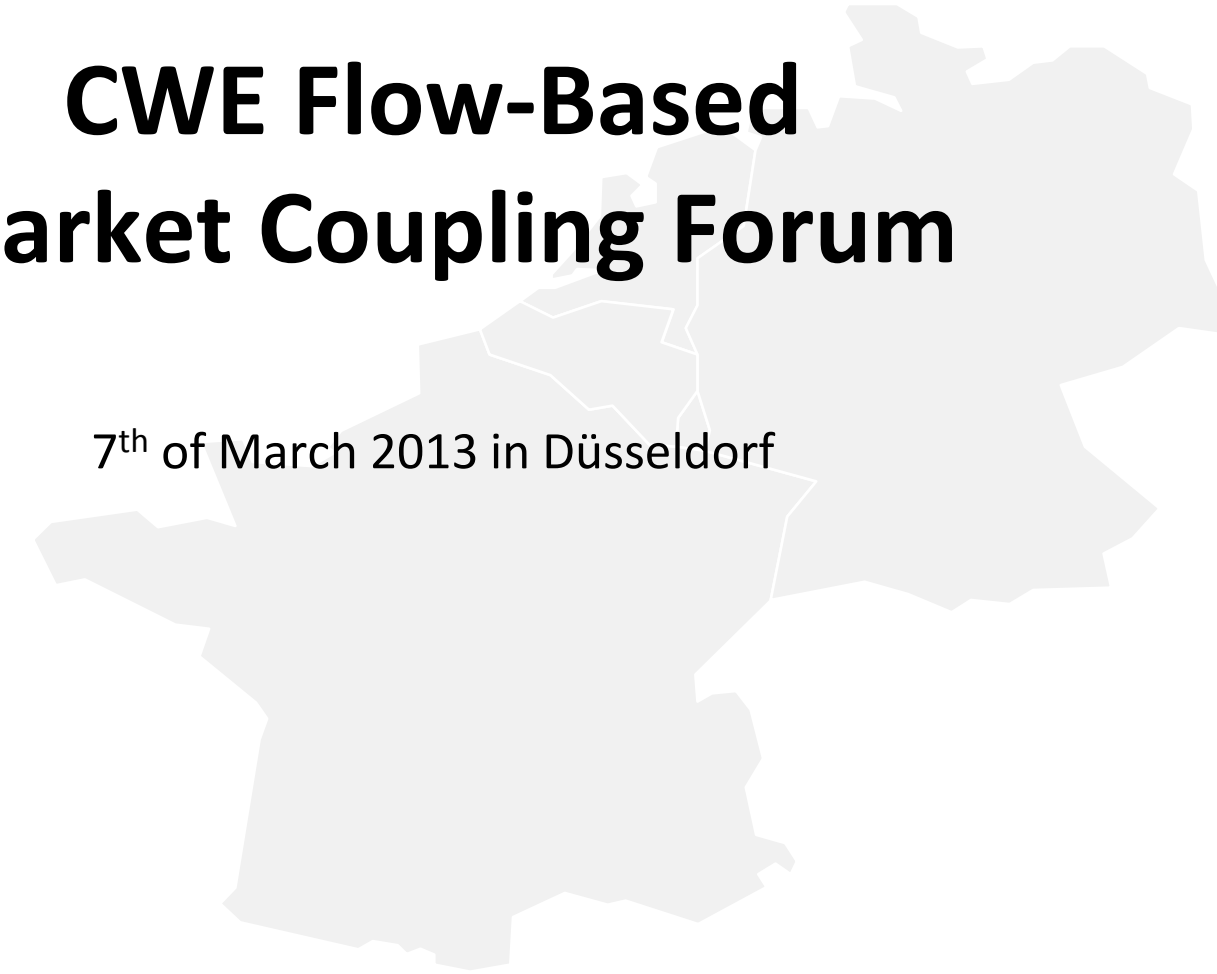
CWE Flow-Based Market Coupling Forum

7th of March 2013 in Düsseldorf



Agenda

Morning session

Timing	Topic	Speaker
10.00	*REGISTRATION AND COFFEE*	
10.30 – 10.45	Welcome speech : Status of CWE FB MC project implementation and coordination with other coupling projects	Jean VERSEILE (RTE) Bert DEN OUDEN (APX)
10.45 – 11.15	Presentation of the first external parallel run results	Pascale FONCK (Elia)
11.15 – 11.30	Information on project's implementation approach and planned support to MPs	Andrew CLAXTON (APX)
11.30 – 11.50	Q&A session	
11.50 – 12.10	Flow Based perception and expectations of Market Parties	Ruud OTTER (MPP)
12.15 – 13.30	*LUNCH*	

