



CWE MC Go-Live Forum

Düsseldorf June 8th



Welcome words

J.F. Conil-Lacoste



Agenda

- 14.00 Welcome words by the Chairmen (JF.Conil-Lacoste)
- 14.05 Project Status and Flow based planning (A. Viaene)
- 14.20 Nordic-CWE Coupling Status (E. Böttcher)
- 15.00 Operational Processes/Timings
(S. Bourdon, A.Claxton)

16.00 Coffee break

- 16.20 Transparency, Price Harmonisation (R. Loos)
- 16.30 Implications for the participants (R. Loos)
- 17.00 Conclusion (F. Vandenberghe)

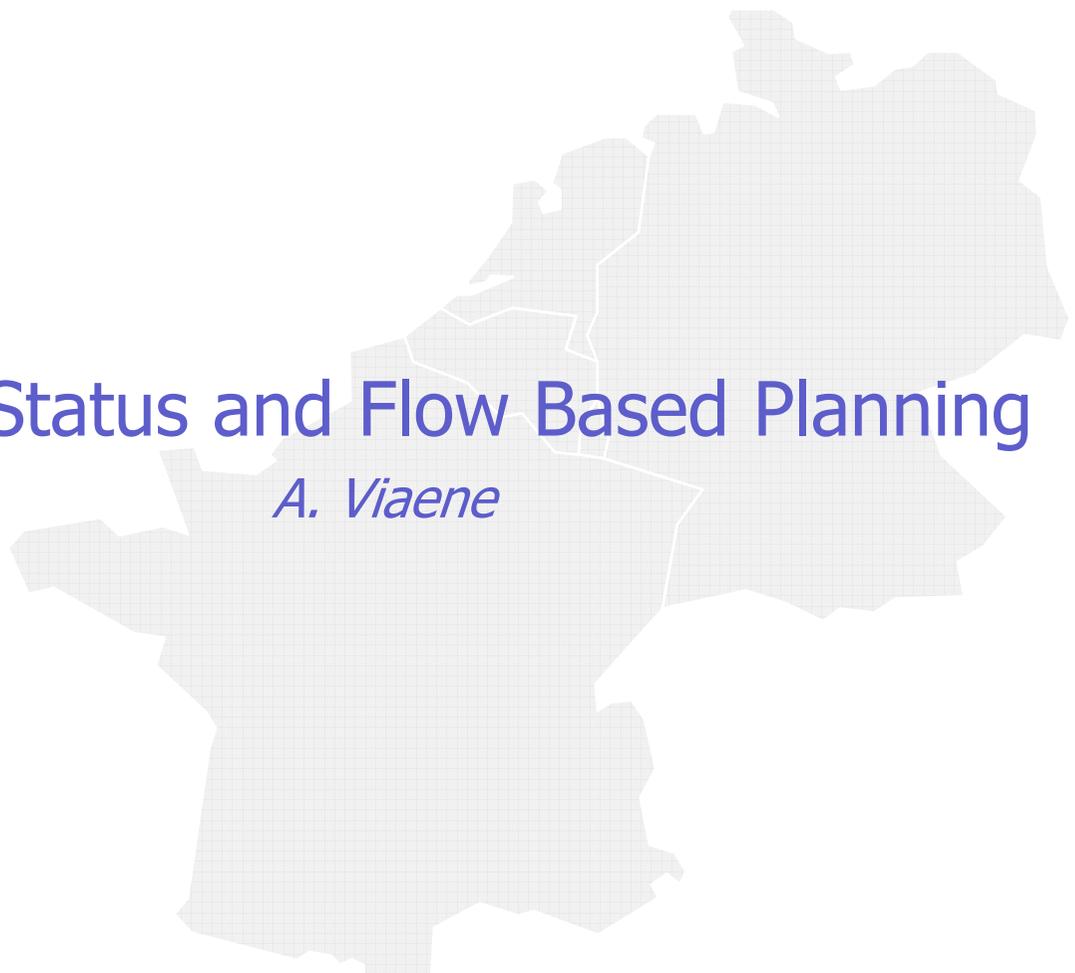




1

Project Status and Flow Based Planning

A. Viaene



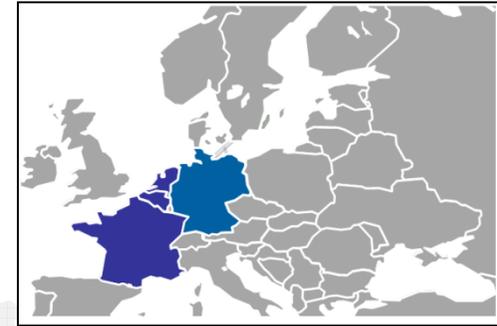
1. Project Status – Background

Original scope of CWE MC based on MoU June-2007



Various project developments

7th Sept launch date



❑ Design assumptions for the initially foreseen sequential loose volume coupling between EMCC and CWE showed too high risk of incompatibilities

❑ Therefore the CWE project parties have started discussions with the Nordic parties and EMCC in order to find a solution to solidly couple the CWE and Nordic regions

❑ PCG and AHAG*, of which CWE partners are members, have agreed that the ultimate aim is to adopt a price coupling model for the combined CWE and Nordic regions. This solution will however not be available by the CWE MC launch date. An interim solution is thus needed

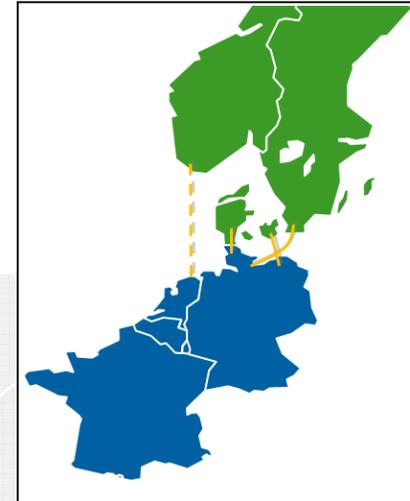


*PCG: Project Coordination Group

AHAG: Ad Hoc Advisory Group

1. Project Status – ITVC

Scope based on meeting between CWE-Nordic regulators, TSOs and PXs, May 7th 2010 Bonn meeting



Decision was taken to adapt CWE timelines to accommodate for EMCC calculation times and to adopt a more reliable Interim Tight Volume Coupling (ITVC) model, run by EMCC, to limit the adverse effects of volume coupling

Regulators and stakeholders have decided to let coincide the implementation of the ITVC with the launch of CWE Market Coupling

A two-step approach was decided:

An ITVC light without the NorNed Cable

A Full ITVC with NorNed included, foreseen two months later

1. Project Status – CWE Nordic Coordination

- ❑ Currently CWE and Nordic partners are working together, with a combined project management to ensure the required quality of the final solution
- ❑ CWE-Nordic meetings monitoring progress are organized on a regular basis
- ❑ The aim of this forum is to detail the CWE MC Project in combination with the Nordic extension

