





# **Balancing network code (BAL NC) – SJWS1**

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## **Welcome**

**Nigel Sisman**

Business Area Manager, Market

11-12 January 2012 - Diamant Centre, Brussels

# Session agenda

Housekeeping

Welcome / Introductions

SJWS1 agenda



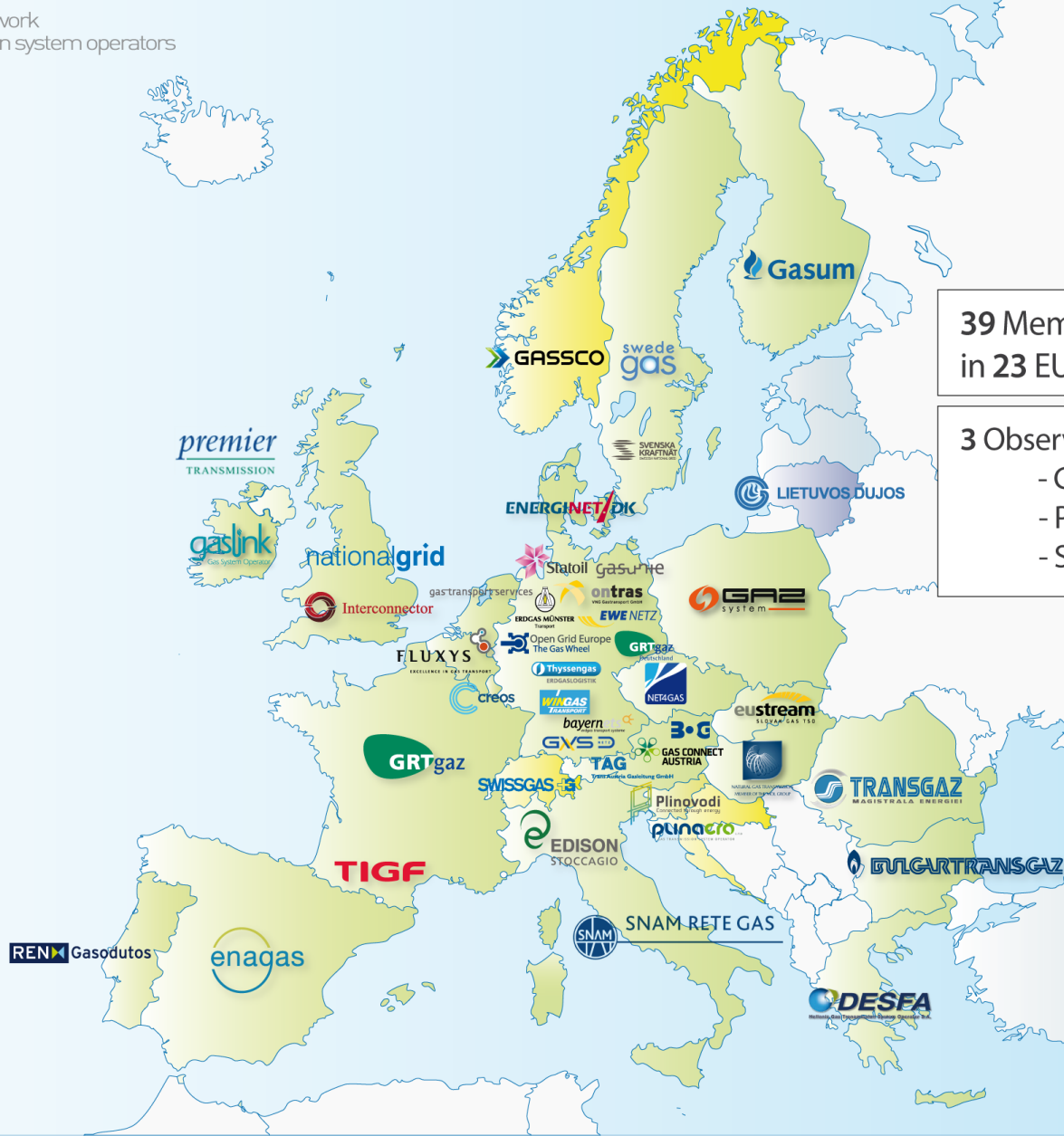
# ENTSOG mission and commitment

To deliver on 'Third Package' requirements, including:

- Network codes
- 10-Year Network Development Plans (TYNDPs)

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





**39 Members and 1 Associated Partner  
in 23 EU countries**

**3 Observers from EU affiliate countries**

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

# SJWS1: Day 1 agenda

o.	Description	Presenter	Time
	<b>Registration and pre-workshop coffee</b>		<b>from 10:00</b>
1.	<b>ENTSOG welcome and introduction</b>	N. Sisman	10:30-10:35
2.	<b>Approach to network code development</b> <ul style="list-style-type: none"> <li>Importance of definitions</li> <li>SJWS approach to building a definition dictionary to support all code/guideline developments</li> <li>Architecture of codes/guidelines</li> <li>Development of business rules</li> <li>Discussion</li> </ul>	T. Gerus	10:35-10:50
3.	<b>Imbalances</b> <ul style="list-style-type: none"> <li>Review of statutory definition</li> <li>Definitional issues for imbalance quantity determination: inputs and off-takes</li> <li>Other definitions related to “imbalance” concepts</li> <li>Imbalance price determination</li> <li>Discussion</li> <li>Conclusions</li> </ul>	N. Regan	10:50-12:00
4.	<b>Nominations</b> <ul style="list-style-type: none"> <li>Current definition &amp; interpretation</li> <li>Identification of new terminology required</li> <li>‘Strawman’ business rules</li> <li>Discussion</li> <li>Conclusions</li> </ul>	N. Sisman C. Mangin	12:00-13:00
	<b>Lunch</b>		<b>13:00-14:00</b>
5.	<b>Information flows and provision</b> <ul style="list-style-type: none"> <li>Stakeholder aspirations for Information requirements to support daily balancing (by network users)</li> <li>Detailed examination of models to support delivery of framework guidelines</li> <li>Assessments of delivery models</li> <li>Assessments of issues relating to delivery model</li> <li>Links to imbalance calculation</li> <li>Discussion</li> <li>Conclusions</li> </ul>	J. Quainon P. de Wit	14:00-15:30
	<b>Coffee break</b>		<b>15:30-15:45</b>
i.	<b>Information flows and provision (continued)</b>		<b>15:45-17:00</b>
6.	<b>Conclusions from Day 1</b>	N. Sisman	<b>17:00-18:00</b>

# SJWS1: Day 2 agenda

No.	Description	Presenter	Time
	<b>Pre-workshop coffee</b>		<b>from 8:30</b>
1.	<b>VTP and balancing platforms</b> <ul style="list-style-type: none"> <li>• VTP trade concepts</li> <li>• Interfaces to settlement systems</li> <li>• Discussion</li> <li>• Conclusions</li> </ul>	R. van der Meer	9:00-11:00
	<b>Coffee break</b>		<b>11:00-11:15</b>
2.	<b>Balancing products</b> <ul style="list-style-type: none"> <li>• Background: operational aspects of gas transmission</li> <li>• Different types of balancing products</li> <li>• Merit order</li> <li>• Preliminary assumptions on specification of standardised products</li> <li>• Discussion</li> <li>• Conclusions</li> </ul>	L. De Wolf S. Rose	11:15-13:00
	<b>Lunch</b>		<b>13:00-14:00</b>
3.	<b>Within-day obligations (WDOs)</b> <ul style="list-style-type: none"> <li>• Review of criteria</li> <li>• Initial identification of interaction with other aspects                             <ul style="list-style-type: none"> <li>◦ End-of-day settlement</li> <li>◦ Neutrality</li> </ul> </li> <li>• WDO business rules and/or draft BAL NC text for topic</li> <li>• Discussion</li> <li>• Conclusions</li> </ul>	R. van der Meer K. Bouwens	14:00-15:30
	<b>Coffee break</b>		<b>15:30-15:45</b>
4.	<b>Conclusions from Day 2</b>	N. Sisman	15:45-16:30



**Questions or comments?**



# Thank you for your attention.

## Content matters

Additional questions can be directed to:

### **Ruud van der Meer, Adviser**

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## Process matters

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### **Victoria (“Tori”) Gerus, Adviser**

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# **Balancing network code (BAL NC) – SJWS1**

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## **Approach to network code development**

**Tori Gerus**  
Adviser

11-12 January 2012 - Diamant Centre, Brussels

# Session agenda

Objectives

Progress to date

Network code structure

From topic to draft network code

SJWS2 agenda



## Objectives

Progress review

Network code structure

From topic to draft network code

SJWS2 agenda

# Network code development – objectives

- Producing a TSO-led balancing network code (BAL NC) in 12 months, i.e., by 5 November 2012
- Fulfilling Regulation (EC) 715/2009 obligations for ENTSOG to
  - *“conduct an extensive consultation process, at an early stage and in an open manner, involving all relevant market participants”*
  - *“deliver a network code in line with the framework guidelines”*

Objectives

## **Progress review**

Network code structure

From topic to draft network code

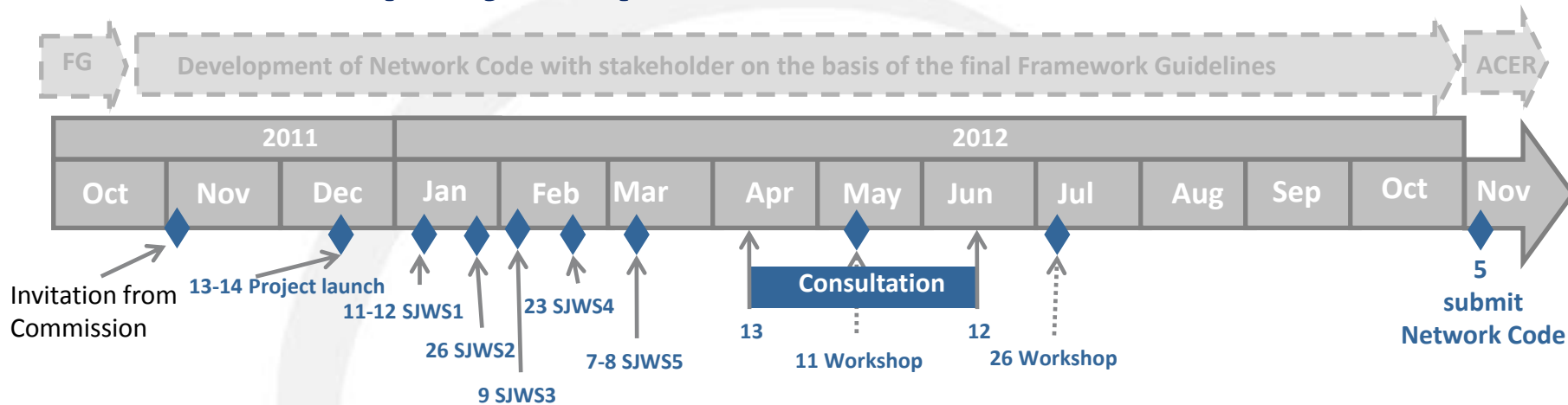
SJWS2 agenda

# Launch Workshop accomplishments

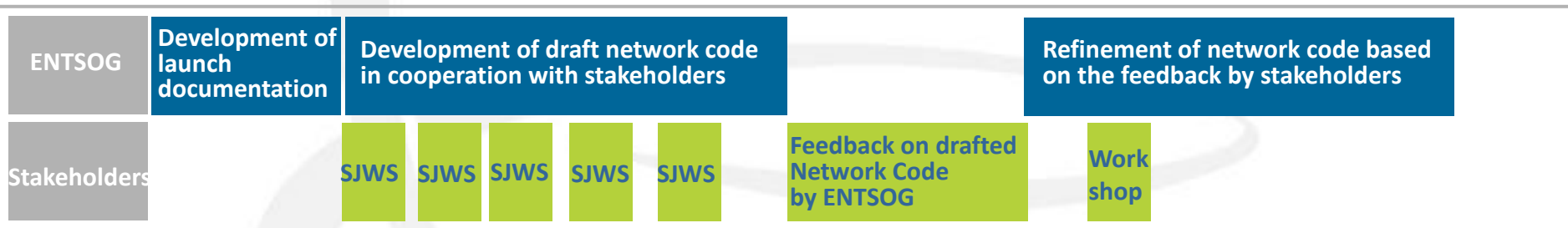
- **Established strong engagement with prime movers and other stakeholders**
- **Clarified “Balancing Target Model” (BTM)**
- **Introduced key topic areas**
  - VTP trading
  - Imbalances and related charges
  - Information provision
  - Within-day obligations (WDOs) and other incentives
  - Wider commercial topics
  - Transition/interim measures
- **Recognised multiple uses and misunderstandings for term “nominations”**
- **Moved into working phase of network code development**



# BAL NC project plan – as of SJWS1 (11/01/12)



## Main activities of ENTSOG and stakeholders during BAL NC development phase



## Topic schedule across SJWSs

### SJWS1

#### Topic exploration

- Defining imbalances
- Nominations
- Information flows and provision
- VTP and related
- Balancing products
- WDOs

### SJWS2

- see final section of presentation

### SJWS3

To be confirmed

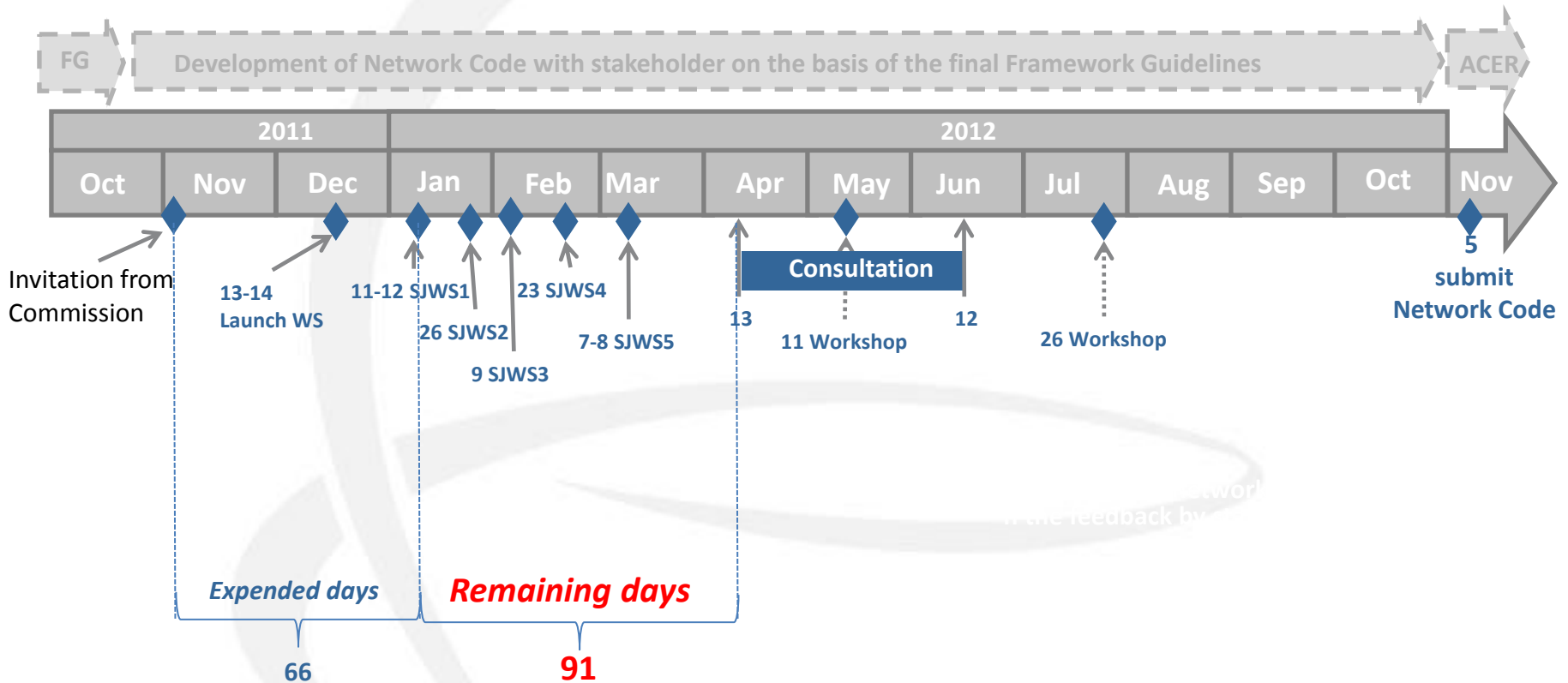
### SJWS4

To be confirmed

### SJWS5

To be confirmed

# BAL NC project plan – code dev. phase



Objectives

Progress review

**Network code structure**

From topic to draft network code

SJWS2 agenda



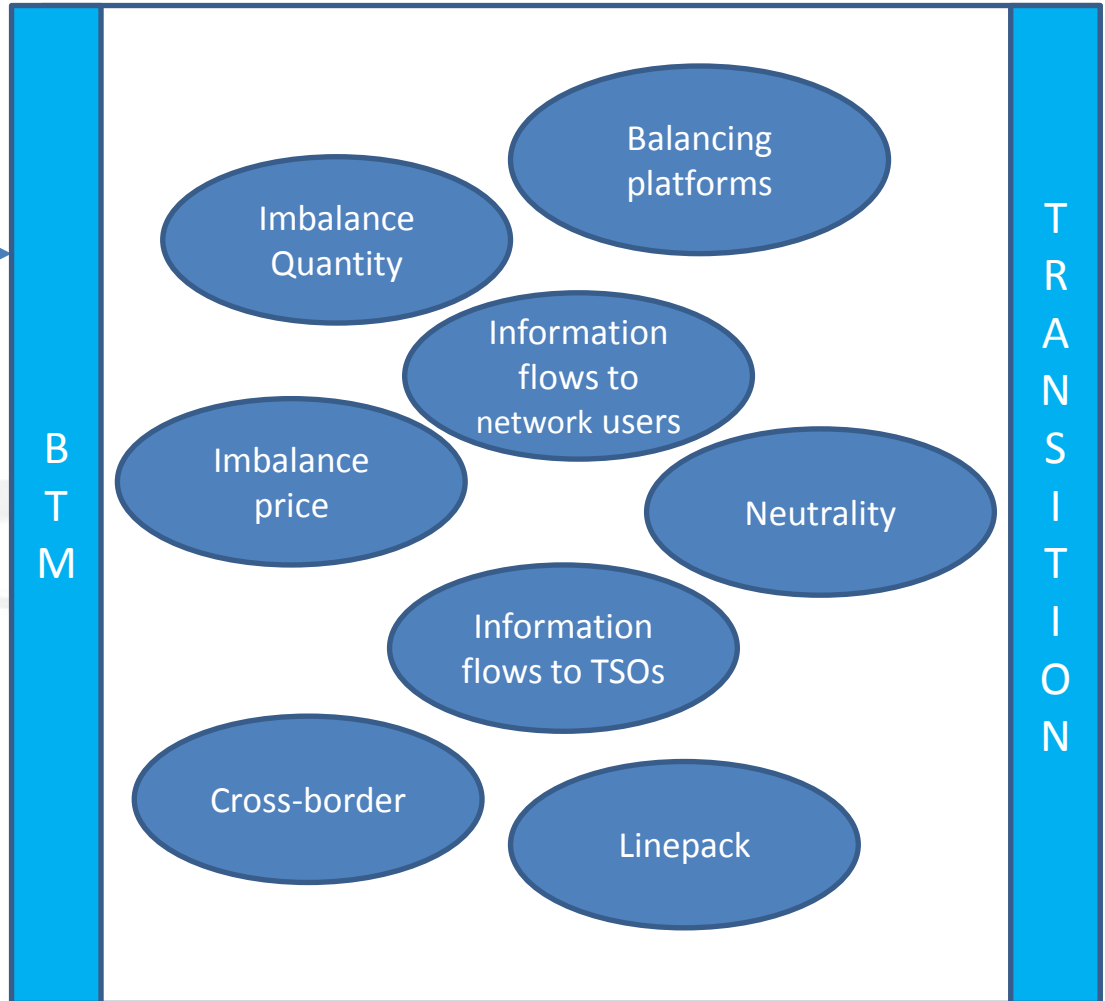
# Code development – structure

## Framework Guidelines structure

- General provisions
- Principles for network users and TSO roles and responsibilities
- Buying and selling of flexible gas and balancing services by TSOs
- Balancing period and nomination procedure
- Imbalance charges
- TSO information provision obligations
- Cross-border cooperation
- Transitional period, compliance and monitoring



