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# ENTSO-E Cross Border Electricity Balancing Pilot Projects

2 Month Report on Pilot Project 8

SPOC Name – SPOC's TSO

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## 1. Introduction

This report comprises of the following general issues:

1. The main information of the pilot project;
2. The implementation of relevant targets ahead of the Network code on Electricity Balancing (NC EB);
3. An update on any specific targets of the pilot project not directly linked to NC EB, but key for the pilot project itself;
4. An update on any additional general and particular success/monitoring indicators of each pilot project, taking into account what pilots are or not under a “go live” phase;
5. Balancing products: products implemented/to be implemented at pilot project level, analysing the possibility to harmonise between different pilot projects that deal with the same type of balancing product.

The table below indicates when information has been last updated.

	Last updated
2.a Participating TSOs	February 2015
2.b Scope and goals of the pilot project	February 2015
2.c Recent achievements of the pilot project	February 2015
2.d Learning points	February 2015
2.e Specific questions	February 2015
3.a Updated project roadmap	February 2015
3.b Impact on current practice and future market design	February 2015
3.c Cross-border exchange relevant data	February 2015
3.d Matching, ATC management and bids update process	February 2015
3.e Pricing-Settlement	February 2015
3.f Experience from the implementation	February 2015
3.g Extensibility and cooperation	February 2015
4.a Pilot project roadmap in comparison to NC EB	February 2015
4.b Contribution to standard product definition	February 2015

## 2. Executive summary

### a) Participating TSOs

National Grid, BritNed, TenneT

### b) Scope and goals of the pilot project

Under one of the 9 Pilot Projects on balancing, TenneT and National Grid are proposing to investigate the feasibility to establish a cross border balancing (CBB) service for Replacement Reserves for delivery across the BritNed Interconnector.

The goal of this service is to enhance European market integration principles of transparency, optimisation and efficiency, and seek to provide both TSOs with options for restoring the supply-demand balance in their control area and managing domestic constraints where it has a need to do so.

In order to test the feasibility of providing a cross border balancing service, this pilot project will require the following information so that the market arrangements between GB and NL are fully understood:

- Assess how two different market areas can provide a mutually beneficial balancing service
- Test the feasibility of ACER targets, against two fundamentally different market models
- Develop a Cross Border Balancing Energy Exchange service through a TSO-TSO trading function or common platform
- Demonstrate economic efficiency
- Harmonisation of balancing products

Due to incompatibility of present market designs in UK and the Netherlands, this pilot project on reserve replacement has been put on hold. Other, non-pilot project cooperation for system support between NGET, BritNed and TenneT NL is currently being developed. This is out of scope for Pilot Project 8.

### c) Recent achievements of the pilot project

N/A

### d) Specific questions

N/A

## 3. Detailed of the pilot project

### a) Updated project roadmap

N/A

### b) Impact on current practice and future market design

N/A

### c) Cross-border exchange and relevant data

N/A

### d) Pricing – Settlement

N/A

### e) Experience from the implementation

### f) Extensibility

**Extensibility Q1: Please provide details about potential harmonisation of balancing products of the same process or justify any possible barriers:**

Replacement Reserves as being investigated by Pilot Project 4: Project TERRE. There was discussion around potentially combining Pilot 8 with Pilot 4, however, due to the differences in market design, it

was decided that it would be useful to concentrate on how the GB and NL market could potentially develop an RR service.

**Extensibility Q2: Under which conditions can the cooperation be extended? (Reciprocity for BRPs and BSPs is guaranteed, specific regulatory/legal framework required?)**

The current different market models used in GB and the Netherlands makes the exchange of cross border energy very difficult i.e. proactive balancing regime in GB vs reactive in the Netherlands

**Extensibility Q3: What is the regional extensibility of the method, due to technical restrictions? (Uniformly applicable within regions of limited extension or no restrictions on extensibility)**

N/A

## 4. Contribution of Pilot Project to NC Implementation

### a) Pilot project roadmap in comparison to NC EB

Where relevant explain briefly the expected or the already achieved contribution of each pilot to any of the NC milestones (A-J) listed below and also complete the timing in the corresponding table.

**A. Proposal of regional implementation framework:**

As Pilot Project 8 is in the early stages of feasibility studies, it is not possible yet to determine the exact contribution to the Network Code milestones. However, the Network Code will introduce the concept of coordinated balancing areas (CoBAs) for the exchange of balancing energy, which Pilot 8 aims to align with where possible. Initial findings are that it may not be possible to fully develop replacement reserves between the two countries.

