

# **EUROPEAN BARRIERS IN RETAIL ENERGY MARKETS**



## **GREAT BRITAIN Country Handbook**













### EUROPEAN BARRIERS IN RETAIL ENERGY MARKETS PROJECT: Great Britain Country Handbook

VaasaETT REKK MRC The Advisory House

#### Contact:

Philip Lewis, VaasaETT, <a href="mailto:philip:lewis@vaasaett.com">philip.lewis@vaasaett.com</a>
Balazs Felsmann, REKK, <a href="mailto:balazs.felsmann@rekk.hu">balazs.felsmann@rekk.hu</a>
Chema Zabala, MRC, <a href="mailto:jmlopez@mrc-consultants.com">jmlopez@mrc-consultants.com</a>
Florian Hirschbichler, The Advisory House, <a href="mailto:florian.hirschbichler@advisoryhouse.com">florian.hirschbichler@advisoryhouse.com</a>

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Please note that this and the other country handbooks form just part of the deliverables of the "European Barriers in Retail Energy Markets" project. For more detail on methodology, Europe-wide results and the Barriers Index, please refer to the following associated reports: "Final Report of the European Barriers in Retail Energy Markets Project"; "Report on the European Retail Energy Market Barriers Index"

## **SUMMARY**

## **Project Outline**

The following project outline describes the overall European Barriers in Retail Energy Markets Project. It relates to all the countries and markets which are the focus of the project.

#### The Context

European retail energy market liberalization is now well into its third decade in the most mature markets. Customers of electricity and gas are now free to choose their electricity and gas suppliers in nearly all markets across the EU and in a number of other European markets. At the same time, the European Commission and national European regulators have created a basis for non-discriminatory market access for energy suppliers through a series of regulations and directives. In theory at least, the European retail energy market is a place where new suppliers and providers of retail services can enter the market and compete relatively freely and on equal terms for customers in the market; a place where formerly incumbent electricity suppliers can compete for gas customers and where gas suppliers can compete for electricity customers; a place where a supplier from one region or jurisdiction can compete in another, without facing unreasonable or excessive barriers; a place where a capacity aggregator or other innovative business model can compete to provide its services to retail energy customers.

#### Objective

The European Barriers in Retail Energy Markets project was established to research the extent to which the theory is the case in practice; the extent to which energy suppliers across Europe face a variety of barriers to enter and compete in the market; to identify which barriers exist and to provide some suggested solutions to those barriers. The project thereby aims to support the European Commission and Member States in developing policy and implementing actions to reduce barriers.

This project has also designed and calculated a performance index that ranks different countries according to how easy it is to do business in the retail energy segment by combining a selection of measurements into a single score. The project is on the other hand, not intended as a measure or indicator of the 'competitiveness' of any given market, and it does not in this respect judge the effectiveness of regulatory authorities or governments, many of which have put great effort into developing their markets.

It is also important to note that all the markets included in this research are continuously evolving. Changes are being planned and improvements (and in some cases additional barriers) are possible as a result. While this project highlights and considers known future changes, it cannot make assumptions as to the effectiveness and outcomes of those changes. This project is therefore weighted in the present, based on the actual context in the market, whilst accepting that the present context may change, in some cases imminently.

### **Competitor Perspective**

What sets this project apart from previous Europe-wide projects looking at the issue of barriers is above-all that it primarily takes the perspective of the competitor rather than any objective view of regulators, economists or academics. This is an important distinction since it requires an acceptance that even if the existence of specific barriers may not seem logical or rational, and even if they are not permitted or legal, even if they were supposed to have been eradicated, those barriers are significant at least in the experience or expectations of competitors in the market.

Notwithstanding this however, the project does not simply accept whatever competitors claim. On the contrary, the researchers have gone to great lengths to ensure that claims are challenged and justified. Cooperation with regulatory authorities to understand the regulatory context of claims, along with survey and interview feedback from competitors (including incumbent suppliers) with alternative perspectives or points of view, have also been considered to ascertain a balanced evaluation of the barriers in any given market. This approach may therefore be of value to policy makers, and complementary to other studies addressing market outcomes.

In some cases, claims by respondents have been made which cannot be corroborated. For instance, there have been claims by many respondents across Europe about integrated utility behaviours that represent barriers to independent suppliers in the markets. Barriers apparently resulting from a lack full ownership unbundling. Such behaviours may well be regulated against, may even be considered illegal, and authorities may have powers to investigate them - and maybe do so. They are impossible to prove given the mandate and resources of the researchers of this project, yet they are widely reported by respondents and broadly documented in other researches. Such barriers may be considered allegations by the respondents, but where they appear to merit further consideration they have been raised since their potential impact on competition is substantial.

#### Scope & Scale of Research

The project focuses on electricity and (in most cases) gas markets in 30 European countries, namely the EU27 states plus Great Britain<sup>1</sup>, Norway and Switzerland. It was conducted over the course of more than a year with the cooperation and assistance of nearly all of the relevant national regulatory authorities (the report does not however represent their views and has not been ratified by them), around 150 suppliers and many other stakeholder organizations, across all focus markets. Great Britain was included in the project and cooperation was received from numerous suppliers, the regulator (OFGEM) and other stakeholders. Switzerland and Malta were included to a lesser extent since they are not yet open markets for household customers.

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<sup>&</sup>lt;sup>1</sup> The Northern Ireland market is touched on only briefly in this report, but not analysed and its barriers are not reported on. References to the UK (Great Britain and Northern Ireland) are made when comparing barriers accross Europe, but all references to barriers in the UK concern only Great Britain. Unless otherwise stated content in this report refers to Great Britain.



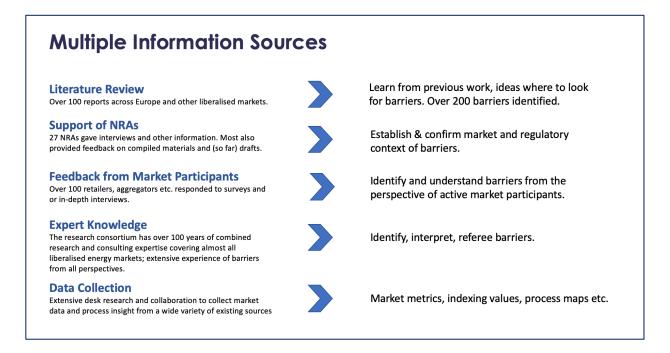
The project focuses on retail (supply), including also demand aggregation services, other additional offerings and new model retail, especially relating to the household segment customers (in some markets households and smaller SMEs may be difficult to distinguish). The project additionally concentrates primarily on barriers that are specific to the energy (electricity and gas) retail market - as opposed to barriers that are true of most markets, such as basic business costs and risk - and it gives priority to barriers for which a potential solution might be sought, as opposed to barriers which are a fact of any energy market and which could not realistically be overcome (such as the barriers relating to the core price volatility of energy as a commodity). The project does not aim to list every possible barrier in the market, however small.

### Sources of Information

Many sources of information were used as part of the project. These included an extensive literature review of over 100 public reports, to assist in the targeting of survey questions; interviews with national regulatory authorities (NRAs) to understand the regulatory context in markets; feedback from market participants (suppliers and other competitors) and extensive data gathering for the purpose of collecting market metrics, market processes and

index values. For the latter the task of identifying sources that could deliver comparable and reliable index values was a key challenge of the researchers. The expert knowledge of the project consortium (which has extensive experience from the markets and issues concerned was also used to add judgement to the process. Specifically, the core project team comprised over a dozen researchers and experts from nine European countries, including international experts who have analysed Europe's energy markets since even before they liberalized.

Figure 1 - Multiple Information Sources



### Surveys & Interviews

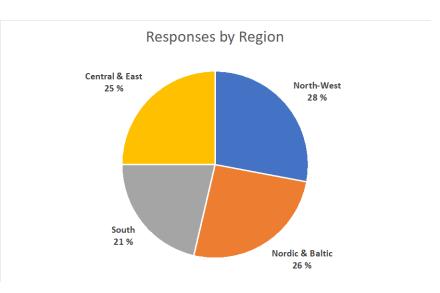
The primary research mediums used in the project were an extensive questionnaire and in-depth interviews. The purpose of the questionnaire, which contained separate questions depending on the type of respondent, was to provide a comprehensive and structured identification, weighting and magnitude of the barriers as experienced and perceived by suppliers and other competitors. Questions were categorized and broken down according to what was known through the body of existing literature and the experience of the project consortium, ensuring that all known barriers were addressed by the questionnaire. The questionnaire additionally facilitated the identification of barriers that hitherto had not been revealed by the literature review, or which were country specific. Interviews provided additional support and clarification to the findings from the questionnaire as well as allowing respondents to focus on top-of-mind barriers and the interviewers to dig deeper into key and / or unclear issues. While some respondents provided both questionnaire and interview responses, many provided one or the other.

The survey was publicly and widely promoted (via web sites, social media and by other direct means) to potential respondents from 17<sup>th</sup> June until late October 2019 but remained open until late February 2020 so that stakeholders contacted during Country Handbook development had the chance to respond. The dissemination of information on the project was further facilitated by a widely promoted public website through which over 300 people subscribed.

### The Competitor Sample

143 questionnaire and interview responses were received representing 120 unique market-specific responses covering 28 focus markets. 71% of responses were through questionnaires versus 29% through interviews. Malta (a closed market for household customers) and Slovakia were the only markets from which responses were not received, although three additional markets received a level of response which was considered insufficient on which to conclude barriers based solely or primarily on respondent feedback. In these markets, namely Bulgaria, Cyprus, Czech Republic, the project consortium applied their expert insight and additional desk research to support the analysis of the markets. Switzerland, also a closed market for household customers, also naturally received insufficient response. The responses from 24 markets were therefore considered sufficient for the purpose of interpreting the barriers within those markets primarily based on respondent feedback. It is important to note that the response rate in no way impacted the index, which is not dependent on responses.

Analysis of the sample shows that responses were spread evenly among the regions. 66% of responses were non-incumbent competitors compared with 34% which were former incumbents in the markets concerned. In many cases the former incumbents are only former incumbents in one region within the overall country they are in. A large proportion of the former incumbents are furthermore active across multiple



regions and countries, and therefore are both incumbents and non-incumbents, defenders and challengers. Among the non-incumbent players were a mix of more established competitors and more recent new entrants, along with more traditional supplies, new model suppliers and aggregators.

More information on the nature of the sample and responses can be found in the Final Report for this project.

### Confidentiality

The importance of data protection and anonymity within the project cannot be stressed enough. Most respondents provided information on condition of anonymity. It was promised by default to questionnaire respondents and was in most cases explicitly requested by interviewees. Many participants additionally stated that they were nervous to respond at all since they were active in a market where there were only a handful of suppliers (or at least independent suppliers) which they felt meant that their responses could easily identify them. This risk was perceived as even greater in cases where the participant had made public statements on issues that would be contained in the research (the risk of readers putting two and two together was a concern). In some cases, respondents stated that they even feared a backlash from other stakeholders if their identity was revealed, or (for

e.g. a brand-new entrant in a market with one brand-new entrant) stated that if we revealed that they were a new entrant the market authority would instantly know who they were and that they were afraid it might inhibit their entry process.

Under such circumstances, it was decided that not only would all responses be anonymous, but also that the type of respondents would not be revealed in connection with given responses on a country level. It has been claimed by a handful of market authorities that this policy reduces the value of the research. The researchers feel that it in fact increases the value of the research since it has allowed respondents to provide information in an uninhibited fashion in a European market where, by and large, independent suppliers - and especially independent new entrant suppliers - are few and far between.

#### **Deliverables**

The project has three key deliverables:

- 28 country specific handbooks detailing the barriers identified in each country together with suggestions for possible solutions. While most of the handbooks cover electricity and gas markets, some only cover electricity or cover gas to a lesser extent due to the absence or limited presence of gas. Additionally, two countries, Malta and Switzerland do not have country reports due to their closed nature with respect to household customers.
- A robust, peer-reviewed barriers index of how easy it is to do business in each country. The European Retail Energy Market Barriers Index, contained in the separate European Retail Energy Market Barriers Index Report, allows the objective comparison of market barriers across the focus markets. The report also includes a ranking of the focus markets.
- An overall Final Report containing a full project description and bringing together the findings and common learnings from all countries.



### The Barrier Index and Ranking

The purpose of the 'European Retail Energy Market Barriers Index' is to enable a degree of comparability between the barriers' context in each of the markets. It is based on metrics that can be collected for all markets, metrics for which available data currently exists. As such it provides a simple, best-available proxy benchmark measure for each of the categories of barriers identified by the project, for each market, and thereby ranks each market. It is intended to be used as an evolving periodical index and ranking on a European and national level.

The index and ranking should, however, presently be considered more of an approach and an indication than an absolute or definitive ranking. It represents the current state of market monitoring data in Europe and will evolve over time as data availability improves. Over time we would expect and recommend that governments and NRAs advance new metric collection to better enable future editions of the index and ranking.

A full description of the Index, its methodology and detailed findings and the ranking can be found in the separate Index report for this project. Within each country handbook the index values for that given country is presented.

## Key barriers in the Great Britain market

The following figure highlights the key barriers identified in the market in Great Britain.