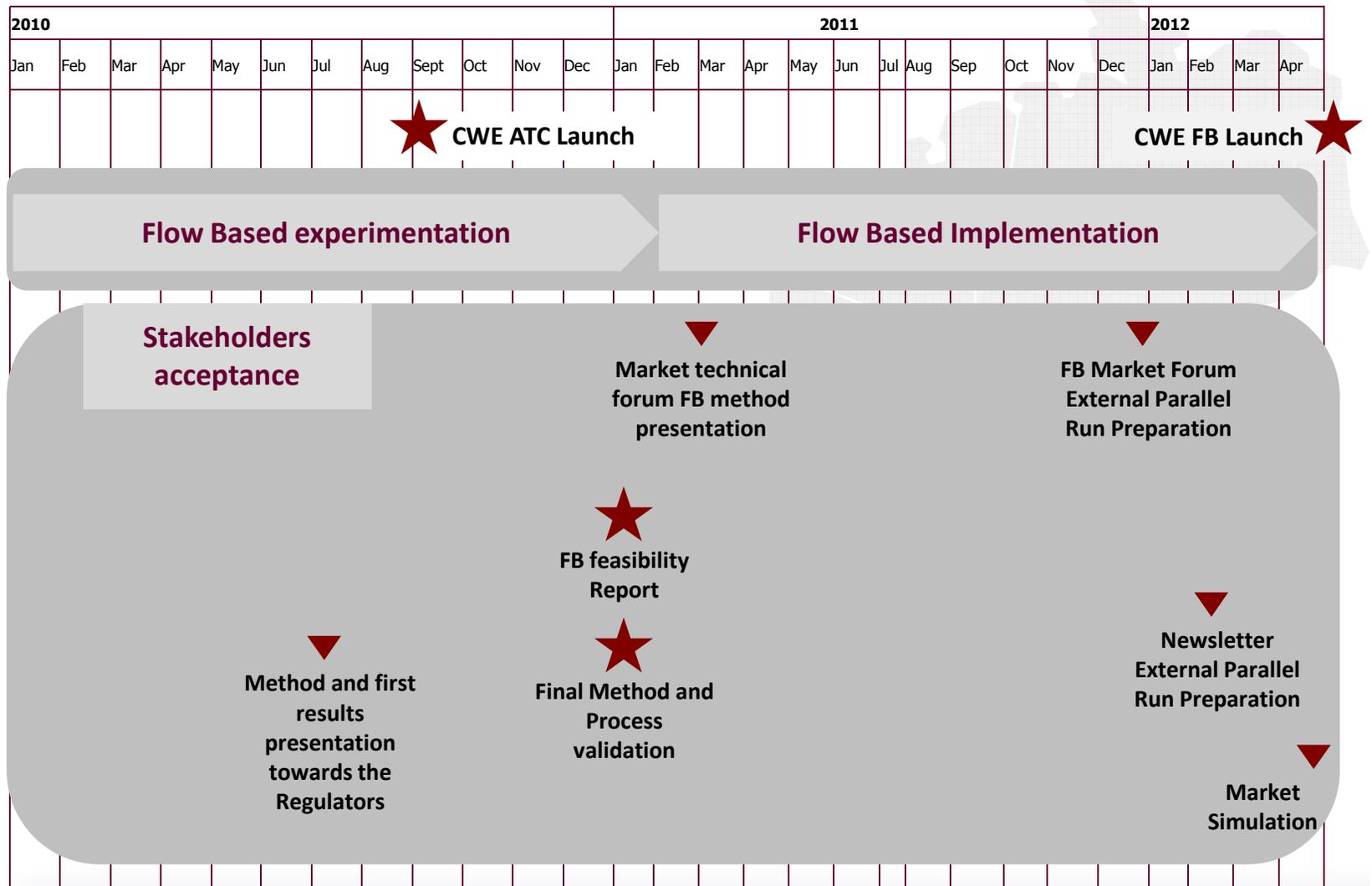


1. Project Status – Launch planning

- ❑ Since May 7th, CWE Parties are preparing for a coupled launch with the Nordic Area through ITVC in September or October 2010, as close as possible to the original CWE launch date of September 7th
- ❑ By mid July 2010 we intend to announce a target launch date of the combined project. Launch date will be subject to successful completion of testing of ITVC
- ❑ CWE Parties are fully aware of the quality concerns of the market and will seek to apply appropriate quality standards
- ❑ If by the end of July no target launch date can be announced, the CWE Parties will consult the stakeholders as soon as possible
- ❑ In case of significant delay of ITVC, CWE Parties are maintaining the readiness to launch the CWE Project according to the original time scale
- ❑ Any launch is subject to regulatory approval and timely resolution of the open regulatory issues



1. Flow Based Planning

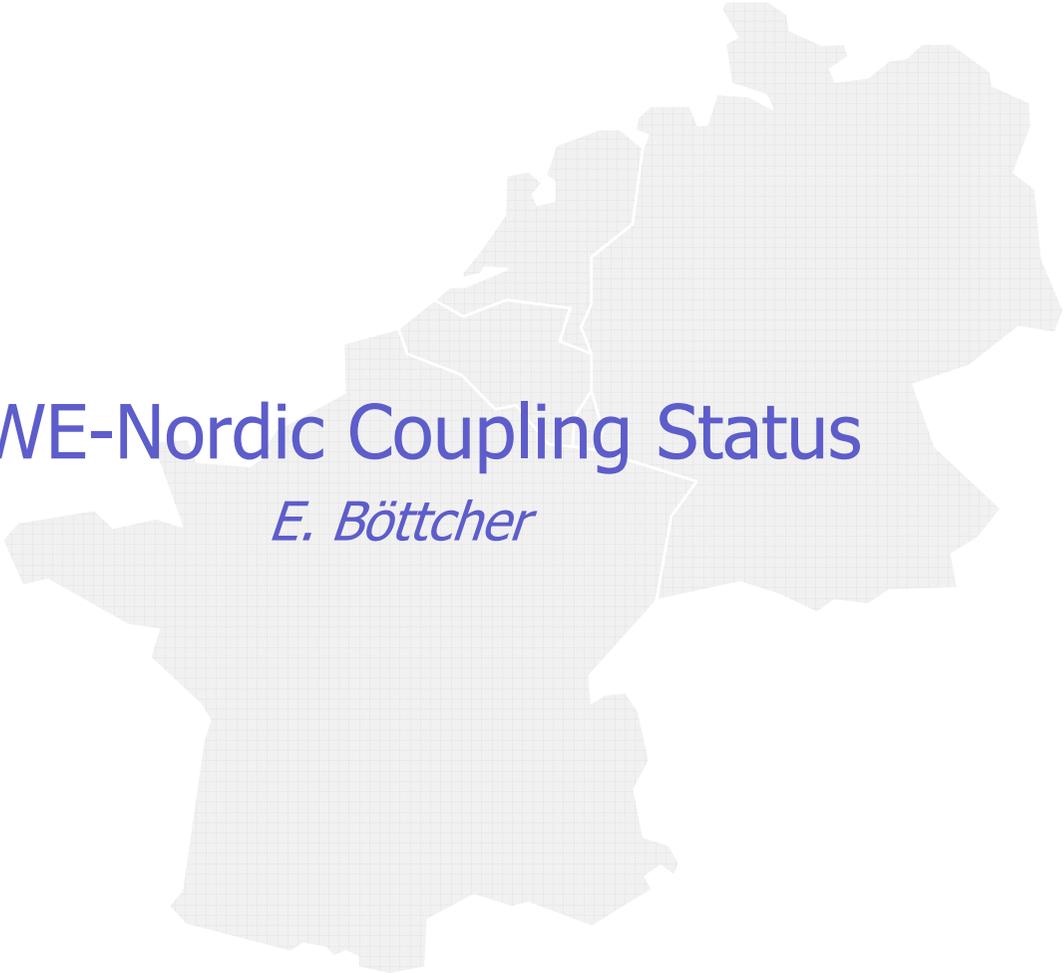




2

CWE-Nordic Coupling Status

E. Böttcher



2. Status of CWE-Nordic interregional coupling; Nordic-German tight volume coupling

General principles:

- In a volume market coupling, the optimal net positions and thus the energy transfers between the considered market areas are determined by a system-wide maximisation of social economic welfare, i.e. the participants' economic gains
- The calculated optimal energy transfers are transformed into price-independent bids and offers respectively
- The actual clearing of the market areas, i.e. determination of market clearing prices and decision on acceptance or rejection of orders, remains with the involved power exchanges
- EMCC is assigned to conduct interregional volume market coupling between the Nordic region and Central West Europe



2. Status of CWE-Nordic interregional coupling; EMCC`s current focus



- ↔ 1 **DK1: Interconnector** between DK West - Germany (950/1,500 MW)
Capacity holder: transpowerstromübertragungs gmbh, Energinet.dk
- ↔ 2 **DK2: KONTEK** between DK East - Germany (550 MW)
Capacity holder: Energinet.dk, Vattenfall AB, 50Hertz Transmission
- ↔ 3 **Baltic Cable** between Sweden - Germany (600 MW)
Capacity holder: E.ON Sverige, Statkraft

EMCC, its internal set-up and its IT system are designed to allow for the extension of its services to other interconnections and markets.

2. Status of CWE-Nordic interregional coupling; Nordic-German volume market coupling results

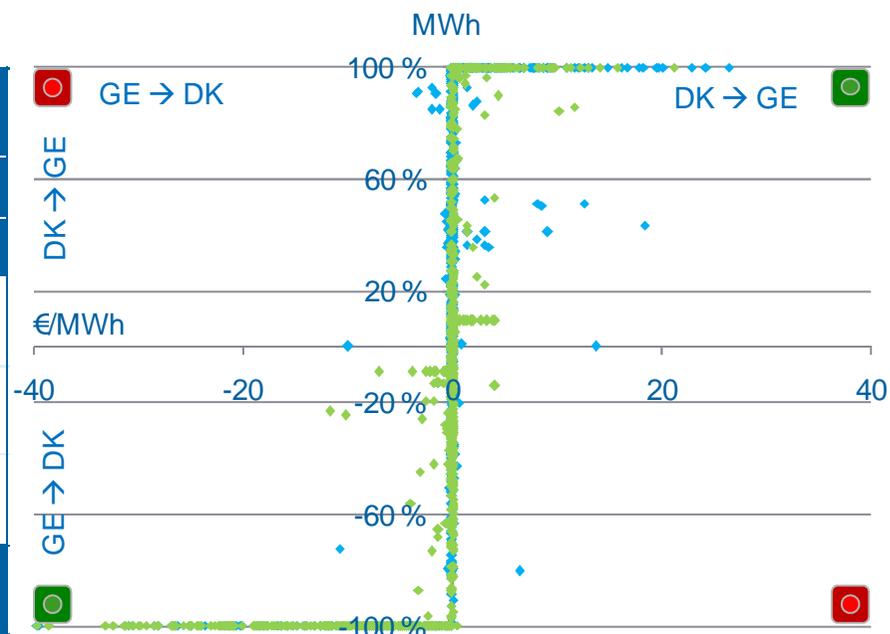
Flows and turnover

Sum for the interconnectors DK1 and DK2					
	hours	CBF		Turnover	
	%	MWh	%	€	%
CBF	85.7%	3,439,536	90.0%	51,394,208	99.70%
AF ≥ 0.20*	3.3%	130,530	3.4%	-146,012	-0.28%
AF < 0.20*	11.0%	250,830	6.6%	-12,042	-0.02%
Results overall	---	3,820,896	---	51,236,154	---

CBF: cross-border flow due to welfare criterion
 Turnover: calculated congestion revenue
 AF: adverse flow; * Euro/MWh

Results for 170 delivery days (9th Nov. 09 - 30th Apr. 2010; 4,080 hours traded)

Cross-border flow



2. Status of CWE-Nordic interregional coupling; A first step: Interim Tight Volume Coupling (ITVC)



- Interim Tight Volume Coupling (ITVC), based on EMCC's Nordic-German coupling, will provide tight volume coupling between the future CWE market coupling and NPS market splitting
- ITVC will consider two regions with
 - many market areas
 - many interconnectors
 - different market coupling schemes
- The CWE-Nordic TSOs and PXs asked EMCC to develop the interim solution to couple the two regions
- The project was launched in January
- The project will be launched in two steps;
step 1 without the NorNed, step 2 with the NorNed
- Costs are shared by all TSOs in both regions

2. Status of CWE-Nordic interregional coupling; The current solutions will be replaced by an interim solution

Current day-ahead market

Current solutions

1. Market splitting Nordic and Estonia (one PX)
2. Price coupling in the Netherlands, Belgium and France (TLC – 3 PXs)
3. Tight volume coupling between Denmark Sweden and Germany through EMCC
4. Explicit auctions on other borders



