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THE ROLE OF CONSUMERS IN EU ENERGY POLICY

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ABSTRACT

While EU energy policy attaches much importance to consumers, it is still far from realizing an energy system that is able to meet user needs and interests, and offer full freedom of choice in an efficient, low-cost, secure and sustainable manner. To shed more light on these issues and provide input to theory and practice, this article examines the assumptions on which EU policy has been based, using insights from different streams of literature. Policy development seems not to have really taken account of more specific behavioral peculiarities of consumers and (energy) product properties. Moreover, roles and interests of different types of consumers are deemed very important for the shape and functioning of liberalized markets, but appear insufficiently understood and embedded. And while competition, transparency and switching are central components, they are more complex than assumed on the basis of models, and that what emerges when actual behavior is considered.

KEY WORDS

EU, consumers, energy, electricity, liberalization, business, competition, behavior, switching, transparency

INTRODUCTION

With the restructuring of energy markets, the role of consumers as energy ‘users’ is receiving increasing attention. In many European policy documents, be it about the energy market in general or more specific topics such as decentralized energy systems or smart grids, importance is attached to structures and conditions that meet consumer needs, and that provide sufficient information to enable effective communication between energy providers and users so that good decisions can be made. In the context of decentralized energy systems, the notion that consumers can be participants in energy production (thus becoming ‘prosumers’) has come to the fore as well, in scenarios that envisage an active role in managing and balancing energy use (e.g. in micro grids). Consumers are often mentioned separately given that empowerment and choice, as well as protection of, for example, vulnerable groups, are frequently different for individuals (in policy documents also referred to as ‘citizens’) than for companies, the other category of ‘customers’. Consumers are also more diffuse, with an even wider range of peculiarities than companies, and interests diverge.

However, despite large interest in consumers, and emerging insights from surveys concerning the problems they face on the EU energy market, the how and what of involving consumers, preferably in such a way that energy provision is efficient, low-cost, secure and sustainable, able to meet user needs and protect their interests, and offer full freedom of choice, remains largely unclear. This seems partly due to the fact that more specific behavioral peculiarities of consumers and (energy) product properties have been left mostly unexplored and have not really been taken into account in policy development. This also applies to more specific roles and interests of different types of consumers and companies that have a large influence on the shape and functioning of liberalized markets. Moreover, while notions of competition, transparency and switching are central components, they appear to be more complex than assumed on the basis of models, which comes to the fore

when actors' actual behavior on specific markets is considered as well.

This article discusses these aspects in more detail, based on concepts and insights from research laid down in literature on inter alia business and consumer behavior that seem helpful to shed more light on consumers and energy. It suggests areas that require empirical investigation in order to facilitate an informed decision-making on the regulation and structuring of sustainable energy markets, particularly with regard to consumers – deemed highly important, but their roles and behaviors appear insufficiently understood and embedded so far. The broader context of policy-making for complex ('wicked') problems, of which energy seems a case in point, will be considered as well. First, however, the EU energy policy framework will be briefly sketched, with specific attention for the consumer perspective. The article refers to the EU policy setting in particular, but its implications may have broader relevance, also because the body of knowledge to which it relates is international in nature.

THE EU ENERGY POLICY CONTEXT

The general situation appears to be outlined properly in a 'stock taking document' by the European Commission (EC), which states that "The overall goal of European energy policy remains to ensure safe, secure, sustainable and affordable energy for all, business and consumers alike" [1]. "A well functioning internal market (...) will serve all consumers, ensure energy security and allow the transition towards a low-carbon electricity system". The document also notes that, while the 2007 Energy Action Plan has resulted in several measures (including the third internal energy package) that provide good foundations, implementation is lagging and characterized as "overall poor". As a result, the energy market does not work as it should be, and the need for improvement is emphasized [2]: "Well functioning markets, accompanied by a stable regulatory framework, are crucial to provide producers, suppliers

and distributors with the necessary transparency and predictability to base their investment decisions on.” “Well functioning retail and wholesale markets, accompanied by smart regulation, are crucial to ensure that citizens and businesses in Europe can exercise choice with the appropriate tools at their disposal and that competition between suppliers presses prices down and quality of service up.” It is stated as well that “public awareness-raising and acceptance have perhaps been underestimated for their impact on delivering energy policy”, thus pointing at the importance of public perceptions and adequate information provision [3].

