Balancing network code development

CEEC Roadshow

Florido Tower, Vienna, 18 April 20122

39 Members and **2** Associated Partners in **24** EU countries

3 Observers from EU affiliate countries

- Gassco AS (Norway)
- Plinacro Ltd (Croatia)
- Swissgas AS (Switzerland)

ENTSOG mission and commitment

To deliver on Third package requirements including:

- Network codes
- Ten Year Network Development Plans

by listening, being responsive and identifying and promoting what enhances the prospects of a properly functioning market.

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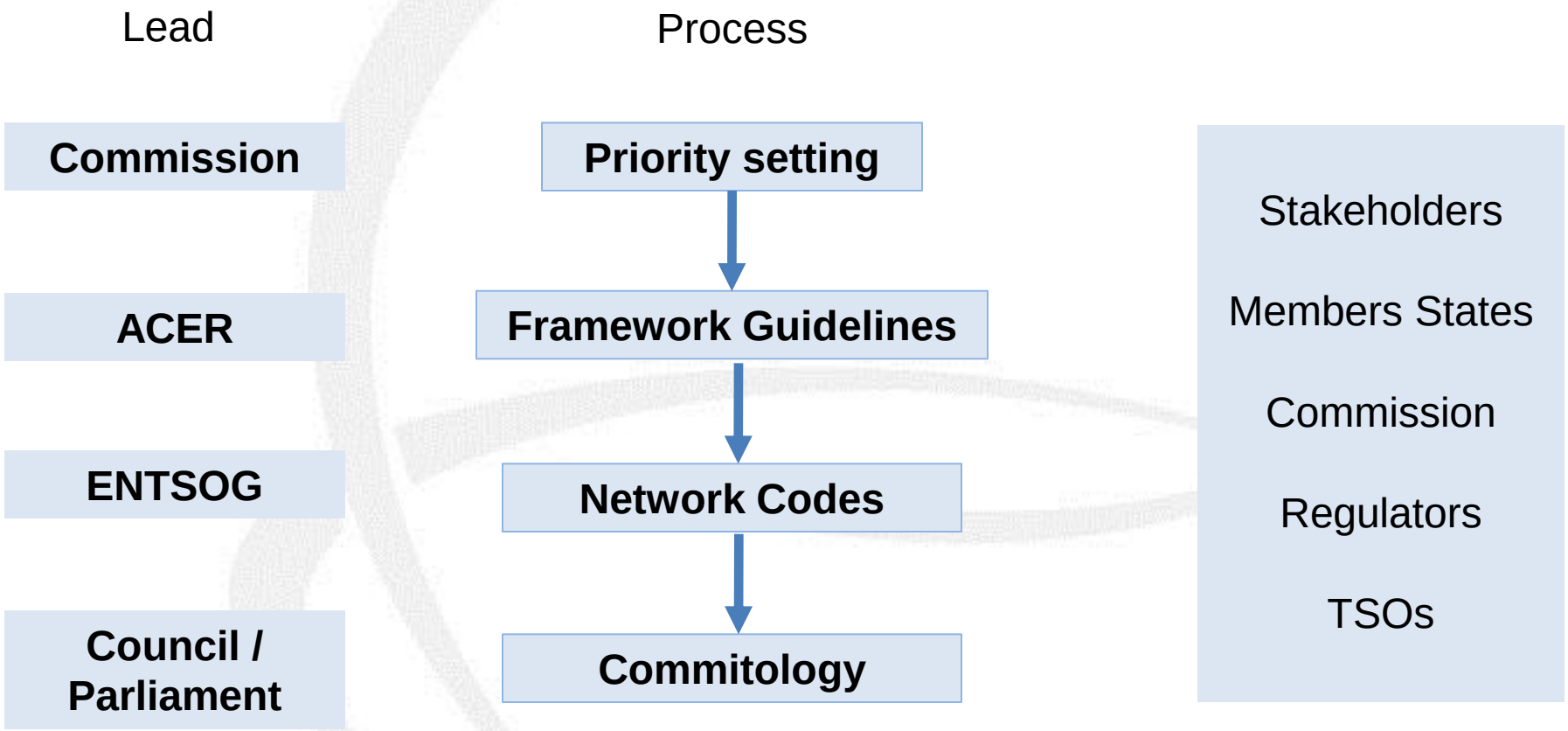
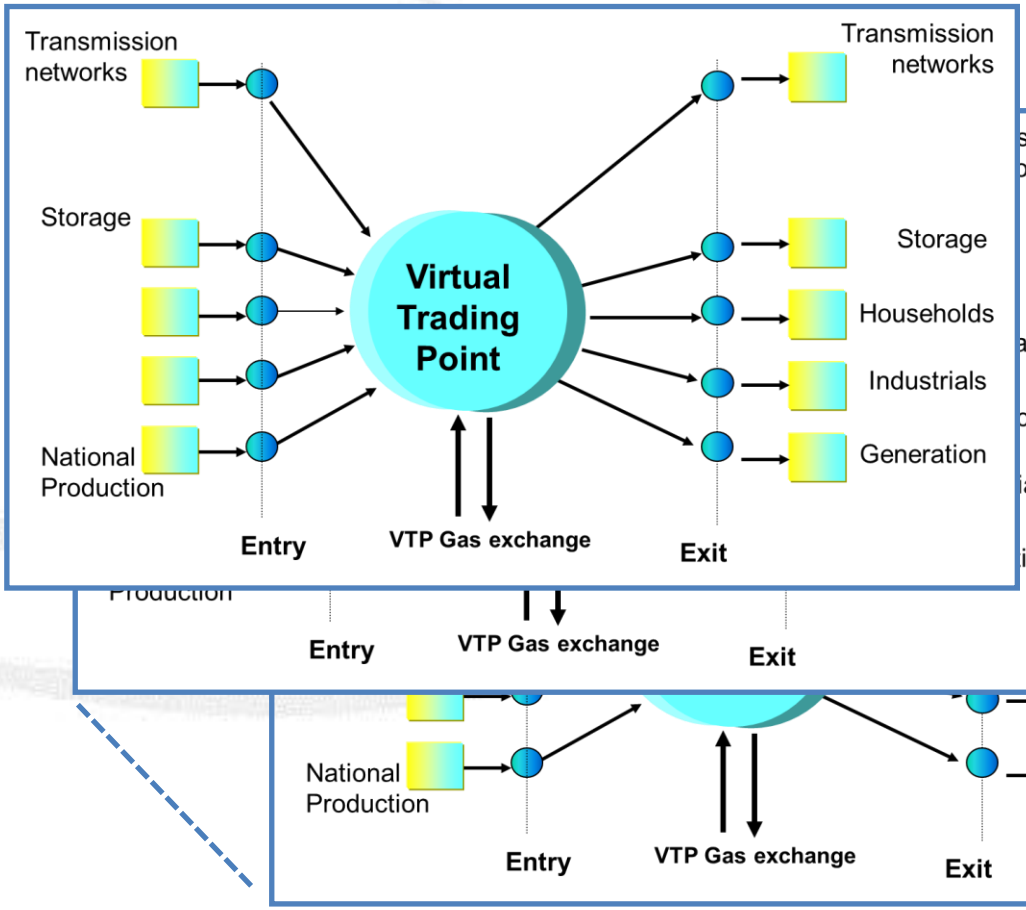
Delivering Binding Codes



Enabling a functioning market

"the creative simplification"



Simple commercial model essential

- "fit for purpose"
- sufficiently close to physical reality

Entsog to utilise TSO expertise and stakeholder inputs to ensure viable rules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European Commission

Draft BAL NC in the context of the Third Energy Package

Kristóf Kovács, DG ENER, EC

ENTSOG CEE BAL NC Road Show

18 April 2012

Energy

Completing the EU internal energy market – plenty of work left to do

Target dates 2014 and 2015 – European Council

What is to be done?

- **Implementing Third energy package**
- **Harmonising market and network operation rules**
- **Enhancing investments in infrastructure - Connecting isolated markets**

as well as

- **Enforcing competition and State aid rules**
- **Promoting regional initiatives**

Implementing the Third Energy Package – progress being made but…

A timely and correct implementation is a precondition for market opening and integration in the EU

Implementation process generally delayed; non-notification infringements (1st step) against ***17 (e) / 18 (g) Member States*** *in September*

By 27 February 15 Reasoned Opinions (2nd step) sent to 8 MSs for not having notified transposition of Directives

- **7 MS in Electricity: BG, ES, CY, LU, NL, RO, SK**
- **8 MS in Gas: BG, EE, ES, CY, LU, NL, RO, SK**

Improving and harmonizing market rules should enhance competition

Network Code and Guideline development

More efficient use of networks

More transparency

Lower transaction costs

More liquid markets

More reliable price signaling

Not an aim in itself, but a means to make electricity and gas markets in the EU more efficient and more competitive

Integral part of climate change and security of supply agenda

The NC development process demands input from all actors

Consultation!

Consultation!

Consultation!

Member States

Catalogue of topics included in Third Package

Commission sets priorities

ACER adopts Framework Guidelines (FGs)

ENTSOs develop FGs into Network Codes (NCs)

Commission adopts NCs through Comitology procedures

EU Network Codes are legally binding

The 1st projects are at a very mature stage…

Congestion management (CMP) – *in Comitology*

- **Oversubscription and buy-back as main rule with firm day-ahead UIOLI as fall-back (or optional)**
- **Mandatory systems for capacity surrender and long-term UIOLI**

Capacity allocation (CAM) – *Network Code presented in March, review by ACER underway*

- **Auction-based capacity allocation, standardized products**
- **Capacity bundling**

…the 2nd is in preparation

- ***Balancing –*** *draft NC published*
  - **Daily balancing regime with higher shipper responsibility for balancing**
  - **Market-based imbalance charges**
  - **Harmonization of nomination regimes**

Interoperability *– FG underway*

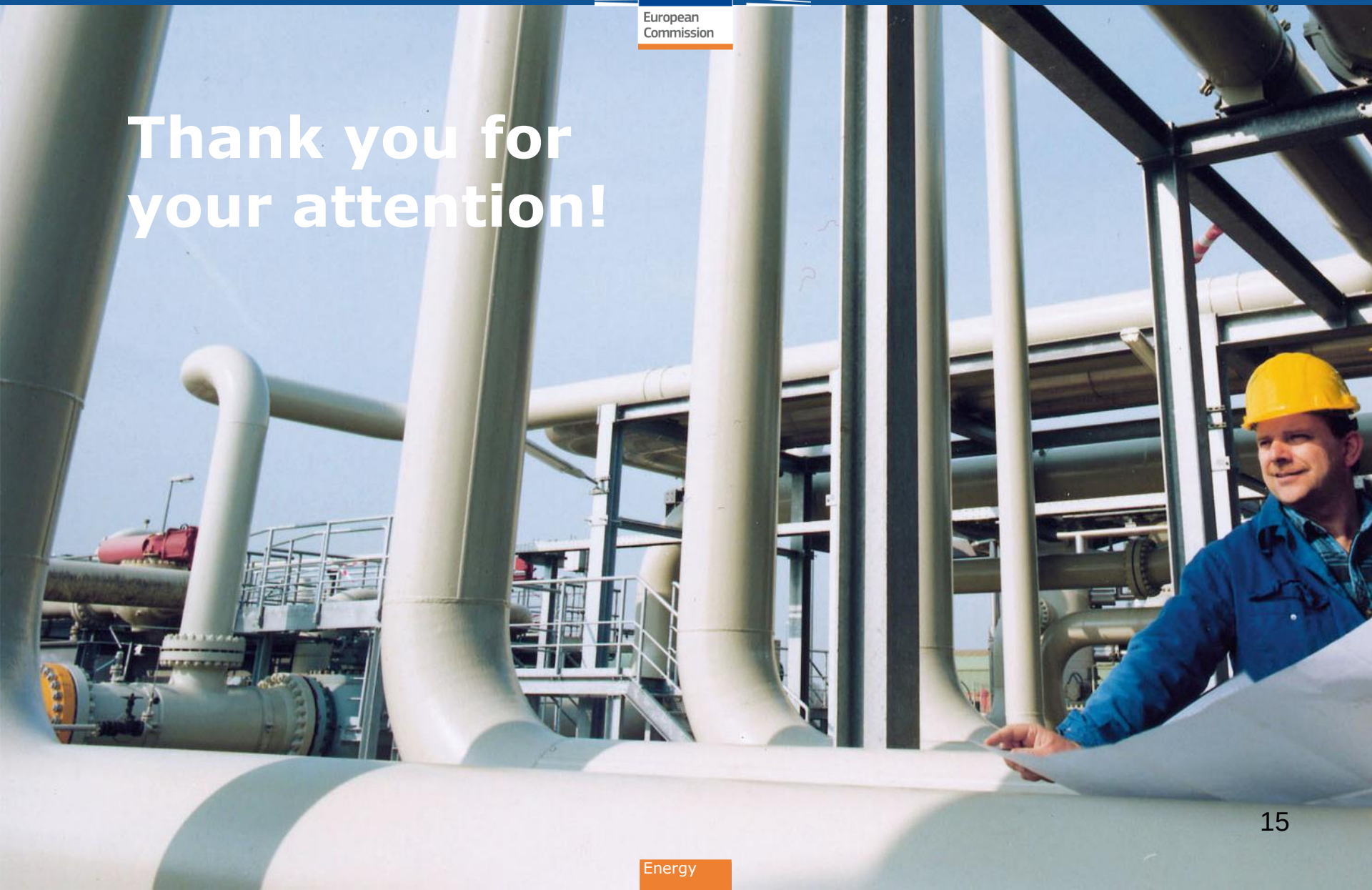
Transmission tariff structures *– scoping phase*

+ Project for standardization of gas quality by CEN underway

Work is well on track for delivery of EU-wide binding rules from 2012 onwards

The BAL NC development process – so far, so good!

- Commission's invitation to ENTSOG sent beginning of November
- The Commission is happy with the wide and inclusive consultation process seen in the BAL NC development
- The Commission encourages CEE stakeholders to become more involved in the NC development process for BAL as well as forthcoming projects
- The development of FGs and NCs is a strategic priority and Commission wants to actively participates in the process


Thank you for
your attention!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Balancing target model

CEEC Road Show on the BAL NC

Ruud van der Meer

Adviser

Vienna, Austria -- 18 April 2012

Market based balancing

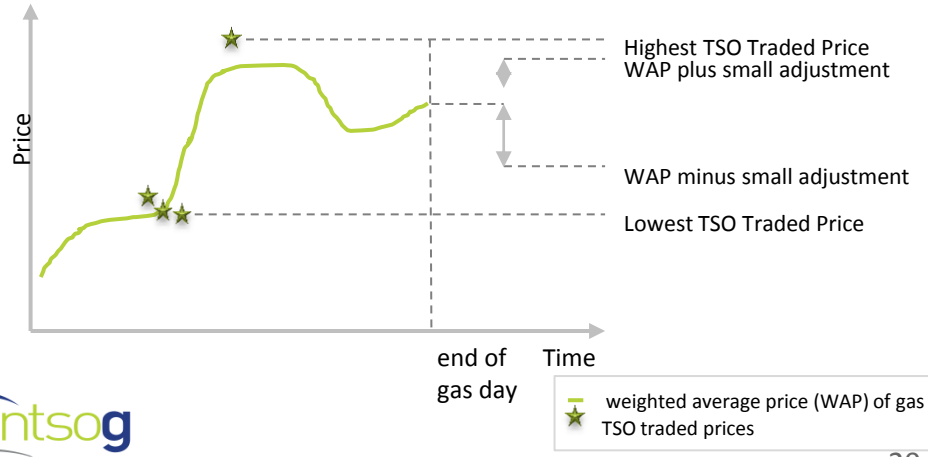
- Balancing rules shall be market based (Regulation 715/2009)
- Framework Guidelines/Code objectives
  - Primary responsibility on network users to balance their portfolio
  - Reduce the need for TSOs to take balancing actions
  - Use of a short term market for network users to trade
  - Use of short term market for TSO to take balancing actions
  - Harmonisation to promote cross-border trade of flexible gas
- Main components of balancing target model (BTM)
  - Operational balancing
  - Daily imbalance charges
  - Within-day obligations
  - Neutrality
  - Information provision

Operational balancing

- Residual balancing role for TSO
  - Where network users won't or can't provide the flows necessary to keep the system within its operational envelope
- Management of flows by the TSO
  - 4 Short-Term Standardised Products
    - Title
    - Locational
    - Temporal
    - Temporal locational
  - Where necessary through use of balancing services
- TSO trades on Trading Platform

Daily imbalance charges

- Balancing period is the Gas Day
  - Framework guideline decision supported by ACER in their impact assessment
  - Supported by ENTSOG
- Components of daily imbalance charge
  - Network user's daily imbalance: inputs – off-takes
  - Settlement prices:
    - Marginal Buy Price: max {highest price TSO traded, weighted average + δ_1}
    - Marginal Sell Price: min {lowest price TSO traded, weighted average – δ_2}
  - Daily imbalance charge = daily imbalance * Price
    - Marginal Buy Price – Network User buys from system; Network User is short
    - Marginal Sell Price – Network User sells to the system; Network User is long

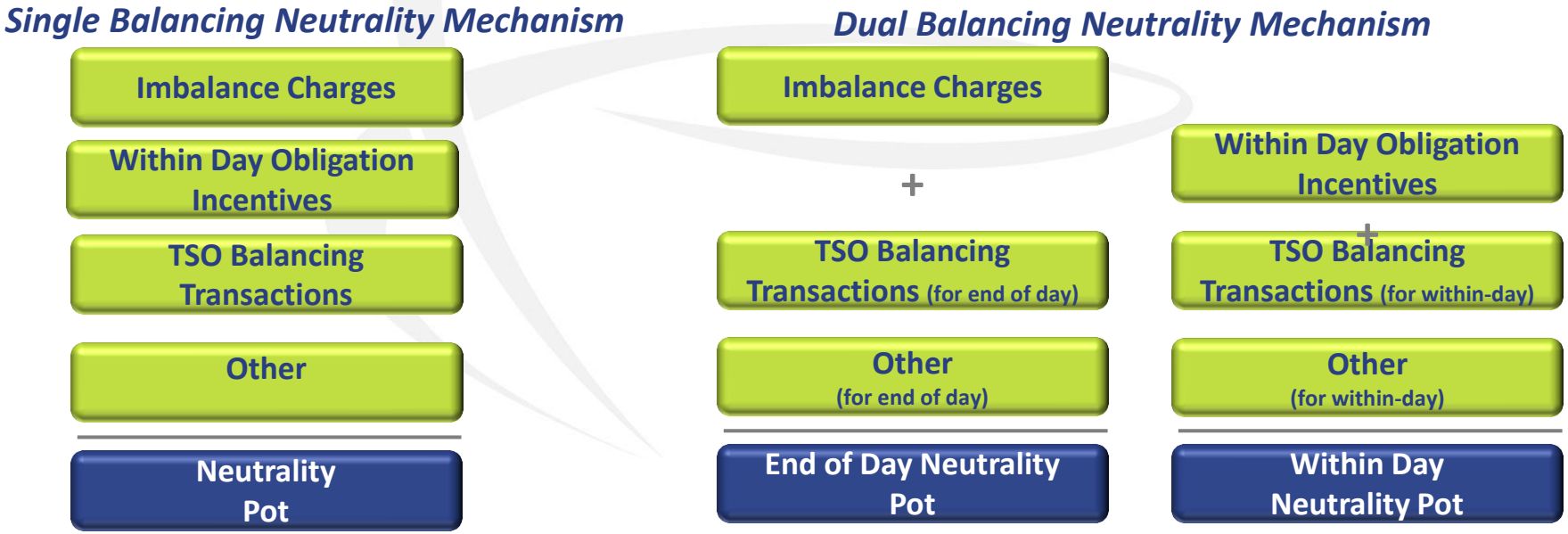


Within-day obligations (WDOs)

- To be considered in systems in which within-day positions of the network need to be managed
- WDOs help to
  - Keep the system within accepted operational envelope
  - Minimise the role of the TSO (reduce number of balancing actions by the TSO)
- Strict requirements on design of WDOs
  - Network users needs sufficiently accurate and well-timed information
  - Should not create undue barriers to cross-border trade or new entry into the market
  - Cost should be low compared to cost of Daily Imbalance Charge
- TSO needs to justify the need and design of any WDOs
- NRA needs to assess and approve WDOs

Neutrality

- TSO shall be cash neutral in its balancing activities
- Cost and revenues from balancing activities
  - Cost/revenues from daily imbalance charges
  - Cost/revenues from balancing actions
  - Cost/revenues from within-day charges
  - Other
- Avoiding cross-subsidies: different neutrality pots?



