CEER Response to the European Commission's consultation on the Action Plan for digitalising the energy sector

19 January 2022

1 Introduction

This is a CEER response to the European Commission's public consultation on the EU Action Plan for digitalising the energy sector, due for publication in the second quarter of 2022[1]. This plan was earlier announced in the Commission's Communication on 'An EU strategy for Energy System Integration'[2], which was published in July 2020.

The consultation is divided in different sections, CEER will share below its views on two relevant sections.

2 CEER views on section II. Individuals and consumers in the digitalisation of the energy system

In June 2021, CEER published its new 2022-2025 Strategy[3] of which the main goal is to empower consumers for the energy transition. To do so, consumers must be placed at the centre of the energy markets and be able to depend on consumer-centric dynamic regulation that enables them to actively contribute to and benefit from a flexible energy system. Beyond consumers' own potential direct benefit, having active and engaged consumers not only results in some personal direct benefits for them: their participation is also very valuable to the energy system as a whole as they can generate flexibility. CEER believes that regulatory frameworks must consider the different levels of engagement of energy consumers so that no one is left behind in this energy transition, promoting a framework in which the heterogenous nature of consumers is a reality and a challenge to resolve. A wide array of tools can be developed to address the different levels of consumer engagement and digital literacy. Tools may be economic (e.g. explicit monetary rewards/savings) and non-economic (e.g. green behaviour or tools aimed at enhancing consumers' effective understanding of the energy sector).

Digitalisation is important here, as it can guarantee consumers' access to their own consumption data with the use of smart meters and ICT (information and communications technology) infrastructure. Knowing and understanding their own consumption may get consumers to change their consumption behaviour, gain confidence, become more active in their relationship with the energy market and gain trust. Using more digital tools may allow a step-by-step approach to third-party data access to the created historical consumption data, whilst enforcing robust consent management schemes (depending on the national framework, this may or may not be within each regulator's remit).

Those consumers who are already actively engaged (or poised to be), should be able to freely make well-informed decisions in the energy market, based on their most up-to-date consumption data (even near real-time data as much as possible) and should be provided options to share their data with third-parties if deemed useful.

[1] See https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13141-Digitalising-the-energy-sector-EU-action-plan_en
[2] See https://ec.europa.eu/energy/topics/energy-system
[3] CEER 2022-2025 Strategy Empowering Consumers for the Energy Transition, C21-SSG-06-05, 10 June 2021.

Perhaps the most difficult challenge is to reach the "unengaged" consumer with limited understanding of both the energy sector and digitalisation. The combined effects of these two dimensions leads to lack of trust, fear and unclear comprehension of the value of their participation in the new data-driven opportunities. This also may lead to a lack of acceptance and participation in data sharing schemes, thereby hindering the development of new services and, ultimately, the transition itself[4].

So, it also must be acknowledged that a lack of consumer-participation (active or passive) negatively impacts the digital transition. This is because many new business models are based on the aggregation of small-scale or micro-scale, community-level participation and sharing or circular economies. Their uptake depends on reaching critical mass: only when a sufficient number of consumers are on board will there be a solid business case that will be able to provide adequate economic signals to participants. Ultimately, new services should be developed to benefit the consumer, who in turn is the true enabler.

The operational barriers for data-driven services identified in the questionnaire (Question 41a) are all quite relevant to the energy sector[5]. However, in addition to facing financial hurdles such as lack of incentives, new actors may also be faced with several 'cultural' ones including, lack of experience in data sharing and valorisation, and lack of possibilities to access or share data in a safe and reliable manner. This is due to the fact that a market for energy consumption data is a relatively novel concept. To overcome these types of barriers, efforts must be made top-down, especially from the public sector, to create a positive data-sharing environment. Institutional campaigns of digital literacy, both general and specifically oriented to the energy transition, would help in getting the energy consumers gain trust and grow active in the energy market.

The action plan correctly highlights the lack of application of digital solutions within the energy sector. The promotion of best practices is a good start, but given the scale and depth of unused digital solutions in the energy sector already, as well as the dynamics in the IT industry, additional efforts are required. These efforts could come in the form of regulated penalty/incentive schemes within the energy sector (especially concerning the already-regulated parts of the energy industry).

Overall, in this sustainable and digital transition, CEER holds that it is crucial to promote and protect consumers rights as well as pursuing on their real and effective empowerment, as also described in the CEER-BEUC 2030 Vision for Energy Consumers[6].

[4] See the "CEER Report on Innovative Business Models and Consumer Protection Challenges", C20-CRM-DS-03-03, 20 September 2021.