Evidence of the problem analysis, which shows that the energy market is not functioning well for consumers, has been provided inter alia by the EC itself in several studies, including so-called consumer scoreboards [4-7]. Relevant issues that emerge from these publications include prevailing price increases (rather than decreases), with energy taking a relatively high part of consumer spending, and bad scores in terms of comparability of offers and ease of switching between suppliers (resulting in very low switching percentages). Moreover, those with low electricity usage pay higher per unit prices and there is limited availability of green electricity tariffs with sometimes also higher prices in some countries. Frequent complaints are also heard about the readability of bills and the fact that consumers are confronted with increasingly complex information which makes it more difficult for them to choose between options if available at all.

In a comparison of 50 consumer markets, electricity was (like gas) amongst the markets where consumers experienced most difficulty to compare products and services. While there were clear differences between countries, market performance (for which low scores are seen as “an indication of possible malfunctioning of the specific market from a consumer point of view”) of electricity and gas was relatively low even in the most open energy markets such as the Netherlands and the UK, although they scored better than other countries on average [8]. It is the case that EU energy policy has been adopted by all

members states which thus need to move in the same direction, even those countries where consumers have currently very limited or no choice. Overall, the EC concluded that while “opportunities for better deals are widely available”, “liberalization has not succeeded in turning consumers into active participants”; “It is therefore vital to put in place the appropriate mechanisms to make participation as easy as possible, to stimulate competition, and to enable consumers to take more sustainable consumption decisions” [9].

Barriers to the proper functioning of the energy market for consumers have been a source of ongoing concern, and have resulted in policies to increase consumer (energy) rights, and their “participation in energy markets through transparency and clarity of information and comparability” to ensure “proper information and better choice” [10]. To this end, the EC also created a Citizens’ Energy Forum in 2008 and continues to carry out studies on the functioning of markets. Nevertheless, while helping to shed more light on the problem as such and create better conditions for consumer protection overall, these steps do not necessarily bring a better functioning market accompanied with optimal exertion of consumer choice nearer given that insights on more specific behavioral peculiarities, particularly in relation to energy as a product, are lacking. Only if we know more about what drives consumers’ buying/contracting behavior with regard to energy – and likewise for companies concerning their investment and purchasing decisions on such markets – can more specific measures be taken to influence the dynamics at play in the desired direction. Still, it should be noted that the issues at hand are complex, and energy seems to be a typical example of a wicked problem as distinguished in public policy and planning in particular.

ENERGY AS A WICKED PROBLEM

In recent years, interest in so-called wicked problems has revived, on the part of practitioners as well as academics, mostly in public policy but occasionally also in management and

environmental studies, and economics [11-16]. The notion is fairly old though, launched initially in 1973 in an article on the dilemmas of planning [17-18]. It should be noted that ‘wicked’ is seen as the opposite of ‘tame’, not in the connotation of ‘evil’ (it has also been characterized as intractable respectively tractable problems). A wicked problem is difficult to solve, not for technical reasons (as a tame problem can be complex from that perspective as well), but because of social complexities, including interdependencies, multi-causalities, divergent perceptions, involving a multitude of stakeholders, and an evolution in several of these aspects over time as well, with sometimes unforeseen consequences of measures taken. It is the combination of complexity, uncertainty and divergence that characterizes wicked problems overall, with as additional features that they cross (organizational) boundaries (e.g. different government agencies, frequently involving local, national, regional and/or international levels) and that their ‘solution’ usually requires behavioral change, on the part of citizens (individually or as a group) and other stakeholders.