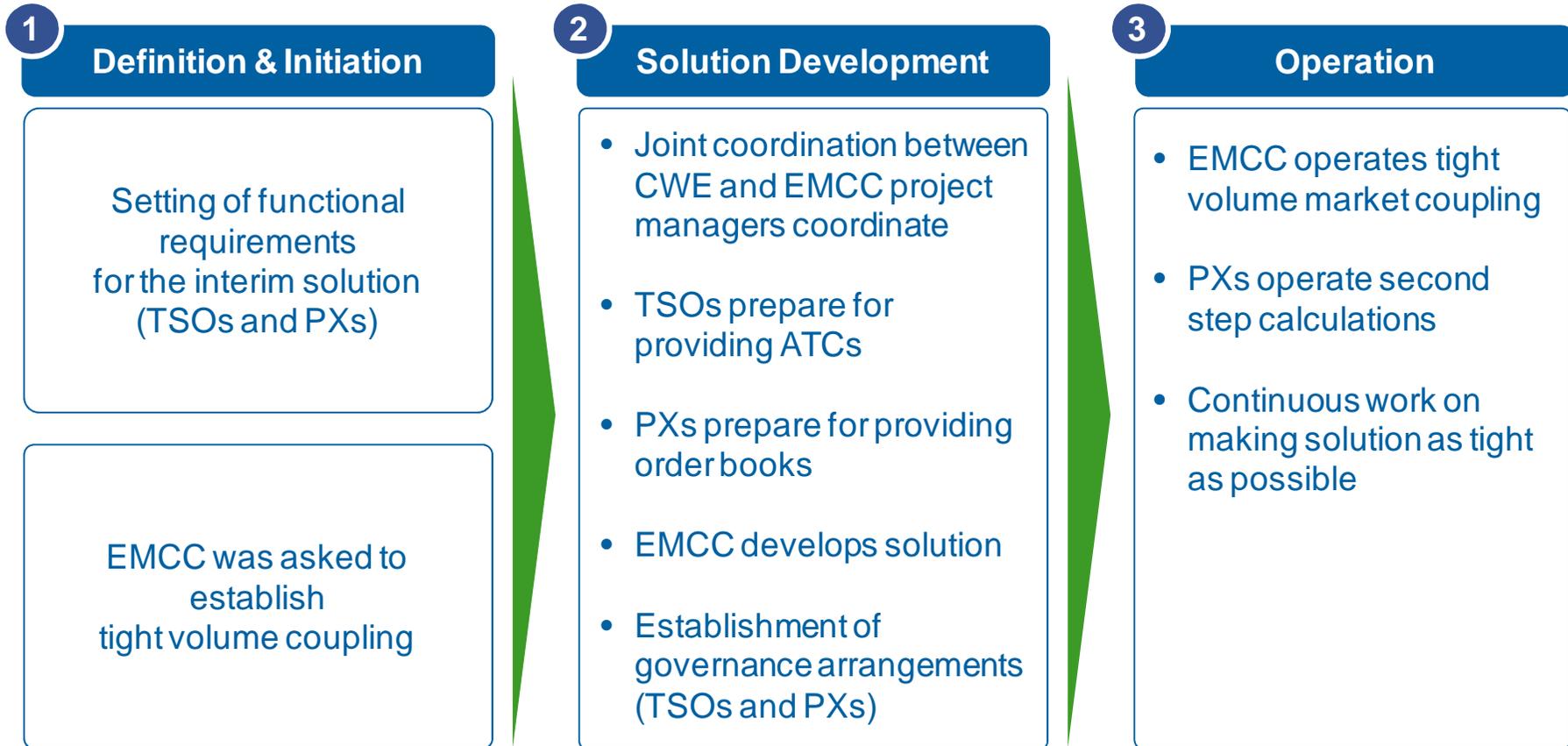
Interim day-ahead market

Intermediate solution

1. Interim tight volume coupling on all connections between the CWE and Nordic regions
2. Market splitting in the Nordic (NPS)
3. Price coupling in CWE