[5] The proposed barriers to ensuring that digital solutions help citizens to engage actively and easily in the energy transition in the questionnaire launched for public consultation are: lack of appropriate digital tools for individuals to understand and use easily; lack of knowledge and awareness from consumers of digital solutions in energy, their use and their benefits; lack of skills in using digital solutions in the energy system; lack of a framework that fully unleashes the potential benefits of digital solutions for end-consumers (e.g. public incentives, clarity on contractual conditions and in billing information or switching procedures); and perceived or real cost of deployment of digital solutions compared to unclear or insufficient benefits.

[6] CEER-BEUC 2030 Vision for Energy Consumers, 13 October 2020.

3 CEER views on section III. Tackling specific facets of digitalisation of the energy system

Enhancing the cybersecurity of the energy system

The action plan highlights the relevance of cybersecurity. Many processes already address cybersecurity today; and the concomitant rules are in continuous need of being updated and expanded (e.g. see latest discussion on the Artificial Intelligence (AI) directive[7]).

CEER believes that the energy system will become increasingly dependent on algorithms and technology: this is induced by a transition to more distributed and volatile energy resources, together with an energy trading market moving closer towards the time of grid operation, as well as the general increase in digitalisation and the introduction of new business cases such as aggregators, virtual power plants and more[8]. With more technology comes more complexity and a larger digital attack surface, which will be harder to defend against threat actors. As technology will cover potentially new devices and components – such as circuit breakers, home and building energy management systems, EV-chargers, PV-systems – as well as a variety of apps and user accounts for energy services, this will increase risk for security of supply, privacy, market functioning and energy-driven services. For example, digitalisation can impede mobility – even if electricity is available – if the related charging application is not working.

As for the solution of these issues, CEER believes that the NIS-2-Directive[9] and, especially, the introduction of a network code on cybersecurity will together contribute a first step in reducing these risks on an EU level, in particular when it comes to possible consequences for cross-border electricity flows. The ACER framework guideline for the network code[10] proposes a system like the GDPR data controller and data processor roles, meaning, in addition to the electricity undertaking, basically all parties (or service providers) involved can be held accountable for weak security.

A system is always as secure as its weakest spot. That specific parts of the European energy system become gateways for cyber threats by falling behind on cybersecurity standards must be prevented. Therefore, a level playing field in cybersecurity by means of common European standards and more coordination/exchange among Members States on cybersecurity (especially) in the energy sector is vital for a robust European protection against cyber threats.

CEER believes the European Commission could also consider establishing a network code for the cybersecurity of gas operations.

One of the greatest barriers for cybersecure energy services is likely the lack of cybersecurity experts. To tackle this, there is a need to educate and offer other information for more students and existing employees in the energy sector with an interest in cybersecurity. These (eventually) additional experts could then take on positions such as security analysts in Security Operation Centres – positions described and required for an EU cyber shield within

[7] https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence

[8] See the "CEER Conclusions Paper on Dynamic Regulation to Enable Digitalisation of the Energy System", C19-DSG-09-03, 10 October 2019.

[9] See https://www.consilium.europa.eu/en/press/press-releases/2021/12/03/strengthening-eu-wide-cybersecurity-and-resilience-council-agrees-its-position/ and https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2021)689333

[10] See https://www.acer.europa.eu/events-and-engagement/news/acer-publishes-its-framework-guideline-establish-network-code

the EU cybersecurity strategy from 2020[11] – and information security management roles within organisations across the energy sector. Both these roles will be increasingly important in the future for digitally secure services.

Apart from creating more and better expert knowledge, also general societal awareness about cybersecurity threats needs to be sharpened and general knowledge of energy consumers on how to act in conformity with cybersecurity needs to be expanded. A European information campaign on cyber threats aimed at general consumers and considering those with less digital literacy would be an appropriate tool for this.

In conclusion, it is of utmost importance that the Action Plan continues to draw attention to the relevance of cybersecurity in the energy sector – governmental bodies require adequate staffing and resources. EU energy institutions should continue to promote the exchange of experience and the development of EU-wide harmonised regulatory actions at the interface between cybersecurity and energy

Developing a European data-sharing infrastructure for new energy services

Though recognising the importance of the other types of energy data presented in Section III, in part 4 of the questionnaire, CEER's focus will be on data generated by grid users and energy consumers. In particular, CEER is interested in how data-driven new activities and services could be developed by not only retail market players but also third parties delegated by the final customer or by the network user, so as to benefit the energy system and its users.