As the use of the ‘citizen’ concept reveals, wicked problems are frequently approached from a public policy perspective. Generally speaking, a discussion about policies’ relative ‘failure’ or insufficient achievement is not uncommon, but, as Brian Head notes, “conventional explanations usually tend to focus on weaknesses and deficiencies in the public sector’s *implementation and delivery* mechanisms” [19]. This is also what the EC’s stock taking document on its energy policy, discussed in the previous section, emphasized. However, while these factors are not deemed irrelevant, the wicked-problem approach adds an explicit focus “on the understandings that have shaped problem-identification and thus the frames for generating problem-solutions”. Given the characteristics of wicked problems discussed in the preceding paragraph, “failures and unintended outcomes are likely to be endemic in many complex areas of policy and program delivery”. With regard to the behavioral change that is needed, for example, traditional levers (such as laws, taxes, fines,

subsidies) can be part of the solution but they are seen as insufficient to really realize a shift.

In view of the public-policy focus, publications on wicked problems often pay considerable attention to strategies to be taken by government (agencies), including working across organizational boundaries, and means of improving communication and dialogue with citizens, often via participation and collaborative approaches. While useful, the case of energy – which exhibits many peculiarities of a wicked problem as described above given its multiple dimensions, stakeholders, views and objectives – seems to require additional steps in between. First, the liberalization of markets implies that citizens are also (or even predominantly) approached and treated as consumers, which means that insights on consumer behavior specific to energy need to be taken into account. However, as we will indicate below, empirical research on relevant energy (market) dimensions has been very limited so far; this even applies to a subject that has received much more public attention in recent years, climate change [20]. Specific to energy is that people can have various roles such as consumers, as participants in energy production, perhaps even more directly involved in production and trading, and in setting up and (co-)investing in decentralized systems; this diversity explains why the term ‘prosumers’ is sometimes used.

Second, not only government and citizens (or consumers) are relevant, but companies are also heavily involved as they are the ones supposed to make investments, and produce, distribute and supply (while also using) energy. Companies thus have different roles and, like consumers, a variety of peculiarities that deserve further investigation; subsequent sections will discuss this, focusing on consumers in particular. Research on companies in relation to climate and energy issues has already yielded some insight into factors that influence their behavior [21-24]. These encompass external, issue-related aspects (including government policies and regulation in various locations, and stakeholder pressures and perceptions), industry-specific factors (such as industry structure, growth and concentration levels), and

company-specific factors (e.g. corporate culture and managerial perceptions; size and strategy; degree of internationalization and (de)centralization; ownership; economic situation and market positioning; and capacity to anticipate risk, spread vulnerabilities and manage stakeholders). Corporate responses to climate policy have also been studied, for example companies' political activities including outright lobbying as well as their strategic behavior in relation to emissions trading. Still, more insight into the specific dynamics in the context of energy markets and EU energy policy is necessary.

This also applies to peculiarities of consumers in relation to energy as a product, in view of the central role that they have been assigned in policy objectives. Only if we know more about what drives consumers' buying behavior with regard to energy – and likewise for companies concerning their investment and purchasing decisions on such markets – can more specific measures be taken to influence the dynamics at play in the desired direction. The next section will first discuss some insights from consumer studies in particular to help shed more light on aspects to consider in addressing their behavioral change as required for this wicked problem, to subsequently set the stage for research avenues that may be pursued and that seem vital for future policymaking as well.

ENERGY AND CONSUMERS

While there is a large body of knowledge on actual consumer behavior, rooted in the marketing and psychology literatures, the degree to which this has been applied to energy in general seems to be relatively limited. There are empirical studies on consumers in relation to particularly domestic energy efficiency, which have revealed various factors that constrain its realization, including insufficient information, and inability to use or process the guidelines provided, leading to difficulties in changing behavior [25-26]. Moreover, Faiers et al. discussed theories related to consumer behavior, emphasizing the need to take this into

account in further research [27]. Unfortunately, however, while referring to the objectives to reduce emissions and increase energy efficiency in the introduction, their overview remained rather generic, without a more specific application to energy and its product peculiarities and how this may impinge on consumers.

