Balancing Network Code development

Objectives, process and challenges

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Start-up kit on Balancing Network Code

Objectives and process
Disclaimer

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Context and TSO role development

• Third Energy Package
  - Breaks up incumbents and enables market facilitation
  - Separates balancing and transmission services roles and charging

Unbundled TSOs

<table>
<thead>
<tr>
<th>Transmission services role</th>
<th>Balancing role</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSO core revenue streams</td>
<td>Neutrality plus complementary incentives</td>
</tr>
</tbody>
</table>

... TSOs performing a fundamental role of enabling the development of the market without the inherent portfolio hedging abilities of incumbents

... TSOs support market promotion but should not pay for market promotion
# Why the Balancing Network Code?

<table>
<thead>
<tr>
<th>Problems identified in ACER Framework Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>gas markets fragmented, with several balancing zones across EU and different balancing arrangements applying in neighbouring markets</td>
</tr>
<tr>
<td>entrenches market power of incumbents and increases the barriers to new entry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remedies provided in ACER Framework Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>market based gas balancing regime</td>
</tr>
</tbody>
</table>

... *approach is to promote short term wholesale gas market*
Delivering the “Balancing Target Model”

Shipper:
- Balance their inputs and off-takes

TSO:
- Carry out the residual balancing
  - With DSO support
  - Neutrality

Short term wholesale gas market

Balancer Services
...but the Balancing Network Code is only one of the necessary conditions

<table>
<thead>
<tr>
<th>What else is required</th>
<th>By whom?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer databases to support the balancing</td>
<td>DSOs</td>
</tr>
<tr>
<td>Load profiles/algorithms</td>
<td>DSOs/agents/TSOs</td>
</tr>
<tr>
<td>Access to short term flexible gas</td>
<td>Market players</td>
</tr>
<tr>
<td>Trading and balancing platforms</td>
<td>Platform operators &amp; TSOs</td>
</tr>
<tr>
<td>Transition and interim measure implementation</td>
<td>TSOs and all market players</td>
</tr>
</tbody>
</table>

..NRAs, in particular, have a critical role to deliver sufficient conditions to enable a properly functioning short term wholesale market
Chapter II
Balancing System

Articles 4 to 5
Balancing System

- A trade between two parties is a transfer of title to gas from the account of the seller to the account of the buyer
  - this transfer is registered by the TSO to each shipper’s account
  - this transfer takes place on a notional point in the “centre” of the system – a VTP

- The Balancing Network Code describes the underlying features of trading at the VTP – trade notification process
Chapter III
Operational Balancing

Articles 6 to 11
### Operational Balancing

<table>
<thead>
<tr>
<th>TSO’s undertaking balancing actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aims at</strong></td>
</tr>
<tr>
<td>➢ to maintain the transmission network within its operational limits</td>
</tr>
<tr>
<td>➢ to achieve an end of day linepack position different from the one anticipated, consistent with economic and efficient operation of the transmission network</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Is performed through</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ the buying and selling of short term standardised products</td>
</tr>
<tr>
<td>➢ the use of balancing services</td>
</tr>
</tbody>
</table>
Operational Balancing

Short term standardised products

- are to be traded at VTP
- TSO may not establish all the products

Temporal aspects

- during the gas day (up to its end)
- during a specific time period within the gas day

Locational aspects

- no (re-)nominations required at specific point(s)
- (re-)nominations required at specific point(s)

<table>
<thead>
<tr>
<th>title product</th>
<th>locational product</th>
</tr>
</thead>
<tbody>
<tr>
<td>temporal product</td>
<td>temporal locational product</td>
</tr>
</tbody>
</table>
Operational Balancing

**Title product trade:**
- transfer of a title to gas at VTP
  - applied to portfolio from the beginning of gas day D – if the trade is made on gas day D-1; or
  - applied to portfolio from the time of the confirmation of the trade – if the trade is made during gas day D

**Locational product trade:**
- transfer of a title to gas at VTP
  - = title product; and
  - the originating trading participant to make (re-)nomination(s) at specified point(s)
Operational Balancing