**B. Implementation of the regional integration model: N/A**

**C. Proposal of modification of the European integration model N/A**

**D. Proposal of the European implementation framework N/A**

**E. Proposal of common settlement rules N/A**

**F. Proposal of settlement harmonisation N/A**

**G. Proposal of standard products definition N/A**

**H. Proposal of standard products pricing N/A**

**I. Proposal of standard products algorithms N/A**

**J. Proposal for common settlement rules of intended exchanges of energy associated to the Frequency Containment Process N/A**

**Other expected contributions? (if yes, explain contribution and indicate both NC road map and pilot project road map) N/A**

The timing of the pilot project in relation to the NC EB implementation schedule (A-J), should be completed where applicable. Note: EIF is estimated in June 2015.

### b) Contribution to standard product definition

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N/A

## 5. Additional relevant information of the pilot project

Currently, the market models for between GB and NL are very different. GB uses a balancing regime whereby actions are taken within gate closure for both system and energy purposes. Balancing parties are not legally obliged to remain balanced and are instead incentivised to reduce their own imbalance. Any actions taken by the system operator are then socialised across all parties that are out of balance. Parties are not expected to assist the TSO in mitigating system imbalance. GB manage system imbalance by actively forecasting demand and generation (renewables) and then taking actions to reduce such imbalances.

In NL, a balancing regime is in place whereby BRPs are fully responsible for maintaining their portfolio; any remaining netted imbalance will be *reactively* corrected via the Load Frequency Control application of the TSO.

The main barrier therefore is that GB is more likely to use an RR service as it provides the system operator with greater balancing tools.

Alongside this, National Grid and TenneT are discussing alternative services in parallel to Replacement Reserves, for example HVDC redirection and Frequency Response. However, this is considered to be outside of the scope of the Pilot Project 8 for the time being due to the timescales involved in the Pilot Projects.

It may be concluded that due to the fundamental differences between the markets, it is looking likely that the development of replacement reserves may not be possible between GB and NL, hence Pilot Project 8 should be put on hold until further clarification can be gained from the final Network Code on Balancing.

Response to questions from stakeholder groups:

- Why would further clarification from NCEB be decisive for pilot project 8?
  - Certain requirements in NCEB restrict the number of CoBAs that a TSO can join. If GB is prevented from joining different CoBAs for different products, then it is severely limited in its ability to develop other services with different TSOs, which is not truly in the spirit of cooperation and coordination. (e.g. by joining TERRE, why should GB be prevented from joining a FRR pilot project if it is technically and commercially possible to do so?)
  
- Would TSO-BSP model be feasible/interesting for market participants/TSOs?
  - NGET is not opposed to this concept, but analysis is required to understand how it might work in practice.
  
- Why not consider mFRR? Possibility to merge pilot 8 with pilot 7 regarding mFRR?
  - NGET and TenneT have met to discuss the possibility of establishing a mFRR service over BritNed, both sides agree it would be beneficial for NGET to meet with TenneT and Elia to establish if it might be possible for NGET to join BPP7.

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- What incompatibilities need to be harmonized to enable cooperation between proactive and reactive systems?
    - NGET manages its system proactively, and so uses RR products in timescales further ahead than 15 minutes to balance its system according to forecasts. TenneT does not do this, and so does not need/use RR services. TenneT's approach is to enable BRPs to maintain the balance of its portfolio in real time: TenneT reacts only to any residual imbalance in its control area.
    - In separate discussions it has been established that there are similarities in the FRR products that both TSOs use. There is also a desire to make the current frequency response services under trial in GB over BritNed available to Continental Europe as well.
  - Key learnings at word template are empty!
    - The differences between proactive and reactive system management techniques by the TSOs are the most significant barrier to developing a RR service. However, the similarities in the use of FRR products by the TSOs could offer an opportunity for the development of SO-SO services. NGET and TenneT are in discussion to establish if it is commercially and technically possible to do so, firstly on a bilateral basis, but with a long term view to integrating with other TSOs if possible

## Appendix 1. Project road map Summary

	2013				2014				2015				2016				2017				2018				2019			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<i>Design phase</i>					■	■	■																					
<i>NRA approval</i>							■	■	On hold																			
<i>Decision go live/ not to go (under a CBA)</i>							■	■	On hold																			
<i>IT Implementation</i>									On hold																			
<i>Testing</i>									On hold																			
<i>Go Live</i>									On hold																			
<i>Monitoring of economic variables (costs, volumes, social welfare)</i>					■	■	■	■	On hold																			
<i>NC EB proposal of modification of target model</i>							■	■	On hold																			



## Appendix 2. Standard product characteristics

