



New Thinking
For Energy

Analysis of UK electricity system actors

Dr Jeffrey Hardy

Senior Research Fellow
Grantham Institute, Imperial College London
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This report is the independent expert opinion of the author.

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Foreword

The energy system is changing rapidly. Decarbonisation drivers, technological change, digitalisation and user preferences are coming together to fundamentally alter the economics of energy resource provision, and this in turn is leading to new business models and tariffs, set around new resource offers.

The IGov project (www.exeter.ac.uk/igov) commissioned Jeff Hardy to update the Non-Traditional Business Models (NTBM) Report that he was responsible for in Ofgem in 2015. We wanted a snapshot of what is happening on the ground in the GB energy system: What kind of offerings are there? What type of companies are making them?

We are pleased to provide this report, the underlying [Excel spreadsheet](#) and a more detailed [analysis report](#).

The key argument of IGov is that governance (policies; institutions; regulations, such as codes; market design; network rules and incentives, retail policy) comes together to enable, undermine or channel innovation. We wanted to understand what changes have come to fruition, in terms of market offerings, over the last few years. Ultimately, we want to understand whether the current snapshot of the GB electricity system is likely to be sufficient to enable us to meet the Committee on Climate Change's Budgets.

Catherine Mitchell
Professor of Energy Policy

1 Introduction

This is a report supplied by Imperial Consultants by Dr Jeffrey Hardy for the University of Exeter.

The aim of the work was to map the current energy system actors based on a review and classification of their business models. The work was undertaken as a desk-based analysis and focused on consumer-facing business models, particularly electricity suppliers to domestic and non-domestic consumers. Further discussion of the findings of this study can be found in an accompanying report; which can be [found here](#) together with the data which informed both reports.

The structure of this report is as follows:

- Section 2 outlines the methods used
- Section 3 summarises the results divided between domestic and non-domestic electricity suppliers

2 Methods

2.1 Key sources of information

The list of registered electricity suppliers was downloaded from Ofgem's website¹ on 29th June 2018. This list was used as the basis for the work.

Further company information, such as size of business, status (e.g. active or non-active), age of business, were obtained from Companies House² and Endole³.

Business activities and value propositions were taken direct from the websites of the companies. In some instances, grey literature was also used to supplement information from the companies' websites.

Wider information, such as that on Ofgem sandbox trials, was taken direct from the primary source.

2.2 Approach

2.2.1 Data cleaning

Data on registered suppliers in Ofgem's "list of all electricity licensees with registered or service addresses" was initially cleaned on the following basis:

- **Active suppliers:** A supplier was marked "active" if it had a live website and up to date published accounts on Companies House. The absence of a website and a lack of account information or dormant accounts on Companies House indicated an inactive supplier. Some companies were found to be "dissolved" but had not revoked their supply licence.
- **Domestic and non-domestic suppliers:** Supplier websites were examined to find evidence of offers to domestic and/or business customers. In the case of the former, these suppliers were classed as domestic, but marked as serving both consumers. In the case of the business consumers only, the supplier was marked as non-domestic.

¹ <https://www.ofgem.gov.uk/publications-and-updates/list-all-electricity-licensees-registered-or-service-addresses>

² <https://beta.companieshouse.gov.uk/>

³ <https://www.endole.co.uk/>

- **Multiple licences:** Some companies were found have multiple licences. For example, npower has five registered supply licences. These were combined into a single entry for analysis.
- **Suppliers folding:** During the work, several suppliers (nine between January 2018 and January 2019) ceased trading and customers were transferred under Ofgem’s supplier of last resort guidance to another supplier⁴. Where this was picked up in this work, the supplier was removed from the analysis.
- **Supplier-in-a-box (SIAB):** Many supply businesses were found to come through a common route. A licensed supply company was set up by one of five companies as an off-the shelf supply company. When the company was bought, the company directors changed (e.g. the SIAB director ‘resigned’) as did (typically) the name of the supplier.

2.2.2 Segmentation approach

Two approaches were used for supplier segmentation.

First, the value propositions of the companies were categorised against the three broad themes and nine sub-themes identified in the Ofgem’s “Non-traditional business models: Supporting transformative change in the energy market” discussion paper (see Table 1). No examples of market propositions of “Housing Associations”[†] and “peer-to-peer” were found (although the latter is covered in section 3.2.4.4 under emerging business models⁵).

Local services	Bundled services	Customer participation
Community	Energy Service Companies	Peer-to-peer
Municipal	Multi-service providers	Demand side flexibility
Housing Associations	Market services	Prosumers
		Next generation intermediaries

Table 1: Ofgem broad and sub-themes of non-traditional business models

Second, additional value propositions were added during analysis of the company business models. In some cases, these provided more specificity on value propositions (e.g. time of use tariffs (TOUT) or represented a new value proposition (e.g. transparent⁶).

Segmentation analysis was undertaken by examining clusters of value propositions together with analysis of how businesses marketed their products to consumers.

The approach, but not the outcome, was the same for domestic and non-domestic suppliers.

[†] Although no exclusively housing association propositions were identified the analysis does include ‘Our Power’ which is a not-for-profit energy supplier owned by social housing providers, community organisations and local authorities.

⁴ <https://www.ofgem.gov.uk/publications-and-updates/supplier-last-resort-revised-guidance-2016>

⁵ <https://www.ofgem.gov.uk/publications-and-updates/non-traditional-business-models-supporting-transformative-change-energy-market>

⁶ i.e. offering unique insight into the energy supplier, perhaps as a way to create a more trustworthy supplier model, this could include things like: showing customer numbers; years till business profitable, etc

⁷ <https://www.ofgem.gov.uk/publications-and-updates/white-label-providers-consultation>

⁸ <https://www.ofgem.gov.uk/about-us/how-we-engage/innovation-link>

2.2.3 Wider Supply chain interactions

For domestic electricity suppliers a wider analysis of supply chain interactions was undertaken. These focused on the following:

White labels: Several licensed suppliers have a “white label” partnerships with organisations that do not hold a supply licence⁷. There is no official list of white labels, so the list used was built through internet searches and through company website analysis.

Important intermediaries: Switching sites are an important intermediary between consumers and suppliers. The range of electricity supplier switching sites was assessed through internet searches and through company website analysis.

Device vendors: During value proposition analysis of suppliers, relationships with device vendors (e.g. smart thermostats or digital assistants) became apparent. These were assessed through analysis of supplier and device vendor websites.

Emerging business models: Suppliers are undertaking various trials and forming new partnerships through innovation funding and through mechanisms such as the Ofgem regulatory sandbox⁸.

3 Results

3.1 Introduction

This section is a summary of the results. The data can be found in the accompanying [spreadsheet](#). This section is structured into two sub-sections – domestic (Section 3.2) and non-domestic suppliers (Section 3.3).

3.2 Domestic electricity suppliers

3.2.1 Market information

Domestic suppliers include suppliers that supply electricity to both domestic and business customers.

Since this project started nine domestic suppliers have ceased trading and their customers transferred to another supplier under Ofgem’s supplier of last resort (SOLR) guidance. The suppliers and that have ceased trading and the supplier chosen under the SOLR are summarised in Table 2.

Supplier that ceased trading	Appointed SOLR
Future Energy (January)	Green Star Energy
National Gas and Power (July)	Hudson Energy
Iresa (July)	Octopus Energy
Gen4U (September)	Octopus Energy
Usio Energy (October)	First Utility
Extra Energy (November)	Scottish Power
Spark Energy (November)	Ovo Energy
One Select (December 2018)	Together Energy
Economy Energy (January 2019)	Ovo Energy

Table 2: Domestic suppliers that ceased trading since June 2018 and the appointed SOLR

Due to the recent nature of some of these domestic suppliers ceasing to trade, not all been removed from the analysis (Usio Energy, Extra Energy, Spark Energy, OneSelect and Economy Energy remain in the analysis). The others were removed on the announcement that the businesses ceased trading.

