

## Locational pricing – how can it engage consumers

### Round table on Future Power Market Platform

Berlin, June 3<sup>th</sup> 2024

#### This is an invitation-only event held under Chatham House Rule

**Organizing committee:** Lisa Ryan, University College Dublin; Silvia Vitiello, Joint Research Centre of the European Commission in Ispra; Karsten Neuhoff and Franziska Klaucke, DIW Berlin and Technische Universität Berlin; Luis Olmos, Comillas Pontifical University; Anthony Papavasiliou, National Technical University of Athens; Christian Nabe and Konstantin Staschus

**Location:** DIW Berlin  
Mohrenstraße 58, 10117 Berlin

**Dinner:** 2 June at 19:30, Restaurant Macchiavelli, Albrechtstraße 13, 10117 Berlin

**Contact Details:** Registration/Organization: Franziska Klaucke (fklaucke@diw.de)

### Objective

Parts of the existing electricity usage and most of the additional demand from electro-mobility, heat-pumps with thermal storage and electrification of industrial processes offer opportunities for time-shifting. In a system with rapidly increasing shares of wind- and solar power this flexible demand will be highly valuable to balance the energy system. Given that the power generation capacity is expected to multiply relative to existing and expanding grid capacity, it will be essential that all the demand side flexibility can respond to national and local needs. If this is the case flexible demand can significantly alleviate network congestion, renewable spills, redispatch needs and system costs – otherwise they will have the opposite effect and in addition create system security risks.

In the first session, we will explore for electricity consumer segments with the largest flexibility potential the signals and incentives that they require for providing flexibility. In the second session we will discuss characteristics of the electricity marketplace that would be necessary and desirable for these different consumer segments to engage and to provide manually or supported through automation their flexibility to the marketplace. In the third session, we will then discuss the implications for electricity market design, and in particular what the interface to consumers (marketplace) in combination with nodal pricing does imply for market design. This can involve questions relating to the “competition” between TSOs and DSOs to access flexibility at the DSO level for congestion management or relating to the role of PXs.

## Agenda

**09:00 Registration / Coffee**

**09:15 Welcome / mutual introductions**

**09:25 1. Session: Enable flexibility potentials of consumer groups**

Chair: Lisa Ryan, University College Dublin

We will first explore the characteristics and scale of flexibility potentials that households, commercial, and industrial consumers realize with their current technologies and with an increasing electrification of transport, heating and industrial production combined with heat and intermediate product storage. We want to explore these potentials for each sector and discuss current experiences in enabling flexibility potentials in EU countries and the implications for the needs to realize the new flexibility potentials.

Opening comments – experiences and perspectives (approx. 5 min each)

1. Defining and structuring the types of flexibility of consumer groups – an EU Perspective.  
Speaker: Patrick Luickx, Acer Europa
2. Defining and structuring the types of flexibility of consumer groups – a US Perspective.  
Speaker: Conleigh Byers, Harvard University Center for the Environment
3. Energy communities and consumer engagement – The JRC Experience.  
Speaker: Antonio De Paola, Joint Research Centre (JRC)
4. Future flexibility potential on the demand side and current obstacles to its realization  
Speaker: Friedrich Kunz (Tennet)

**10: 45 Coffee break**

**11:00 2. Session: What marketplace do consumers need for their flexibility?**

Chair: Konstantin Staschus

Rather than repeating the typical debate starting with wholesale markets, transmission and distribution management and pricing and the role of retailers, we want to start the debate from the perspective of consumer needs. We will also assume some of the prominent challenges currently inhibit demand side flexibility will be addressed, e.g. the structure of grid charges avoids penalizing effects and capacity mechanisms do not flatten the power price profile.

What type of marketplace would consumers and their retailers then desire to unlock and fully exploit their flexibility potential? We want to discuss tools and communication strategies that can enable consumers to engage. Could we for example envisage one local electricity trading platform hosted for each city or rural region. This could reduce barriers to access for smaller consumers and provide an intuitive interface to link up automation procedures for electric charging, heat pumps and smaller industrial consumers. What product types would different consumers require on such an interface for what purpose (timing: day-ahead, intraday, real-time, simple bids, multi-part bids)?

While current debates about retail tariffs often comprise an artificial bifurcation – either envisaging complete spot pricing or completely fixed tariff structures – we would like to build on the ideas emerging from the first FPM meeting of this series that envisaged a hedge of final consumers (or retailers on their behalf) at the scale of pooled renewable production. Thus, consumers would only be exposed to spot prices at the scale of their deviation of electricity consumption from the RE

production.

Opening comments – experiences and perspectives (approx. 5 min each)

1. Characterizing the desirable attributes of an interface to consumers.  
Speaker: Daniel Davi-Arderius, CSEI & IEB (Chair of Energy Sustainability of University of Barcelona)
2. Experiences from the NODESmarket: Which attributes and regulations have proven successful and where are improvements needed.  
Speaker: Sofia Eng, NODES
3. Overview of the currently existing local flexibility markets and experiences from the Greater London market.  
Speaker: Philippe Vassilopoulos, EPEX Spot

**13:00 Lunch**

**14:00 3. Session: How can wholesale market and TSO-DSO interface addresses consumer needs?**

Chair: Silvia Vitiello, European Commission, Joint Research Centre (JRC)

In this session we want to explore how the requirements for the marketplace that addresses consumer needs can be met by reforms of wholesale markets and different approaches of TSO-DSO coordination.

In the spirit of the workshop series, we will assume for this purpose that nodal pricing can be implemented at wholesale level and could thus provide a consistent pricing structure. Would it be possible to create a local marketplace as an interface towards the nodal pricing auction platform. Would there be multiple local marketplaces or would one marketplace need to be identified and hosted by the local utility, the DSO or another entity – and what type of cooperation with a power exchange could be envisaged?

We would then discuss for any such marketplace as interface to consumers what are the implications for the TSO – DSO interface? This interface is currently contentious – with competition between TSOs and DSOs for access to local flexibility to address their respective congestion needs. How would this competition evolve with the implementation of nodal pricing and thus alleviation of redispatch needs at TSO level? What different options would DSOs have to address DSO level constraints? Do solutions differ across DSOs, depending on network topology, network constraint level and operational skills? Is it possible and desirable for different DSOs to continue to implement at the technical level different strategies to respond to these differences and to gather learning experiences – while providing a harmonized and simple communicable interface to consumers?

Opening comments experiences and perspectives (approx. 5 min each)

1. Presentation of the proposal for local marketplaces for electricity  
Speaker: Mats Kröger, DIW Berlin

**15:30 Outlook / shared insights, questions, and perspectives**