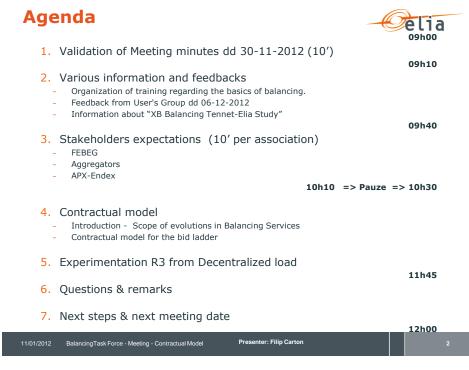


11/01/2013

Set up a simple and powerful "balancing platform" to create the opportunity for market players to offer, on top of centralized production units, balancing flexibility on load and decentralized production units.

lia

Elia ENMAN



Validation of Meeting minutes Balancing Taskforce 30/11/2012



Minutes of meeting Balancing Taskforce 30/11/2012

Remarks on these minutes could be sent to bob.hebb@elia.be

- Final minutes will be validated on each next taskforce.

2 comments:

1. FEBEG (Antoine Thoreau) heeft gesignaleerd dat DNB's op dit ogenblik al ingrijpen op heating/cooling. Elia ging dit verder onderzoeken.

2. Onder titel 3:

He explained also that Elia tries to develop a balancing market where market parties are incentivised to resolve imbalances in order to reduce the residual imbalance to be resolved by the TSO.

Het is ons niet duidelijk over welke onbalans het hier gaat: de eigen onbalans van de ARP of de onbalans van het systeem?

11/01/2012 BalancingTask Force - Meeting - Contractual Model Presenter: Filip Carton 3	11/01/2012 Bala	ancingTask Force - Meeting - Contractual Model	Presenter: Filip Carton		3	
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Agenda	Gelia
1. Validation of Meeting minutes dd 30-11-2012 (10')	09h00
 2. Various information and feedbacks Organization of training regarding the basics of balancing. Feedback from User's Group dd 06-12-2012 	09h10
 Information about "XB Balancing Tennet-Elia Study" 	09h40
 3. Stakeholders expectations (10' per association) FEBEG Aggregators APX-Endex 10h10	=> Pauze => 10h30
 4. Contractual model Introduction - Scope of evolutions in Balancing Services Contractual model for the bid ladder Evaportation P.3 from Decentralized load 	
 Experimentation R3 from Decentralized load Questions & remarks 	11h45
7. Next steps & next meeting date	12h00
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Organization of training regarding the basics of balancing

Scope & Objectives



Objectives:

- Know how a TSO (Elia) maintains a balance between injection and off-take, which parties (ARP, suppliers, etc.) have a role in balancing the zone and what are their responsibilities. What is the link with Tariffs?
- What are the incentives that a TSO (Elia) gives to market parties to balance injection & off take.
- Be able to participate in discussion about new products.

Scope:

- Meet external demand: e.g. requested by some members of this Balancing Taskforce
- A 2-days workshop starting with an introduction to the basics followed by a review of the different principles, mechanisms and processes.

Prerequisites:

- <u>1st day</u>: No prerequisite. Result: be able (self-reading) to read and understand the bundle "Elia Product Fiches"
- <u>2nd day:</u> Understand the liberalization of the EU electricity market, retail and wholesale, role of actors, Power exchanges, R1, R2, R3, ICH, ...

=> Longer term : e-learning module?

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Organization of training regarding the basics of balancing Methodology - Timing - Price



Methodology:

- 2-days training (6 hours)
- Max 25 participants (min. 2 trainers) Multiple sessions if needed
- AM: Presentation by chapters, Q&A
- Day 1 PM: Exercises, Business Case, Open questions Split in subgroups
- Day 2 PM : visit of the National Control Center (dispatching)

Timing:

- First sessions: 15March−15April 2013 → to be planned vs meetings Balancing TF
- Second sessions: September 2013

Price:

• 400 € / Person for 2 day session

Organization of training regarding the basics of balancing **Content 1st day**



- Have in-depth knowledge of the current market mechanisms principles
- Know why a balancing mechanism is necessary and be familiar with the basic principles underlying it
- Be familiar with the role of the different market parties
 - producers, traders, suppliers, consumers,...
- Presentation session:
 - -- Elia introduction
 - -- Regulated Elia perimeter (Connection, Access, ARP)
 - -- ARP-role (Generation, Zone, Injection-Off Take, Nominations, Balance)
 - -- ARP Process
 - -- Tariffs & Balancing mechanisme