Importance of ke	Key barriers specific to Great Britain			
Advantage of vertically integrated market players	Wide-reaching price regulation	Low margin of regulated offer	Small market or margins	Hard threshold for supplier obligations increases costs to serve suddenly at 150,000 customers
Strategic behaviour of the incumbent or other market players	Uncertainty around current regulatory environment its development	Uncertainty around regulatory future for digitalisation and new technology	Low liquidity on wholesale market	Supplier responsible for metering hardware and energy efficiency services
Capacity and ancillary services markets discriminate against new/small players	Low customer awareness or interest	Customers do not trust new suppliers or technology	Poor or no access to operations-critical data	Heavy administrative process for entry (registration/licensing)
Missing market value of novel products	Insufficient price signals for end-users	Lack of data for innovative product development	Lack of data hub	Insufficiently regulated market exit

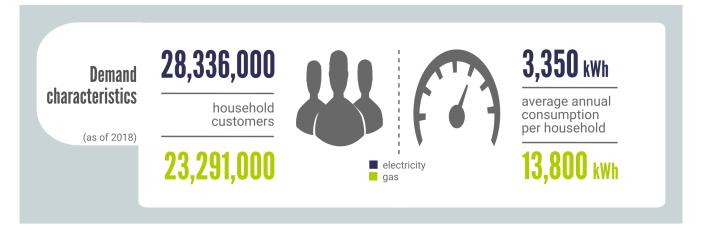
LEGEND					
	Has not been raised, indicated or identified as a barrier in this country				
	Has been raised or indicated as an issue in this country  May include issues that still are present in the country or are experienced by suppliers even though regulation to address the issue has been enacted by the regulator and effects still awaited; reporting a lag between the regulatory framework structure and its awaited effects  May include issues where suppliers suffer the effects despite the country being relatively advanced on this topic compared with other EU countries, pilot projects being in place or institutions working to overcome the problem.				
	Has been identified as an issue in this country and is supported by facts, data or substantial respondent evidence in light of limited initiatives deployed by institutions to control or overcome the issue.				

## **Key recommendations**

The British market is active and competitive, with a pro-active regulator that seeks to welcome new players and novel business models. However, despite being one of Europe's oldest liberalized markets and most fertile for new entrants, the project identified several issues that present significant barriers to the establishment and growth of new entrants and novel players.

- Data quality. Standard meter data is error-prone and must be accessed through DSOs due to there not being a centralized platform. Smart meters are being rolled out but the process has been substantially delayed and chaotic. A centralized data hub, in planning but likely to take many years until launch, would substantially facilitate how market players access and use data.
- Difficult entry process. Despite good information availability and helpful authorities, entry requirements
  are difficult to navigate and the licensing procedure can be very long and hence expensive. Streamlining
  entry processes across the many different responsible bodies could serve to both simplify and expedite
  entry.
- Uncertainty around future regulatory developments. Not knowing what the future market landscape will
  look like makes it difficult for companies to plan, yet is to some extent unavoidable given Britain's
  progressively evolving regulatory environment. Increased communication with stakeholders and improved
  scheduling of changes could help reduce this uncertainty.

## MARKET OVERVIEW



## **Background**

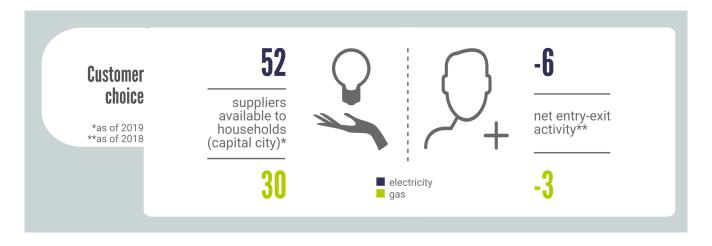
The British electricity and gas markets are among the oldest competitive retail energy markets in Europe. Prior to liberalization, the nationalized electricity industry consisted of: the Central Electricity Generating Board, which owned virtually all of the generation plant in England & Wales and the high voltage network; 12 area boards, which owned the distribution networks and supplied customers in England & Wales; and two vertically integrated electricity companies in Scotland. It was restructured and privatized starting in 1989 and ending in 1994 with the privatization of the nuclear power plants. Competitive supply was introduced in phases starting with sites over 1MW in 1990 and culminating with residential customers in 1999. A crucial part of the arrangements was the creation of a regulatory office which was combined with the gas regulator in 1999 to create The Office of Gas and Electricity Markets (Ofgem).

The starting point for the development of the gas market was the privatization of the nationalized British Gas in 1986 as a monopoly. From a lengthy sequence of restructurings Centrica emerged, which retained the brand name British Gas, and the high-pressure network was merged with National Grid (see below), while the distribution networks ended up in various ownerships. The Gas Act 1995 defined the roles and licensing requirements for different participants in the system - retail suppliers, shippers (wholesalers) and network/system operators, and in 1996 access to gas infrastructure was opened to third parties. Full competition for all customers in the gas market was implemented in 1998.

Over the years the structure of the two markets changed radically via sales of generation assets, some of which was forced by the regulator and some voluntary; by mergers and takeovers of companies; by bankruptcy; and the residential energy markets merged with the development of "dual fuel" supply packages.

The province of Northern Ireland, which is part of the United Kingdom (though not Great Britain) and has a population of 1.9 million people, has a common wholesale market with the Republic of Ireland, but separate regulation and a separate retail market. Its electricity market is separate from that of Great Britain, but it relies for gas on a pipeline to Scotland.

The Northern Ireland electricity supply industry evolved from the vertically integrated Northern Ireland Electricity Board. In 1992-93 it was split into Northern Ireland Electricity plc which was the transmission and distribution owner and system operator with supply and retail businesses; NIE Energy (now Power NI) was the retailer. The industry was privatised in 1992-1993 and the power stations were sold off. The Northern Irish regulator, the Utility Regulator, was created in 1999. In 2010 ESB Networks, the Irish DSO, bought NIE Networks - the owner of transmission and of the distribution network - and in 2009 EirGrid, the Irish TSO, bought System Operator Northern Ireland (SONI Ltd), the TSO of Northern Ireland; jointly the two companies operate the Single Electric Market (SEM).



## Market structure

National Grid owns the high voltage transmission system in England & Wales and the high-pressure gas network for all of Great Britain. Scottish Power and Scottish & Southern Electricity (SSE) own the high voltage networks respectively in southern and northern Scotland, but National Grid is the system operator for all of Great Britain. There are 14 electricity distribution network operators, owned by six groups, who supply over 28 million residential electricity meters with 105TWh annually<sup>2</sup> (35% of the total electricity supply). There are eight gas distribution network operators owned by four groups supplying over 23 million residential gas meters with 309TWh annually, which is approximately 60% of the total gas supply. Most distribution is ownership unbundled from supply for both electricity and gas, but vertical integration between generation and supply is permitted.

The generation market consists of six generators with more than 5% of the market who supply in total two thirds of the generation. All generators currently have retail businesses but one (SSE) proposes to sell its residential portfolio, see below. The largest generator is EDF Energy with a share of 27%; it owns all of the operating nuclear plant. The total capacity is 108GW in 2018. An important component of the wholesale electricity market is the five interconnectors with France, the Netherlands, Belgium, Northern Ireland, and the Republic of Ireland; in 2018 net imports into the UK totaled 18TWh. New links are under construction, which will increase interconnector capacity

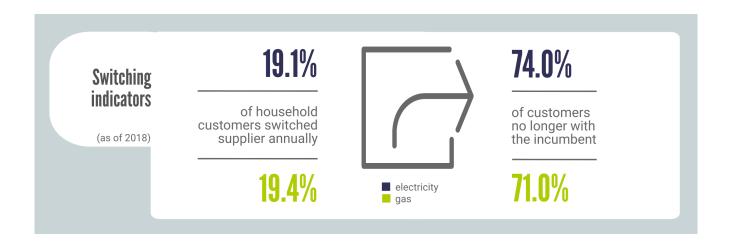
<sup>&</sup>lt;sup>2</sup> State of the Energy Market 2019, Ofgem, 3 October 2019.

by 4.8 GW, and Ofgem has approved projects that could increase the capacity further to 16GW in total if all new projects go ahead. The wholesale electricity market is still moderately concentrated with an HHI of 1,140 in 2018. The generators, interconnectors and suppliers are linked by a wholesale market called NETA (New Electricity Trading Arrangements) and other markets which trade short to medium term contracts.

The gas system is interconnected with Belgium, the Netherlands, Northern Ireland and the Republic of Ireland. In 2018 the UK imported 39bcm natural gas and exported 7.6bcm. The National Balancing Point (NBP) is a virtual trading location. There is also an ICE Futures Europe gas futures contract. Trades at the NBP are made via the OCM trading system managed by ICE ENDEX for the sale and purchase of gas; it is the second most liquid gas market in Europe. The overall number of licensed entities in the NBP market increased from 146 in 2017 to 158 in 2018, of which 136 traded during the period. There is a large number and diversity of gas producers with an HHI in 2018 of 750.

After the opening of both the electricity and gas residential markets the former electricity supply companies targeted gas customers and British Gas targeted electricity customers. With mergers, takeovers, and sales of portfolios of suppliers six major former "incumbent" suppliers evolved, namely British Gas, SSE, E.ON, EDF Energy, Scottish Power, and npower - the "Big Six" - and until 2012 they dominated the market supplying 99% of customers. But then the market changed. Ofgem required the Big Six to desist from their practice of keeping up prices to their existing customers while offering lower prices to new customers, effectively cross subsidizing new customers with old customers and keeping out new suppliers. Also, wholesale prices, which had been increasing, levelled off, reducing the risk for new entrants.

The residential energy market is active with a large number of suppliers. In June 2019 there were 64 active licensed suppliers, of which 56 were dual fuel, 6 gas-only and 2 electricity-only suppliers. In addition, there were 28 white label providers. In London alone, household customers could choose between 52 electricity ad 30 gas suppliers. Annual switching rates increased steadily over recent years (having fallen some years earlier from a record peak), reaching 20% for both electricity and gas in June 2019 (19% during 2019 as a whole). 62% of residential customers who switched during 2018 moved to smaller or medium sized suppliers. As a result of this trend the market share of the "Big Six" is now similar to that of the entrant suppliers and 74% of household electricity (71% of gas) customers were no longer with their incumbent supplier as of 2019.



Many new companies have entered the market. In 2015 Bulb Energy (owned by its founders and two investment funds) offering renewable energy entered the market and by 2018 had 1½ million customers, and Octopus Energy (established as a subsidiary of a British asset management company) had by the end of September 2019 about a million customers. In 2017 a significant new entrant was Shell which bought First Energy, one of the largest start-ups with 825,000 customers, and in 2019 Shell also bought Hudson Energy which supplies 200,000 customers with renewable electricity. Vattenfall and Engie entered the market and BP took a minority share of Pure Planet, a renewables company. In a counter direction Ovo Energy, which now has 1.5 million customers, wishes to buy SSE's portfolio of 5.7 million residential customers. At the end of October 2019, the proposal was referred to the Competition and Markets Authority. But the economic success of smaller suppliers is mixed: in 2018, 10 left the market either through failure or strategically, and only 4 new ones entered the market.

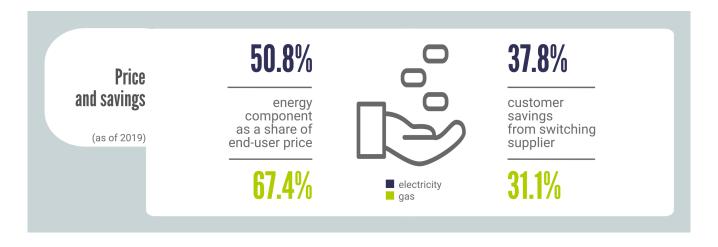
### <u>Indicators of the competitiveness of the market</u><sup>3</sup>:

- British Gas lost 107,000 accounts in the four months to 31 October 2019
- Scottish Power lost 200,000 accounts in the nine months to 30 September 2019. Iberdrola also reported that increased expenditure on customer acquisition resulted in an operating loss of €134.2mm for Scottish Power, compared with €16.4mm in the previous year
- SEE lost 400,000 accounts in the six months to 30 September 2019, which was reported to be the slowest rate of net losses in recent years
- Npower, owned by German company Innogy, lost 449,000 customers (11% of its total) in the first nine
  months of 2019<sup>4</sup>, and the adjusted earnings before interest and tax for the period was a loss of €167
  million. Much of the increase in loss was attributed to the price cap. Npower's retail business is going to
  be folded into E.On's retail business (which is a majority shareholder of Innogy) with a loss of 4000 or so
  jobs.

The majority of contracts sold now are "dual supply" (or dual fuel) where customers have both gas and electricity supply. Some suppliers specialize in offering fixed price tariffs generally of one or two years; others offer only variable tariffs which can be varied at four weeks-notice depending on wholesale prices; while others offer both fixed and variable price tariffs with the latter also acting as a default tariff for those who forget to renew their contracts. Price comparison websites and other online channels are becoming key facilitators of engagement - in 2018 - 49% of switchers used a price comparison website to find their energy deal. The number of "smart" tariffs - i.e. those reflecting real time prices - continues to be relatively small because the majority of customers do not have smart meters and the settlement system for residential customers is based on profiles. Most smart tariffs on offer tend to be static, typically involving cheaper tariff rates during pre-determined periods of time, although there are exceptions such as Octopus' Agile tariff which uses the settlement system both for larger customers and for residential customers and features prices changing every thirty minutes to reflect variable wholesale prices.

