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Discussion Paper on Energy Regulation: A Bridge to 2025
Consumers and Distribution Networks
6 November 2013

1 Context

The overarching paper sets out the major changes which are already happening, or are anticipated, in the energy market. The gas and electricity papers explore how these changes may affect the means of production, transportation and supply of services. As part of our overall analysis, regulators wish to draw from the extensive work they have undertaken within CEER related to the rights and needs of energy consumers. This paper examines the effect that these changes are likely to have on consumers and the way in which we anticipate consumers will interact with the gas and electricity markets. The paper also examines the effect that these changes will have on the operation of distribution networks.

Overall, these impacts seem likely to have the effect that consumers will play a much more active role in the daily operation of the energy markets and in the electricity market in particular. Today, consumers purchase energy by agreeing to pay a consumer tariff offered by their supplier. The most influence consumers can bring to bear on the operation of the market is by the periodic switching of energy supplier or by selecting another offer from their supplier. This can be likened to buying a railway season ticket¹ – the consumer buys the ticket then simply travel as much or as little as they want to for the period of the season ticket (i.e. until the consumer decides to change). In future it may well be normal for many more consumers actively to manage their pattern of energy consumption in reaction to time of day prices, and to react to offers for them to supply demand management services on which the security of the network will depend. Despite efforts to encourage greater energy efficiency, consumers are likely to have a greater volume of electricity consumption capable of being actively managed as we see greater move towards electricity as a means of heating in many countries, and greater penetration of electric cars. Indeed, citizens and small businesses are likely to be, at the same time, both consumers of energy and producers through the wider installation of distributed generation (the trend is already underway in many European markets).

¹ Citizens in most member states can purchase railway season tickets. In return for a payment agreed in advance they can purchase a season ticket which enables them to use the railway network for the duration of the ticket. Similarly, most energy consumers can enter into an agreement with an energy supplier to purchase energy at a price agreed in advance. Energy suppliers' prices are offered in the form of consumer tariffs.

Consumers in 2025 may well still want to buy a 'season ticket' for their energy needs. However, the decision as to which ticket to purchase from the myriad on offer, or whether to buy a completely different and new form of 'ticket' may be more complex even than today and will carry commensurately greater risks for the unwary or ill-informed consumer. New services will, no doubt, be offered by new service providers to help consumers to manage these choices.

Changes to our energy markets will also require significant investments and modernisation of our energy infrastructure, including as a result of the integration of renewable energy sources and the arrival of innovative new technologies and services – the cost of these changes will most often be borne by consumers themselves, either directly in their energy bills or through national government budget decisions. Regulators have the key task of balancing the interest of all segments of the energy market – to ensure that consumers receive the energy they need at a fair value.

In anticipation of major future development such as this, CEER, together with BEUC, announced in November 2012 'A 2020 vision for Europe's Energy Customers'².

2 The Vision for Europe's Energy Customers

CEER and BEUC have a vision of an energy sector that puts smaller customers first. A sector that engages with and understands the diverse needs of customers, from residential consumers, including the most vulnerable and those with low incomes, through to small businesses, and delivers services that meet those needs.

This vision can be characterised by four principles governing the relationship between the energy sector and its variety of customers: reliability, affordability, simplicity, protection and empowerment:

Reliability in the physical supply of energy, and in the commercial systems and processes that provide continuous access and affect customer service levels, such as billing. It also means reliability in the processes that allow problems and disputes to be resolved transparently, fairly and quickly.

Affordability such that charges are clear and kept to fair and reasonable levels for all customers, reflecting value for money at a level consistent with funding necessary investments to develop energy networks and to achieve energy policy targets (for example encouraging greater electricity generation from renewable sources) whilst taking into account the needs of customers. This can be secured through network regulation and other appropriate measures and by providing customers with effective choice over truly competitive

² A 2020 Vision for Europe's Energy Customers A Joint Statement - 12 November 2012.

offers and new, innovative services. Energy sector specific measures as well as wider social policies have an important role to play, especially for the poorest and more vulnerable.

Simplicity in how information is provided to customers, and especially residential consumers, such that it is easy for them to understand their bill and better manage their energy consumption, making the choices that are right for them. It also means simplicity and transparency in how processes that affect customers operate. Many customers, and especially many residential consumers, want to be able to take quick and simple decisions in energy markets.

Protection and empowerment to ensure access to energy supplies, and to guard against unfair commercial practices and unsatisfactory outcomes, recognising the diverse needs of customers, in particular the most vulnerable in society. For customers to be engaged, to take choices and to exercise their rights as energy customers, based on trust in and knowledge of how the energy sector operates. As responsibilities shift and consumers are increasingly expected to become more active in energy markets (through developments such as demand response, smart metering, micro-generation or energy efficiency measures), they have the right to choose by whom and how their energy is to be provided and charged. Although this freedom could be framed by regulation, offering meaningful choice for customers, including residential consumers, is a key way to ensure their full protection.