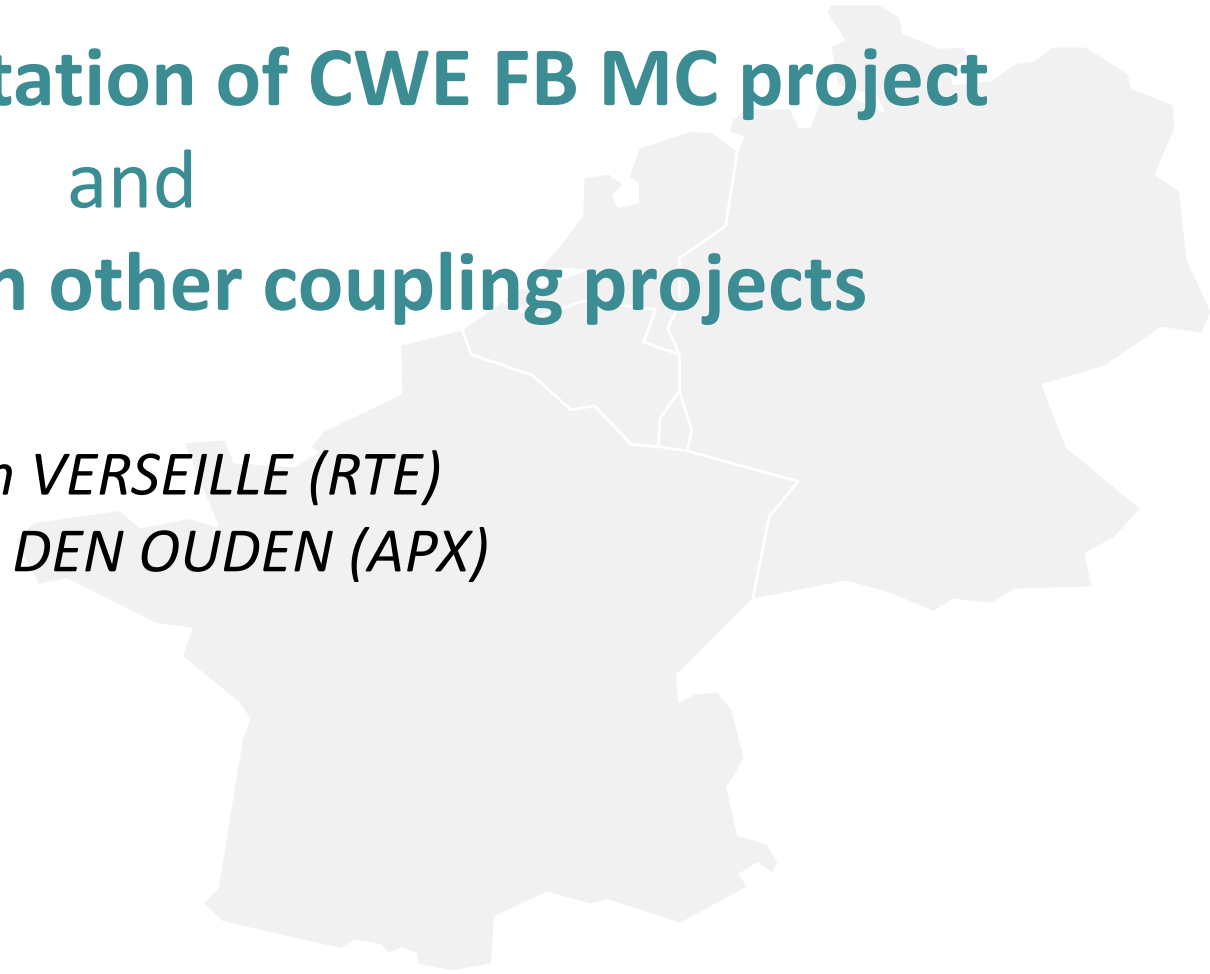
Agenda

Afternoon session

Timing	Group 1	Group 2
13.30 – 15.00	**Workshop Session 1** *by Joel HOEKSEMA (APX)* Theoretical understanding of flow-based method, intuitiveness, hybrid-coupling	**Workshop Session 2** *by Philippe NOURY (RTE)* Parallel run functioning, In-depth analysis of daily results, presentation of utility tool
15.00 – 15.30	*COFFEE BREAK*	
15.30 – 17.00	**Workshop Session 2** *by Philippe NOURY (RTE)* Parallel run functioning, In-depth analysis of daily results, presentation of utility tool	**Workshop Session 1** *by Joel HOEKSEMA (APX)* Theoretical understanding of flow-based method, intuitiveness, hybrid-coupling

Status on implementation of CWE FB MC project
and
coordination with other coupling projects

by Jean VERSEILLE (RTE)
and Bert DEN OUDEN (APX)



Implementation of CWE FB MC project

Where are we today?

- The Project has achieved a **major milestone** in the beginning of this year with the **launch of the external parallel run**
- All project partners have been putting their efforts in the realization of this important step which marks the beginning of concrete exchanges with the market about Flow Based simulation results
- In the name of all project partners, the Chairmen would like to welcome all stakeholders to today's Market Forum which will give the opportunity for constructive discussions based on methodological and very concrete inputs

Implementation of CWE FB MC project

Achievements and further objectives

2012	2013
Methodology • Agreement on CB* selection principles • Finalization of FRM* values • New GSK* implementations by some TSOs	**Methodology** • Formal approval by regulators • Adjustment of the CB* sets and reporting to regulators • Methodology refinement
Process • Organization of knowledge transfer • Coordination of common activities	**Process** • Continuous improvement of coordination activities
Tooling • Supporting the methodology by IT tools	**Tooling** • Implementation of an industrialized IT tool

- The project is proud about **progress made in 2012** and would like to share some insights regarding two crucial achievements: the **Critical Branches selection principle** and the **new Flow Reliability Margins values**

* CB: Critical Branch; FRM: Flow Reliability Margin; GSK: Generation Shift Key

Implementation of CWE FB MC project

Achievements: Focus on CBs and FRMs

Critical Branches (CB) selection principles

- Assessment of CBs: based on impact of CWE cross-border trade on the network elements and on operational experience
- Threshold of significance for a CB: its maximum CWE zone-to-zone Power Transfer Distribution Factor (PTDF) is larger than 5%
- Exceptions for a CB below the threshold are allowed but must be justified