Information provision

- Primary responsibility on network users to balance
- Network users needs sufficient info. to enable them to
  - manage imbalance risk
  - Respond to opportunities in the short-term wholesale market
- Part of this info is available at TSO and/or DSO
  - They should make this info available to Network Users
  - Close cooperation between all parties
- Types of information
  - Day-ahead – accurate forecast of expected demand
  - Within-day information
    - Update on inputs and off-takes
    - Update of expected demand
  - After the day – allocated quantities

Thank You for Your Attention

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A day in the life

Balancing Network Code Roadshow

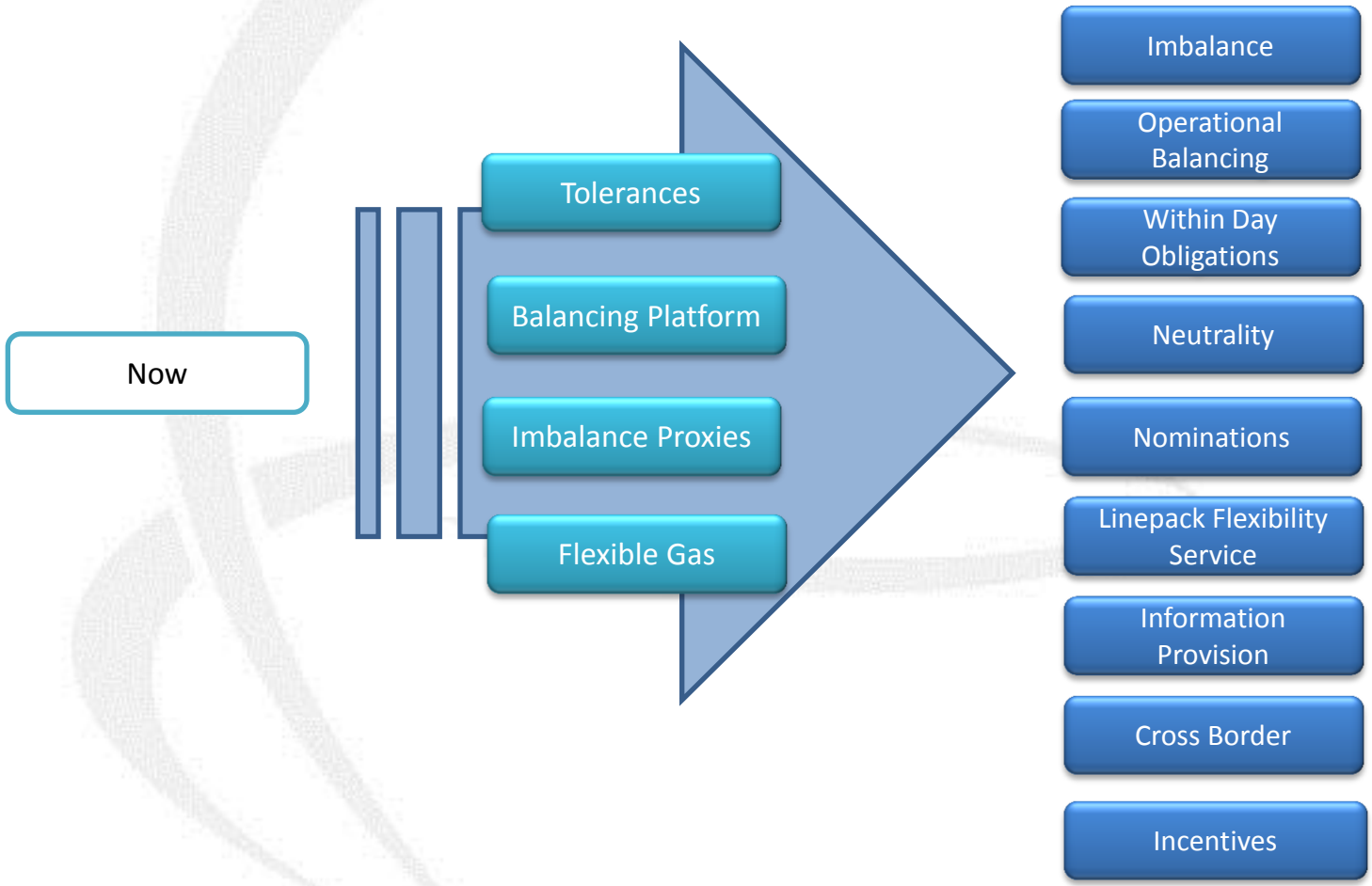
18 April 2012

Vienna, Austria

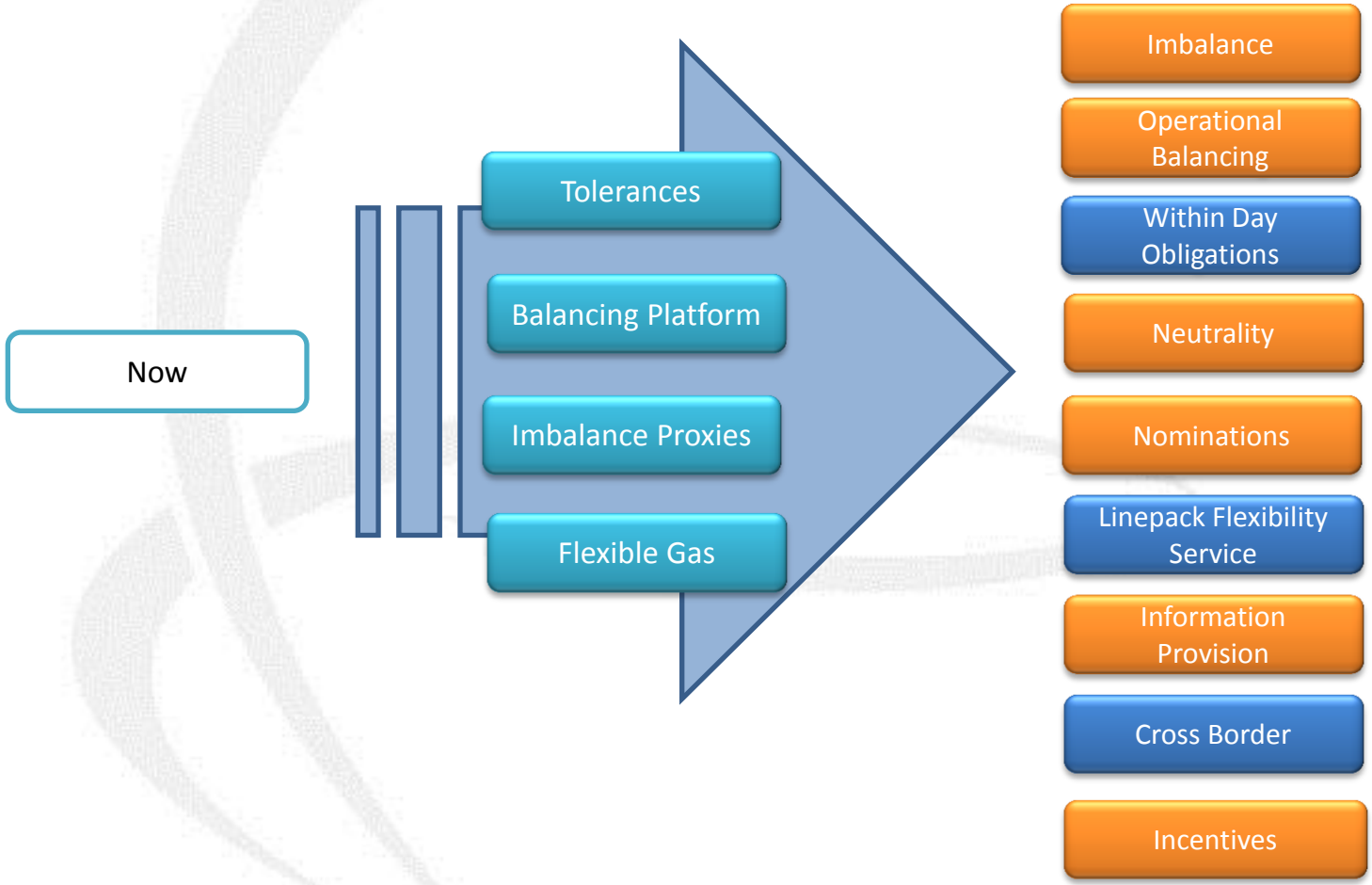
Introduction

- Go through a worked example of the Balancing Target Model
- Intended to piece together some of the different elements through use of an example
- Will hopefully help inform discussions for the rest of the session
- Important to note it is just one set of scenarios – simplified to demonstrate effects.
- Have some volunteers to help us out

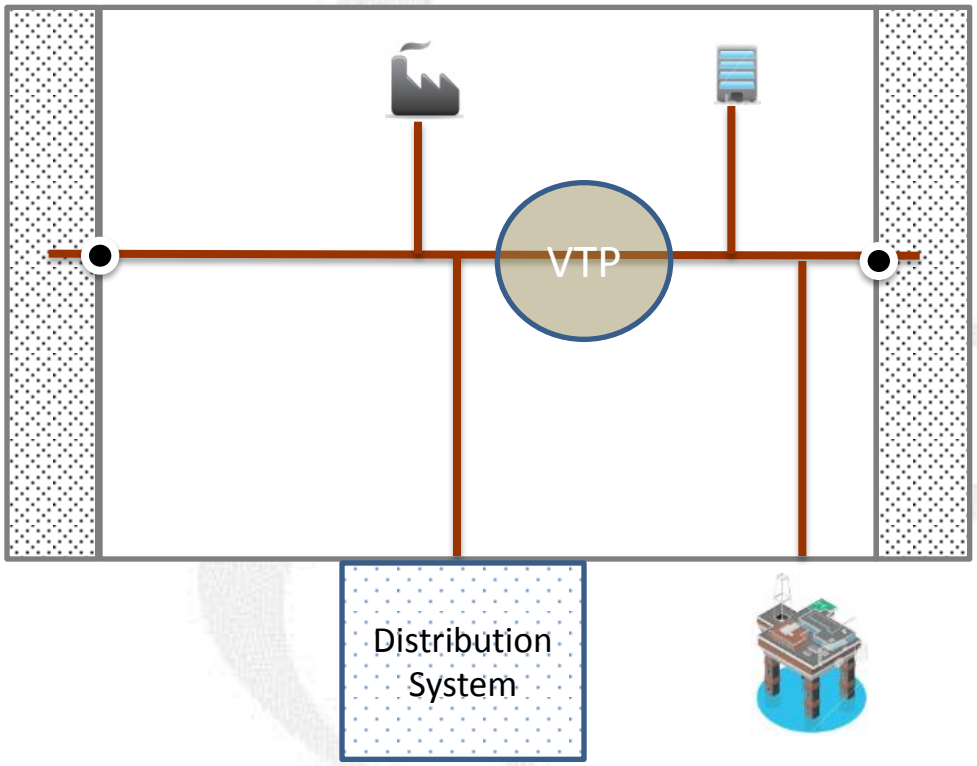
The Topics


Now
Tolerances
Balancing Platform
Imbalance Proxies
Flexible Gas
Imbalance
Operational Balancing
Within Day Obligations
Neutrality
Nominations
Linepack Flexibility Service
Information Provision
Cross Border
Incentives

The Topics Covered



A simplified network



- Balancing Zone consisting of a Transmission System
- 2 Cross Border IPs
- Balancing Zone offtakes
  - IDM
  - DM
- Distribution System
  - IDM
  - DM
  - NDM
- Liquid Market at VTP
- Production Field

The Actors

- Network User - Alpha
- Network User - Beta
- Transmission System Operator (TSO)
- Distribution System Operator (DSO)

The Scenario

In the Interest of simplicity the following actors have been omitted

- NRA
- ACER
- Market Operator
- Producer
- Customer
- Others

The Scenario

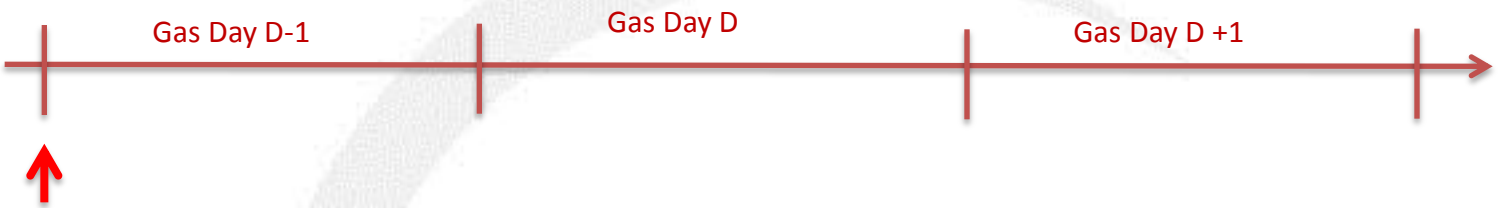
Assumptions:

- Base Case information flows (2 others types possible)
- No Within Day Obligations
- Small Adjustment of 1
- A short term wholesale market is in place
- DSO has role of forecasting party responsibility (need not be DSO)
- Allocation equals Confirmed Quantity at IP
- Allocation does not equal Confirmed Quantity at production entry
- There are Network Users other than Alpha and Beta
- All related to the Gas Day

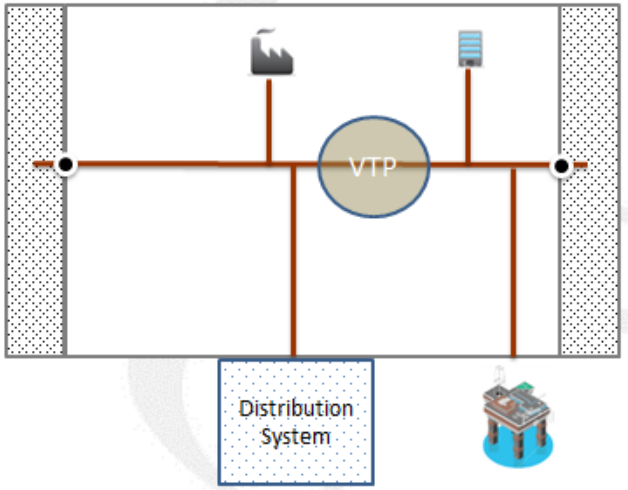
A scenario to demonstrate issues – not the only interpretation of FGs

The Actor

LOGO



- Actions Described here



Summary

Day Ahead

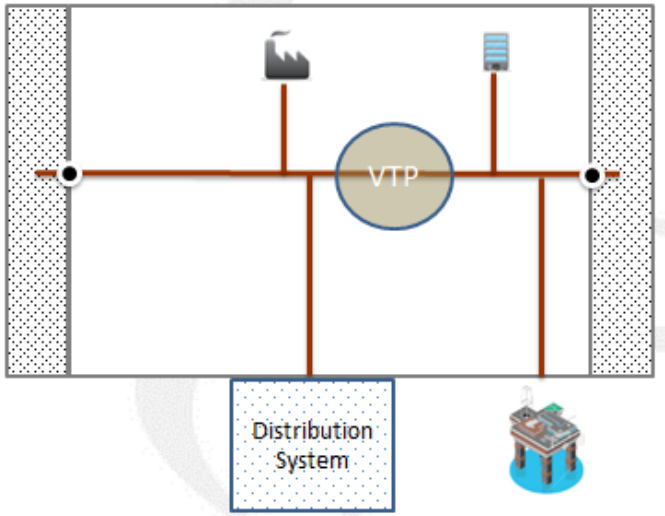
The DSO

Information Flows to Network Users

The DSO provides the TSO with:

- Offtakes from previous day (D-2)

Type	Alpha	Beta
IDM	40	0
DM	20	30
NDM	45	55



- Forecast for following day NDM Derived Offtakes for Gas Day D

Type	Alpha	Beta
NDM	55	60

Incentives

- Potential incentive on accuracy of NDM Derived Forecast

DSO Provides Information to TSO

The TSO

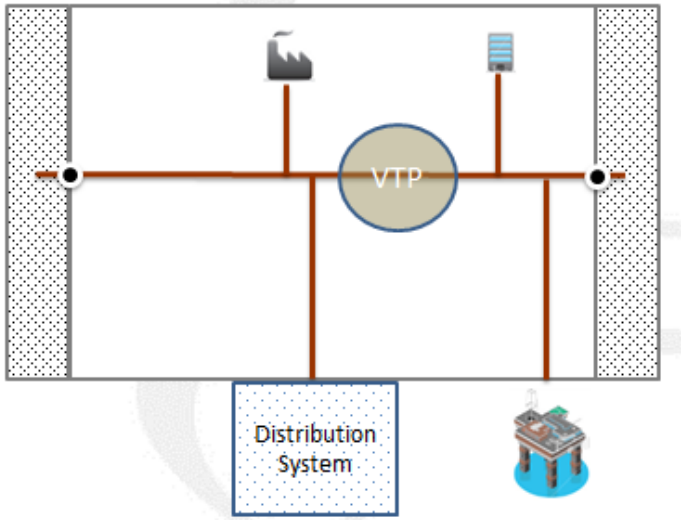
Information Flows to Network Users

TSO Provides Alpha and Beta individually:

- Offtakes from previous day

Type	Alpha	Beta
IDM	120	40
DM	40	45
NDM	45	55

Includes info from DSO



- Forecast for following day NDM Derived Offtakes on Gas Day D

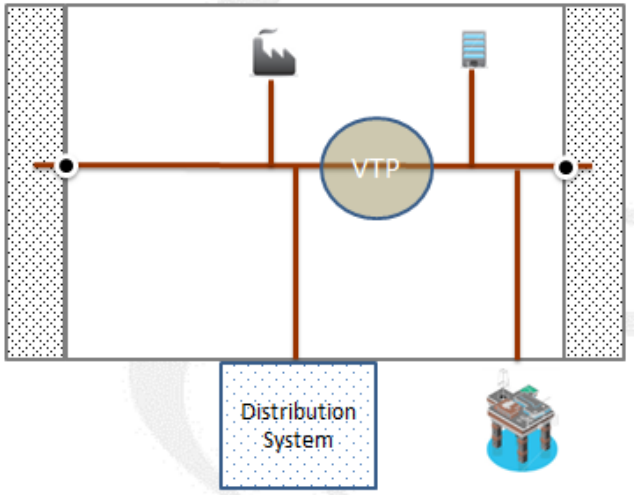
Type	Alpha	Beta
NDM	55	60

TSO Provides Information Network Users

Alpha

- Alpha estimates its Offtakes for Day D:

Type	Qty	Note
IDM	160	CCGT on
DM	40	Predictable
NDM	55	Forecast
Total	**255**	



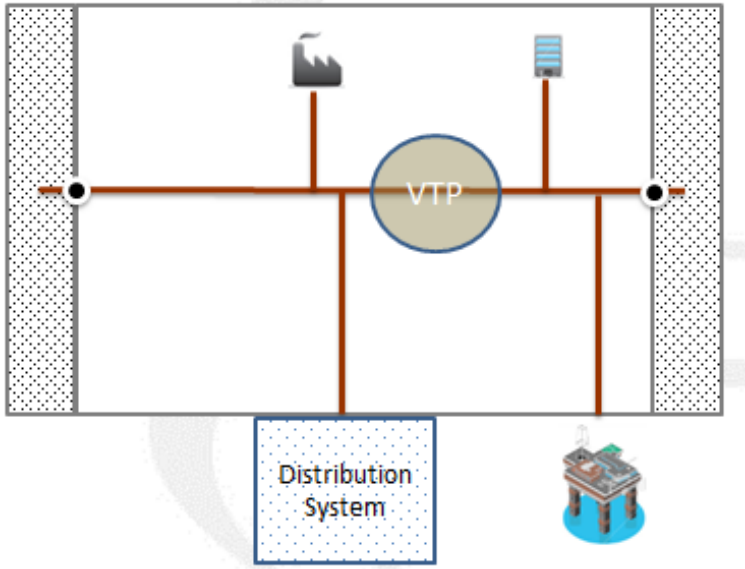
- Alpha has the following gas resources available

Type	Alpha
Prdn'	100
Imports	100
Total	**200**

Alpha organises its portfolio

Alpha

- Alpha is 55 short
- Market prices are 18
- It decides not to balance on the basis it expects prices to fall