## Issue/topic areas



**Aspiration to deliver an indicative NC structure for discussion at SJWS2**



Objectives

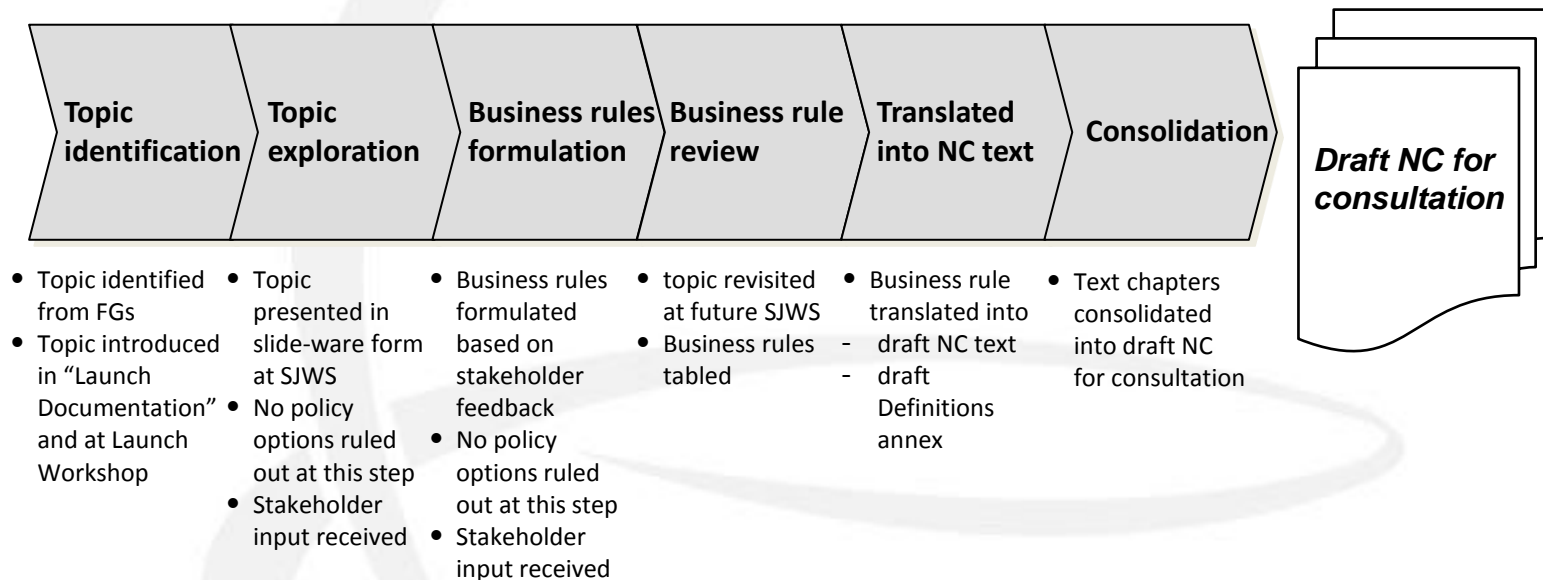
Progress review

Network code structure

**From topic to draft network code**

SJWS2 agenda

# Code development – from topic to draft text



# Development of Definitions annex

- Definitions in Directives, Regulations, and codes need to be consistent
- Initial definition list in Launch Documentation
- Today's event should provide valuable learning about:
  - Imbalance
  - Nomination/re-nomination
- Process for management of definition list to be defined

## ANNEX I

### Definitions

For the purposes of this Decision, the following definitions shall apply:

- 'balancing platform' means a trading platform on which flexible gas is bought and sold, balancing services are procured and the transmission system operator (TSO) is party to every trade.
- 'balancing regime' means the rules and agreements that apply to portfolio and TSO balancing, including the procurement of flexible gas, balancing services and imbalance charges.
- 'balancing services' means the additional services (i.e. additional to the buying and selling of flexible gas) that a TSO may buy in order for the system to remain within safe operational limits, for example the ability to inject/ withdraw gas into/ from storage.
- 'balancing zone' means an entry-exit system, which may consist of more than one system, as defined in Article 2(13) of the Gas Directive, to which a specific balancing regime is applicable. Distribution systems may be part of the balancing zone. The entries from storage and LNG into the transmission system as well as the exits from the transmission system into the storage are part of the balancing zone.
- 'cross-border balancing zone' means a balancing zone which consists of (parts of) more than one Member State.
- 'cross-border balancing' means the exchange or trading of flexible gas between neighbouring balancing zones in order to improve efficiency and facilitate market integration and the arrangements of network users to net their imbalances across two adjacent balancing zones. These balancing zones could be within the same, or in adjacent Member States.

Objectives

Progress review

Network code structure

From topic to draft network code

**SJWS2 agenda**





# BAL NC SJWS2 – draft agenda

## **Balancing target model (BTM)**

### ***Business rules review***

- Imbalance quantities
- Imbalance charges
- Nominations
- Balancing products merit order

### ***Topic exploration***

- Linepack
- Neutrality

## **Interim measures/transition**

### ***Business rules review***

- Balancing platform

### ***Topic exploration***

- Interim measures: individual areas and Interactions
- Tolerances
- Imbalance price proxies
- Interim allocation arrangements
- Release of surplus flex

## **Gap analysis and planning**

- Identification of any outstanding content areas to be covered
- Scheduling of issues for SJWS3,4,5



**Questions or comments?**



**Thank you for your attention.**



# **Balancing network code (BAL NC) – SJWS1**

## **—**

### **Daily Imbalance Charge**

Noel Regan  
ENTSOG Commercial Framework Kernel Group

11-12 January 2012 - Diamant Centre, Brussels

# Approach

- At the launch meeting ENTSOG presented high level summary of the Daily Imbalance Charge Mechanism
- Today we will present more detailed views on specific issues raised
- Feedback from today's session is intended to inform the drafting of initial business rules for presentation at future SJWS
- This presentation relates to the Balancing Target Model and not interim steps

# Imbalances charges – concept recap

<b>Imbalance Charge</b>	<b>=</b>	<b>Imbalance Quantity</b>	<b>x</b>	<b>Imbalance Price</b>
the charge applied by a TSO to Network Users for financial settlement of the Imbalance Quantity		the difference in energy of a Network Users Inputs and offtakes within a balancing period,		A price for each balancing Period and consists of a “marginal sell” price that is applied to over deliveries of gas by a Network User and a “marginal buy” price that is applied to under deliveries by a Network User

## Key Assumption

- this methodology is based on a the Balancing Target Model. This model requires “sufficient liquidity” to function. In the event that there is not sufficient liquidity then the interim measure “imbalance price proxy” will be required.

# Imbalance Quantity



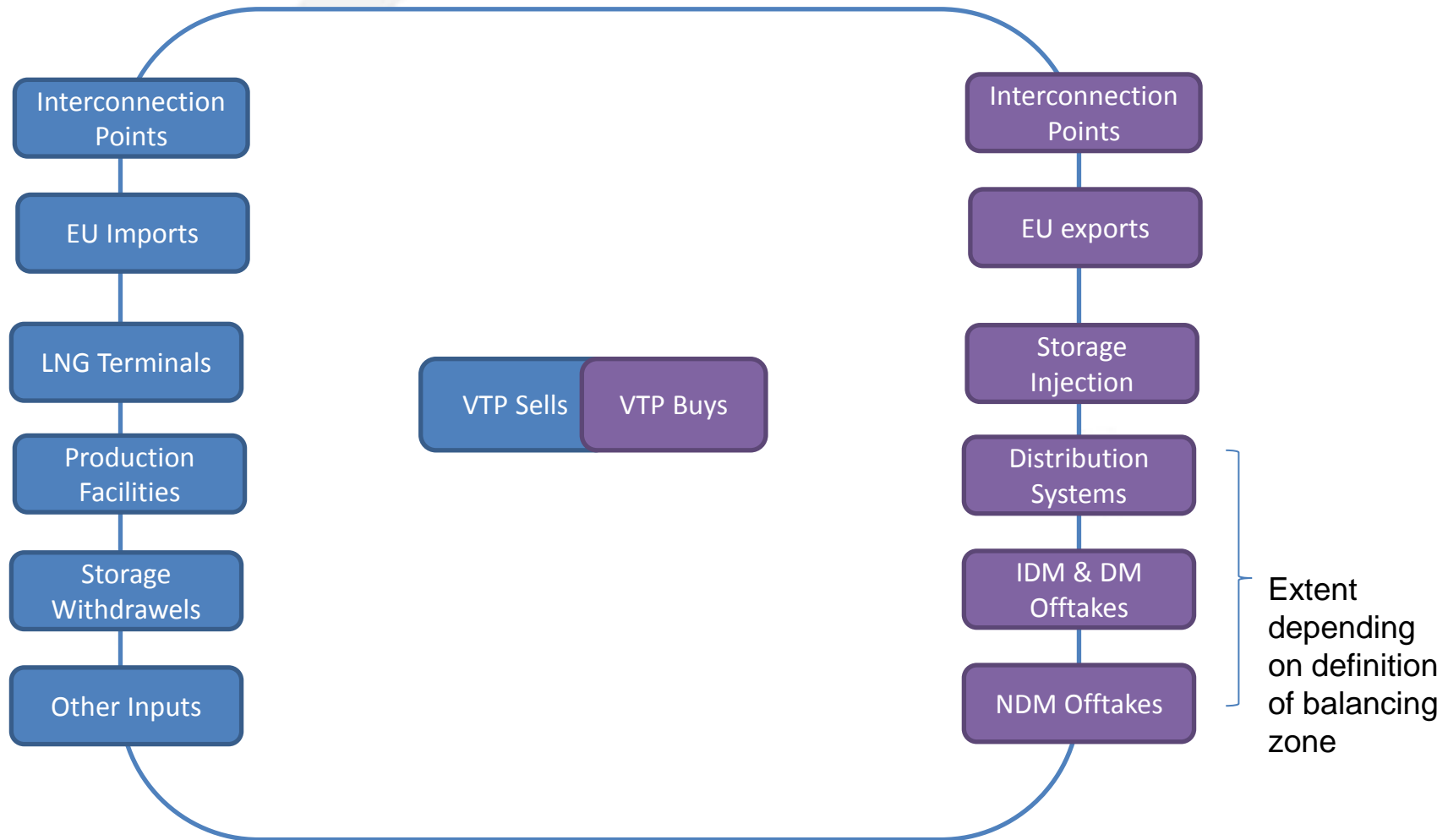
# Imbalance Quantity

Imbalance Quantity = (Final Entry Allocation + VTP Buy Confirmations) – (Final Exit Allocation + VTP Sell Confirmations)

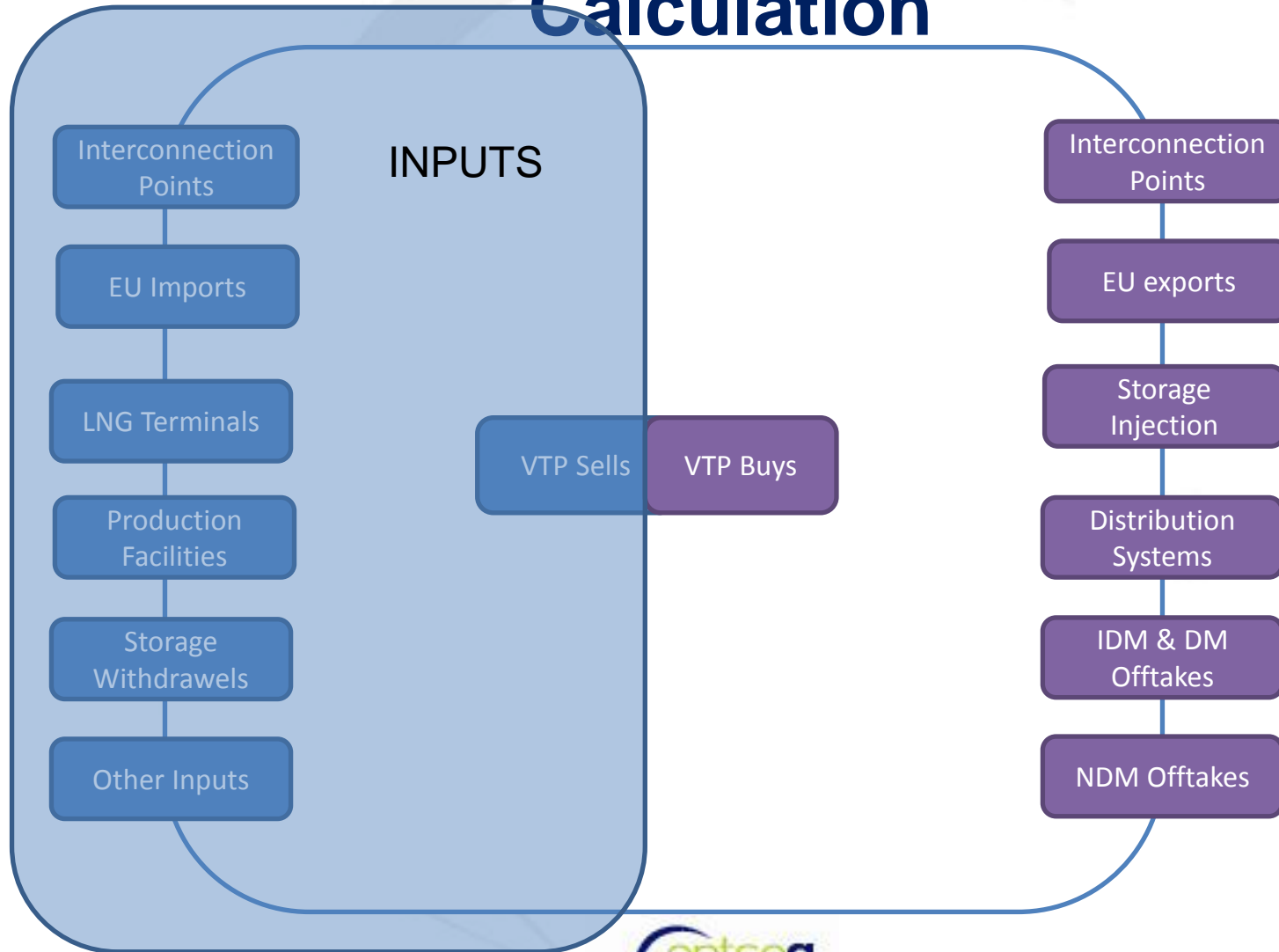
Where,

Allocation	the shares of the measured or deemed offtakes and inputs given to a single Network Users portfolio.
Entry	means gas entering the Balancing Zone, for example inputs can include gas delivered via interconnection points, EU Import points, LNG terminals, production facilities, storage facilities withdrawals, adjacent areas.
Exit	means gas exiting the Balancing Zone, for example offtakes can include gas taken via consumers directly connected, interconnection points, EU Export Points, adjoining distribution systems, storage facilities injections, adjacent areas.
VTP Buy Confirmation	An amount of gas that a Network User purchases at the Virtual Trading Point.
VTP Sell Confirmation	An amount of gas that a Network User sells at the Virtual Trading Point.

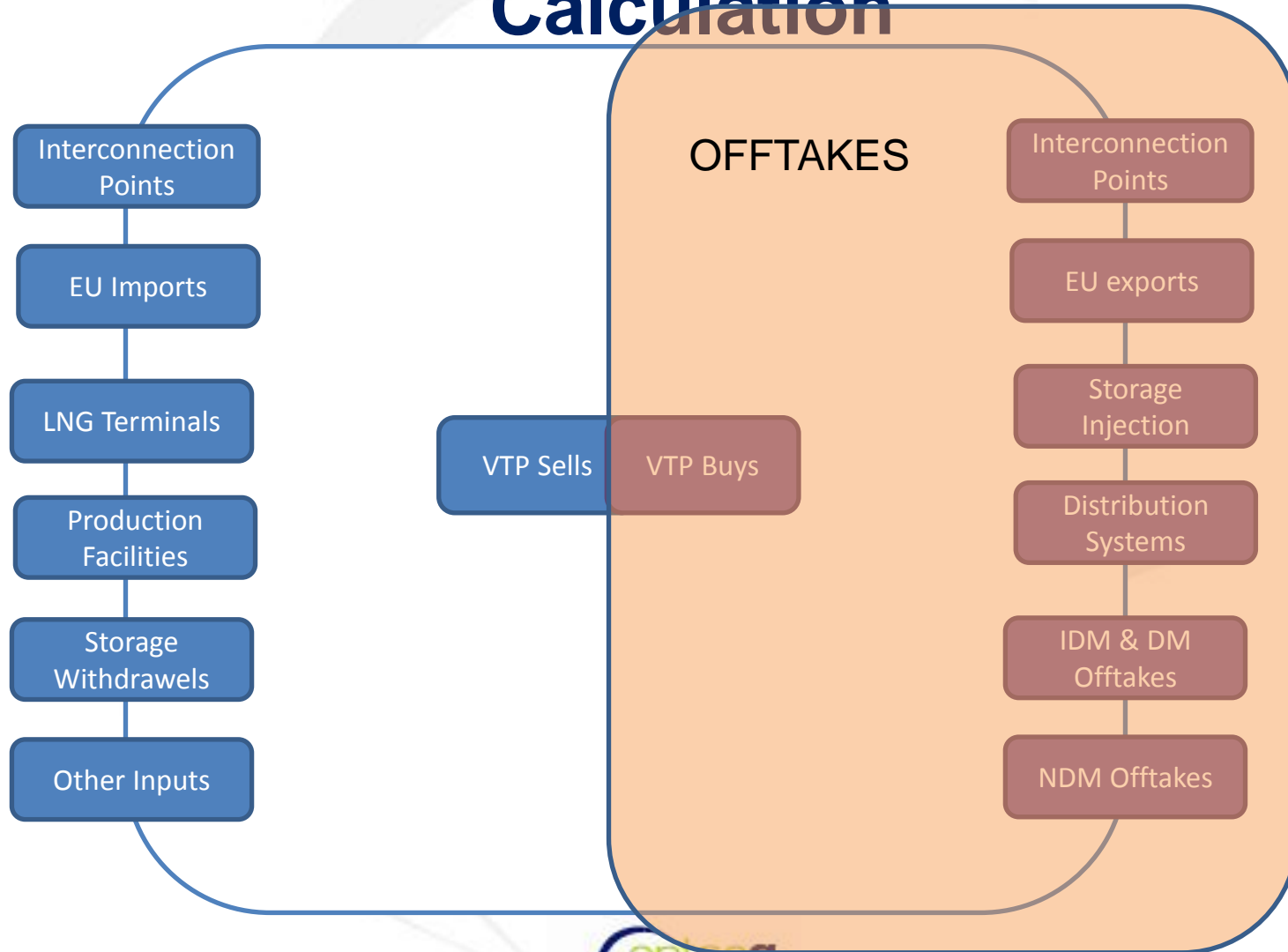
# Illustration of Daily Imbalance Calculation



# Illustration of Daily Imbalance Calculation



# Illustration of Daily Imbalance Calculation



# Allocation Process

- An allocation process is used to determine how much gas actually flowed into and out of the system and to whom it belonged
- This allows for appropriate imbalance charges to be levied (amongst other things)

## **Assumption:**

- The basic principle derived from the primary objectives of the Balancing code is that on all points the total flow should be allocated.
  - The Balancing network code will not seek to reopen allocation processes that already exist unless they are detrimental to the efficiency of the balancing regime.

Suggestion: The above assumption should be reflected in a principle and documented in the Balancing network code.

# Allocation Process

Some further supporting principles for end consumer offtakes

- For end consumer offtake points with Intraday or daily meters the allocation should be based upon measured flows associated with the balancing period
- For end consumers with non-daily meters the allocation should be based on a ex-post estimate, taking account of actual weather conditions, aggregate flows to group, etc.

# **Examination of NDM Allocation**

# NDM Allocation

- An important element of the Final Exit Allocation is the NDM Exit Allocation.
- This is gas quantity offtaken by non-daily metered customers, who typically lie on the distribution system
- The Network User is to be provided with end of day forecasts within the balancing period
- ENTSOG proposes that these are referred to as NDM Derived Forecasts.
- A key principle that underpins the Balancing Target Model (BTM) envisaged within the framework guideline is that networks users should seek to balance their portfolios, with inputs (Final Entry Allocations +VTP Buy Confirmations) matching as close as possible to actual offtakes (Final Exit Allocations + VTP Sell Confirmations), thereby minimising the TSOs role.
- Thus the provision of NDM Derived Forecasts (provided that they are sufficiently close to the NDM Exit Allocation) should allow the Network Users to secure gas as close as possible to their expected offtakes for this category of customers.