Update of Flow Reliability Margins (FRM) values

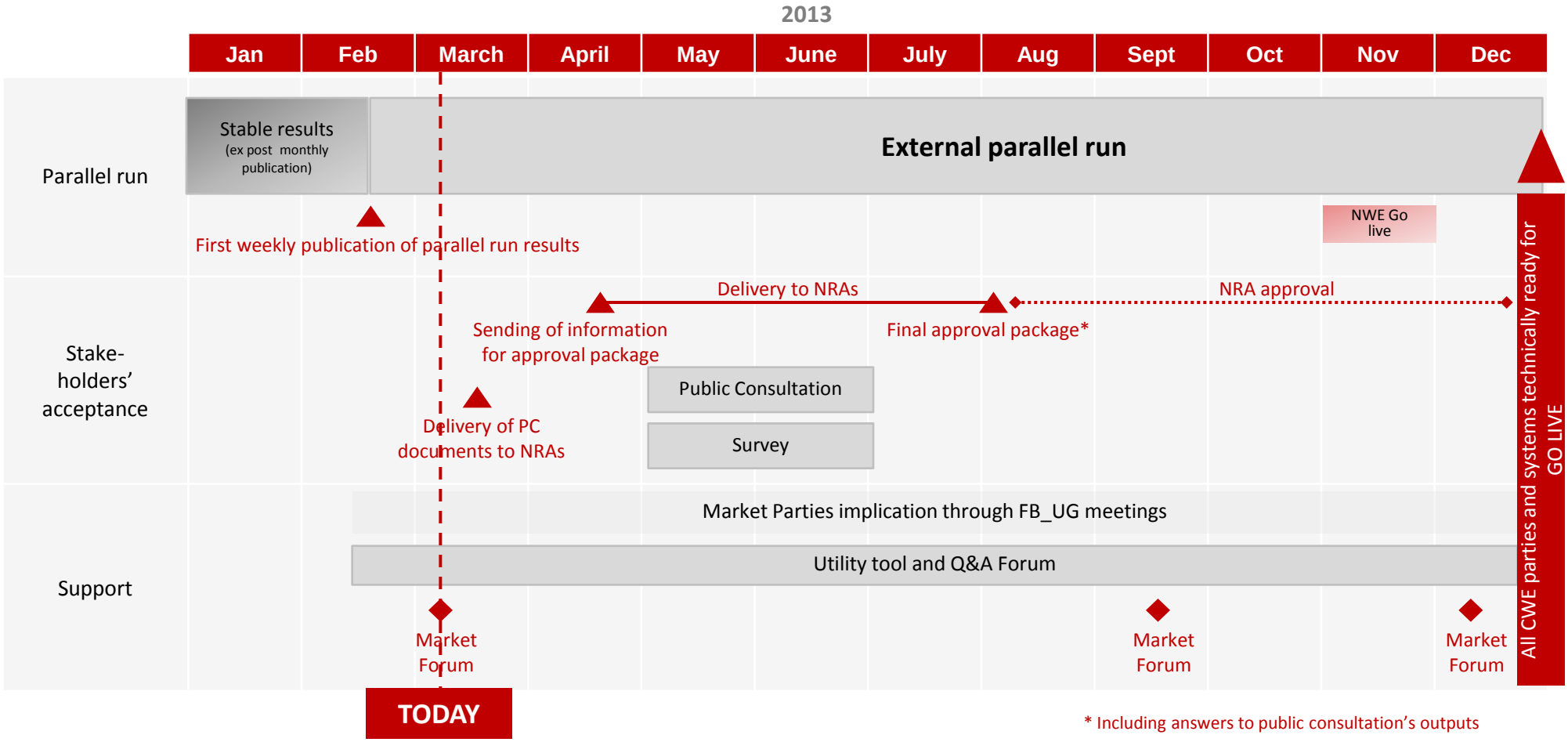
- TSOs have performed a thorough statistical analysis in order to set operational FRMs
- Each CB has its own FRM which is a fixed input for the FB computation
- FRM computation is part of a consistent risk management policy followed by TSOs: despite new values being in average larger than the 10% forfeit used during the FB experimentation in 2011, and thanks to process improvements, the FB domain keeps the same size

- **CB selection principles and FRM methodology will be described in the consultation package and are subject to formal regulatory approval but not the values themselves**
- **Any impacting change in the method will follow a change control procedure within the project, will be communicated to MPs**

Implementation of CWE FB MC project

Achievements translating into the following project planning

- Thanks to these achievements, the external parallel run has been launched and the next resulting milestones will follow shortly



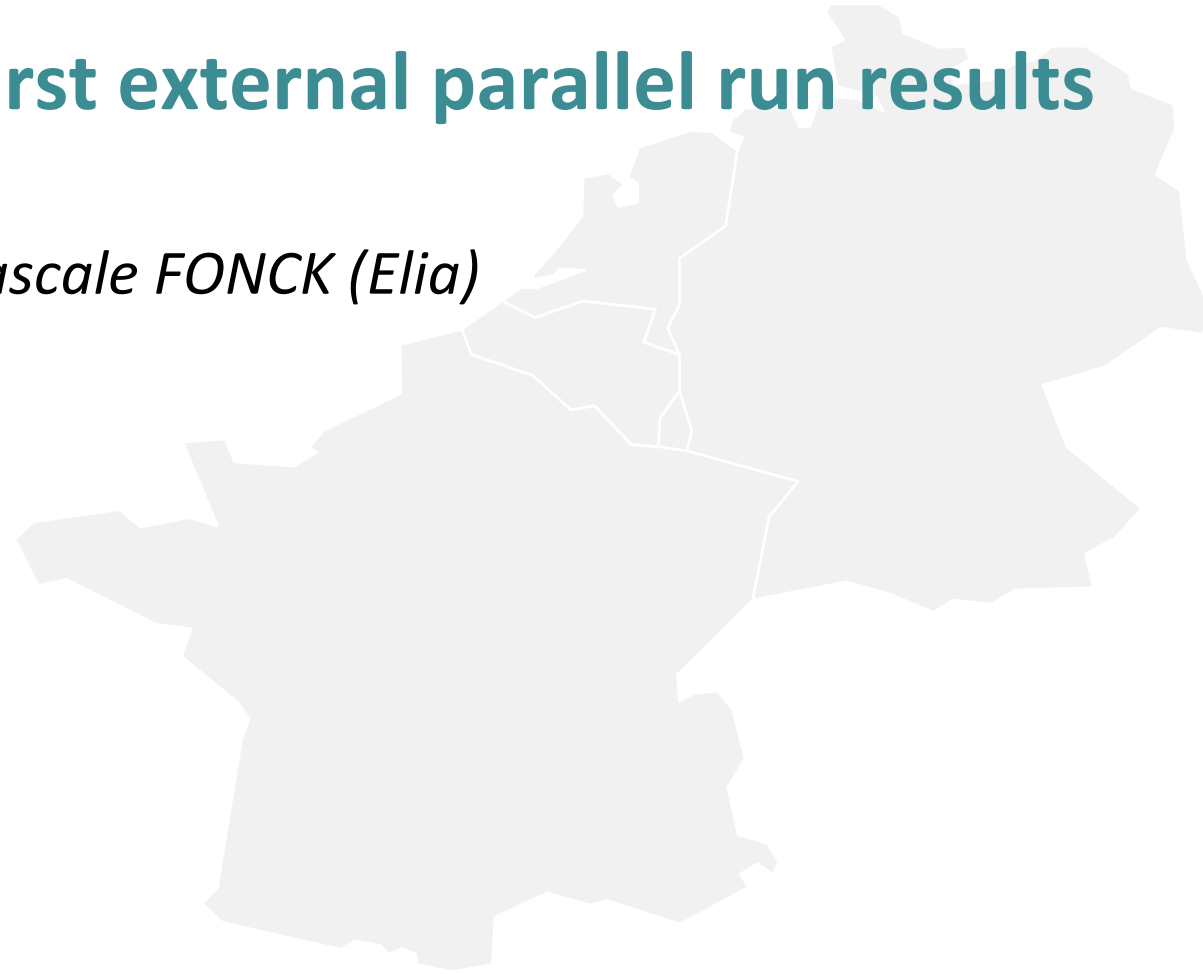
Coordination with other coupling projects