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Organization of training regarding the basics of balancing **Content 2nd day**



- Know how balancing works and understand the reactions of the market
- Be familiar with all relevant procedures
 - (nominations, hub exchanges,...)
- Understand the interaction between different products and market reactions (imbalance tariffs, reserves)
- Presentation session:
 - -- Electricity Markets (EU Model, Wholesale Markets, Intraday)
 - -- Imbalance tariffs
 - -- Reserve power (Primary, Secondary & Tertiary control, Purchasing)
 - -- Balancing Energy-activation rules
 - -- Balancing future challenges
 - -- CIPU -contract, general principles

Various information and feedbacks



Feedback from User's Group dd 06-12-2012

Cfr meeting minutes

Considering the context and challenges for the balancing market the upcoming years the scope of the "taskforce bidladder" will be extended to a "balancing taskforce". The following topics will be handled by this balancing taskforce:

- Bid Ladder project
- Evolutions of R3 products and contracts for 2014 and beyond
- Participation of load to AS
- Future vision for R1 and R2 procurement and resources
- Balancing publications
- XB balancing synergies

The Users' group of Elia will be requested to confirm this extension.

- => This proposal was accepted by the Users' group on 06/12/2012

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Various information and feedbacks

Information about XB-Balancing Tennet-Elia Study

XB Balancing Tennet-Elia Study



Context, drivers and objectives

CONTEXT

- Consultation on the Framework Guidelines & NC Balancing
- Market Designs BE & NL converging to incentive based mechanisms
- Request by market actors for closer collaboration balancing markets

DRIVERS

- Understand risks and opportunities for XB-balancing
- Identify key requirement for the future European balancing market
- Potential Pilot Project for Entso-E; decision to be taken after first results

Objective

analyse X-Border balancing market design that achieve maximum synergies between BE & NL, while keeping control areas, bid zones, and Regulatory oversight intact.

Presenter: Bob Hebb

XB Tennet – Elia: Scope & Planning

- First phase qualitative study: Q3 2012 Q1 2013
 - Regulatory and legal framework
 - Products specifications in the Ancillary Services Markets (As Is)
 - Description of different possible market integration scenarios
 - Estimation of implications, cost and benefits of different integration scenarios

Second phase quantitative study: Q2 & Q2 2013

Selection of optimal integration scenario by determination of:

- Impact on costs for contracted reserves: volumes and reservation costs, social welfare
- Balancing costs ; volumes & activation costs, social welfare
- Congestion costs (If applicable)
- cost benefit analysis of reservation of cross-border capacity (if applicable)
- Planning qualitative part

- 08/2012 Consultant selected

- 09&10&11/2012 Inventory balancing markets/Workshops TenneT-Elia
- 01/02/2013 Common workshop stakeholders (BE-NL)
- Q1 2013 Approval final conclusions qualitative part of study

Presenter: Bob Hebb



Tennet Oelia



Ĵå KEMA¥

Stakeholder Workshop on Potential Cross-Border Exchanges of Balancing Energy and Operational Reserves between Elia and TenneT

- Date: Friday, 1 February 2013
- Time: 12:00 17:00 h

Agenda

- Introduction to this project
- Regulatory framework for cross-border balancing
- Summary and comparison of current operating environment
- Cross-border exchange of balancing services: Benefits and issues
- Final discussion and way forward

To register please contact Bob.Hebb@Elia.be

Presenter: Bob Hebb

Agenda elia 09h00 1. Validation of Meeting minutes dd 30-11-2012 (10') 09h10 2. Various information and feedbacks Organization of training regarding the basics of balancing. Feedback from User's Group dd oc do catalacter. - Information about "XB Balancing Tennet-Elia Study" 09h40 3. Stakeholders expectations (10' per association) FEBEG Aggregators APX-Endex 10h10 => Pauze => 10h30 4. Contractual model Introduction - Scope of evolutions in Balancing Services Contractual model for the bid ladder 5. Experimentation R3 from Decentralized load 11h45 6. Questions & remarks 7. Next steps & next meeting date 12h00 Presenter: Filip Carton BalancingTask Force - Meeting - Contractual Model

Tennet Oelia

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Stakeholders expectations

Position of FEBEG ; Aggregators ; APX-Endex



Previous meeting, participants of the taskforce where requested to present at the next taskforce their expectations about the bid ladder per association. (3 most important points)

We received 3 requests for such a presentation:

FebegAggregatorsAPX-Endex

=> Slides from external parties. +/- 10 minutes each?