# NDM Forecast

The NDM Derived Forecasts are important to all parties:

**Network Users** : Given that part of the Network User's cash-out exposure is influenced by the difference between the NDM Exit Allocation and the final NDM Derived Forecast the provision of accurate NDM Derived Forecasts will be a key enabler for the Network Users to be **able to track demands** and therefore take actions that will **minimise their end-of-day imbalance** exposures.

**TSO** : The TSO will also have an interest in ensuring that the NDM Derived Forecast is accurate, as it should mean that the **TSOs role in balancing will be minimised**. Indeed the framework guidelines provide for an incentive on TSO to **reduce balancing costs** – therefore the accuracy of this forecast may be a key enabler for the TSO being rewarded under such an incentive.

# NDM Forecast

## Working Assumption

As both parties will have an interest in an accurate forecast, it may be useful to discuss possible avenues for assisting this, for example - prescribe the publication of the accuracy of any NDM Derived Forecasts and that Network Users should have the opportunity to participate in the regular review of the NDM Derived Forecasts processes. This would clearly require DSO involvement as NDM customers will typically lie on their system.

# Imbalance Price

# Imbalance charges – price-setting

**Imbalance Price** : will be determined for each Balancing Period and consist of a “marginal sell or buy”

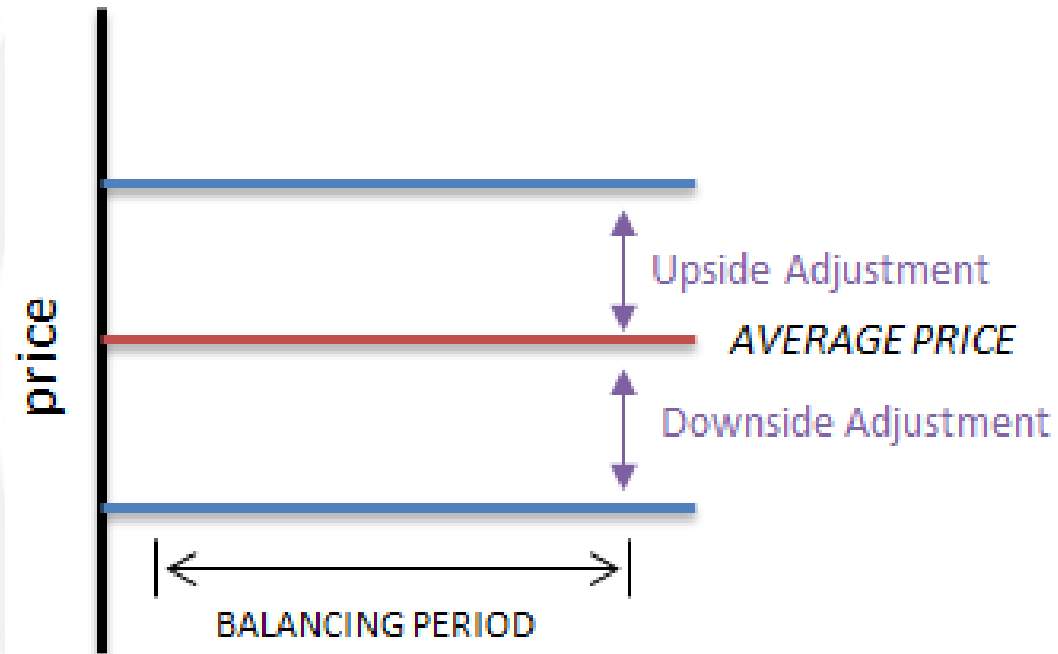
**Marginal Buy Price**: a price based on the higher of:

- The highest price of any gas balancing trading to which the TSO is a party in respect of the balancing period (excluding locational or temporal products, and)
- The weighted average price of gas traded in respect of that day (this price may include a small adjustment to incentivise Network Users to balance)

**Marginal Sell Price** – a price based on the lower of:

- the lowest price of any gas balancing trading to which the TSO is a party in respect of the balancing period (excluding locational or temporal products); and
- the weighted average price of gas traded in respect of that day. (This price may include a small adjustment to incentivise Network Users to balance).

# Recap of Model



# Some Issues to resolve pre-drafting

ENTSOG believe the text has sufficient clarity to develop code text, albeit with some issues for consideration:

Marginal Buy and Sell Price:

**Option 1:** Only within-day trades made by the TSO for balancing the system shall be used to define the imbalance price

**Option 2:** All pre-gas day and within-day trades made by the TSO for balancing the system in respect of the specific balancing period shall be used to define the imbalance price.

Initial Assumption: Option 2 is suitable

# Average market price

## Definition of average wholesale price

### 1. Applicable trades

- Only title trades or wider definition to allow for locational trades (temporal trades should not be included) for example:

–Weighted average price = the sum of all applicable trades divided by the sum of the applicable traded quantities in respect of that balancing period

### 2. Source of Trades

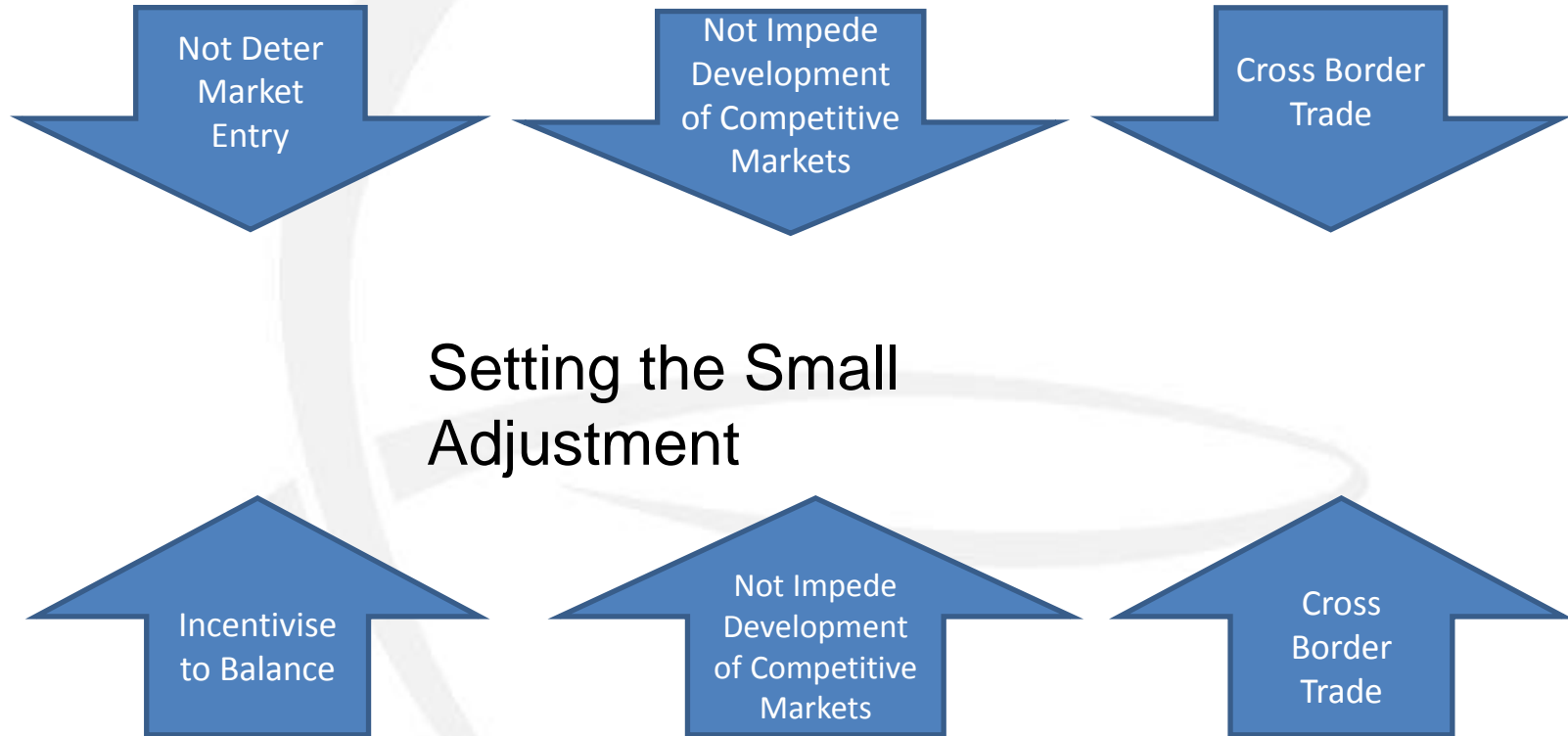
- Requirement for market reflective price
- Sources need to be reliable and transparent
- Considered in more detail tomorrow

# Small Adjustment

- The framework guidelines provide that the Imbalance charge may include a small adjustment to incentivise users to balance their portfolios.
- A consistent formula, or methodology, for defining a small adjustment is an option but if it may not be viable given that the chosen methodology may not be suitable in all cases.
  - Also risk of unintended effects
- An alternative approach of defining criteria could be considered. The framework guidelines provide that the small adjustment shall be:
  1. Incentivise Network Users to balance their portfolio efficiently
  2. Designed and applied in a non discriminatory manner
  3. Not deter market entry or
  4. Not impede the development of competitive markets.



# Setting a “Small Adjustment”



# Small Adjustment

- The framework guidelines do not specify a detrimental impact on cross border trade as a specific criteria and ENTSOG would welcome views on whether this or any other criteria should be a consideration in the development of the code.

## Initial Assessment:

- Impact on cross border trade should be added as an additional criteria

# Key Issues for Discussion

1. The Balancing network code will not seek to reopen allocation processes that already exist unless they are detrimental to the efficiency of the balancing regime
2. Allocation of end consumers with intraday or daily metered based on measured meter reading
3. Allocation of NDM end consumers based on ex-post allocation of total flows
  - Day Ahead forecast allowed for
4. Marginal Price not limited to within day trades rather in “respect of” balancing period
5. Average price can include locational trades
6. Propose additional criteria of “cross border impact” on small adjustment



# Nominations & renominations as a balancing tool

A shipper point of view

# Nominations & renominations...

## □ Nomination and renomination should be harmonised within Europe using EASEE–gas Common Business Practice 2003–002/02

- “Lesser rule” principle for mismatches
- Continuous renomination process during the Gas Day (until three hours before the end of the Gas Day)
- 2 full hour lead time as from the hour bar
- EDIGAS protocol should be the favour way to communicate with TSO and should then be proposed systematically
- Trade’s nomination should have a shorter lead time since there is no gas flow attached to this action

## □ Interactions with other guidelines :

- Single nomination with bundled products within CAM network code
- Limitation of renomination rights within CMP guidelines
- Nomination process within Interoperability framework guidelines

## □ Clear definition need on :

- Nomination (ex-ante / forecasted flow)
- Allocation (ex-post / “measured” flow)
- Reconciliation process (between allocation and final actual consumed quantities)
- Entry point (cross border, in country inter TSO, LNG terminals, Non EU pipes, underground storage, from domestic production, from VTP IP – Interconnection Points)
  - Exit point, input, off-take, ...

# ...as a balancing tool

## □ A shipper has two options to balance its position :

- Buy or sell gas within the balancing zone (usually on the VTP)
- (Re)nominate an entry /exit point upward or downward

## □ A shipper is nominating each entry/exit point (forward and reverse if possible) from adjacent gas infrastructures but would like not to nominate the end customers' exit points since :

- The difference of magnitude between a dozen entry/exit points from the transmission system to adjacent gas infrastructures (other transmission system, underground storage or regasification terminal) compared to (a) thousand(s) exit points towards final customers or distribution networks.
- Instead an “aggregate value” for the off takes within the balancing zone should be provided by the shipper except for specific end customers (multi-supplied, above a certain consumption threshold because of possible impact on the network).

## □ To know how much to (re)nominate, a shipper has to know its off takes on :

- The VTP
- the exits towards adjacent gas infrastructures
- Daily Metered point (end customers on the transmission network and large end customers on the distribution network)
  - Non Daily Metered points (small end customers on the distribution network)

# Data provision

## □ Day-ahead

- A shipper will have to nominate :
  - individually, each entry/exit points from the transmission system to adjacent gas infrastructures (other transmission system, underground storage or regasification terminal)
  - on a aggregate level of the balancing zone, end customers consumption
- TSO and DSO will have to provide :
  - Forecast of the NDM customers

## □ During the day

- TSO and DSO will have to provide :
  - Updates, at least twice a day, of the forecast of the NDM customers due to Intra-day temperature and/or city gate flow measurement (using the usual algorithm or profiling system to have a better forecast of the consumption per shipper)
  - Intra-day metering of some or all end customers on the transmission system
- Shipper will send a revised nomination for end customers consumption on a aggregate level of the balancing zone

## □ After the day

TSO and DSO will provide end of day metering and set the allocation



# Linked topics : Imbalance, allocation & reconciliation

## ❑ Imbalance position should be the sum of :

- The positive (forward flow) or negative (reverse flow) of the last (re)nomination of the day on each entry/exit points from the transmission system to adjacent gas infrastructures (other transmission system, underground storage or re-gasification terminal)
- The end of day position on the VTP
- The last (re)nomination of, on an aggregate level of the balancing zone, end customers consumption

## ❑ Allocation

- Allocation should be equal to TSO's confirmation for all entry / exit points (shippers should not bear this risk).
- Allocation are based on daily metering and calculation based on consumption profiles for small customers on distribution network (but with daily metered city gate gas flow).
- The difference between nomination and allocation should be due to the impossibility of having accurate real time measurements.
- At which price should be billed the difference between the nomination and the gas flow ? Average daily price ?
- The cost should be proportionate to shippers' difference between nomination and allocation.

## ❑ Reconciliation

- Difference between allocation and the final actual consumed quantities due to less than daily metered information, incorrect or missing metering, ...



If Allocation and Reconciliation will not be handled by the Balancing Network Code, where or when will it be ?





# **Balancing network code (BAL NC) – SJWS1**

## **–**

## **Nominations**

**Nigel Sisman**  
Business Area Manager, Market

11-12 January 2012 - Diamant Centre, Brussels

# Contents

- Nominations definition
- Participant Information requirements
- TSO flow projection information
- Framework Guideline Nomination interpretation
- Discussion
- Approach to develop rules?

- Nominations definition
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# “Nomination” definition – Reg (ec) 715/2009

before

communication from network user to TSO

‘nomination’ means the prior reporting by the network user to the transmission system operator of the actual flow that the network user wishes to inject into or withdraw from the system

physical quantity of flow

intends?

at entry and exit points

‘re-nomination’ means the subsequent reporting of a corrected nomination

updates to be communicated

# “Nomination” definition interpretation

Nominations and re-nomination define information exchange:

- in advance of expected flows on the system
- is provided by network user to the TSO
- is updated as new information becomes available
- is supplied in respect of both entry points into, and exit points from the system

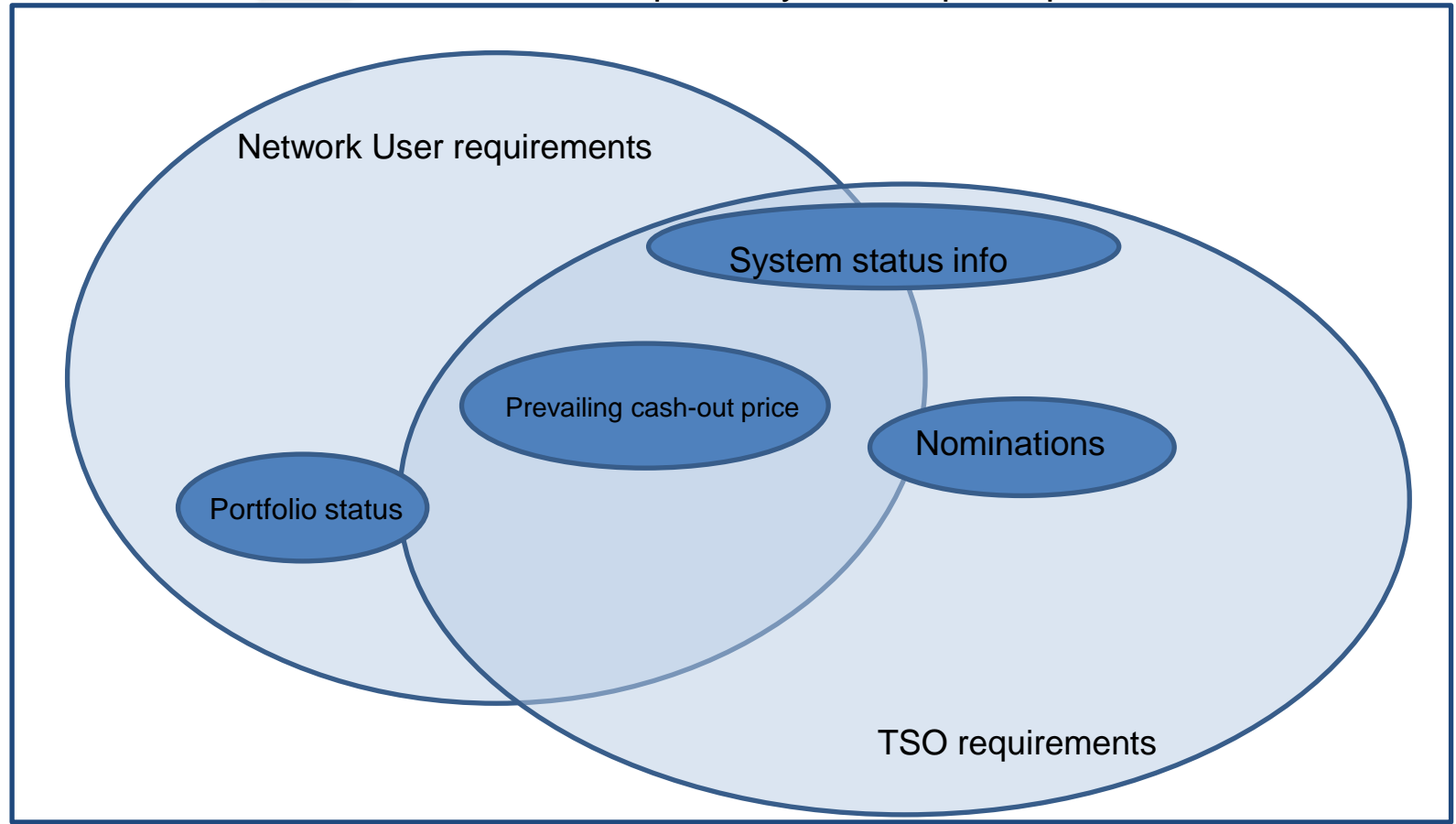
***.. but which information flows should be required by “nominations” needs to be established***

- Nominations definition
- Participant Information requirements
- TSO flow projection information
- Framework Guideline Nomination interpretation
- Discussion
- Approach to develop rules?



# Participant information requirements

All information flows required by market participants



Not exhaustive set of info requirements

- Nominations definition
- Participant Information requirements
- TSO flow projection information
- Framework Guideline Nomination interpretation
- Discussion
- Approach to develop rules?

# TSO flow information requirements

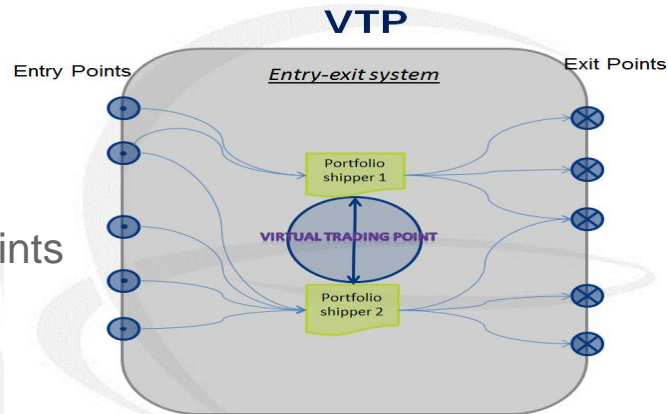
TSOs require information about physical flows

- actual flows
- projected flows

## “Physical Entry flows”

- EU import points
- Interconnection points
- Domestic injection\* points
- LNG injection\* points
- Storage injection\*

\*Injection defined from a system perspective



## “Physical Exit flows”

- EU export points
- Interconnection points
- Downstream networks
- Storage withdrawals\*\*
- End-customer/consumer demand

\*\*withdrawal defined from a system perspective

***.... but which information flows should be required by nominations***

# TSO flow information requirements

## Projected flows

- TSOs may not require information at all entry/exit points eg:
  - “small points”, places where TSO has ability/obligation to develop its own predictions

## Criteria for nomination provision

- information needed to ensure efficient operation of the system
- Network Users are best placed to provide the information

## Conclusion

- nomination requirements will be system specific
- to be specified by TSOs in conjunction with the relevant NRAs

***.... no specific rules in balancing network code except where explicitly required in framework guideline***

- Nominations definition
- Participant Information requirements
- Short term TSO flow projection information
- Framework Guideline Nomination interpretation
- Discussion
- Approach to develop rules?