With the caveat above, the following is an analysis of registered domestic electricity suppliers segmenting active and non-active suppliers and the route to market for suppliers.

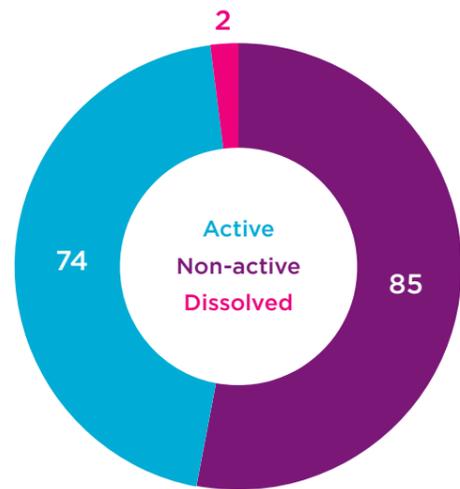


Figure 1: Total registered GB domestic electricity suppliers (as of 29th June 2018)

Total domestic suppliers

As of 29th June 2018, there were 161 licenced domestic suppliers in the Ofgem database.

Of these suppliers 74 were found to be 'active'. That is having some form of webpage where a customer can visit and procure services.

The majority, 85, appeared inactive in that no company website could be found and accounts on Companies indicated the company was dormant or not trading commercially.

Two of the companies were found to be dissolved but had not revoked their licences.

Customers of active suppliers

Of the 74 active domestic suppliers, there are 63 unique suppliers (as some suppliers hold multiple licences but market as a single company). Of those suppliers, 43 offer tariffs only to domestic consumers and 20 offer tariffs to both domestic and business consumers.

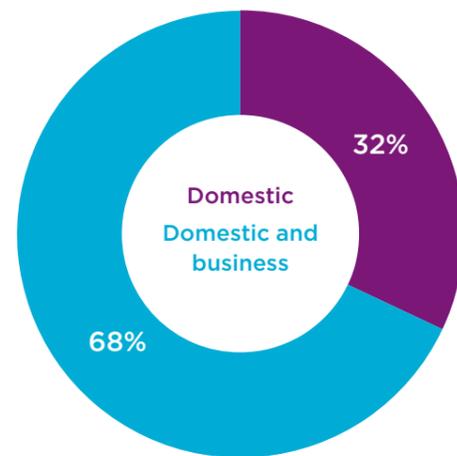


Figure 2: Active GB domestic electricity suppliers (as of 29th June 2018)

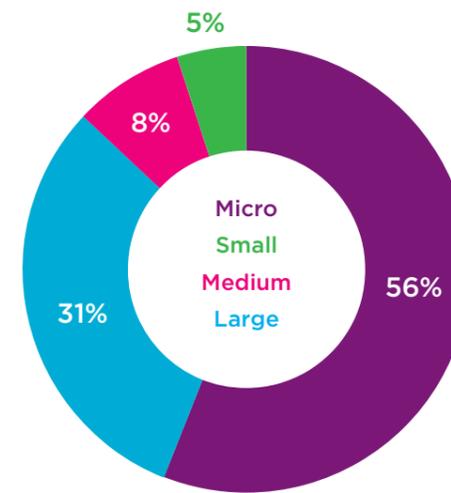


Figure 3: Business size of GB domestic electricity suppliers

Business size of GB domestic electricity suppliers

Based on data from Endole⁹ the majority (56%) of active domestic electricity suppliers in GB are micro-businesses. Large suppliers account for 31% of active suppliers. Medium and small suppliers account for 8% and 5% of the market respectively.

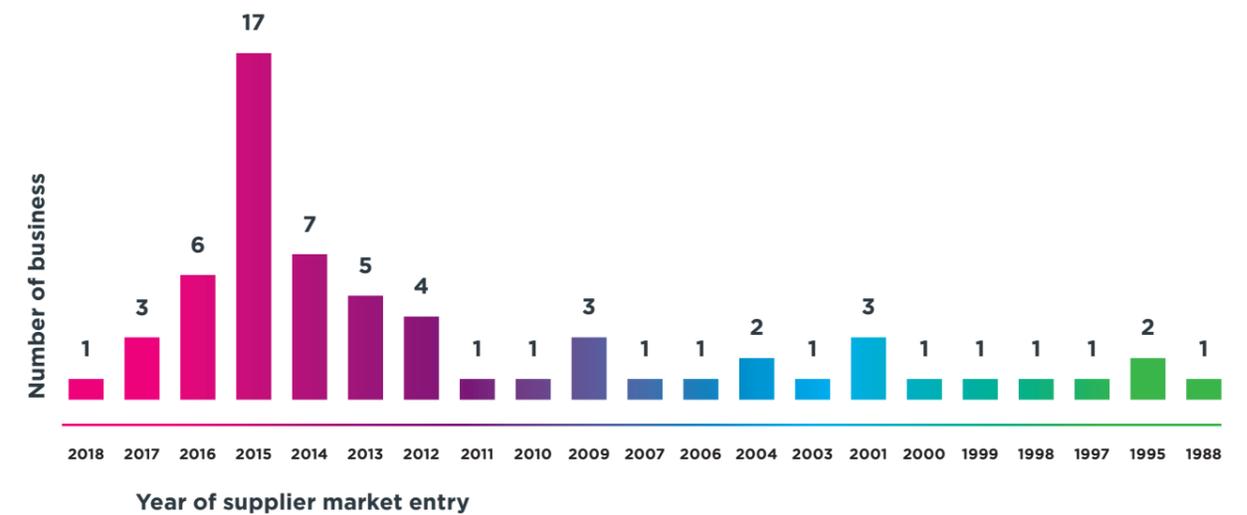


Figure 4: Operational years of GB domestic electricity suppliers

Figure 4 shows the year of market entry of active domestic electricity suppliers. The clear trend is over the past six-years where market entry was consistently high with a notable spike is in companies who entered the market three years ago.

⁹ <https://www.endole.co.uk/>

3.2.2 Importance of supplier-in-a-box (SIAB) model

This section examines the importance of the supplier-in-a-box (SIAB) model for market entry for domestic electricity suppliers in GB.

Supplier in a box (SIAB) – also known by other names such as “off-the-shelf” – is where a specialist utility IT systems vendor gains an electricity supply licence and accedes to the requisite industry codes¹⁰. This ready to go licenced company is then sold onto the new entrant and from this point forward the company assets are transferred to the new entrant and the new company can go through Controlled Market Entry (CME). This process results in the new entrant avoiding most the accession process itself.

Vendors of these services typically charge an initial purchasing fee, followed by a set-up/ configuration charge, and then ongoing licensing/ service charges.

The licensing/ services provided typically include the management of the supplier’s industry dataflows and processes, data hosting, and industry interaction gateways. Many new entrants take these services at the outset as it de-risks the potential to fall into non-compliance with industry codes and outsources the processing of industry dataflows into meaningful information (e.g. network company charges, customer metering problems etc.) that can be used by the new supplier.

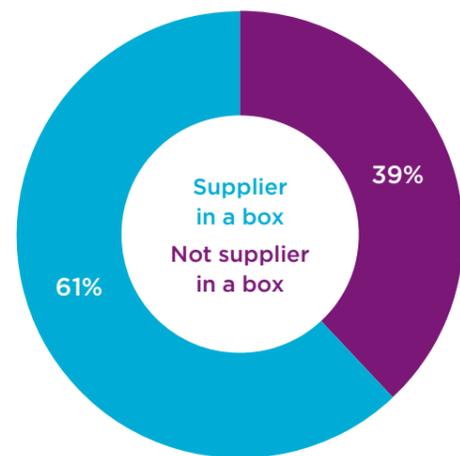


Figure 5: Share of domestic electricity suppliers that are SIAB

Route to market for domestic electricity suppliers

Of the 161 registered suppliers, 99 (61.5%) have entered the market via a SIAB route.