<sup>&</sup>lt;sup>3</sup> The competition is on in the domestic energy market, Cornwall-insight.com, 27 November, 2019

<sup>&</sup>lt;sup>4</sup> The competition is on in the domestic energy market, Cornwall-insight.com, 27 November, 2019



In Northern Ireland there are 0.9 million and 264,000 gas customers served by five suppliers in the residential electricity market and two in the residential gas market, one of whom also sells electricity. Two retailers (SSE Airtricity and Electric Ireland) operate in both Northern Ireland and Rol and one - SSE Airtricity - operates in both Northern Ireland and Great Britain. SONI as well as EirGrid, the Irish TSO, are owned by EirGrid plc, which also (through a partnership of SONI and EirGrid) acts as the Single Electricity Market Operator (SEMO), i.e. runs the all-island wholesale market for electricity, the Integrated Single Electric Market. This operates centralized dispatch based on stacking generator's offers. The market is jointly regulated by the Commission for Regulation of Utilities of the Republic of Ireland, and the Utility Regulator of Northern Ireland.

## Political and regulatory orientation

The government and Ofgem are very pro-competition, but that does not restrain the government from imposing the outcomes of various energy and social policies on energy companies, particularly electricity. Although regulation began with a "light touch", following excessive profits made by distributors from regulated network charges, in the early 1990s, and following the imposition of various incentives and other policy interventions, regulation has become more detailed, interventionist and complex. Big energy suppliers are often targeted in the media, driving popular opinion and hence political decisions.

Ofgem has a good record in encouraging customer engagement, e.g. running "Collective Switch" trials in which customers receive personalised letters informing them of their potential to save money by switching, how to do it and suggesting an alternative tariff. The results indicate that with timely information and well-designed support, substantial numbers of customers who have been on standard variable contracts long term will switch tariff, indicating that customer inactivity is not an insoluble market feature.

## Regulatory market characteristics

The retail market is supplier-centric with a "supplier hub", i.e. the customer generally deals only with the supplier who provides one bill for all components of the service. Licenses are required for most energy activities including supply. Licenses are lengthy, detailed and relatively complex.

In 2017, following a report by the Competition and Markets Authority, Ofgem introduced a price cap on supply from prepayment meters which supply 4.4 million electricity and 3.4 million gas customers. Subsequently in 2018 it imposed a price cap on supplies to vulnerable customers which covers about 11 million customers. 30% of Scottish Power customers are on standard variable tariff, and the default tariff cap had impacted it by £57 million over the nine months to September 2019. Centrica noted a £70 million impact in the first quarter of 2019, and SSE stated that its operating profit margin will likely be below 2% due to the cap restrictions<sup>5</sup>.

Some suppliers were offering low price fixed price contracts in the hope that they would forget to renew and so would be moved onto a higher priced (generally variable) default tariff, a ploy known as "squeeze and tease". Customers on a variable tariff could save about £260 by switching to a basket of the cheapest tariffs in the market between June 2018 and June 2019. Following the 2017 election the government legislated for Ofgem to impose a temporary default tariff cap from January 2019 that may run until the end of 2020, but may last until the end of 2023. The cap reflects the underlying costs of supply and is intended to prevent companies from exploiting inactive customers.

#### Planned regulatory developments

Ofgem and the government have been looking to the future of retailing. This process started with a paper in November 2017 by the (former) Chief Executive of Ofgem "Do 'supplier hub' market rules need reform?" He argued that "The supplier hub model has reinforced the dominance enjoyed by large suppliers and we think that it has stifled competition in the retail market" and there was a need for a more flexible approach to selling electricity. This might include peer-to-peer trading of energy whereby customers buy power directly from local generators without going through a supplier.

Next came Ofgem's "Future supply market arrangements" in July 2018 wherein it noted "a growing consensus that a fundamental change to the design of the market is required to fully benefit from a smart, digital system...the existing regulatory framework is preventing new innovative businesses entering the market." Ofgem concluded, "We consider that the current supplier hub model may not be fit for purpose for energy consumers over the longer term. Specifically, we are not confident it will enable consumers to benefit fully from the greater levels of innovation, digitalisation and competition made possible by the energy system transition."

This led to "The future energy retail market review" 8 in March 2019, which in turn led to "Flexible and responsive energy retail markets" in which the government and Ofgem set out the outcomes they want to achieve. These include "A wide choice of energy services under a regulatory framework that enables innovation and choice"; customer protection; minimal market distortions; competitive prices for all; and ensuring consumers in vulnerable situations receive the services they need".

<sup>&</sup>lt;sup>5</sup> "The competition is on in the domestic energy market", Cornwall-insight.com, 27 November, 2019.

<sup>&</sup>lt;sup>6</sup> https://www.ofgem.gov.uk/news-blog/our-blog/do-supplier-hub-market-rules-need-reform.

<sup>&</sup>lt;sup>7</sup> https://www.ofgem.gov.uk/publications-and-updates/future-supply-market-arrangements-response-our-call-evidence.

<sup>8</sup> https://www.gov.uk/government/publications/future-energy-retail-market-review.

<sup>&</sup>lt;sup>9</sup> https://www.gov.uk/government/consultations/flexible-and-responsive-energy-retail-markets.

The government and Ofgem set out a series of incremental reforms that could be made while maintaining the core of the existing regulatory framework. In respect of enabling innovation. They identified (among others) changes to the licencing regime by derogations; limiting licences to a specific geographic area; exemptions to licences to encourage innovation; and new licences for new activities that would sit alongside the supply licence. On the technical side, a major development programme is underway to implement a new switching process managed by the Data Communications Company (DCC) which aims to be more reliable, faster, cost-effective and to increase customer engagement. There is concern, however, that the system may be expensive and not achieve much.

### Other market characteristics

Wholesale energy costs, network charges and operating costs comprise 80% of the typical dual fuel price, profit margin 4%, environmental and social obligations 10%, VAT 5% and other costs 1%.

Consultants and service providers help new entrants, in particular devising the "supplier-in-a-box" which is a package that offers a new entrant an explanation about the supply business and also the regulatory agreements that allow a new entrant to start-up a business immediately.

## Context for aggregation/demand response

Demand response is on the rise in Great Britain, and especially in the commercial segment is receiving increasing interest from customers, and many institutions such as supermarket chains, universities, and construction companies participate in programs to reduce their load on request. However, residential DR is much less advanced. The roll out of smart meters, essential technology for DR, for residential customers is at least 4 years behind target and over budget. By autumn 2019 9.4 million electric meters (i.e. 31%) had been rolled out and 6.4 million gas meters (i.e. 27%). Although independent aggregation is possible in theory, it is hindered in practice as customers cannot be reached except through their supplier. Nonetheless, a few aggregators are active, who act on behalf of a group of customers and solicit offers from suppliers then offer customers the opportunity to take up the offer on an individual basis. The outlook for DR looks promising in Great Britain: Ofgem wishes to promote aggregation, and flexibility in the energy system is a priority for authorities as an alternative to grid expansion.

## **BARRIERS**

The European Barriers to Entry and Competition in Retail Energy Markets project has researched barriers across 30 European markets. From this research, barriers to entry have been identified and grouped into four over-arching pan-European barriers' blocks.

### Over-arching pan-European barrier blocks

	1	Regulatory dis-incentivisation
rier cks	2	Market inequality
Bar Blo	3	Operational and procedural hinderance
	4	Customer inertia

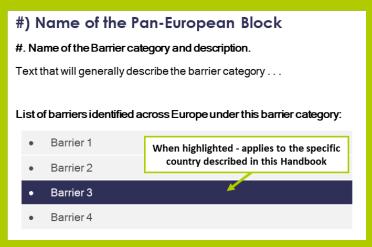
### Description of the four-over-arching pan-European barrier blocks:

- Regulatory dis-incentivisation: barriers arising as a consequence of the general regulatory framework of
  the natural gas and electricity retail markets. We address the impact of price regulation, burden (-sharing),
  regulatory unpredictability and access to innovation. All these items may disincentivize competition within
  the natural gas and electricity retail markets, as well as entrance by new suppliers.
- 2. Market inequality: barriers arising from an uneven playing field for different types of suppliers. Often, certain market players already have a competitive advantage by being very close to the formerly integrated DSO (or still being vertically integrated in case the de-minimis rule applies), controlling a large amount of generation capacity or having a large market share. If market rules do not prevent this, such players can exercise their market power to treat other market players in a discriminatory way, creating market barriers. We examine issues related to unbundling, historical roles, and access to market mechanisms.
- 3. Operational and procedural hindrances: barriers arising as a consequence of the complexity and national/regional differences in standards and procedures in different process areas, affecting how easily new entrants can enter and operate in the energy retail market. We look at issues and differences in licensing, signing up and operations compliance, as well as data access, processes and data management from the suppliers' point of view.
- 4. Customer inertia: barriers arising due to customer behavior and attitude. For the energy market to function, end-users must be willing and able to switch supplier. If customers do not switch supplier, suppliers need not worry about losing customers, so there is no incentive for suppliers to improve their services, minimize prices or innovate to compete for customers. We examine barriers related to customer inactivity or disinterest in the energy markets.

Within each of these high-level blocks are contained sub-categories, which are also mostly pan-European in nature. Each of these sub-categories contain the specific barriers which relate to individual markets as described in the following chapter. Altogether, we identified 45 barriers, most of which broadly across Europe. Only a selection of them apply to the Great Britain case as reported in the following chapters of this handbook.

## HOW TO READ AND INTERPRET THE FOLLOWING SECTIONS

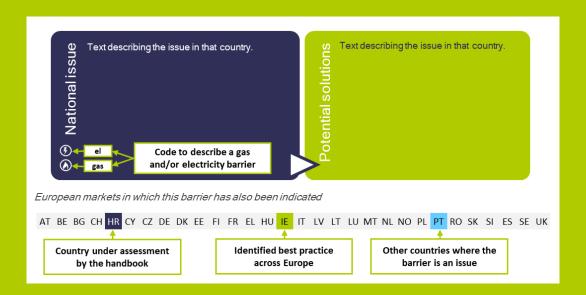
Each of the following four chapters explores one of the four pan-European blocks of barriers and report how each sub-category barrier apply to Great Britain. When a barrier applies to Great Britain, it will be highlighted in the table following a general description of the barrier itself as shown in the example below:



As shown in the figure above, the table lists all the barriers we have identified in Europe within the specific barrier category. Only if a sub-category barrier is highlighted in the table does it mean that suppliers raised it as a barrier, and it is a prevalent issue in Great Britain.

Highlighted sub-category barriers are then briefly described following a twofold methodology which

- · reports what the suppliers are experiencing in the market as a national issue and
- suggesting potential solutions to the problem as depicted in the figure below.



At the end of each chapter, Great Britain's performance within the category, according to quantitative indicators, is then presented.

For additional market context, please see Appendix 1. Processes, which gives a high-level graphical overview of the most critical steps involved in establishing and operating as a supplier in the national market.

## 1) Regulatory dis-incentivisation

Within regulatory dis-incentivisation, barriers across Europe have been sub-categorised into four areas encompassing 17 specific barriers <sup>10</sup>:

1. Price regulation. Regulated prices usually refer to regulation or control of end-user's prices by a public authority, usually the National Regulatory Authority (NRA). Price regulation can take different forms, such as setting or approval of prices, price caps or various elements of these. In Europe, there still exist Member States which have maintained end-user regulated prices during the market opening process and after, in the intention of protecting households or even non-household customers from significant increases in energy prices, especially in a context of limited competition. In some cases, this regulation has led to below cost prices and to low margin to cover the supplier activity risk, discouraging investments and the emergence of newcomers.

According to CEER<sup>11</sup>, 14 European countries out of 27 answering a recent CEER survey have price intervention in electricity for household consumers. Where regulated prices remain, NRAs tend to consider them as a significant barrier to entry for alternative suppliers. All Member States, where NRAs consider regulated prices as a significant barrier, are planning to remove them, at least for non-household customers. Across Europe, the following specific barriers related to price regulation were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in Great Britain:

- Price regulation discriminates against certain suppliers.
- High penetration of price regulation
- Low margin of regulated offer (margin squeeze)
- 2. Burden sharing. Energy suppliers across Europe are often required to collect payments for services not part of their business, or to provide other services such as services related to energy efficiency, or to manage assets such as those of the metering system. These requirements can pose a barrier for suppliers' operation on the retail market by raising their costs and distracting focus from their core business and might deter entry into the retail market by newcomers. Across Europe, the following specific barriers related to "burden(-sharing)" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in Great Britain:
  - Obligation to collect tariffs unrelated to energy on behalf of others.
  - Obligation to keep a minimum-security stock as a gas reserve
- 3. Regulatory unpredictability. The establishment of an internal natural gas and electricity market in the European Union is an ongoing process. European legislative packages are boosting this process, making

<sup>10</sup> Please note: these definitions are Europe focused, not Great Britain specific. Highlighted barriers have been identified as country specific.