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FEBEG Federation of Belgian			
Federation of Belgian Electricity and Gas Companies			

ELIA BALANCING 'TASK FORCE' FEBEG Expectations

Meeting 11.01.2013







INTRODUCTION

- FEBEG welcomes and supports the Elia Task Force 'Balancing' initiative
- FEBEG supports Elias' overall balancing philosophy for the Belgian market
- FEBEG main expectations:
 - Respect for role of ARP
 - Market based procurement of R2
 - Pilot B-NL



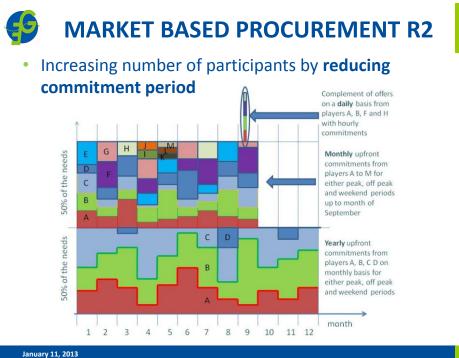
RESPECT FOR ROLE OF ARP

- Offering services on the bidladder is a commercial activity
- FEBEG supports Elias' approach of working via the ARP provided a proper contractual framework is set up
- If other parties would be allowed to directly offer services on the bidladder, then a mechanism has to be put in place to avoid ANY impact on the ARP, including as a consequence of shifting load or generation:
 - Elia has to adjust the ARPs' nomination
 - Elia has to compensate the ARP for its imbalance

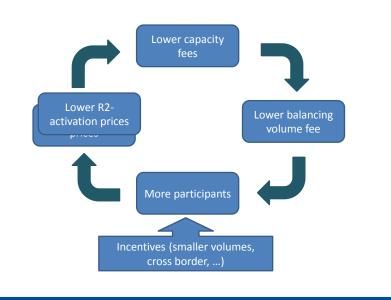
January 11, 2013



- Objectives for revised model for procurement R2
 - Market based system for reservation as well for the activation of reserves
 - Increased market dynamics and liquidity
 - Competitive prices through transparent process
 - Effectiveness and efficiency
 - Encourage new investments in flexible units and new entrants
 - Open for participation by domestic and foreign (CWE) producers and consumers



MARKET BASED PROCUREMENT R2





PILOT BE-NL

- FEBEG is in favor of a pilot NL-B as a first step within CWE balancing and R2 integration
 - Goal: TSO-TSO-model with common merit order
 - Intermediate steps:
 - Implementation quick wins (synergies)
 - Maximum alignment of both balancing systems
- Merging both balancing zones will lead to social welfare gain:
 - Less energy needed
 - Less capacity needed
 - More ancillary providers
 - More competition for capacity reservation and energy activation
 - Equal quality

January 11, 2013



QUESTIONS





CONTACT

Steven Harlem steven.harlem@febeg.be 0032-2 500 85 89 www.febeg.be



Bid Ladder Taskforce Exchange's expectation

Alexandre Torreele Alexandre.torreele@belpex.be

Linking partners in power

Our expectations



- In its role of day-ahead and intraday market operator, Belpex wants to make sure that the specifications of the balancing market will be consistent and take into account interactions with other market timeframes, as foreseen by the FG on Electricity Balancing (p. 11).
- Belpex is willing to contribute to the design of the solution of a Bid ladder that would rely as much as possible on the existing intraday market in order to:
 - » limit the residual balancing actions to be taken by the TSO to what is absolutely necessary to safeguard system integrity;
 - » avoid cannibalisation between the intraday and balancing markets.

Linking partners in power



 Belpex is therefore willing to determine, together with Elia and the other stakeholders, how to best fine-tune its intraday market to achieve the objectives above while further fostering liquidity and facilitating access to new participants. It considers indeed that a liquid, close to real time, exchange-based market is the best way to support competition among market participants by creating a level-playing field and does not unduly discriminate against participants without generation or demand inside a control area.



- Belpex is willing to collaborate with market parties towards a mechanism that fulfils national needs and that already takes into consideration potential geographical extension. Being part of the APX-ENDEX group, Belpex can capitalise on its expertise and ability to conduct multilateral projects at international level.
- Belpex / APX- ENDEX will contribute to the debate by offering its extensive knowledge in intraday market mechanisms :
 - » current (international) market design,
 - » European target model,
 - » clearing and settlement services

and $% \left({{{\rm{a}}} \left({{{\rm{b}}} \left({{{\rm{c}}} \right)} \right)} \right)$ at technical expertise related trading systems and processes.