Energy is a very specific product for which the interaction between cognition and affect, as traditionally distinguished in consumer decision making, works differently in that emotions may not play such a large role as in other situations, with rational factors predominating [28-29]. Generally speaking, energy seems to be a ‘think’ rather than a ‘feel’ product, and bought for reasons of ‘maintenance’ (i.e. basic-need related) [30-31]. Involvement in the sense of personal relevance is likely to be lower than for many other products, with a concomitant limited incentive to be very active in decision making. Energy can be characterized as being in the ‘low involvement, low knowledge’ category, where consumers’ basic motivation is to ‘choose an adequate product at minimum effort’, focusing on obtaining the desired functional end result, with a ‘consideration set’ that consists of very few alternatives and uses only a small number of attributes to make a choice [32]. As a ‘privately consumed necessity’, a homogeneous good with little product differentiation, aspects related to reference group influence and the use of cues/stimuli (such as brand name, color) in purchasing decisions may not be that relevant.

At the same time, however, marketing research has also paid attention to intangibility, which is a peculiarity of products (goods and/or services) that, like energy, cannot be smelled, felt, heard, tasted or seen. It has explored ways to overcome the limitations of intangibility and thus increase consumer involvement and/or emotional feelings for a product, for example by adding more tangible cues in terms of attributes or benefits [33-34]. Some degree of differentiation can be added if suppliers offer more variety in types of contracts (fixed terms and tariffs or undetermined/variable) and features such as product bundling or

additional services. Important as well in view of the sustainability objectives included in energy/climate policy, is that variety can be offered in energy categories (grey and green, with the latter perhaps further subdivided as to sources used for generation) or participation (e.g. an active role of consumers/prosumers as individuals or in small collectives). In the case of renewable energy, for example, even though consumer knowledge was low, environmental concern was found to be high, with affect hence playing a larger role than cognition [35].

Price may play a role in this respect, although in a slightly different way than often assumed as the usual price-quality trade-off seems less applicable (i.e. that a higher price signals better quality) [36]. If prices are at such a level that they are perceived to be high, consumer involvement may increase – but this is the opposite of what market liberalization aims at and therefore not a likely route to explore. For certain consumers, types of differentiation as mentioned above may increase involvement and thus lead to a different dynamic in terms of their behavior, and, relevant for policy-makers, different/additional opportunities to influence or bring about behavioral change on the part of consumers and other stakeholders, such as energy companies.

This is a novel area, but one that deserves further detailed research, taking a variety of such (possible) product attributes as well as consumer traits into account. This is something to be investigated particularly for actual consumers in combination with specific market and supplier peculiarities in order to move beyond abstract models and reckon with the complexities that are unique but also crucial. It is a confluence of policy areas and objectives, and stakeholders with their different roles and interests – difficult to disentangle but that is the reality of wicked problems. There are some streams of literature that may be useful as input, not only those from marketing and psychology, but also economics, and, as far as sustainability aspects are specifically concerned, from studies on environmental behavior. Some of the dimensions involved and possible areas for further research will be discussed

next.

CHALLENGING UNDERLYING ASSUMPTIONS: SOME RESEARCH AVENUES

In terms of the interaction between different actors, particularly consumers, regulators and energy companies deserve attention, considering the various activities from generation to supply and the natural-monopoly character of transmission and distribution [37]. The liberalization processes, while aiming to further choice, lower prices and raise quality for consumers, have often taken a supply-side approach with consumers not being able to profit. As Cseres put it, “empirical studies in recently liberalized markets showed high degree of consumer inertia and indicated that many consumers despite the optimal balance between search, switching costs and expected gains are not taking advantage of beneficial switching and, in some cases, are switching to higher-cost suppliers” [38]. Market power on the part of (frequently) large companies is considerably higher, as consumers are very diffused. And while steps have been taken to combat outright corporate abuse and protect consumers, there are several more subtle ways in which companies can have substantial influence or a better bargaining position than individuals [39]. Obtaining more insights into this behavior, comparable to earlier studies on climate change as referenced above, seems helpful.

