

Press release

Brussels, 9<sup>th</sup> of January 2018

## **Next Kraftwerke shows outstanding compliancy in pilot project and proves Virtual Power Plants can provide Secondary Reserve in Belgium**

Virtual Power Plants (VPPs) can reliably provide secondary reserve (R2) to the Belgium grid. This is the result of a pilot project transmission system operator (TSO) Elia has conducted with its partners Next Kraftwerke, Actility and EDF Luminus. The pilot project's object was to test whether alternative technologies such as Virtual Power Plants can reliably provide R2 to the grid. All three participants showed their capability of providing R2 in a qualitative way. Next Kraftwerke also performed best in following Elia's signals and control their aggregated units accordingly (compliancy). Based on the results of the pilot project TSO Elia will open the R2 market and develop a new market design for R2. So far, only large central production units (so-called CIPU units) are allowed to provide R2 in Belgium.

TSOs such as Elia use control reserve to balance the electricity system when power production and consumption are out of sync. R2 reserves need to be fully activated within 7.5 minutes. Among the three control reserve products R1 (activated within 30 seconds), R2 and R3 (activated within 15 minutes), R2 is the most important balancing product for Elia. R2 is often activated and has high technical requirements, which make it the most complex power reserve of the balancing products of Elia. To test, whether aggregators can provide R2 in a comparable quality as the current units, Next Kraftwerke and the other participants also had to fulfill those technical requirements. And they had only about a year to get ready to deliver R2 in July 2017.

One of those requirements is an excellent compliancy, which is the ability to very quickly follow the signals of the TSO and ramp the aggregated units up and down in seconds. In the project, Next Kraftwerke reached the best compliancy levels among the three partners. Next Kraftwerke provided R2 with more than 22 biogas and natural gas CHPs motors and reached compliancy levels of 98 per cent. Benjamin Blank, System Engineer at Next Kraftwerke, explains: "Even though we provide R2 with more than 1000 units in Germany with a compliancy rate of 100% since a few years, the Belgian product and requirements were challenging. The compliancy rate tells a lot. Up to 80% it is very easy. From 90% onwards it starts to get challenging. Above 97% the wheat separates from the chaff. We are happy to have reached that level, but we want to go further."

Carlos Dierckxsens, Business and Product Developer at Next Kraftwerke, adds: "The cooperation with Elia in this project was excellent – in particular on establishing a baseline methodology. This is the amount of energy the pool would provide to the grid without any R2 delivery. The baseline methodology is key, because the difference between the actual production and the baseline tells Elia how much flexibility the VPP

**NEXT**  
KRAFTWERKE

Press contact

Jan Aengenvoort  
0221 / 82 00 85 855  
[mailto:presse@next-kraftwerke.de](mailto:mailto:presse@next-kraftwerke.de)

Next Kraftwerke  
Lichtstr. 43g  
60827 Colonne  
Bern · Brussels · Erlangen · Hamburg ·  
Lyon · Milan · Nantes · Paris · Tübingen ·  
Vienna · Warsaw

provides. However, establishing a good baseline for a pool where assets join and leave in real-time is not straightforward. We are happy to have had such productive discussions with Elia on that matter”.

To provide R2 reserve power, Next Kraftwerke partnered with WOM, the cooperative of horticulturists operating CHPs with a combined capacity of about 250 MW. Herman Marien from WOM is happy with the results: “The technical implementation of the pilot project together with Next Kraftwerke worked out very well. We have shown that CHPs are able to deliver complex services to Elia with the same quality and reliability as big gas-fired power plants. We see a lot of potential to deliver this service and help to stabilise the system, and hope to see the market for R2 being opened soon.”

Tore Content, president of the Belgian Federation of Biogas Installations Febiga, is confident: “In a future with a large share of renewables in the energy mix, renewable energy technologies should also provide ancillary services. Biogas plants already deliver secondary reserve power in neighbouring countries. With this pilot project it has been shown that Belgian biogas plants are perfectly able to do so as well and complement large gas-fired power plants.”

### Results on overall compliancy

BSP	Compliancy 30% margin	Compliancy 15% margin
Actility (upscaled)	92%	85%
EDF	98%	90%
Next Kraftwerke	98 %	96 %

The table above gives the compliancy results for the whole participation phase.

Provider	Compliancy CIPU (15% margin)
BRP (CIPU) 1	90%
BRP (CIPU) 2	95%

The compliancy results for two CIPU providers are depicted in the table above. It shows that the compliancy of non-CIPU units gives equally good results with respect to CIPU units.

See all tables and read the whole report on [www.elia.be/en/users-group/Working-Group\\_Balancing/Projects-and-Publications/R2-aFRR](http://www.elia.be/en/users-group/Working-Group_Balancing/Projects-and-Publications/R2-aFRR)

As a digital provider, Next Kraftwerke operates one of the largest virtual power plants in Europe. The Next Pool contains around 4,500 decentralized energy-producing and energy-consuming units that are linked together via a digital platform, which enables each one to be managed by an in-house control system. With a total linked energy capacity of over 3,000 MW, Next Kraftwerke makes a substantial contribution to stabilizing fluctuation in the grid. In addition, the Cologne-based company optimizes energy production and consumption of each of its customers with price markers, and trades their power 24/7 on various European markets, such as EPEX and EEX.