• **Temporal product trade:**
  transfer of a title to gas at VTP
  • applied to portfolio during a certain time period within gas day D

• **Temporal locational product trade:**
  transfer of a title to gas at VTP
  • = locational product; and
  • (re-)nomination(s) to be made for a certain time period within gas day D
Balancing service

- **Definition:**
  - a service provided to a TSO via a contract for flexible gas which is not a short term standardised product

- **Situations for procurement:** if short term standardised products
  - do not provide the response necessary to keep the transmission network within its operational limits; or
  - are not liquid

- **Way of procurement:**
  - in a market based manner
  - through a transparent and non-discriminatory procedure

- **Annually TSO shall:**
  - review the use of balancing services
  - publish information on procured balancing service and incurred related costs
Operational Balancing

To decide on which balancing action to undertake, the TSO is to follow the merit order:

Firstly

Secondly

Thirdly
Operational Balancing

Incentives

Key features of incentive mechanisms

- are related to TSO performance:
  - reward for outperformance and penalty for underperformance, with caps applying
- take into account TSO means to control performance
- their application reflects the responsibilities
- are adapted to the current state of market
- are subject to regular review

Simple illustration of an incentive model
Chapter IV
Nominations

Articles 12 to 18
Nominations at IPs

• The Balancing Network Code standardises the nomination procedure at IPs

Shippers submit nominations to TSO no later than the nomination deadline: 13:00 UTC (12:00 UTC when daylight saving time is applied)
Nominations at IPs

TSO sends the **confirmation notice** to shippers no later than the **confirmation deadline**: 15:00 UTC (14:00 UTC when daylight saving time is applied).
Re-nominations at IPs

• The Balancing Network Code standardises the re-nomination procedure at IPs

Shippers submit re-nominations to TSO within the re-nomination period:
starts immediately after the confirmation deadline,
ends no later than 3 hours before the end of gas day D
Re-nominations at IPs

TSO starts the re-nomination cycle every hour within the renomination period.

TSO sends the confirmation notice to shippers within 2 hours from the start of each re-nomination cycle.

Effective gas flow change starts 2 hours from the start of each re-nomination cycle.

(e.g. for the last re-nomination cycle starting at 02:00 UTC: the confirmation notice is to be sent between 02:00 UTC and 04:00 UTC and the effective gas flow change starts at 04:00 UTC)
Chapter V
Daily Imbalance Charges

Articles 19 to 23
Daily Imbalance Charges

- **Mechanism** is a daily imbalance charge calculation methodology:
  - process: TSO proposal → NRA approval → publication on a relevant website
  - parameters: daily imbalance quantity, applicable price, other parameters
  - calculation of charges as follows: daily imbalance quantity * applicable price

- **Daily imbalance quantity:**
  - is calculated by TSO for each shipper for each gas day according to the formula:

  \[
  \text{daily imbalance quantity} = \text{inputs} - \text{off-takes}
  \]

  - daily imbalance quantity ≠ 0 → daily imbalance charge is applied

- **Applicable price:**
  - inputs < off-takes → shipper is short → marginal buy price is applicable
  - inputs > off-takes → shipper is long → marginal sell price is applicable
Daily Imbalance Charges

**INPUTS**

- Shipper is short gas for this gas day → pays for the imbalance quantity of 700 at a marginal buy price.

**OFF-TAKES**

- Shipper is long gas for this gas day → gets paid for the imbalance quantity of 500 at a marginal sell price.
Daily Imbalance Charges

Simple illustration of marginal buy price and marginal sell price derivation

- Highest price of TSO trades
- WAP plus small adjustment
- WAP minus small adjustment

price of TSO trades

end of gas day

weighted average price of gas
Daily Imbalance Charges

- not deter market entry
- not impede the development of competitive markets
- no detrimental impact on cross-border trade
- incentivise shippers to balance
- no excessive financial exposure of shippers to daily imbalance charges

Value
- ≤ 10% of the weighted average price (exemptions are possible)
- may differ for calculation of marginal buy price and marginal sell price
Chapter VI
Within Day Obligations