# Framework guideline nominations text

## Section 4.3

*“If not covered by other legal obligations, the network code on gas balancing shall set out criteria for nomination and renomination procedures to be harmonised at both sides of the border at interconnection points and consistently across Europe. Renominations are needed to enable network users to adjust their own positions and buy or sell flexible gas for balancing purposes. These criteria shall minimise response times by allowing network users to adjust their balance position during the gas day up to a specified time in accordance with other legal obligations. The network code on gas balancing shall prevent TSOs from requiring that network users nominate input volumes which match their output volumes or vice versa.”*

# Framework guideline nominations text analysis (1)

*“If not covered by other legal obligations, the network code on gas balancing shall set out criteria for nomination and renomination procedures to be harmonised at both sides of the border at interconnection points and consistently across Europe.”*



Harmonization is only necessary where current processes and procedures are demonstrated to provide a barrier to cross-border trade.

# Framework guideline nominations text analysis (2)

*“Renominations are needed to enable network users to adjust their own positions and buy or sell flexible gas for balancing purposes. These criteria shall minimise response times by allowing network users to adjust their balance position during the gas day up to a specified time in accordance with other legal obligations.”*



Network code shall require that all rules developed at a local level shall allow network users to renominate their intended gas flows with the minimum possible limitations (include minimum time to effect a physical flow change and up to a point as late as possible during the Gas Day) subject to any other legal obligations, and if not so covered, to ensure the physical integrity of the system.



# Framework guideline nominations text analysis (3)

*“The network code on gas balancing shall prevent TSOs from requiring that network users nominate input volumes which match their output volumes or vice versa.”*



The network code shall define a “network user forecast imbalance” to be determined using the imbalance equation with the best information available at any point before or during the Gas Day as predictors for each component that features in the imbalance calculation.

The network code will prohibit a requirement that at any time the “network user forecast imbalance” shall be zero.

# Framework guideline nominations text analysis (4)

## Chapter 1: General Provisions

### 1.3 Objective

The specific objective for the network code on gas balancing is to create balancing rules, including network-related rules on nominations procedures, ..... as required by Article 8(6)(j) of the Gas Regulation.



The full text of Article 8(6)(j) of the Gas Regulation EC 715/2009 indicates that the network codes shall *take into account, if appropriate, regional special characteristics* .

This is achieved by allowing local rules to address the requirements for nominations subject to the criteria suggested in earlier slides.

# Balancing Business Rules Formulation – Strawman

*.. the following slides indicate some minimalist business rules that might satisfy the nominations requirements of the framework guideline pending a view from ACER*

# Balancing Business Rules Formulation – Strawman

## Rule 1:

Harmonization of nominations and renomination procedures at an IP shall only be necessary where a network user identifies a barrier to cross-border trade and requests a change.

Such request shall be submitted to the relevant NRAs. The NRAs shall consult on the request and if satisfied that the harmonization would deliver an overall benefit to end-consumers then the NRAs shall instruct the relevant TSOs to introduce the harmonized procedures described in [the Interoperability code]

## Rule 2:

....

## Rule 3:

....

# Balancing Business Rules Formulation – Strawman

Rule 1:

....

Rule 2:

Notwithstanding any nomination rules developed as part of [the Interoperability Code] TSOs shall determine, as part of the local balancing arrangements, which entry and exit points will be subject to nomination and renomination rules, and the processes and procedures to apply.

Specifically any such rules shall enable network users to renominate with the minimum possible limitation (including minimum time to effect a physical flow change and up to a point as late as possible during the Gas Day) subject to any other legal obligations, and if not so covered, to ensure the physical integrity of the system.

Rule 3:

.....

# Balancing Business Rules Formulation – Strawman

Rule 1:

....

Rule 2:

....

Rule 3:

A “network user forecast imbalance” will be defined as the energy quantity determined using the imbalance equation with the best information available at any point in time before or during the Gas Day using latest available information as predictors for each component that features in the imbalance calculation. The rules shall say that there shall be no requirement that at any time the “network user forecast imbalance” need to be zero.

- Nominations definition
- Participant Information requirements
- TSO flow projection information
- Framework Guideline Nomination interpretation
- Discussion
- Approach to further develop rules?

- Nominations definition
- Participant Information requirements
- Short term TSO flow projection information
- Framework Guideline Nomination interpretation
- Discussion
- Approach to develop rules?



# Thank you for your attention.

## Content matters

Additional questions can be directed to:

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## Process matters

Additional questions can be directed to:

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# **Information Provisions to Network Users**

Julien Quainon  
ENTSOG Information Flows KG

# Approach

- At the launch meeting ENTSOG presented high level summary of its thoughts on implementing the information provisions of the framework guidelines
- Today we will present more detailed views and specific discussion items
- These views will inform the drafting of initial business rules for presentation at SJWS 3 (09 February)
- In order to avoid too much information being dealt with in one session we intend to cover gas inputs into the system in SJWS3 (in a format like today)

# Info. provision – concept recap

- Network users have the responsibility to balance their portfolio
- TSO are responsible for residual balancing actions
- Network users need information (sufficient & in time) to allow them to manage the risks and opportunities:
  - Imbalance exposure
  - Efficient participation in wholesale markets/balancing platforms
- DSO cooperation will also be needed to deliver the information

# Info. provision – FG requirements

The Framework Guidelines on gas balancing contain several distinct information provision requirements:

- I. Overall status of the system, in accordance with Chapter 3 of Annex 1 of the Gas Regulation
- II. Aggregate network user information
- III. TSO actions to buy and sell gas from network users or other TSOs
- IV. Individual network user information

Information Provisions are included in Transparency Guidelines and Gas Balancing Framework Guidelines

# Info. provision – FG requirements

The Framework Guidelines on gas balancing contain several distinct information provision requirements:

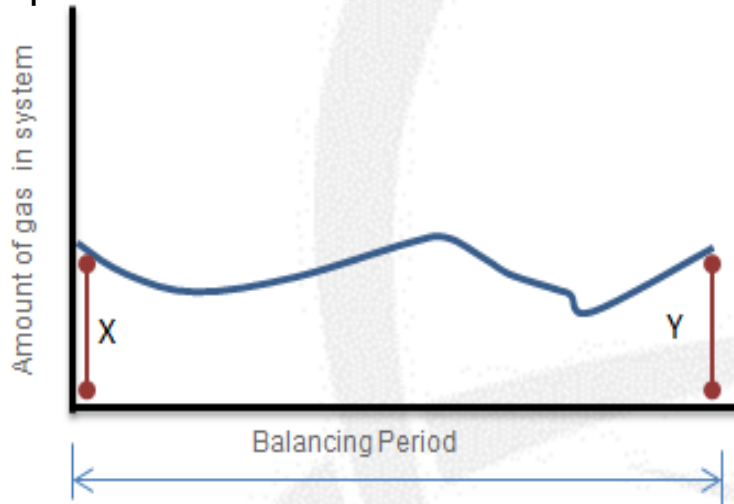
- I. Overall status of the system, in accordance with Chapter 3 of Annex 1 of the Gas Regulation
- II. Aggregate network user information
- III. TSO actions to buy and sell gas from network users or other TSOs
- IV. Individual network user information

# I. Overall Status of the System

The overall status of the system is intended to indicate to network users whether the TSO is likely to have to conduct any balancing actions which might affect the imbalance price

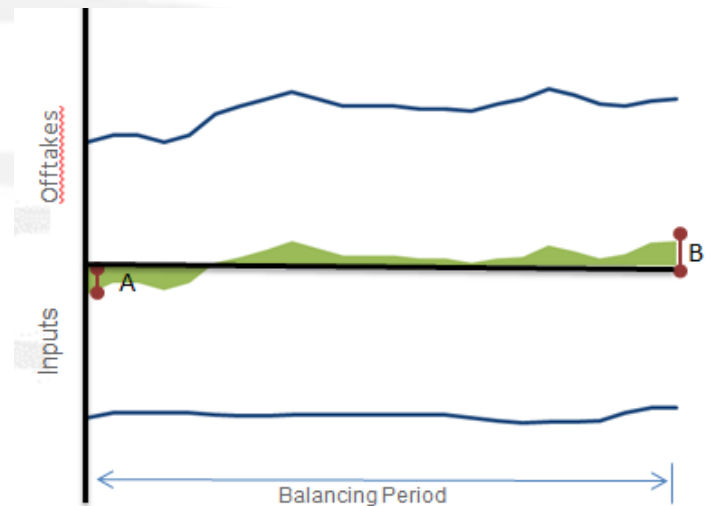
The TSO shall publish :

- The amount of gas in the transmission system at the start of each gas day AND the forecast amount at the end of each gas day, updated each hour



OR

- Aggregate imbalance position of all network users at the start of each gas day AND a forecast of the aggregated imbalance position at the end of each gas day



If the national regulatory authority is satisfied that such information could give room to potential abuse by network users, it may decide to exempt the transmission system operator from this obligation.



# I. Overall Status of the System

- The overall status of the system is intended to indicate to network users whether the TSO is likely to have to conduct any balancing actions which might affect the imbalance price
- This provision is covered in the transparency guidelines
- The transparency guidelines are legally binding on TSOs

## Initial Consideration

- The network code should not copy a provision that is already legally binding

# Info. provision – FG requirements

The Framework Guidelines on gas balancing contain several distinct information provision requirements:

- I. Overall status of the system, in accordance with Chapter 3 of Annex 1 of the Gas Regulation
- II. Aggregate network user information
- III. TSO actions to buy and sell gas from network users or other TSOs
- IV. Individual network user information

# Aggregate Network user Information

- Aggregate information / input information to be considered in SJWS3

# Info. provision – FG requirements

The Framework Guidelines on gas balancing contain several distinct information provision requirements:

- I. Overall status of the system, in accordance with Chapter 3 of Annex 1 of the Gas Regulation
- II. Aggregate network user information
- III. TSO actions to buy and sell gas from network users or other TSOs
- IV. Individual network user information

# III. TSO actions to buy and sell gas from network users or other TSOs

The framework Guidelines state “it is important that network users are aware of TSO actions to buy and sell gas from network users or TSOs”

## Assumptions

- Applies to trading of standardised short-term products which can impact system marginal buy price or system marginal sell price
  - Also in cases where use of a Balancing Service might affect a marginal buy and sell price via a proxy
- In order to determine the impact on the marginal buy and sell price the TSO will need access to real time information on concluded deals
- In cases TSO does not have real time sight of average wholesale price, it therefore cannot calculate system marginal buy and system marginal sell price within the Gas Day

# III. TSO actions to buy and sell gas from network users or other TSOs

## Initial Consideration

- The exchange operators should make the necessary information on concluded deals available to the TSO
- TSO to update the system marginal buy and sell price as applicable trades are carried out
- If the average wholesale price information is not made available to the TSO then they shall publish the relevant details of any action it takes which can impact the system marginal buy or sell price
- In the event the use of a balancing service impacts imbalance prices, then information on its use should also be published.

# Info. provision – FG requirements

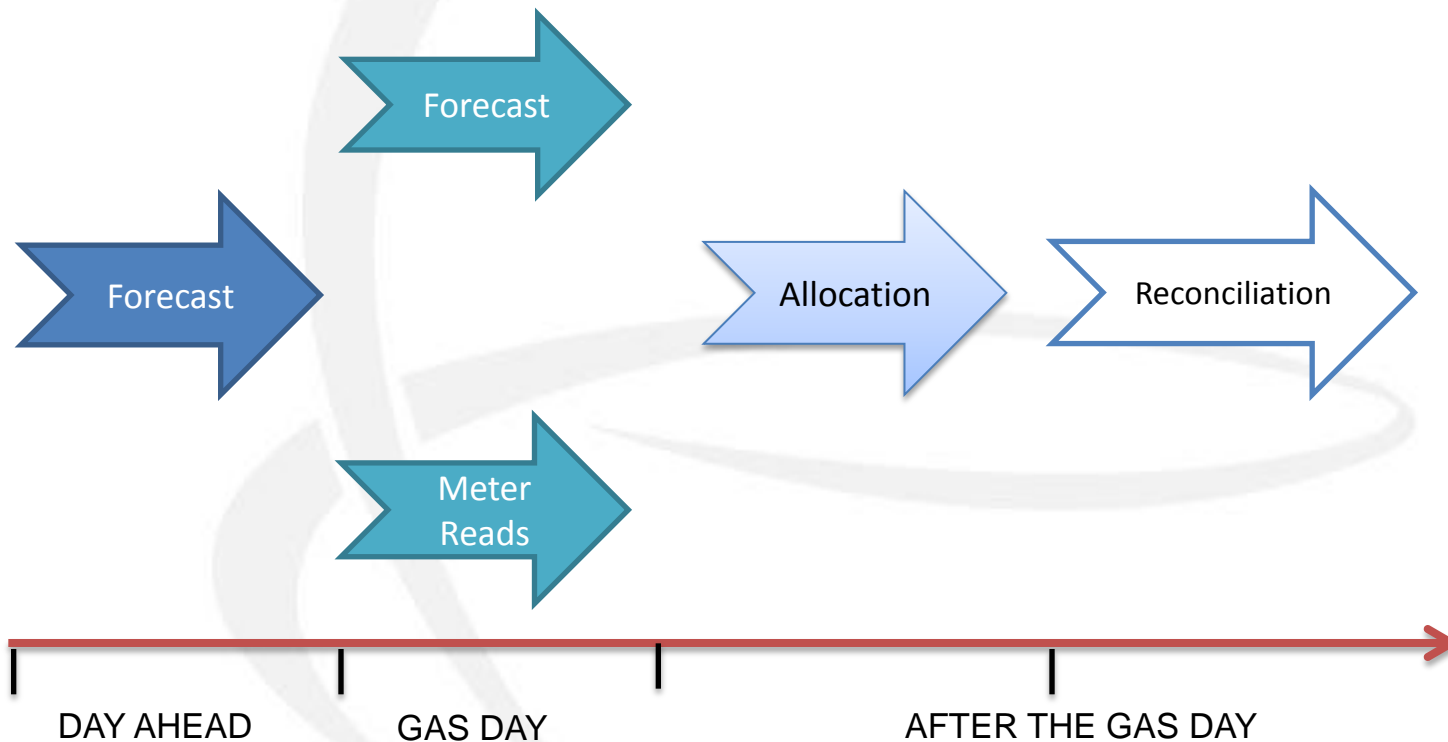
The Framework Guidelines on gas balancing contain several distinct information provision requirements:

- I. Overall status of the system, in accordance with Chapter 3 of Annex 1 of the Gas Regulation
- II. Aggregate network user information
- III. TSO actions to buy and sell gas from network users or other TSOs
- IV. Individual network user information

# Background Information

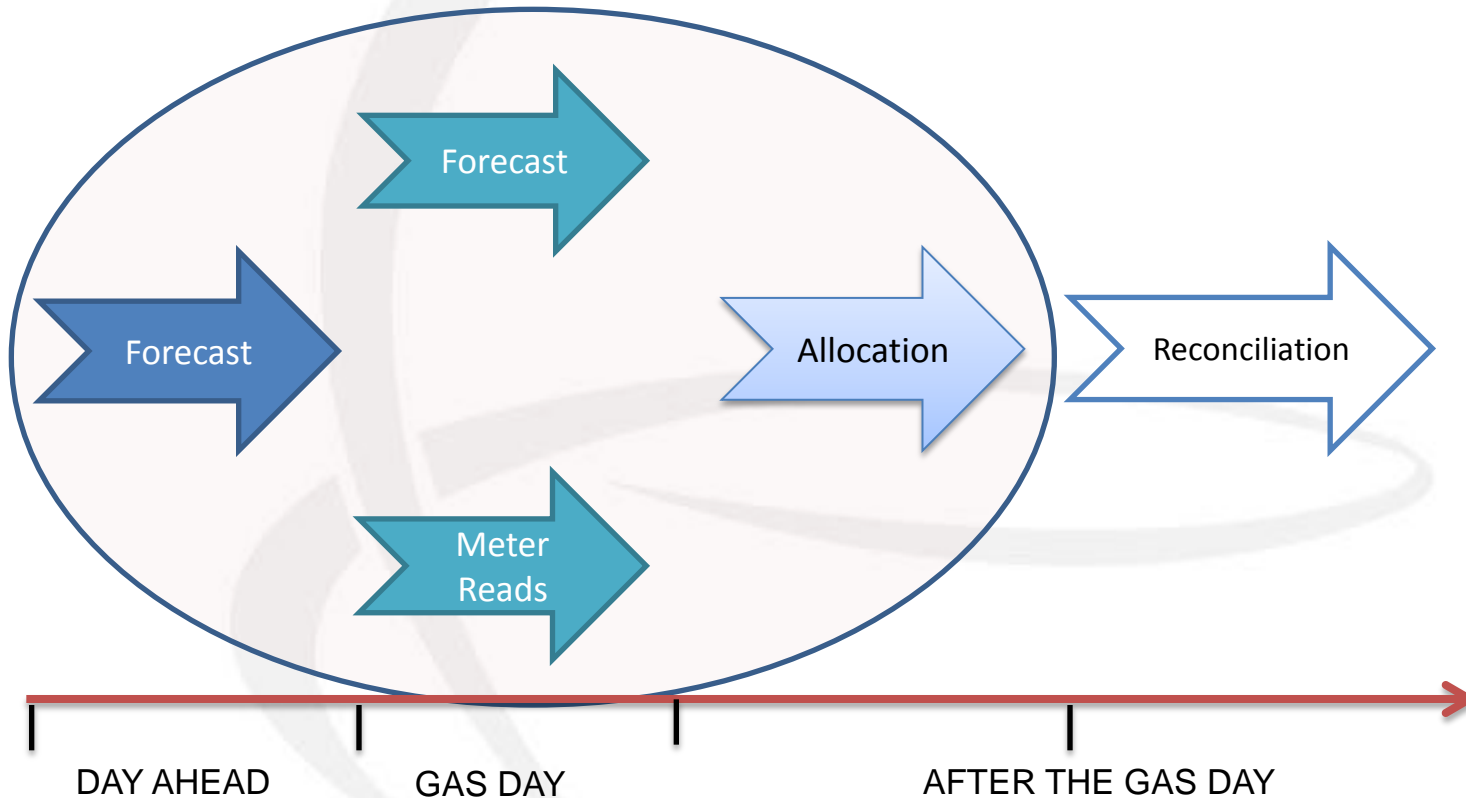


# Recap on Terms



# Recap on Terms

## Scope of Gas Balancing



# Basis of works

## Considerations

- Reconciliation: Process of comparison between final Allocations and final customers actual offtakes: **out of scope**
- Rules prepared on 3 categories of metered introduced at launch meeting

# IV. Individual Network User Information

## *What are the different categories to consider ?*

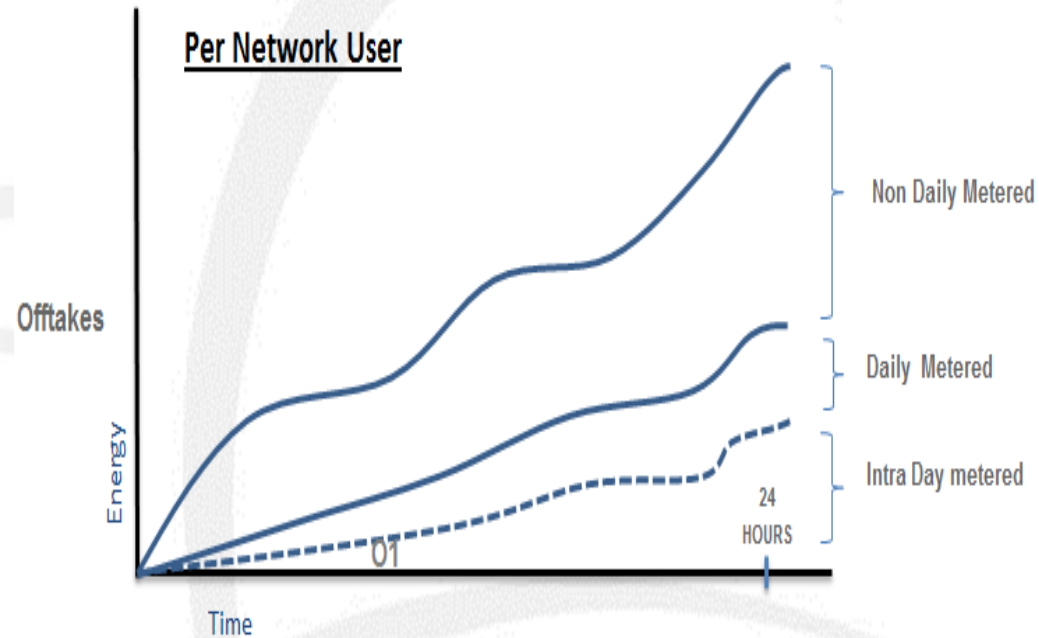
Category	Description
Intra-day metered <b>IDM</b>	<i>An input or off-take from the balancing zone for which the meter value is read and collected <b>at least twice within the balancing period</b></i>
Daily metered <b>DM</b>	<i>An input or off-take from the balancing zone for which the meter value is read and collected <b>once per balancing period after the close of this period</b></i>
Non-daily metered <b>NDM</b>	<i>An input or off-take from the balancing zone for which the meter value is read and collected <b>less frequently than once per balancing period</b></i>