On the basis of recent work carried out and publications on the topic of digitalisation[12], CEER acknowledges the following take-aways:

1. A successful digitalisation process requires all components and actors to work in synergy;
2. Data, in order to be effective, must be made available to all authorised parties, and in a non-discriminatory manner; and
3. There are two different guiding principles for the governance of interoperability: for new services the aim is interoperability by design; for established procedures the objective must be a step-by-step harmonisation.

As for the first point, policy-makers, regulators, the private sector, as well as actors such as system operators, new players, suppliers, consumers and end-users and last but not least the general public must all be aligned in terms of their goals and aims for the digitalisation of the energy sector. The public sector must make efforts to effectively communicate to consumers the possibilities and benefits of digitalisation to make sure consumers from all social and digital backgrounds are on board and trustful of new technology.

[11] See https://digital-strategy.ec.europa.eu/en/library/eus-cybersecurity-strategy-digital-decade

[12] CEER Consultation paper on Dynamic Regulation to Enable Digitalisation of the Energy System, C18-DSG-03-03, 18 March 2019. And CEER Conclusions paper on Dynamic Regulation to Enable Digitalisation of the Energy System, C19-DSG-09-03, 10 October 2019.

Regulatory tools must go along with public support, but also run parallel with developments in the industry. Many aspects of digitalisation – break-through technology, new services etc. – are born from private initiative and more often than not lie outside of the remit of regulators. Where regulators can contribute is through an effective framework set up to ensure that the ultimate outcome of the digitalisation process is beneficial to the energy system as a whole. This could include, for example, tools to recognise proper economic incentives for system operators or actors responsible for data sharing, so that this activity is not viewed as a burden. It also entails removing barriers for new players and aiming to effectively level the playing field. Regulatory frameworks, as recognised in CEER's 3D Strategy for 2019-2021[13], must be flexible in order to address new issues, more reactive and more adaptable. They also must be multifarious to be able to cater to the needs of all consumers and not widen the digital divide.

Regulatory action is just one aspect that needs to be in place for a successful digitalisation process. Global efforts must be made to create a virtuous cycle, enabling digital demand to meet digital supply: this is essential for the uptake of new data-driven services.

However, as the European Commission recognises, the issue is not only creating data but making it available. Copious amounts of collected, but inaccessible, data will do little for improving the efficiency of the power system. How the data is processed and made available for actors to use will be critical to the success of digitalisation. The bottom line is ensuring that there are transparent, reliable and trustworthy data management processes in place to make this data available for consumers and also for authorised third parties. All types of data acknowledged by the Commission in the questionnaire may be useful – especially for the future – if handled in an appropriate way[14]. Data management should be carried out according to, and with respect to, the principles of data privacy and proportionality. A possible way forward could be to promote the use of aggregated and anonymised data: for example, aggregated system data could become open data, when made available without the correlated information concerning geographical location, for data protection and security reasons; the same is true for consumption data.

As stated above, one way to overcome the lack of incentives to share data is to ensure that, on one hand, the party with the role of data manager, responsible for data exchange processes, acts in a non-discriminatory way and, on the other hand, that this activity is not merely perceived as a burden (for example by creating clear incentives, not only economic, and guidelines to share data as part of a public task or reasonable fees as foreseen in Directive 944/2019 to third parties who request access).

Furthermore, data exchange must be carried out in a cost-effective way. This implies avoiding duplication. Or more specifically, in some instances, a single actor (or a single type of actor) may be more appropriate to play the role of data access manager – e.g. making data available to consumers and third parties – rather than multiple types of actors playing the same role (in other words within a national data management model, a Member State (MS) could establish which party is responsible for data management, e.g. all Distribution System Operators (DSOs) or all suppliers or, alternatively, a data hub, but not all three actors playing the same role). This could greatly reduce and streamline investments and create economies of scope for all actors involved, while enabling higher degrees of standardisation. Finally, there is a need for a well-

[13] CEER 3D Strategy for 2019-2012, C18-BM-124-04, 9 January 2019.

[14] The types of data mentioned in the questionnaire launched for public consultation are smart metering, energy-consumption appliances, heating and cooling, energy network operations (e.g. electricity grid), building automation, electric vehicles, other transport and mobility services, financial services, banking, insurance, social media, public administration, meteorology, advertising and marketing, and healthcare.

functioning data sharing mechanism. This means that relevant procedures should be straight forward and transparent and especially, non-discriminatory. These recommendations could also help overcome the barriers relating to uncertain or unbalanced data monetisation models (e.g. due to single or collective market power or dominance of one or more enterprises) and lack of incentives for data managers to provide data.