Articles 24 to 28
Within Day Obligations

Within day obligation

Represents:
- a set of rules imposed by a TSO on its shippers with regard to their inputs and off-takes within the gas day

Can be applied to:
- system position
  - to keep it within its limits
- a shipper’s position
  - to keep it within the range
- specific entry-exit points
  - to limit the flow/its variation

Within day charge

Results from a within day obligation as:
- a charge levied by a TSO on its shipper; or
- a payment made by a TSO to its shipper.
## Within Day Obligations

<table>
<thead>
<tr>
<th>assessment criteria</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Not pose undue barrier to cross border trade and new shippers’ entry</em></td>
<td>✓</td>
</tr>
<tr>
<td><em>Shippers are provided with adequate information and have reasonable means to manage exposure</em></td>
<td>✓</td>
</tr>
<tr>
<td><em>Main costs for shippers for balancing relate to end of day position</em></td>
<td>✓</td>
</tr>
<tr>
<td><em>Within day charges reflect to the extent possible costs of the TSO for taking balancing actions</em></td>
<td>✓</td>
</tr>
<tr>
<td><em>Shippers are not financially settled to a position of zero during the gas day</em></td>
<td>✓</td>
</tr>
<tr>
<td><em>The benefits of the WDO outweigh the negatives in terms of economic and efficient operation of the network</em></td>
<td>✓</td>
</tr>
</tbody>
</table>
Chapter VII
Neutrality Arrangements

Articles 29 to 31
Financial Elements of Balancing Activities

- The Balancing Network Code establishes four main financial streams

  - The TSO does not gain or lose from the balancing activities
  - Balancing neutrality charges will be paid by or to the shippers concerned

- Neutrality mechanism:
  - Daily imbalance charges
  - Balancing actions charges
  - Within day charges
  - Other charges
Financial Elements of Balancing Activities

- Each shipper is bound to pay or entitled to receive for its daily imbalance quantity.
- This pot may be net income or outgoing for TSO.
Financial Elements of Balancing Activities

- Covers the TSO’s balancing actions:
  - trade in short term standardised products
  - use of balancing services
- Can include fixed costs
- This pot may be net income or outgoing for TSO
Financial Elements of Balancing Activities

- **daily imbalance charges**
- **neutral mechanism**
- **within day charges**
- **other charges**

- **WDOs not a feature of all regimes**
- **This pot may create different financial consequences for TSO if a shipper doesn’t follow a within day obligation**
Financial Elements of Balancing Activities

This pot is an outgoing for TSO and is intended to capture other financial flows arising from TSO’s undertaking of balancing activities, e.g.:

- Administration costs
- Financing costs
Financial Elements of Balancing Activities

The Balancing Network Code prescribes:

- The costs that TSOs can recover
- Transparency measures
- Shippers charged based on their use of transmission network
- Credit risk management rules
Chapter VIII
Information Provision

Articles 32 to 42
Information Provision

- To allow the shippers **to balance their portfolios**, information is provided to them regarding their inputs and off-takes.

- **Allocation** information provided in order to calculate daily imbalance quantity:
  - reconciliation between the allocations is out of scope.

- **3 classes of information** available:
  - intraday metered
  - daily metered
  - non daily metered

- One of **3 information models** must be applied within each balancing zone:
  - base case, variant 1 and variant 2
Information Provision

- **day ahead**
  - intra day metered
  - not applicable
- **within day**
  - daily metered
- **after the day**
  - non daily metered
Chapter IX
Linepack Flexibility Service

Articles 43 to 44
## Linepack Flexibility Service

A service provided by a TSO to shippers to balance their inputs and off-takes over a period longer than a gas day

### Provision Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSO shall not need to enter into any contracts in order to provide this service</td>
<td>✓</td>
</tr>
<tr>
<td>Revenues generated by TSO should at least cover the costs</td>
<td>✓</td>
</tr>
<tr>
<td>Offered on a transparent and non-discriminatory basis</td>
<td>✓</td>
</tr>
<tr>
<td>TSO cannot charge any costs relating to service for shipper not contracting for it</td>
<td>✓</td>
</tr>
<tr>
<td>TSO shall prioritise the reduction of a WDO over the provision of this service</td>
<td>✓</td>
</tr>
<tr>
<td>Shall not have a detrimental impact on cross border trade</td>
<td>✓</td>
</tr>
</tbody>
</table>
Chapter X Interim measures
&
Chapter XI Final and Transitional Provisions