# **Delivery of Information**

# Model Used

Process on Left

Illustration on Right



# Day Ahead

# Day Ahead Information

## Intraday metered

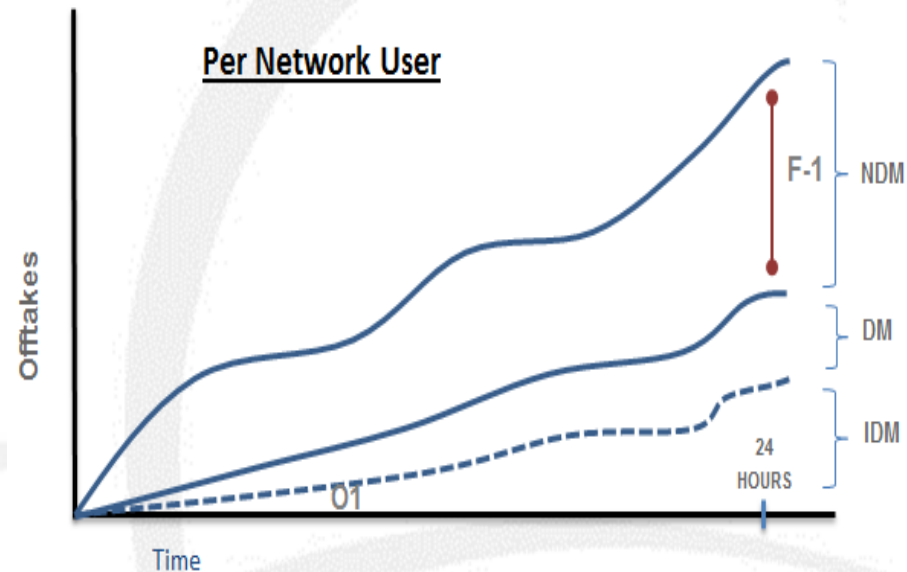
- Not applicable

## Daily Metered

- Not applicable

## Non Daily Metered

- Network User provided with a forecast aggregate end of day quantity for non-daily metered customers (NDM Derived Forecast), expressed in energy per balancing period;
- The information shall be provided no later than .....



DISCUSSION BOX 1

DISCUSSION BOX 2



# Day Ahead Information

## Discussion Box 1 –timing of information:

- **Options**

1. Time directly linked to day ahead nomination deadline, for example at least [30] mins before final nominations can be submitted
  2. Stated hour in UTC
  3. Determined at a national level following consultation
- In terms of preparing information by a deadline:
    - Step 1: Portfolio information must be available
      - Annual Demand Forecast
      - Standard Load Profiles
      - Registers Network User
    - Step 2: Forecast information must be available (temperature, etc)
    - Step 3: Forecasting algorithm must be ran
  - DSO key role in above

# Day Ahead Information

## Discussion Box 2 – responsibility for forecasting NDM Derived Offtakes:

- NDM offtakes from distribution system meaning DSO role in providing forecast
- **Consideration:** DSO must fulfill Step 1
- **Consideration:** DSO may not always be able to fulfill Step 2 & 3, for example may be very small, not have sufficient expertise, etc. ENTSOG and DSOs discussing resolutions to this issue
- **Consideration:** Also option to include provision for regular consultation on NDM Derived Forecast process

# **Within Day**

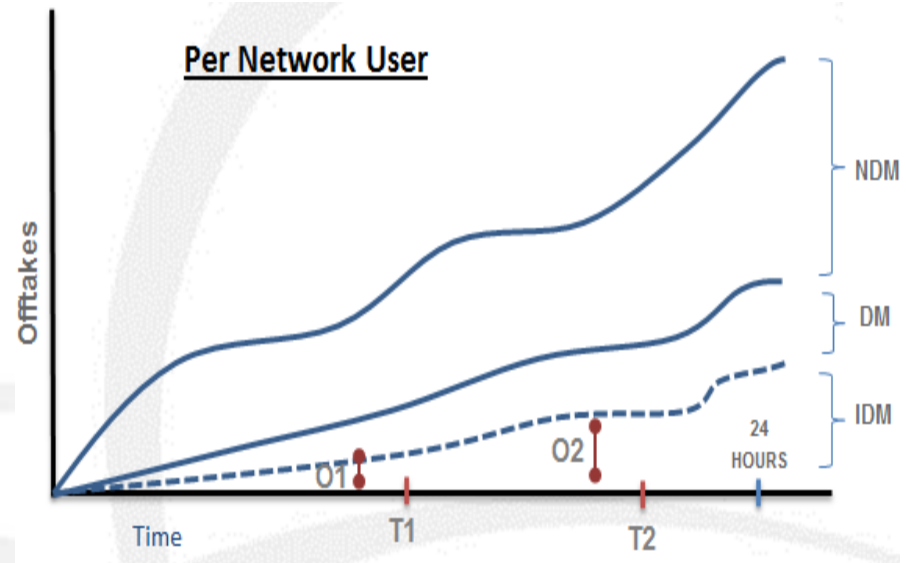
# Within Day Information

## Intraday metered

- Network User provided with first aggregate offtake, expressed in energy, for its IDM offtakes at [xx:xx] for its metered consumption up to [xx:xx]
- Network User provided with second aggregate offtake, expressed in energy, for its IDM offtakes at [xx:xx] for its metered consumption up to [xx:xx]

### DISCUSSION BOX 3

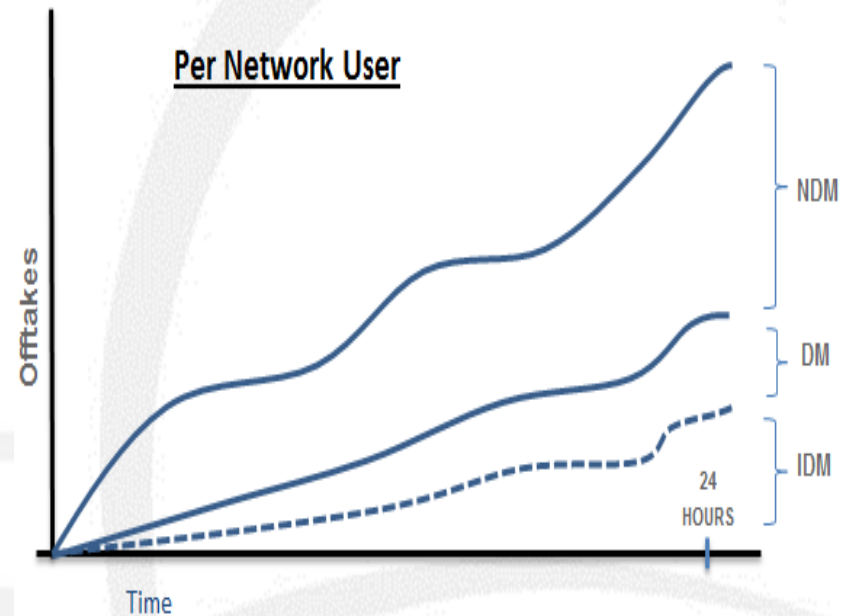
- A minimum of two updates must be provided, unless
  - Network User has direct access to the information



# Within Day Information

## Daily Metered

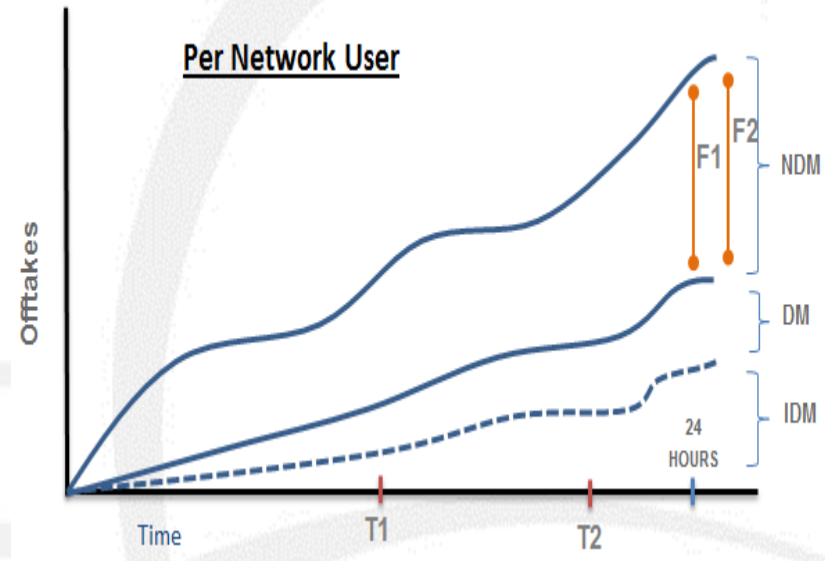
- Not Applicable



# Within Day Information

## Non-Daily Metered – BASE CASE

- Network User provided with a revised forecast aggregate end of day quantity for non-daily metered customers (NDM Derived Forecast), expressed in energy per balancing period;
- Network User provided with a revised forecast of its forecast aggregate end of day quantity for non-daily metered customers (NDM Derived Forecast), expressed in energy per balancing period;
- A minimum of two updates must be provided



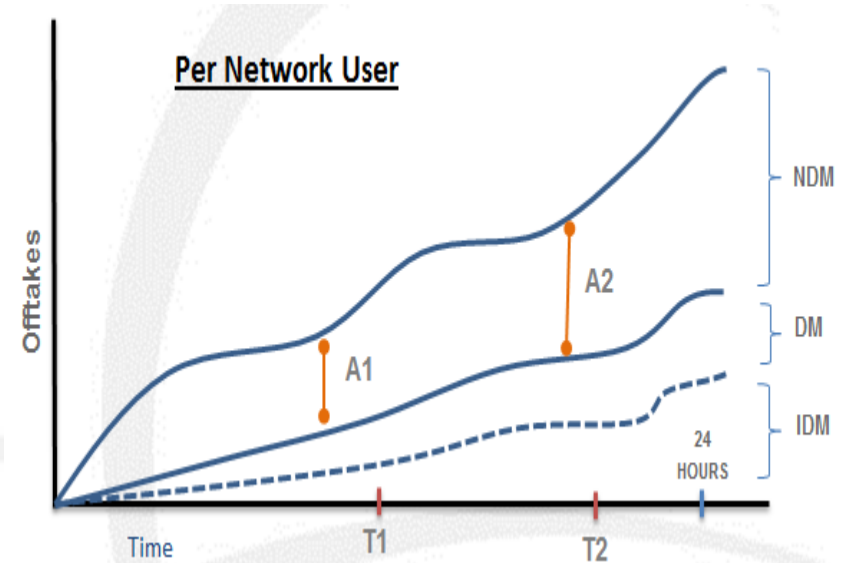
or

DISCUSSION BOX 3

# Within Day Information

## Non-Daily Metered – Variant 1

- Network User provided with first aggregate offtake, expressed in energy, for its NDM offtakes at [xx:xx] for its metered consumption up to [xx:xx]
- Network User provided with second aggregate offtake, expressed in energy, for its NDM offtakes at [xx:xx] for its metered consumption up to [xx:xx]
- A minimum of two updates must be provided



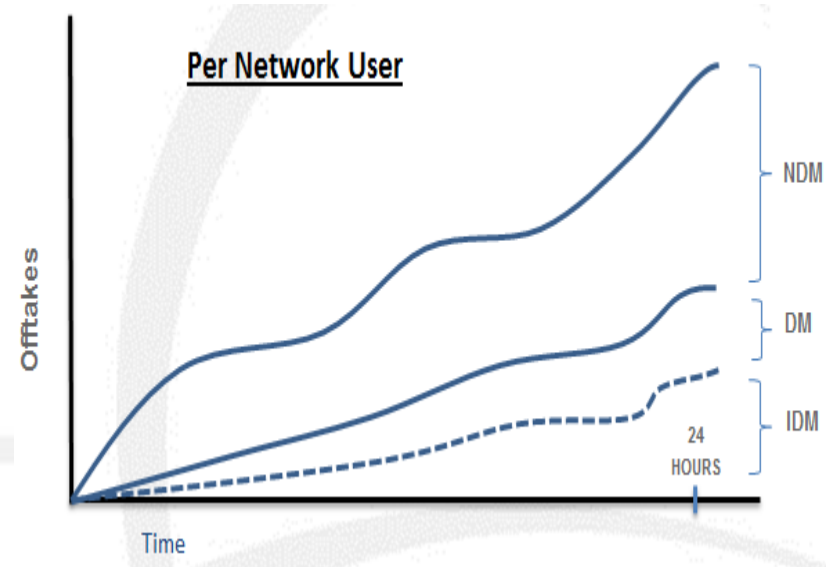
DISCUSSION BOX 3

# Within Day Information

## Non-Daily Metered – Variant 2

- No within day information is provided as balancing obligations allow Network Users to be cashed out against day-ahead forecast

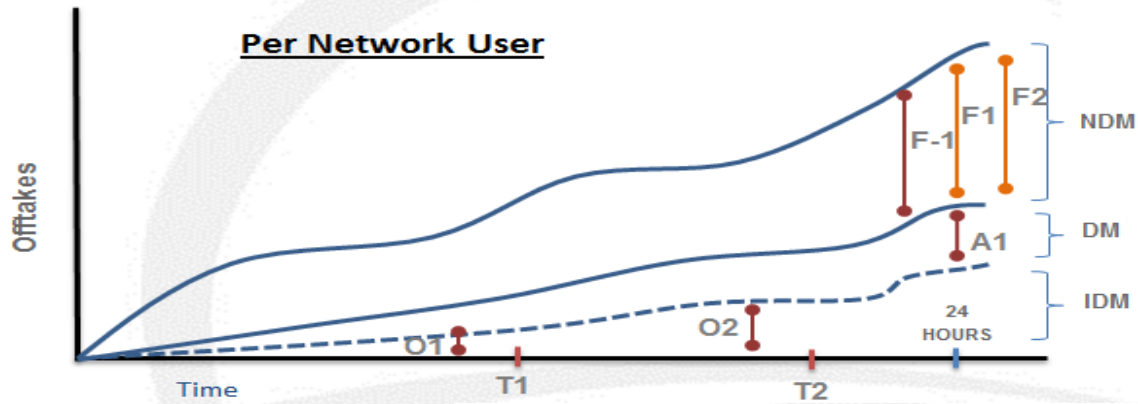
DISCUSSION BOX 4



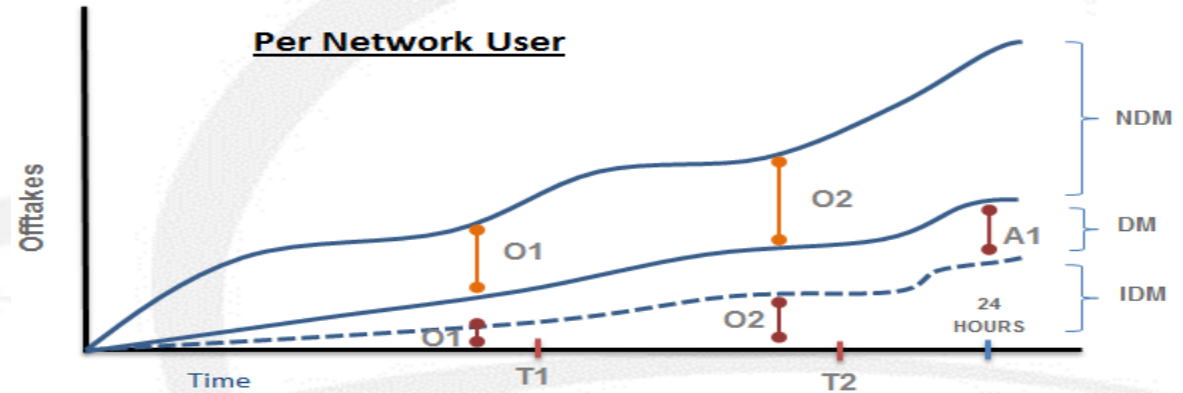


# Summary

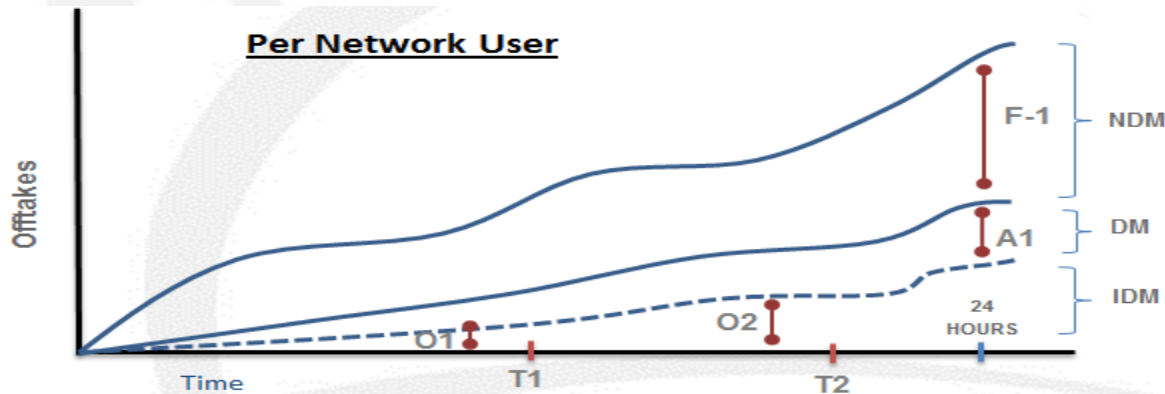
## Option 1



## Option 2



## Option 3



# Within Day Information

## Discussion Box 3 – Timing of within day information

ENTSOG have identified several issues in the timing of within day information to network users:

### Update 1:

- Too early in the day would mean little gas will have flowed and information accuracy will not be so good
- Must allow for gathering, processing and forecasting by TSO / DSO.
  - Too tight a deadline may effect accuracy
- Be early enough to allow network users make necessary decisions within business hours.

### Initial Consideration

- Update 1 to be provided before fixed time with minimum hours of gas flows

# Within Day Information

## Discussion Box 3 – Timing of within day information

ENTSOG have identified several issues in the timing of within day information to network users:

### Update 2:

- The later the information is provided the more accurate
- If market liquidity low after business hours information less valuable after business hours
- Small / new entrants possible preference for information within business hours
- Must allow for gathering, processing and forecasting by TSO / DSO

### Initial Consideration

- Update 2 might be agreed on national level depending on local circumstances

# Within Day Information

## Discussion Box 4 – Balancing Against Day Ahead forecast

Framework Guidelines state: The TSO shall provide updates of this forecast at appropriate intervals during the balancing period, at least twice a day, unless network users are able to fulfil their balancing obligations with information provided day-ahead, e.g. they are cashed out against day-ahead off-take forecasts.

### Initial Considerations:

- This provision is limited to NDM offtakes
- The example provided is the only example possible?

# After the Day

# After the Day Information

## Intraday metered

- Network User provided with Individual measurement expressed in energy per balancing period;

## Daily Metered

- Network User provided with Individual measurement expressed in energy per balancing period;

DISCUSSION BOX 5

# After the Day Information

## Non Daily Metered

- Network User provided with aggregate estimate end of day quantity for non-daily metered, expressed in energy per balancing period;
  - Level of aggregation to be determined
- or
- No information is provided as Network Users are balanced against a day ahead forecast

DISCUSSION BOX 5

DISCUSSION BOX 6

# After the Day Information

## Discussion Box 5 – Timing of After the Day Information

Some issues for consideration:

- An initial Allocation Provided in a timely manner
- Possible window to allow Network Users to query / challenge allocations
- Close out imbalance to Final Allocation to be used in imbalance charge before billing

Allocation Based on

- For end consumer offtake points with Intraday or daily meters the allocation based upon measured flows associated with the balancing period
- For end consumers with non-daily meters the allocation can be based on a ex-post forecast, taking account of actual weather conditions, aggregate flows to group, etc.



