

Competition in UK electricity markets

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Key headlines

Following privatisation in 1990, the number of UK major electricity suppliers has increased from 16 in 1989 to 35 in 2021. In 2021, 3 companies BEIS surveyed which were over the 0.1% market share threshold in 2020 discontinued supply, and 1 dropped below the threshold.

From 2010 to 2019, electricity market concentration had gradually declined across the domestic, commercial and industrial sectors as more companies entered the market. However, market concentration over the past 2 years increased across all sectors.

The market share of smaller suppliers (outside the top nine) has risen from 2.7 per cent in 2010 to 19.4 per cent in 2021, as new and smaller suppliers took market share from the large companies.

Major power producers (MPPs) have remained relatively stable since 2015, having increased from 6 in 1989 to 54 in 2021.

The top nine MPPs' share of generation increased from 75.8 per cent in 2016 to 77.3 per cent in 2021. Their share of capacity increased from 62.4 per cent in 2016 to 69.5 per cent in 2021 as new smaller generators entered the market.

This article includes information relating to competition in the UK electricity market, formerly published as part of UK Energy Sector Indicators. The article examines the two parts of the industry where there is competition for provision: generation and sales. For both markets, the article describes the number of companies operating, and the market concentrations. The Herfindahl-Hirschman measure (see explanation in methodology notes at the end of this article) is used to provide the market concentration as it provides extra emphasis on the contribution of participants with the largest shares. For electricity sales, this article covers the major suppliers surveyed by BEIS comprising approximately 96% of the market. Major electricity suppliers are classed as those which sold over 0.1% of traded electricity in the reference year (see further information in methodology notes at the end of this article).

Background to changes in the electricity market

The electricity supply industry was restructured in 1990, with competition being introduced to the electricity markets in three phases. First the upper tier of the non-domestic market (customers with a maximum demand of over 1 MW, comprising 30 per cent of the market) was opened to competition in March 1990. Next, the 100 kW to 1 MW tier (15 per cent of the market) was opened to competition in April 1994. Full competition for the remaining 55 per cent of the market (below 100 kW peak load) was introduced in stages between September 1998 and June 1999. This final phase covered domestic consumers who account for over a third of electricity consumed in the UK.

Following the restructuring of the electricity supply industry, the former nationalised companies were classified as major generating companies to distinguish them from autogenerators and the new companies set up to generate electricity. However, over the next few years, some new independent companies were beginning to make significant contribution to the electricity supply and therefore a new terminology "Major Power Producers" (MPPs) was introduced to signify those companies whose prime purpose is the generation of electricity. The breakup of the nationalised power suppliers into smaller privatised companies immediately increased market competitiveness, with new companies beginning to build their own Combined Cycle Gas Turbine (CCGT) stations from 1992. Major wind farm companies and major solar photovoltaic (PV) operators are now also included in the MPP definition.

Competition in electricity sales

The number of electricity suppliers rapidly increased following privatisation, from 16 in 1989 to an early peak of 21 in 2004. From 2004 to 2010, the number of companies reduced to 13, as despite new market entrants, other companies were either taken over or bought additional power stations to add to their portfolios. After 2010, the number of companies increased again, reaching their highest level in 2018 of 39 companies. This reflected new market entrants and BEIS engaging with new, smaller companies to maintain coverage in the more fragmented market. From 2020 to 2021, limited supply, storage, and increasing demand in gas significantly raised the price of fuel used to create electricity. These extra costs contributed to the discontinuation of 4 energy suppliers with over 0.1 per cent of market share, reducing the number of companies to 35. These impacts are likely to have further decreased market competition in 2022.

The number of companies supplying electricity to each sector is given for selected years between 1996 and 2021 in Table 1.

Table 1: Number of companies supplying electricity [note 1]