3 CEER Actions Towards Delivering the Vision

CEER has already undertaken a great deal of work focusing on customer issues and how the energy sector operates for customers. CEER sees focusing on a 2020 Vision as a valuable means of giving high priority to customer issues, based on more effective engagement with customer bodies.

There are various ways in which CEER, for its part, is contributing to the Vision, including:

- Engaging with policy makers, including to ensure that the customer impacts of decisions in technical areas are appropriately considered;
- Improving our own effectiveness in how we conduct that engagement with customer organisations, and in how we analyse and understand customer impacts;
- Identifying and sharing best practice among regulators – including in how new challenges are being anticipated, and in regulating the transition towards liberalised energy markets;
- Ensuring that issues are identified early, analysed objectively – and that evidence is communicated in a clear and relevant way;

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- Analysing specific issues relating to how the energy sector operates, and developing advice and guidance.

CEER has proposed a range of measures which, collectively and over time, will promote the 2020 Customer Vision to achieve a customer-centric market. The measures include: changes to how CEER itself operates; new ways of facilitating engagement and promoting understanding; and reports on specific issues. This rolling programme of work has the flexibility to adapt and evolve as required. CEER's work is also coupled with ACER's monitoring duties in the areas of retail markets and customer rights and protection. Such monitoring is important to test if markets are functioning in the consumers' interest.

CEER is working to enhance consumer empowerment in a number of ways, including the use of recently released or soon to come monitoring reports, some of which have already been released:

- A first Status Review on the Regulatory Aspects of Smart Metering, including an assessment of roll-out and implementation of ERGEG GGP on regulatory aspects of smart metering. This document reviews how smart metering functionalities are handled and how the relating economic and customer assessments are made.
- The ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets, will look into the functioning of the markets from the customer perspective and addresses questions such as: what works? what needs to be developed or remedied?
- A Status Review on the Involvement of Consumer Organisations in the Regulatory Process, mapping the interactions of energy regulators with organisations representing the interests of energy customers, collecting best practices describing how regulators interact with consumer bodies and involving them in the regulatory process. Based on these findings, we will develop advice for NRAs on how to work more effectively with consumer organisations and other consumer representatives to make customers' perception and experience a key driver of regulation.
- A Status Review of Customer Access to the Cost and Sources of Energy and Efficiency Schemes describing what information about the costs and sources of energy and efficiency schemes is made available to European customers. It investigates who provides such information and in what ways customers are able to access this information. This document reviews the information for customers to understand better the final (consumption) costs and sources of energy and efficiency schemes. Based on these and other findings we will prepare guidance to secure an effective process for the efficient regulation of green electricity offers.

4 Future challenges

The work CEER is undertaking is aimed at improving the position of customers in the energy market, both by empowering them and ensuring that there is necessary adequate and robust protection. However, as the energy market develops and further innovation takes place, it is likely to become a more complex place for consumers. It is increasingly important that consumers are sufficiently well informed not only to make good choices about their energy purchases, but also that their voice is heard so that they are able to influence the development of the market on the same basis as industry players. And yet consumers, particularly retail consumers and small businesses, are not industry professionals. Consequently there will always be an information gap which is a systemic barrier to the full engagement of consumers in the development of energy markets. The difficult challenge is to find ways to bridge this gap.

In addition to analysing how changes will affect consumers and what factors need to be taken into account in order to meet their needs, as well as to improving our dialogue with consumers and their representatives, regulators are also committed to raising the overall consciousness in the energy sector itself of the centrality of consumers in competitive and interactive markets. By securing support for the Customer Vision from 15 energy associations (from energy ombudsmen to electricity and gas suppliers to social housing to cooperatives), we are working to encourage greater consideration, awareness and action across the energy chain – to the benefit of consumers. We believe that an open and continuing dialogue on consumer issues can also help to change culture and attitudes at all levels.