The average number of full operational years of a SIAB domestic electricity supplier is 3-years.

Active SIAB suppliers

Of the 99 registered suppliers who have entered the market via the SAIB route, 42 are active and the rest are inactive (e.g. a ‘shell’ supply businesses awaiting someone to purchase it).

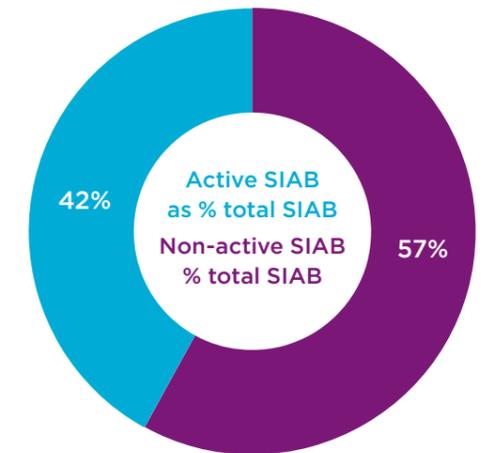


Figure 6: Market share of SIAB with licenced domestic electricity suppliers

There are five companies active in creating SIAB companies. These are:

- Utiligroup¹¹
- Dyball Associates¹²
- Utiliteam¹³
- Ensek¹⁴
- Critchleys LLP¹⁵

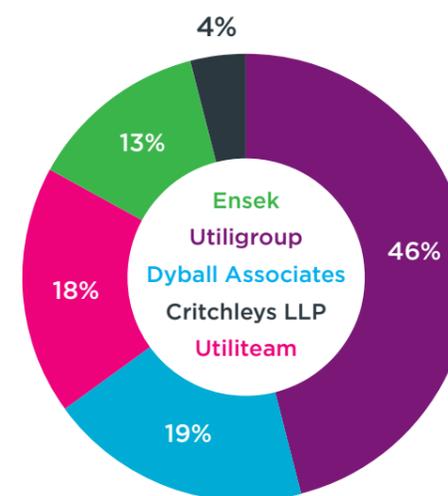


Figure 7: Market share of companies that set up SIAB

Market share of all SIAB domestic suppliers by service providers

Utiligroup has created the most licenced supplier businesses, with a market share of 46%. This is followed by:

- Dyball Associates – 19%
- Utiliteam – 18%
- Ensek – 13%
- Critchleys LLP – 4%

¹⁰ https://www.london.gov.uk/sites/default/files/energy_for_londoners_feasibility_study.pdf

¹¹ <https://www.utiligroup.com/>

¹² <https://www.dyballassociates.co.uk/>

¹³ <http://www.utiliteam.co.uk/>

¹⁴ <https://www.ensek.co.uk/>

¹⁵ <https://www.critchleys.co.uk/>

Market share of active SIAB domestic suppliers by service providers

The market share of active domestic electricity suppliers is different.

There are 42 SIAB active suppliers.

- Utiligroup – 45%
- Ensek – 24%
- Utiliteam – 17%
- Dyball Associates – 14%

Critchleys LLP has no active SIAB in the domestic supply market.

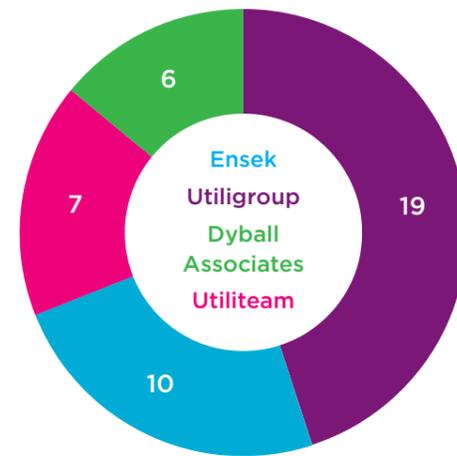


Figure 8: Market share for companies that set up SIAB for active suppliers

Of the 43 suppliers who entered the market in the last six years 27 (63%) have come via the SIAB route. This indicates the importance of this service in the recent period of high rates of new entry.

Of the eight suppliers that have ceased to trade since June 2018, two are a SIAB suppliers.

3.2.3 Value propositions of domestic supplier businesses

3.2.3.1 Value proposition categories used in analysis

An initial analysis of the value propositions of domestic electricity supply business models was undertaken against the categories as described in the Ofgem non-traditional business models (NTBM) consultation (see Table 1 for categories). A ‘traditional supplier’ category was also added to capture the incumbent business model.

On analysis of the active domestic electricity suppliers no examples of live propositions on Housing Associations and peer-to-peer energy were found. Examples of the latter were found in emerging business models, covered in section 3.2.4.4.

The NTBM value proposition categories assessed are summarised in Table 3. For a business to be considered offer a value proposition, evidence from the company website of a service aligned with the Ofgem NTBM category description was required.

Value proposition	Description
Traditional supplier	The supplier offers a traditional tariff to customers (e.g. standard variable tariffs, fixed-term tariff, pay as you go, etc) where customer pays per unit of electricity consumed.
Community	The supplier offers a community energy service with emphasis on community ownership, leadership or control where the community benefits.
Municipal	The supplier is municipally-owned or offers energy related services to municipal organisations.
ESCO	The supplier offers a proposition related to energy services (e.g. heating services).
Multi-service providers (MUSCO)	The supplier offers services in addition to energy provision (e.g. telecoms).
Market services	The supplier offers services to other market participants to help them operate within energy markets (e.g. power purchase agreements for community energy schemes).
Demand-side flexibility (DSF)	The supplier offers energy flexibility services such as demand-side response, energy storage and demand reduction.
Prosumers	The supplier offers services that help consumers become prosumers, including installation of microgeneration technologies and batteries.
Next generation intermediaries	Supplier offers services to help consumers switch.

Table 3: NTBM value propositions used in supplier analysis

During analysis of non-domestic electricity suppliers against the NTBM themes, a range of new or differentiated value propositions were discovered. In some cases, these provided more specificity on value propositions (e.g. aggregation as a specific manifestation of demand-side flexibility) or represented a new value proposition (e.g. smart homes). The new value propositions and a short description are summarised in Table 4.

Value proposition	Description
Smart home	The supplier has a focus on smart meters or smart technology in home including smart thermostats and other connected devices.
Storage	The supplier is offering an energy storage product, such as domestic battery.
Time of use tariff (TOU)	The supplier is offering a TOU.
Electric vehicles (EVs)	The supplier is offering a EV proposition like leasing an EV, EV charger installation and EV specific tariffs.
Segmentation	The supplier actively targets consumer segments, such as homes on pre-payment meters.
Transparent	The supplier offers transparency into its business, for example in terms of customer numbers, funding and profits.
Energy choice	The supplier is offering its customers choice in where energy comes from, for example a specific wind farm.

Table 4: Additional value propositions for domestic electricity suppliers

3.2.3.2 Value propositions offered by domestic electricity suppliers

These additional value propositions were combined with NTBM value propositions in an analysis of the active domestic electricity suppliers. Figure 9 summarises the results of the analysis.



Figure 9: Number of active domestic electricity suppliers offering different value propositions

The analysis shows that most domestic electricity suppliers offer a traditional supply proposition. There are five active licensed domestic electricity suppliers that do not undertake traditional supply:

- Arto.energy Ltd specialises in automating the feed-in tariff submission process
- Brits Energy Ltd specialises in creating Community Power Plants
- Evenergi UK Ltd does not appear to be an active company
- Labrador Ltd is an automated switching service
- Mongoose Energy Supply Ltd specialises in bringing together local people and commercial developers to identify, develop, finance, build and manage community-owned, energy projects

It is not clear in each of the cases above why the company has a supply licence, although it may relate to keeping an option open for future value propositions.