BELPEX

Thank you for your attention!

Aggregators

Stakeholders expectations - Aggregators

- In Belgium, it is essential to ensure that non-ARP players have direct access to the bid ladder and reserves
 Attempts to develop liquidity of the balancing market (both upwards and downwards) with demand response through BRP in other EU markets have not been successful E.g. Whereas the French balancing market has been opened to demand response since 2003, offers from BRP only started in 2012, 9 year later and those first BRP to offer DR are "alternative" new entrants.
 - Equal level playing field: the regulator and TSO should do everything in their power to ensure an equal level playing field between all players on the balancing and reserve markets
 - Other European countries (eg. Germany, the UK and France) have granted access to non-ARP's

• "Vol d'energie" needs to be avoided at all times

- Is a common goal for all parties involved (TSO, ARP, suppliers, end-users and aggregators)
- Pragmatic solutions exist and need to be implemented to simplify settlements



Agenda



1. Validation of Meeting minutes dd 30-11-2012 (10')	09000
	09h10
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	ak => 10h30
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5. Experimentation R3 from Decentralized load	11h45
6. Questions & remarks	111145
7. Next steps & next meeting date	12600
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Scope of evolutions in Balancing Services



The Bidladder project is included in a large packet of evolutions aiming at opening the Balancing Energy Market to a new kind of flexibility.

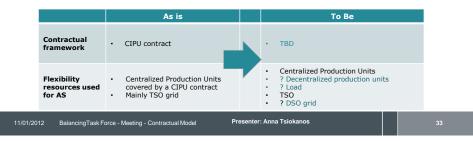
<u>As is</u>:

Majority of Balancing Services provided exclusively:

- By injection ARPs (who have signed a CIPU contract)
- On Centralized Production Units
- Exceptions: ICH (interruptibility), R1Load

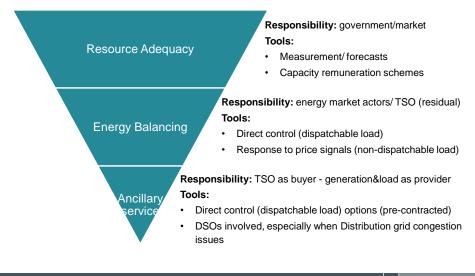
Goal:

Extend participation of Balancing Services to new resources (load and decentralized production units) and new players. This is encouraged by CREG.



DSM can serve several policy objectives

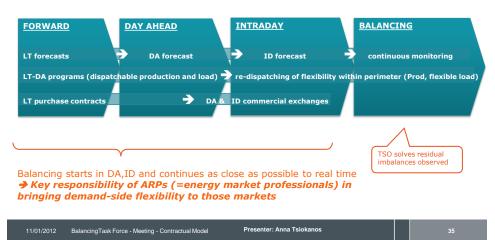




Balancing Mechanism Central role of ARP in energy markets



- 1. The ARP is responsible for maintaining the balancing, on a quarter-hourly basis, within its own perimeter:
 - \Rightarrow Day Ahead programs (nominations) have to be balanced
 - Residual Imbalance of the ARP will be invoiced at imbalance tariffs
 - Imbalance tariffs reflect costs of deployed means by Elia and have to give strong incentives to ARPs to be balanced



Balancing Mechanism 2 different dimensions of balancing market



- 2. In real time, the residual imbalance of the zone is solved by the TSO ⇔ Reactions to incentives coming from imbalance tariffs
 - Activation of flexibility provided through :
 - Ancillary services: Pre-contracted reserves (Capacity and Energy components)
 - Balancing Energy product: Free Bids (Energy Component only)

Produ Desci	ct & ription	Capacity component	Energy component	
R2	Automatic 30" - 15' Up/Down	Yearly reservation	D-A bids Price limited by CAP/FLOOR	Pre-contracted reserves: • Retained from Forward→ ID market
R3	Manual 15' Up	2-Yearly reservation	D-A bids Price limited by CAP	 Capacity component Limited/fixed Activation price Technical specifications that lead to specific control of activation
існ	Manual 15' Up	Yearly reservation	Predefined # activations Fixed price	
Free Bids	Manual 15' Up/Down	FGC: obligation to bid residual margin for power plants ≥ 75MW	D-A and I-D quarter-hourly bids of energy No price limitation No control of activation as perimeter is corrected	Residual flexibility of forward > ID Energy markets: • Energy only product • Free price • No control of activation (incentive as
			·	explained in next slides)
			Balancing Energy	

Impact of an activation on the ARP compensation of the perimeter (1)



Conform the specifications of ARP contract, for each activation of balancing energy, the perimeter of the ARP will be adjusted with the quantity of active energy that has been requested by Elia (injected/taken).