# After the Day Information

## Discussion Box 6 – Derivation of NDM Derived forecast for Allocation

### Initial Consideration

- the Derived Forecast to be based upon the same algorithm that is used to derive allocation

# After the Day Information

## Discussion Box 7 – Information Accuracy

- All parties have interest in accurate information
- Discussed earlier potential for open consultation forum
- Can consider incentive mechanisms but important that any incentive is against something with incentivised parties control

## **Other Issues**

# Within Day Obligations

- Network Users must be provided with “sufficient information” to implement within day obligation
- ENTSOG believe it is difficult to ascertain a precise test for this as different types of within-day obligations can be implemented (providing they meet criteria in fg)

# Within Day Obligations

The following might be considered when determining sufficient information:

1. Frequency of information should be consistent with risks implied by the obligation and if not, for example
  - A. Within Day Tolerance applied (would mean Within Day Tolerance on WDO could be an enduring feature) supported by historical information at the same frequency as the obligation
  - B. Reduced charge applied
2. Potential use of cost benefit analysis

# Cost Benefit Analysis

The framework guidelines provide a cost benefit analysis

*Within 2 years of adoption of the network code, TSOs shall assess the costs and benefits of more frequent information provision and shall consult stakeholders on this assessment, in cooperation with DSOs where they are affected. Based on this assessment, the relevant NRA may require more frequent information provision from the TSOs to the network users. Until such an assessment has been completed and any changes implemented, network users may be subject to less onerous balancing obligations if transitional arrangements are agreed by the relevant NRA (for example through the application of interim measures as set out in section 5.2). These arrangements, once agreed, are notified to ACER.*

Discussion:

- ENTSOG somewhat unclear whether this provision applies to standard daily balancing regime or within day obligations
- If Daily Balancing Regime: if CBA is negative are tolerances needed as an enduring feature?
- If for WDO – is it linked to tolerance on WDO?

**Initial Consideration** – issue for further clarity from ACER

# Format of Information

The framework guidelines state that information should be published in English as well as the local language in a harmonised format to be defined in the network code.

ENTSOG have identified some criteria in order to harmonise the provision of information:

## Initial Considerations

- Apply specific criteria from transparency guidelines to network user portfolio information

# Discussion

1. Application of rules in transparency guidelines
2. Publishing marginal price
3. Day ahead information provision
4. Within Day information provision
5. After the day information provision
6. Timing of information
7. Balancing Against Day Ahead forecast





# Information flows and provision DSO Perspective

## Stakeholder Joint Working Session 1

- Information flows and provision
- DSO Perspective

# Agenda

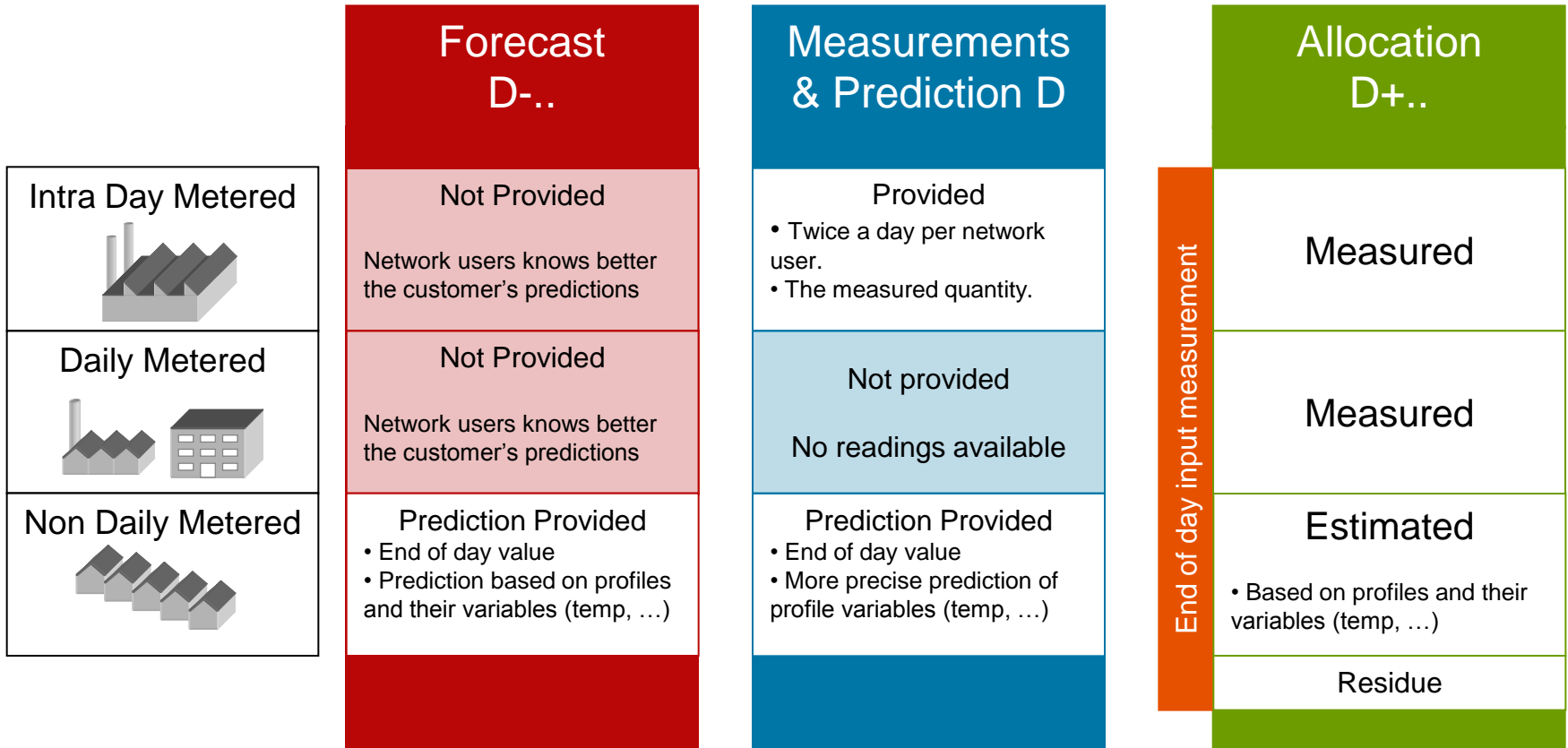


- Models
  - Base model
  - Model 2
  - Model 3
- Possible information processing from a DSO perspective per model.



# Base model

## Information provision

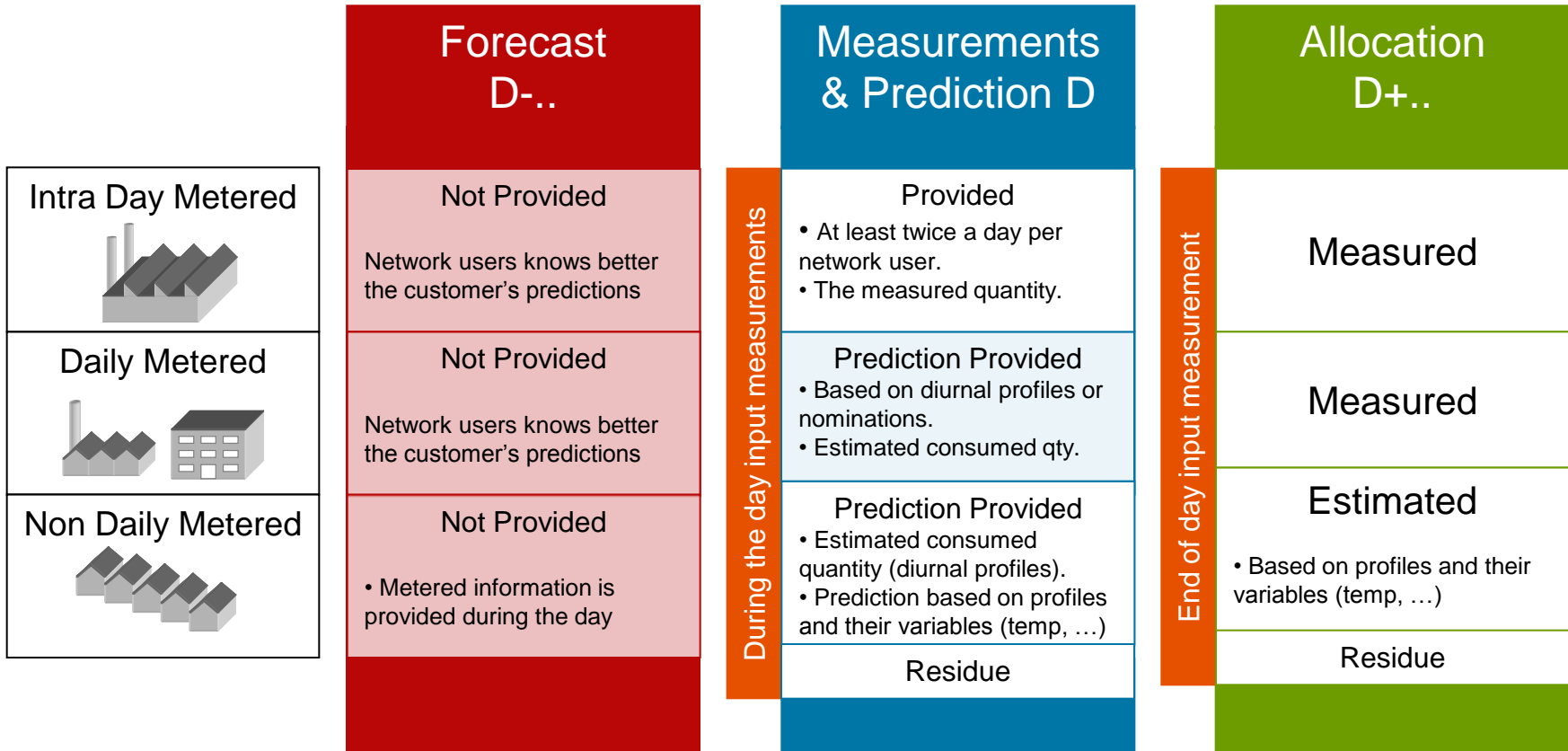


VTP trades are not included

# Model 2



Information provision (measurements during the balancing day)



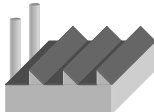


VTP trades are not included

Status update of  
consumed quantity.



# Model 3

Information provision (NDM forecast is fixed in the allocation)

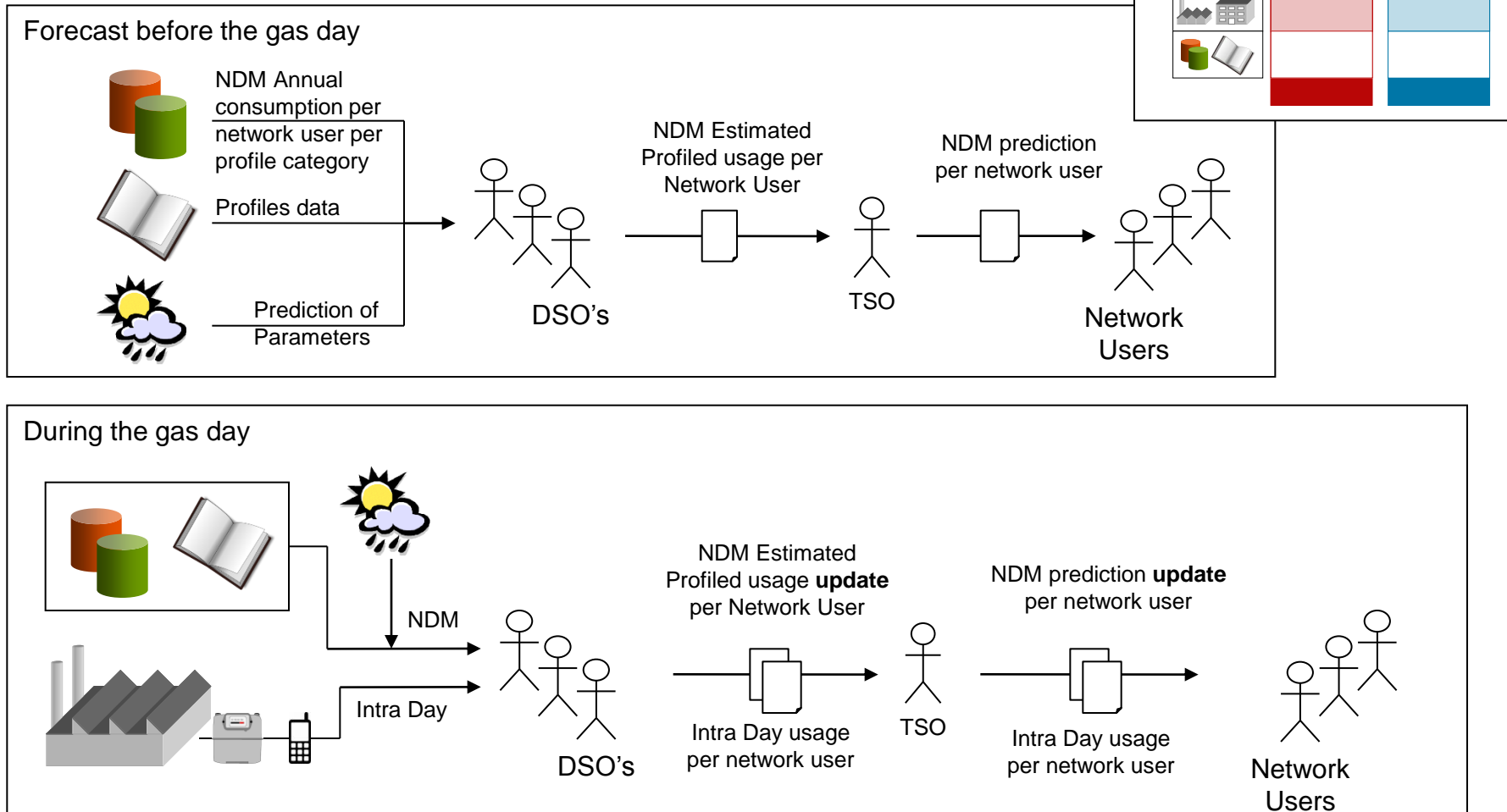
	Forecast D-..	Measurements & Prediction D	Allocation D+..
Intra Day Metered 	Not Provided Network users knows better the customer's predictions	Provided • Twice a day per network user. • The measured quantity	Measured
Daily Metered 	Not Provided Network users knows better the customer's predictions	Not provided No readings available	Measured
Non Daily Metered 	Prediction Provided • Prediction based on profiles and their variables (temp, ...)	Not provided (Fixed)	Fixed • Based on the forecast
			Residue

VTP trades are not included



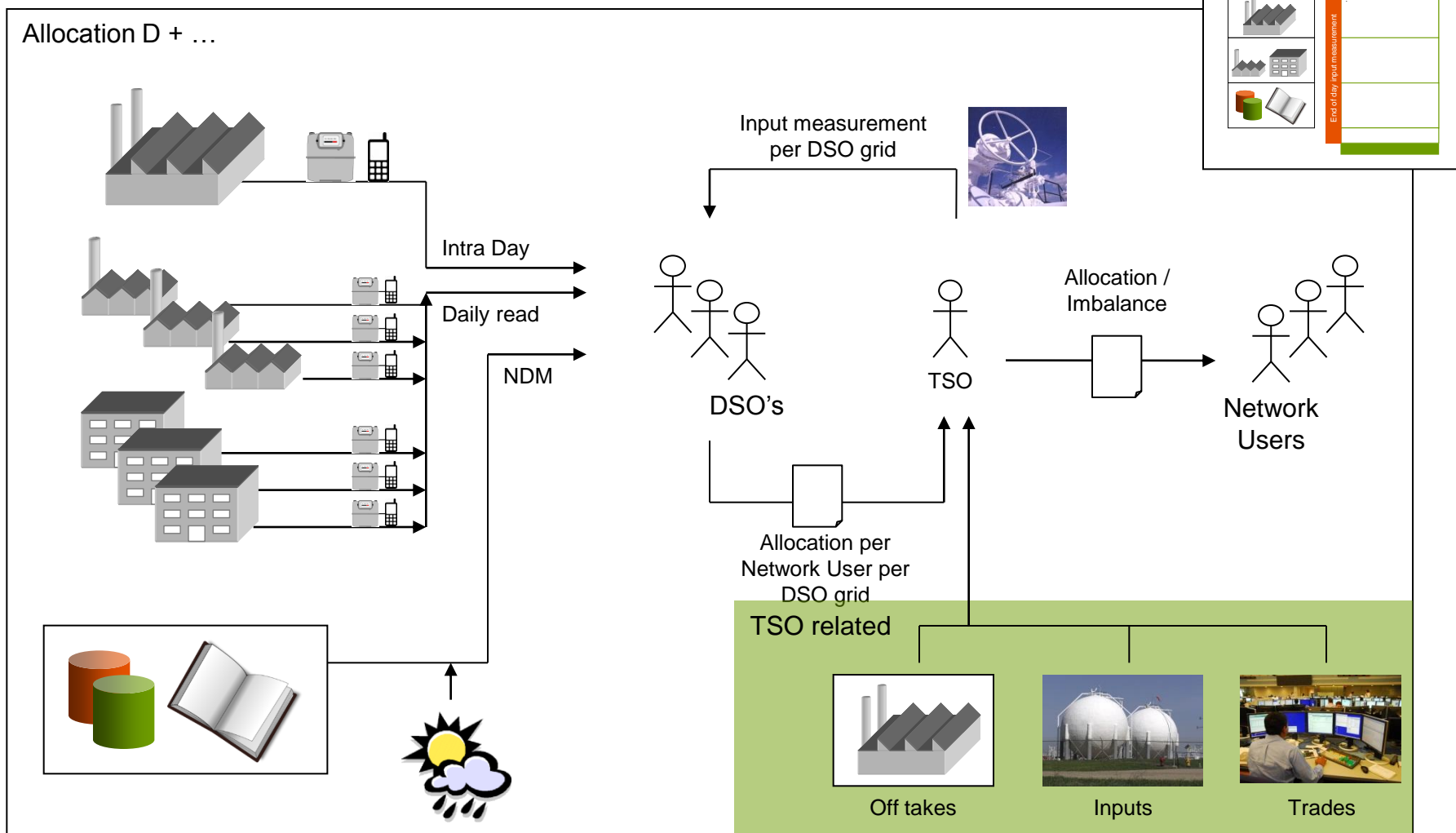
# Base model

Possible information processing from a DSO perspective



# Base model

Possible information processing from a DSO perspective



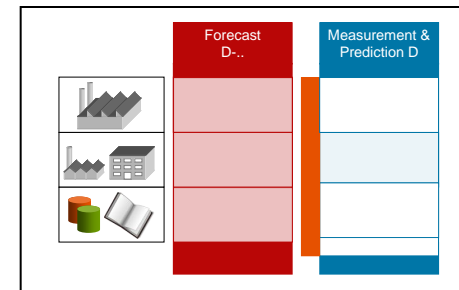
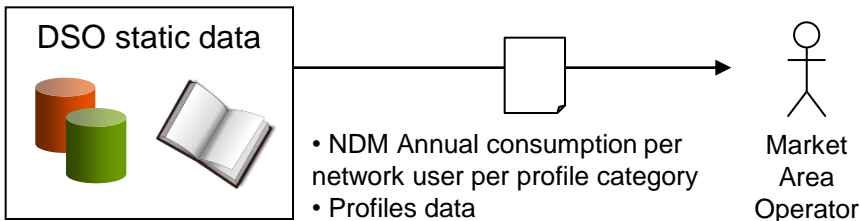


