Press Release

Data centers to play central role in the European electricity system

EPEX SPOT and SDIA call for large scale activation of neglected flexibility potential through local flexibility markets

Hamburg / Paris, 02 July 2020. The European Power Exchange EPEX SPOT and the Sustainable Digital Infrastructure Alliance SDIA have published a joint white paper, calling on authorities to enable a large-scale activation of currently neglected flexibility provided by data centers throughout Europe. They argue that the systematic integration of flexibility provided by data centers through local flexibility markets will contribute to the reduction of costs of the energy transition for the end-consumer, rendering markets sustainable.

With the shift of the electricity system towards a decentralized and decarbonized setup, challenges for the grid operators arise. To handle congestions at all grid levels, they resort to costly redispatch measures, often with the counter-intuitive effect of shutting down the renewable assets that should be fostered.

The neglected potential of data centers

Most recent estimations indicate the theoretical potential for demand-response for data centers at the range of 38 to 80% of the installed power demand in 2030. This puts data centers as a source of over 10 GW of demand-response in the European electricity system by the same year. In addition to this, the highly automated nature of data centers allows operators to closely monitor and control the power consumption of their assets in real-time. Energy consumption can be reduced by 10% in just 15 minutes without major impact on the IT workload schedule, and typical data center workloads can easily be rescheduled. This makes data centers optimal sources of flexibility for the future energy system.

However, the authors state that without a local flexibility market this data center flexibility will never be activated, simply because there is no way for an operator to value the flexibility potential.

Local Flexibility markets unlock the potential of data centers

Currently, there is no incentive to invest in resources that can provide flexibility, nor is there an incentive for flexibility providers to sell their services to system operators. Local flexibility markets efficiently activate and centralize local flexibility offers. Flexibility providers such as data centers would be able to offer and price their services, and system operators would be able to reliably and economically relieve physical congestion on the grid close to real-time.

Philippe Vassilopoulos, Director of Product Development at EPEX SPOT, comments: “Jointly with SDIA we call for regulators and system operators to create an economic space or pilot scheme where local flexibility markets can be tested, regulated and optimized before being rolled out on a larger scale. Only market-based mechanisms can achieve a meaningful price signal for congestion to enable the efficient integration of demand-side flexibility into the system. A lack of regulatory framework completely wipes out the enormous potential of data centers to participate in the joint societal effort that is the energy transition.”

Chairman of the SDIA, Max Schulze adds: “Data centers are a rapidly growing and energy hungry industry. We have the unique opportunity to successfully integrate them into the energy system during their prime expansion phase by enabling them to participate in flexibility markets. It’s a big advantage to do this now. Other industries are still catching up while data centers have the opportunity in front of them.”

Extending the role of the market will make them more sustainable, facilitate decarbonisation, support the electricity grid, engage new technologies, accelerate sector integration, activate new flex players and overall reduce costs of the energy transition for end customers.

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The European Power Exchange EPEX SPOT SE and its affiliates operate physical short-term electricity markets in Central Western Europe, the United Kingdom and in Denmark, Finland, Norway and Sweden. As part of EEX Group, a group of companies serving international commodity markets, EPEX SPOT is committed to the creation of a pan-European power market. Over 300 members trade electricity across twelve countries on EPEX SPOT. 49% of its equity is held by HGRT, a holding of transmission system operators. For more information, please visit www.epexspot.com.

The Sustainable Digital Infrastructure Alliance e. V. promotes cross-sector cooperation to enable a thriving digital ecosystem without negative effects on the environment. As an independent association, the SDIA is committed to the expansion of competitive and sustainable digital infrastructure at a national and international level. More Information: www.sdialliance.org

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