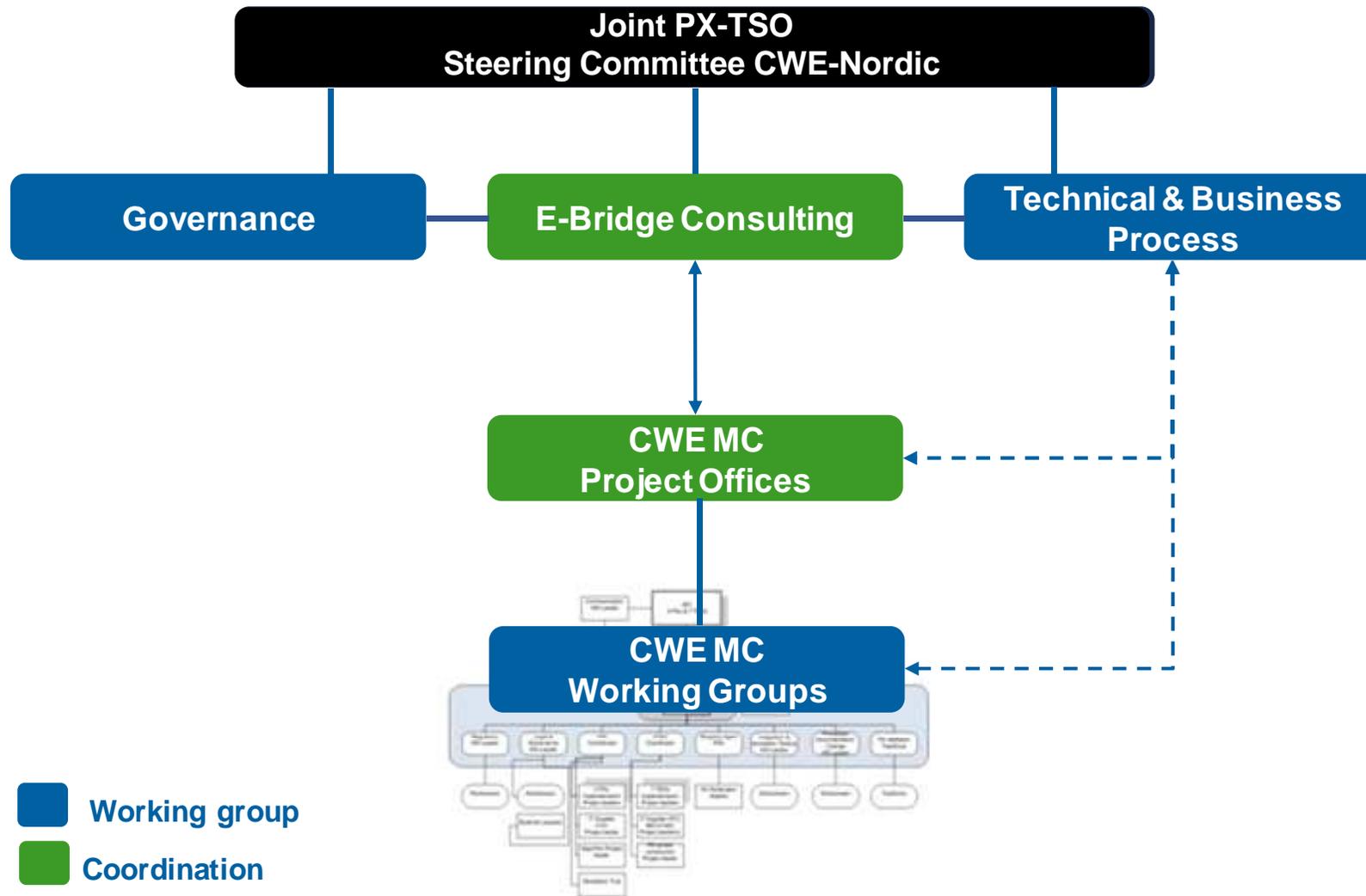


2. Status of CWE-Nordic interregional coupling; The interim solution concept was developed by all parties

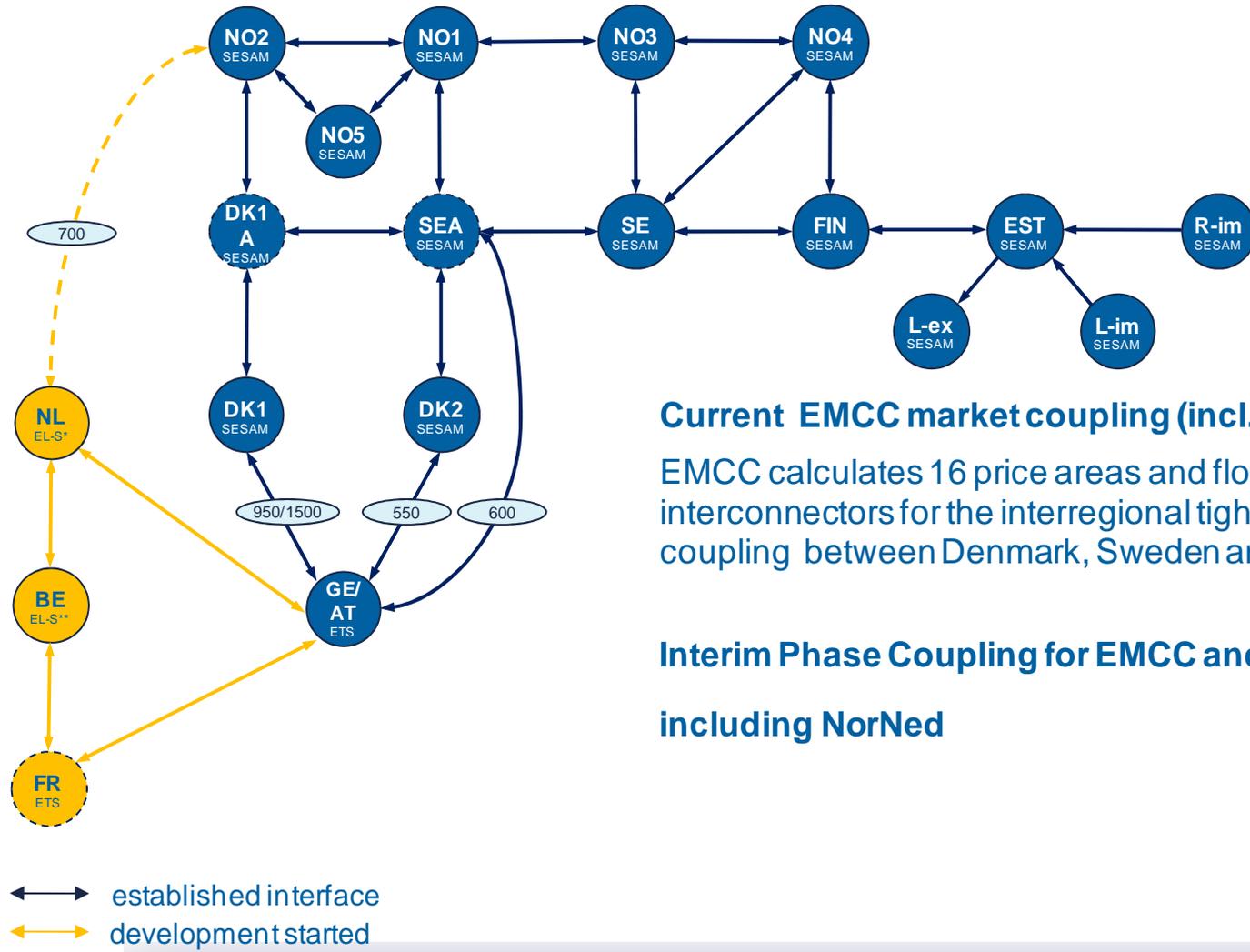


**The interim solution establishes tight volume coupling on all interconnectors between the CWE and Nordic regions;
Impact on CWE project is coordinated with CWE parties and project management.**

2. Status of CWE-Nordic interregional coupling; ITVC established project organisation



2. Status of CWE-Nordic interregional coupling; Price areas considered today and for CWE-Nordic

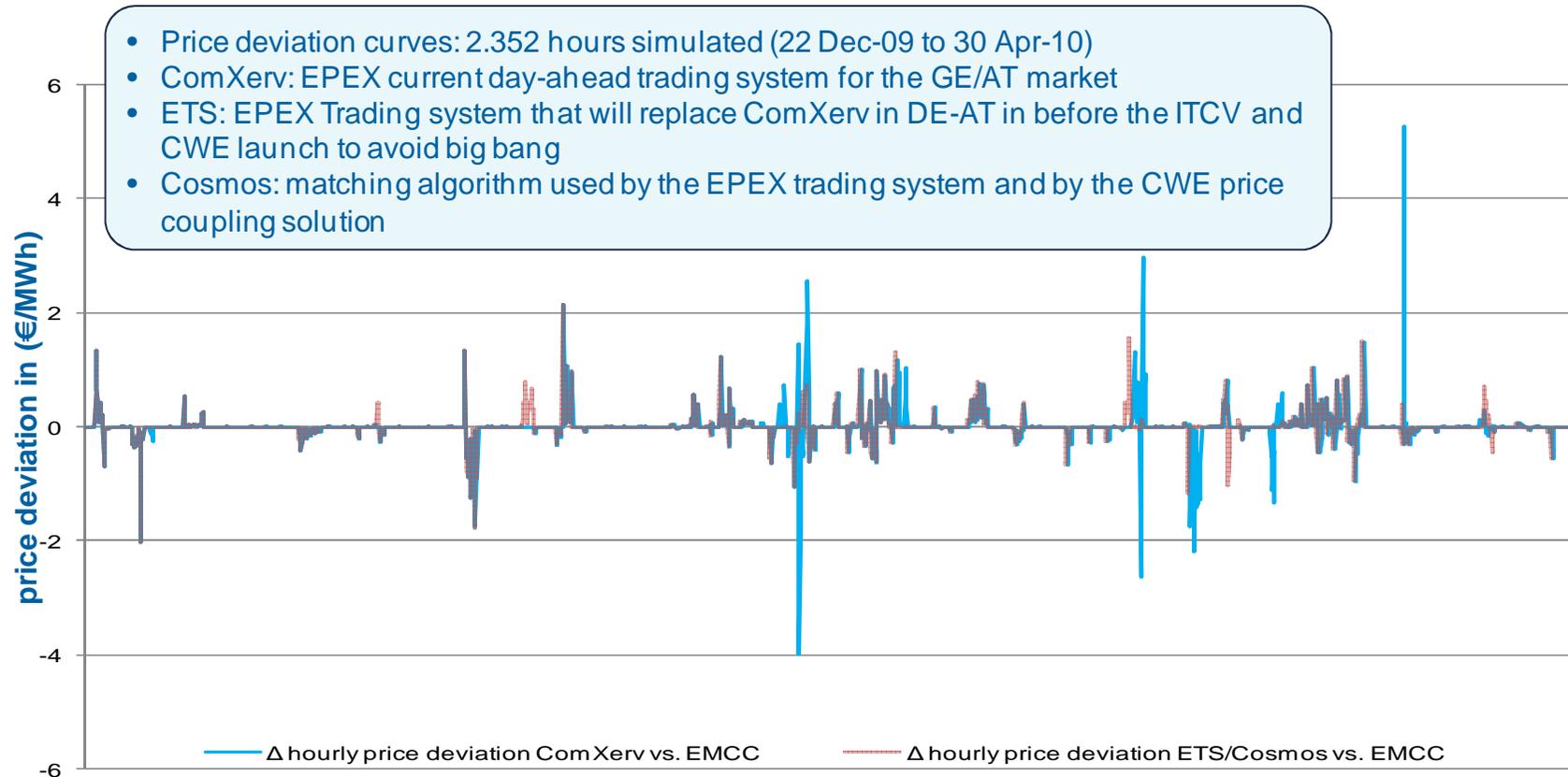


Current EMCC market coupling (incl. Baltic Cable):

EMCC calculates 16 price areas and flows on 22 interconnectors for the interregional tight volume coupling between Denmark, Sweden and Germany

Interim Phase Coupling for EMCC and CWE including NorNed

2. Status of CWE-Nordic interregional coupling; Comparison of hourly price deviation using different algorithms for the GE/AT EPEX market



EMCC virtual price calculation converges more with the EPEX DE/AT prices calculated by ETS/COSMOS than with the current EPEX DE/AT prices calculated with ComXerv.
Next step is to make this kind of comparison with CWE-COSMOS and the new EMCC ITVC algorithm

2. Status of CWE-Nordic interregional coupling; a pragmatic step towards the Integrated European Market



- **InterimTight Volume Coupling** across the CWE and Nordic region
- More **efficient** use of cross border capacities, promotes cost efficiency, security of supply and inclusion of new renewable generation
- Enhanced **transparency** through joint solutions
- **Cooperation** and **commitment** of all involved stakeholders
- Process is monitored by the **regulatory authorities**



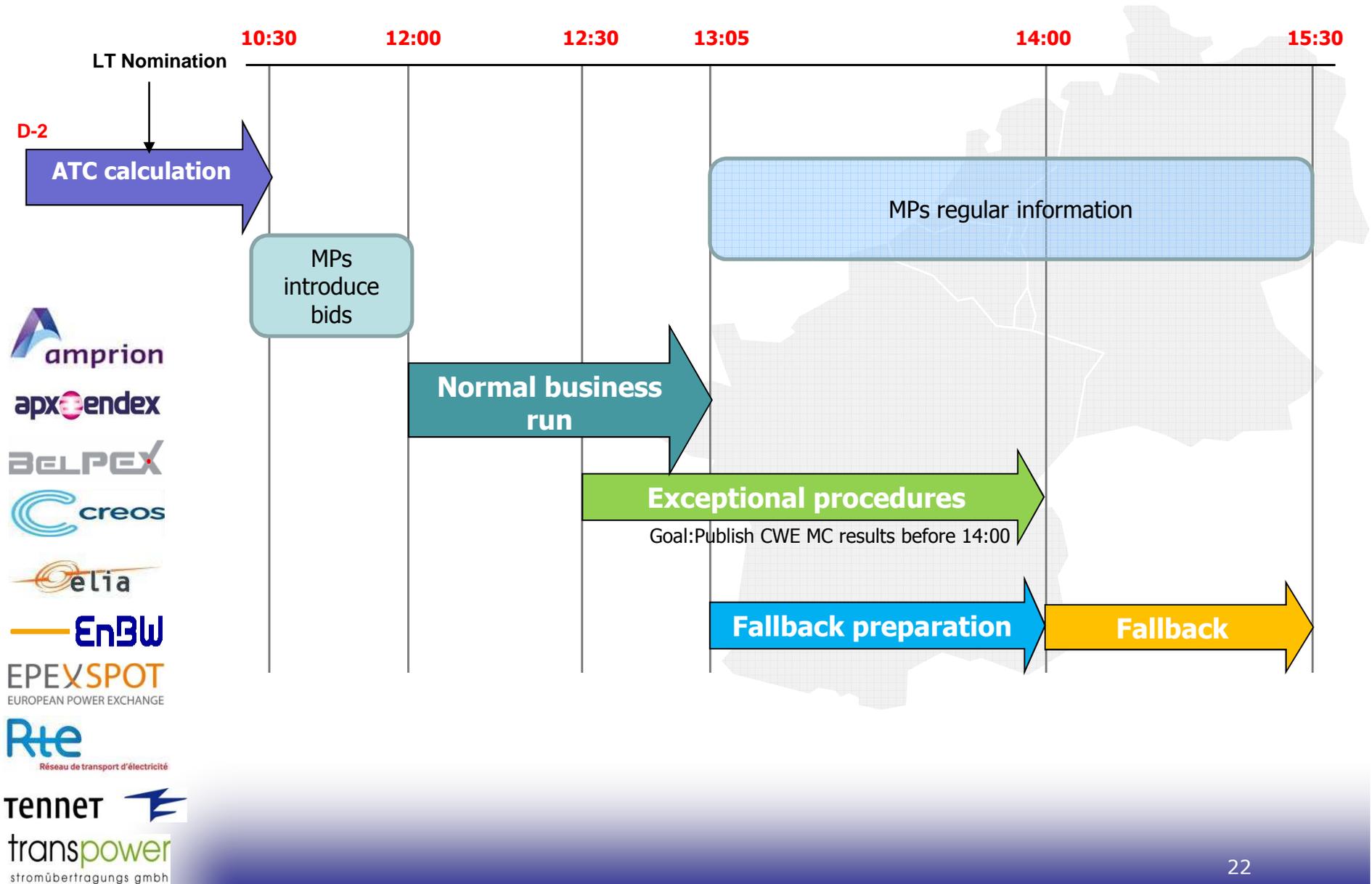
3

Operational Processes/Timings

S. Bourdon, A. Claxton



3. Operational Processes and Timings - Overview



3. Operational Processes and Timings – A coordinated ATC calculation

Today :

