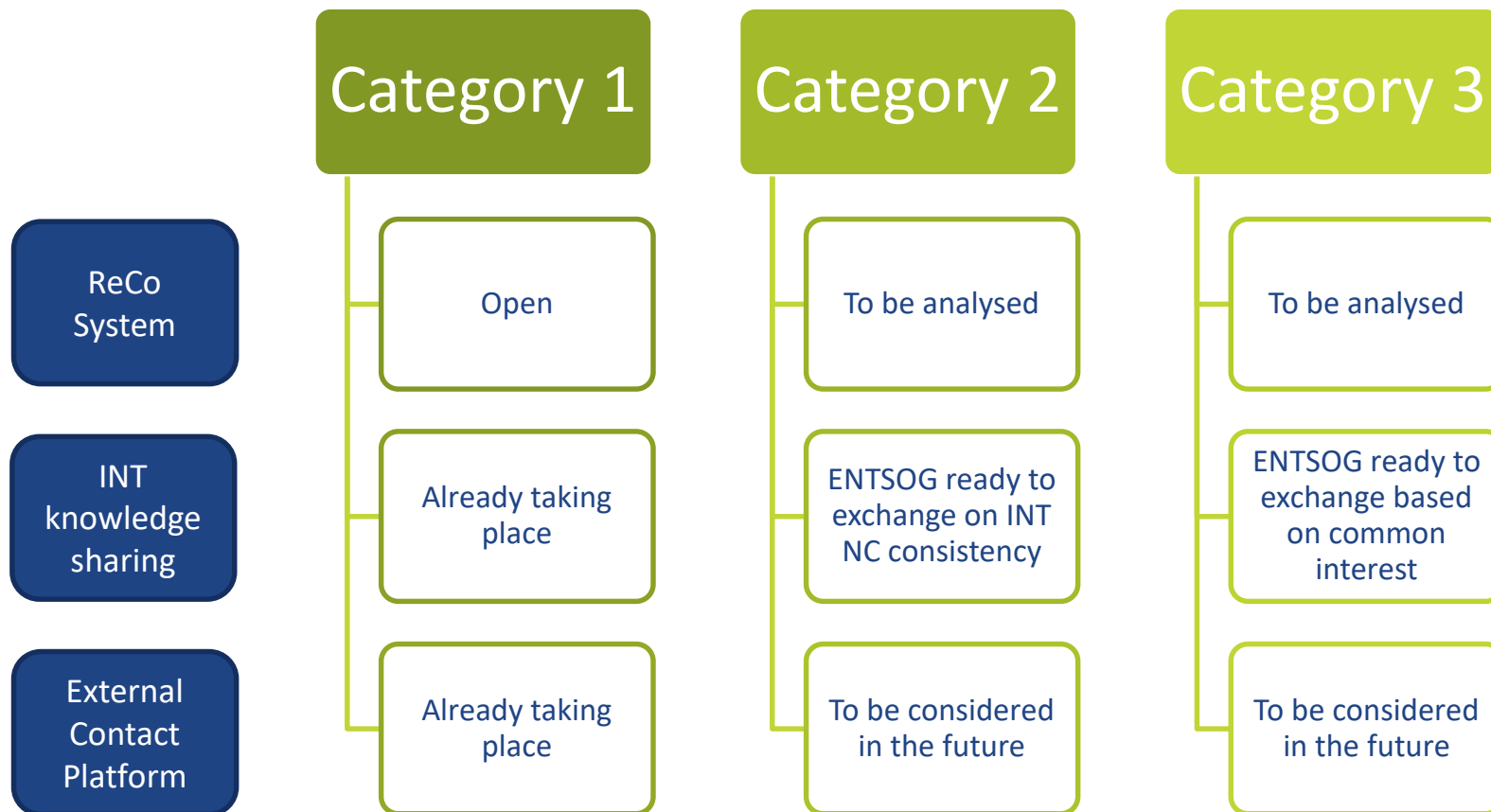
Criteria for 3rd Countries

- Third Country's relationship to the EU: bound to implement Third Package and SoS regulation?
- Adjacent points to ENTSOG member TSOs?

Categories of 3rd countries

- 1. EnC, EFTA, EU candidates
- 2. Countries with specific agreements to accommodate EU legislation
- 3. Any other (with entry-exit points to the EU)