<sup>&</sup>lt;sup>11</sup> Monitoring Report on the Performance of European Retail Markets in 2018. CEER Report 4 November 2019.

market regulation evolve rapidly. Transposition of regulation into the national regulatory frameworks is not always smooth and NRAs' actions are sometimes unpredictable. This leads to uncertainties for suppliers related to unclear and unknown future developments of the regulatory framework, including the attitude of the institutions that regulate the retail market and oversee market operation and organization. This uncertainty is a barrier that impacts suppliers' business, preventing their entrance in the market, making strategic business planning difficult or forcing them to adopt different approaches during operation. Across Europe, the following specific barriers related to "unpredictability of regulatory framework" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in Great Britain:

- Suppliers face uncertainty because of a newly liberalized regulatory environment or uncertain future development of the regulatory framework
- Uncertainty caused by industry actors influencing legislation, e.g. incumbent or associations shape legislation
- Uncertainty regarding future regulatory developments, especially in the field of digitalization and new technology
- Attitude of authorities hinders development of the market
- Uncertainty regarding environmental obligations and non-renewable generation capacity
- 4. Access to innovation. Most European energy market are currently designed based on practices as they were during the period of national monopolies by what today are incumbent suppliers. Allowing suppliers and new entrants to be innovative depends not only on the opportunity to compete on prices, but also to diversify, welcoming new products, market actors and business models. When national regulatory frameworks do not take into account innovation in the retail market (regarding e.g. availability and functionality of smart metering, the possibility of flexible contracting and tariffs, or whether the demand side can bid in the balancing system), this may pose a barrier for new market entries, particularly more modern players. If new entrants are to be enabled in order to increase the level of competition in the retail market, regulations must accommodate future developments on the energy markets, especially considering that in the future new entrants may not only be electricity and gas suppliers but also act as aggregators or energy service companies (ESCOs). Across Europe, the following specific barriers related to "innovation-friendliness" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in Great Britain:
  - Data protection issues
  - Lack of incentivisation for novel pilot projects or post-pilot market rollout
  - Lack of data for innovative product development
  - No fit between new business models and existing regulation/obligations
  - Missing flexibility in tariff structures
  - Missing information and incentives for demand-side grid management

Market structures do not incentivize novel products (missing perceived value)

# 1.1 Description of regulatory dis-incentivisation barriers in Great Britain: Price regulation

**Price regulation discriminates against certain suppliers.** In the research this barrier was indicated as an issue in Great Britain, albeit not a direct barrier to operations. A price cap sets a maximum amount that end-users on standard tariffs may be charged. This applies to all suppliers but has a direct impact only on those who relied on high revenue from inactive customers (the incumbents).

National issu

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Ofgem implemented a price cap for the 4 million customers who use pre-payment meters, then Parliament legislated a price cap to protect customers on the default tariffs. This applies to 11 million households - approximately a third of the total - saving customers an average of £76 annually. This measure mainly affected the major incumbent retailers, who were able to exploit inactive customers by placing them on unduly expensive tariffs (see section 1.3). Here, price regulation was felt to hinder free competition.

tential solutions

The price cap is reported to some extent to have evened the playing field between market players, but at the same time has to some extent had a wider effect of bringing down margins across the industry and reducing supplier confidence in market functioning by giving a feeling of interventionism by the authorities. Given that the reason for unduly high prices is well understood, it may be more effective to address this cause by e.g. regulating around notifying customers upon contract expiry.

European markets in which this barrier has also been indicated



Low margin of regulated offer (margin squeeze). In the research this barrier was indicated as an issue in Great Britain. Unlike in most other price-regulated markets, the level of the price cap is relatively high, and so it does not directly make it challenging to generate sustainable margins. However, the impacts are greater for certain business models/players, which in turn impacts the mood on the market.

National issu

Customer value is small, so the price cap can really impact supplier margins where inactive customers on expensive tariffs are an important revenue stream. (British gas lost c. £100 million). This creates a situation where the government-regulated price is biggest competitor. Reducing incumbents' margins reduces their drive to invest/innovate. The cap also limits what new entrants can hope for.

By decreasing margins across the board, the cap becomes a barrier to quality, to innovation, and reduces market attractiveness to investors. otential solutions

This only applies to incumbents, who relied on high prices for inactive customers. The activity of new entrants, who cannot rely on overcharging an inactive customer base, has not been directly affected by the cap, but 80% of market is on capped prices (also, see above regarding the need to address the underlying cause of incumbents' pricing strategy).

European markets in which this barrier has also been indicated

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**SPANISH BEST PRACTICE CASE: Low margin of regulated offer.** Before 2014, the price regulation regime (PVPC) raised many complaints from electricity companies, claiming that the price was set below cost or may have too limited margin to cover the risk of activity.

Hence, a new Royal Decree was issued (RD 216/2014), establishing a new methodology for calculating the PVPC, including the energy cost, the applicable access tariffs and a commercial margin.

The main difference is that the energy cost is now calculated on an ex-post basis, using the average price resulting in the spot electricity market during the period covered by the bill. In the case of consumers with an operative smart meter installed (as of now, more than 98%), since 1 October 2015, a real consumption tariff following the spot price, is applied. The real time price is published by the electricity TSO through ESIOS platform.

Having a pass-through of the energy cost from the electricity spot market is considered as a best practice within the price regulation category. This prevents the energy component of the regulated tariff to be set below cost. However, the customers exposure to the volatility of the spot market may trigger further Government interventions.

Discussions still exist about the value of the commercial margin, which still is seen as too low by reference suppliers and limits the ability to compete of new and small companies. Also, having a price regulation in place that applies to the 95% of the retail market is perceived as hindering competition among suppliers. Suppliers wish a phase-out of price regulation regime, with a clear plan defined by the relevant institutions.

# 1.2 Description of regulatory dis-incentivisation barriers in Great Britain: Burden (-sharing)

Obligation to collect tariffs unrelated to energy on behalf of others. In the research this barrier was indicated as an issue in Great Britain. Energy suppliers are tasked with providing services outside their core business, namely energy efficiency measures. This is expensive for suppliers both in terms of focus and economically. Great Britain also has a unique arrangement where suppliers, rather than a centralized body such as the DSO, are responsible for metering, creating a further drain on resources that in other markets is not part of suppliers' remit.

Vational issue

Retailers with more than 150,000 customers have to collect a levy to pay for renewables, energy efficiency, and other environmental and social obligation costs from e.g. having to provide insulation, glazing etc. for customers' energy efficiency. It is very unusual for this responsibility to be on suppliers, which is inefficient. The levy of approximately £50 represents about 20% of the price of electricity and about 2% of the price of gas. It is a huge increase in cost to serve and is a barrier to expansion.

otential solutions

Obligations such as these do not directly relate to energy supply and are not an avenue for differentiation between companies (applied top-down to all companies). Hence, they would be more effectively implemented and managed from a centralized government perspective, rather than distributed to commercial actors.

European markets in which this barrier has also been indicated

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## In Great Britain, suppliers are responsible for metering

Britain's single biggest difference with other competitive markets is the way the meter is managed, relying on retailers rather than on DSOs as elsewhere. This approach, coupled with (so called) competition in metering, has complicated the systems arrangements and resulted in an initial roll out of a type of meter that is not necessarily interoperable between suppliers. Choosing to make retailers the providers of meters has been very inefficient. This involves unusually heavy responsibilities, and the cost of metering adds considerably to business costs in time, focus etc. for a supply business to deal with meters rather than delivering electricity. For example, for each new customer, suppliers also need to arrange meter maintenance, which can be a financial challenge for a small company with customers distributed over a large geographical area.

Hence, Great Britain is unique among EU countries in allocating responsibility for rolling out smart meters to retailers rather than to DSOs. While DSOs can install smart meters down a street, retailers have to install them as and when a customer switches or requests a smart meter, which results in repeat visits to nearby dwellings. This has resulted in customer confusion, additional work for retailers, and remetering.

Altogether, this system creates inefficiency in the market. If a more centralized authority were responsible for meter deployment, reading and management (e.g. the DSO or TSO), it would free up particularly smaller and newer supply companies to focus on their core business, while also saving customers time and confusion.

# 1.3 Description of regulatory dis-incentivisation barriers in Great Britain: Regulatory unpredictability

Suppliers face uncertainty because of a newly liberalized regulatory environment or uncertain future development of the regulatory framework. In the research this barrier was indicated as an issue in Great Britain. Suppliers experience uncertainty because of many simultaneous ongoing regulatory changes, leading to unpredictability around what the future regulatory framework will look like and hence what business opportunities will be possible.

National issue

Ofgem is a proactive regulator which implies a measure of uncertainty due to regulatory changes. Currently the major uncertainty is the Future Energy Retail Market Review by Ofgem and the government. There is also uncertainty around transition from DNO to DSO.

Several respondents noted that intervention by regulator and government is increasing, which increases not only market players' uncertainty in general, making it hard for to plan, but also the perceived risk of direct interventions like price regulation. One industry executive made a public statement demanding a "paradigm shift in the regulatory and political approach to the market in the UK, [which could not expect to attract] any meaningful investments in the energy market if the regulators are not able to ensure a reliable framework."

Potential solutions

To a large extent the presence of uncertainty is unavoidable in an evolving especially as government decisions can impact the regulatory environment with relatively little notice. However, maintaining communication with market players, as Ofgem generally does, alleviates suppliers' frustration by keeping them as informed as possible. Setting realistic and transparent timelines for developments and following them (unlike with the smart meter roll-out, for example), would similarly make it easier to keep on top of these developments.

European markets in which this barrier has also been indicated



Uncertainty regarding future regulatory developments, especially in the field of digitalisation and new technology. From our studies of this market, it appears that this could pose a barrier in Great Britain. New technological advances require regulatory frameworks in order to be fully rolled out without excessive business risk for suppliers. Regulatory and technological uncertainty regarding e.g. smart meters, the future of demand response aggregation or other novel services can hinder investment/innovation in these areas.

National issu

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The roll-out of smart meters has in Great Britain been repeatedly delayed, leading to uncertainty around when they will be available for business opportunities (see barrier below). How regulation will handle other novel aspects such as aggregation is also unclear. Ofgem's "Future Energy Retail Market Review" is a positive development, that will take into explicit account novel technologies and grid flexibility. While it is in progress, however, market players are uncertain how to navigate the changing landscape.

Potential solutions

As above, regular communication is a key route to keep market players as comfortable as possible in the changing environment. Even releasing uncertain plans can help illustrate to market players the direction in which developments are likely to move.

European markets in which this barrier has also been indicated

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# 1.4 Description of regulatory dis-incentivisation barriers in Great Britain: Access to innovation

Lack of data for innovative product development. In the research this barrier was identified as an issue in Great Britain. Smart meters have the potential to open up opportunities for novel demand-side and aggregation services that rely on almost real-time consumption data to be able to match grid requirements and balancing product bids. However, data management and the extent of uptake is key to whether such services are possible.

Vational issu

**(!**)

The poorly organized and delayed roll out of smart meters, with many of the early ones reverting to functioning as traditional meters, has delayed the realization of the meters' potential benefits, especially the potential of household customers to have dynamic market-based pricing, which could also unlock potential for meaningful household DSR by increasing the financial incentives as well as providing the required data to DR service providers. For example, communication systems for the first generation of smart meters (SMETS1) were prohibitively expensive for smaller suppliers to install, given that they were supposed to be superseded quickly, but this replacement is now 3 years delayed.

Potential solutions

The chaotic roll-out of smart meters is a recognized problem and has been criticized by the National Audit Office. This barrier is linked with the lack of centralization of meter management (see section 1.2). A solution would be for Ofgem to foster an environment, perhaps through specific regulation, that encourages / requires suppliers to prioritise smart meter deployment, or even revert to a voluntary roll-out approach based on customer optin. The value of smart meter data will increase with the implementation of a centralized data centre, allowing more players to access the data more easily and equally.

European markets in which this barrier has also been indicated

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No fit between new business models and existing regulation/obligations. In the research this barrier was indicated as an issue in Great Britain. Regulatory frameworks need to provide an environment for both piloting and further developing new business models without risking grid stability or business operations. Regulator requirements/obligations designed for traditional suppliers may not make sense for innovative players who are nonetheless bound by them. Unclear current regulation around demand response aggregation, such as missing role definitions, makes it challenging for novel services to enter and grow.

National issue

Sandbox trials were a good idea but ended up creating an artificial bubble with no way to progress from the sandbox to market. It opened the door for testing/validating products or concepts, but Ofgem did not then act to ensure that the outcomes of the sandbox trials were incorporated into the suggested changes to business as usual.

Many market structures and requirements are still built around traditional large suppliers and hence not suitable to independent service providers. For example, although it is not necessary for an independent aggregator to be licensed, an independent company cannot access customers unless it is a licensed supplier. Hence, in practice an independent aggregator must either obtain a supplier license of its own or partner with an existing supplier to provide services through them to their customers. Further, regulations are built around a business model in which the primary supplier owns everything, including hardware and information, related to that customer. One aggregator stated that the main barriers to their activities are regulatory, in that aggregation of demand or generation has not yet been explicitly allowed for in many aspects.

