

7th World Congress and Expo on **Green Energy**

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3rd World Congress on **Wind & Renewable Energy**

June 24-25, 2019 Barcelona, Spain

Energy demand response - novel service models based on building energy data**Maarja Meitern**

Consultant, Bax & Company, Spain

An increasing number of buildings are now equipped with sustainable energy generation capacity such as photovoltaic (PV) and, for larger buildings, local (battery) energy storage is also cost-effective. Real-time processing of energy generation, demand and storage data across communities allows setting up local energy markets that balance supply and demand. Via aggregating entities, this energy capacity could be traded at regional or national markets. These energy flexibility services could significantly improve the business case for energy-positive buildings, reducing overall energy cost by 10-15%. While energy demand response traditionally was a market for big-voltage segments of the electricity grid, new trading software, decreasing cost of small-scale storage and relaxing regulation opens up the markets for prosumers as well. In the US, the UK, the Netherlands and Belgium, large-scale efforts are underway to reduce regulatory and technical barriers for prosumers to actively trade energy, and for new 'energy aggregators' to act on wholesale markets. This market is embryonic - governments and businesses are operating perhaps 50 pilots that in 2019 will collectively connect thousands of households and businesses in virtual markets across Europe. In 5-10 years, however, it is expected that there will be a clear economic incentive for all connected buildings to join such markets. Bax & Company has set up pilot projects for flexibility services in 5 countries across Europe and coordinates a number of EU-innovation projects helping accelerate innovation and market-readiness for these technologies. This presentation will provide an overview of business models based on building energy data and shares state of the art in new services and projects.