Recommendations regarding technical cooperation with third countries





Developments on gas quality and hydrogen

Antonio Gómez Bruque

Subject Manager, Interoperability

Developments on gas quality and H2

Overview of main developments

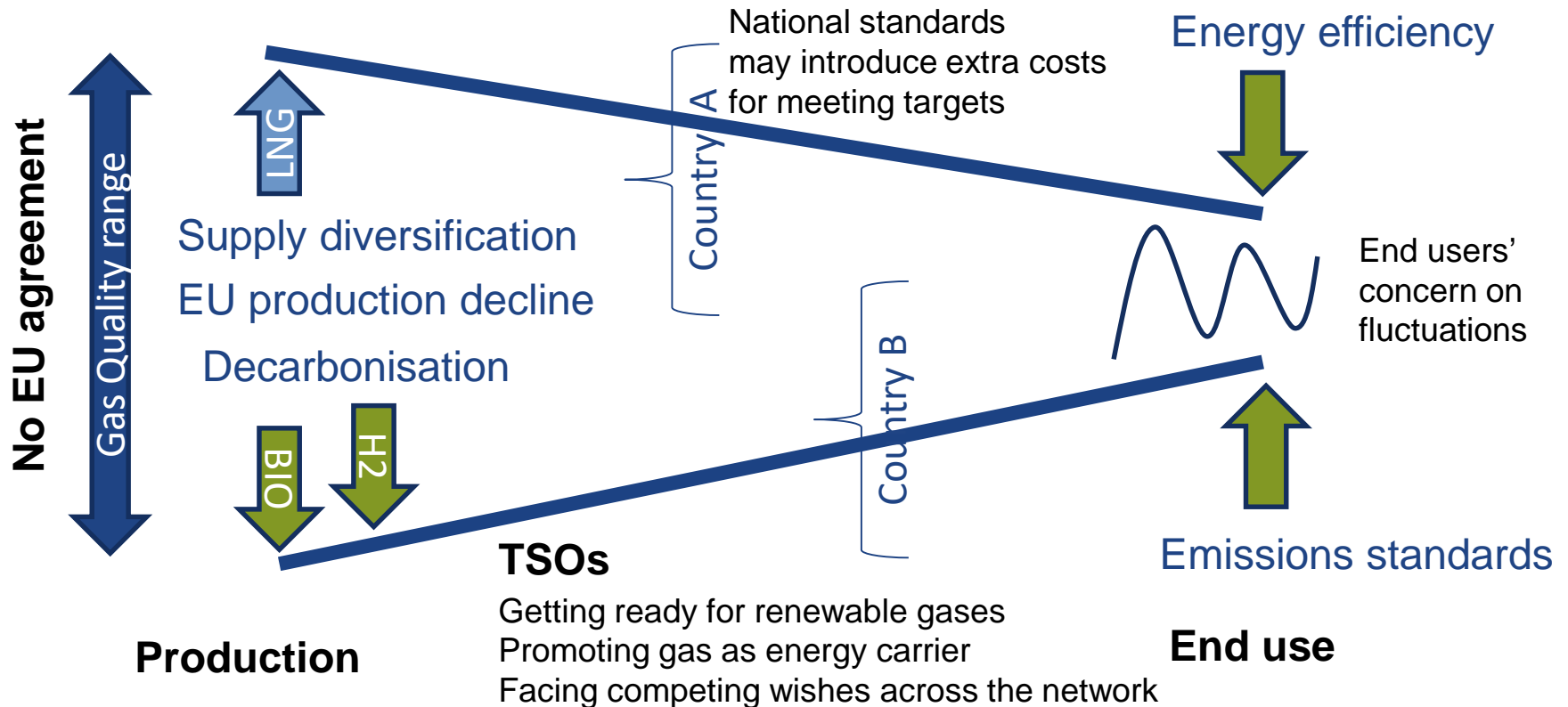
- > Madrid Forum conclusions
 - CEN to include renewable and low-carbon gases in the H-gas standard
 - Whole-chain hydrogen suitability and costs assessment needed
 - Assess difficulties of increasingly different qualities. Digitalisation as a possible solution.
- > Position paper on a flexible approach for handling varying gas qualities
 - Developed in the context of the CEN pre-normative work on Wobbe index
 - Main elements of the conceptual proposal are flexibility, information provision and innovation
- > ENTSOG working on
 - H2 related technical issues (H2NG, H2 networks and H2 production) from a regulatory standpoint
 - Ways on unlocking barriers for Hydrogen Injection and a roadmap for increasing levels of hydrogen