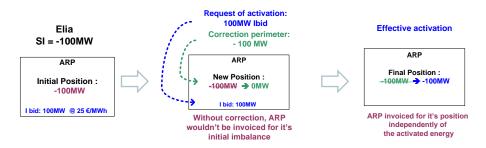
ARP is incentivised to provide requested energy by Elia. If he does not he will be in imbalance for the quantity of not provided energy → No additional control/penalty necessary



Impact of an activation on the ARP compensation of the perimeter (2)



Example 2:



Activation costs covered by tariffs and paid by ARPs who cause imbalance

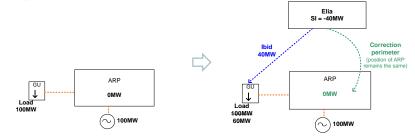
11/01/2012	BalancingTask Force - Meeting - Contractual Model	Presenter: Anna Tsiokanos	

Tentative to extend Balancing Energy product to new players (not ARP) (1)



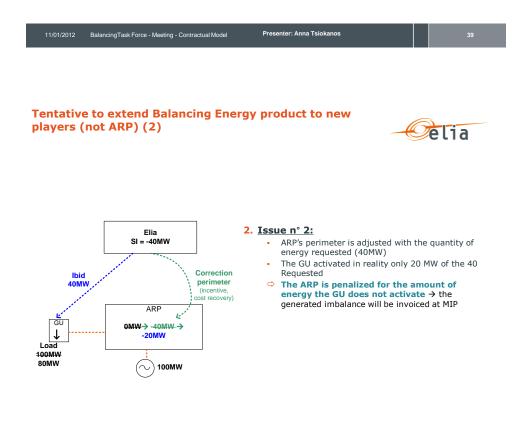
Following the aspiration to open balancing services to new resources and new players, Elia investigated how to create a product that allows new players to bid energy as independently as possible from the ARP.

Therefore the impact that an energy bid coming from a GU could have on the ARP and on the supplier was analysed.



1. Issue n° 1:

- GU consumes less while the same amount of energy is produced (as perimeter is corrected)
- GU sells energy he doesn't produce nor buy (as he doesn't consume)



Tentative to extend Balancing Energy product to new players (not ARP) (3)



Possible solutions that where investigated:

Adjust the metering of the consumed energy and neutralize ARP's position...
 the perimeter of the ARP is neutralized so that the activation has no impact on ARP's position
 the load curves are corrected so that the GU buys the energy he sells to Elia under the form of an Ibid

but not realistic in a big scale (for distributed resources, for D-A energy only products characterized by incentivizing compensation)

- Give to the ARP the adequate data so that:
 - he can control the effective deployment of requested energy and apply penalties
 he can organise the correct settlement of the produced-not consumed and bought energy

but such a solution requires a strong contractual relationship between the BSP and the ARP

Presenter: Anna Tsiokanos

 \Rightarrow ? added value in terms of independency of the BSP towards the ARP

• ••

ARP is a key player in energy market: open a <u>portfolio based</u> <u>balancing</u> <u>energy product</u> to other market players generates fundamental issues



Celia

Considering the central role of the ARP in the energy markets and the previous reflexions, the following contractual model is considered as first step for the bidladder project:

Energy is bidded to Elia by the ARP:

Proposed Contractual Model for the Bidladder

- ARP has the possibility to bid energy to the balancing market <u>on any kind of flexible assets</u> within it's perimeter.
- Therefore, such as for the Forward to ID energy markets, he has the possibility (and responsibility) to capture new flexibility (decentralized production, load) and bring it to the balancing market.
- The Aggregated Power Plant (work around set up at the end of 2012) already gives the opportunity for ARPs and market players to experiment such model.