CWE – important step towards a Single European Price Coupling

- NWE and CWE FB are both essential for the Single European Price Coupling
  - NWE (based on PCR method) to create the nucleus to which other regions can easily connect
  - CWE flow based to (re-)improve the price convergence and economic surplus in that nucleus
- The CWE project is embedded in **ACER's Cross-regional roadmap for Capacity Calculation** and is strongly coordinated with the NWE (North Western European) Day-Ahead Market Coupling Project
- Due to technical reasons, and necessity to have parallel run including NWE market coupling the CWE FB MC will only go live after the successful Go Live of NWE
- In the meantime, other initiatives are ongoing and aim at achieving the target model for Market Integration in 2014 (a.o. European Price Coupling): SWE, CEE, CSE….
- Within this roadmap, the **CWE FB methodology is compatible (e.g. by the "hybrid" facility) with all other day-ahead coupling projects** currently being prepared and with Intraday projects so that the coordination and sequential implementation will be facilitated between initiatives

Presentation of the first external parallel run results

by Pascale FONCK (Elia)



Presentation of the first external parallel run results

- CWE FB MC project has started data publication since the **21st of February 2013** and **publication will continue all along 2013**
- These results are the outcome of the parallel run process which consists in the following activities:
  - **TSOs** generate on a daily basis Flow Based parameters based on operational data
  - **PXs** simulate market results on a weekly basis with a simulation facility based on ATCs order books
  - The process is performed with experimental tools, pending industrialization of the systems
- **First external parallel results of 2013 look quite promising** in comparison to ATC, though there is still a margin for improvement in the course of the external parallel run

Ex-post results from the 1st of January 2013

- During the external parallel run, some daily results might be missing as the process is not yet fully industrialized

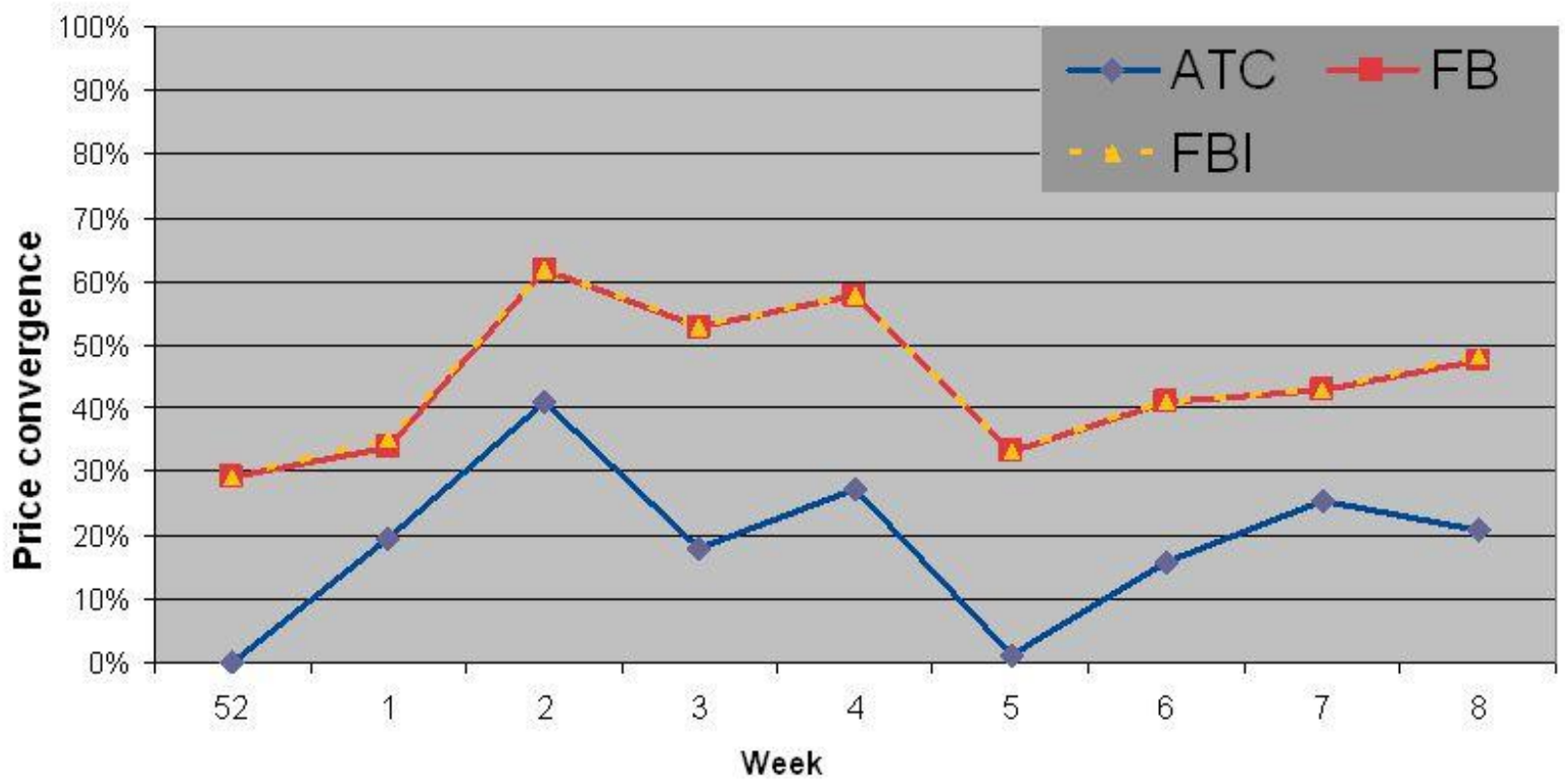
Year	week	Wed	Thu	Fri	Sat	Sun	Mon	Tue
2012	52							2013-01-01
2013	1	2013-01-02	2013-01-03	2013-01-04	2013-01-05	2013-01-06	2013-01-07	2013-01-08
	2	2013-01-09	2013-01-10	2013-01-11	2013-01-12	2013-01-13	2013-01-14	2013-01-15
	3	2013-01-16	2013-01-17	2013-01-18	2013-01-19	2013-01-20	2013-01-21	2013-01-22
	4	2013-01-23	2013-01-24	2013-01-25	2013-01-26	2013-01-27	2013-01-28	2013-01-29
	5	2013-01-30	2013-01-31	2013-02-01	2013-02-02	2013-02-03	2013-02-04	2013-02-05
	6	2013-02-06	2013-02-07	2013-02-08	2013-02-09	2013-02-10	2013-02-11	2013-02-12
	7	2013-02-13	2013-02-14	2013-02-15	2013-02-16	2013-02-17	2013-02-18	2013-02-19
	8	2013-02-20	2013-02-21	2013-02-22	2013-02-23	2013-02-24	2013-02-25	2013-02-26