A flexible approach for handling varying gas qualities

Flexibility for gas quality

Problem description – current challenges around gas quality

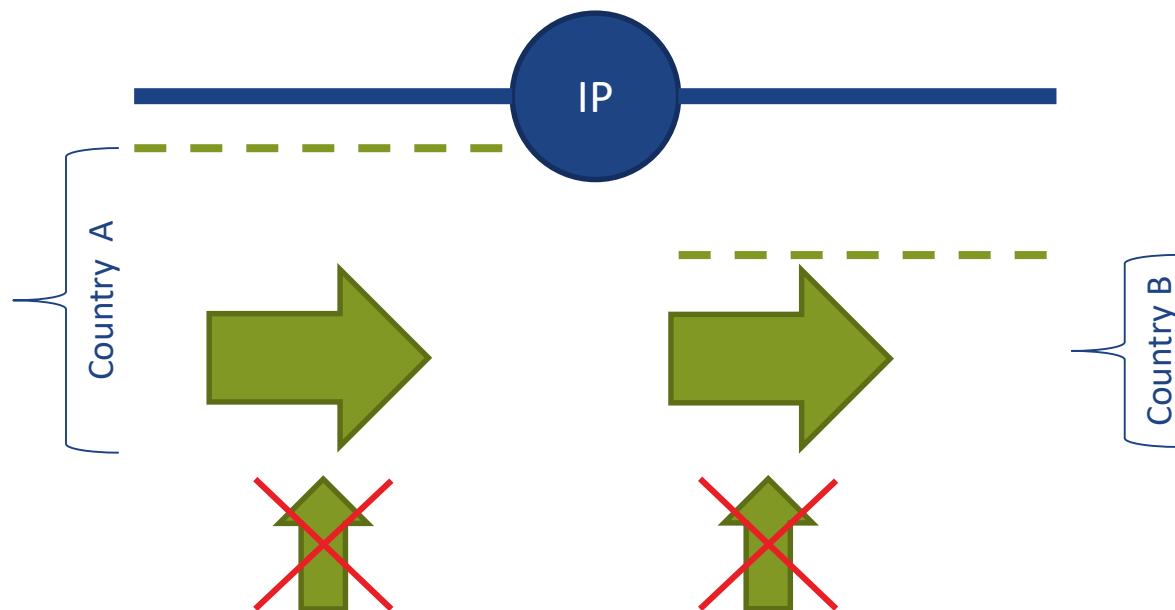


Solutions: Flexible standards + information provision

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

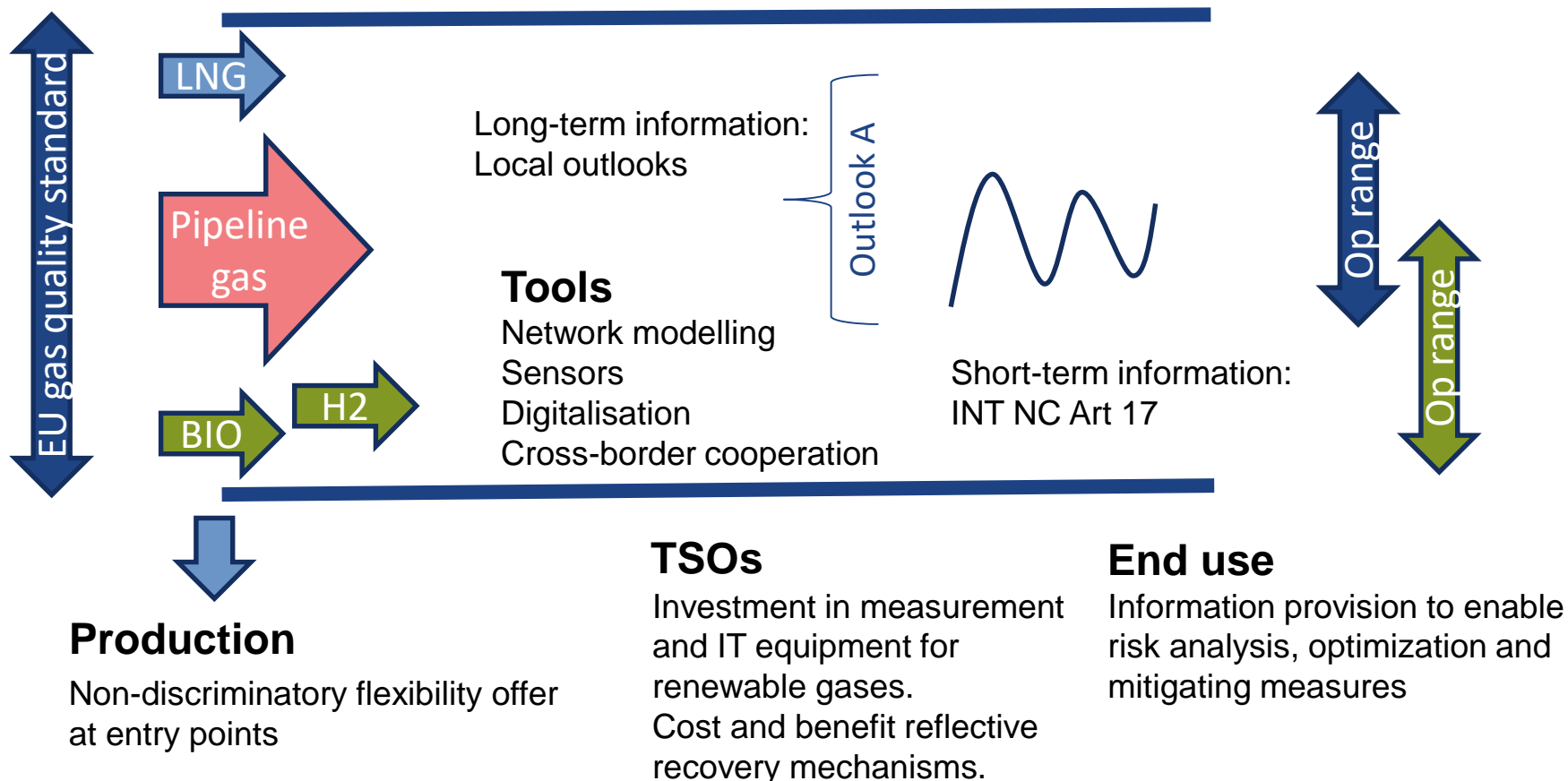


Country B's standard limits additional injection

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

Flexibility for gas quality

Solutions at hand: flexibility and information provision





ReCo as CNOT (common network operational tool) in emergency conditions and Incident Classification Scale

Anton Kolisnyk

Adviser, Interoperability

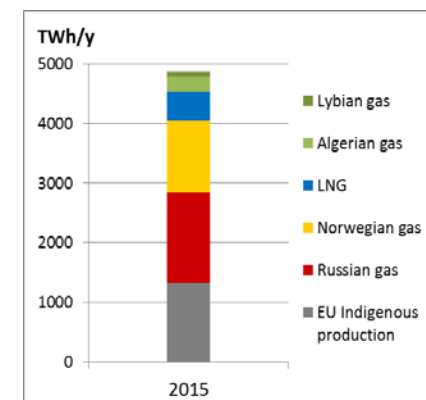
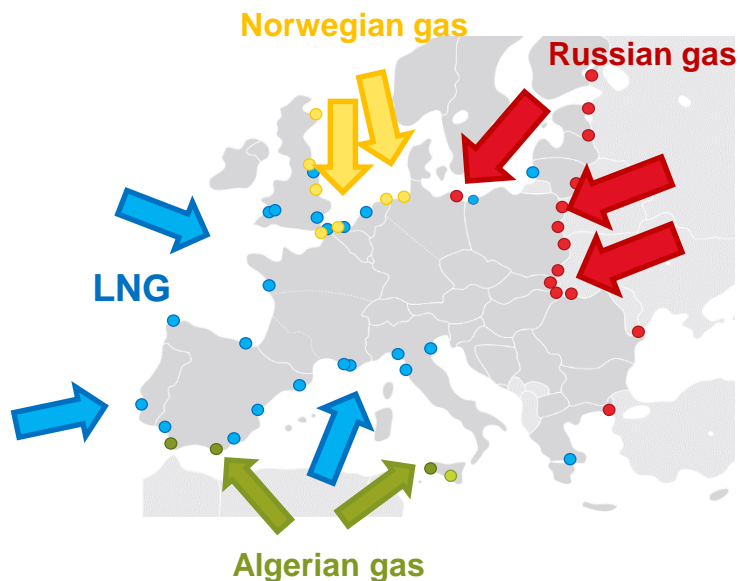