Nominations

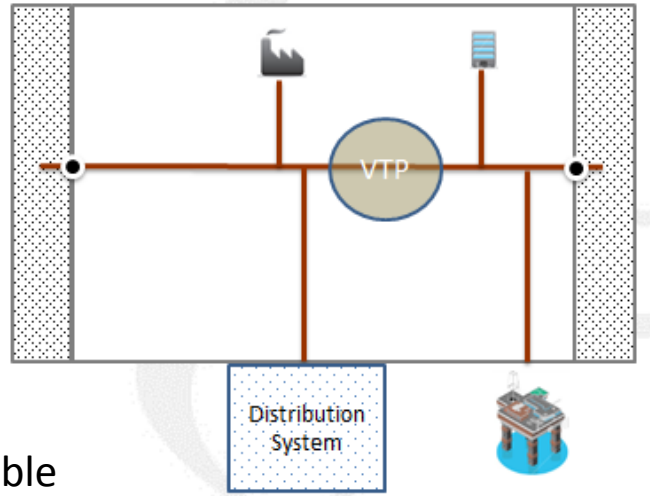
- Alpha nominates its Day D flows to the TSO before the Nomination Deadline
  - 100 at IP } Harmonised EU Rules
  - 100 at prod'n
  - 255 Offtakes } National Rules

Alpha goes short, Nominates Day Ahead

Beta

- Beta estimates its Offtakes for Day D:

Type	Qty	Note
IDM	35	CHP off
DM	45	Predictable
NDM	60	Forecast
Total	**140**	



- Beta has the following gas resources available

Type	Qty
VTP	30
Imports	100
Total	**130**

Gas from adjacent zone (+ capacity)

Beta organises its portfolio

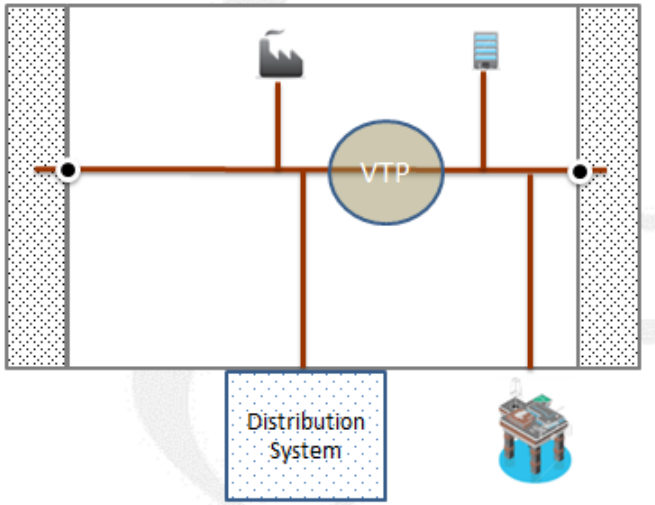
Beta

- Beta is 10 short, Market Prices are 18
- It decides to purchase on the VTP

Standard Short Term Products

- It purchases a Title Market Product

Delivery	VTP
Volume	10
Type	Title
Price	18
Delivery	Day D



Nominations

- Beta nominates its Day D flows to the TSO before the Nomination Deadline

Notifications

- VTP Trade Notification (s)

Beta trades at VTP, Notifications, Nominates

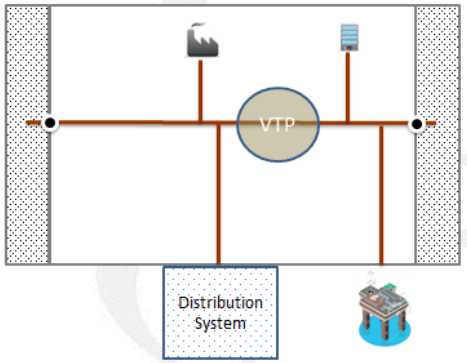
TSO

Nominations

- The TSO Nomination Process

Notifications

- VTP Trade Notification

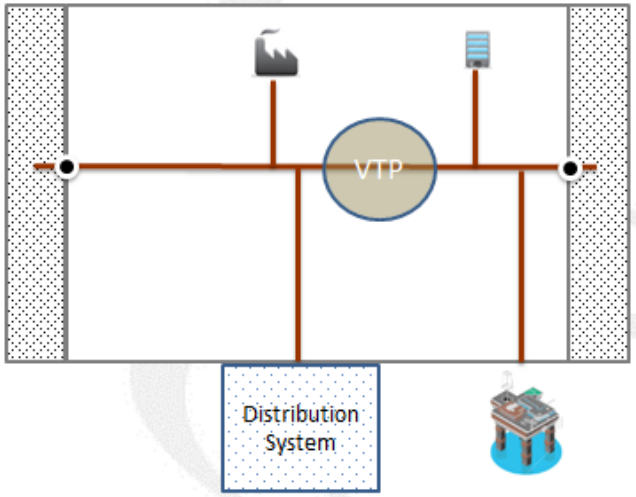


TSO Nominations, Notifications

Beta

- Beta has a new overall forecast position for Day D:

Type	Qty	Note
IDM	35	CHP off
DM	45	Predictable
NDM	60	Forecast
Total	**140**	



- Beta has the following gas

Type	Qty
VTP	30 + 10 = 40
Imports	100
Total	**140**

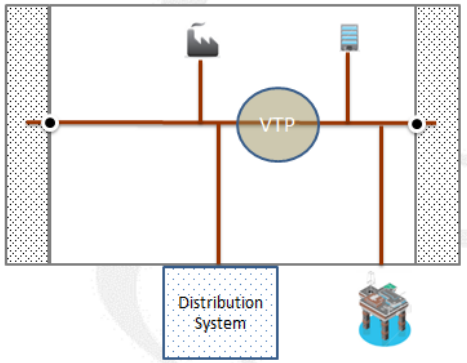
Beta is now forecasted to be Balanced

TSO

Operational Balancing

- The TSOs operational team require a Balancing Action day ahead.
- Taking account of 'merit order' it purchases a Title Market Product

Delivery	VTP
Volume	10
Type	Title
Price	20
Delivery	Gas Day



Information Flows to Network Users

- The TSO publishes a new day Ahead Marginal Buy of 20 (>18+1)

Incentives

- Potential incentive on selection of balancing product
- Potential incentive on minimising balancing costs

Balancing Action, Standard Products, Publishing Marginal Price, incentives

Alpha

Daily Imbalance Charge

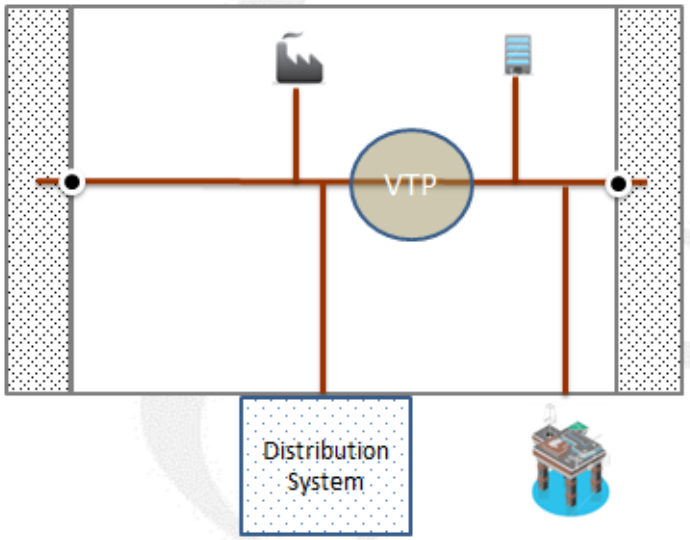
- Alpha expect to be 55 short
- Exposed to new Marginal Buy Price of 20 versus Weighted Average price of 18

Standard Short Term Products

- It purchases a Title Market Product

Delivery	VTP
Volume	40
Type	Title
Price	20.5
Delivery	Day D

- Alpha enters Day D 15 short

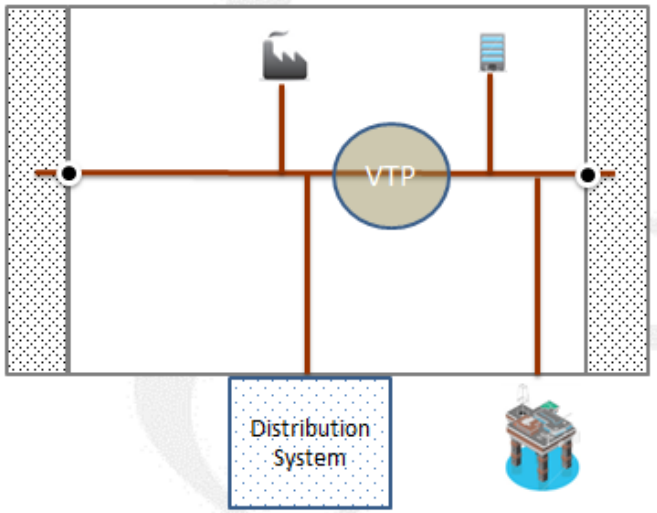


Alpha trades due to Marginal Buy Price change

TSO

Notification

- VTP Trade notification



Trade Notification

Recap

Illustrations demonstrated:

- Day Ahead Information Flows
- Nominations
- Incentives
- Notifications
- Daily Imbalance Charge

Questions?

Within Day

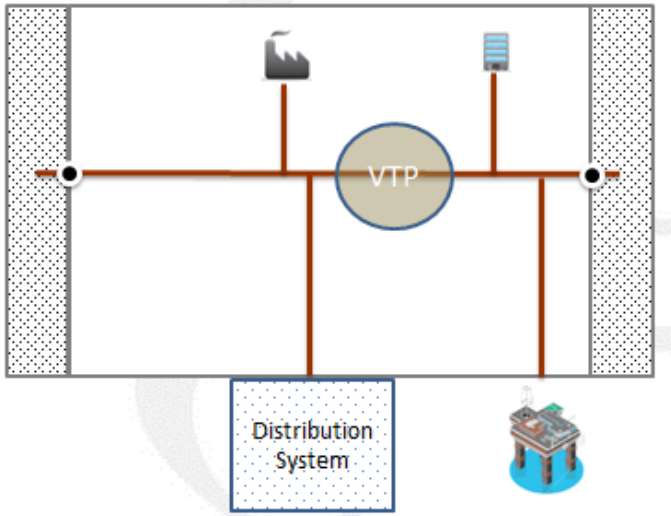
Single Cycle

The DSO

Information Flows to Network Users

- The DSO Provides the TSO with updated Within Day Information

Type`	Alpha	Beta	
IDM	10	0	5 hrs flows
DM	-	-	
NDM	49	45	Revised EOD Forecast



Incentives

- Potential incentive on accuracy of NDM Derived Forecast

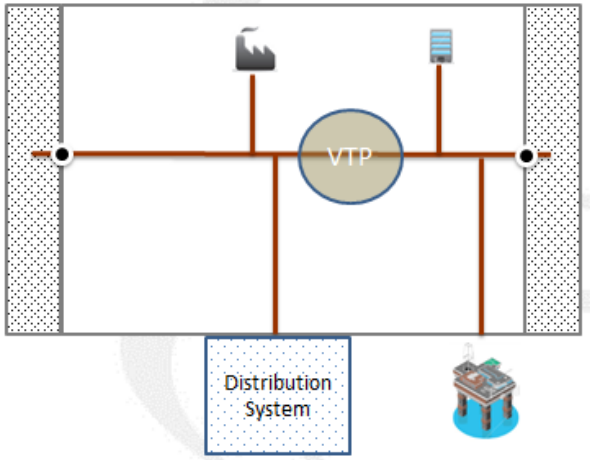
Beta's NDM Derived Forecast has changed more than Alpha's

The TSO

Information Flows to Network Users

- The TSO Provides the Network User with updated Within Day Information

Type	Alpha	Beta	Comment
IDM	38	9	5 hours flow
DM	-	-	
NDM	49	45	End of Day
IP In	100	100	Confirmed nominations end of day
Prod'n	26	N/A	5 hours flow



- System Information (Transparency Guidelines)
  - TSO published linepack information throughout the day
  - Current cash out price:

TSO provides updated information to Network User

Calculation of Marginal Buy Price

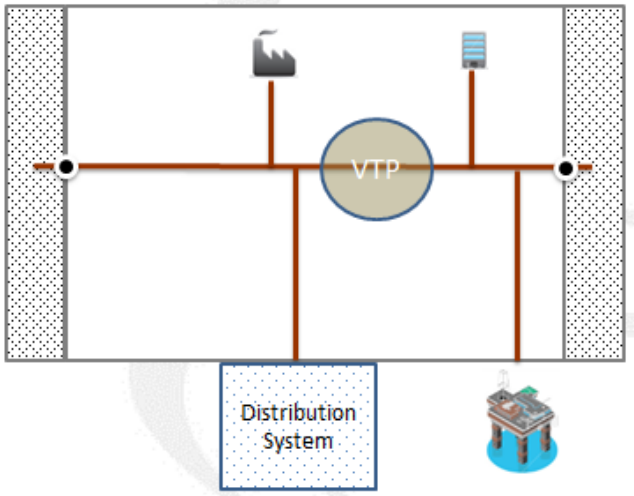
Daily Imbalance Charge Calculation Methodology

Daily Imbalance Quantity x Marginal Buy / Sell Price = Daily Imbalance Charge

Alpha

- Alpha reassess its EOD position

Type	Qty	Note
IDM	140	Based on flow info
DM	40	Predictable
NDM	49	Forecast
Total	**229**	



- Alpha has the following gas

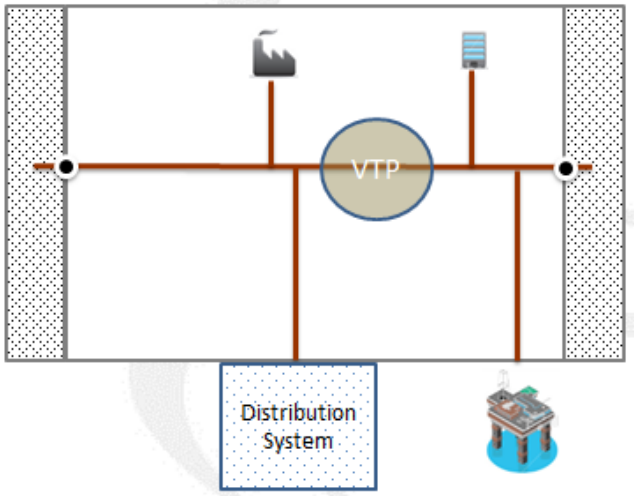
Type	Alpha
Prdn’	100
Imports	100
VTP Buys	40
Total	**240**

The information revealed its IDM Offtakes were less than expected

Alpha

Renominations

- Alpha renominates down 11 units at its imports to balance within day

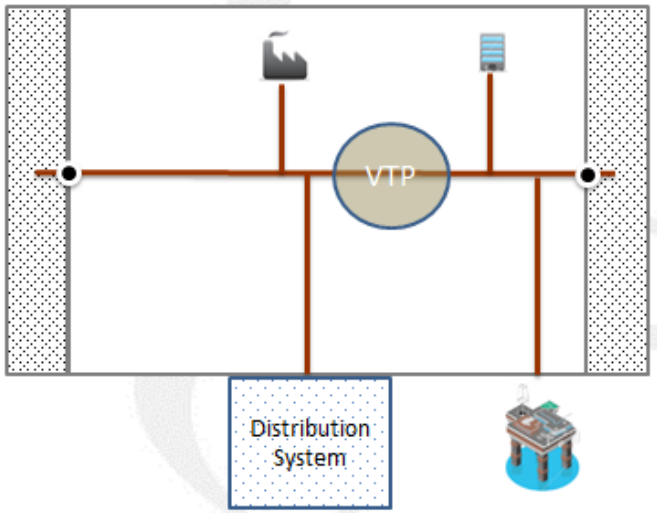


Alpha renominates at the IP

TSO

Nomination

- TSO Nomination Process

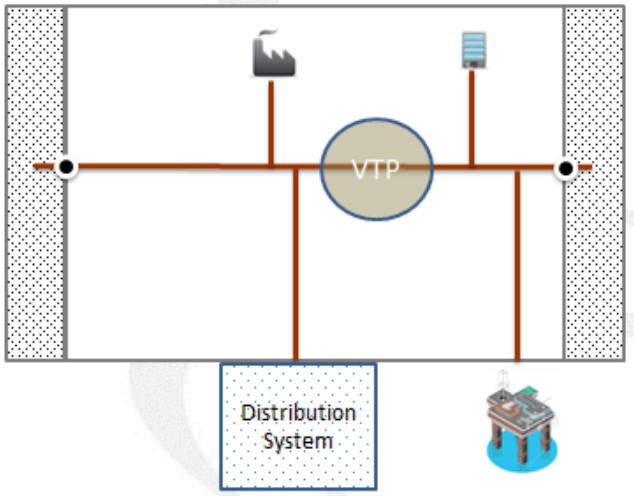


Nomination

Beta

- Beta reassess its eod position

Type	Qty	Note
IDM	35	Based on flow info
DM	45	Predictable
NDM	45	Revised EOD Forecast
Total	**125**	



- Beta has the following gas

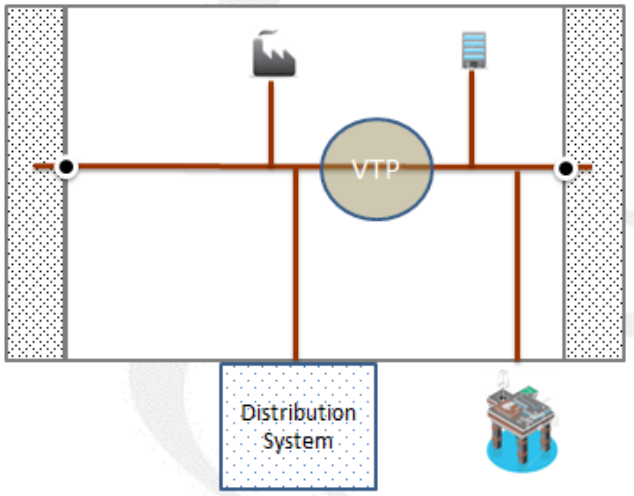
Type	Qty
Imports	100
VTP Buys	40
Total	**140**

Drop in NDM Derived Forecast leaves Beta long

Beta

- Beta sells 15 units of gas at the VTP

(assume notification process takes place)

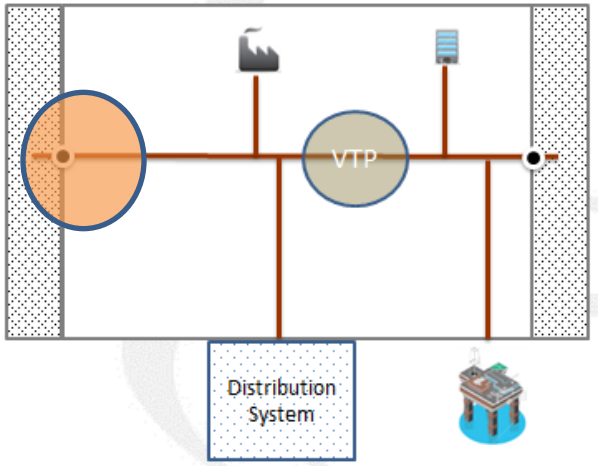


Beta sells gas to balance its forecasted position

TSO

Operational Balancing

- The TSOs operational team requires additional gas (a balancing action) within day.
- The issue is a local one in the area highlighted

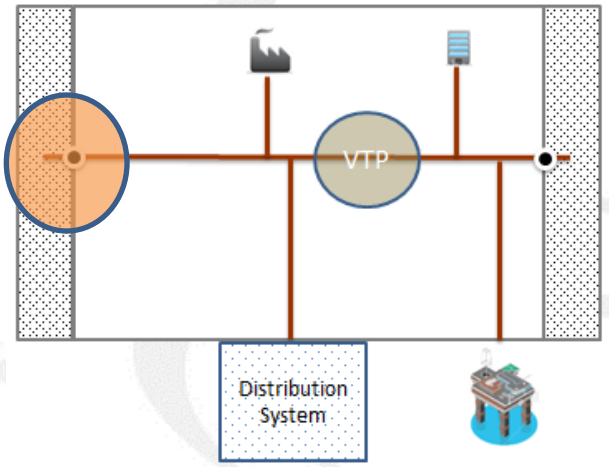


Balancing Action requirement

TSO

Operational Balancing

- The TSO has the following options:
  - Short Term Products
    - Title Market Transaction X
    - Locational Market Transaction √
    - Temporal Title Market Transaction X
    - Temporal Locational Market Transaction √
  - Balancing Services √
    - Can be delivered in this area



2. Merit Order

- Informs selection of Product

3. Incentive

- Potentially influences selection of product

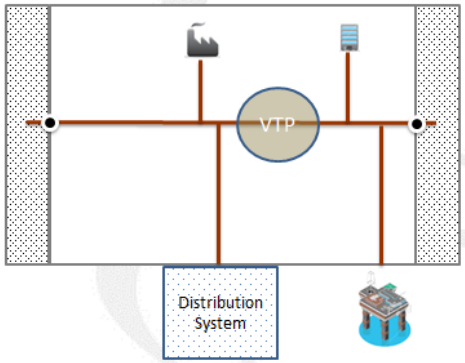
Standard Products, Merit Order, Incentives

TSO

Operational Balancing

- The TSOs purchases its requirements on the Trading Platform

Delivery	Specified IP
Volume	7
Type	Locational
Price	22 (best offered price)
Delivery	Day D



Nominations

- The TSO requires a revised renomination at the specific entry point to ensure delivery

Information Flows to Network Users

- The TSO does not alter the SMP as it is not price effecting
- May effect linepack information when published

Standard Products, Publishing SMP, Nominations

Frederick – can you add slide on wd linepack and we can find home tomorrow.