# Model 2

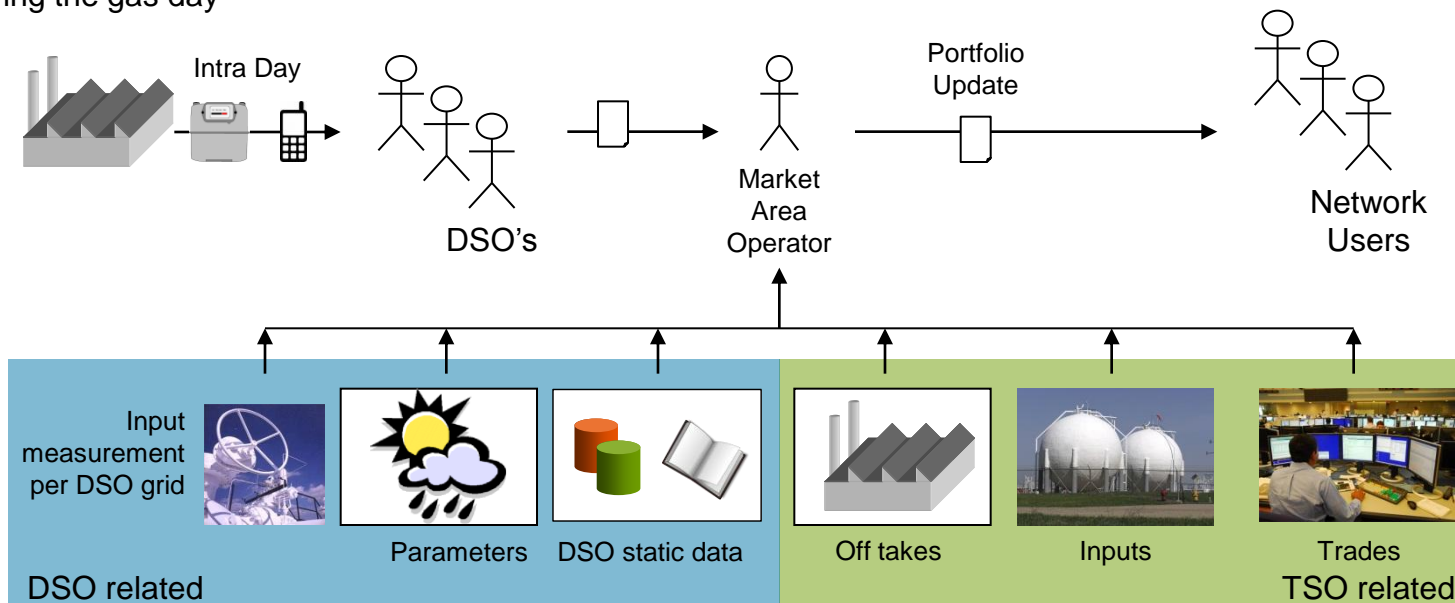
## Possible information processing from a DSO perspective



### Preparation before the gas day

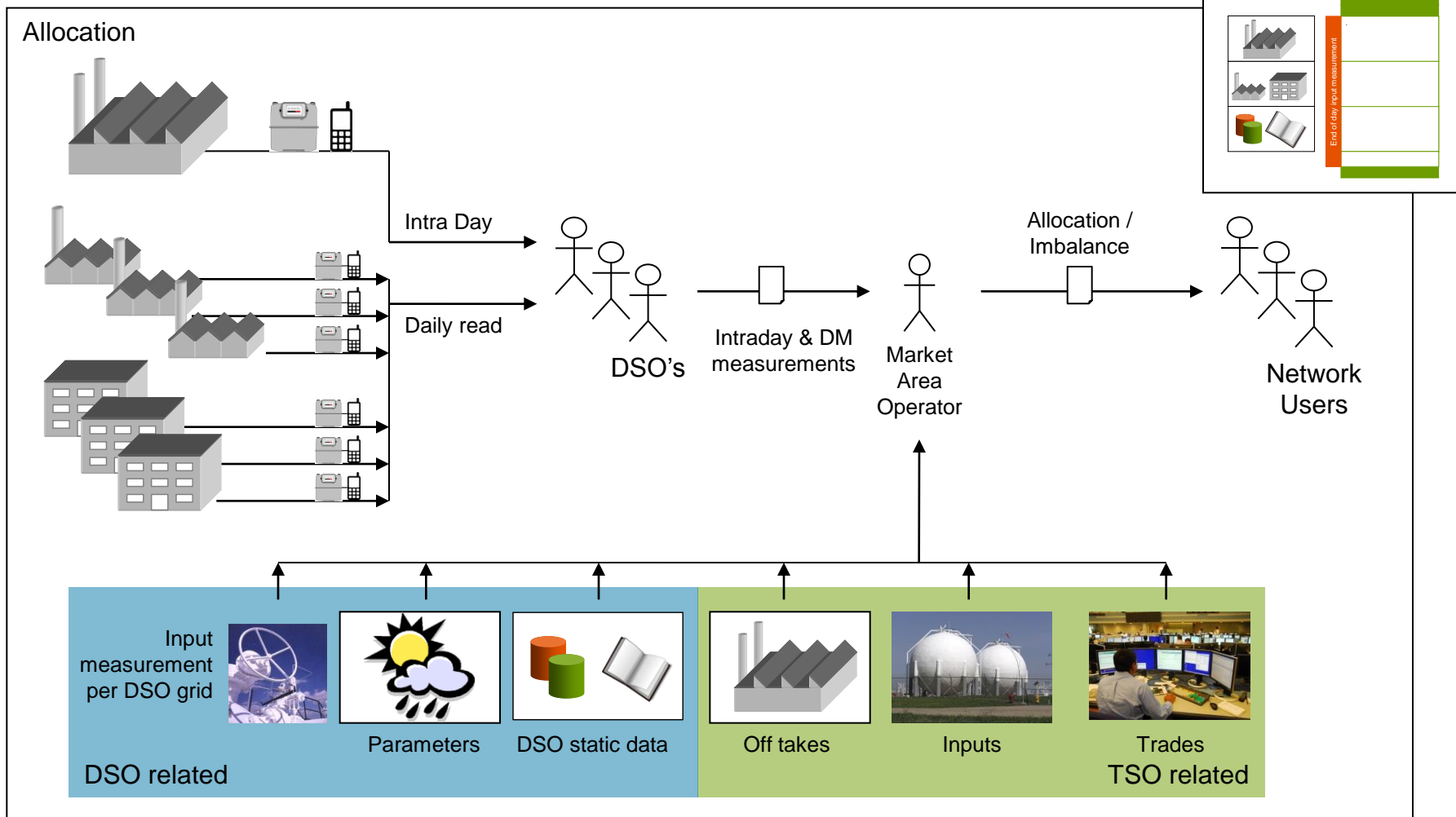


### During the gas day



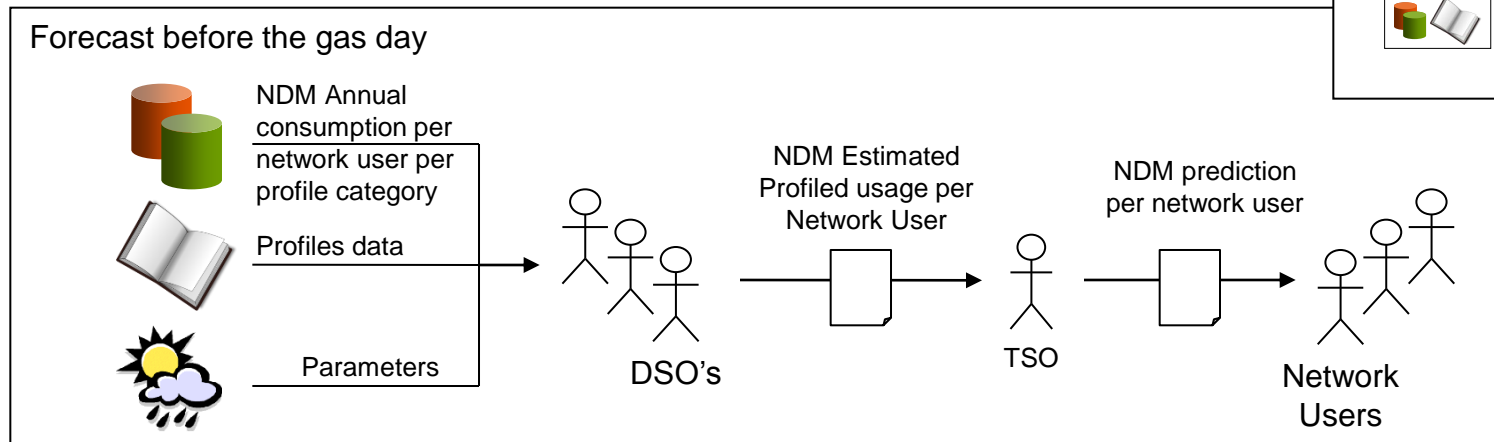
# Model 2

## Possible information processing from a DSO perspective

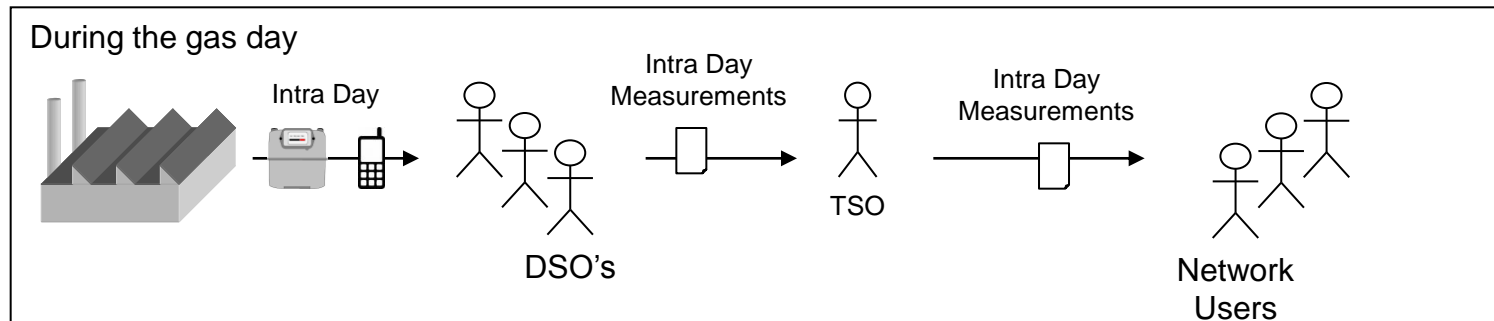


# Model 3

## Possible information processing from a DSO perspective

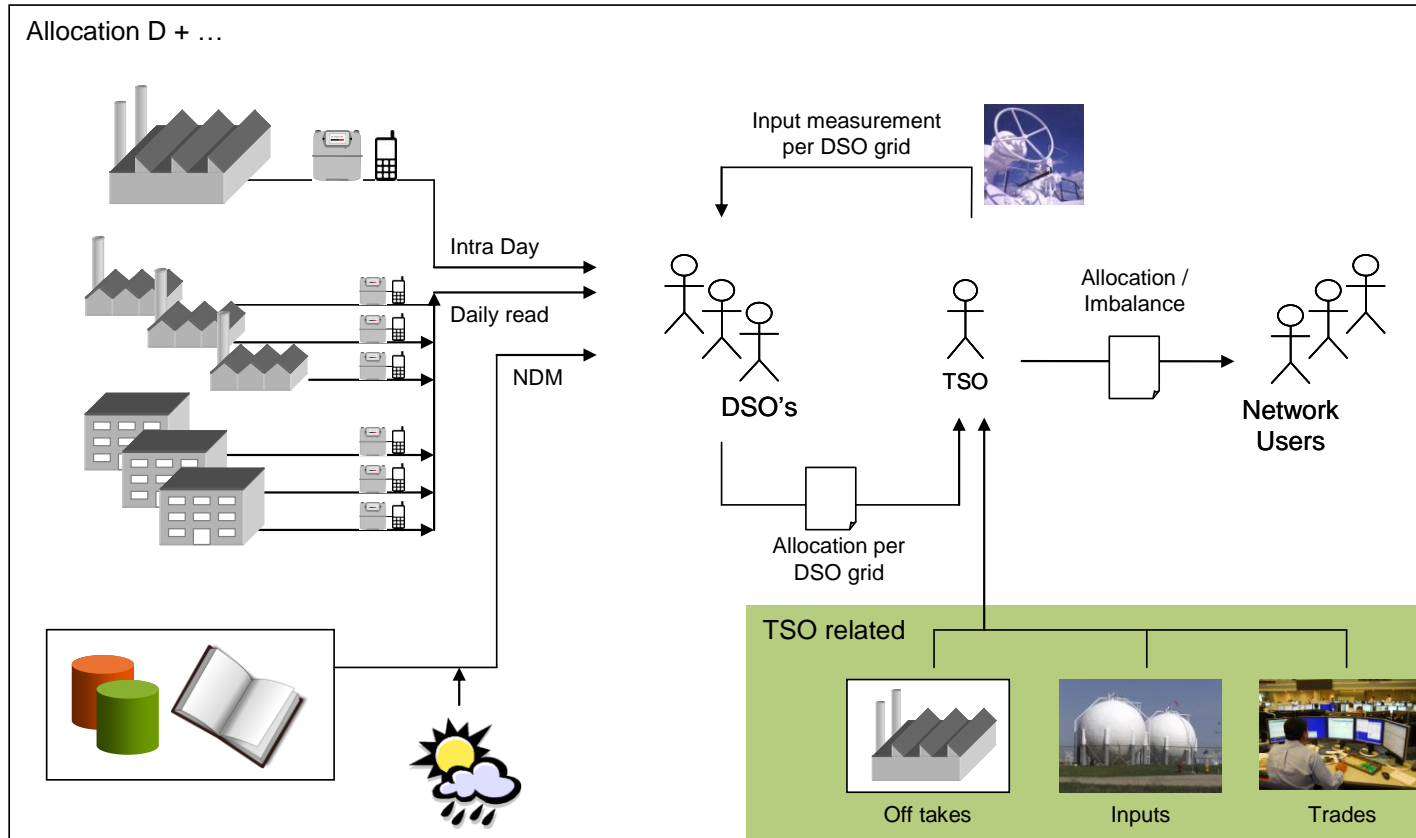


	Forecast D-..	Measurement & Prediction D



# Model 3

## Possible information processing from a DSO perspective



(Same as allocation of base model)



# Questions





# **Balancing network code (BAL NC) – SJWS1**

—

## **Virtual trading point procedures**

**Ruud van der Meer**  
Adviser

11-12 January 2012 - Diamant Centre, Brussels

# Objective

The objective of this presentation is

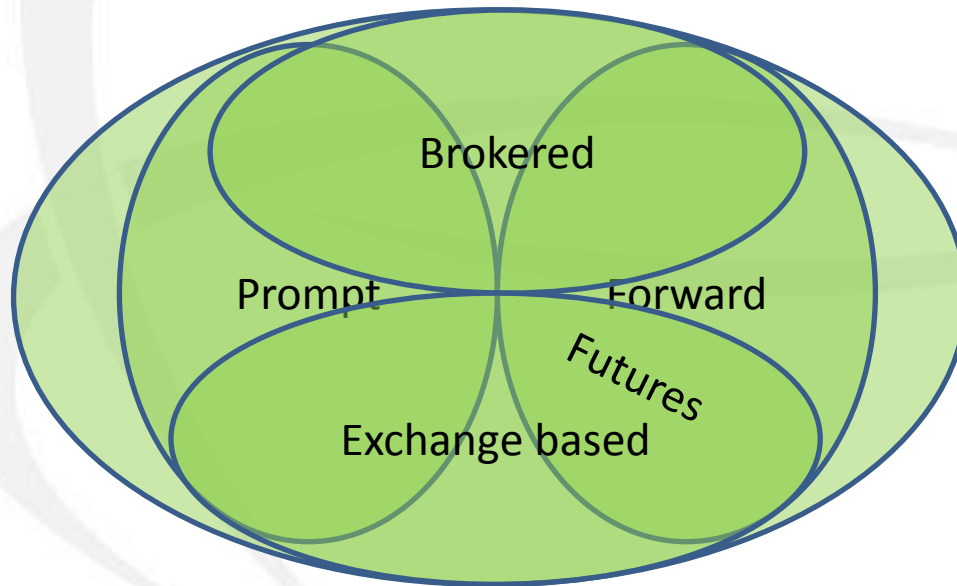
- To work on a common understanding of
  - Wholesale market
  - Virtual trading point
  - Trading platform
  - Balancing platform
  - And the relations between these
- Provide a basis for business rule development on
  - Virtual trading point
  - Balancing platform
- Start discussion on the role of trading platforms in TSO balancing activities



# Wholesale market – proposed definition

The wholesale market is

- Coming together of all supply and demand
- Of trade in gas commodity products



# Virtual trading point

Virtual trading point is

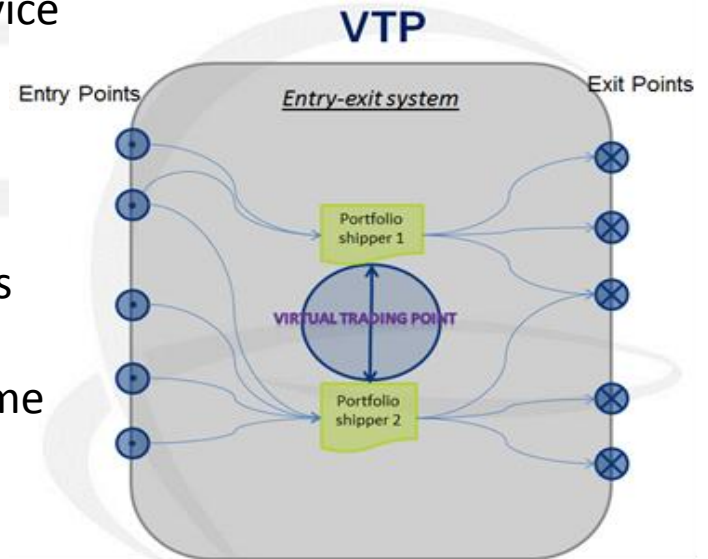
- A service offered by the TSO
- Allowing network users to transfer gas from one gas account to another

To offer such a service TSO should establish necessary support, conditions and procedures

In nc such a service is referred to as the VTP ;  
Individual TSOs can use other name for such a service

With the VTP network users can make VTP trades, which

- Do not directly associate with any physical flows
- Take effect via the imbalance and settlement processes within the balancing regime



# Wholesale market and VTP

A virtual trading point will

- Support development of wholesale market
- By enabling a large range of commodity products
- That are not linked to a physical location

Note:

- The VTP is not the same as the wholesale market
- It is a service offered by the TSO
- That allows for a set of traded products that are not linked to a physical location
- Role of VTP is small but necessary in trade arrangements

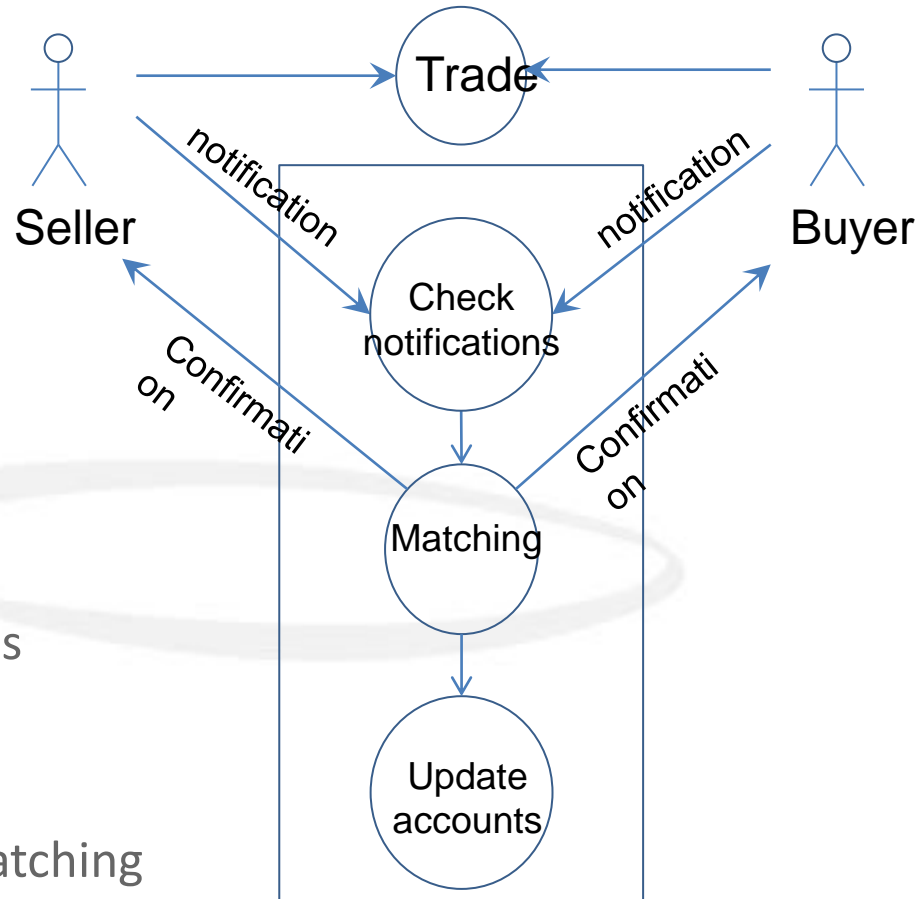
# VTP – Usage

## Using the VTP

- Network users will inform TSO
- TSO will verify information
- TSO will inform network user
- TSO will update network users' balancing accounts