A broader vision of all gas flows entering the EU MS

- > European TSOs and EU aim to
 - enhance the level of **Security of Supply in crisis situations**
 - provide an **overview of the main gas supply flows**

Bridging the gap of non-existing international cooperation in a crisis situation

- > Install ReCo Teams
- > Provide toolboxes



A green L-shaped graphic element in the top-left corner of the slide.

Revised SoS Regulation and ReCo System for Gas

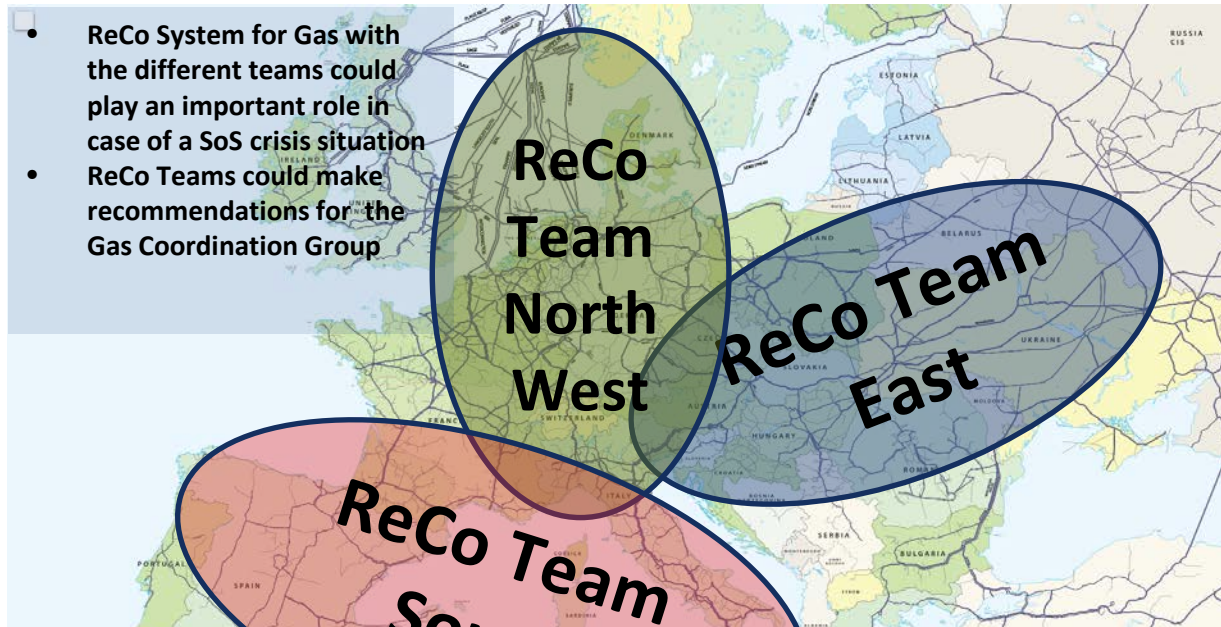
Article 3.

Responsibility for the security of gas supply

6. In the event of a regional or Union emergency, the transmission system operators shall cooperate and exchange information using the ReCo System for Gas established by ENTSOG. ENTSOG shall inform the Commission and the competent authorities of the Member States concerned accordingly.

ReCo Teams (1)

- ReCo System for Gas with the different teams could play an important role in case of a SoS crisis situation
- ReCo Teams could make recommendations for the Gas Coordination Group



Each ReCo Team is a community of TSOs for one of the supply corridors, and includes TSOs from the relevant gas supply risk groups defined in Annex 1 of Regulation 2017/1938 as well as other EU TSOs if reasonable.

Non-EU TSOs can also be invited by ENTSOG (after approval by the ENTSOG's Board) to be a member of a ReCo Team whenever their participation is considered helpful during possible future emergencies.

ReCo Teams provide operational expertise on an ad-hoc basis to the concerned TSOs in case of crisis enabling ENTSOG to provide relevant information to other stakeholders such as the Gas Coordination Group (GCG), the European Commission and the Member States.



Countries covered with the ReCo Teams

East
28 TSOs



South
12 TSOs

North
West
23 TSOs



TSOs in the ReCo Teams

45 TSO Members

39 are in the ReCo Teams

3 Associated Partners

2 in the ReCo Team

26 EU MS

26 in the ReCo Teams

8 Observers

4 in the ReCo Teams

8 Non-EU countries

4 in the ReCo Teams

Total:

45 TSOs of 56 involved

29 countries involved

ReCo Teams (3)



Aim

- Avoid, prevent or mitigate negative impact of gas disruptions on a regional or European-wide level due to any technical, operational or other reason.
- To be well prepared for any possible crisis situation

ReCo Teams as a Tool

- Fast and reliable information exchange between TSOs which could be impacted by any possible crisis event
- Joint cooperation between TSOs, listening to each other and trying to find mutually agreed solutions

Result

- Broader scope and detailed information about the reason and impact of a crisis situation
- Information provision to relevant stakeholders
- Possible application of mutually agreed solutions in order to delete the negative impact of the crisis situation or to mitigate them