- ❑ Bilateral coordination process where Net Transmission Capacities (NTCs) are shared between neighbouring TSOs
- ❑ Partly « multi-border coordination » (e.g. Export DE-NL/FR/CH)

For CWE MC :

- ❑ **Introduction of** a regional coordination process where NTCs are shared and evaluated by all TSOs of the CWE region

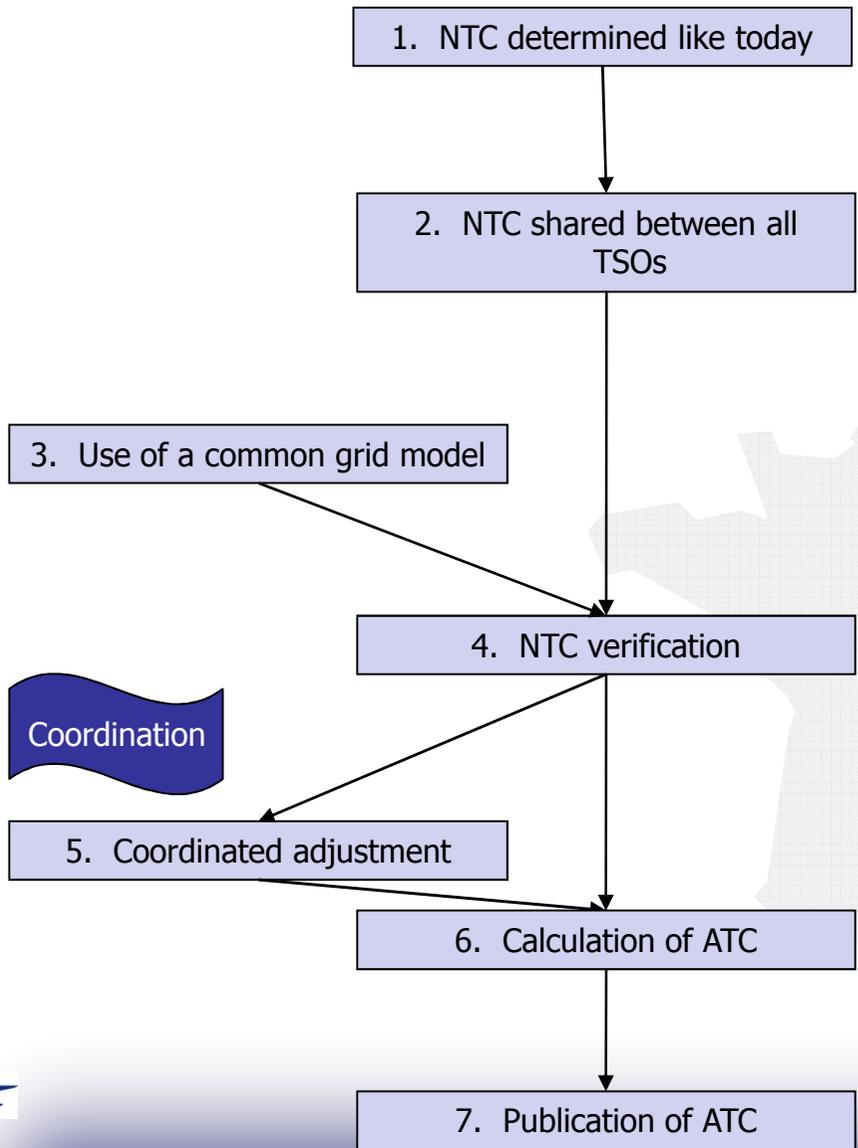
From NTC to ATC:

- ❑ $\text{Coordinated ATC} = \text{Coordinated NTC} - \text{Netted Long Term nomination}$

Business Process Step	Deadline
Deadline for submission of Long Term nominations by Market Participants at the TSOs	BE : 08:00 DE : 08:15 FR : 08:15 NL : 09:00



3. Operational Processes and Timings – A coordinated ATC calculation



ADVANTAGES

- ❑ Improved regional view between TSOs
 - TSOs share regional data and coordinate on potential problems on a daily basis
 - Harmonised approach

- ❑ Better *linked to* actual grid conditions
 - NTCs are expected, where grid conditions are comparable, to be similar to today on most days (i.e. non-stressed days)
 - NTCs can be lower in stressed cases, maintaining required security of supply

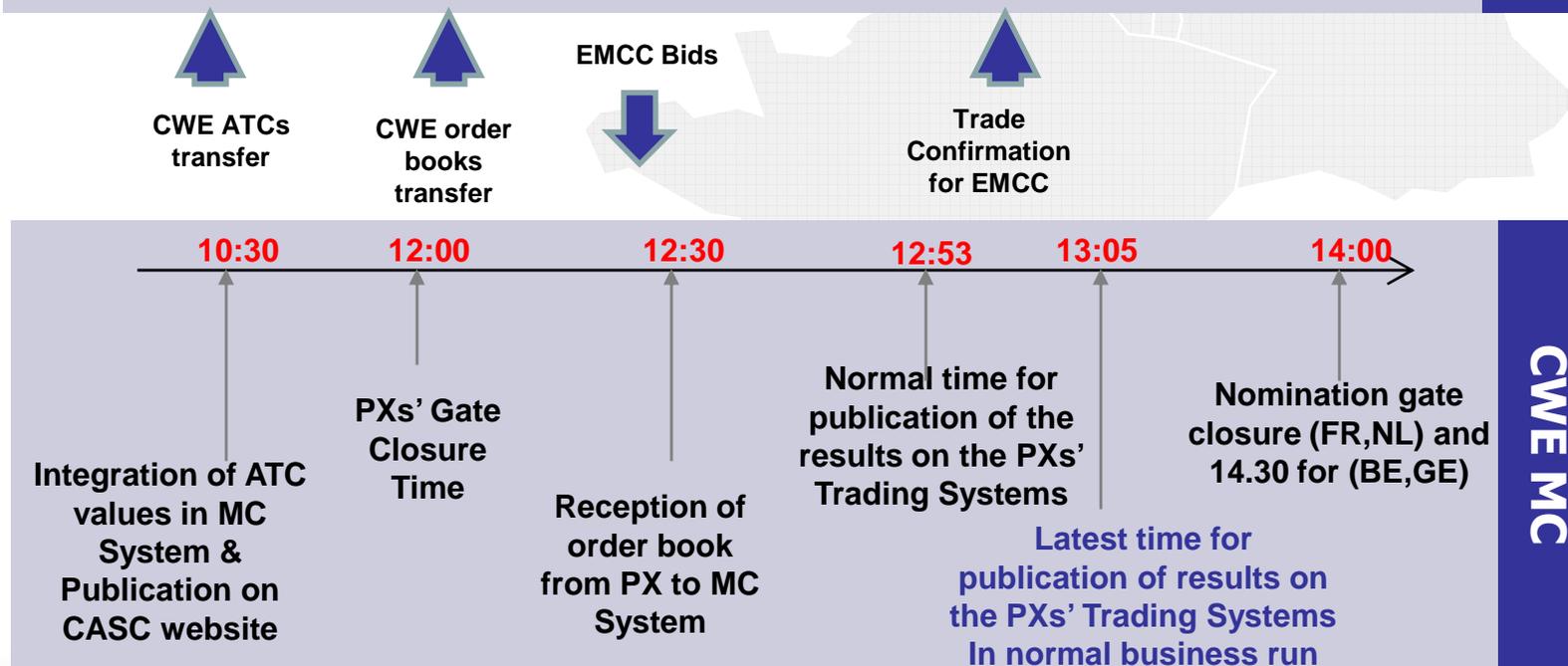
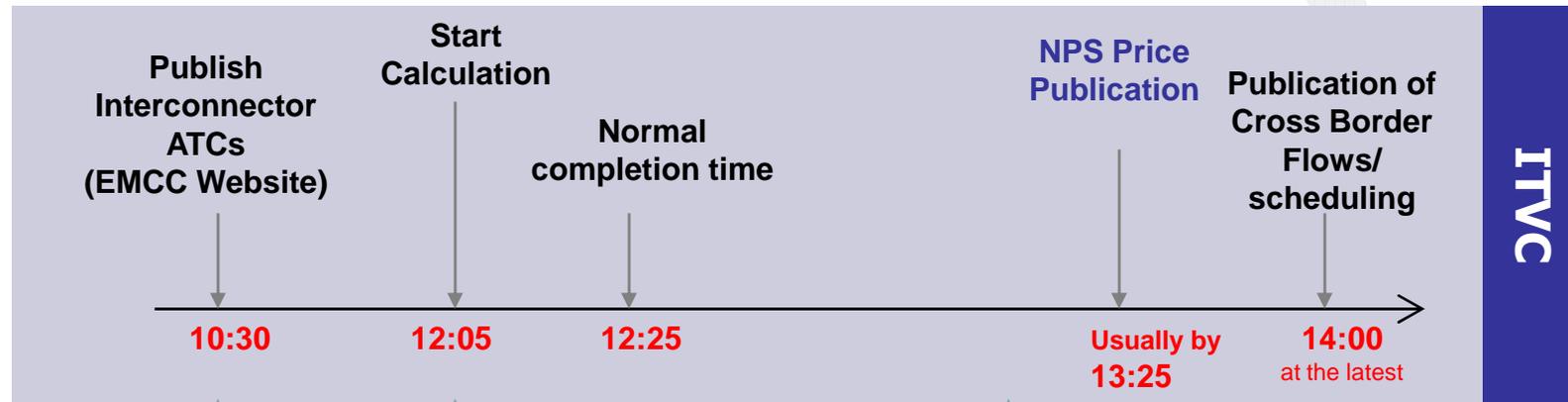
- ❑ Improved coordination