Potential solutions

Ofgem is generally keen to encourage innovation, which is welcome. This is demonstrated by the recent sandbox trials and the fact that Britain was one of the first countries in Europe to start opening up to demand-side response. It has also in the past run competitions for innovative ideas that will improve efficiency effectiveness. However, fully incorporating novel models into regulation will require explicit plans and commitment, especially given the complexity of the British energy markets. Enabling retail innovation, including grid flexibility and customer participation, is a key focus of Ofgem's Decarbonisation Action Plan, which describes routes to change but no concrete steps. Discussion is ongoing about how to allow customers to buy different services and related hardware from different providers. The issue of accessing customers through the BRP is an acknowledged issue but must be solved in a way that does not leave the supplier responsible for imbalance settlements arising from DR (i.e. 3<sup>rd</sup> party) actions.

European markets in which this barrier has also been indicated

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Missing information and incentives for demand-side grid management. In the research this barrier was raised as an issue in Great Britain. Grid operators (DNOs) are subject to a support scheme built around CAPEX (infrastructure investment), incentivizing network expansion, rather than OPEX (procuring novel services), which would instead incentivize procuring flexibility services such as demand reduction or storage to aid grid control.

Vational issue

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Respondents noted that local balancing presents a huge opportunity, if market players are able can work across layers from individual customers to DNOs. However, the DNO incentive system needs to be changed before they promote demand response. As far as we are aware, no-one is working on this explicitly.

otential solutions

As part of the transition from DNOs to DSOs, it would be valuable to reconsider the funding structures and broader roles of the distribution companies. This development period in as opportunity to upgrade how distribution functions to better serve a more distributed and flexible energy system.

European markets in which this barrier has also been indicated

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Market structures does not incentivize novel products (missing perceived value). In the research this barrier was indicated as an issue in Great Britain. Without an existing demand and/or mindset for novel services such as DR, new entrants face the barrier of establishing the entire market before they can act in it. A low level of perceived value can arise from limited competition between traditional suppliers, which results suppliers not being sufficiently free to innovate/differentiate.

National issu

Regulations tend to be built around incumbents and switch conscious customers, with rather fixed/top-down rules ensuring protection of inactive, vulnerable customers. This approach creates difficulty for companies to innovate. For aggregators and DR providers, the household market potential is considered small because of the generally low loads and low prices, which mean that customers would need to make big behavioural changes for little financial gain. In addition, installing necessary hardware for load control is very expensive, leading to current pay-back horizons of c. 10 years. These demand-side barriers are compounded by the fact that aggregators in practice rely on existing suppliers for customer access (see above).

otential solutions

If it could be easier for players who are not suppliers to offer DR directly to customers, it would be a chance to accelerate market development and hence better guide development of legislation/regulation. Projects such as "Flex London" (to coordinate owners & service providers to identify 1GW of flexibility across London, part of the carbon-neutral 2050 goal) shows that flexibility still needs to be actively encouraged onto the market. As automated solutions develop household load control, and these loads increase thanks to increasing uptake of EVs and heat pumps whose operation can effectively be automated, the DR market will likely mature into a more attractive business landscape.

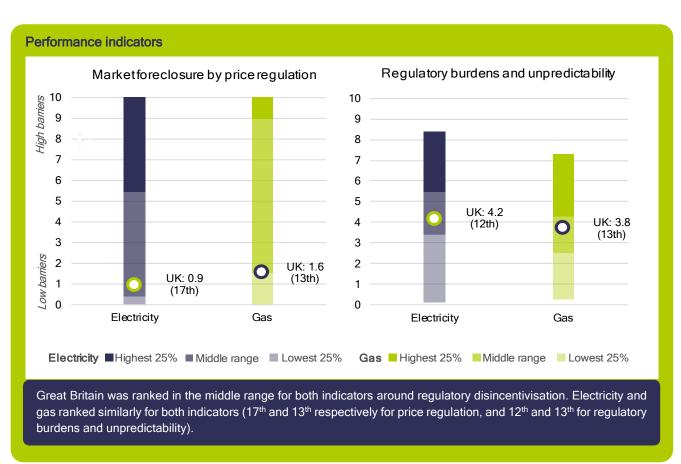
European markets in which this barrier has also been indicated

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### 1.5 Great Britain's performance in this barrier category

The following figure shows quantitative indicators of how far regulatory dis-incentivisation acts as a barrier in this market. The values for Great Britain are shown against the range across all analyzed countries. These scores contribute to the performance index. The performance indicators of regulatory dis-incentivisation are the following:

- Market foreclosure by price regulation: The index consists of two sub-indicators, the penetration of price regulation (among residual customers), and the mark-up of the regulated offer. A high score is attributed if a high share of customers is supplied at regulated price, and the mark-up is significantly lower than the average mark-up in the competitive markets.
- Regulatory burdens and unpredictability: The index consists of two sub-indicators. Regulatory burdens reflect the non-energy share of the energy bill in an average household, which are regulated (taxes, network fees). Regulatory unpredictability was measured via the related question in the supplier survey conducted for this project. A high score is attributed if the share of the non-energy elements is high, and if survey respondents scored the question highly (as an important barrier).



## 2) Market inequality

Within market inequality, barriers across Europe have been sub-categorised into two areas encompassing 8 specific barriers 12:

1. Unbundling and market power. In order to facilitate better competition and improve performance of the individual parts of the energy companies, the Energy Directives introduced rules for legal, functional and accounting unbundling between DSOs and supplier. Although legal unbundling has been implemented throughout all EU member states, barriers arising from vertical integration can still be observed in many markets, raising the question if the required level of unbundling is sufficient in order to meet the goal of a fair and competitive retail market. Companies serving less than 100 000 customers are only obliged to implement accounting unbundling.

In order to avoid confusion among end customers between the separate parts of integrated energy businesses, brand unbundling has been a focus area for NRAs over the last years. Nevertheless, in several EU countries, the difference in the branding of the supplier and the DSO is perceived as insufficient. Strategic and unfair advantages for incumbent suppliers around transparency, pricing and access to information and data occur in most of the European countries studied. Access to production capacities can also be limited for small suppliers if market players with a large generation portfolio can withdraw production capacity from the accessible markets. Balancing and ancillary services markets can also be distorted as they are often still designed to mainly benefit large-scale generation, discriminating against smaller market participants. Across Europe, the following specific barriers related to "unbundling and market power" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in Great Britain:

- · Lack of brand unbundling
- Discriminating, strategic behaviour of incumbent, and obstruction by other market players.
- Strategic, unfair advantage of vertically integrated market players and lack of transparency.
- Limited or biased access to production.
- Discrimination against new and small market players in capacity and ancillary services markets.
- 2. Equal access to and maturity of wholesale market. The wholesale markets present one of the most important sources for energy procurement for all market participants. New and small suppliers tend to have weaker bargaining position in bilateral negotiations, which occurs higher sourcing costs, therefore leading to a competitive disadvantage. Access to a well-functioning wholesale market (an energy exchange) therefore enables smaller suppliers to buy energy for competitive prices.

12 Please note: these definitions are Europe focused, not Great Britain specific. Highlighted barriers have been identified as country specific.

Barriers related to the wholesale market can arise by discriminatory market platform access and the absence of any viable alternative. Furthermore, a lack of available products and low liquidity can both lead to an increase in risk, disadvantaging small market participants substantially more than large, established suppliers. Across Europe, the following specific barriers related to "equal access to and maturity of wholesale market" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in Great Britain:

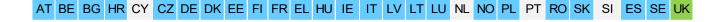
- Discriminatory market platform access (standards, guarantees, etc.)
- Low liquidity in the wholesale market
- High price or volume risk in energy procurement

# 2.1 Description of market inequality barriers in Great Britain: Unbundling and market power

#### Best practice example: Unbundling of DSOs and supply businesses

Great Britain provides an example of well-functioning separation between distribution and supply. Ten of the 14 electric DNOs (distribution network operators) are free standing companies, while 4 are part of groups that include generation and supply businesses. Of the 4 companies that distribute gas, only 1 is part of a group that also owns a gas supply businesses. The companies that have generation or gas supply affiliates are effectively unbundled.

In this study, we found no evidence of incomplete unbundling presenting a problem in Great Britain. DNOs are prohibited from providing end-user services, they are invisible to the customer, and no suppliers in the study had experience of the supplier/DNO relationship being exploited.



Discrimination against new and small market players in capacity and ancillary services markets. In the research this barrier was indicated as an issue in Great Britain. The balancing landscape remains focused on large-scale generation, with insufficient products and processes suitable for smaller-scale/aggregated generation or demand-side bids.

National issue

**(f**)

In balancing, high costs to set up and operate within the balancing regime have to be passed on to the customer, and are not well structured for more novel, small players. The entry and approval process for the balancing market is very complex and takes a long time. Many balancing products still have requirements unsuitable for smaller players and aggregators, especially minimum bids. Prequalification is also a major issue for aggregators in particular, as each asset (e.g. microgeneration plant or DR point) in an aggregated portfolio must prequalify in the same way as a single large plant, which is expensive and technically challenging. In the reserves market, demand-side actors are limited by the fact that although there is some allocation for demand-side capacity, it is insufficient (the allocation is quickly filled).

Potential solutions

Progress on requirements such as minimum bids has already been made, and recent favourable rule changes through Ofgem's involvement in the Trans Commission's European Replacement Reserves (Project Terre) further facilitate aggregators/smaller parties to access the balancing mechanism. The regulator is aware that newer players face restrictions and national changes are in sight. One option to ease the barriers around prequalification could be to apply the requirements only to the level of the asset pool - which is the level at which bids are made - rather than each individual asset. Pilot projects could also help to identify the problems that currently hinder more participation by novel players in the balancing and reserves markets, which persist despite the recent addition of the possibility to act on the markets in a nonsupplier role (virtual lead party).

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

#### FINLAND BEST PRACTICE EXAMPLE: Consumption bids in balancing

Several respondents active in aggregation and demand response expressed satisfaction at how Finland has redesigned balancing products to make them amenable for demand-side bids, complemented by its market-centric approach to DR. This indicates a willingness to let flexibility play a bigger part in the evolving energy system. Indeed, Finland's attitude to DR is positive and flexible, with respondents feeling that Fingrid is easy to work with and open to novelties. Many of the market structures for DR are an example of how to incorporate demand-side flexibility into the energy system. Some products are necessarily constrained by e.g. fast response times or minimum bid size due to their function, which make them difficult for DR providers to fulfill. However, open-minded amendments such as allowing pooling of loads, enabling step-wise activation or reducing minimum bid size where possible have opened up several products to DR. Developments remain ongoing, e.g. imbalance settlement for aggregators is currently under discussion. Progressive changes at the consumer end have also helped open the aggregation market in Finland, for example allowing 3<sup>rd</sup> party providers to access customers. Market players reported that the other Nordic countries are now developing in the same direction that Finland already has done, in this and other DR- and novelty-related aspects.

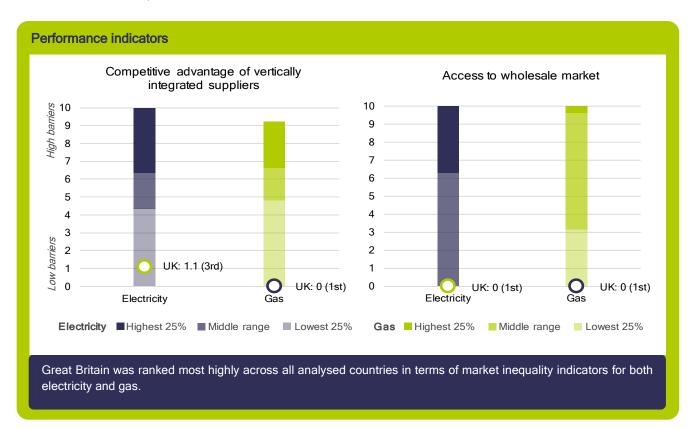
# 2.2 Description of market inequality barriers in Great Britain: Equal access to & maturity of wholesale market

No barriers were identified around wholesale in Great Britain.

## 2.3 Great Britain's performance in this barrier category

The following figure shows quantitative indicators of how far market inequality acts as a barrier in this market. The values for Great Britain are shown against the range across all analysed countries. These scores contribute to the performance index. The performance indicators of market inequality are the following:

- Competitive advantages of vertically integrated players. The index consists of two sub-indicators, the market share of vertically integrated suppliers (on the residential competitive market), and the strictness of DSO unbundling. A high score is attributed if the vertically integrated suppliers have a high aggregated market share, and the unbundling regime is not very strict (brand unbundling is not in force, high share of local, integrated companies).
- Access to wholesale market. The indicator measures the accessibility of the wholesale market by
  quantifying the liquidity of wholesale markets. High score is attributed if the traded volume is relatively low
  compared to the consumption of the country (churn rate). Traded volume includes volumes that are traded
  at hub as recorded by brokers (OTC) or exchanges and does not include 'contracted' (LTC or other
  bilateral deals) volumes which are conducted 'off market'.



## 3) Operational and procedural hindrances

Within operational and procedural hindrances, barriers across Europe have been sub-categorised into two areas encompassing 13 specific barriers <sup>13</sup>:

1. Sign-up & operations compliance. Sign-up, licensing or registration, along with other administrative requirements or system establishment such as arranging contracts with relevant stakeholders (TSOs, DSOs, BRPs) are among the first steps that a new supplier undergoes to enter and operate in a retail energy market. To deliver natural gas or electricity to final consumers in Europe, an energy supplier usually needs to be registered to a certain institution list, or to proceed with a notification, or follow a process to grant a license. Entrance processes for suppliers often requires commitments such as a minimum standard of customer service obligations, requirements on service quality, to provide financial guarantees or to have a communication system in place.