ReCo Teams (4)

Members

- Participation in the teams is open for all TSOs in the corresponding gas supply corridor

Facilitator

- Each ReCo Team has the facilitator which is the first TSO to be contacted in case of a crisis event
- The facilitator establishes a communication session for the ReCo Team in case of request or crisis and invites TSOs to participate
- The facilitator carries out communication exercises with the members of the ReCo Team

Coordinator

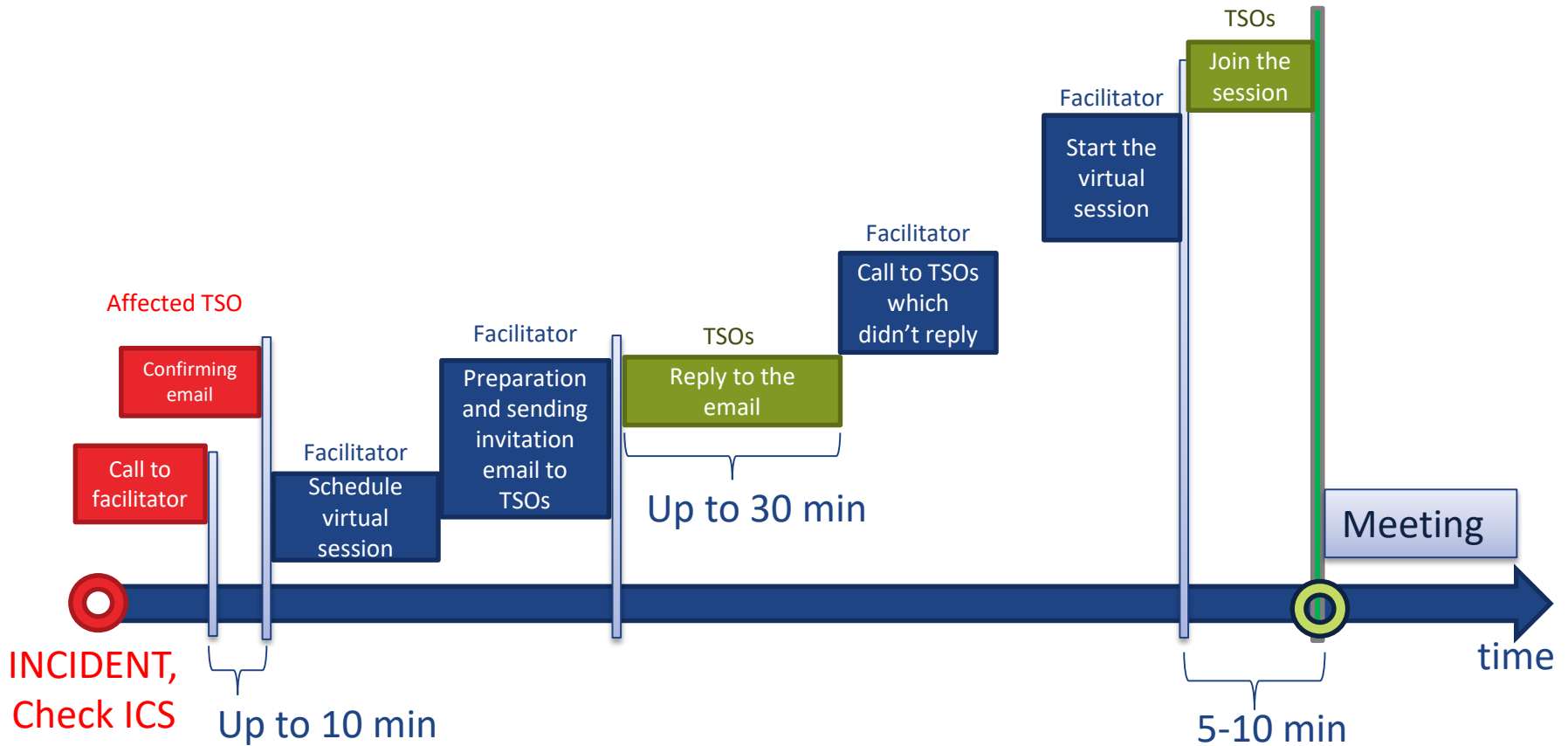
- The coordinator is chairing the ReCo Team whenever it comes together
- The coordinator acts as the spokesman of the ReCo Team in order to provide first-hand information
- This role will be allocated to one the TSOs when ReCo team comes together

ENTSOG

- ENTSOG organises meetings for the experts and for changing the facilitators, prepare presentations and Terms of Reference for the ReCo Teams
- ENTSOG provides tools for communication between TSOs



ReCo Team Meeting. High Level Setup





Incident Classification Scale

Level 1 for local incidents with no regional impact

- No need to inform the ReCo Team(s)
- No need to call the ReCo Team Meeting

Level 2 for potential risks, warnings

- Affected TSO directly informs the ReCo Team(s)'s Members via e-mail
- The affected TSO (s) doesn't need to call the ReCo Team Meeting
- Facilitators of the ReCo Team(s) may call the meeting if there is high demand for information by other TSOs

Level 3 for incidents with significant effects

- Affected TSO directly informs the ReCo Team(s)'s Members via e-mail

or

- The affected TSO (s) may call the ReCo Team Meeting
- Facilitators of ReCo Team (s) may call the meeting if there is high demand for information by other TSOs

Level 4 for incidents reflecting or leading to the emergency crisis level

- Affected TSO directly informs the ReCo Team(s)'s Members via e-mail

or

- The affected TSO (s) may call the ReCo Team Meeting
- Facilitators of ReCo Team (s) may call the meeting if there is high demand for information by other TSOs