Beyond traditional supply there are no other common value propositions (e.g. propositions offered by majority of active suppliers). The value propositions offered by each of the active domestic electricity suppliers was analysed. These are summarised in Figure 10 below.

Value proposition

Supplier name	Traditional supplier	Community	Municipal	ESCO	MUSCO	Market services	DSF	Prosumers	Next gen TPis	Smart home	Storage	TOUT	EVs	Segmentation	Transparent	Energy choice
Ampoweruk Ltd	•															
Arto.Energy Limited						•										
Avid Energy Limited	•															
Avro Energy Limited	•															
Better Energy Supply Limited	•															
Breeze Energy Supply Limited	•															
Brilliant Energy Supply Limited	•															
Bristol Energy Limited	•	•	•			•										•
British Gas Trading Limited	•			•			•			•						
Brits Energy Limited	•	•				•										
Bulb Energy Ltd	•	•				•										
Cardiff Energy Supply Limited	•															
Co-Operative Energy Limited	•	•		•	•											•
E (Gas and Electricity) Limited	•															
E.ON Energy Solutions Limited	•			•				•		•	•		•			
Economy Energy Supply Limited	•															
EDF Energy Customers Limited	•									•						
Effortless Energy Ltd.	•														•	
Electricity Plus Supply Limited	•				•											
ENGIE Power Limited	•		•	•			•	•								
Enstroga Ltd	•															
ESB Energy limited	•															
Evenergi UK Ltd	•															
Eversmart Energy Ltd	•															
Extra Energy Supply Limited	•															
First Utility Limited	•				•	•										
Flow Energy Limited	•															
GNERGY Limited	•															
Good Energy Limited	•	•				•	•			•				•		
Green Energy (UK) plc	•						•					•				
Green Network Energy Ltd	•													•		
Hartlepower C.I.C.	•	•						•					•			
I Supply Energy Limited	•															
Igloo Energy Supply Limited	•															
Labrador Ltd	•								•							
Logicor Energy Limited	•									•						
Mongoose Energy Supply Limited	•	•														
Nabuh Energy Ltd	•														•	
Npower Limited	•			•												
Octopus Energy Limited	•				•	•	•					•	•			
Oneselect Limited	•															
Orbit Energy Limited	•															
Our Power Energy Supply Limited	•		•												•	
OVO Electricity Limited	•	•	•		•	•	•	•		•	•		•			
People's Energy (Supply) Limited	•	•													•	
PFP Energy Supplies Limited	•															
Pure Planet Limited	•															
Robin Hood Energy Limited	•		•			•										
Scottish Power Energy Retail Limited	•			•									•			
Simplicity Energy Limited	•															
Snowdrop Energy Supply Limited	•															
So Energy Trading Limited	•															
Solarplicity Supply Limited	•															•
Spark Energy Supply Limited	•															
SSE Electricity Limited	•			•	•											
The Renewable Energy Company Limited	•	•	•			•	•						•			
Tonik Energy Limited	•				•			•		•	•		•			
Toto Energy Ltd.	•															
Usio Energy Supply Limited	•											•				
Utilita Energy Limited	•													•		
Utility Point Limited	•															
Zebra Power Limited	•															
ZOG Energy Ltd	•															

Figure 10: Value propositions offered by each active domestic electricity supplier

Figure 10 shows that many suppliers only offer customers a traditional supply proposition, presumably competing on price and quality of service.

To better understand emerging market segments for domestic electricity suppliers offering 'non-traditional' propositions, the 'non-traditional' propositions were assessed. These are summarised in Figure 11 below¹⁶.

Supplier name	Value proposition														
	Community	Municipal	ESCO	MUSCO	Market services	DSF	Prosumers	Next gen TPIs	Smart home	Storage	TOUT	EVs	Segmentation	Transparent	Energy choice
Arto.Energy Limited					•										
Bristol Energy Limited	•	•			•										•
British Gas Trading Limited			•			•									
Brits Energy Limited	•				•										
Bulb Energy Ltd	•				•										
Co-Operative Energy Limited	•		•	•											•
E.ON Energy Solutions Limited			•				•		•	•		•			
EDF Energy Customers Limited									•						
Effortless Energy Ltd.														•	
Electricity Plus Supply Limited				•											
ENGIE Power Limited		•	•			•	•								
First Utility Limited				•	•										
GNERGY Limited													•		
Good Energy Limited	•				•	•				•					
Green Energy (UK) plc						•					•				
Green Network Energy Ltd													•		
Hartlepower C.I.C.	•						•					•			
Labrador Ltd								•							
Logicor Energy Limited									•						
Mongoose Energy Supply Limited	•														
Nabuh Energy Ltd													•		
Npower Limited			•												
Octopus Energy Limited				•	•	•					•	•			
Our Power Energy Supply Limited		•											•		
OVO Electricity Limited	•	•		•	•	•	•		•	•		•			
People's Energy (Supply) Limited	•													•	
Robin Hood Energy Limited		•			•										
Scottish Power Energy Retail Limited			•									•			
So Energy Trading Limited															•
SSE Electricity Limited			•	•											
The Renewable Energy Company Limited	•	•			•	•						•			
Tonik Energy Limited				•			•		•	•		•			
Usio Energy Supply Limited											•				
Utilita Energy Limited													•		

Figure 11: Value propositions of non-traditional suppliers

¹⁶ Note: Usio Energy Supply Limited ceased trading in October 2018 - its customers were transferred to First Utility via SOLR guidance.

¹⁷ Note: EDF is a new entry to this category - they announced a link with Powervault in November 2018

¹⁸ Note: Usio Energy Supply Ltd ceased trading in October 2018 and its customers were transferred to First Utility. It is unclear whether First Utility will offer the TOUT offered by Usio.

¹⁹ Supplies electricity to Utility Warehouse

3.2.3.3 Non-traditional domestic electricity supplier value propositions

The 'non-traditional' propositions were analysed to identify emerging non-traditional supplier business models. This was an analysis of clusters of value propositions in different suppliers. Table 5 aims to capture emerging clusters of non-traditional business models. As such only the companies from figure 11 which are offering similar propositions are represented.