In most responding NRA countries, suppliers need to register and make contracts with certain stakeholders (mainly TSOs and DSOs) to procure the access to the energy grid: transport capacity, balancing. This procedure can be very different from a country to another. Accessing wholesale markets and balancing may also require a license or prior agreement/registration with the market operator. In some markets, business processes to enter and operate in the retail market can be extremely detailed and burdensome. The lack of a functioning national wholesale market may also hinder the entrance of retail companies that are not vertically integrated. Across Europe, the following specific barriers related to "signup & operations compliance" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in Great Britain:

- Poor availability of information for market entrants & active participants
- Heavy administrative process for entry (registration / licensing)
- High financial requirements (incl. long working capital cycles) and forced risk during operations
- Excessive reporting requirements during operations
- Excessive information requirements around billing and energy labelling
- Highly complex or country-specific systems & processes
- Regional differences or differences between DSOs within a country
- Cumbersome or biased switching process
- Unduly burdensome environmental obligations
- Unduly burdensome or insufficiently regulated market exit

13 Please note: these definitions are Europe focused, not Great Britain specific. Highlighted barriers have been identified as country specific.

- 2. Data access & processes. Data access and management refers to the processes by which data are sourced, validated, stored, protected and processed and by which it can be accessed by suppliers or customers. In a well-functioning energy retail market, it is important that the information required to operate in the market is available to newcomers (subject to applicable legislation on data protection). This may include information on, for example, individual consumption or more specific meter details. This data is required in order for suppliers to carry out their market role, such as initiating a switch, or billing a customer. A standardized approach to the provision and exchange of data creates a level playing field among stakeholders and helps to encourage new, challenging market actors to enter the market. In order to avoid data management and access processes acting as a significant barrier to entry, Member States' initiatives to standardize data format and processes, including investments in data hub infrastructure, have the potential to make a positive impact. Across Europe, the following specific barriers related to "data access & processes" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in Great Britain:
  - Lack of data hub
  - Complex, heterogenous IT infrastructure and/or low level of digitalisation
  - Missing access or poor quality of operations-critical data

# 3.1 Description of operational and procedural hindrances barriers in Great Britain: Sign-up & operations compliance

Poor availability of information for market entrants & active participants. In the research this barrier was indicated as an issue in Great Britain. Detailed information about legislation, licensing requirements and procedures during operations etc. are readily available but complex and hard to navigate. This makes it difficult for potential new entrants to (1) understand the market and judge its suitability for their business; (2) efficiently go through the entry process to establish on the market; (3) operate effectively and efficiently.

National issue

The authorities were felt by market players to being willing to help and provide information. However, despite the information being available, it is difficult for market players to understand. The rules per se are not a problem for new entrants (but see following barrier regarding heavy entry requirements), rather that they are too complex so it is hard to understand what is required, what it is possible to do as a supplier etc. There are many different entities to register with or apply to, which requires much discussion and hence time and cost.

For entering the ancillary services markets, information was reported to be written in complex language designed for traditional large generation, meaning that players such as aggregators or demand-side actors need to put in a lot of effort and external expertise to dismantle how this information applies to their situation. Moreover, market data such as pricing that is essential to understanding the actual market value, was reported to be available but difficult to access and process. This situation is already improving, however.

otential solutions

Three avenues of change could ease this situation. Firstly, Ofgem could examine the extent to which this complexity in rules and information is necessary for efficient market functioning and simplify as appropriate. Secondly, new entrants may benefit from more material mapping out the entry process and market rules in at a high level, from which to delve further into the details. Streamlining application processes between the various different bodies (Ofgem, Elexon, industry code bodies etc.), for example using a unified application for several bodies, would ease the process for suppliers.

As new regulation is developed, care should be taken to formulate it to be "future-proof" and inclusive to current and potential novel service providers.

European markets in which this barrier has also been indicated

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#### AUSTRIAN BEST PRACTICE CASE: Availability of information for market entrants & active participants.

The Austrian NRA, E-Control offers a comprehensive "starter kit" with all the necessary information for new market entrants in German and English language. Furthermore, statistical data, covering switching rates, price levels, smart metering rollout progress and others is frequently being published. Therefore, a barrier is not only non-existing, but even more, the situation in Austria can be regarded as a best practice.

Heavy administrative process for entry (registration / licensing). In the research this barrier was indicated as an issue in Great Britain. The processes required to enter a market constitute a large administrative burden, with complicated and time-consuming processes and requirements requiring a large investment of time and money from new entrants before they can begin operations and generate revenue.

The complexity of market structure and entry process act as barriers to fully understanding the market. The requirements for licences, registrations and contracts are exceedingly complex and although well-structured can be very difficult for new entrants to navigate. This complexity requires much investment from entrants in time and money. As an example, one market player active in several European market reported that Britain had is one of the most complex and has one of the highest costs to enter: 1-2 million euros, including agents for documentation, consultants to review processes etc., compared with Germany which cost 25 000 euros including all licensing etc. At the same time, direct barriers to entry are reported to be the lowest in the world.

Being able to enter the market without need for a license would be easier for new entrants. The fact that there was a business opportunity in providing an off-the-shelf licence points to the need for change/simplification. At the same time, too lax requirements for actors entering the market can lead to ill-equipped companies beginning operations that end in failure (see below), which is not in failure (see below), which is not desirable either.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

Excessive reporting requirements during operations. In the research this barrier was indicated as an issue in Great Britain. High reporting requirements to the regulator and other market participants cause high administrative and hence infrastructure costs to suppliers, which can particularly affect small suppliers. This is a barrier to entry and operation in cases where suppliers cannot see how this reporting is necessary to protect customers or benefit the market.

Obligations on suppliers are mostly intended to make the market fairer to customers, but are perceived as unnecessarily onerous by some suppliers. Moreover, many requirements around pricing and customer service are not fulfilling their intended function effectively. Indeed, the regulator recognised in 2014 that "consumer outcomes in the energy market remain generally below the levels expected of these essential services"

It is notable that despite two decades of an active, deregulated market, the regulator still maintains a hands-on approach to ensure suppliers meet their obligations. This indicates that current market processes and requirements are not effective in keeping the market active while protecting customers. When developing the future market, it would be very valuable to consider more deeply the effects of obligations beyond their immediate intention. to avoid undesirable consequences for market functioning through e.g. companies either exploiting or seeking to minimize meeting their obligations.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

Cumbersome or biased switching process. In the research this barrier was identified as an issue in Great Britain. Switching is difficult for suppliers due to the amount of communication that must be undertaken with the DSO and other market actors. Existing suppliers have an advantage because they are the default supplier if the switch is not completed.

National issu

**(F**)

Switching in the UK is considered by both market players and Ofgem to be too slow, inefficient, and unreliable. Due in part to poor data and in part to the lack of a centralized system (linked to no centralized metering system, see section 1.2 above), switching is difficult for suppliers and error-prone, resulting in high cost to serve. The burden of delays, costs and errors is borne by customers, resulting in poor customer experience.

otential solutions

A large switching reform is underway to create a centralized platform. The aim is to provide more reliable, faster, cost-effective switching and hence increase customer engagement. There is concern among suppliers, however, that the system may be expensive and not achieve much. Recent deployments of centralized data systems in other European markets, e.g. Denmark, could provide guidelines on how to make this effective.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

### IRELAND BEST PRACTICE CASE: Switching and win-back functions well despite DSO integration

The central messaging centre in Ireland is well designed, requiring timely messaging of switches and with fair access to information for all players. Switching messages must be sent only after a customer signs a new contract, but within four days. Win-back may only start after this and is restricted to a 10-day window. Hence, despite there not being a centralized data hub that includes data storage as well as messaging, access to information and the opportunities arising from it are considered equal across market players. Other industry processes were felt to be similarly well-developed and fair.

**Unduly burdensome environmental obligations.** In the research this barrier was raised as an issue in Great Britain. Environmental obligations, namely the energy efficiency scheme (see section 1.2), lead to increased bureaucracy and costs for suppliers. These requirements can be perceived as a barrier particularly if it is unclear to suppliers why they should be the responsible party, or if their implementation is felt to be unfair.

National issu

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High environmental obligations in the form of energy efficiency schemes are too cumbersome, and retailers are not necessarily competent in managing such schemes (see section 1.2). This drives up the cost to serve and has led to complaints and mistrust from consumers. Moreover, customer request for such services tend to come in the autumn/winter period, which coincides with higher customer costs, increased non-payment and thus contributes to supplier failure.

Potential solutions

As with responsibility for metering (see section 1.2 above), it would aid market efficiency to make efficiency schemes the responsibility of a more centralized authority, e.g. a government institution, who would have expertise to more effectively implement and manage such schemes. This would free up particularly smaller and newer supply companies to focus on their core business, while improving the customer experience.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

Unduly burdensome or insufficiently regulated market exit. In the research this barrier was indicated as an issue in Great Britain. Certain suppliers have been able to act without sufficient/timely sanctions on improper behaviour and to exit the retail market very easily. Such irresponsible/unethical suppliers may negatively affect the retail market by reducing customer trust and hence willingness to engage with the market, and by creating an atmosphere that discourages new entrants. The exit process should not, however, be unduly burdensome as suppliers deciding on potential market entry will take this into consideration.

National issu

Ofgem has generally been too late in addressing supplier failings, and slow to act against irresponsible companies. This is compounded by market entry being too easy, for example with inadequate financial backing (see above). Consequently, unprepared or unethical companies have been allowed to start operations which then failed. This leaves other companies with responsibility for their customers.

stential solutions

Consultation is ongoing around monitoring existing suppliers, so that Ofgem can intervene before things go too far.

Recent changes to entry requirements should ameliorate the problem of too easy entry, as entering companies are now required to demonstrate financial viability, management competence and technical ability. Further, Ofgem is undertaking a review of the financial strength that companies must have before they obtain a supply licence (but see above for concerns that rigorous financial requirements may go too far and discourage smaller new entrants).

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

# 3.2 Description of operational and procedural hindrances barriers in Great Britain: Data access & processes

Lack of data hub. In the research this barrier was indicated as an issue in Great Britain. There is no centralized data hub or a platform for switching and access to DSOs information. This increases the time and effort required by suppliers to access customer or network data, e.g. to enact a switch or target potential new customers. This tends to favour suppliers with a high market share (and hence access to large amounts of customer data, including historical usage data).

National issue

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Because there is no centralised data hub, systems to access data are complex. Further, meter data is not always accurate, and data exchange processes (including switching; see section 3.1) are prone to errors.

otential solutions

Plans exist to develop a data centre. However, this is as yet far away. In other markets, a well-functioning data hub has not only improved market equality and messaging efficiency but also increased customer engagement or satisfaction with the energy markets. Ofgem is currently running the "Modernizing Data" project that aims to achieve greater openness and inter-operability of data before a full data hub is implemented, including a competition with £1.9M available to design a common data architecture, which would improve the situation for suppliers.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

#### DENMARK BEST PRACTICE CASE: Denmark's DataHub

The development of the DataHub is held up by market actors in other countries as a good example of regulatory development that involved and cooperated with market players. A key aspect of the successful development process was that a single organization (the TSO) had a clear system-wide responsibility to implement the changes, enabling streamlining of the process. Market players report the launch of the DataHub as the most important recent innovation in Denmark's energy system.

## NORWAY BEST PRACTICE CASE: A well-designed data hub improved market equality in Norway

The Norwegian market is characterized by a large number of small, local, currently vertically integrated supplier-DSOs. Across Europe, this study has found vertical integration to cause issues around data access, where the integrated supplier (usually the incumbent) has an advantage in data access through its affiliation with the DSO, which collects and controls the information. However, such issues were not raised in Norway. This favourable situation results from the existence since 2019 of a centralized data platform, Elhub, that is functioning near-perfectly according to suppliers to even out the playing field around data access (see section 3.2). Previously, independent suppliers faced delays and obstruction in obtaining customer data from DSOs. The impact on data exchange was so great that one supplier described their dealings with DSOs as "different pre- and post-Elhub worlds". The Elhub moreover allows the regulator to technologically control that actors are behaving appropriately.

Missing access or poor quality of operations-critical data. In the research this barrier was indicated as an issue in Great Britain. Delayed or low-quality operations-critical data (incl. smart meter data) presents a barrier as it increases the need for manual processing and therefore costs. Especially in combination with information advantage, this can give certain market participants such as incumbents an advantage in providing the required service level to the customers.

Vational issue

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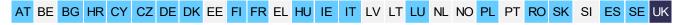
Meter data and address data are very poor in Britain causing many customer issues including the timing of actual reads. This is linked with the billing system, based on estimations rather than actual usage (see section 4.1)

Accessing data from smart meters is currently possible but complex (highly structured, long process). Moreover, there are considerable concerns about data security in relation to smart meters.

otential solutions

This is closely linked with the absence of a data hub (see above). A centralised data service would, if well-constructed, introduce standards on data quality and format and ease access to necessary data for all market players on an equal basis.