Level 5 for incidents when the application of solidarity measures is requested

- The affected TSO(s) calls the ReCo Team Meeting



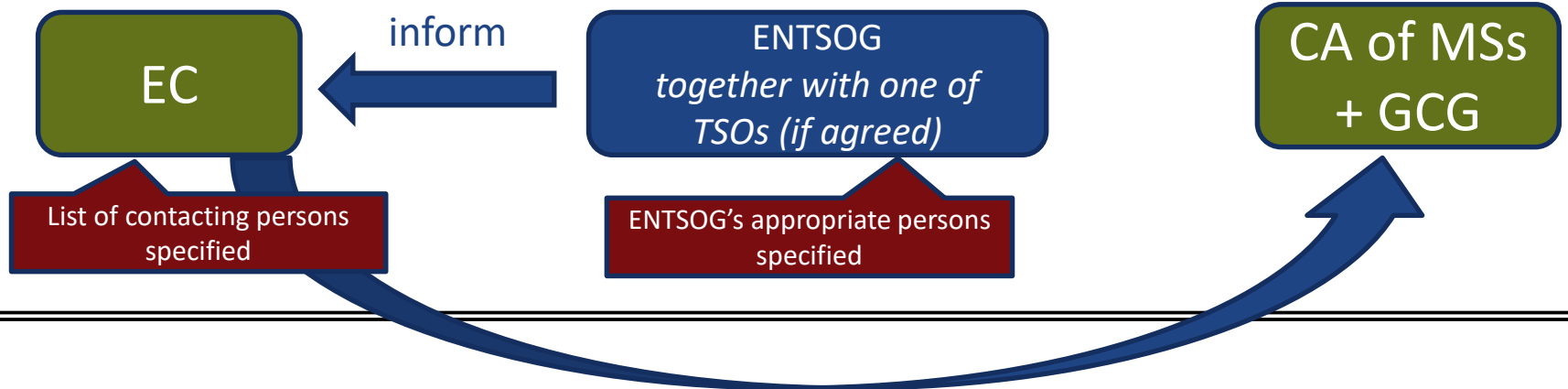
Communication with EC in case of incidents



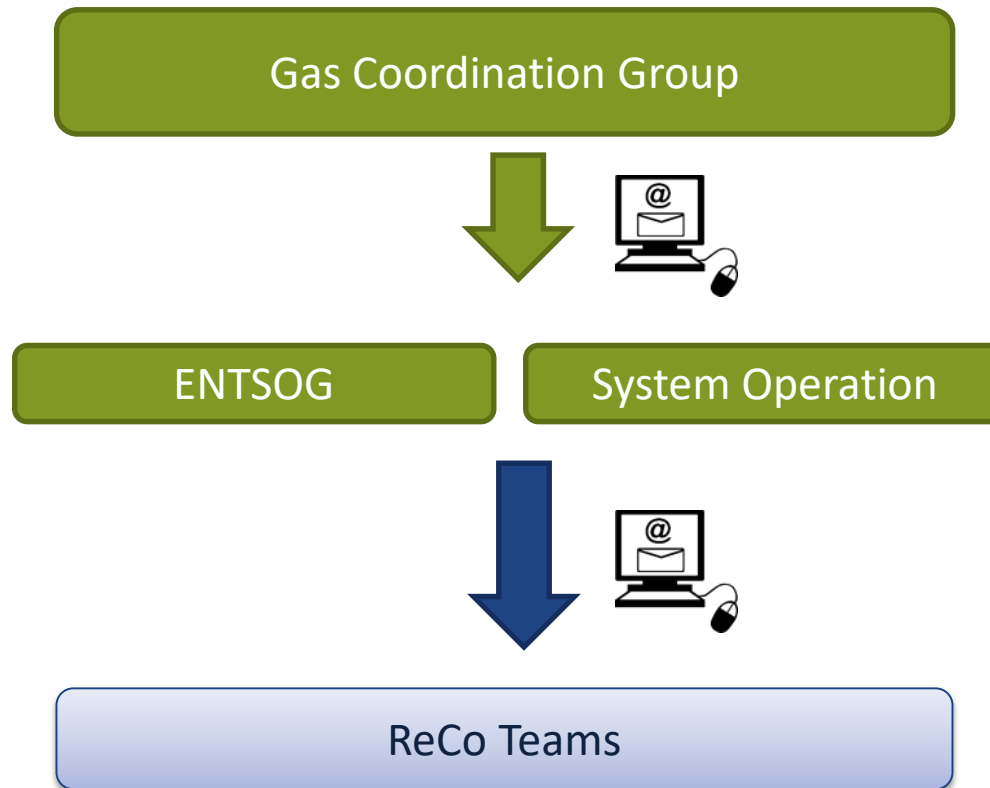
ENTSOG

ReCo team meeting

After the meeting



Communication of messages from the Gas Coordination Group





Information about CEF (AS4 testing platform) and possible funding for AS4 implementation

Marin Zwetkow

Adviser, Interoperability



CEF Introduction

> Connection Europe Facility (CEF) is a regulation that defines how the Commission can finance support for the establishment of trans-European networks to reinforce an interconnected Europe.