TSO publishes

Recap

Illustrations Demonstrated

- Within Day Information Flows
- Renominations
- Incentives
- Operational Balancing
- Merit order
- Daily Imbalance Charge

Questions?

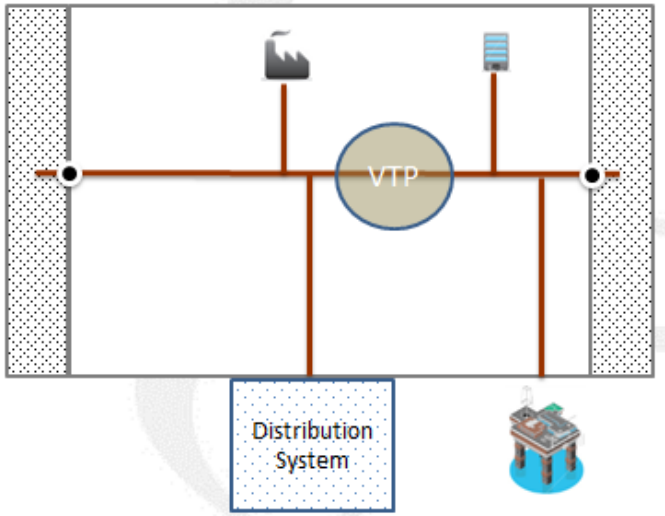
After the Day

The DSO

Information Flows to Network Users

- The DSO provides the TSO with initial Allocation Information

Type	Alpha	Beta
IDM	42	0
DM	21	28
NDM	47	43



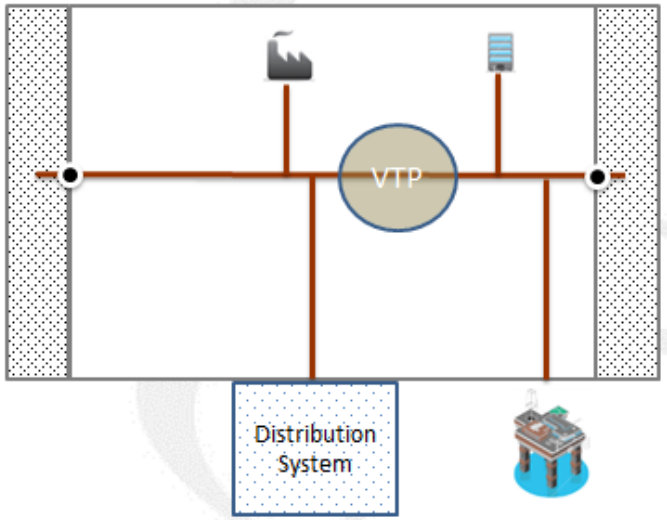
DSO Provides Information

The TSO

Information Flows to Network Users

- TSO Provides Alpha and Beta Offtakes and Inputs for Day D

Type	Alpha	Beta
IDM	(141)	(34)
DM	(42)	(46)
NDM	(47)	(43)
VTP	40	25
Prodn	98	0
Imports	89	100
Imbalance	**3 short**	**2 Long**



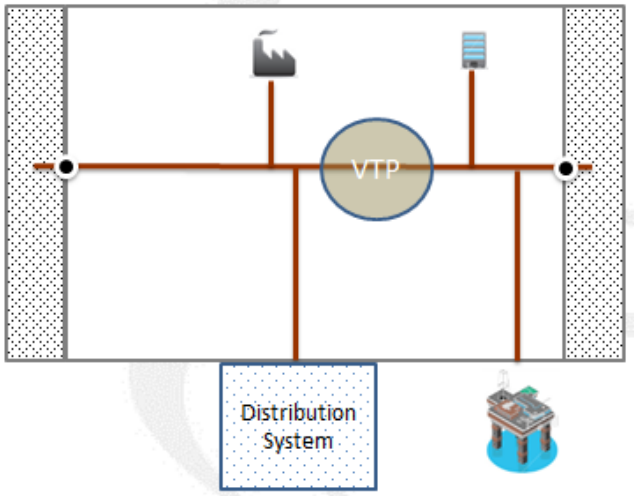
Initial Allocation

TSO

Daily Imbalance Charge

- TSO issues final Allocations

Type	Alpha	Beta
IDM	(143)	(34)
DM	(42)	(46)
NDM	(47)	(43)
VTP	40	25
Prodn	98	0
Imports	89	100
Imbalance	**5 short**	**2 Long**



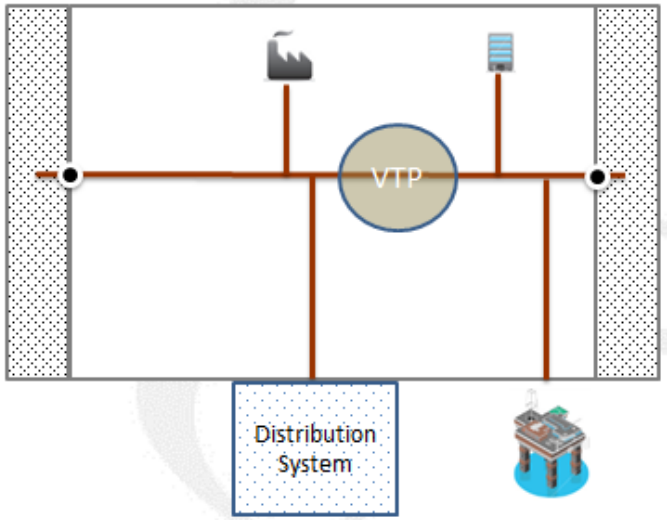
Final Allocation

The TSO

Daily Imbalance Charge

- TSO derives Alpha and Betas Charges

Type	Alpha	Beta
Qty	(5)	2
Price	20	17
Value	Pays 100	Paid 34



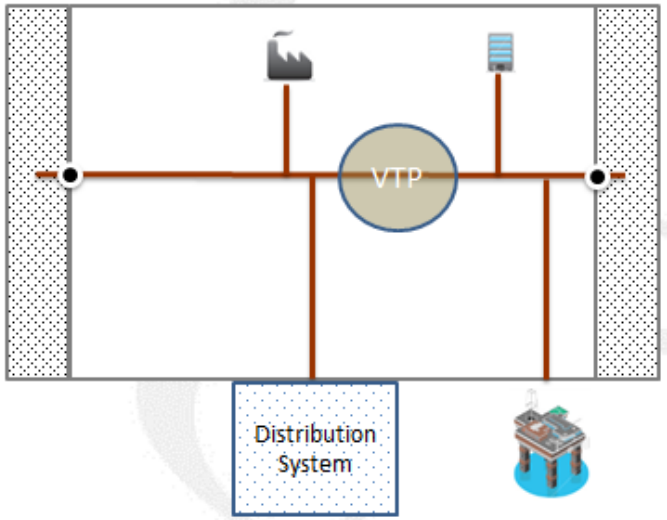
Daily Imbalance Charge

The TSO

Neutrality

- TSO assesses its costs versus incomes

Type	
Daily Imbalance	+66
Balancing Actions	(166)
Value	(100)



- NB THERE ARE OTHER NETWORK USERS THAN ALPHA AND BETA
- The shortfall charge must be recovered though neutrality (assuming other Network Users are perfectly balanced)

Neutrality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Market Based Balancing in Hungary in Light of the Draft Balancing Network Code

ENTSOG CEE Workshop
Vienna
18 April 2012

Zoltán Gellényi
Head of Capacity Sales

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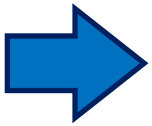
FGSZ: Market Based Balancing since 2010

Hungarian Gas Balancing Model according to the Gas Act of 2008

1. Shippers to keep daily in- and offtake in balance. Residual imbalances shall be fully cashed-out after gas day (GET 30. §)
2. TSO is responsible for system balancing (GET 91. §)
3. Trading of imbalances within a day (GET 9. §)
4. Continuous, internet based trading (GET. 143. §(3) & (4)
5. Anonymity (GET. 143.§ (7)
6. Services of clearing house (GET. 143.§(2) & (7)



<u>Standardising</u>

- Products
- Offering
- Transacting
- Clearing & settlement
- Guarantees

Daily Natural Gas and Capacity Market (**NFKP**)
Balancing & capacity platform, exchange-like operation

Hungarian Balancing Point (MGP)

- MGP is a virtual entry and exit point of the high pressure transmission system.
- Shippers' imbalances will be displayed and settled on the virtual point;
- In case of NFKP transactions, the delivery point will be the MGP, therefore:
  - Potential supply and demand is concentrated into one location, more transactions are possible
  - Easier to develop high liquidity that is needed for broadly accepted settlement (cash-out) price for imbalances
- MGP is cost-neutral compared to all physical entry and/or exit points of the system
- MGP has unlimited capacity
- No capacity or commodity fee is charged

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FGSZ Balancing & Capacity Platform Products

Product range	Natural Gas			Secondary Capacity	
Product	MGP natural gas	HEG*	HEGO*	Interruptible and int. backhaul	Firm
Instrument	MGP Natural gas/ gas day	HEG/gas day/ Gas hour/ network point	HEG/gas day/ network point	KAP/ Interruptibility/ gas day / network point	KAP/ gas day / network point
Gas flow / Delivery	On D gas day, 24-hours continuous flow	In a given hour of D gas day	On D gas day, 24-hours continuous flow	On D gas day, 24-hours continuous flow	On D gas day, 24-hours continuous flow
Transaction	On D-1 and D days**	On D day***	On D-1 day ****	On D-1 day	On D-1 day

* On one side of the transaction, the TSO is required to be
** Concluded transaction on the D-1 day: physical delivery with nomination,
Concluded transaction on the D day: imbalance correction
*** The market of the actual instruments closes three hours before the transfer starts
**** On day D-1, shipper grants the option, TSO exercises on day D during allocation

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Balancing Products

Contract	Explanation	Delivery point	Nomination	Lot size	Flow	Payment
MGP natural gas	• VTP Title Market Product • Traded as day-ahead or within-a-day • Shipper/shipper or shipper/TSO trade	MGP	Automatic single sided on MGP Manualy by shipper if day-ahead: corresponding entry or exit, after trade confirmation	43,200 MJ/day	Flat 24 hours	After the conclusion of the given gas month, together with other monthly settlements, incl. settlement of imbalances
HEG	• Temporal (hourly) location product • Although delivered at MGP, bid or offer already refers to corresponding exit or entry point • Transaction lead time: 3 hours before flow starts • Always a shipper/TSO trade		Both MGP and the corresponding entry or exit will be automatically nominated by the platform according to original bid/offer immediately after trade confirmation	43,200 MJ/day/ 24 = 1,800 MJ/hour	Blocks of hours	
HEGO	• End-of-the day locational product • TSO's right but not the obligation to modify given shipper's in- or offtake • Shippers can grant optional gas before the actual gas day • Exercising the option in allocation phase after the gas day			43,200 MJ/day	Flat 24 hours	

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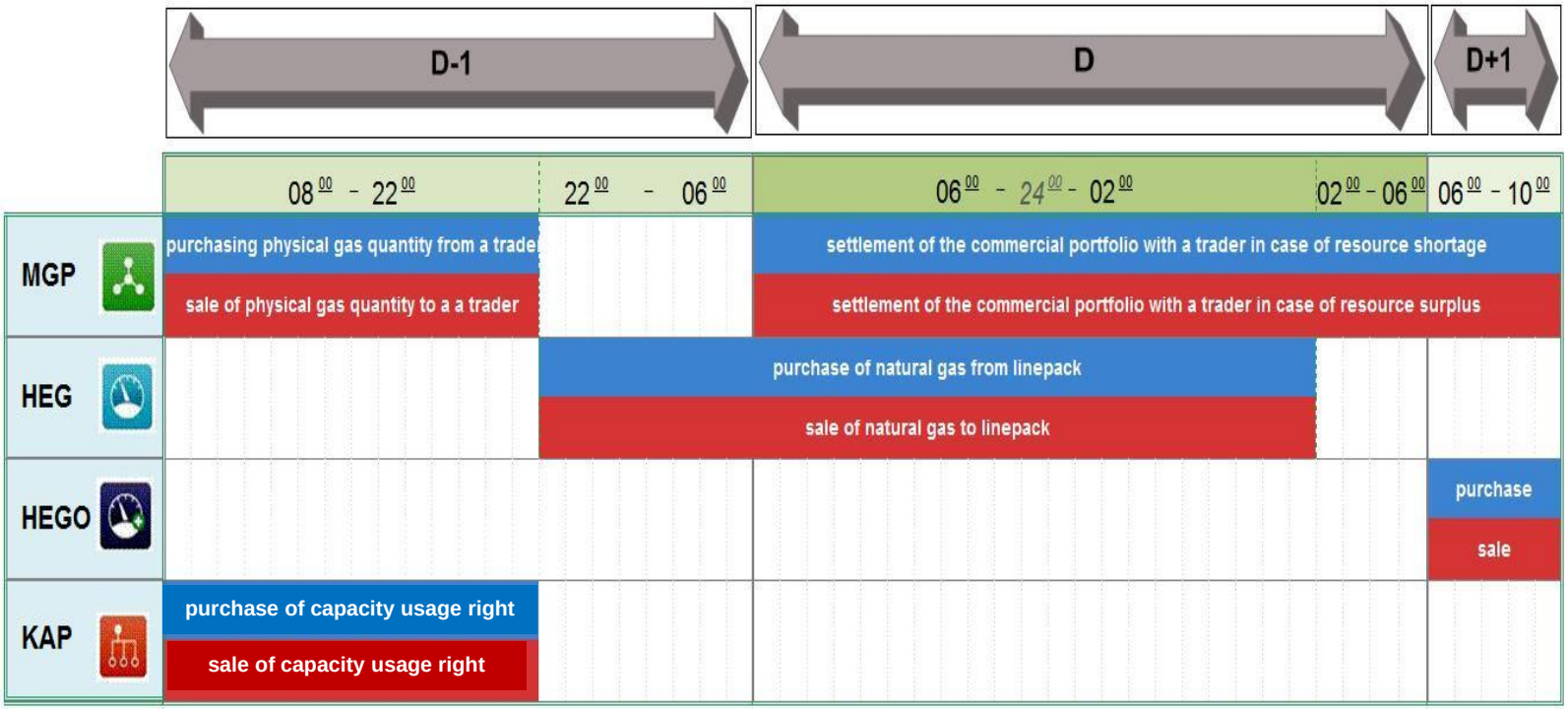
Trading Hours of the FGSZ Balancing & Capacity Platform Products



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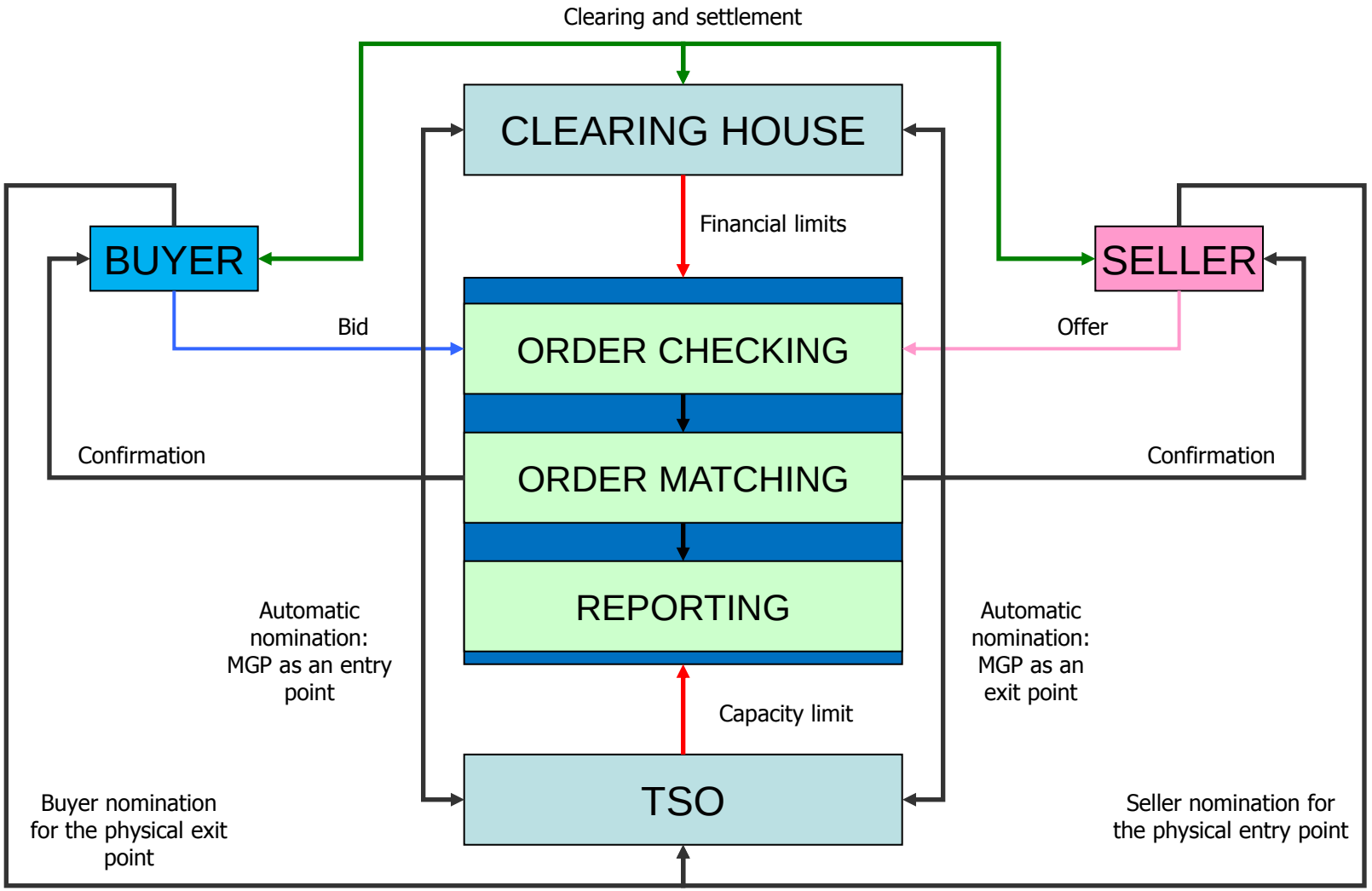
Dealing on the FGSZ Balancing & Capacity Platform (NFKP)



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Daily Imbalance Quantity (DIQ)

Transactions		Before NFKP		With NFKP			
		Physical		Physical		VTP	
		Input	Output	Input	Output	Input	Output
D-1 Nominations		*I*	*O*	*I1*	*O2*		
D-1 Title	Buy			I3			O3
	Sell				O4	I4	
D Title	Buy					*I5*	
	Sell						*O6*
HEG	Buy				O7	I7	
	Sell			I8			O8
HEGO	Buy				O9	I9	
	Sell			I10			O10
DIQ	Buy	If O > I ; O-I				If ΣO > ΣI ; ΣO - ΣI	
	Sell		If O < I ; I -O				If ΣO < ΣI ; ΣI - ΣO

- Possibility to buy/sell flexible gas from/to TSO (neutral to the portfolio's imbalance position)
- Improved possibility for the TSO to procure/sale system balancing gas
- Utilising business opportunity/fine tune portfolio through day-ahead title transactions
- Manage portfolio balancing through within-a-day title products
- Transparent pricing for both balancing market transactions and cash-out

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Cash-out of Daily Imbalance Quantity after market close

Cash-out Price for Balancing

- Cash out (settlement) price: the volume weighted average price of all MGP and HEG, HEGO transactions executed on NFKP for the given gas day, including:
  - MGP transactions on day D-1
  - MGP transactions on day D
  - HEG transactions
  - HEG transactions originated from options
- The last known cash-out price shall remain valid if new one cannot be calculated due to lack of liquidity.
- Members settle their DIQ position with the Clearing House

Settlement between Clearing House and TSO

1) The clearing house sells the net surplus gas to FGSZ on cash-out price if ∑DIQsh>0 after having settled all shippers' imbalances;
2) The clearing house covers its net short position from FGSZ on cash-out price if ∑DIQsh <0 after having settled all shippers' imbalances;

Linepack change (be it system balancing or residual balancing action) is always priced upon market price

Financial Consequences

Shippers' Residual Imbalance

- Trades out at market price, or
- Offset by clearing house at market based cash-out price

TSO's Balancing Actions

- System Gas procured/sold at market price or market-based cash-out price
- Eventual profits/losses of balancing actions will be settled with shippers after gas month
- Profit/loss settlement is based on shippers' actual imbalances

Shippers' advantage in dealing with TSO

- Another possibility to realise trade profit
- Increased tolerance level for flexibility providers

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FGSZ Balancing Regime Comparison I.