48 of 57 days successful

- ***Note**: As external parallel run data has been published since the 1st of January, week 52 contains only one day*
- ***Note**: Our weeks run from Wednesday to Tuesday and carry the calendar week of the first day of the week. Consequently 1st of January is in week 52*

Price convergence since the beginning of 2013

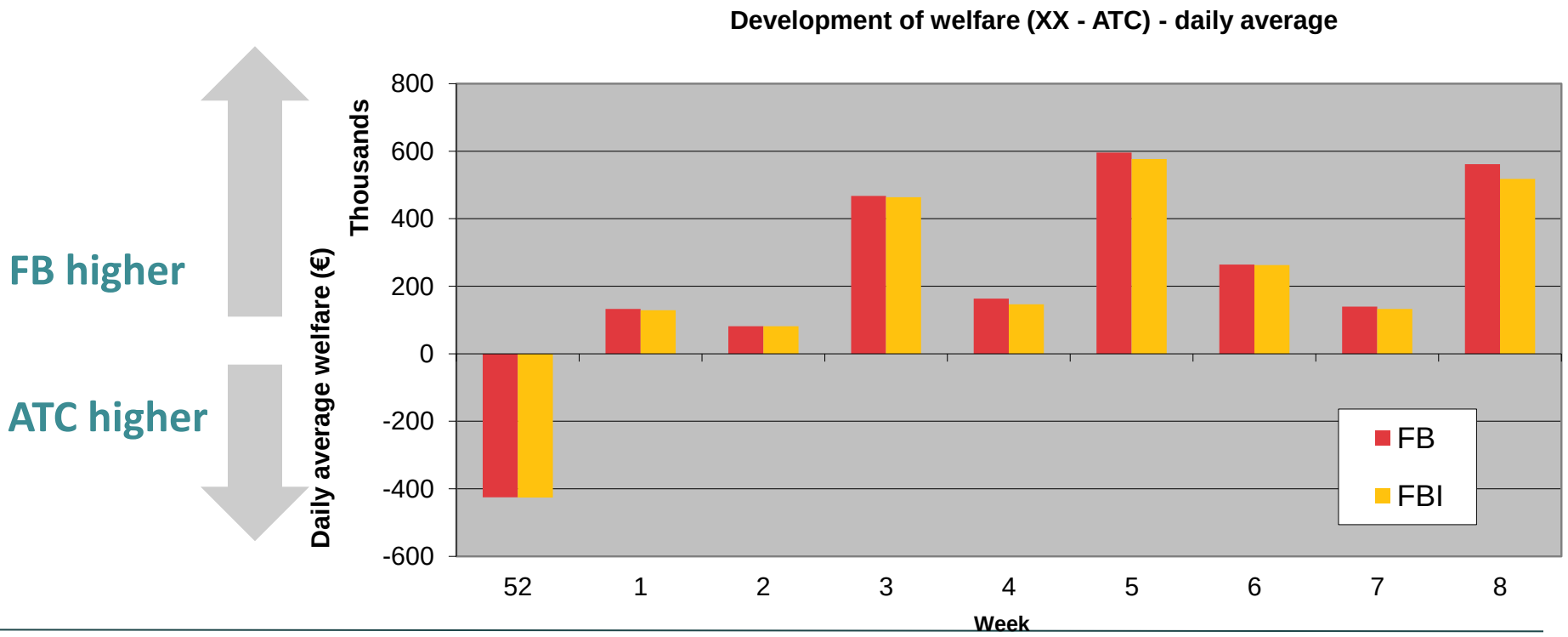
- The price convergence overview shows a continuous, **at least 10%, higher price convergence** under FB than under ATC