In practice:

Conclusion (1)

- ARP offers aggregated flexibility to Elia on a quarter-hourly basis
- When Elia activates a bid, the ARP's perimeter will be compensated with the requested amount of energy (incentive to provide the energy)
- The ARP adapts the production of its own centralized production units **or** transfers the activation request directly to it's GUs or to aggregators.

Important Remark:

- This model could be subject to evolutions in future years

Conclusion (2) Opening of A.S. to new resources/players



Besides the bidladder project, Elia will work on developing a framework and contractual model for the opening of A.S. to new players and resources.

Initiatives in 2012:

What	Innovation	Description	Next Steps
R1: "R1 Load"	Production → load	 Task Force organized with 3 GUs in 2011/2012 30MW R1 UP provided by industrial load connected to Elia grid in 2013 	 2013/2014: consolidation and experience feedback MT/LT: distributed R1 by cold stores?
<u>R3:</u> ICH 2013	Grid Users → Aggregators	 Possibility to offer from a pool of access-points connected to the Elia grid > 15MW provided by EnergyPool from a pool of 5 access points 	- Product enhancements
R3 (R&D) Experiment: R3 from distributed load	TSO-connected load→ distributed load	 5 to 10 MW of interruptible power from the distribution grid Concrete case study that allow to: test the technical performance of interruptible load in distribution grid gain experience on control modalities and contractual prerequisites 	 Analyses (lessons learned and results) will be presented to the balancing task force in order to feed into reflexions on DSM Work on a market framework for direct participation of distributed resources

First reflexions about the contractual model and next steps of work will be presented more in detail to the balancing task force.

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	09h00
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7. Next steps & next meeting date	
	12h00
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R&D Pilot Project R3 from decentralized Load



- At the margin of the ICH 2013 tendering, the aggregator Restore made an proposal based on a pool of APs located in DSO grid (5-10MW/> 10 APs)
 - $\,\Rightarrow\,\,$ Proposal did not fulfil to the ICH specifications \rightarrow wasn't considered in this framework
 - Nevertheless it was interesting on several aspects:
 Concrete offer based on a portfolio of contracted GUs
 - Solutions proposed in order to "match" the offer to the particularities of the ICH contract (nominations, metering)
 - Offering more activations than the ICH product (25 instead of 4/12)
 - "Small enough" volumes so that the impact on parties can be considered negligible
 - Innovative

Decision to build and launch an experiment for the year 2013

- Project presented to and supported by CREG
- Involved parties have been contacted (agreement asked to involved ARPs)

Goal of project:

- test technical performance of interruptible load located in DSO grid
- gain experience in control modalities and contractual prerequisites
- feed reflexions about the building of a framework for A.S. provided by decentralized resources located in DSO grid
 Results and conclusions will be presented and shared in balancing task force
- Results and conclusions will be presenced and shared in balancing task force
 Creation of specific Advisory Board for this experiment that will report to the Balancing Task Force

- Ad hoc design that won't automatically be continued beyond the experimentation
 Metering: provided by aggregator in first instance and compared ex post with official DSO metering*
 - No compensation of the ARP's perimeter as very limited impact and as ARP isn't penalized by tariffs
 - Control of activation based on last quarter-hourly metering before activation
 - Out of "balancing": Activations will not have impact on NRV, tariffs

11/01/201320/ Bidladder task Force - R&D pilot project R3 Bidladder Task Force Meeting - Contractual Model 45 09/2012
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1. Validation of Meeting minutes dd 30-11-2012 (10')	09h00
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6. Questions & remarks	11110
7. Next steps & next meeting date	12h00
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Questions and/or Remarks ?





Next steps & next meeting date

- 1. Written comments on todays presentations are welcome!
- 2. Elia will send meeting minutes (incl all slides) for validation.
- 3. Next meetings Reminder:
- Taskforce 3: Portfolio and/or Unit bidding ⇔ link with congestions management
 Cf. Deadle TE2 will be 04 00 0040, 42bas, 47bas, 46bas, 00
 - Cfr Doodle TF3 will be 01-03-2013; 13hrs 17hrs, Keizerlaan 20
 Will do our best to send around documentation upfront
- Taskforce 4: (mid-april): Standard product definitions for bid ladder (+R3 evolutions)
 - Doodle TF4 will be included in the meeting minutes
- Taskforce 5: (end-may): Contractual implications, IT-platform, roll-out, ...
- … // topics or meetings not to be excluded

11/01/2012 Balancing Task Force - Meeting - Contractual Model Presenter: Filip Carton 47



Thanks for your attention

11/01/2013

Elia