Topic and Compliance		ENTSOG BAL NC Proposal	FGSZ Balancing System
Balancing period	✔	Gas day	Gas day
Within-day obligations	✘	Possible if NRA approves	TSO has the right to call shippers for renominating during gas day
TSO balancing fee(s)	✔	Reflect actual costs incurred	Reflect actual costs incurred
Products		Short Term Standardised Products (STSPs)	
Type 1	✔	Title Market Product (TMP)	VTP natural gas (“MGP”)
Type 2	✔	Locational Market Products	Hydraulic Balancing Gas Options (“HEGO”)
Type 3	✘	Temporal Market Products	To be introduced through allowing shipper/shipper HEG-like transactions
Type 4	✔	Temporal Locational Market Products	Hydraulic Balancing Gas (“HEG”)
Use of Balancing Services	✔	Shall be available if STSPs do not suffice	Applied although not used yet
Trading platform	✔	Make available STSP trade	Functioning since 2010
NU – NU* trade	✔	Shall be available	Available
NU – TSO trade	✔	Shall be available	Available
TSO – TSO trade	✘	Shall be available	Not available yet – ready to discuss

* NU = Network User

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FGSZ Balancing Regime Comparison II.

Topic and Compliance		ENTSOG BAL NC Proposal	FGSZ Balancing System
Incentive scheme for Balancing Services	✘	Shall be available within the TSO's operational limits	Not available
Daily imbalance charge calculation methodology from the NU point of view	✔	Long➔ Marginal Sell price, lower of: • Lowest TMP price involving TSO or • Weighted average traded gas price **minus** a Small Adjustment	Weighted average price of all trade transactions Instead of Small Adjustments, a penalty applies if tolerance levels are surpassed
	✘	Short➔ Marginal Buy price, higher of: • Highest TMP price involving TSO or • Weighted average traded gas price **plus** a Small Adjustment	
Imbalance charge levying	✔	Automatic	Automatic
Final daily imbalance information provided	✔	Within 20 days	Within 15 days
Tolerance levels	✘	Applied on a physical basis for each NU	All residual imbalances are fully cashed-out
Balancing neutrality	✔	Shall apply to all Balancing Activities	Applies to all Balancing Activities (to be detailed according to BAL NC)
Balancing neutrality charges	✘	Based on physical network usage	Based on imbalance position

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FGSZ Balancing Regime Comparison III.

Topic and Compliance		ENTSOG BAL NC Proposal	FGSZ Balancing System
Re/Nomination unit	✘	kWh/d or kWh/h	MJ/d or MJ/h. Expected compliance in 2013
Nomination deadline for D	✘	12.00 UTC, D-1 (or 11.00 UTC, D-1 when daylight saving applies)	24:00 CET before gas day start but „outside" deadline differs on each IP
IP renomination	✘	D-3, confirmed in D-2	24:00 CET before gas day start but „outside" deadline differs on each IP
Equal E/E Re/Nomination	✘	Shall not be required	Required. MJ/h. Expected compliance in 2013
Non-IP Re/Nomination	✔	To be determined by the TSO	Renomination required only in severe imbalance situations
Cross-border balancing	✔	Required if technically possible and financially viable	FGSZ is ready making NFKP available to provide services for other balancing zones
Linepack flexibility service	✘	Shall be allowed (and shall not be part of the Balancing Neutrality pool)	FGSZ is considering to introduce market based Parking & Lending service.

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Thank you for your kind attention!

Zoltán Gellényi
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NATURAL GAS TRANSMISSION
MEMBER OF THE MOL GROUP

Q&A Session

Poland's new network code – market based balancing tools and transition

CEEC Road Show on the BAL NC

Stanisław Brzęczkowski

Vienna, Austria -- 18 April 2012

GAZ-SYSTEM
Facts&Figures

- National gas transmission system operator (TSO)
- Established in April 2004 on the basis of the Directive of the European Parliament and the European Council 2003/55/EC
- Independent and fully unbundled Company providing equal services to all entities on non-discriminatory basis
- Joint-Stock Company, owned by the State Treasury as the only shareholder
- Strategic Company responsible for Country's energy security
- November 2010 GAZ-SYSTEM designated by Polish NRA as Yamal Pipeline **I**ndependent **S**ystem **O**perator
- November 2011 Virtual reverse flow is provided

GAZ-SYSTEM
Facts&Figures

- 9 777 km of pipelines
  + approx 700 of transit pipeline in operation
- Over 14 bcm
  gas transmission
- 15 compressor stations
- 57 nodes
  973 exit points
- assets – almost 1,5 billion EUR
  equity – almost 1,3 billion EUR
- Net Profit – 163.8 M EUR
  Sales Revenues – 628.3 M EUR
  EBIT – 177 M EUR

GAZ system

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the system, that connects

GAZ-SYSTEM
Interconnections

- GAZ-SYSTEM has IPs with all TSOs connected to our system:
  - *Biełtransgaz (Belarus)*
  - *ONTRAS (Germany)*
  - *UKRTRANSGAZ (Ukraine)*
  - *Net4Gas (Czech Republic)*
- Due to geographic position we are transition area between two arts of gas market
  - *Eastern:*
    - *Quantity - volume by 20 C,*
    - *Gas day 8/8,*
    - *Allocation based on seller decisions*
    - *No balancing market*
  - *Western and South*
    - *Quantity – energy*
    - *Gas day 6/6*
    - *OBA*
    - *Market based balancing*
  - ***Middle** (PL) – current state*
    - *Quantity – volume by 0 C*
    - *Gas day 10pm/10pm*
    - *Regulated market for trade*

GAZ-SYSTEM
Interconnections

- GAZ-SYSTEM has IPs with all TSOs connected to our system:
  - *Biełtransgaz (Belarus)*
  - *ONTRAS (Germany)*
  - *UKRTRANSGAZ (Ukraine)*
  - *Net4Gas (Czech Republic)*
- Due to geographic position we are transition area between two arts of gas market
  - *Eastern:*
    - *Quantity - volume by 20 C,*
    - *Gas day 8/8,*
    - *Allocation based on seller decisions*
    - *No balancing market*
  - *Western and South*
    - *Quantity – energy*
    - *Gas day 6/6*
    - *OBA*
    - *Market based balancing*
  - *Middle (PL) – **from 1 July 2012***
    - *Quantity – **energy***
    - *Gas day **6/6***
    - *<u>Regulated market for trade</u>*

GAZ-SYSTEM

Transmision Network Code - history

- 2003 – 2005 first analysis and public consultation of 1st edition
- 2006 August – 1st edition
- 2008 July – 2nd edition
- 2011 October – 3rd (current) edition
- 2012 April - Draft of 4th edition for public consultation
  - New Entry – Exit model and virtual point
  - New contract model
  - Modified capacity allocation procedures
  - New balancing model
  - Modified nomination and allocation procedures
  - Modified Security of Supply procedures

Since 2010 whole Transmision Networc Code is approved by NRA

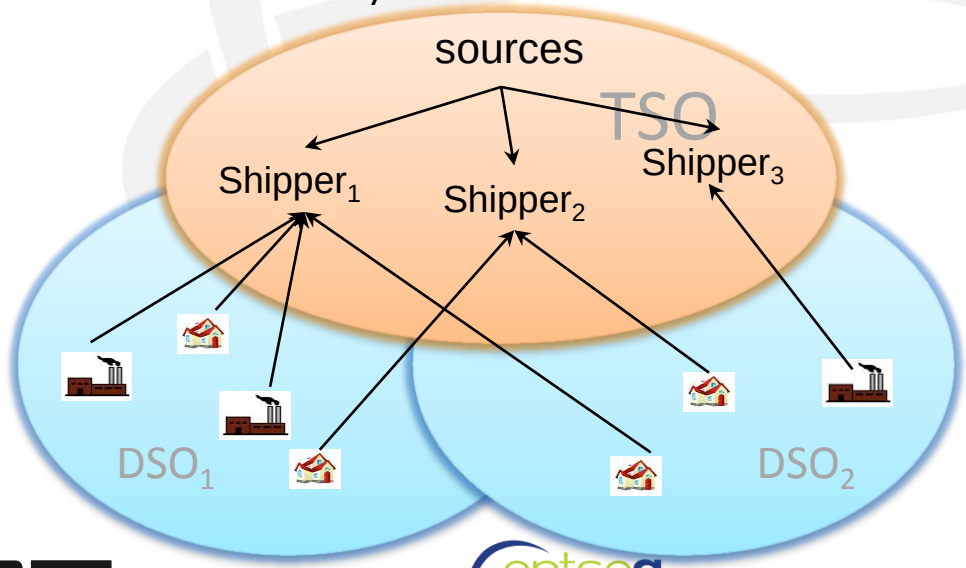
Balancing
General Rules

- Balancing area
  - Contain whole H Gas system
  - DSO systems are included - no imbalance in DSO
- Daily Balancing
  - Balancing based on daily alocated quantities
  - Tolerance level for daily imbalance
  - There is not within day obligation
  - Hourly constrains based on hourly capacity product
- Information provision
  - Provisional data (D+1)
  - Final data (M+1)
- Operational balancing
  - Semi-market based balancing tools
  - SoS and System congestion tools
- Cost neutrality for balancing charges

Balancing

Balancing Area

- National H gas system is one balancing area
- Virtual point „connected" to transmission system
  - Gas exchange
  - OTC market
- DSO systems are included
  - no imbalance in DSO networks
  - Any imbalance of local distribution services is forwarded to transmission system



Balancing

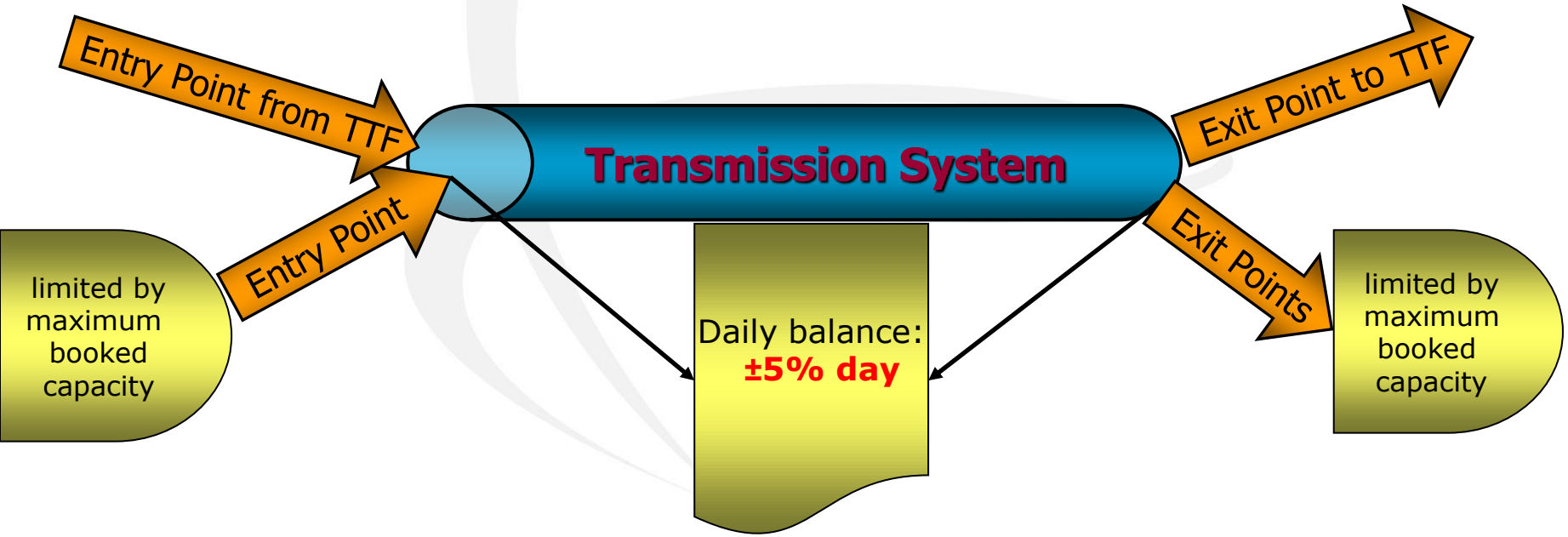
Daily Balancing - Alocation

- Balancing based on daily allocated quantities
  - Quantities allocated for contractual entries and exits:
    - equal to nomination
      - EU TSO and St. SO – entries and exits (OBA)
      - TTF – entry and exit
    - Based on measurements and allocation procedures
      - Entries from Non-EU TSO
      - Exits and Entries to/from distribution areas
      - Exits to End consumers
    - Forwarded imbalance of local distribution services based on sources connected to DSO

Balancing

Daily Balancing - Tolerancies

- Tolerance level for daily imbalance
  - Daily limit – 5% of daily quantity for entry
  - Based on Regulation of Ministry of Economy for gas market
- There is not within day obligation
- Hourly constrains based on hourly capacity product



Balancing
Operational Balancing

- Semi-market based balancing tools
  - Rules for market based balancing tools based on balancing platform
    - Defined Balancing products for TTF
    - Locational product
    - Merit orders and rules for usage of bids
  - Bariers for full market based rules:
    - Low Liquidity of gas market
      - Main supply flow from non-EU area
      - Oligopoly of incumbent player
      - Fully regulated gas trade market (fix price of bids based on tarifs)
    - Public Procurement Law obligation for TSO

- SoS and System congestion tools
  - Minimum nomination quantities for non-EU entries
  - SoS obligation for main shipper at non-EU entries

Balancing
Information Exchange

- Nomination procedure
  - Day ahead nomination and intraday renomination
  - Hourly quantities for contractual entries and exits
- Notification procedure connected with virtual TTF entry/exit
  - Based on gas exchange trade
    - sent to TSO by gas exchange operator (polpex)
    - „a priori" confirmed
  - Based on OTC trade
    - sent to TSO by sides of transactions
    - must be matched/balanced
- Consumption forecasts
  - IP with DSO
  - given by DSO
- Information provision
  - Provisional data (D+1)
  - Final data (M+1/28th callendar day)

Balancing

Balancing Charges

- Based on daily reference gas price
  - Cost of balancig gas from current day
  - Backup price – fuel gas price
- Marginal price
  - Based on fix coeficient 20%
  - Applied when daily imbalance is beyond of limit
  - Additional role of above marginal factors – protect TSO against role of cheaper supplier .

Balancing and Transmision Network Code

Next Steps

- Consultation process is until May 14th
- Consultation workshop will be held on 7th May in Warsaw
- English version of draft will be published next week
- We will be thankful for any remarks
  - Polish language recomended
  - English are acceptable

more details at
www.gaz-system.pl

Thank You for Your Attention

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Introduction to Interim Measures

Noel Regan
Advisor
ENTSOG

Introduction

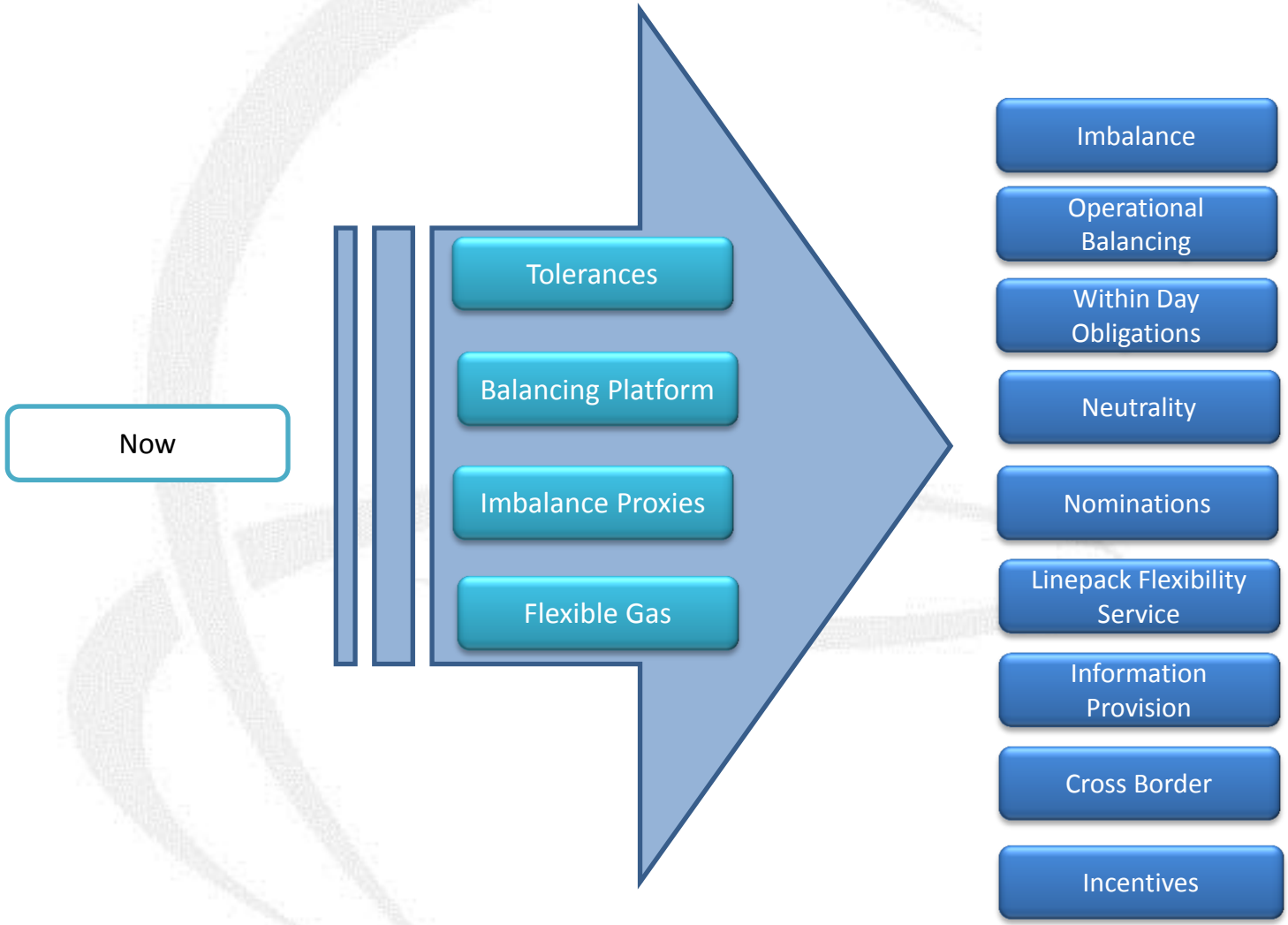
- This morning focussed on what ENTSOG refer to as the “Balancing Target Model”

- In the Balancing Target Model
  - ✓ Access to flexible gas
    - Liquid short term wholesale gas market
    - 4 Short Term Standardised Products
    - For use by both Network Users and TSOs
  - ✓ Supporting features of balancing regime in place, for example:
    - Information flows to Network Users
    - Nominations
    - Virtual Trading Point

Introduction

- Each Balancing Zone will currently be at different level of development in terms of these features
- Network Code recognises this and has specific interim steps to support the transition to the Balancing Target Model
- Next presentation will demonstrate how these interim measures might be “packaged” and developed but first lets look at what they are:
  1. Balancing Platform
  2. Tolerances
  3. Release of flexible gas
  4. Interim imbalance cash-out determination