## VTP processes

- Checks on exchange notifications
  - Accuracy
  - Credit check
- Matching: inform on result of matching
- Allocation: Update accounts



# Balancing and trading platforms

# Balancing platform

- Defining properties of a balancing platform (framework guidelines)
  - A trading platform
  - To buy and sell flexible gas
  - To procure balancing services
  - TSO is party to every trade
- Use of a balancing platform is an intermediate step towards balancing target model
- NC shall set out criteria on the design of balancing platforms

# Support for trading flexible gas

- Balancing platform should offer functions for trading short term standardised balancing products
- Create/read/update/delete/overview functions for
  - network users to manage its bids/offers
  - TSO to accept bids/offers
- Read/overview functions for
  - Both network users and TSO on trades done
- Functions supporting imbalance price determination
- Platform will make relevant exchange notifications on behalf of network user and TSO

# Support for balancing services

- Balancing platform should offer functions for procurement of standardized long term balancing services
- Balancing platform need not support procurement of non-standardized long term balancing services
- Network users can put in offers
- TSO can put in bids
- Network users can accept a bid by TSO
- TSO can accept offers from network users
- Create/read/update/delete/overview functions for both network users and TSO



# Trading platform

- Trading platform
  - Electronic trading system
  - For network users to place and accept bids and offers
  - Operated by a platform operator that is not necessarily the TSO
- Need for electronic trading platform(s)
  - Allows TSO, as residual balancer, to have efficient access to short term standardized products
  - Guarantee transparent and non-discriminatory trade by TSO
  - Basis for calculating average and marginal prices for imbalance charges
    - requires contract between TSO, as settlement agent, to have a contract with platform operator
  - Requires support for short term standardized products
- Different platforms can co-exist and compete

# Imbalance price calculation

- Marginal buy and sell prices can be average prices
- Average taken over the 'gas traded in respect of that day'
- TSO does not have sight of gas trades
  - Notifications do not include price info
  - Notifications do not indicate the type of trade behind it:
    - Can be a forward/future, a day-ahead or an intra-day trade
    - Only short term trades should feed in to imbalance price calculation
  - Wholesale market is a diffuse entity
- Discussion: Only prices of gas traded in anonymous organised markets will feed into imbalance price calculation



# **Stakeholder Feedback - VTP Procedures, Trading Platforms and Balancing Platforms**

**SJWS 1 - 12<sup>th</sup> January 2012**

**Steve Rose – Head of Gas Market Design**



# VTP Procedures – Trade Notifications

- > Each VTP trade requires the relevant shippers to make equal and opposite trade notifications to the TSO
- > Trade notifications to be submitted for each gas day e.g. if VTP trade is for a monthly strip, buyer and seller have to submit trade notifications for each day of the monthly strip.
- > TSO defines a window within which trade notifications for each gas day can be submitted e.g. D-10 to 04:00 D
- > TSO's role is to match the acquiring (buyer) and disposing (seller) trade notifications by a certain time (before the day) or within a defined time period (within day)
- > Trading counterparties must agree between themselves when and how they will submit trading notifications to ensure the TSO can match notifications within the deadlines
- > Procedures need to reflect both:
  - Bilateral VTP trades between shippers OTC, including through broker platforms; and
  - VTP trades through cleared electronic exchanges and balancing platforms

# VTP Procedures – Matching Trade Notifications

- > Immediately prior to the start of the gas day the TSO will have matched (or rejected) all the shipper's trade notifications with other counterparties for that day
- > Each shipper will have a long, short or balanced position at the VTP at the start of each gas day.
- > Subsequent within day trades at the VTP will require shippers, or market operators, to submit further trade notifications.
- > Do within day trades at the VTP simply require further trade notifications or should there be a concept of a trade re-notification?
- > Once the TSO receives a trade notification from one shipper (acquiring or disposing) the clock starts ticking
- > If TSO receives an equal and opposite trade notification from the other shipper within the matching period the TSO confirms the notification and notifies both shippers.
- > If TSO does not receive an equal and opposite trade nomination from the other shipper within the matching period the TSO rejects both nominations. Does rejection need to be notified?
- > The “lesser of” rule should not apply at the VTP
- > Trade notifications can be withdrawn but not amended
- > Should confirmed trade notifications be reflected in the shipper's imbalance figure which the TSO is required to provide twice daily? Or should a shipper's imbalance be based only its physical position? Does the TSO need to know a shippers imbalance at the VTP within day?

## VTP Procedures - Credit

- > TSO's should be responsible for calculating each shipper's imbalance exposure on a rolling daily basis.
- > A shipper's imbalance exposure is:
  - The money the shipper is owed/due for gas that the shipper has bought or sold from/to the TSO in relation to standardised short term balancing products executed on previous days
  - The money owed/due to the shipper for financial settlement by the TSO of its imbalance position on previous days
- > TSO's are held cost neutral as regards balancing costs but should put reasonable credit risk management measures in place to protect shipper's from the risk of default by other shipper's.
- > Prior to the start of each day, if a shipper's imbalance exposure breaches these credit risk managements measures the TSO should reject any further trade notifications until the breach has been remedied.
- > This should be the limit of a TSO's credit checking as:
  - Shippers are responsible for credit risk management of their counterparties
  - Exchanges offer clearing services as a competitive proposition
  - How will the TSO know what the shipper's actual imbalance quantity and cash out position will be at the end of the day.

# Balancing and Trading Platforms

- > Balancing platforms can be established by the TSO as an interim step towards a liquid “wholesale market”.
- > Balancing platforms may need to remain in place to provide:
  - a mechanism for physical/locational balancing trades, or
  - out of hours balancing actions
- > The term “wholesale market” should represent a cleared electronic gas exchange run by an independent market operator offering at least short term standardised products at the VTP.
- > TSO to be an approved market participant on the exchange only for buying/selling short term standardised products. The TSO should meet the collateral/margining requirements of the exchange.
- > TSO should not operate in OTC markets for standardised short term products
- > TSO and/or Market Operator to be responsible for ensuring transparency of TSO balancing trades and calculating imbalance prices in real-time.
- > Balancing platforms unlikely to be a suitable vehicle for TSOs to procure long term standardised balancing services (as these are essentially option contracts) but they could be used as a bulletin board.





# **Balancing network code (BAL NC) – SJWS1**

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## **Balancing tools**

Laurent De Wolf

# Balancing tools - definition

Balancing tools: *means by which the TSO can ensure flexible gas is brought onto or taken off the system in order for the system to remain within accepted operational envelope.*

*Balancing tools may require flexible gas to enter or exit*

- *Over the entire balancing period or a specific time window*
- *In the whole system or in a specific part of the system*

Balancing tools can provide flexible gas through

- short term arrangements
- long term arrangements

# Definitions and Hypothesis

From the framework guidelines

Flexible gas: *gas required to meet short term fluctuations in demand by customers*

Balancing services: *additional services (i.e. additional to the buying and selling of flexible gas) that a TSO may buy in order for the system to remain within safe operational limits.*

## Hypothesis

1. Any short term gas procurement of flexible gas for balancing purposes shall be made on the basis of standardized products via trading in the wholesale market
2. Any long term arrangement TSOs make for balancing purposes will be considered as a balancing service

# Balancing tools – two types

Short Term Standardized products	Long Term Balancing Services
<ul style="list-style-type: none"><li>• Buy/Sell commodity on a market</li><li>• Short-term</li><li>• One-time usage</li></ul>	<ul style="list-style-type: none"><li>• Option/capacity to inject/withdrawal gas</li><li>• Long-term</li><li>• Recurrent Usage</li></ul>

Both type procured market based

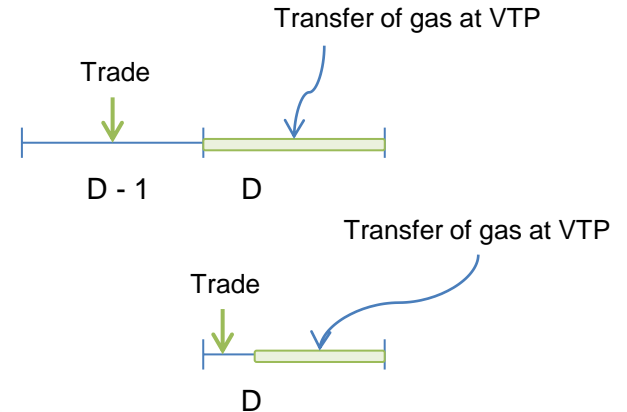
- Short-term: trade in wholesale market or balancing platform
- Long-term: transparent, non-discriminatory

# Short term standardized services

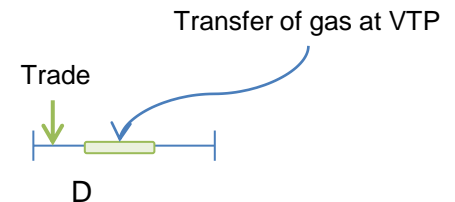
		Temporal aspects	
		During the balancing period (up to EoD)	During a specific window of time during the balancing period
Locational aspects	At the VTP	Title market transaction	Intra-day title market transaction
	Renominations required at specific point(s) of the system	Locational market transaction	Intra-day locational market transaction

# Title products - definition

**Title market transaction:** gas to be transferred from the beginning of the day, if the trade was made before the day, or from a time after the confirmation of the trade, if the trade is made during the day, bought or sold through title transfer at the virtual trading point.



**Intra-day title market transaction:** gas to be transferred during a specific window during the day through title transfer at the virtual trading point.



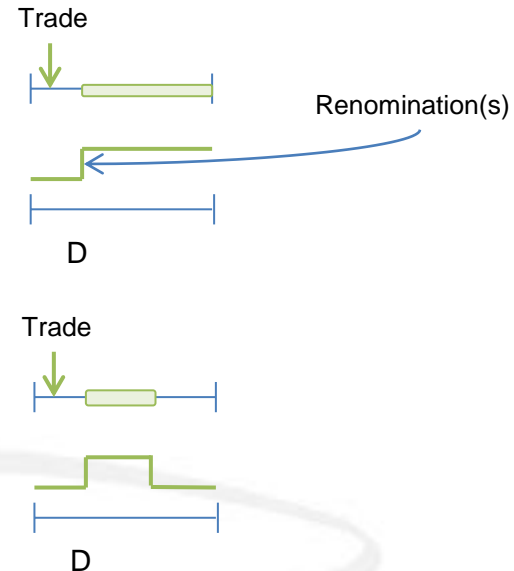
# Locational products - definition

**Locational market transaction:** Title market transaction with an accompanying obligation on the originating network user to make a (re)nomination at one or more specified entry or exit point of the network matching the VTP trade.

**Intra-day locational market transaction:** locational market transaction in which the (re)nomination on the specified entry/exit point(s) has to be made for a specific window within the day.

**time swap**, gas is input or oftaken in accordance with the agreed profile. With a net volume of zero over the balancing period.

This last product can be considered as a combination of two intra-day physical trades, with equal and opposite amounts.





# Using standardized products

- For efficient use by the TSO standardized product need to be traded on an electronic trading platform
- On the platform:
  - Network users and TSO will put bids and offers
  - Network users will accept the requirement to make any required renominations for locational and temporal products
  - TSO will accept those bids and offers that meet its balancing requirements
- Where trading platforms compete, TSO will use those that best meet its requirements

# Long term balancing services

Balancing services: *additional services (i.e. additional to the buying and selling of flexible gas) that a TSO may buy in order for the system to remain within safe operational limits.*

Hypothesis: Any long term arrangement TSOs make for balancing purposes will be considered as a balancing service

# Types of long term balancing services

## 1. Standard balancing services

- Based on standard contracts specifying
  - Working volume
  - Injection/withdrawal capacity
  - Lead time for delivery
  - Quantity of gas

## 2. Non-standard balancing services

- Taylor made
- Based on specific needs of the TSO

# Contracting long term balancing services

Criteria to enter into long term balancing services include

- Lack of liquidity in the market
- Frequency of balancing actions
- Response times needed

Long term balancing services must be procured in a market based manner:

- Transparent
- Non-discriminatory

# Merit order

- Short term standardised services
  - Title market transactions
  - Intra-day market transactions
  - Locational market transactions
  - Intra-day locational transactions
- Long term standardized balancing services
- Long term non-standardized balancing services

# Use of merit order

- When choosing between the short term standardized products the TSO should choose the cheapest product that best meets its requirements. For example if the TSO can use a title market transaction, but there is a better priced locational transaction, then the TSO should use the locational one.
- Criteria for using balancing services
  - Market response is too slow for required action
  - No appropriate market transaction offered

Assumption: price should not be a criteria to move to the use of a balancing service



# **Stakeholder Feedback- Balancing Products**

**SJWS 1 - 12<sup>th</sup> January 2012**

**Steve Rose – Head of Gas Market Design**





# Balancing Products – Standardised short term products and merit order (1)

Merit Order	Time of Balancing Action	Delivery Point	Delivery Period
1	Within day	VTP	Whole day
2a	Within day	Specific Entry/Exit Point – to be specified following acceptance of bid/offer	Remainder of the day or specific window in the day
2b	Within day	Specific Entry/Exit Point – to be specified prior to acceptance of bid/offer	Remainder of the day or specific window in the day
3	D-3 to D-1	VTP	Whole day
4a	D-1	Specific Entry/Exit Point – to be specified following acceptance of bid/offer	Whole day
4b	D-1	Specific Entry/Exit Point – to be specified prior to acceptance of bid/offer	Whole day

## Balancing Products – Standardised short term products and merit order (2)

- > Why does TSO need a remainder of the day balancing product at the VTP in an end of day balancing system
  - If at 18:00 TSO needs 100 units/hr increase in gas flow for the remainder of the gas day TSO should buy 1200 units at the VTP
  - 1200 units will be added to the selling shipper's offtakes which will affect its end of day imbalance position
  - Shipper is financially incentivised to increase its inputs (physical entry points or VTP buys) by a further 1200 units by the end of the gas day
  - If the wholesale market is illiquid or the TSO requires certainty that gas will flow, the TSO should buy physical gas, possibly at a pre-defined entry/exit point
- > TSO should regularly report where it has deviated from the merit order and the reasons why
- > Time swaps are not standardised short term products. To the extent they are required they should be:
  - Treated as separate sells and buys under merit order 2a; or
  - Procured as balancing services.

# Balancing Services

- > Do we need to make a distinction between standardised and non-standardised balancing services?
- > Balancing services can only be used:
  - If a TSO can reasonably demonstrate that standardised short term products were not available at the time the balancing action was required
  - If the TSO has secured an exemption from the NRA to establish a balancing platform
  - To balance in an emergency or to react to short term localised constraints – “operating margins”
- > Balancing services should not be used to cap or reduce the costs of TSO using standardised short term balancing products
- > Balancing services should always be delivered at entry/exit points not at the VTP
- > Balancing services to be procured separately, not via bids/offers on a balancing platform, and should be always be tendered.
- > No merit order needed for balancing services but TSO should regularly report their costs and use and why they were used in preference to short term standardised products.





**BAL NC – SJWS1**

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**Within-day obligations**

**Ruud van der Meer**  
Advisor, ENTSOG

11-12 January 2012 - Diamant Centre, Brussels

# Provisions in framework guidelines

- Framework guidelines recognizes a role for within-day obligations
- Subject to several criteria
  - 3 qualifications for within-day obligations
  - 2 requirements on the process introducing within-day obligations
  - 7 requirements on the within-day obligations
- Further consideration necessary to fully understand their implication
- Discussions in ENTSOG have focussed on one of these criteria

# Main cost to be incurred

One requirement on within-day obligations is (proportionality rule)  
“main cost to be incurred by network users in relation to their balancing obligations shall relate to their position at the end of the day”

- “Cost to be incurred by network users in relation to their balancing obligation” are payments made by network users to TSO:
  - Cost for settlement of end-of-day position
  - Incentives on within-day obligations
  - Costs from neutrality mechanism(s)
  - Smeared costs

Several interpretations of proportionality rule have been considered.  
ENTSOG has sought additional guidance from ACER on this.



# Way forward

From ACER's response ENTSOG concludes that ACER

- Is not looking for explicit harmonization through the network code
- Expects sufficient harmonization through the criteria in the fg

ENTSOG therefore proposes

- Not to further analyse the criteria to fully understand their implications
- To transpose the criteria into text for network code
- Only where wdo interaction with other parts of the nc are material and risk validity of proposed code will ENTSOG alert ACER and involve stakeholders

# Within-day obligations – Business rules

1. TSO shall consult and justify wdo
2. Proposals shall analyse financial effects, assess impacts and demonstrate non-discrimination
3. The NRA shall be involved in assessment of proposals and shall approve it before implementation
4. The NRA shall assess against the criteria
5. Where prevailing wdo have not already been approved by NRAs then the process above shall be applied

The following slides indicate how these rules might be translated into detailed business rules that would serve as input to the final legal drafting activity

# Network code strawman - process

Any transmission system operator proposing to introduce any specific within day obligation relating to network user's inputs and offtakes during the gas day shall publically consult the proposal including the methodology and assumptions used in arriving at the conclusion that the conditions defined in [para 4 (a) to (h) are satisfied.

The proposal shall include the analysis of the likely financial impact on network users, the effect this may have on market entry, cross-border trade, hub liquidity and demonstrate that the proposal is not discriminatory

The transmission system operator shall seek the approval of the national regulatory authority before introducing any within day obligations.

# Network code strawman – requirements (1)

Without prejudice to Article 21 of Regulation (EC) No 715/2009, the national regulatory authority shall not prohibit the imposition of within-day obligations by the transmission system operator, provided that the obligations comply with the following conditions:

- they are necessary to ensure system integrity;
- they are necessary to minimise the need for the transmission system operator to take balancing actions;
- they are necessary to incentivise network users to take appropriate balancing actions during the day;
- the main costs to be incurred by network users in relation to their balancing obligations shall relate to their position at the end of the day
- the charge for not meeting the obligation is, to the extent possible, cost reflective and does not pose any undue barriers on new entry into the European markets or to cross-border trade;

## Network code strawman – requirements (2)

- it does not result in network users being financially settled to a position of zero during the gas day; and
- it has been subject to the analysis of the likely financial impact on network users, the effect this may have on market entry, cross-border trade, hub liquidity and has been shown to not be discriminatory; and
- it has been subject to public consultation, including the application of points (a) through (h).

The transmission system operator shall procure any balancing services required for within-day balancing in a market-based manner, pursuant to Chapter III.





# Stakeholder perspective on WDOs

Thought provoking statements  
for discussion purposes only

Presenter: Kees Bouwens

# Within-day market as a balancing tool

- Daily balancing requires within-day actions:
  - System users need to manage their individual imbalance position during the day
    - Buy or sell gas within the balancing zone (at VTP)
    - (Re)nominate flow at entry/exit points
  - TSOs need to manage that overall system imbalance remains within acceptable range
    - Buy or sell gas at VTP or at specific locations
    - Use of balancing services
- Introducing within-day obligations (WDOs) places additional constraints on system users



# Within-day market as a balancing tool

- Without a within-day market the options would be limited:
  - System users can (re)nominate flow at entry/exit points
  - TSOs can use balancing services
- Within-day flexibility instruments would be used by:
  - System users to balance their individual portfolio
  - TSOs to balance the overall system
- Within-day market offers significant benefits:
  - Efficient utilisation of flexibility instruments
    - Market based selection; includes cross-border instruments
  - Allows new players to participate, creating liquidity

# How to promote the within-day market ?

- Define a standard product
  - CAM NC has *Balance-of-Day* as smallest standard product
  - Similar approach for balancing could be *BoD-gas*
    - Hourly product, or daily profiled product have less potential
- Facilitate use of standard product
  - Harmonise timing of procedures around CAM, trading, (re)nominations and balancing
  - Use of standard product for TSO balancing actions
    - To reduce system imbalance, and to provide incentives
- Market can only function with incentives
  - System imbalance should trigger price change

# Role of WDOs

- WDOs appear aimed at influencing users behaviour to avoid that TSOs need to take balancing actions
  - However, WDOs may compete with within-day market
    - Example: WDO ‘type-2’ cumulative hourly imbalance obligation with tolerances. The tolerances cannot be traded
- WDOs are likely to act as barrier to cross-border trade
  - Hourly profile may not be exported across IPs in case of bundled capacity products (Hub-to-Hub services)
- Balancing NC should deal with WDOs to avoid that different balancing arrangements remain
  - Merely copying FG text would just shift problems forward