> It covers 3 main sectors

- Transport
- Energy
- Telecom

CEF Telecom funding distribution per country

EU Member States FUNDING (€million)

AT €5.5	IE €4.9
BE €5.2	IT €11.6
BG €1.5	LT €3.5
CY €5.	LU €2.8
CZ €3.5	LV €4.
DE €10.4	MT €2.2
DK €6.2	NL €8.6
EE €3.5	PL €3.9
EL €6.6	PT €5.2
ES €11.9	RO €4.5
FI €6.8	SE €3.9
FR €5.8	SI €3.4
HR €4.3	SK €3.9
HU €2.9	UK €8.1

Other countries FUNDING (€million)

IS €1.4	RS €0.03
NO €2.9	

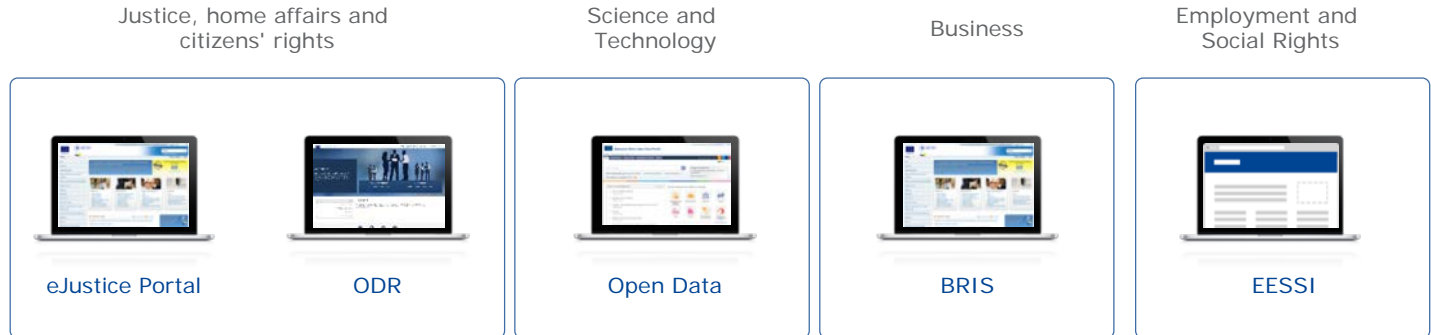


CEF Introduction



1

Funds Commission projects to digitise key sectors under the condition that they use CEF building blocks



2

Funds Member States to participate in the sectorial projects



Typically 'deployment' projects at national level (up to 75% of eligible cost)

3

Funds the use of building blocks in these sectors by the Commission and in the Member States

CEF conformance / connectivity test

CEF conformance testing

- > Provides ready to use test cases, a testing platform, and supports the users of the CEF eDelivery Conformance Testing service during the entire testing process.
- > Confirm and assure that the software solution conforms the CEF eDelivery specifications
- > What is not covered by the conformance test
 - Functional testing
 - Connectivity testing
 - Interoperability testing
 - Load testing
 - Vulnerability testing

CEF Connectivity Testing service

- > To ensure that a new installed AS4 Access Point can communicate with the AS4 Access Point provided by CEF

CEF Update: AS4 – Testing platform

- > CEF's eDelivery AS4 profile is closely related to the ENTSOG AS4 profile
- > Updates
 - New test assertion modules and tests for the other Profile Enhancements
- > Applicability to ENTSOG
 - Common Profile subset is a pure subset of ENTSOG AS4 ([CEF update from 04/06/18](#))
 - The Common Profile test module covers ENTSOG AS4 profile (security parameters, encryption..)
 - Parameters specific for the Gas sector (EIC codes, message type) are added to a ENTSOG specific optional module
- > AS4 implementors are able to perform test for all features defined in the ENTSOG AS4 profile
- > More Info at <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+AS4>

Innovation and Network Executive Agency

- > Initiative from the EC to manage the technical and financial implementation of CEF
- > 2018 CEF eDelivery call makes an indicative 0.5 million € of funding
- > Possibility for AS4 implementors to apply for funding
- > On average 40 000€ are granted for an approved application
- > Vendors can cover approximately 75% of their expenses
- > Detailed Information: <https://ec.europa.eu/inea/en/connecting-europe-facility/cef-telecom/apply-funding/2018-cef-telecom-call-edelivery>
- > Open Calls for:
 - eHealth, eProcurement, European E-Justice Portal, Online Dispute resolution
 - NOT for telecom calls yet – Work programme for 2019 still under development
- > All future call will be announced at <https://ec.europa.eu/inea/en/connecting-europe-facility/cef-telecom/apply-funding>