The tendency toward less government intervention, as implied by liberalized markets, may negatively affect consumer trust in their interactions with companies. A Eurobarometer study showed that EU citizens had considerably less trust in information originating from electricity, gas and other energy companies than from other sources, such as regional/local government, the EU, and particularly consumer and environmental protection organizations [40]. A recent paper that examined alternative energy in the UK focusing on inter-group tensions between consumers, non-governmental organizations, energy companies and regulators, showed rational behavior that led to a ‘lock-in’ which impeded the collaboration

necessary to further implementation [41]. There was low consumer trust in ‘conventional-energy’ institutions coupled with high trust in non-governmental organizations that had an interest in sustaining some degree of antagonism with both companies and regulators.

While it may be case-specific, and related to the dynamics of moving from conventional to alternative energy, trust is, like attitude, an important measure to assess consumers’ evaluative responses. They can be related to behavioral outcomes, which include switching and buying behavior, and word of mouth (with the latter referring to consumer’s willingness to recommend a company to others) [42]. However, awareness is a crucial precondition for these responses to occur; if that is low (which happens often, for example, in the case of social responsibility initiatives), then it is difficult to reach consumers on such topics. These aspects require further investigation, as they are highly relevant in a consumer-company setting, in energy markets as well, taking the peculiarities of energy as a product, as mentioned in the previous section, into account.

In relation to energy, particularly switching behavior has received attention, and is often seen as a main criterion for progress in liberalization as far as consumers are concerned [43-44]. While understandable, a high degree of switching does not necessarily mean real effective competition, with the theoretical possibility that the absence of switching hints at ‘perfect competition’. It is also the case that companies actively try to retain consumers via customer relationship management tools such as service quality and satisfaction; brand credibility can play a role here as well [45]. If retention is successful as a result (meaning lower or no switching), it can be debated whether that demonstrates an effectively liberalized (competitive) market or not; switching nevertheless may not be the best measure for progress, as there are qualifications to it.

In addition, in the UK, several “consumer switching decision errors” were found: “consumers who do not switch despite substantial available savings, consumers who switch

from a cheaper to a more expensive supplier and consumers who switch to a cheaper, but not the cheapest available supplier” [46]. Findings suggest that it may be easier for consumers if the number of suppliers is smaller, and that too much and/or confusing information, more than consumers can digest, can result in irrational choices, due to bounded rationality, and to ‘confusopoly’ [47], a market that consequently does not function well. In the marketing literature, the concept of ‘consumer confusion proneness’ has been introduced recently, with a concomitant scale that distinguishes different dimensions, including (perceived) similarity of products, information overload and ambiguity in relation to misleading or conflicting claims [48]. These factors had an effect on consumers’ trust, word of mouth behavior and satisfaction. This adds to switching costs that consumers incur, just like suppliers.

These aspects appear not to have been considered so much in the policy debate, while they may impinge considerably on consumers’ behavior, as has shown to be the case in studies on domestic energy-efficiency studies mentioned before. The EC has strongly focused on policies to increase consumer (energy) rights and “participation in energy markets through transparency and clarity of information and comparability” to ensure “proper information and better choice” [49]. As a recent EC document that discussed the outcomes of the 2010 retail energy markets study put it, “consumers generally do not feel well-informed enough about the choices available and this reduces their ability to make informed, rational and empowered decisions” [50]. It also noted that price comparison tools and guidelines of good practice should be developed to help consumers in this regard.

Despite the limitations suggested by behavioral approaches, neo-classical economics considers the market failure problem from a more rational perspective, with specific attention for information failure; this also comes to the fore in consecutive EC policy documents. This means that ‘solutions’ can be found in more and better (preferably mandatory) disclosure (tools), with signals of quality, and third-party assurance as to the reliability of the

information. These aspects have been studied in relation to energy and electricity market (de)regulation as well, although most often in the US context [51-52]. That credibility increases in case of third-party support has been found for environmental labels for green products more generally. However, sensitivity to environmental issues appears to play a role, i.e. those consumers with a strong interest were much more affected by information on labels than those without such an interest; this applies in general to environmental information which seems to reach those that are involved but others not [53]. This is relevant input for research on energy, which as such is a low-involvement product, as long as type of contracts and additional features mentioned before do not change that to some extent. How this works is something we do not know yet, which applies more generally as to the degree to which rational decision-making would prevail or whether emotions may start to play a role. Studies on attitude-action or values-behavior gaps do show that it is not just information that counts, but that more factors play a role [54-55].