Weekly overview of the Day ahead market welfare

In comparison to ATC

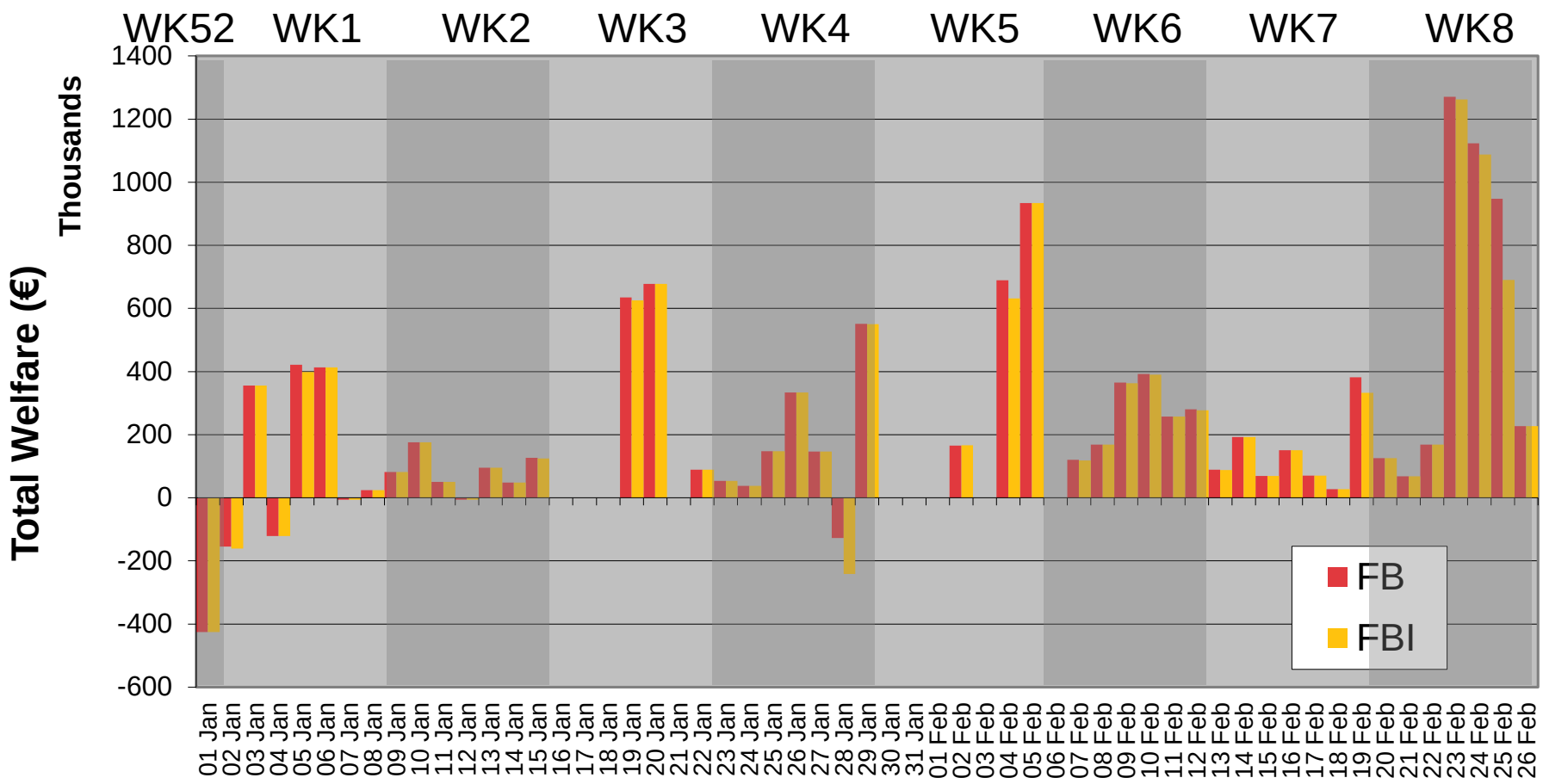
- This overview shows the **gain in weekly DA market welfare** since the beginning of 2013
- Observation:
  - Total welfare under FB is higher than under ATC
  - No significant difference so far between FB and FBI



Daily overview of the Day ahead market welfare

In comparison to ATC

- The detailed **daily overview** shows a significant increase in DA market welfare under FB for almost all days