The Action Plan correctly addresses interoperability of cross-border data exchange projects. It also however, should pursue data standards for new and existing processes (within and across countries), which allow the use of data in combination with "state of the art" and (expected) digital tools and technologies (such as AI). The current data standards used in many processes were developed decades ago and need renovation.

Therefore, as for the last CEER take-away in terms of interoperability: it could be beneficial to distinguish between 1) new and 2) already-established services and procedures. As for the first point, specific efforts could be made at EU-level to encourage new data-driven services to be developed with interoperability and technological neutrality in mind from the get-go: *interoperable by design*. For example, cooperation could aim towards the development of open protocols: for new services this should be a relatively easy task. Interoperability should be facilitated both in terms of communication between devices, actors and components as well as in terms of reach (i.e. conceived for an EU-wide energy market).

Regarding the second point, many established procedures relating to data management that will need to become interoperable, were not conceived with interoperability in mind. Rather, these procedures have developed throughout time on the basis of conditions that are – potentially – particular to each MS (e.g. in terms of market arrangement and design, technology and data management model). Achieving interoperability for these types of services will therefore entail a different course of action. For these cases, it would be non-productive and cost-ineffective to expect a complete harmonisation. Building upon lessons learned from previous experience in the energy sector, one possible way to encourage gradual harmonisation is through a regional cooperation approach. In this case, the region would be determined on the basis of data management models rather than on geographic vicinity. By encouraging MS to collaborate with other MS with similar data management approaches and in a more structured forum, best practice sharing could be more significant (i.e. more applicable to the case at hand). Furthermore, this approach also contemplates national specificities.

To conclude, some of the barriers at a management level identified by the European Commission (questions 41b), in particular the lack of EU-wide platforms or marketplaces to manage data sharing, the proposed regional approach be efficient, by making use of cooperation of national organisations to harmonise evolving data sharing infrastructure, and a mandate of the existing organisations to harmonise a data sharing infrastructure. This approach would also effectively provide a specific forum and, perhaps, a greater incentive for MS to cooperate toward harmonisation. The bottom line is that until the implementing acts on interoperability foreseen by Article 24 of the Electricity Directive 944/2019 are published and come into force, each MS will continue developing and evolving its own individual data management model, making harmonisation goals perhaps more difficult to reach.

4 About CEER

The Council of European Energy Regulators (CEER) is the voice of Europe's national energy regulators. CEER's members and observers comprise 39 national energy regulatory authorities (NRAs) from across Europe.

CEER is legally established as a not-for-profit association under Belgian law, with a small Secretariat based in Brussels to assist the organisation.

CEER supports its NRA members/observers in their responsibilities, sharing experience and developing regulatory capacity and best practices. It does so by facilitating expert working group meetings, hosting workshops and events, supporting the development and publication of regulatory papers, and through an in-house Training Academy. Through CEER, European NRAs cooperate and develop common position papers, advice and forward-thinking recommendations to improve the electricity and gas markets for the benefit of consumers and businesses.

In terms of policy, CEER actively promotes an investment friendly, harmonised regulatory environment and the consistent application of existing EU legislation. A key objective of CEER is to facilitate the creation of a single, competitive, efficient and sustainable Internal Energy Market in Europe that works in the consumer interest.

Specifically, CEER deals with a range of energy regulatory issues including wholesale and retail markets; consumer issues; distribution networks; smart grids; flexibility; sustainability; and international cooperation.

More information is available at www.ceer.eu.

5 Relevant CEER Publications

CEER Report on Innovative Business Models and Consumer Protection Challenges, C20-CRM-DS-03-03, 20 September 2021.

CEER 2022-2025 Strategy Empowering Consumers for the Energy Transition, C21-SSG-06-05, June 2021.

CEER Paper on Cybersecurity in the Clean Energy for All Europeans Package, C20-CS-58-03, June 2020.

CEER Conclusion paper on Dynamic Regulation to Enable Digitalisation of the Energy System, C19-DSG-09-03, October 2019.

Implementing Consumer Rights of the Clean Energy for All Europeans Package, C19-CEM-120-03, August 2019.

Implementing Technology that Benefits Consumers in the Clean Energy for All Europeans Package, 22 July 2019.

Regulatory Aspects of Self-Consumption and Energy Communities, C18-CRM9_DS7-05-03, June 2019.

CEER Report on Smart Technology Development, C17-RMF-101-04, June 2018.

Roadmap to 2025 Well-Functioning Retail Energy Markets, C17-SC-59-04-02, February 2018.