The Interim Steps



References

Draft Network Code

- Chapter XI

Supporting Document

- Chapter 5.11

SJWS materials on ENTSOG website

- Presented Materials
- Worked examples
- Minutes of Stakeholder sessions

The Transition

1. Balancing Platform

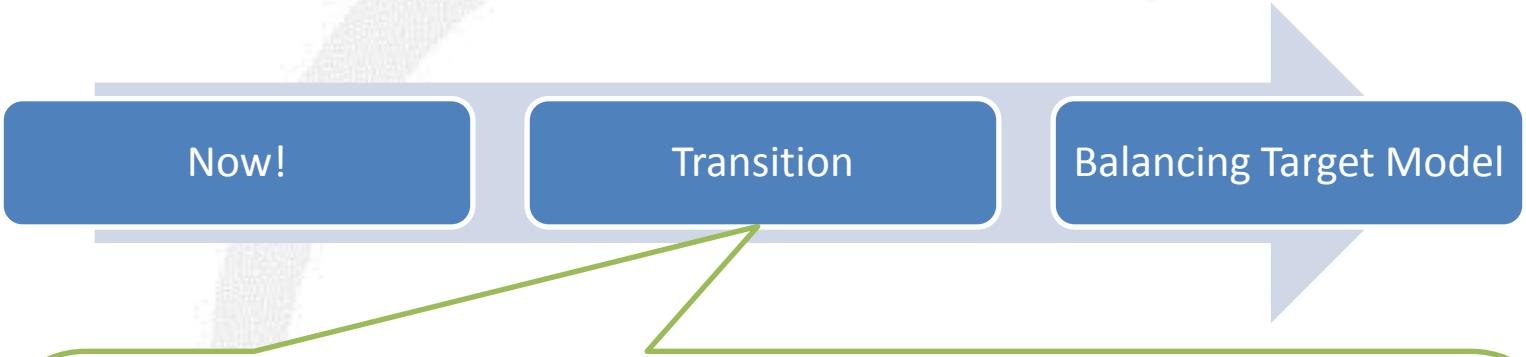
Balancing Platform

- ✓ Trading Platform in each Balancing Zone
- ✓ Relevant Standardised Short Term Products available
- ✓ Liquidity
- ✓ Provides means for:
  - Tool for TSO to balance the system
  - Network Users to balance their portfolio

Balancing Platform

- ✓ Trading Platform in some balancing zones
- ✓ Relevant Standardised Short term products not always available
- ✓ Degree of liquidity varies

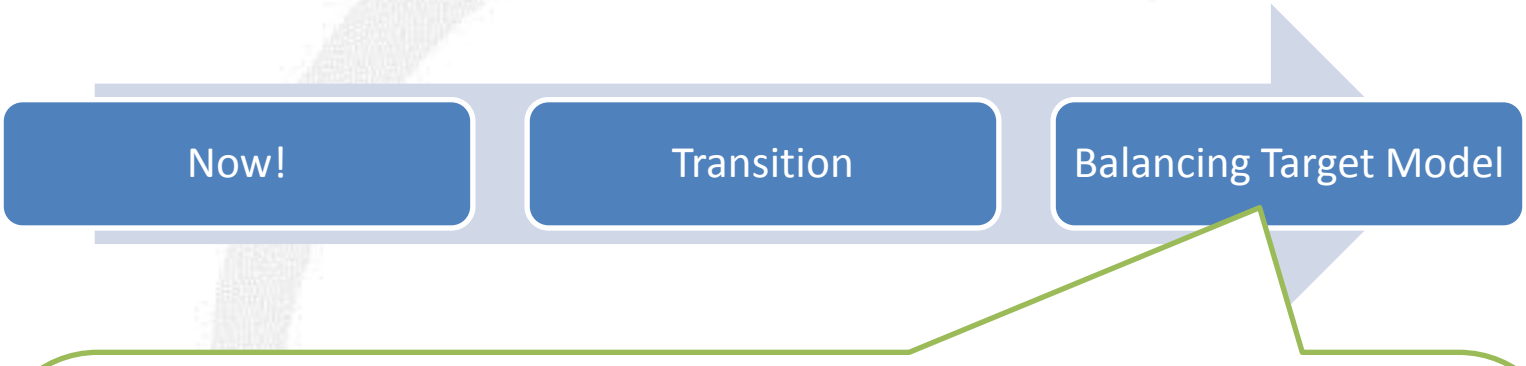
Balancing Platform



- ✓ Where Market insufficiently liquid or inadequate products A Balancing Platform shall be established
- ✓ Same characteristics to a Trading Platform but TSO party to all trades
- ✓ Seen as a means to “jump start” a liquid wholesale market
  - ✓ Of course other conditions needed

2. Tolerances

Tolerances

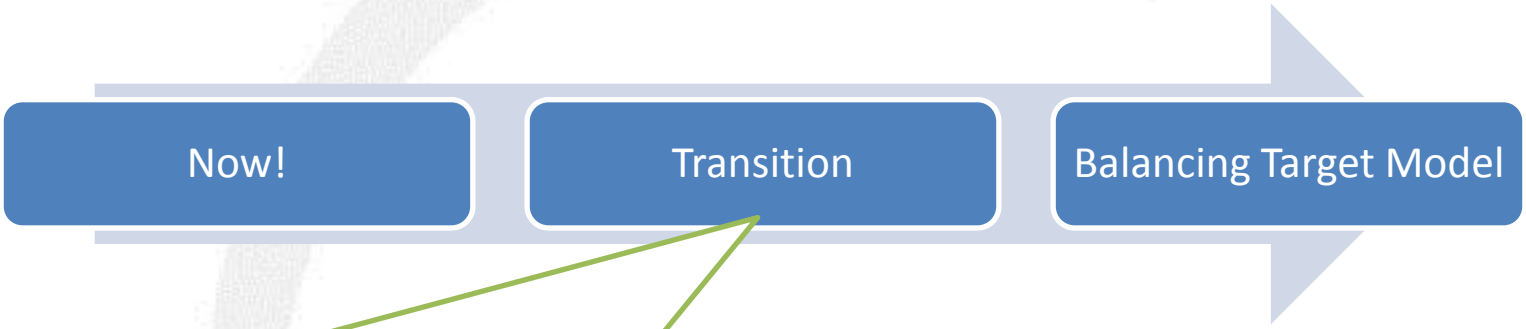


- ✓ Network Users responsible for matching Inputs and Outputs for each Gas Day for Balancing Zone
  - Any differences prices at Marginal Price
- ✓ Network Users have access to flexible gas
- ✓ Network Users have sufficient portfolio information

Tolerances

- ✓ Balancing responsibilities of Network Users vary
- ✓ Availability of flexible gas varies
- ✓ Availability of portfolio information varies

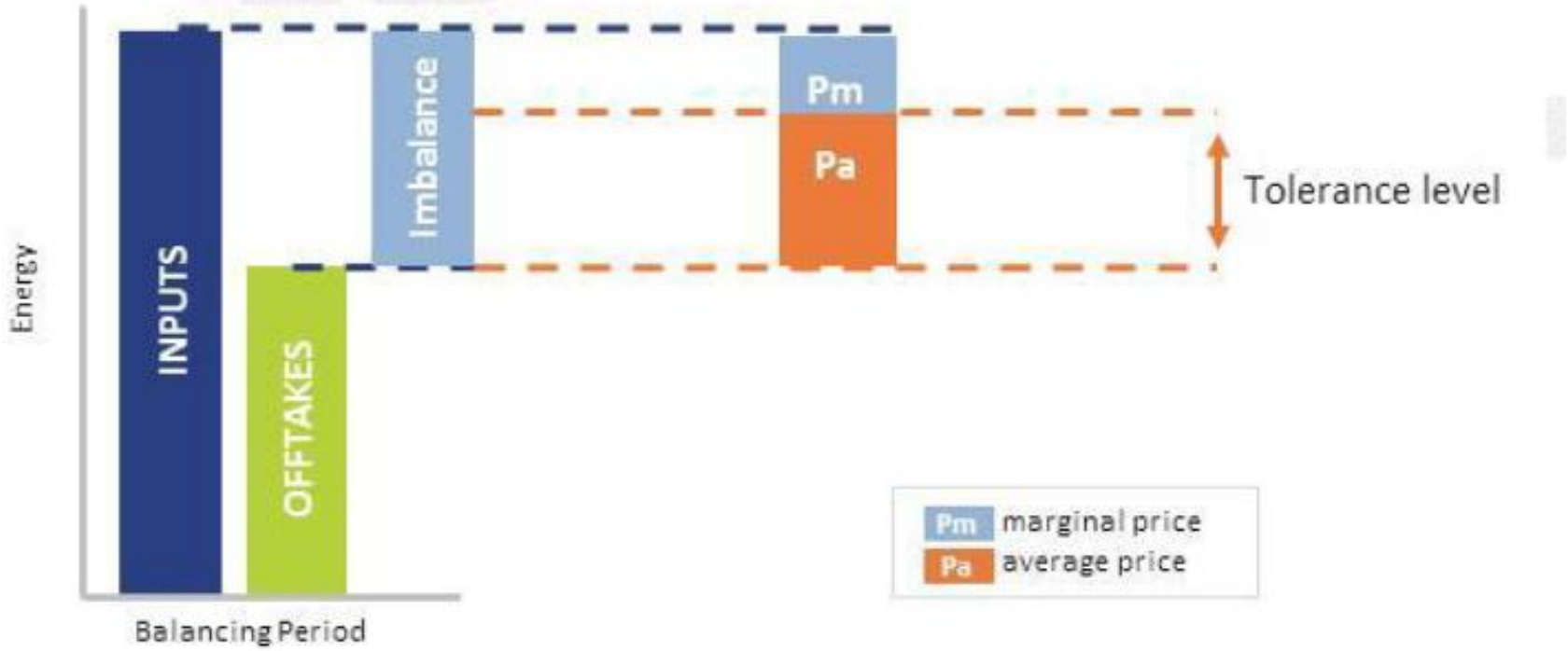
Tolerances



- ✓ Tolerances can be applied to Network Users where:
  - Issues with access to flexible gas
  - Insufficient information on Inputs and Offtakes (not in FGs)
- ✓ A Tolerance Level applied to Daily Imbalance Quantity
- ✓ Relief on Marginal Price
- ✓ Specific Provision on NDM Derived Forecast

Tolerances

Application of Tolerance – Price Tolerance

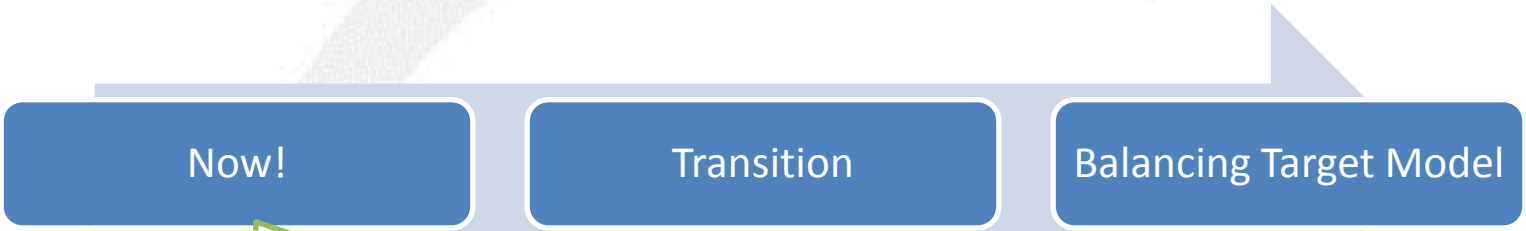


3. Release of Flexible Gas

Release of Flexible Gas

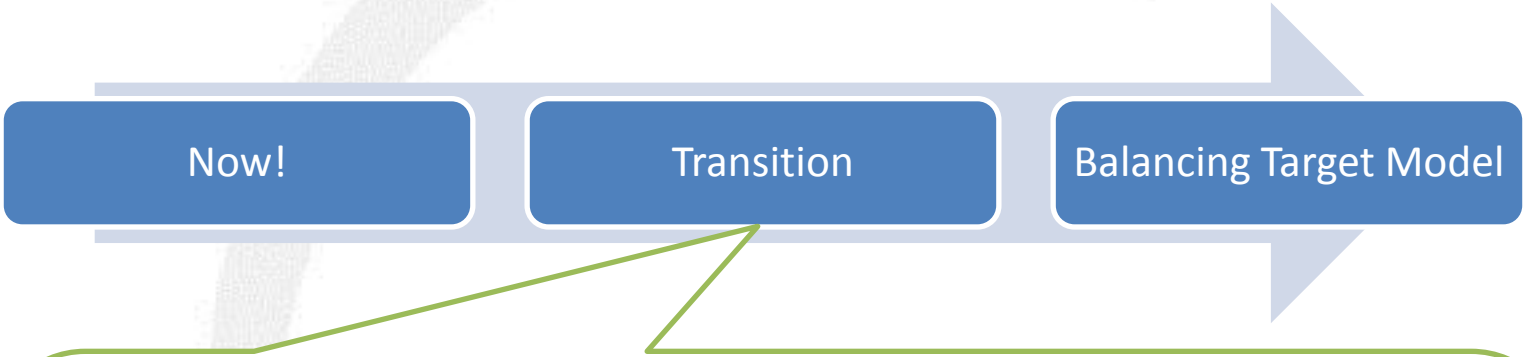
- ✓ TSO Balancing Actions via Standardised Short Term Products and Balancing Services
- ✓ Market Based Balancing
- ✓ Availability of flexible gas to support liquid market

Release of Flexible Gas



✓ TSO may have contracted long term flexible contracts

Release of Flexible Gas



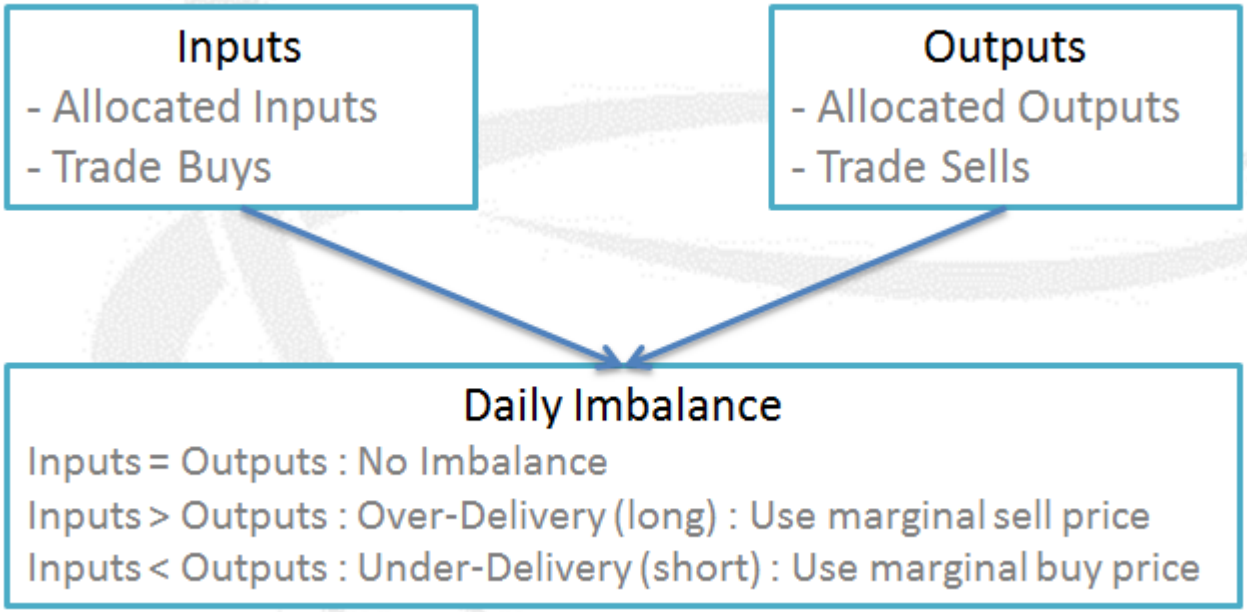
- ✓ Provisions for release of flexible gas
  - ✓ Pursuant to contractual terms
  - ✓ Contracting parties consider additional arrangements for release
- ✓ ENTSOG consultation on rules of procedure for release (2nd bullet above)
- ✓ Relevant TSOs consult stakeholders taking consideration of ENTSOG consultation
- ✓ NRA may set targets for reduction of contracts

4. Interim Imbalance Prices

Interim Imbalance Prices

- ✓ Each Network User, each Gas Day, each Balancing Zone
  - ✓ If short – pay based on Marginal Buy Price
  - ✓ If long – paid based on Marginal Sell Price
- ✓ Marginal Buy and Sell Price linked to TSO's price of balancing
- ✓ Network User incentives to balance

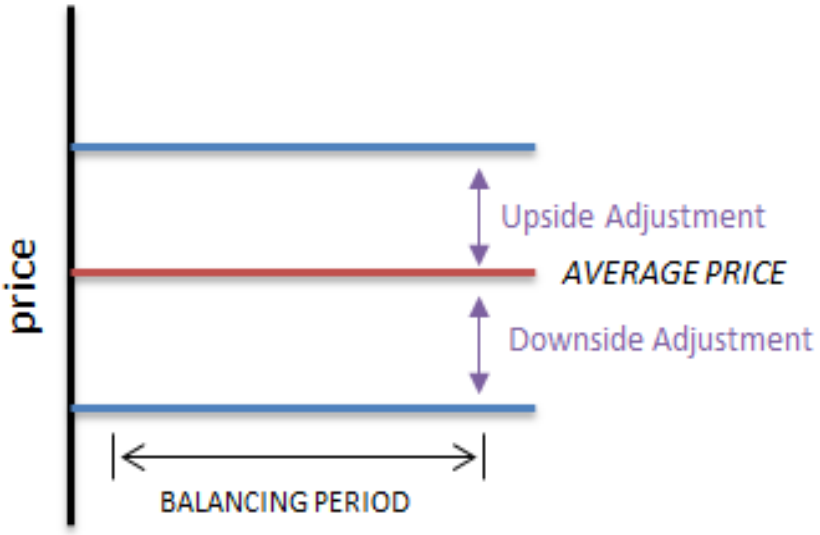
Daily Imbalance Charge



Imbalance charges – examples of price-setting

Example 1

No TSO Balancing Actions



The imbalance prices are set as:

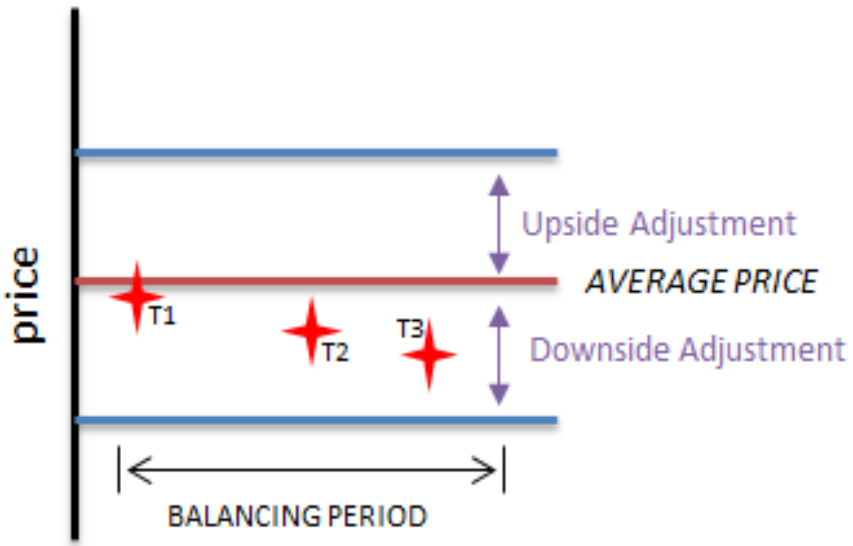
Marginal Sell Price: The average price less the downside adjustment as there are no TSO trades.

Marginal Buy Price: The average price plus the upside adjustment as there are no TSO trades at a greater price.