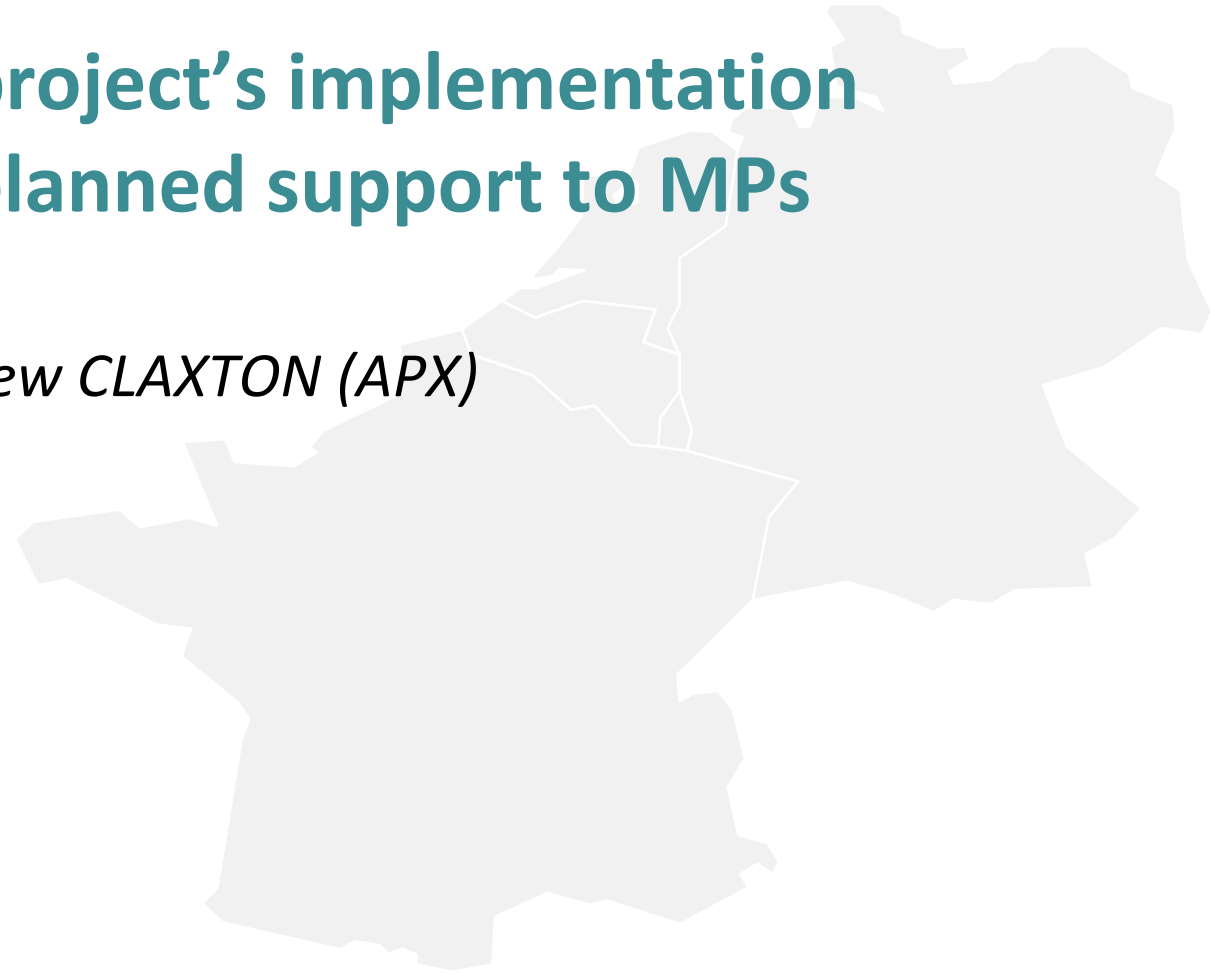


REMINDER: the parallel run, one year of learning period

- The external run which will last one year is a **learning period for project partners and market participants**
- Therefore, the data has to be taken cautiously, keeping in mind important facts:
  - The external parallel run is performed with ATC Order books from production environment
  - As an industrialized tool is not available yet, an ex-post recalculation of the process can not be guaranteed. CWE Project Partners can therefore not ensure the 100% availability of results
  - The external parallel run remains a project phase in which some changes might for example be applied to the FB method or the process after having been submitted to a change procedure
- Of course, the **market will be informed** in due time about any impacting change that will occur during the external parallel run

Information on project's implementation approach and planned support to MPs

by Andrew CLAXTON (APX)



Information on project's implementation approach and planned support to MPs

2012


Internal parallel run

- ✓ Internal process improvements
- ✓ External parallel run preparations and design of market support
- ✓ Regulatory approval preparations
- ✓ Preparation of IT systems
- ✓ Exchanges with MPs via the Flow Based User group

2013


External parallel run

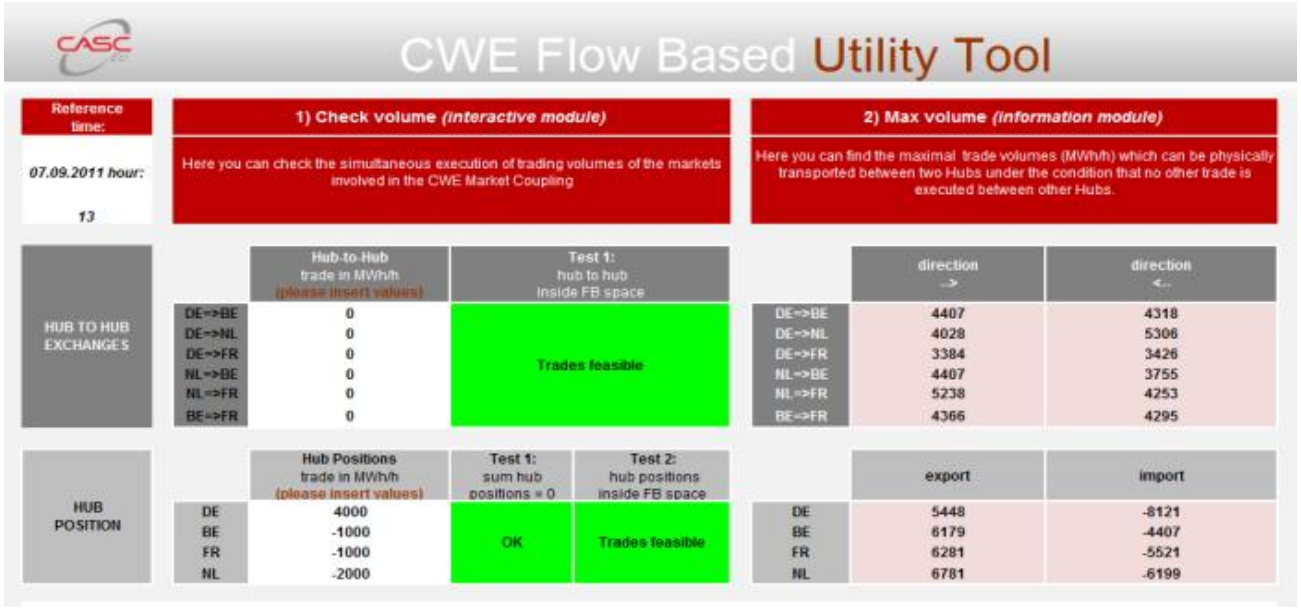
- ✓ Availability of one year of simulations results to evaluate the FB methodology
- ✓ Ongoing, constructive dialogue with the market via the Flow Based User Group
- ✓ Process improvements accompanied by necessary simulation tools

- Project Partners have taken the last year to prepare **helpful supporting tools for market participants** in order to support them in the handling of the new methodology and to facilitate the switch from ATC to FB
- This year will be fully dedicated to **communication with all market participants**, and the project partners are looking forward to their feedback

Market support

Facilitating simulations thanks to the Utility Tool

- Project Partners wish to facilitate the transition to FB for market participants
- Therefore, FB experts have developed a **simulation tool** where the relevant FB parameters will be displayed and market participants can do their own simulations



CWE Flow Based Utility Tool

Reference time: 07.09.2011 hour: 13

1) Check volume *(interactive module)*

Here you can check the simultaneous execution of trading volumes of the markets involved in the CWE Market Coupling

2) Max volume *(information module)*

Here you can find the maximal trade volumes (MWh/h) which can be physically transported between two Hubs under the condition that no other trade is executed between other Hubs.