Cluster name and value propositions	Suppliers	Description
Local energy <ul style="list-style-type: none"> Community Market services Energy Choice (for some) Municipal 	<ul style="list-style-type: none"> Bristol Energy Ltd Brits Energy Ltd Bulb Energy Ltd Good Energy Ltd Hartlepower C.I.C. Mongoose Energy Supply Ltd Ovo Electricity Ltd So Energy Trading Ltd The Renewable Energy Company Ltd: (Ecotricity) 	Focus on deployment or facilitating local energy including through investment in community energy schemes, facilitating market access (e.g. power purchase agreements with local energy schemes) and in some instances allowing consumers to choose specific local energy resources for their power.
Electric vehicle enablers <ul style="list-style-type: none"> EV 	<ul style="list-style-type: none"> EDF Energy Customers Ltd Hartlepower C.I.C Octopus Energy Ltd Ovo Electricity Ltd Scottish Power Energy Retail Ltd The Renewable Energy Company Ltd Tonik Energy Ltd 	Focus on offering a EV proposition like leasing an EV, EV charger installation and EV specific tariffs, to capture value in emerging EV markets.
Electrifiers <ul style="list-style-type: none"> Prosumer Storage Smart home 	<ul style="list-style-type: none"> EDF Energy Customers Ltd¹⁷ E.ON Energy Solutions Ltd Logicor Energy Ltd Ovo Electricity Ltd Tonik Energy Ltd 	Focus on offering behind the meter technologies that enable consumers to become prosumers, including solar PV and batteries.
Flexibility unlockers <ul style="list-style-type: none"> TOUT 	<ul style="list-style-type: none"> Green Energy (UK) plc Octopus Energy Ltd Usio Energy Supply Ltd¹⁸ 	Focus on providing TOUTs, varying price of electricity either half-hourly or in time bands.
Bundlers <ul style="list-style-type: none"> MUSCO 	<ul style="list-style-type: none"> Co-Operative Energy Ltd Electricity Plus Supply Ltd¹⁹ First Utility Ltd Octopus Energy Ltd Ovo Electricity Ltd SSE Electricity Ltd Tonik Energy Ltd 	Focus on bundling other products together with electricity supply, including phone, broadband and mobile phone.
Potential ESCOs <ul style="list-style-type: none"> Segmentation 	<ul style="list-style-type: none"> British Gas Trading Ltd Co-Operative Energy Ltd E.ON Energy Solutions Ltd Engie Power Ltd Npower Ltd Scottish Power Energy Retail Ltd SSE Electricity Ltd 	Focus on providing services such as boiler homecare packages, installation of smart home technologies, such as smart thermostats. Whilst not yet offering energy as a service, are creating enabling conditions to do so later.
Segmenters <ul style="list-style-type: none"> Segmentation 	<ul style="list-style-type: none"> GNERGY Ltd Green Network Energy Ltd Nabuh Energy Ltd Our Power Energy Supply Ltd Utilita Energy Ltd 	Focus on specific consumer groups, often those on pre-payment meters.

Table 5: Emerging non-traditional electricity supplier value propositions

To examine how value propositions have evolved since Ofgem published its analysis on NTBMs in 2015, the emerging value propositions (Table 5) were mapped on to the three broad themes identified by Ofgem – local services, bundled services and customer participation as shown in Figure 12.

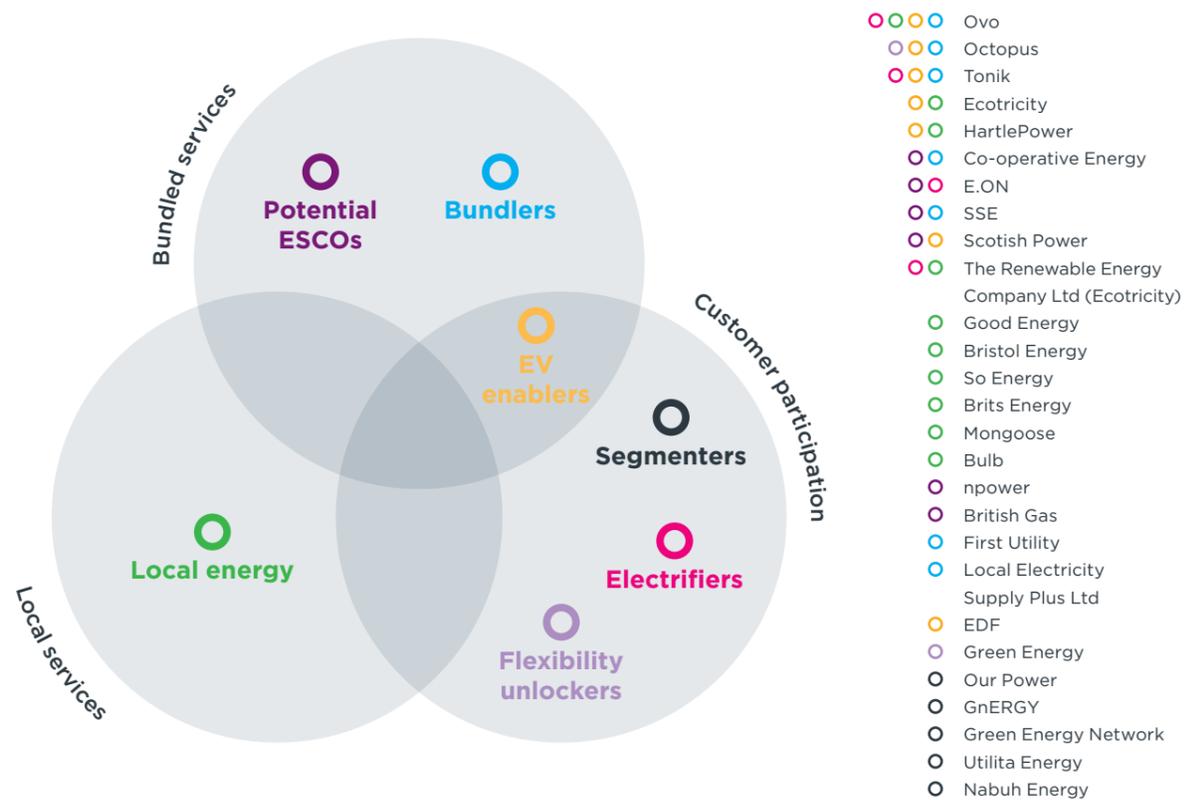


Figure 12: Emerging domestic electricity supplier value propositions compared to broad NTBM themes

The emerging value propositions of domestic electricity suppliers map well onto the three themes from outlined in the Ofgem NTBM discussion paper.

Several of the emerging value propositions are similar those identified in the original NTBM paper, including local energy, ESCOs and bundled services, although in all cases the number of providers is greater.

The ‘EV enablers’ value proposition has greatly expanded since 2015. This is likely to be linked with increasing confidence in the deployment of EVs and the opportunity to create new value for traditional utilities through supplying electricity and wider EV services (such as leasing and charging infrastructure). This value was outlined in a recent paper demonstrating the size of the prize for electricity utilities²⁰.

The ‘electrifiers’ value proposition is interesting because it appears to contradict a traditional supplier business model by installing technologies in consumer homes (such as solar PV and batteries) that reduce consumer demand for electricity, thus cannibalising the energy supply side of the business.

²⁰ Wegner, M.-S., Hall, S., Hardy, J., & Workman, M. (2017). Valuing energy futures; a comparative analysis of value pools across UK energy system scenarios. Applied Energy, 206, 815-828.

The ‘segmenters’ value proposition was identified in the NTBM discussion paper as “niche suppliers”. Whilst consumer segmentation still appears ‘traditional’ (e.g. segmentation on meter types), the continuing roll out of smart meters is likely to create further opportunity for segmentation in the future as granularity on consumer demand profiles and behaviours becomes available.

It is also clear from the analysis that there are a few companies that are innovating on multiple fronts. For example:

- Ovo Energy Ltd is offering local energy, bundling, EV and electrifier propositions
- E.ON Energy Solutions Ltd is offering ESCO and electrifier propositions
- Octopus Energy Ltd is offering TOUT and EV services
- Hartlepower C.I.C. is offering local energy, EV and prosumer propositions

3.2.4 Wider supply chain interactions

The previous section focused on the propositions domestic electricity suppliers are selling direct to customers. This section focuses on wider supply chain interactions that suppliers are engaging in including white labels, important third-party intermediaries, partnerships with device vendors and trials exploring future business models.

3.2.4.1 White labels

In the retail energy market, a ‘white label’ is an organisation that does not hold a supply licence, but instead works in partnership with a licensed ‘partner supplier’ to offer tariffs under the white label brand²¹.

There are four main suppliers that offer white labels. Of these, Robin Hood Energy Ltd and Ovo Electricity Ltd are the most active.