Imbalance charges – examples of price-setting

Example 2

Some TSO Balancing Actions



the imbalance prices are set as:

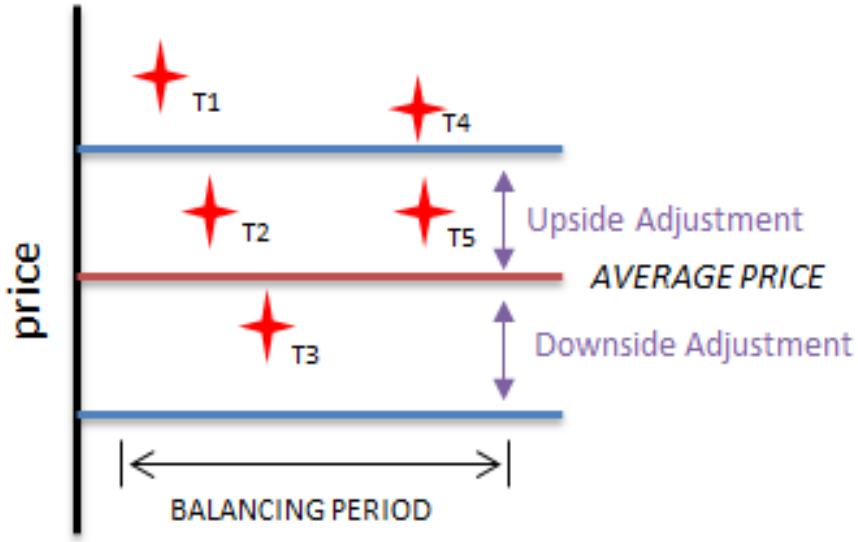
Marginal Sell Price: The average priceless the downside adjustment as there are no TSO trades at a lesser price.

Marginal Buy Price: The average price plus the upside adjustment as there are no TSO trades at a greater price.

Imbalance charges – examples of price-setting

Example 3

More TSO Balancing Actions

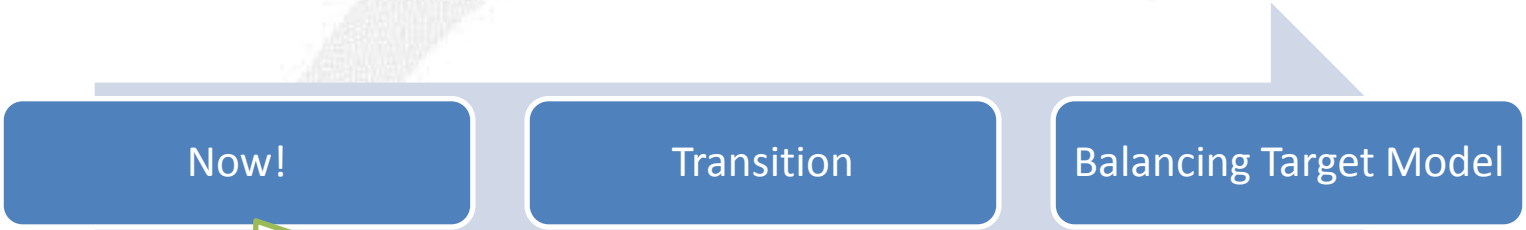


The imbalance prices are set as:

Marginal Sell Price: The average price less the downside adjustment as there are no TSO trades at a lesser price.

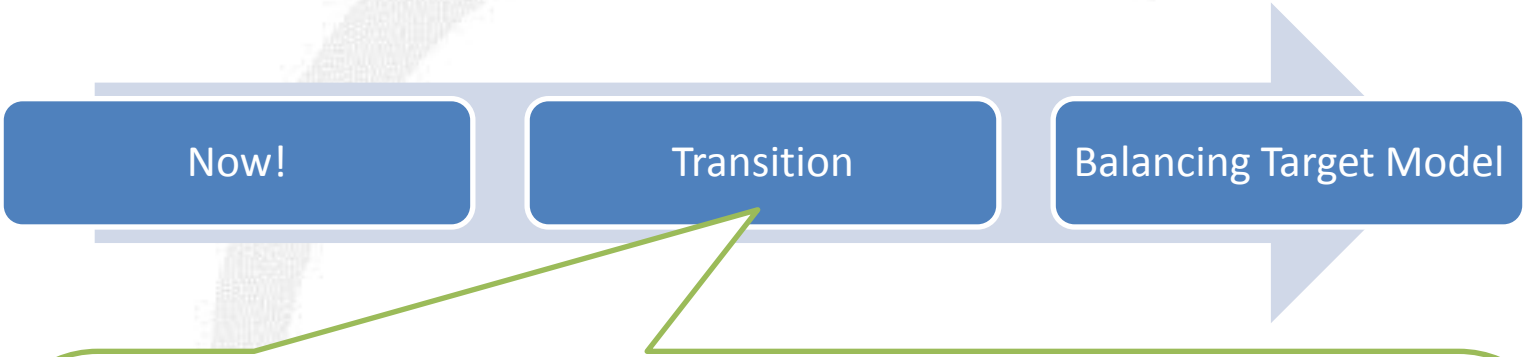
Marginal Buy Price: T1 sets the price as it is the highest of the TSO balancing actions and greater than the average price plus the upside Adjustment

Interim Imbalance Prices



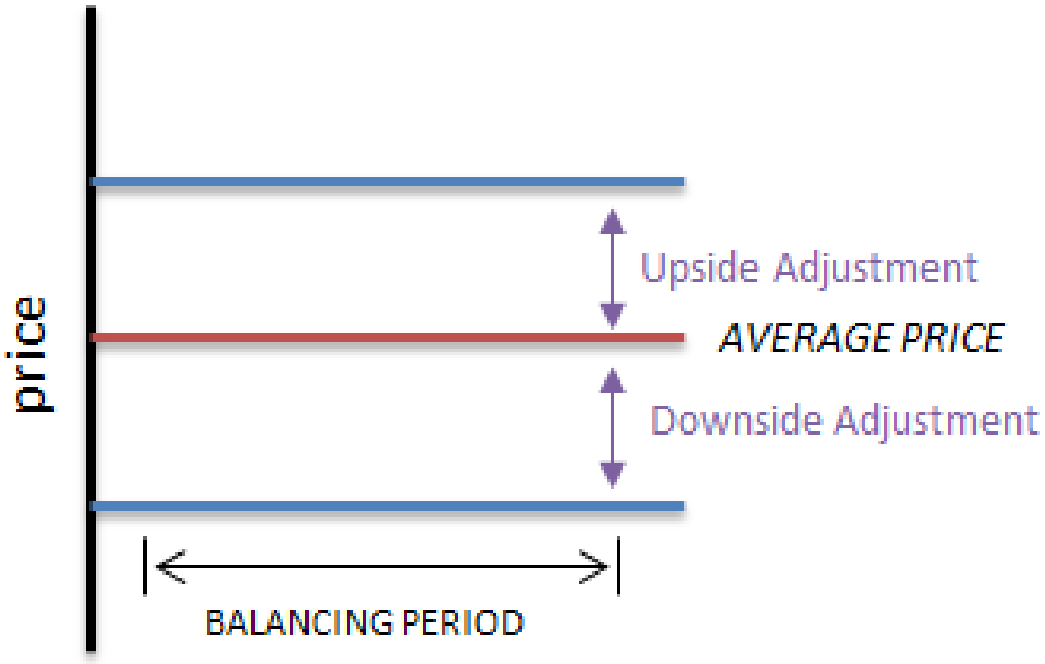
- ✓ May not be a liquid market to determine Weighted Average Gas Price
- ✓ May be difficult to link TSO Balancing Actions to Marginal Price

Interim Imbalance Prices



- ✓ Marginal Buy Price and Marginal Sell Price can be derived from:
  - ✓ Administered Price
  - ✓ Proxy
  - ✓ Trades from Balancing Platform
- ✓ Should satisfy criteria for Balancing Target Model:
  - ✓ Incentivise Network Users to balance their Inputs and Offtakes
  - ✓ Non Discriminatory
  - ✓ Not have detrimental impact on cross Border trade

Recap of Model



Setting a “Small Adjustment”

Setting the Small Adjustment

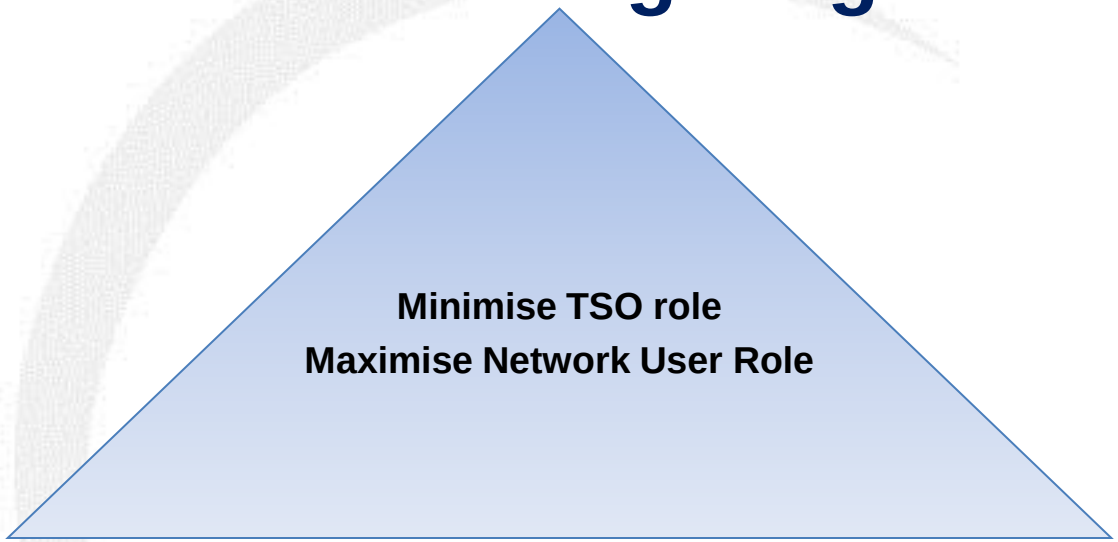
Summary

- We have seen a number of specific measures which can be used to support the transition towards the “Balancing Target Model”
- Several questions on the design of these measures within the consultation document
- Encourage feedback –need to ensure they deliver the right result
- Following presentation will not look at how they are managed within each Balancing Zone and a Roadmap concept

Road Map to the Balancing Target Model

Nigel Sisman
Business Area Manager, ENTSOG
ENTSOG

The Gas Balancing Target Model



Daily settlement	Information provision	Access to flexibility	TSO/Network User use of platforms
Quantities Prices Neutrality	Sufficient and accurate data	Wide provision of flexibility	Common access to flexibility

Unwarranted risks to be mitigated so network users can manage risks and opportunities

Transition – to deliver a properly functioning regime

Today

Impacting system users:

Imbalance determination

Information availability

Nomination / renomination regime

Tolerance application

Cash-out prices derivation

TSOs activities:

Procurement

Balancing action decision process

Financial treatment of balancing costs

Balancing framework must encourage

- Information availability (DSO's critical role)
- Balancing platforms
- Wholesale market

Balancing Target Model

Multiple steps may be necessary:

- Roadmap approach
- Assessment at each stage
- Market player and TSO evolution

evolution as confidence develops and criteria satisfied

Aiming towards a balancing target model requires adaptation and change for both network users and TSOs

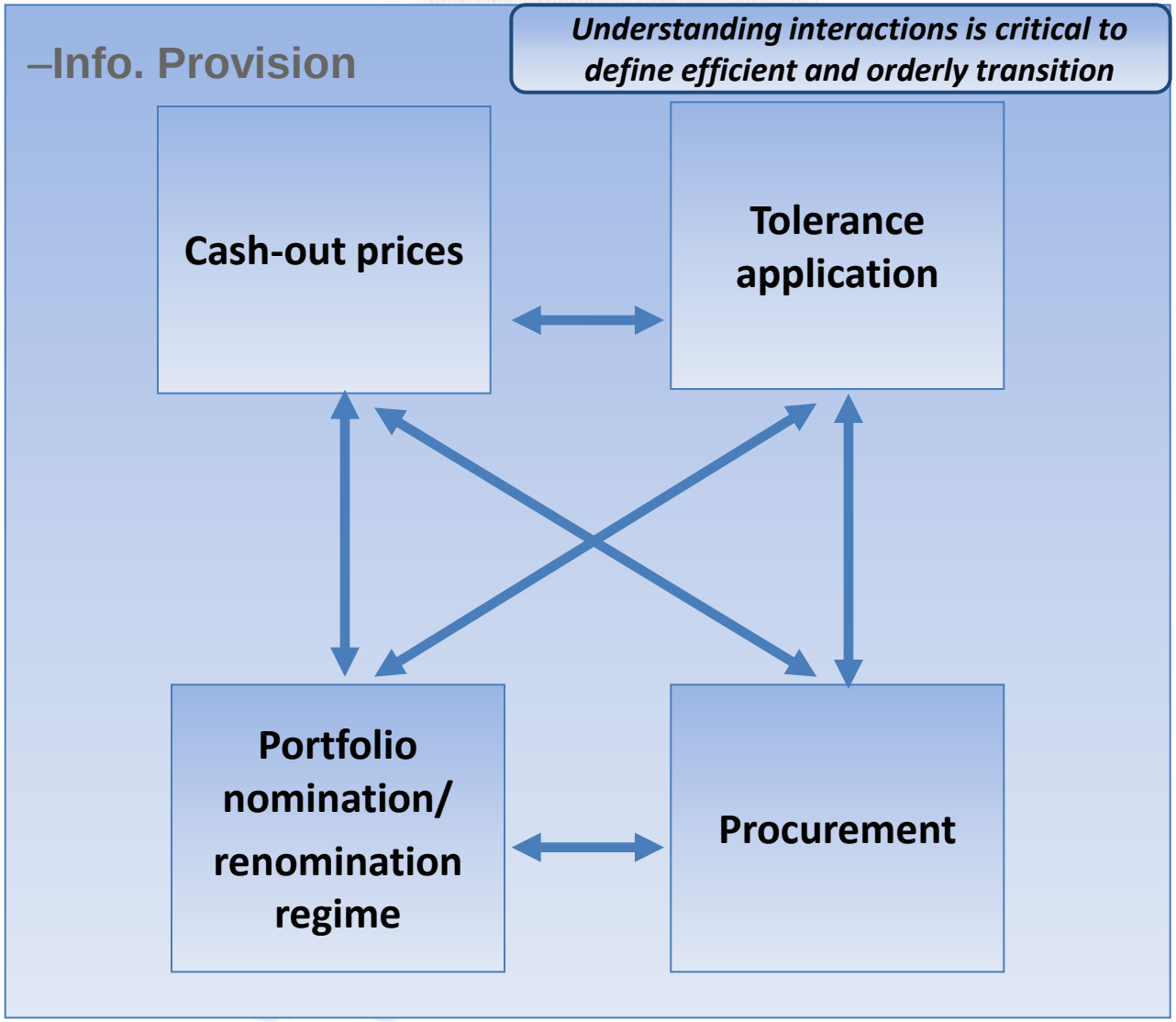
Defining routemaps towards Balancing Target Model

What role does the network code have to define:

the routemap?

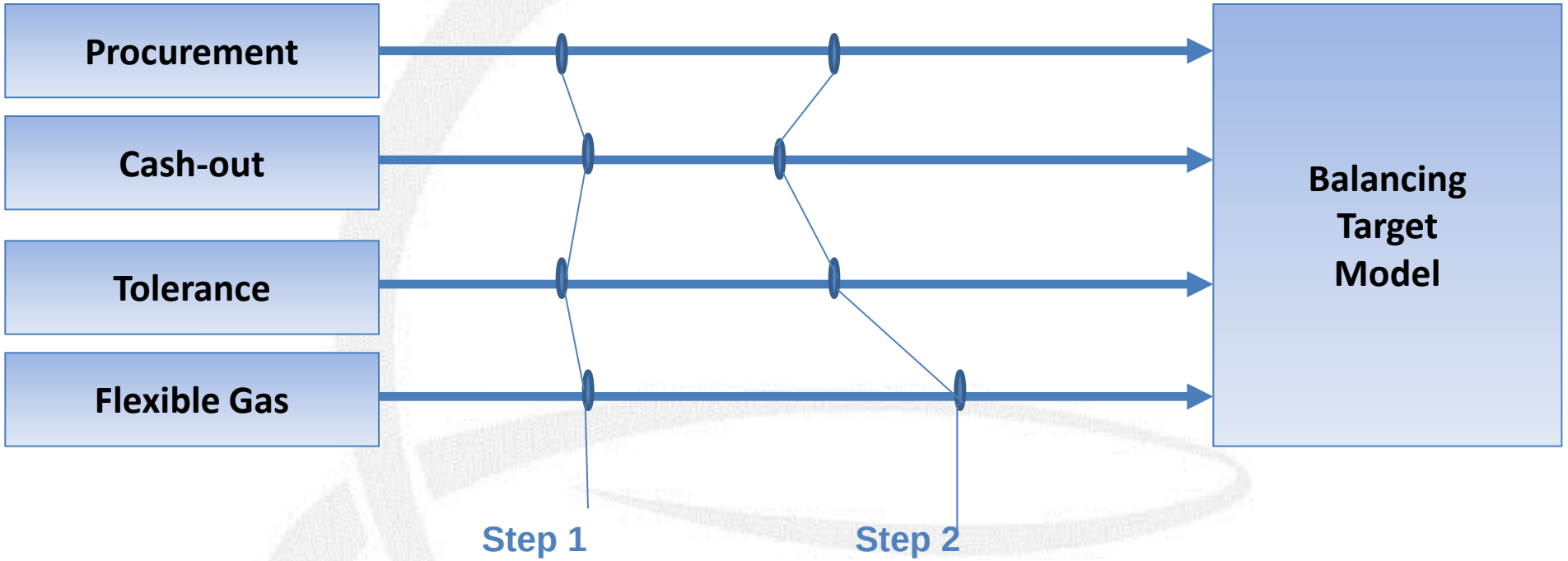
the criteria for progress from one step to the next?