- ❑ Step towards the Flow Based target
 - Daily use of a common base case is a key element of the fine-tuning of the Flow Based method



Normal Business Run

3. Operational Processes and Timings – ITVC – CWE MC Normal Business Run





Exceptional Business Run

3. Operational Processes and Timings – ITVC – CWE MC

Exceptional scenarios

- ❑ High level principles of joint ITVC/CWE MC timings under exceptional scenarios have been agreed
- ❑ Detailed operational procedures currently being revised



Delayed results due to technical problems

- Fallback on ITVC (to be determined)
- Market parties notified if risk of reopening markets



Rerun required

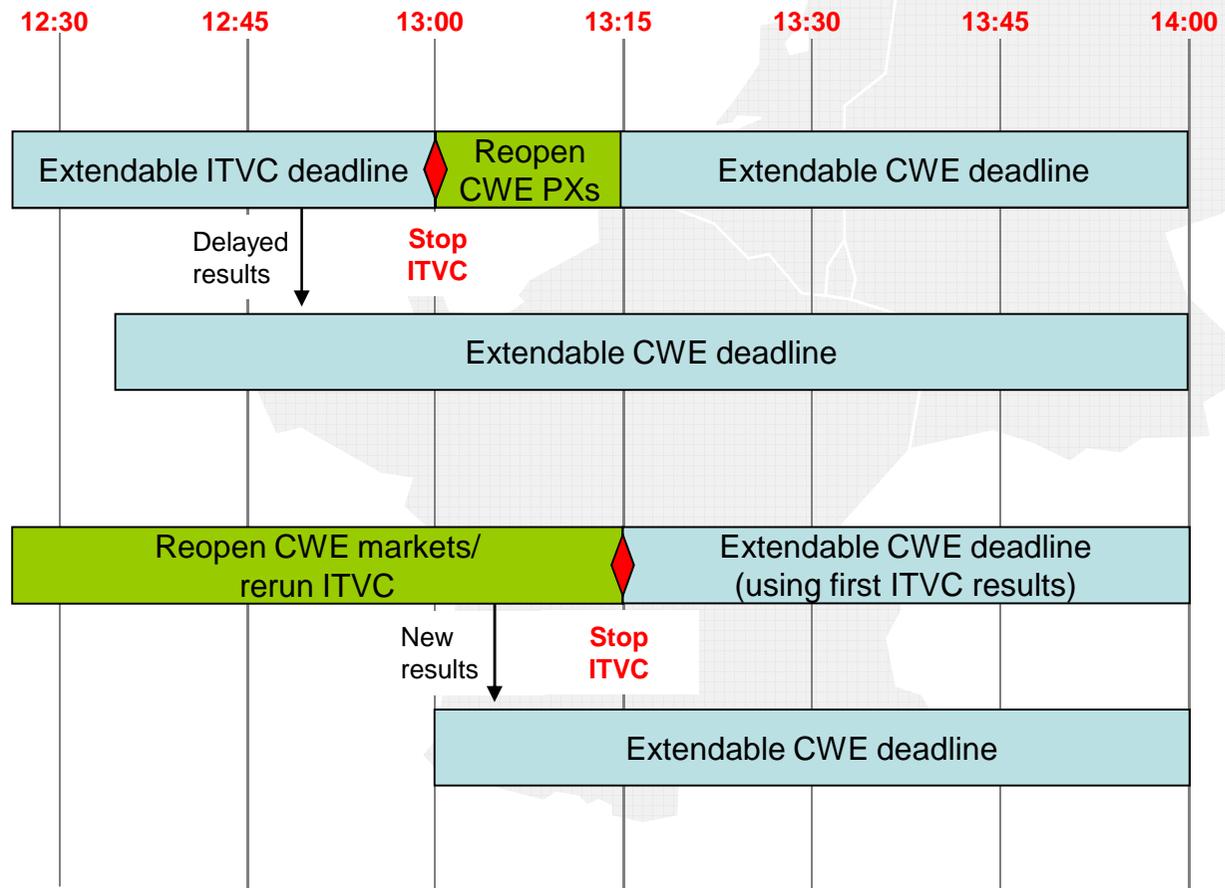
- ITVC identifies extreme CWE/NPS prices



- Reopen CWE Markets (second auction) if impacts CWE markets



- Rerun EMCC



3. Operational Processes and Timings – ITVC – CWE MC

Exceptional scenarios

- ❑ CWE normal deadlines are able to be extended :

Normal business run

- ❑ *Publication of CWE Market Results (MR) before 13:05*
 - ❑ *Normal nomination deadlines 14:00/14:30*

Exceptional business run

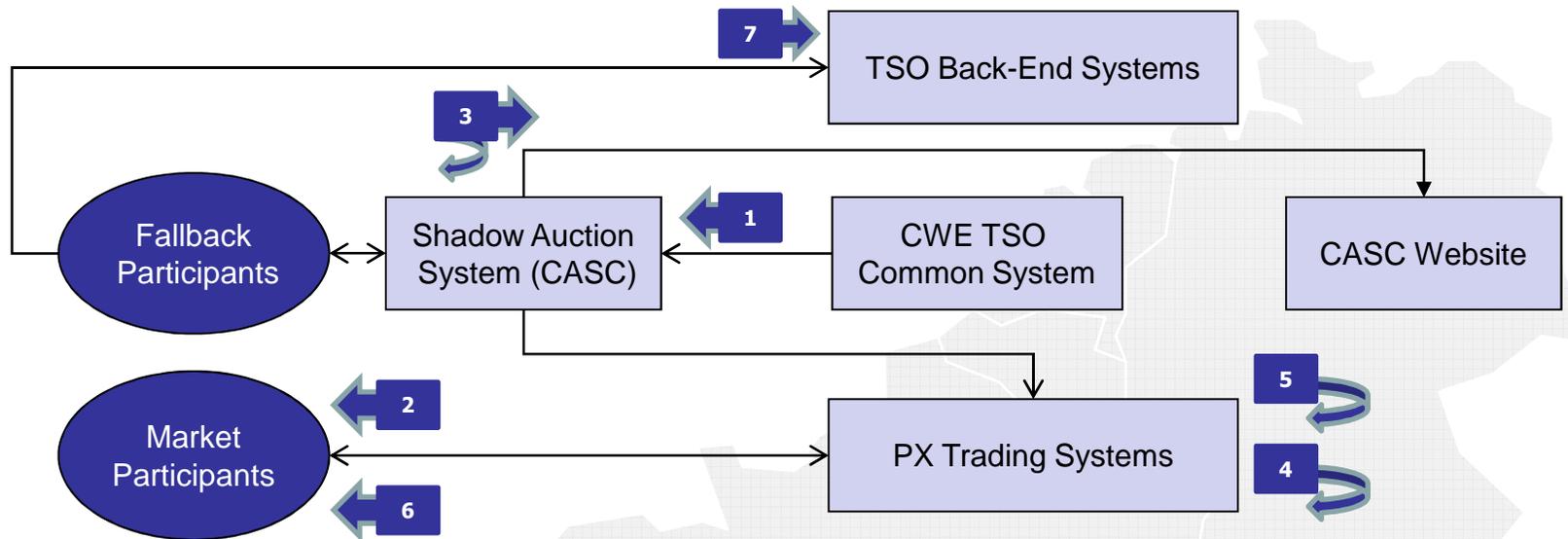
- ❑ *If no CWE MR by 13:05*
 - ❑ *Should be announced by CWE PXs to market and TSOs*
 - ❑ *Automatic extension of nomination deadline to 14:30 (message to be sent out by TSOs)*
- ❑ *If no CWE MR by 13:30*
 - ❑ *Should be announced by CWE PXs to market and TSOs*
 - ❑ *Automatic extension of nomination deadline to 15:00 (message to be sent out by TSOs)*
- ❑ *If no CWE MR by 14:00 : Fallback (CWE decoupling)*
 - ❑ *Publication of Shadow Auction results (and PA) by CASC*
 - ❑ *Reopening of PX markets (isolated)*
 - ❑ *Automatic extension of nomination deadline to 15:30 (message to be sent out by TSOs)*