Licensed Partner Supplier	White Label
OVO Electricity Limited	<ul style="list-style-type: none"> • Fairerpower • Peterborough Energy • Southend Energy • EnergySW
Robin Hood Energy Limited	<ul style="list-style-type: none"> • Angelic Energy • Great North Energy • Ram Energy • Your Energy Sussex • White Rose Energy • Liverpool Energy Community Company (LECCY) • Citizen Energy • EBICO
Octopus Energy Limited	<ul style="list-style-type: none"> • M&S Energy
British Gas Trading Limited	<ul style="list-style-type: none"> • Sainsburys Energy

Table 6: White label suppliers and licensed parent suppliers

²¹ <https://www.ofgem.gov.uk/publications-and-updates/white-label-providers-consultation>

The types of White Label are split between well-known consumer brands like M&S and Sainsbury's and models focused on segmenting consumers, either locally, or those in fuel poverty in the case of EBICO.

3.2.4.2 Important intermediaries

Switching sites are an important intermediary to connect consumers with offers available from energy companies in the market. A recent development in the market is the emergence of auto-switching sites that automatically switch consumers to better value tariffs.

Switching sites tend to fall into three categories:

- Energy (e.g. gas and electricity) only switching sites. These sites address complexity and issues associated with multiple tariffs the current electricity and gas market. They encourage switching based on price.
- Multi-product switching sites, where you can compare multiple products such as energy, insurance, telecommunications and finance. Such sites could become important where products become increasingly bundled and thus offers become more complicated.
- Auto-switching sites. There has been increased activity in this area recently and five sites now offer this service:
 - Flipper
 - Switchcarft
 - Switchd
 - Labrador
 - lookaftermybills.com

Such sites could become important as they remove some of the effort from switching. It could also be an important first step for new energy service offers where companies take decisions on behalf of consumers.

3.2.4.3 Supplier partnerships with device vendors

Some suppliers are starting to reach behind the meter into households and small businesses, for example the electrifier value proposition in section 3.2.3. To do so suppliers are creating new partnerships with device vendors. This is captured in Table 3.

Table 7: Domestic supplier partnerships with device vendors

Behind the meter technology	Device Vendor	Supplier(s)	Service
Digital Assistants	Amazon Alexa	British Gas EDF	Ability to access account information via digital assistant
	Google Home	First Utility	Ability to access account information via digital assistant
Home energy management system	Hive	British Gas	Offer range of Hive products and home contracts.
	Netatmo	EDF	EDF offers range of Netatmo products
	Nest	Engie First Utility	Both offer a tariff that comes with a free Nest thermostat
	Tado	SSE	SSE markets the Tado smart thermostat
	Honeywell	Scottish Power	Can buy and book installation via Scottish Power website.
EV charging	Myenergi	Octopus Energy	Partnership to bring customers the Zappi smart charger.
	Eomini	Tonik Energy	Partnership to bring homes the smallest fast home EV charger.
	Ovo Energy	Ovo Energy	Domestic scale V2G EV charger (Ovo's own)
Electric heating	Logicor Clear Heater	Logicor Energy	Flex Discount tariff if the customer has a Logicor heater installed, including discounts for customers who provide high level of flexibility.
	Ovo Energy	Ovo Energy	VCharge gives smart heating control to electric storage heaters.

Whilst several suppliers were found to offer batteries, details on the device vendor was only clear with Ovo (own brand) and EDF (Powervault).

The range of devices represented above mean that suppliers potentially have much greater presence behind the meter in homes and businesses. Also, given the connected nature of many of the devices, they potentially offer the supplier greater insight into consumer energy use and behaviour.

3.2.4.4 Emerging business models

Several suppliers are trialling new business models along with partners, enabled by initiatives such as the Ofgem Regulatory Sandbox. This section covers peer-to-peer (P2P) energy and flexibility marketplaces. Peer-to-peer trials are summarised in Table 8 and flexibility marketplaces are summarised in Table 9.

P2P trials

Four P2P trials were identified; three through the Ofgem Regulatory Sandbox and one from Piclo, initially funded via BIES.

Trial name and key supplier	Partners	Description
Piclo P2P energy matching Supplier: Good Energy Ltd	Piclo (formally known as Open Utility)	Piclo have created a service for energy retailers who want to build a new business customer proposition around local energy. It matches generators with businesses, including allowing businesses to choose specific generators. The service is marketed by Good Energy as "Selectricity ²² ".
Brixton P2P trial Supplier: EDF	Shell, Electron, National Grid and Siemens, Baringa, Flexitricity, Kiwi Power, Northern Powergrid, Open Energi, Statkraft and UK Power Networks.	There is little detail on this project, the following is taken from the Ofgem Regulatory Sandbox ²³ . <i>A consortium led by EDF Energy R&D UK and including Electron, PassivSystems, Repowering London and University College London are trialling a peer-to-peer local energy trading platform. The platform aims to allow residents in urban areas to source their energy from local renewables and trade that energy with their neighbours, increasing self-consumption of low carbon energy and reducing overall energy costs.</i>
Empowered Supplier: Not known	Not known	There is little detail on this project, the following is taken from the Ofgem Regulatory Sandbox ²² . Trialling a local peer-to-peer energy trading scheme. The trial aims to enable consumers to trade electricity directly with each other and yield benefits for the local community and the wider electricity system.
Hackney Banister House Estate Supplier: British Gas (Centrica)	Verv Repowering London Powervault	This trial aims to allow residents to benefit more directly from the solar by reducing the cost of their electricity. Verv and British Gas will trial a new arrangement that maximises the benefits from local generation and tests peer-to-peer electricity trading across a distributed ledger platform. The trial executed the UK's first physical trade of energy on the blockchain in April 2018 ²⁴ .

Table 8: Peer-to-peer energy trials

²² <https://www.goodenergy.co.uk/selectricity/>

²³ https://www.ofgem.gov.uk/system/files/docs/2018/09/outcome_of_sandbox_window_1.pdf

²⁴ <https://verv.energy/weve-just-executed-the-uks-first-energy-trade-on-the-blockchain-as-we-look-to-power-a-london-social-housing-community-with-sunshine/>

Flexibility marketplaces

Trial name and key supplier	Partners	Description
Centrica Cornwall Local Energy Market Supplier: Centrica (British Gas)	Western Power Distribution, National Grid, Exeter University, Imperial College London	The trial in Cornwall will create a virtual marketplace that will provide participants with a platform to buy and sell energy and flexibility both to the grid and the wholesale energy market.
Piclo Flex Supplier: No electricity supplier, Piclo operates this service	UK Power Networks, Scottish & Southern Electricity Networks, Electricity North West, SP Energy Networks, Northern Powergrid, Western Power Distribution	Piclo Flex is an independent marketplace for buying and selling smart grid flexibility services. The platform runs flexibility auctions and matching algorithms.

Table 9: Flexibility marketplace trials

These emerging business models demonstrate an interest by suppliers, and other energy market participants, in capturing new value through direct P2P trades from the growing cohort of prosumers, and value from energy system flexibility.

3.3 Non-Domestic suppliers

Non-domestic suppliers include suppliers that sell to business customers. These customers range from micro-businesses through to very large businesses. The services offered to different customers depends somewhat on profile classes, for small businesses the supplier customer relationship is like that of domestic customers. For large users, particularly for businesses with peak load usage above 100kW, which are mandated to have half-hourly electricity metering services are often more bespoke and include unbundling of certain charges in the bill.

3.3.1 Market information

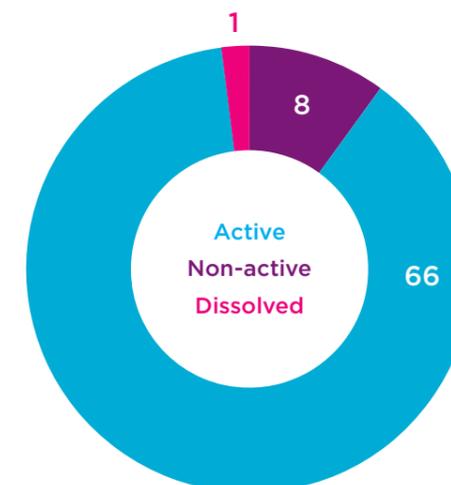


Figure 13: Active, non-active and dissolved non-domestic electricity suppliers

Total non-domestic suppliers

As of 29th June 2018, there were 75 licenced non-domestic suppliers in the Ofgem database.