Delivery of effective functioning transition



Even the most challenging journey has to start with a first step

Planning the implementation



… developing packages of changes probably the best way forward


entsog
fair partner to all

Responding to the ENTSOG consultation

CEEC Road Show on the BAL NC

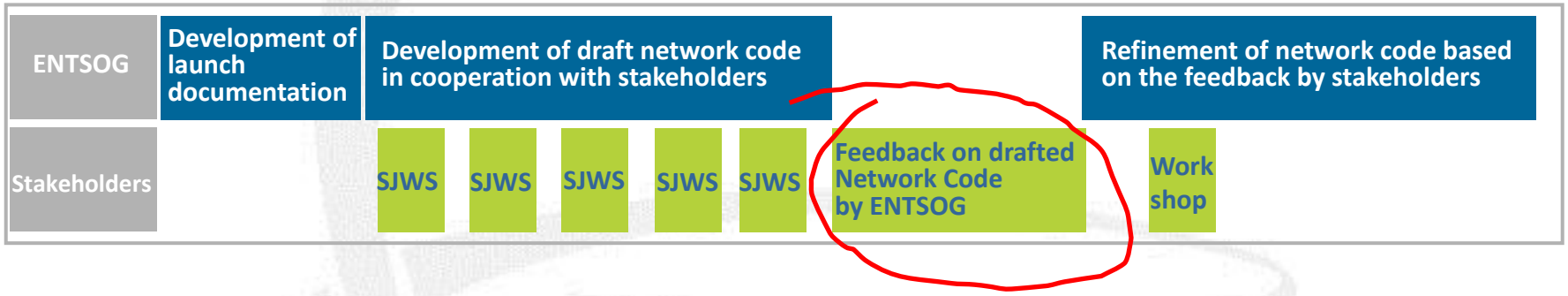
Tori Gerus

Adviser

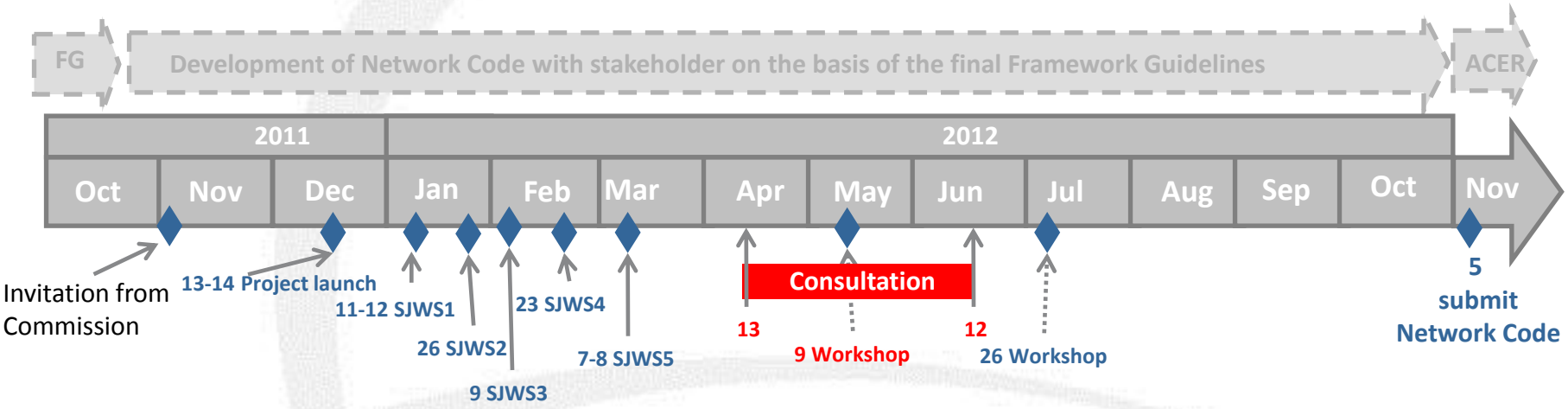
Vienna, Austria -- 18 April 2012

BAL NC process: joint project for ENTSOG and stakeholders

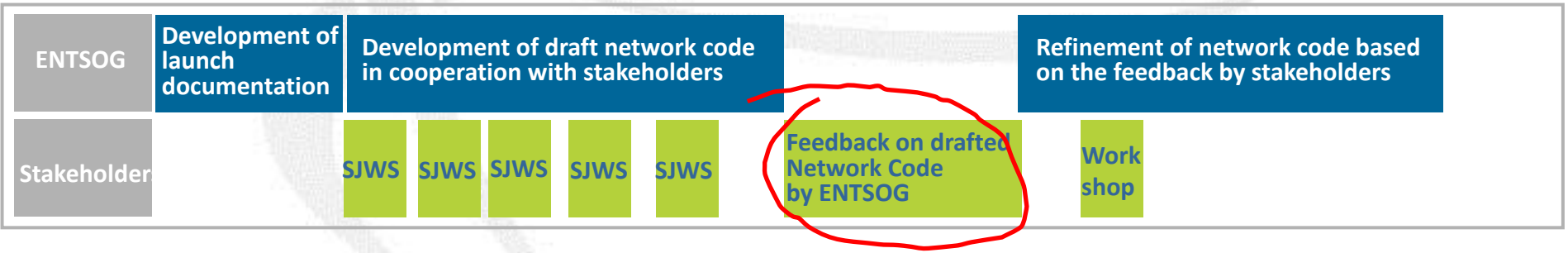
Main phases of activities of ENTSOG and stakeholders in BAL NC process



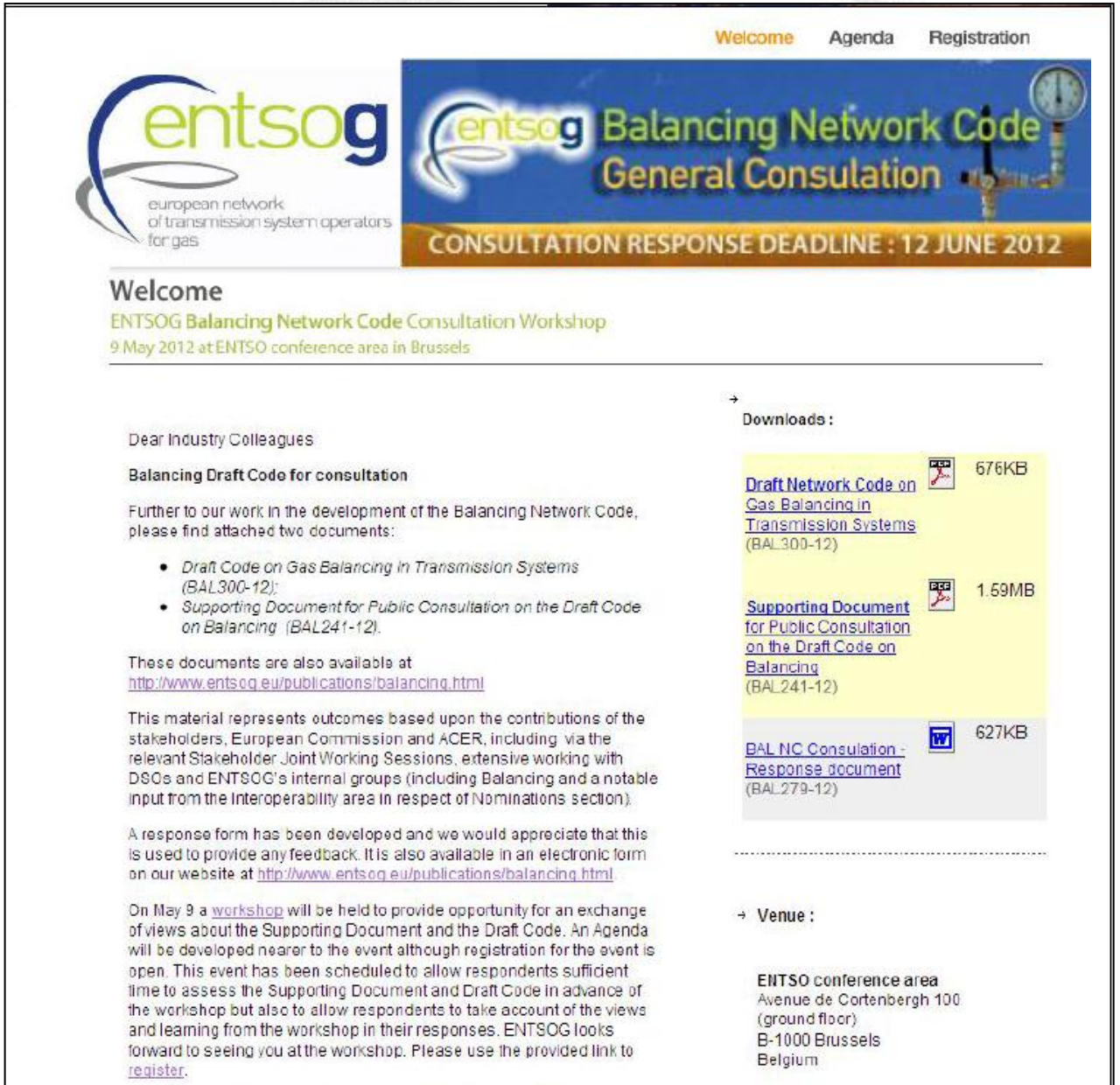
Feedback phase: 13 April – 12 June



Main phases of activities of ENTSOG and stakeholders in BAL NC process



Consultation launched via invitation and website



Welcome Agenda Registration

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entsog Balancing Network Code General Consulation

CONSULTATION RESPONSE DEADLINE : 12 JUNE 2012

Welcome

ENTSOG **Balancing Network Code** Consultation Workshop

9 May 2012 at ENTSO conference area in Brussels

Dear Industry Colleagues

Balancing Draft Code for consultation

Further to our work in the development of the Balancing Network Code, please find attached two documents:

- *Draft Code on Gas Balancing in Transmission Systems (BAL300-12);*
- *Supporting Document for Public Consultation on the Draft Code on Balancing (BAL241-12).*

These documents are also available at http://www.entsog.eu/publications/balancing.html

This material represents outcomes based upon the contributions of the stakeholders, European Commission and ACER, including via the relevant Stakeholder Joint Working Sessions, extensive working with DSOs and ENTSOG's internal groups (including Balancing and a notable input from the Interoperability area in respect of Nominations section).

A response form has been developed and we would appreciate that this is used to provide any feedback. It is also available in an electronic form on our website at http://www.entsog.eu/publications/balancing.html

On May 9 a workshop will be held to provide opportunity for an exchange of views about the Supporting Document and the Draft Code. An Agenda will be developed nearer to the event although registration for the event is open. This event has been scheduled to allow respondents sufficient time to assess the Supporting Document and Draft Code in advance of the workshop but also to allow respondents to take account of the views and learning from the workshop in their responses. ENTSOG looks forward to seeing you at the workshop. Please use the provided link to register.

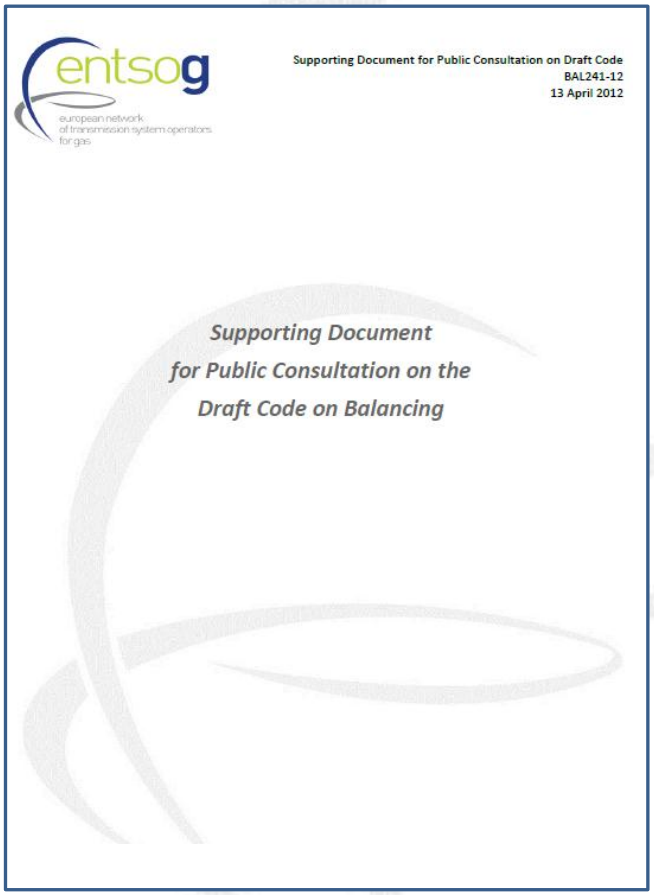
Downloads :

Draft Network Code on Gas Balancing in Transmission Systems (BAL300-12)	676KB
Supporting Document for Public Consultation on the Draft Code on Balancing (BAL241-12)	1.59MB
BAL NC Consulation - Response document (BAL279-12)	627KB

Venue :

ENTSO conference area
Avenue de Cortenbergh 100
(ground floor)
B-1000 Brussels
Belgium

2-part public consultation document



entsog
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Supporting Document for Public Consultation on Draft Code
BAL241-12
13 April 2012

Supporting Document
for Public Consultation on the
Draft Code on Balancing

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european network of transmission system operators for gas

Draft Code on Balancing for Consultation
BAL300-12
13 April 2012

Draft Code on Gas Balancing

in Transmission Systems

An ENTSOG Draft Network Code for Public Consultation

Approved by the ENTSOG Board on 12 April 2012

This document constitutes the Draft Code on Gas Balancing in Transmission Systems developed by ENTSOG (hereinafter the 'Network Code').

The Network Code was developed following an invitation letter from the European Commission to draft a network code on gas balancing rules which was received by ENTSOG on 4 November 2011. The development of such code is based upon the Framework Guidelines on Gas Balancing in Transmission Systems published by ACER on the 18 October 2011.

This Network Code is accompanied by a Supporting Document for Public Consultation on the Draft Code on Balancing (Ref. BAL 241-12, available on the ENTSOG website) to invite the stakeholders to provide views on issues raised throughout the document as part of the public consultation.

For the avoidance of doubt, the Supporting Document for Public Consultation shall not be construed as part of the Network Code and is publicly disclosed to the market for consultation purposes only and without any commitment whatsoever from ENTSOG as to the final content of the Network Code. Any and all interested parties, in their capacity as professional stakeholder, shall be responsible for seeking to obtain the accurate and relevant information needed for their own assessment and decision to respond to the consolation.

ENTSOG hereby disclaim all responsibility for changes to the Network Code as presented. Such changes may result from amongst others the results of the consultation or comitology procedure.

Additionally, the content of the Network Code and Supporting Document for Public Consultation should not be considered to give rise to any specific right or obligation whatsoever to ENTSOG or any of its Members as to any stakeholder.

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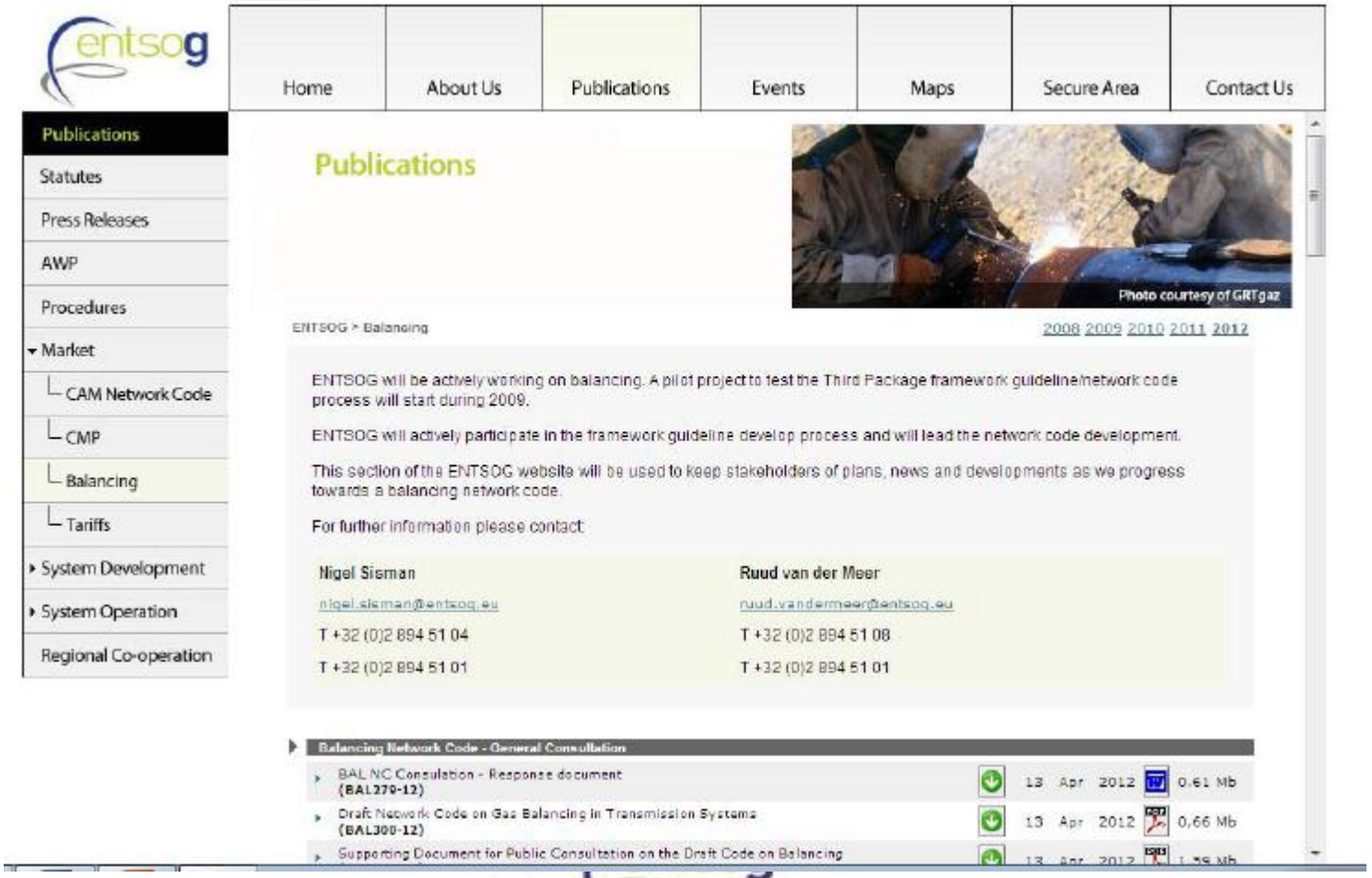
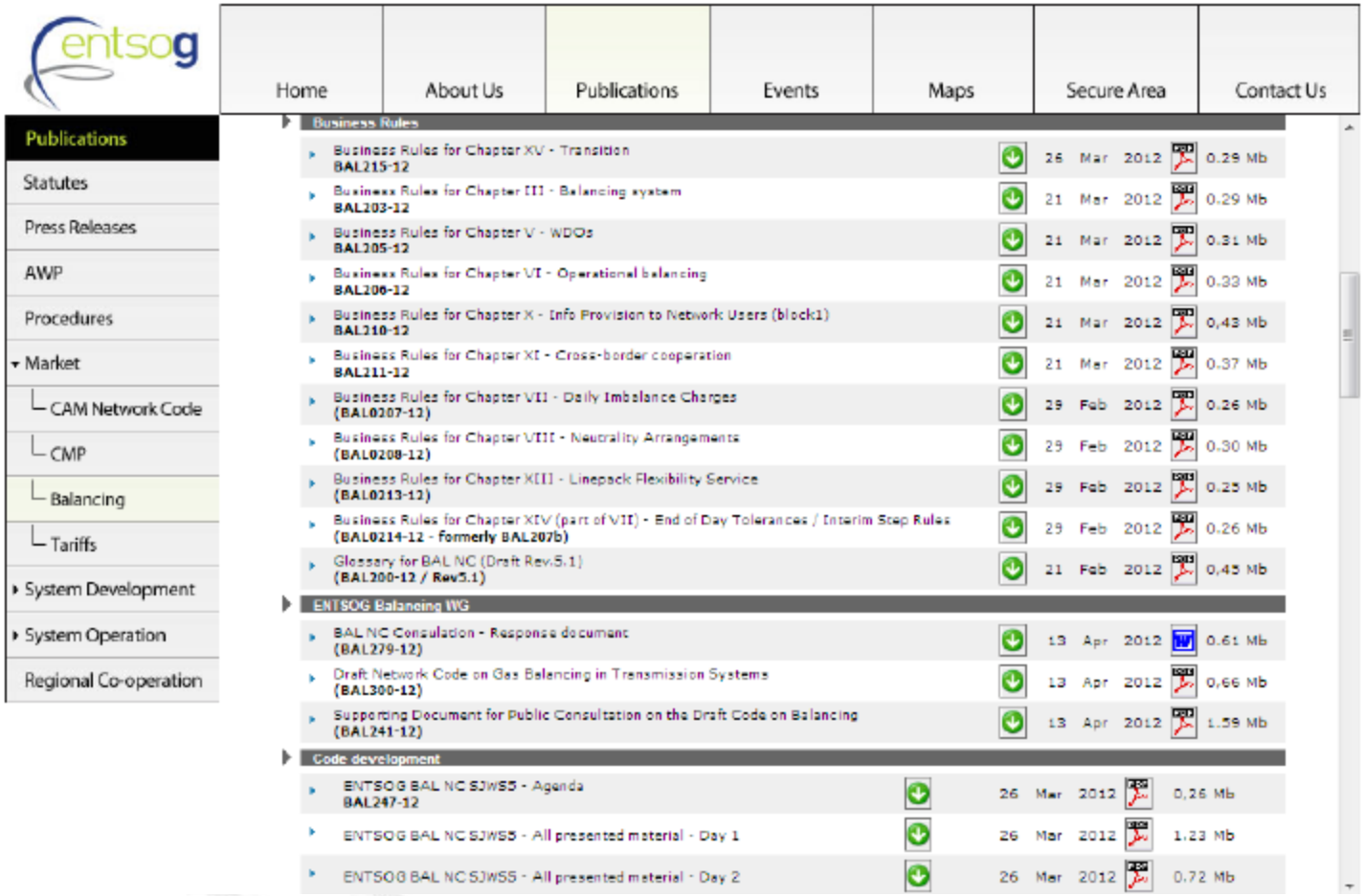
ENTSOG BAL NC publications – website archive



ENTSOG website – SJWS materials, business rules



Consultation Workshop: 9 May, Brussels

Registration open

- Long-enough after launch so respondents will have taken initial views/response on draft BAL NC and related questions
- Early-enough to influence responses with workshop insights gained

- Opportunity for:
  - clarifications (in addition to those raised in bilateral exchanges with ENTSOG)
  - 'testing' of initial views and arguments on policy and industry stakeholders exposition
  - exploration of interaction understanding

Concise, evidence-based arguments sought – rather than assertions or high-level statements

- Country case studies, highlighting both desired and possible unexpected effects with the adoptions of ENTSOG-proposed policy options: under-estimated direct effects; spill-over effects; others;
- Analyses of the technical feasibility and commercial viability of implementing a proposed requirement in the ENTSOG proposed policy option vs. stakeholder-preferred option
- Scenario ‘testing’ policy alternatives, leading to a preferred policy options different from that proposed by ENTSOG
- Other qualitative and quantitative evidence to provide insight on policy options considered to date or NEW arguments

Thank You for Your Attention

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WWW: www.entsog.eu


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