Functionality platform – issues related to the INT NC

Interoperability team



FUNC issue on data exchange at Virtual Trading Points and storage facilities

Marin Zwetkow

Adviser, Interoperability



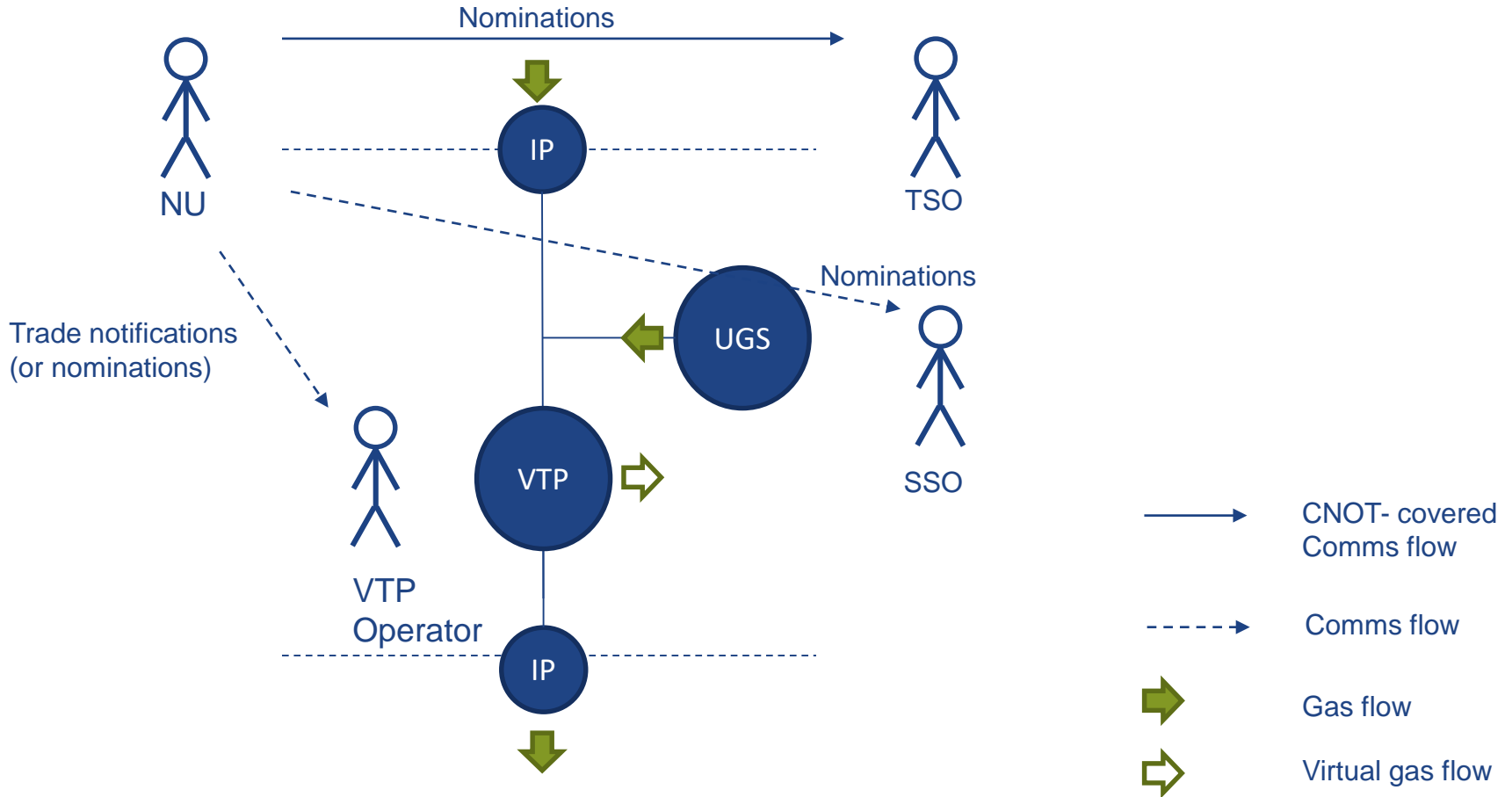
Data exchange at VTPs and UGS

- > Reported issue by Equinor, GasTerra and ENGIE regarding:
 - Storage operators and market area operators in Germany are not following the implementation of article 23 (Implementation of Common Data Exchange Solutions)
 - Missing implementation of AS4 + no usages of Edig@s message format.
- > The INT NC covers only communication between Network users and TSO
- > The communication between NUs and SSO / VTPs is not covered by the INT NC
- > The reported Issue was categorised as valid and of European scope
- > Potential solutions jointly developed by ENTSOG and ACER
 - VTP issue: European solution (NC amendment)
 - Storage issue: National solution vs European fully fledged binding solution
- > ENTSOG and ACER have initiated meetings with the concerned stakeholders and carried out a public consultation between May and June 2018



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

- > 30 Participants from the gas market (NUs, NRAs, SSOs, TSOs, Associations) joined the public consultation
 - VTPs: strong support for including VTPs as part of the INT NC
 - Storage Facilities:
 - Preference to implement a full fledged European solution which will include storage facilities as part of the INT NC
 - Less support (5 vs 19 answers) for a “National voluntary solution” for Storage Facilities to follow the implementation if the INT NC
- > Next steps:
 - Amendment of the INT NC: including the solution for VTPs + national regulatory for other points (e.g. storages) into the relevant articles
 - Update of the Common Network Operations Tools (CNOTs) to include VTPs, Storages, LNGs and other points subjects to nomination as defined in the BAL NC
- > Timeframe: expected amendment of the INT NC during 2020 due to new election of the European Parliament



FUNC issue posted by the EnC on behalf of Ukrtransgaz

Antonio Gómez Bruque

Subject Manager, Interoperability



FUNC issue posted by the EnC



Status update

- > Issue description: Ukrtransgaz proposes to amend NC INT to make it binding at IPs between EnC CPs and EU Member States
- > ENTSOG and ACER have contacted concerned TSOs, including Ukrtransgaz, to analyse technical and contractual barriers for the conclusion of NC INT compliant IAs.
- > Findings so far:
 - Application of network codes between EnC and EU MS can only be established in an international treaty
 - There are no technical –but contractual- barriers to conclude the IAs
- > ACER and ENTSOG to recommend to close the issue on the FP, with a description of the legal consideration and the identified contractual barriers.
- > The current understanding is that, when the contractual barriers are removed, the NC INT rules could be applied at interconnection points between Ukraine's GTS and the European TSOs.
- > Formal conclusion of the issue is yet to be agreed by ENTSOG and ACER.



Possible solutions for TSOs in case of communication loss

Anton Kolisnyk

Adviser, Interoperability



Communication loss



Internal discussion in ENTSOG and the following scenarios may be considered for communication loss:

- Scenario 1: No connection with 1 TSO
- Scenario 2: No ICT system
- Scenario 3: No internet
- Scenario 4: Blackout

Duration: more than 6 hours.



Main Principle and Possible solutions





Thank You for Your Attention

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