Of these suppliers 66 were found to be 'active'. That is having some form of webpage where a customer can visit and procure services.

Eight appeared inactive in that no company website could be found and accounts the Companies House website indicated the company was dormant or not trading commercially.

One of the companies was found to be dissolved but had not revoked their supply licences.

Business size of non-domestic electricity suppliers

According to Endole²⁵ micro-businesses (53%) account for the greatest share of active non-domestic electricity suppliers in GB. Large suppliers account for 31% of active suppliers. Medium and small suppliers account for 9% and 7% of the market respectively.

Note: Eight suppliers had no business size classification on Endole, so were excluded from this chart.

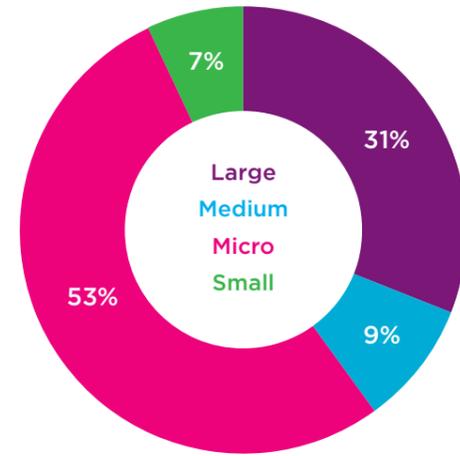


Figure 14: Size of non-domestic suppliers

3.3.2 Importance of supplier-in-a-box (SIAB) model

This section examines the importance of the supplier-in-a-box model for market entry for non-domestic electricity suppliers in GB.

Of the 66 active non-domestic suppliers 15 (23%) have entered the market via a SIAB route.

Four SIAB companies are responsible for creating these non-domestic suppliers – Utiligroup (5 suppliers), Ensek (4), Utiliteam and Dyball Associates (3 each).

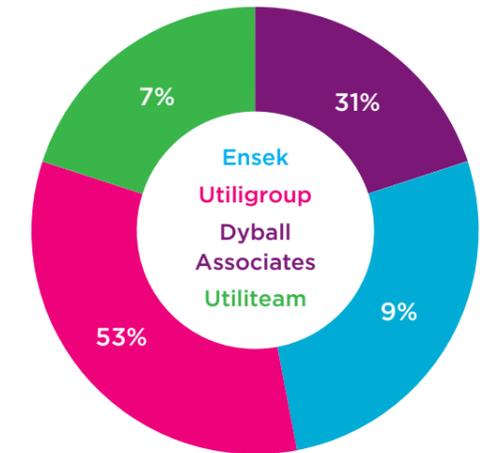


Figure 16: Market share of SIAB with licenced non-domestic electricity suppliers

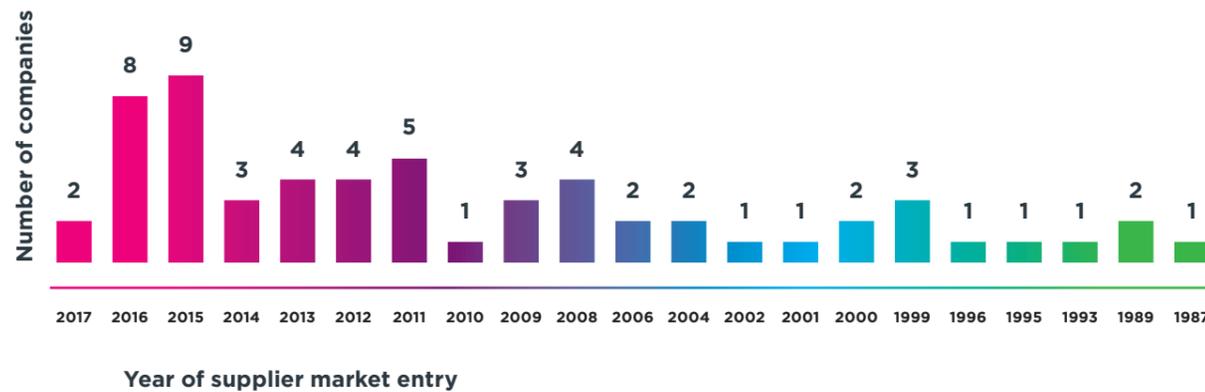


Figure 15: Year of market entry of non-domestic suppliers

Figure 15 shows the completed operational years of active non-domestic electricity suppliers. It shares some similarities with domestic suppliers (Figure 4), in that there has been significant market entry over the past six years (in fact seven-years in this case), with a peak in years two and three.

This indicates that SIAB is a less important (yet still significant) route-to-market for non-domestic suppliers compared with domestic suppliers.

3.3.3 Value propositions of non-domestic supplier businesses

An initial analysis of the value propositions of non-domestic electricity supply business models was undertaken against the categories as described in the Ofgem non-traditional business models (NTBM) consultation (see Table 1 for categories). A ‘traditional supplier’ category was also added to capture the incumbent business model.

On analysis of the active non-domestic electricity suppliers no examples of live propositions on Housing Associations and peer-to-peer energy were found.

The NTBM value proposition categories assessed are summarised in Table 3 in Section 3.2.3 above. For a business to be considered offer a value proposition, evidence from the company website of a service aligned with the Ofgem NTBM category description was required.

During analysis of non-domestic electricity suppliers, a range of new or differentiated value propositions were discovered. In some cases, these provided more specificity on value propositions (e.g. time of use tariffs (TOU) as a specific manifestation of demand-side flexibility) or represented a new value proposition (e.g. transparent). The new value propositions and a short description are summarised in Table 10.

Value proposition	Description
Connections	The supplier offers a service for electricity or gas connection to a business.
Trading	The supplier is offering energy trading services.
PPAs	The supplier is offering power purchase agreements (PPAs).
Unbundling costs	The supplier is offering to unbundle various charges for electricity for large customers, like network costs (typically for half-hourly settled customers on 00 meter profile classes).
Storage	The supplier is offering to sell or install a battery product or service.
Smart business	The supplier offers to make businesses smarter by installing smart and connected equipment, including energy management systems.
EVs	The supplier is offering an EV proposition, such as tariffs, leasing and charging infrastructure.
Asset management	The supplier is offering to operate and maintain energy assets on behalf of customers.
Generation	The supplier owns and offers to build/install generation for customers.
Aggregation	The supplier offers aggregation and virtual power plant services for customers.
Energy efficiency	The supplier offers energy efficiency services, such as energy performance contracting.

Table 10: Additional value propositions for non-domestic electricity suppliers

3.3.3.1 Value propositions offered by non-domestic electricity suppliers

These additional value propositions were combined with NTBM value propositions in an analysis of the active domestic electricity suppliers. Figure 17 below summarises the results of the analysis.