CWE MC Fallback Process and Timings

3. Operational Processes and Timings – CWE MC Fallback Process



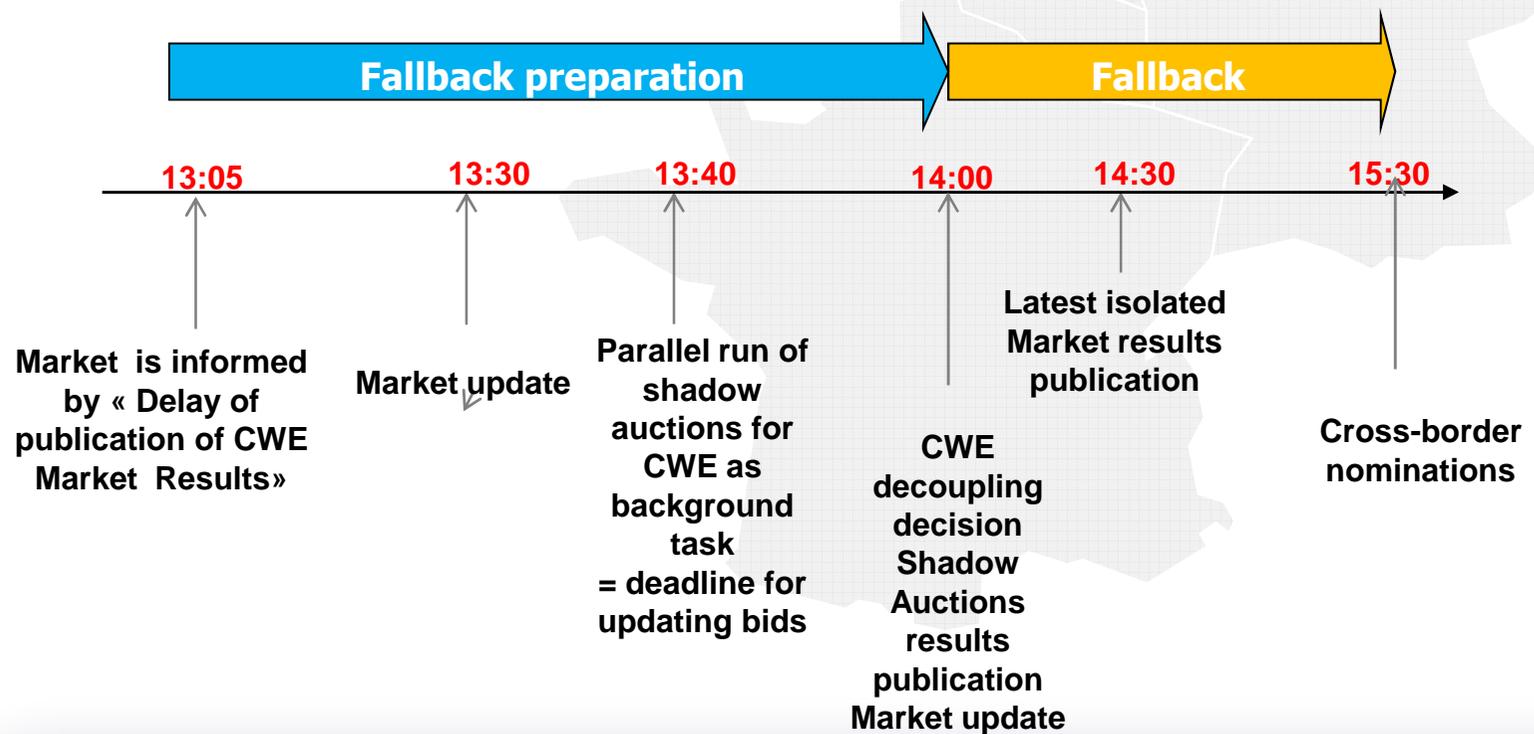
Process :

1. Integration of ATC values into the Shadow Auction System (on a daily basis)
2. Market is informed about full decoupling via « Full decoupling declaration» by email*
3. Anticipated Shadow Explicit Auctions Process + Allocation results publication
4. PX order book re-opening
5. PX Gate Closure
6. Market results publication
7. Cross-border nominations by market participants

*ATC values are already published on the CASC website before the market is informed about Fallback. Important to note that the bids taken into consideration have to be entered by the Fallback Participants prior to the Explicit Auction process

3. Operational Processes and Timings – CWE MC Fallback Timings

Fallback (decoupling + shadow auctions) occurs when for any reason correct CWE Market Coupling results cannot be published before the latest publication time, set at 14:00. However, the probability of a Fallback situation is expected to be very rare, since numerous backup procedures have been predefined to prevent this situation.



3. Operational Processes and Timings – CWE MC Fallbacks : Shadow Auctions (1/2)

Shadow Auctions triggered during daily session (due to an unforeseen incident) :

- ❑ Anticipated Shadow Auctions are triggered in case no CWE MC results could be published by 13:30
- ❑ Market Participants have until 13:40 to update their bids in the Shadow Auctions System
- ❑ CASC runs the shadow auctions in parallel from 13:40 but does not publish results yet
- ❑ In case CWE decoupling is declared at 14:00, shadow auction results are published immediately at 14:00
- ❑ No time is left for a contestation gate (dispute resolution period)
- ❑ Programming authorizations will be transmitted shortly after



3. Operational Processes and Timings – CWE MC Fallbacks : Shadow Auctions (2/2)

Shadow Auctions decided in advance (for the next session of CWE MC) :

- Time schedule is communicated by CASC in advance on its website
- Participants have the time to update the default bids after the publication of ATC (max 45 min.)
- Shadow Auctions will be run by CASC at 11:15
- Communication of the results: max 20 min
- A contestation gate is foreseen until 11:35
- Programming authorizations will be transmitted at 11:40
- Cross border nominations at 14h00 (NL-FR) / 14h30 (BE-DE)





CWE MC Rollback Process and Timings



3. Operational Processes and Timings – CWE MC

Rollback contingency

If after going to Fallback, it appears that it is not possible to return to a normal situation within a reasonable timeframe, we can revert to TLC and explicit allocation on the German borders.

The rare situation in which Rollback would be applied, is when:

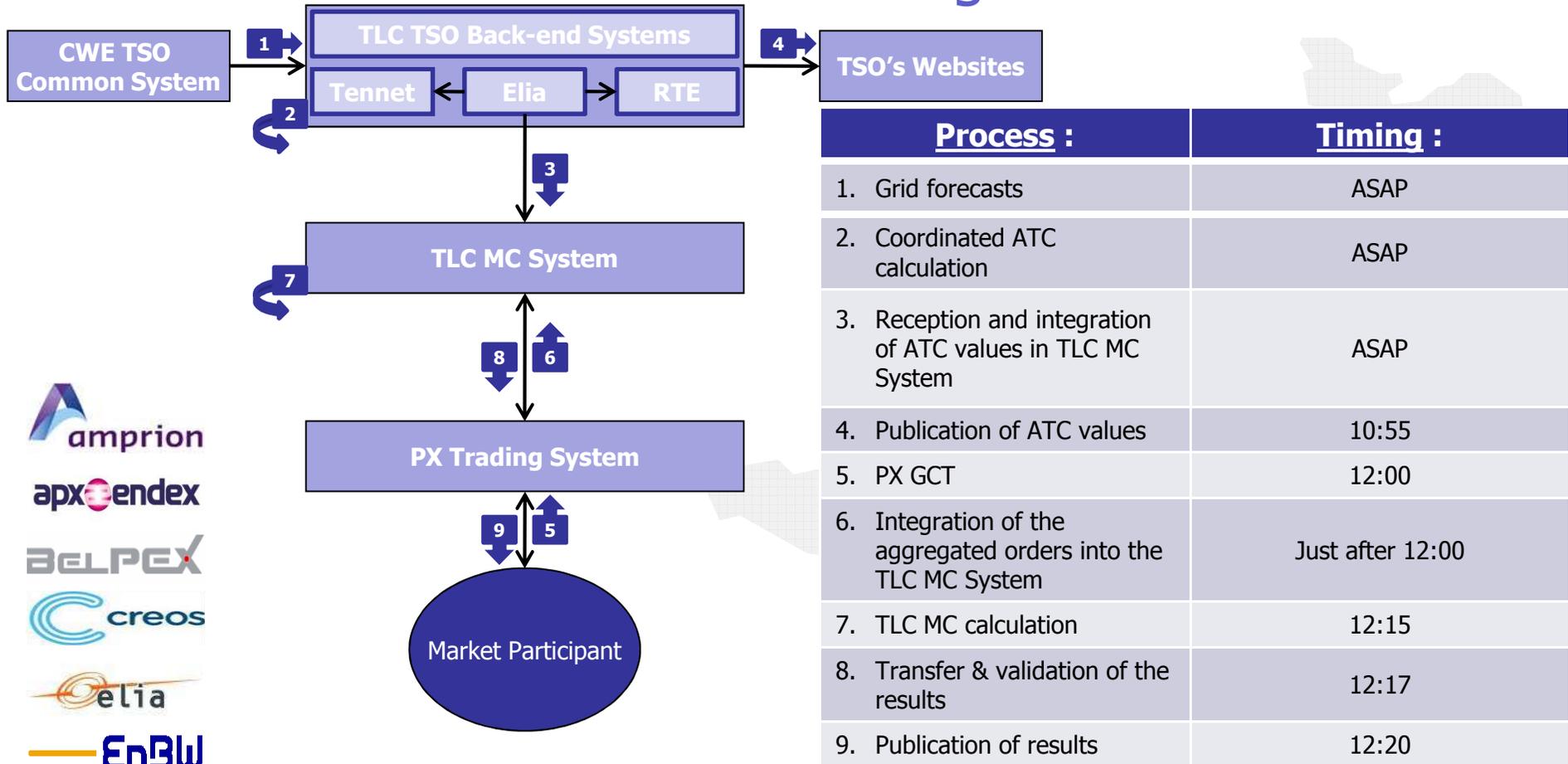
- The incident is found, but cannot be resolved within a reasonable timeframe
- The incident is not found and therefore the period to solve is unknown
- The risk to face repeated decoupling decisions is estimated too high

Again, like Fallback, we would like to emphasize that this situation can be seen as an extreme event which is very unlikely to happen.



