



Integration of renewable generation in power systems using flexibility of large industrial consumers

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The integration of renewable generation in Europe is still facing some challenges to manage its intermittency and, if fully integrated in the market, additional costs may limit its feasibility. On the other hand, demand side management is foreseen as a main driver to improve power system efficiency in the next future. Hence, intense electric consumers may find an opportunity to offer their flexibility to reduce their electricity bill and improve their competitiveness. Creating alternatives to use the flexibility of large industry to absorb the unbalances of intermittent renewable may result in a win-win strategy. However, the regulations in each country may make infeasible any possible business model. For instance, the rules for the balancing markets, the participation of demand response in power system services, or subsidies for renewable and electricity-intensive consumers. This plenary talk will detail the potential benefits of merging renewable intermittency with large industry flexibility. Then, suitable business models will be presented for renewable generation and large industry. Finally, most relevant European regulations will be reviewed to identify major barriers for these business models, and some recommendations to overcome them will be presented.