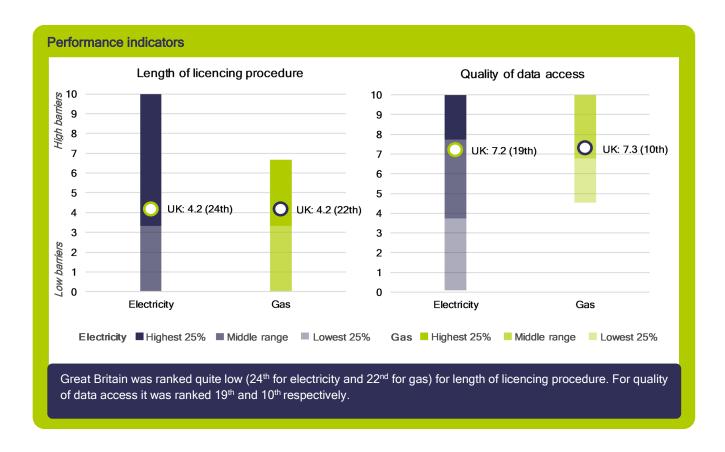
European markets in which this barrier has also been indicated



## 3.3 Great Britain's performance in this barrier category

The following figure shows quantitative indicators of how far operational and procedural hindrances act as a barrier in this market. The values for Great Britain are shown against the range across all analyzed countries. These scores contribute to the performance index. The performance indicators of operational and procedural hindrances are the following:

- Length of licensing procedure. The complexity of the licensing procedure is quantified using the legal deadline of the licensing procedure. A higher score is attributed the longer the regulator's authorization period, while a score of 0 is attributed if there is no licensing obligation in the country,
- Quality of data access. Barriers relating to the quality of data access are measured with a checklist
  indicator, which focuses on the DSO's practices regarding data collection and access provision to
  suppliers. A high score is attributed if the format of the data provision is not standardised, third party
  access is not available via website or data hub, and the smart meter rollout is small.



## 4) Customer inertia

Within operational and procedural hindrances, barriers across Europe have been sub-categorised into one area encompassing 6 specific barriers <sup>14</sup>:

- 1. Customer orientation. Whether customers want to or can engage with the market depends on a broad range of market characteristics, including how well authorities inform and support customers and how energy companies are viewed by the customer. For example, if there is no trusted central place to compare offers from different suppliers, customers may struggle to make an informed choice; or if customers perceive all energy companies as irresponsibly profit-driven, or providing a poor service, they may feel there is nothing to be gained from switching. Moreover, across Europe, most energy markets have been liberalized relatively recently (last 20 years, some only a few years ago), so for a considerable portion of customers the potential for them to engage may still feel unfamiliar. Across Europe, the following specific barriers related to "customer orientation" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in Great Britain:
  - Lack of information regarding available offers and switching possibilities
  - Low customer awareness or interest makes it difficult to attract customers

<sup>14</sup> Please note: these definitions are Europe focused, not specific to Great Britain. Highlighted barriers have been identified as country specific.

- Insufficient price signals for end-users
- Changing supplier is cumbersome or has little pay-off for the customer
- Consumers prefer status quo
- · Lack of trust in new or foreign suppliers and in new technology

## 4.1 Description of customer inertia barriers in Great Britain: Customer orientation

Lack of information regarding available offers and switching possibilities. In the research this barrier was indicated as an issue in Great Britain. Comparison tools only allow comparison based on price rather than e.g. green credentials. This makes it hard for customers to engage with the market on their own terms and makes it hard for suppliers from differentiating on other aspects of their service (e.g. the actual source of energy they are delivering).

Vational issu

There are many neutral comparison and switching sites where customers can access basic information on available offers from all suppliers. However, regulations state that the only comparator can be price. This prevents novel actors from promoting other aspects of their product, such as renewable energy, which might be an important part of customer choice.

Potential solutions

Regulations around comparison sites should be updated to allow representation of more diverse aspects of suppliers' products. This would benefit both customers, encouraging them to engage with the market by allowing them to do so on their own terms, and suppliers, freeing offerings up from competing almost exclusively on price.

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European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

#### NORWAY BEST PRACTICE CASE: Customer information

Norway has one of Europe's highest switching rates, driven by an informed and interested customer base who have by a wide margin the highest household electricity consumption. DSOs must provide customers with neutral information on how to choose a retailer which is available in the network area, and information about the national price comparison web site. The national price comparison website Strompris.no ranks contracts according to their estimated total cost and is monitored by the regulator to ensure that prices there reflect those on the suppliers' own websites. NVE also publishes a weekly online view of retail market prices. Underlying this, the focus of the market on similar products (open-ended spot-linked contracts) makes it easier for customers to compare offers between suppliers as there are fewer variables to account for. In addition to information on available offers, the authorities actively provide plentiful information on how and why to switch, and the switching process is easy and fast for the customer.

Low customer awareness or interest makes it difficult to attract customers. In the research this barrier was indicated as an issue in Great Britain, at least in certain customer segments. If customers are not well informed about their opportunities to participate in the market, not motivated to use them because energy is a low priority in

their lifestyle, or find the market too complex to access, they are not driven to seek out or engage with new energy suppliers.

National issu

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Customers still do not really understand the market or how it works, despite all Ofgem's effort to increase competition/improve market function. Some customers are worried that e.g. security of supply will get worse if switch, despite suppliers not having any responsibility for security of supply.

Pre-payment customers engage less with the market than average due to higher actual and perceived barriers to information and access to switching (Competition and Markets Authority investigation in 2016). 'Fuel-poor' customers overall (those who spend 10% or more of their income on energy) are under-served by the market, and tend to pay the highest prices.

otential solutions

A market that places more onus on suppliers to activate customers, and relies less on customers' own motivation, could activate those customer segments who currently are least prone to switch, and thus most vulnerable to ending up on unfavourable contracts, despite these segments (the less wealthy and elderly) being least able to afford overpaying on their energy. Note that previous regulations around notifying customers upon contract expiry were deemed to unfairly punish loyal customers, and many customers remained disengaged despite this increased prompting.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

**Insufficient price signals for end-users.** From our studies of this market, it appears that this could pose a barrier in Great Britain. Estimated settlement mean that market price signals do not effectively reach end users. With limited price signals, there is little incentive for customers to engage with the market as they have limited power to bring their costs down, or to see an impact of their behaviour on their bills.

ational issue

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Most household billing is still based on estimated usage rather than actual meter readings. This prevents customers from seeing an immediate impact on their bill from switching supplier or changing behavior to be more efficient or flexible. Currently the methods for estimating are unclear, and over a relatively short period incorrectly estimated bills can become skewed, which can be an economic problem for poorer customers.

otential solutions

Linked with the issues around metering responsibility (see section 1.2) and smart meter roll-out (see section 1.4), a more efficient, centralized management of meters and their data would lay the groundwork for finer-resolution metering data and hence closer to real-time billing. This would reduce errors and hence economic risk to both customers and suppliers, and enable more innovative demand-side products. Ofgem and the industry are developing half hourly settlement for residential customers, and revising network charging, to make price signals more effective.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

Changing supplier is cumbersome or has little pay-off for the customer. In the research this barrier was indicated as an issue in Great Britain. A switching process prone to delays and errors may discourage customers to switch, which in turn lead to low customers engagement. Effective price competition between suppliers requires rapid, effective, such that customers see the benefit to them in a short timeframe.

National issu

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Customers find it too hard to engage in switching. Moreover, the lack of a centralized switching platform (see section 3.1), is reported to lead to mistakes and delays in enacting switches that fall on customers.

It is noteworthy that market engagement through switching is also an issue of customer protection. Although British energy customers are comparatively active, there is still a significant proportion (61%) who have either never switched or only switched once in 20 years and 54% were still on expensive default tariffs for more than three years. These inactive customer segments tend to encompass those who are least able to afford prices that are higher than necessary.

tential solutions

Practical tools for customer switching exist: neutral switching platforms that effectively facilitate customers' tariff comparison and switching (78% of switches go through switching sites) have operated for a long time. This indicates that the problem rather lies in customers' perception of the market, which could be addressed by making customers more informed about their possibilities to engage, e.g. through national information campaigns, perhaps aimed especially at inactive customers. Ofgem has a positive approach to encouraging customer engagement, e.g. running successful "Collective Switch" trials (see Market Overview), and this pro-activeness could usefully be expanded.

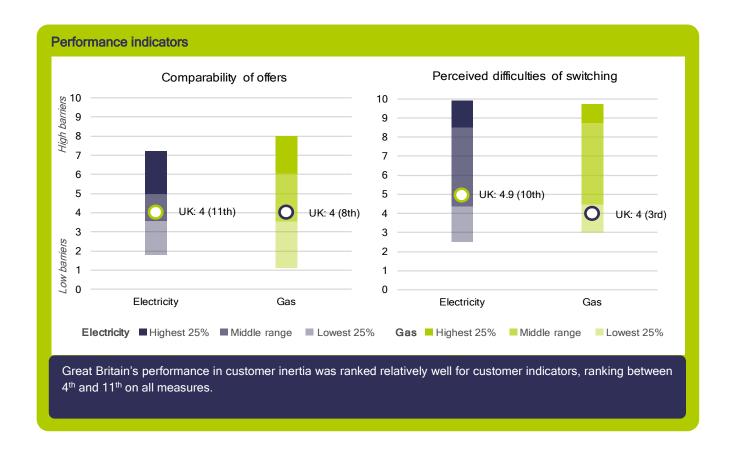
European markets in which this barrier has also been indicated

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## 4.2 Great Britain's performance in this barrier category

The following figure shows quantitative indicators of how far customer inertia acts as a barrier in this market. The values for Great Britain are shown against the range across all analyzed countries. These scores contribute to the performance index. The performance indicators of customer inertia are the following:

- Comparability of offers. The index consists of two sub-indicators. The first measures consumers' ability to compare offers, based on a survey commissioned by the DG Justice and Consumers. The second is a checklist indicator which quantifies the availability of comparison websites, based on their number and functionalities. A high score is attributed if the consumers gave low scores for comparability, and there are no comparison websites in the country.
- Perceived cost of switching. Difficulties around the switching process are also measured based on DG
  Justice's survey. The indicator incorporates the experience and opinions both of customers who have
  switched, and also of those who have not because they faced obstacles or thought it might be too difficult.
  A high score is attributed if a high share of consumers reported a bad experience of or poor opinion on
  the switching process, among all customers who considered switching.



## 5) Other

Other aspects of the market not directly related to its functions, as addressed above, may also impact suppliers' ease to enter and operate in the market. These relate to characteristics of the market that are not necessarily a barrier per se, but their impact on the energy retail environment could be minimized to benefit market function.

No such barriers were identified in Great Britain.

## FINDINGS & RECOMMENDATIONS

As seen throughout this project, barriers to entry and operation can constrain the development and functioning of energy markets. Examples of such barriers identified in this project vary widely across EU countries, including issues as wide-ranging as the use of financial guarantees for access to wholesale markets, the presence of price regulation in the market, and burdensome licensing regimes, where the requirements are disproportionate to their protective function.

The British electricity market supplies 28.5 million residential customers and the gas market supplies 23.5 million residential customers. Since 2012 when Ofgem, the energy regulator, prohibited suppliers from price discriminating by offering lower prices to attract new customers while setting higher prices for customers who did not switch from them, switching has increased significantly; new suppliers have entered the market; and the original Big Six incumbents have lost hundreds of thousands of customers. In mid-2109 there were 64 active suppliers across electricity and gas, and several new companies have grown to a significant size. On a European scale, the British market remains one of the most fertile for new entrants.

A feature of British energy regulation is that it is always evolving, sometimes with surprises such as the price caps introduced in recent years, and sometimes with pre-announced changes in general approach that are subsequently developed such as the recent "Future Energy Retail Market Review". One successful feature of the market has been unbundling - most distribution network operators are in different ownerships to suppliers, and those that are associated are effectively unbundled.

Despite the pro-active regulation and mature market, however, some barriers remain that market actors perceive as significant. Suppliers must comply with a large number of procedures through several different authorities - the electricity Balancing & Settlement Code, the Connection and Use of System Code, the equivalent gas codes, the Standards of Conduct in the licence etc. - some of which are complex and can trip up suppliers. Linked with these concerns is a view among some respondents that the subsequent reporting obligations are excessive. A barrier to entry that is unique to Britain is that suppliers are responsible for rolling out smart meters. This is not only logistically inefficient because it results in a scattergun approach to implementation; it is also financially inefficient since the cost of capital and risks are higher for suppliers than for distribution companies, and it is a distraction for smaller suppliers from their core business. Even from traditional meters, data quality was felt by project participants to be poor. Related to the lack of a centralized data hub, switching is considered slow, inefficient and unreliable; a reform of switching is in progress to create a centralized platform, which may additionally help to activate the large proportion of the market who never or very rarely switch. Ofgem's ongoing efforts to improve the situation around data quality and accessibility is burdened by the chaotic nature of the supplier-led roll-out of smart meters.