As far as environmental ('green') behavior is concerned, more generally, not specific for consumers, several motivational factors have been suggested, grouped in three so-called personal 'goal frames': gain goals, where cost-benefit considerations prevail; hedonic goals, with affect ('feel good') as predominant; and normative, in which values, norms and moral concerns are most important [56-57]. In addition, though, habitual behavior and contextual factors should also be considered. Given the complexity of energy markets, the involvement of multiple stakeholders, including the interaction between companies, regulators and consumers, the interrelationship between contextual variables in specific countries/regions and the individual, motivational (goal-frame related) aspects deserve further attention. Only if we know which factors seem most important can policies be designed that can focus on antecedents or consequences of behavior, and aim to change motivations, perceptions, cognitions, norms or the circumstances that shape behavioral choices.

DISCUSSION AND CONCLUSIONS

While there are insights from various streams of literature about consumers, their behavior specific to the complex of energy issues outlined in this article has been left mostly unexplored and represents a novel area of research. More evidence and insight can provide input for policy-makers in the quest for coherent ‘smart regulation’ that reckons with a multitude of objectives and stakeholders, different degrees of market power and divergent interests. This article examined peculiarities and assumptions of policy development on this ‘wicked’ problem and to what extent these relate to research insights on business and consumer behavior. The poor state of the implementation of EU energy policy may have to do with a too limited initial problem analysis and recognition of the complexities of consumer behavior, with assumed notions regarding price, competition, transparency and switching behavior that are not sufficiently tested in empirical studies. Involvement and awareness in relation to energy should be considered, and that also applies to trust, confusion proneness and the degree to which rational, emotional and normative considerations play a role in consumer decision-making. These issues were dealt with in this article, with different perspectives being added and discussed, also to help move the agenda forward by pointing at areas for further investigation.

EU energy policy appears to be a case in which regulators have assessed how private actors must operate by setting criteria for liberalized markets’ performance in line with public actors’ assumptions, while apparently neglecting some of the fundamentals of private behaviors in such contexts. Regulators appear to have redefined perspectives on how markets and actors should function, to subsequently conclude that this is not optimal and that indicators are not sufficiently met. What has remained underexposed in the process as well is that markets differ, inter alia according to the products/services involved. This means that the

extent to which liberalization may be ‘successful’ on the standards set may diverge depending, for example, on level of customer involvement, maintenance/basic need fulfillment and tangibility – aspects that do shape the behavior of private actors on these markets though.

To address a wicked problem and its many dimensions, and promote behavioral change on the part of consumers, companies and other stakeholders, a good analysis based on empirical evidence seems a necessary precursor to more targeted policies. This appears all the more essential as energy is a very specific product in a peculiar market (de)regulation context to which standard assumptions and insights may not be so easily applicable. While the current focus on insufficient implementation and delivery mechanisms is understandable, it is suggested to supplement this with a broader approach to facilitate more effective steps based on an interdisciplinary understanding of the dynamics at play.

FUTURE PERSPECTIVE

Assuming knowledge is developed as suggested in this article, policy objectives may be realized much better if based on a more thorough insight into consumer behavior and drivers. It will explicitly consider the various roles that consumers have: as energy consumers, as participants in energy production, or directly involved in production and trading, in setting up and (co-)investing in decentralized systems. Laws and policies will be designed in such a way that consumers can easily become active players on the energy market, and are empowered to countervail companies, which normally have much more market power and are in a better position. More insight into the actual behavior of companies on the energy market, and their interaction with consumers, will serve as input for specific policies that facilitate a transition to a lower-carbon economy. Policies are fine-tuned considering the various activities of companies, as they invest, innovate, as well as produce, distribute and supply (while also

using) energy. This will enable a faster transition away from business models that were apt for the old, established order that protected vested interests toward new ways of optimizing economic performance and market positions, often with new corporate or citizen entrants or the combination of the two. Key components of such sustainable energy markets include larger competition, lower prices, decentralized energy generation and more powerful consumers (prosumers).

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