Articles 45 to 53
**Implementation Timeline**

**no interim measures**

- **Year 1**: full compliance
- **Year 2 with NRA approval**: full compliance

**interim measures**

- **Year 1**: full compliance except for interim measures
- **Year 2**: yearly report with roadmap (NRA approval, possible ACER opinion)
- **Year 3**
- **Year 4**
- **Year 5**

**Balancing target model implementation within 1 or 2 years, or up to 5 years**
Managing the transition

• full compliance except for interim measures
• yearly report with roadmap (NRA approval, possible ACER opinion)

Being ready to start requires NRA, TSO, stakeholder and wider actor action
The best way forward may be the development of packages of changes
Implementation challenges
Balancing implementation status by 1 October 2016:

- Implementation deadline by 1 October 2015 applicable for 10 countries
  - 9 countries (AT, BE/LU, DE*, DK, FR, NL, SI and UK-GB) have implemented the BAL NC.
  - 1 country (HU) has most of the provisions in place.

- Implementation deadline by 1 October 2016 applicable for 5 countries (transitory period option)
  - 2 countries (ES and IT) have implemented the BAL NC.
  - 3 countries (CZ, HR, PT) still have to perform further implementation steps.

- Implementation deadline by 16 April 2019: 11 countries (with interim measures)
  - Interim measures:
    - 8 countries (DE*, IE, LT, PL, RO, SE, SK and UK-NI) have interim measures in place.
    - 2 countries (EE** and EL) partially implemented the interim measures.
    - 1 country (BG) is planning to implement the interim measures during 2017.

- All other provisions (with implementation deadline by 1 October 2015):
  - 3 countries (DE*, IE, and UK-NI) have also all other provisions in place.
  - 8 countries (BG, EE**, EL, LT, PL, RO, SE and SK) partially implemented the other provisions.

*Germany is doubled categorized as it applied in addition to its implemented trading platform an additional balancing platform under interim measures.
**Estonia, holding derogation, provided partially data on a voluntary basis.
Information model and forecasting party

- 19 countries have already chosen one of the three information models.
- **Model chosen per country:**
  - Base Case: 11 countries
  - Variant 1: 6 countries
  - Variant 2: 2 countries
- In 5 countries no information model has been chosen.
- In 18 countries a **forecasting party** is established or is planned to be established:
  - TSO: 10 countries
  - DSO: 4 countries
  - Third Party: 4 countries
- In 7 countries the forecasting party is under discussion/ not foreseen.

* Countries planning to establish a forecasting party.

- 15 countries (AT, BE, CZ, DE, DK, ES, FR, HU, IT, LT, LU, NL, PL, SI and UK-GB) have a trading platform in place.
### Type of STSP product

<table>
<thead>
<tr>
<th>Type of STSP product</th>
<th>Country where it is offered on a trading platform or balancing platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title products</td>
<td>AT, BE/LU, CZ, DE, DK, ES, FR, HU, IT, LT, NL, PL, SI, SK, UK-GB (16)</td>
</tr>
<tr>
<td>Locational products</td>
<td>DE, ES, FR, HR, HU, IT, UK-GB (7)</td>
</tr>
<tr>
<td>Temporal products</td>
<td>DE, HU, NL (3)</td>
</tr>
<tr>
<td>Temporal locational</td>
<td>DE (1)</td>
</tr>
</tbody>
</table>
Next balancing monitoring

- Next balancing monitoring report is planned to be published June 2018
- Implementation status of BAL NC by 1 Oct. 2017

- Cluster 2016 countries will be included in effect monitoring (GY2016/2017)

- Suggestions for development of indicators
  - More information on STSP e.g. on title products
  - Evolution from GY 2015/2016 to GY 2016/2017
Do you have any questions?
Thank You for Your Attention

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