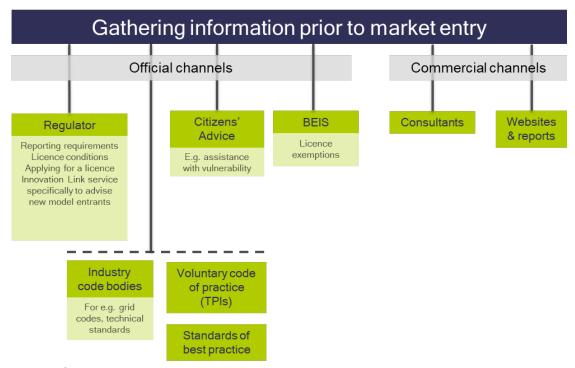
Looking towards evolving technologies and market landscape, smaller players felt discriminated against in the capacity and ancillary services markets. Many requirements around balancing products, especially prequalification requirements, remain challenging for these newer players, and accessing customers for

aggregators remains difficult due to a reliance on the existing supplier. Nonetheless, new steps are regularly taken to make these markets more welcoming to smaller-scale generation and demand response, which has been welcomed by market actors. For example, the involvement of Elexon (the market operator) National Grid, and Ofgem, in the European Commission's Trans European Replacement Reserves (Project Terre) aimed at widening access to the Balancing Mechanism resulted in favourable rule changes in December 2019.

## **APPENDIX 1: PROCESSES**

This section describes market processes in energy retail in Great Britain. This provides context for the market barriers described above by giving a high-level overview of the most critical aspects involved in establishing and operating as a supplier in the national market. The stages of market entry and operation are described in sequence, each with an illustration ("process map") showing that stage's various processes together with comments/details on market specifics.

## 1) Information gathering before market entry



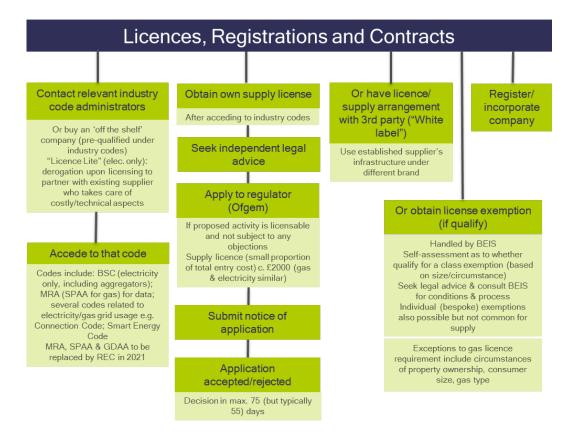
#### **Further comments**

Detailed information is available from the regulator and other relevant bodies e.g. Elexon, the balancing clearing house.

The regulator observes that new entrants compete on price, quality of service and simplicity (e.g. offering only one or two tariffs), and some are targeting more niche markets through product differentiation strategies (e.g. local tariffs, renewable energy or smart technology).

Smaller suppliers generally offer the cheapest fixed deals, according to regulator monitoring

## 2) Licences, registrations and contracts



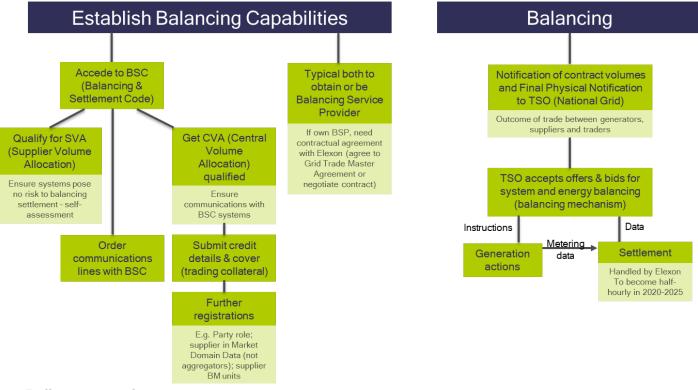
#### **Further comments**

Industry codes define the terms under which industry participants can access the electricity and gas networks and participate in industry systems, including interactions with TSOs & DSOs. Licensee must qualify for & comply with industry codes before applying for a supply licence; some require a subscription fee.

In total, becoming a licensed supplier and entering the market can take at least 3-4 months for gas and up to 12 months for electricity (lengthier market entry processes)

- Gas suppliers need to become DCC users, which can take several months
- To be granted a licence, must demonstrate preparations for market entry, including resources/funding and understanding of regulatory obligations
- Aggregation is not in itself a licensable activity, but aggregators need to be licensed (likely for supply, maybe also generation) to access the relevant markets, e.g. balancing mechanism. However, this is liable to change in future under the VLPs program (Project Terre)
- Relevant authorities and agreements are: BEIS = Department of Business, Energy and Industrial Strategy;
   BSC = Balancing and Settlement Code; GDAA = Green Deal Arrangement Agreement; MRA = Master
   Registration Agreement; REC = Retail Energy Code; SPAA = Supply Point Admin Agreement

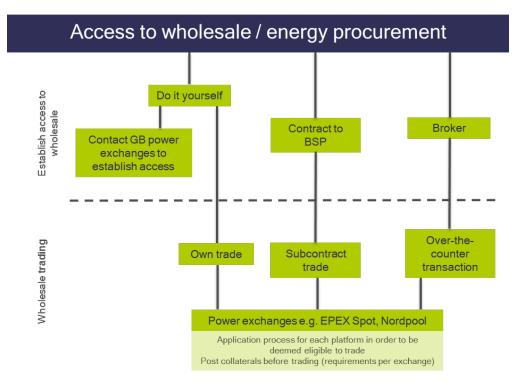
## 3) Balancing



## **Further comments**

Balancing arrangements for gas are designed to economically incentivize shippers to balance their positions. Imbalance charges at the end of the gas day are known as 'cash-out', priced by the TSO.

## 4) Wholesale

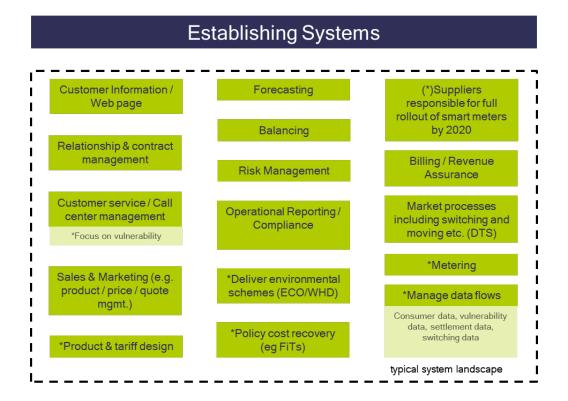


#### **Further comments**

Each trading platform has its own application/qualification process including contacting local market manager, the application, a risk check, the agreement process and technical set up

- For EPEX Spot, collateral requirements for each member are negotiated individually. The same applies to Nordpool but collateral is posted under different agreements (cash of collateral agreement, letter of credit and bank guidance)
- Gas suppliers can either contract with a gas shipper for procurement or apply for their own gas-shipper licence.
- The default access regime for a gas storage facility is negotiated third party access (nTPA). Storage system
  operators cannot produce, supply, ship, or sell gas except as it pertains to the efficient operation of storage;
  parent or associated companies active in these areas must be legally and functionally separated from the
  storage activities.

## 5) System landscape

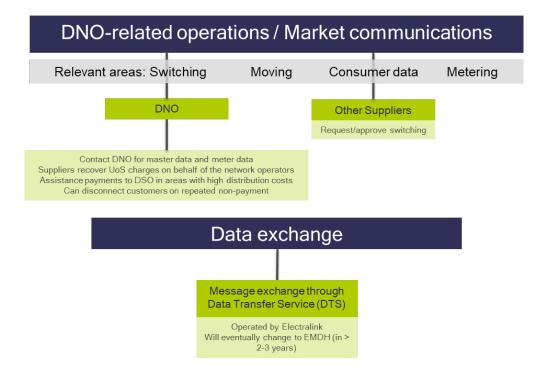


## **Further comments**

The government aims for all customers to have smart energy meters by the end of the decade.

It is a licence condition for suppliers to install smart metering equipment (smart electricity meter, smart gas
meter, communications hub and in-home display) to all domestic and small business customers at no upfront
cost

## 6) DSO-related operations & market communications

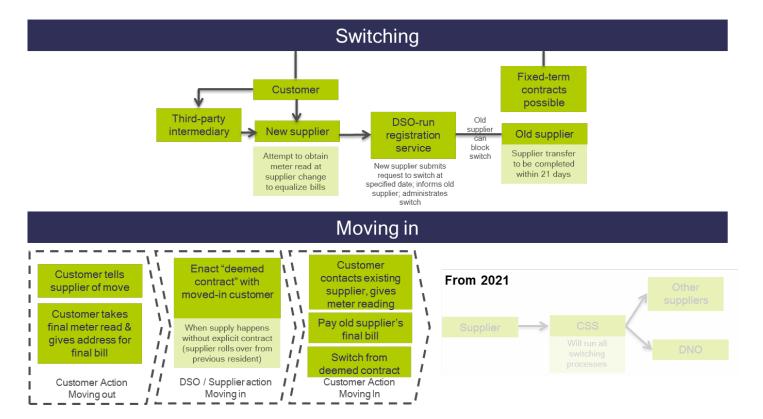


#### **Further comments**

The UK electricity system currently has District Network (not System) Operators (DNOs rather than DSOs). DNOs are responsible for network per se but are not able to undertake related activities. However, DNOs are gradually transitioning to DSOs over the next decade. As DSOs, the operators will be more flexible actors, able to include bidirectional flows, decentralised production, storage etc., and will have a more active role in managing balance.

- Currently, it is the DNO that manages switching, but new switching arrangements under development (expected implementation 2021; see below) will remove this role from the DNOs entirely
- A centralized message exchange, the Energy Market Data Hub (EMDH) that will handle communication between all market actors is under development by Electralink, with expected launch in the mid-2020s.
- The EMDH will enable real time access to industry data for all actors. However, certain key aspects remain unclear, e.g. the extent of integration with the new switching service and compatibility with international message formats

## 7) Customer switching & moving

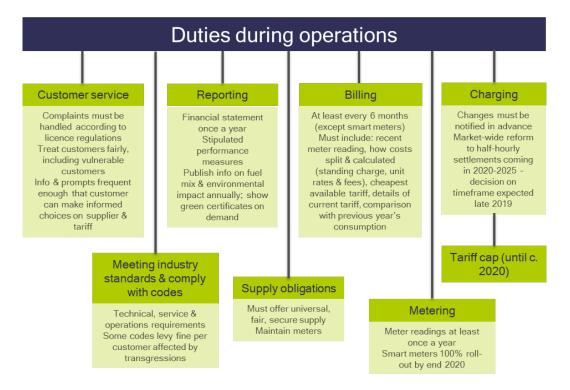


#### **Further comments**

The switching system is being fundamentally redesigned to create a Central Switching Service (CSS) and a Centralised Registration Service (CRS) to cover the domestic and non-domestic gas and electricity markets in a single common service. The new CSS will run all switching processes (not the DNO, as now) and is expected to launch in 2021.

- DNOs will be notified when switches have taken place.
- The average time to complete a switch increased from 15 to 16 days from 2017 to 2018. Switching in gas tends to take longer.
- Integration of the EMDH with CSS is still under discussion

## 8) Operational obligations/duties

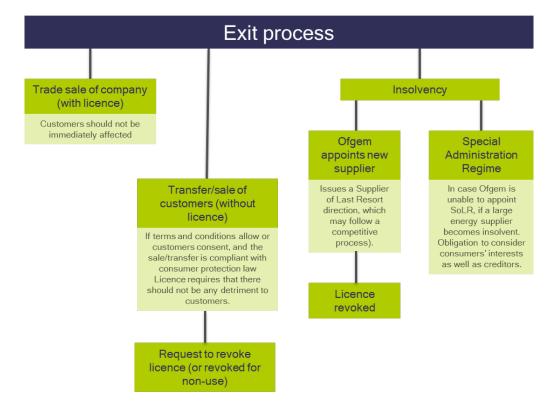


#### **Further comments**

All suppliers interact with Ofgem through reporting requirements. Across all obligations, fairness towards customers is emphasized: information & service must be sound, language must be plain, customers should have timely access to their own data, information on costs, environmental tariffs/benefits and other options must be transparent, etc.

- Price caps exist for customers on pre-payment meters (since 2017 until end 2020, coinciding with full smart meter roll-out) and for default tariffs (since 2019 until max. 2023, to be reassessed annually). The default tariff cap is "intended to protect disengaged customers until the right market framework is in place for competition to be effective". The decision on whether to extend the cap each year will be taken by the responsible minister, not the regulator. The cap level is updated twice a year, in April and October, with prices published two months earlier.
- Licensees must comply with all the codes mentioned in section 2 (Licenses, registrations & contracts) above, and also with any changes to these codes, and must cooperate with Ofgem around code planning & changes.
   Suppliers can apply to Ofgem for exemptions from some code obligations.
- Performance measures include duration & frequency of powercuts, customer satisfaction, rate of addressing complaints etc.
- Contracts may be open-ended or fixed-term (usually cheaper than the standard variable tariff), and may include a termination fee.
- Supply must not cross-subsidise other parts of the business

## 9) Market exit



#### **Further comments**

The past year has seen unusually high number of exits (10) from the household retail markets, either through company failure (and hence Supplier of Last Resort (SoLR) process) or through corporate decisions, as well as a a historic low (4) level of new independent entrants. The great majority of exits (eight) occurred in the second part of the year, where winter conditions put strain on the company's operations, and market players expect a similar pattern in autumn/winter 2019.

 Ofgem has the power to revoke a supplier's licence if operational obligations or other requirements are not met.

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