HUB TO HUB EXCHANGES

	Hub-to-Hub trade in MWh/h (please insert values)	Test 1: hub to hub inside FB space
DE=>BE	0	Trades feasible
DE=>NL	0	
DE=>FR	0	
NL=>BE	0	
NL=>FR	0	
BE=>FR	0	

	direction ->	direction <-
DE=>BE	4407	4318
DE=>NL	4028	5306
DE=>FR	3384	3426
NL=>BE	4407	3755
NL=>FR	5238	4253
BE=>FR	4366	4295

HUB POSITION

	Hub Positions trade in MWh/h (please insert values)	Test 1: sum hub positions = 0	Test 2: hub positions inside FB space
DE	4000	OK	Trades feasible
BE	-1000		
FR	-1000		
NL	-2000		

	export	import
DE	5448	-8121
BE	6179	-4407
FR	6281	-5521
NL	6781	-6199

! For more information, demonstration and explanation on the functionalities of the Utility Tool, please attend this afternoon's practical workshop !

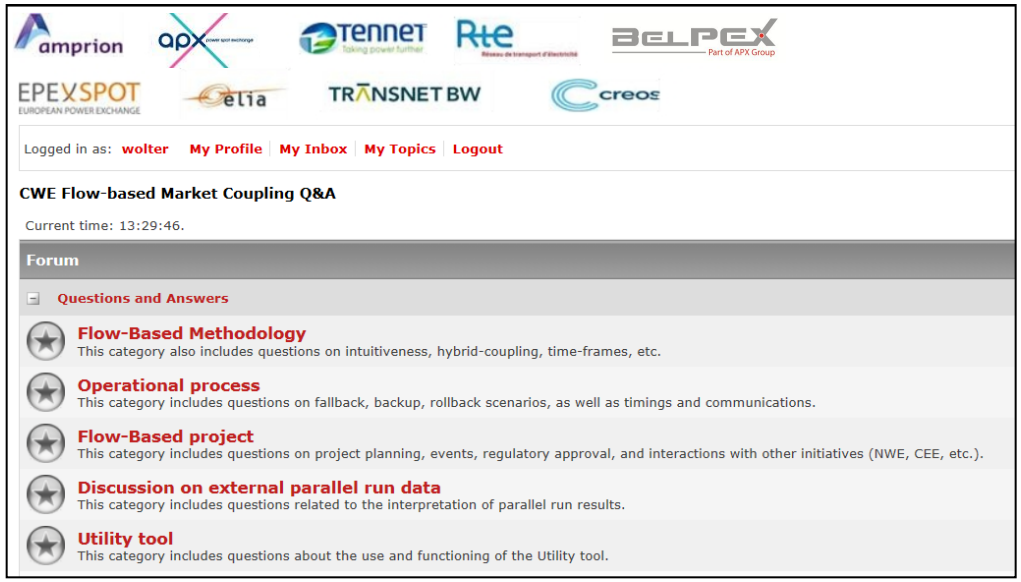
Market support

An open Q&A Forum for all your questions

- During the whole duration of the external parallel run, a **Q&A Forum** is available online enabling market parties to ask their questions: http://www.casc.eu/en/Resource-center/CWE-Flow-Based-MC/Q---A-Forum
  - Questions will be published after their reception and project partners will do their best to post the corresponding answers as quickly as possible. You will be notified via email when the answer is online

Practical advice:

- Please facilitate the process by:
  - Asking short and concise questions
  - Asking questions ONLY related to FB
  - Checking whether you question has already been posted on the forum
  - Uploading only short files or graphs when really necessary
  - Posting your question in the most relevant category



Market support

Public Consultation and Survey for your formal remarks

- Market participants will have access to official project documentation via CASC's website which will include the following information:
  - CWE Market Coupling Solution
  - Fallback arrangement
  - Roll back
  - Coordinated Flow Based capacity domain determination
  - Economic Assessment
  - Publication of data

- In parallel, you will be invited to comment on specific questions and provide comments regarding these documents via an online survey
- Public consultation and survey: **1st May 2013 – 30th June 2013**

  - Official invitation including all access information will be sent in due time
  - All formal remarks or concerns regarding the methodology should be given during the public consultation process as its outcome will be taken into account for the drafting of the final approval package submitted to NRAs

Q&A Session

Flow Based perception and expectations of Market Parties

by Ruud OTTER (MPP)

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Flow based project from a market perspective

CWE Flow Based Market Forum

7 March 2013

Some Background on the MPP

- The MPP is a cooperation of the 6 electricity associations in the CWE + Austria region (Pentalateral region)
- Has been involved in the market coupling process as co-signer of the MoU on the Pentalateral market coupling in 2007
- During this process information became available on the flow based concept and the concept looked promising
- We now face the implementation challenge with many questions and uncertainties

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The process

- First NWE price coupling, then CWE flow based coupling :
  - Market participants need to be able to understand and differentiate impacts arising from NWE coupling and from Flow Based coupling
  - Flow Based should not be “rushed”. An extended parallel run that would cover NWE coupling would be beneficial for all
  - Reliability of the flow-based algorithm is of utmost importance and should be ensured in a NWE-coupled environment (9 days without convergence so far)
- Consultation :
  - Beyond the May-June consultation: how can market parties be associated to the go-live decision?
- What is the expected implementation time for market parties? Is it in the planning?

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What is in the black box?

- With flow based it is even more important to know the exact rules and methods of the capacity calculation
- It is important that every market player can make thorough analysis
- This will also increase reliability of market estimations

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Open the black box

- All technical grid information should be public
- A detailed “explanatory guide” to the XML technical files provided on the CASC website should be written
- More information on the technical data in the XML file should be made public (critical branches…)
- The parallel runs should also show different scenarios
- How are remedial actions taken into account?
- How is the algorithm and operational process tuned?
- What are the optimisation criteria exactly?

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The market would like to be in *dialogue*

- Q&A are not enough: many answers trigger new questions
- User group should be used to create that dialogue
- A CWE stakeholder group (with representative organisations) meeting would also help the consultation
- Dialogue should not stop after the May-June consultation. September & December forums should be taken into consideration for go-live

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Thank you for your attention

Questions?

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