<u>Who decides:</u>	Joint decision by the project partners
<u>Activation period:</u>	2 months after launch (possibility to adapt)
<u>Time needed to Rollback:</u>	5 to 7 days is estimated to setup and test the system During this period, the daily explicit auctions will be held with the Shadow Auction System
<u>Two main differences compared to current processes :</u>	GCT remains at 12:00 and Shadow Auctions are used for German borders

3. Operational Processes and Timings – CWE MC Rollback : Business Process for Belgian borders



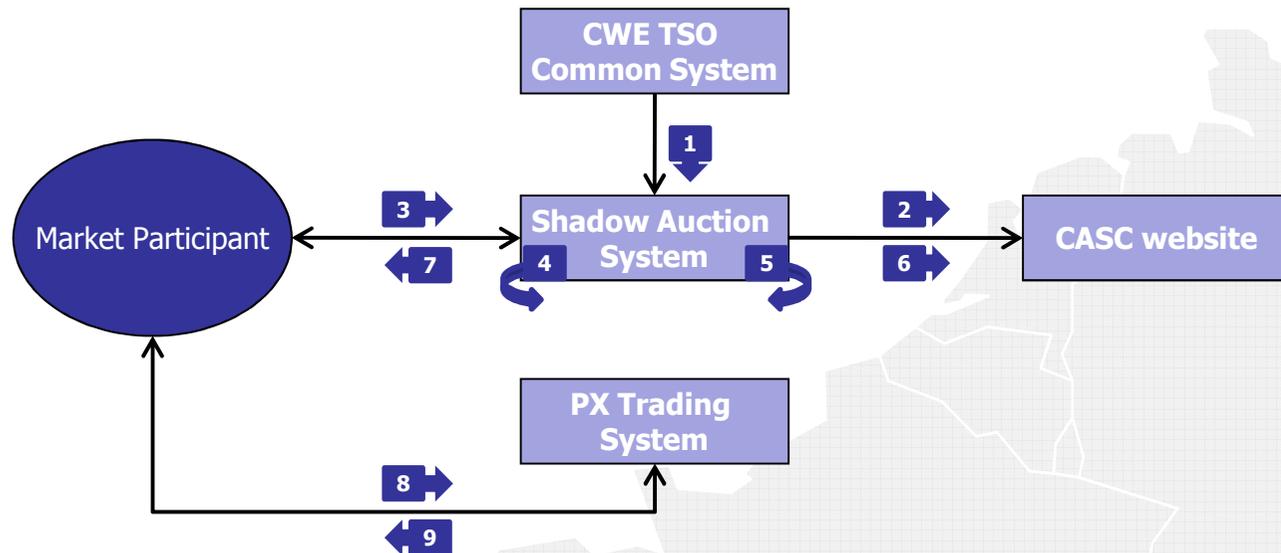
Process :	Timing :
1. Grid forecasts	ASAP
2. Coordinated ATC calculation	ASAP
3. Reception and integration of ATC values in TLC MC System	ASAP
4. Publication of ATC values	10:55
5. PX GCT	12:00
6. Integration of the aggregated orders into the TLC MC System	Just after 12:00
7. TLC MC calculation	12:15
8. Transfer & validation of the results	12:17
9. Publication of results	12:20



Special case – « Fallback of the Rollback » for the Belgian borders :

« Fallback of the Rollback » occurs when the TLC region is decoupled. In this case, a shadow auction is operated by CASC on the Belgian borders. The PXs re-open their order books and operate an isolated matching. For the HLA and correct timeframes we refer to the normal Fallback procedure, since the timings will be similar.

3. Operational Processes and Timings – CWE MC Rollback : Business Process for German borders



Process :	Timing :
1. Integration of ATC values into the Shadow Auctions System (SAS)	ASAP
2. Offered capacity (OC) and transparency data publication	10:30
3. Bid entering	
4. Integration into Shadow Auctions System + Freezing of the database+Shadow Explicit Auctions process	11:15
5. Shadow Explicit Auctions process	11:25
6. Explicit auction results publication/End of contestation gate	11:35
7. Programming authorization	11:40
8. PXs GCT	12:00
9. Market results publication	12:35



Coffee Break



4



Transparency Price Harmonisation

R. Loos

4. Transparency

- ❑ The project parties will publish a variety of operational data under normal and fall back operations, according to the regulatory requirements

- ❑ In addition, a number of documents and reports will be published
 - ❑ Description of the CWE MC solution
 - ❑ Description of the principles of the algorithm
 - ❑ Fall back arrangements
 - ❑ A report on the benefits of market coupling compared to isolated markets

- ❑ Local regulations may require additional publications

- ❑ This only applies to ATC based MC, update before migration to FB MC



Data	Definition	Where
NTC	Net Transfer Capacity for each border in both directions for each hour of the day	CASC website
ATC	Available Transfer Capacity for each border in both directions for each hour of the day	CASC website
Allocated capacity	Implicit allocation (normal operation): bilateral exchange flow for each CWE border and each hour of the day	CASC website
	Explicit allocation (fall back operation): capacity explicitly allocated to market participants in both directions for each CWE border and each hour of the day	CASC website
Capacity value	Implicit allocation (normal operation): difference between the market prices on both sides of the border for each hour of the day	CASC website
	Explicit allocation (fall back, roll back): marginal capacity price	CASC website



Data	Definition	Where
Total congestion income	Normal operation and fall back: sum of gross congestion revenue on all CWE borders per day	CASC website
	Roll back: idem, but separate for German borders and Belgian borders	CASC website
Income for each TSO	Congestion revenue that each TSO receives per day	CASC website
Market prices	Market clearing price of the power exchange for each hour of the day	PXs websites
Aggregated supply and demand curves	Aggregated anonymous supply and demand bids	PXs websites



4. Harmonisation of Price Boundaries

Price boundaries will be harmonized within the CWE region, as previously announced

New boundaries will become

-3000 €/MWh

+3000 €/MWh

Boundaries will change as of CWE launch date



5

Implications for participants

R. Loos



5. Implications for participants : Member testing – Practical information

- The Test Phase will be communicated in detail after the forum :
 - On a global basis
 - General information
 - Two annexes regarding the Normal mode and Fallback mode
 - Story board with of the timings during the simulation days
 - On a private basis
 - Personalized login & password data



5. Implications for participants : Member testing – Practical information

- In order to be able to participate, registration is required
- Two Test Phases:
 - From 28 June – 9 July
 - Normal and fallback CWE
 - Second phase foreseen from 16 – 25 August
 - All end to end business processes currently under review



5. Implications for participants : Member testing – Practical information

- ❑ The simulations will take place during the afternoon
- ❑ In order to prevent confusion, test results will be published on the simulation environment



Important Remark :

Tests will never recreate a real life situation and therefore will never be able to achieve true price formation. However, in order to prevent too volatile price fluctuations, the MC System will already contain some orders before the start of the simulation.

5. Implications for participants : Member testing – Scenarios

□ Example: Scenario for normal timings

Description	System	Timings on member testing day
ATC Publication	CASC	10:30
Order Book Opening	PX Trading System	14:00
Gate Closure Time	PX Trading System	15:00
Target timing for publication of final CWE ATC MC results	PX Trading System	15:53
Publication of cross-border exchanges and capacity values	CASC	16:00



5. Implications for participants : Member testing – Planning and registration

	29/06/2010	30/06/2010	01/07/2010	02/07/2010	06/07/2010	07/07/2010	17/08/2010	18/08/2010	19/08/2010	23/08/2010	24/08/2010
Normal day	X	X	X		X		Dates/Program to be confirmed				
Fallback				X		X					



- Registration for the member testing on the different PXs systems or on CASC platform will be done through a form that will be provided soon

5. Implications for participants : Registration and Entitlement at CASC

- For participants already registered at CASC, with a business account, willing to participate in CWE Long Term Auctions and in fallback situations of Market Coupling :**
 - Complete and send Appendix 5 of CWE Auction Rules to indicate on which borders you want to participate in Shadow Auctions and for Rollback mode
 - The « Declaration Of Acceptance » remains valid (Appendix 1 of CWE Auction Rules)



- For participants already registered at CASC, only willing to participate in fallback situations of Market Coupling :**

- Option 1 :

- Keep your business account
- Complete Appendix 5 to indicate on which borders you want to participate in the Shadow Auctions and for the Rollback mode
- The « Declaration Of Acceptance » remains valid

- Option 2 :

- Close the business account and terminate the « Participant's Financial Agreement »
- Sign a new « Declaration of Acceptance » to register as Participant to the Shadow Auctions Only

5. Implications for participants : Registration and Entitlement at CASC

- For participants which are not registered at CASC, depending on the status chosen :**
 - Participant: sign the « Declaration of Acceptance », the « Participant's Financial Agreement » and open a business account.
 - Participant to Shadow Auctions Only: Sign the « Declaration of Acceptance »

- Make sure that your nomination contracts (BRP) with the relevant TSOs are still applicable.**



5. Implications for participants : Impacts on PXs participants

- A new set of Market Rules will be communicated and published by each PX on its website, a few weeks before launch.
- Market Parties do not need to sign any declaration of acceptance. The procedure is automatic.



5. Implications for participants : Member Testing – Technical Contact Details

	Hotlines
	Phone: +31 (0) 20 305 4042 E-mail: csdesk@apxendex.com
	Phone: +32 (0) 2 546 7040 E-mail: csd@dam.belpex.be
	Phone: +33 1 73 03 96 10 E-Mail: dam@epexspot.com Phone: +49 341 2156-333 E-Mail: powerspot@epexspot.com
	Phone: +352 27 62 38 38 E-mail: operations@casc-cwe.eu



For any other questions, please contact your respective account manager

*CASC will be the contact for Fallbacks tests

6

Conclusion

F. Vandenberghe