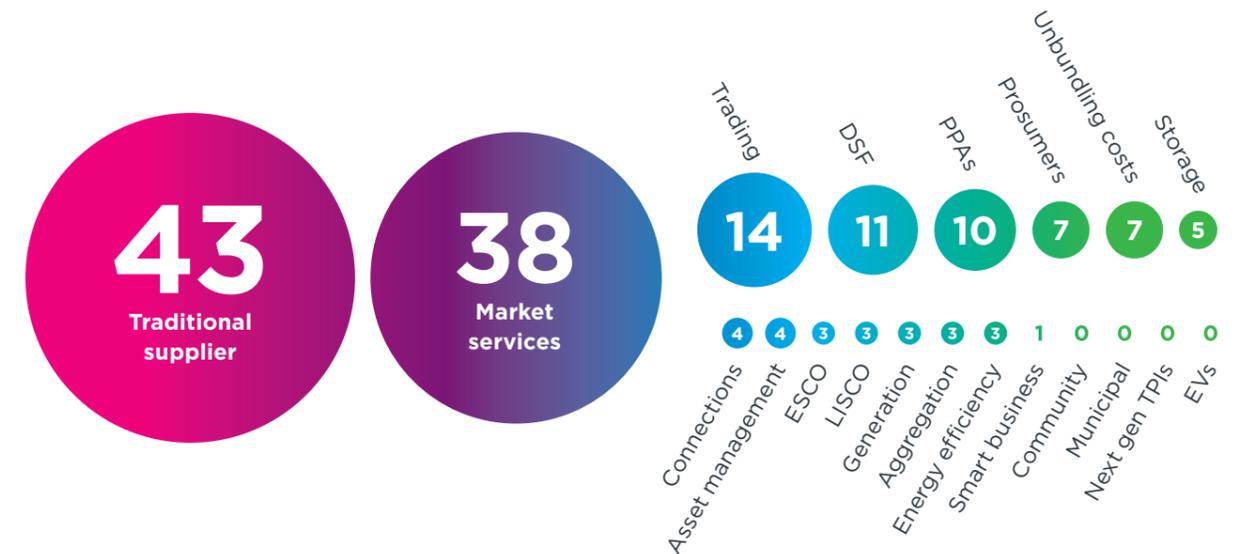


Figure 17: Number of active non-domestic electricity suppliers offering different value propositions

The analysis shows a difference between domestic and non-domestic suppliers. Whilst many non-domestic suppliers offer a traditional supply proposition, around 35% of suppliers do not. More than half the non-domestic suppliers offer some form of market service. These include demand-side flexibility (DSF), trading and PPAs.

The value propositions offered by each of the active non-domestic electricity suppliers were analysed. These are summarised in Figure 18 below.

Value proposition

Supplier name	Traditional supplier	Community	Municipal	ESCO	LISCO	Market services	DSF	Prosumers	Next gen TPIs	Connections	Trading	PPAs	Unbundling costs	Storage	Smart business	EVs	Asset management	Generation	Aggregation	Energy efficiency
Affect Energy Ltd	•																			
Axis Telecom Limited	•				•															
AXPO UK Limited	•					•						•								
BES Commercial Electricity Limited	•				•															
Brook Green Trading Limited	•					•					•									
Bryt Energy Limited	•					•	•	•					•	•			•			
Business Power and Gas Limited	•					•														
CNG Electricity Limited	•					•				•										
Corona Energy Retail 4 Limited	•					•														
Coulomb Energy Supply Limited	•					•														
Danske Commodities A/S	•					•						•								
Delta Gas and Power Limited	•					•	•													
Dual Energy Direct Limited	•					•														
Dyce Energy Limited	•					•														
E.ON UK Plc	•		•				•	•						•	•					•
E2M - Energy Trading Ltd.	•					•	•				•									
Electroroute Energy Limited	•					•					•									
ElectroRoute Supply Limited	•					•					•									
Eneco Energy Trade BV	•					•					•									
EPG Energy Limited	•					•							•							
F & S Energy Limited	•					•				•										
Flexitricity Limited	•					•	•						•							
Gazprom Marketing & Trading Retail Limited	•					•					•									
Greater London Authority	•					•														
GridBeyond Limited	•					•									•				•	
Hartree Partners Supply (UK) Limited	•					•					•									
Haven Power Limited	•					•														
Hudson Energy Supply UK Limited	•					•								•						
I.A.Z.F.S. Limited	•					•				•										
Kensington Power Limited	•					•	•	•				•						•		
LCC Group Limited	•					•														
Limejump Energy Limited	•					•	•				•	•							•	
Lourdes Associates Limited	•					•														
MA Energy Limited	•					•														
Marble Power Limited	•					•							•							
Mercuria Energy Europe Trading Limited	•					•					•									
MVV Environment Services Limited	•					•														
National Gas and Power Limited	•					•														
Nationwide Electricity Limited	•					•														•
Neas Energy Limited	•					•					•									
New Stream Renewables Limited	•					•	•					•		•				•		
Npower Direct Limited	•					•				•										
Opal Gas Limited	•					•														
Opus Energy (Corporate) Limited	•					•						•	•							
Orsted Power Sales (UK) Limited	•			•		•	•	•												
Orsted Sales (UK) Limited	•			•		•	•	•												
Planet 9 Energy Limited	•					•							•							
Pozitive Energy Ltd	•					•														
PX Supply Limited	•					•					•									
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Shell Energy Europe Limited	•					•														
Shell Energy Supply UK Ltd.	•					•					•									
SmartestEnergy Limited	•					•	•					•		•			•			
Squeaky Clean Energy Limited	•					•						•								
Statkraft Markets GmbH	•					•					•								•	
Switch Business Gas and Power Ltd	•					•														
Symbio Energy Limited	•					•		•												
Total Gas & Power Limited	•					•														
Tradelink Solutions Limited	•					•														
UK Power Reserve Limited	•					•	•											•	•	
United Gas & Power Ltd	•					•														
Ure Energy Limited	•					•		•												•
Uttilly plc	•					•														
Vattenfall Energy Trading GmbH	•					•					•									
Verastar Limited	•					•														
XLN Energy Limited	•				•															

Figure 18: Value propositions of non-traditional suppliers (non-domestic)

3.3.3.2 Non-traditional non-domestic electricity supplier value propositions

The ‘non-traditional’ propositions were analysed to identify emerging non-traditional supplier business models. This was essentially an analysis of similar clusters of value propositions in different suppliers. Four clusters were identified. These are summarised in Table 11.

Cluster name and value propositions	Suppliers	Description
Aggregators <ul style="list-style-type: none"> • Aggregation • DSF • PPA • Trading • Storage 	<ul style="list-style-type: none"> • E2M - Energy Trading Ltd • Flexitricity Ltd • Gridbeyond Ltd • Limejump Energy Ltd • UK Power Reserve Ltd 	Focus on the assets (such as generation and storage) and platforms (flexibility platforms) required to undertake aggregation services including virtual power plants.
ESCO <ul style="list-style-type: none"> • Energy efficiency • Prosumers • Energy management 	<ul style="list-style-type: none"> • EON UK Plc • Bryte Energy Ltd • Orsted Sales (UK) Ltd 	Focus on offering energy service company proposition, including energy performance contracting, installation of generation and storage and smart energy management systems.
Embedded generation <ul style="list-style-type: none"> • Generation • Prosumer • PPA 	<ul style="list-style-type: none"> • Kensington Power Ltd • Orsted Sales (UK) Ltd • Symbio Energy Ltd 	Focus on installing generation at customers sites.
Asset management <ul style="list-style-type: none"> • Asset management 	<ul style="list-style-type: none"> • Bryte Energy Ltd • New Stream Renewables Ltd • SmartestEnergy Ltd 	Focus on operating and managing assets on behalf of customers including renewable generation and storage.

Table 11: Emerging non-traditional electricity supplier value propositions (non-domestic)

There are less emerging non-domestic supplier value propositions compared to domestic suppliers. In part this is because there several propositions that would be considered novel in domestic suppliers, but are business as usual for non-domestic suppliers, such as unbundling of costs for large businesses and demand-side flexibility services, such as triad avoidance²⁶.

All four of the value propositions entail a closer relationship with customers. In the case of ESCOs and embedded generation, this includes installation of equipment at the customers premises and providing an ongoing service, such as an energy performance contract. In the case of asset management and aggregation, this involves handing over control of the assets or performance in return for better outcomes.

26 <https://www.nationalgrideso.com/news/triads-why-three-magic-number>



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