CEER has engaged into concrete areas of work to face this challenges in a changing environment:

- We will report on the level of implementation of the 2020 Vision for Europe's Energy Customers by its supporting stakeholders. This report will aim to sum up actions taken (or planned) by supporters including the energy industry, at national or European level, to implement the customer vision: 'name and praise' is part of our communication strategy.
- We will continue to monitor the implementation of a set of recommendations released in 2011 on the user friendliness of the roll out of smart metering systems to ensure customers benefit. Furthermore, CEER will continue to promote the standardisation of technical functionalities of these systems to reach the economies of scale and the European interoperability for more affordable equipment.
- We will build on existing good practice to establish European standards for the quality of services offered by DSOs to customers (and micro-producers of electricity). We will start with basic services focusing on (dis)connection, service (de)activation and maintenance as well as gas security. This will cover the non smart meter/grid environments and will evolve over time with the introduction of new grid technologies and updated ITC (information technology and communication) to enhance the quality of service.
- We will develop advice on how data management – technical and customer/prosumer data – should be handled in the current and future environment with and without smart metering

and smart grids to protect the interests of consumers. It is vital for retail market functioning and customer protection that information and data exchange between stakeholders is reliable, efficient and safe. This work includes the definition of the role and responsibilities of different stakeholders, the European standardisation of data formatting and the exchange of data among stakeholders.

- We will build on existing good practice report on demand response (on which CEER has issued a recent consultation paper) and energy efficiency services offered to customers and propose European retail market designs which prevent regulatory barriers to innovative services offered by existing or new entrants such as independent aggregators.
- We will promote retail market designs centred on customer needs and an appropriate level of harmonisation at European level. It will monitor the implementation across EU MSs and adapt the 2012 GGP (focussing on switching and billing) to a smarter environment.

C1. Do you think that further European level measures should be taken to enhance the operation of retail markets to the benefit of consumers?

C2. Can you suggest ways in which we could enhance the voice of consumers in the development of Europe's energy market?

5 The Future Regulation of Distribution Networks

Traditionally DSOs have managed networks which transported electricity from the high voltage transmission grid to the premises of end users. The operation of distribution networks in this way is mainly a passive activity in which the DSO is required to exercise little active control over the distribution network. DSOs do not as a matter of course have to make decisions on how to balance their networks by instructing generators or demanding customers to change their production or consumption patterns. That role is mainly the responsibility of the transmission network operators. Consequently, whilst DSO networks are an essential conduit to transport gas or electricity to customers' premises, DSO have little influence over the traded gas and electricity markets.

However, technology changes are driving a change in the role of DSOs and these changes are continuing. The introduction of smaller (often renewable) generation is resulting in increasing levels of embedded generation; smart grid technologies allow much greater active control of the distribution networks; and the addition of smart metering is likely to result in much greater possibilities for load management and customer participation in the wholesale market. There may also be greater synergies between the distribution of gas, electricity, heat and cooling. Greater penetration of electric cars may increase further the potential for demand side participation. In addition, smart grids and smart meters will produce a huge increase in the amount of data available to DSOs. This data is of use to DSOs in enhancing the efficiency with which they operate their networks, but much of it will also be of potential interest to new third party service companies wanting to sell new services to electricity and possibly, to a lesser extent, gas consumers. Further, there may be barriers to the development of third party services which may need to be addressed.

These changes raise a number of questions in relation to the future regulatory treatment of DSOs:

- If DSOs are actively managing their networks, and are making decisions about the connection of generation, its despatch, and active load management, then they will be acting in a way which is very similar to the way TSOs act today. In these circumstances will the current unbundling requirements applied to DSOs be adequate, and if not, what further strengthening of the requirements is necessary? Further, assuming that new legislation to achieve further structural unbundling will take some time (or may not happen at all), what further measures could be applied using the existing regulatory framework of NRA powers and network codes? THINK (part of the EUI) undertook is currently undertaking research for the European Commission into active demand response and on the regulation of DSOs and smart distribution systems.
- Increasing levels of data from smart grids and smart meters will potentially have multiple uses. As well as direct use by the DSO it will also be of use to third party service providers. These services may be welcomed by customers but the data may also result in unwelcome (or even criminal) activity. Further, the position of the DSO as the holder of this data potentially may give rise to competition concerns if the DSO has commercial interests which compete with those of other (and potentially unregulated) service providers. Consequently the question arises of how the management and protection of data by DSOs should be regulated, and what the role of energy regulators should be in this regard as distinct from those that fall to other regulatory authorities (such as data protection authorities).
- How the regulatory arrangements for setting network distribution tariffs need to evolve to meet the changing role of DSOs and how regulatory incentive mechanisms might be used to encourage more efficient network use.

In order to analyse the impact of these and other changes on the operation of distribution networks, and on the fitness of the regulatory framework to accommodate these changes, CEER will undertake an in-depth review. During 2014 it will consult on the issues and seek views both on likely developments, and on necessary changes to the regulatory framework as it applies to distribution networks.

C3. *What are the main questions that you consider the proposed CEER review should address with regard to the future role of DSOs and also to ensure that the regulation of distribution networks remains fit for purpose in 2025?*



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