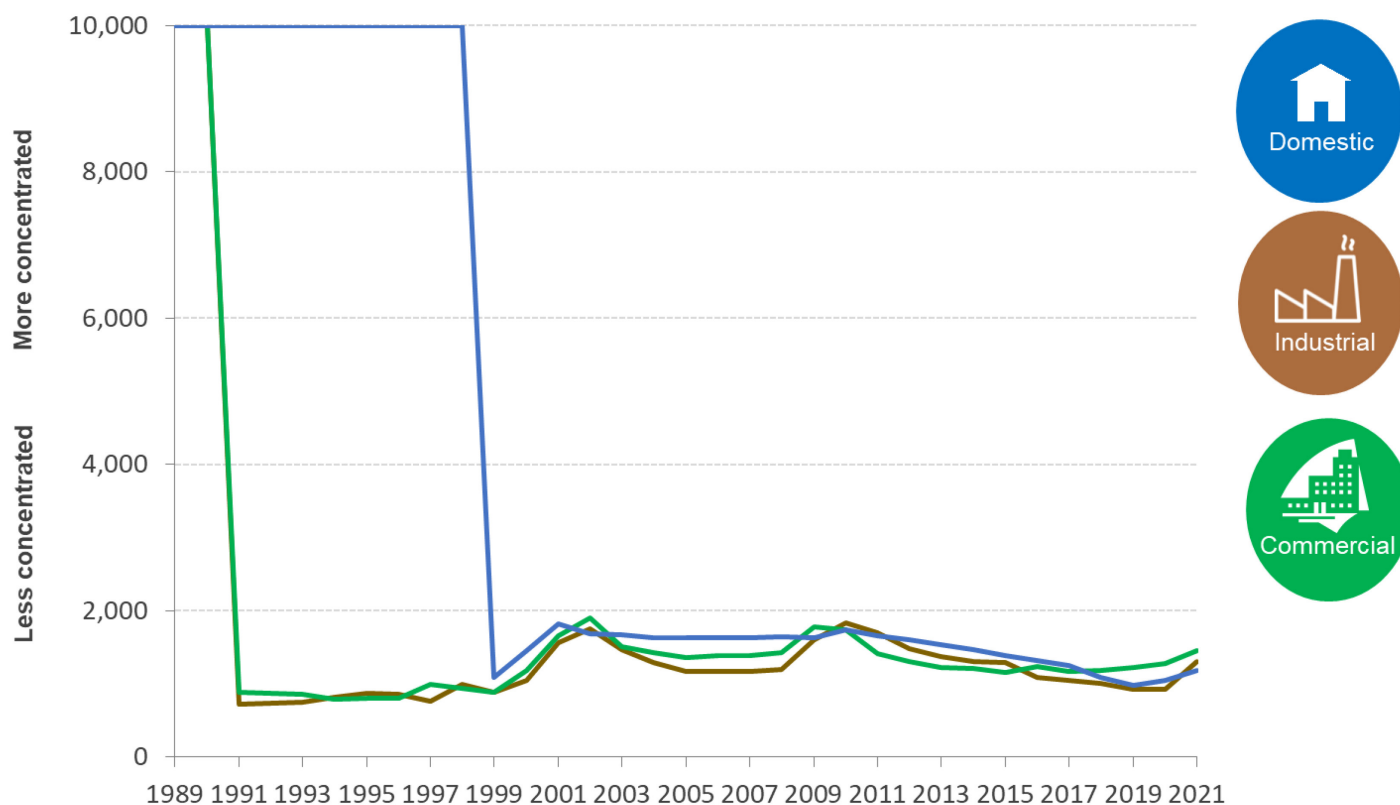
	1996	2000	2002	2004	2006	2008	2010	2012	2014	2016	2018	2020	2021
Domestic Sector	1	11	7	10	9	9	8	11	16	19	28	27	23
Commercial Sector	17	13	11	17	12	13	11	17	22	26	29	30	26
Industrial Sector	18	17	14	20	16	15	12	19	21	25	25	27	25
Total	18	18	17	21	19	18	13	21	27	34	39	39	35

[note 1] Companies can supply into more than one market and are counted in each market they supply to. Only includes companies that sold over 0.1% of traded electricity in the reference year.

In 2021, no new electricity suppliers were surveyed by BEIS which supplied over 0.1 per cent of the market share, three companies discontinued supply, and one supplier reduced market share to below the 0.1 per cent threshold for inclusion. All these companies sold electricity in the domestic and commercial markets, whilst two sold in industrial.

Chart 1 below shows the market concentration as expressed through the Herfindahl-Hirschman Index. In the chart, higher numbers show more concentration while lower numbers indicate a more diverse market. Further information on the Herfindahl-Hirschman index can be found at the end of this article.

Chart 1: Herfindahl-Hirschman Index for electricity sales market concentration, 1989 to 2021



There was an initial sharp decrease in market concentration following privatisation, then a rise between 1998 and 2002, mainly due to a spate of mergers. Market concentration again until 2008, where market concentration increased again as several closures reduced the number of market participants. From 2010 to 2019, market concentration again declined in the domestic and industrial sector, with commercial having sharply decreased between 2010 to 2012, then remaining relatively stable from 2012 to 2019.

In 2020 and 2021 both the domestic and commercial market concentration increased due to mergers between large suppliers and suppliers exiting the market.

Industrial market concentration remained stable between 2019 and 2020, however sharply increased in 2021 due to mergers between large suppliers and another exiting the market.

Electricity supplied to all consumers by aggregated shares

Table 2 shows how the market share of the largest companies have changed since 2010. The market share of the top nine suppliers peaked in 2010 but had steadily fallen to 76.8 per cent in 2020. Increasing again dramatically after a major merge. Between 2020 and 2021, the aggregated share of the top six suppliers increased 4.4 percentage points from 62.6 per cent to 67.0 per cent. When compared to 2010, the aggregated top six share for 2021 is 24.0 percentage points lower.

As the number of companies supplying electricity has increased, as evidenced in Table 1, the share of these suppliers outside the top nine has grown. The share of those outside of the top nine rose from 2.7 per cent in 2010 to 23.2 per cent in 2020. This reflected the fragmentation of the market from new entrants taking market share from the larger companies. In 2021 the decrease in share of suppliers outside the top 9 reflects two companies within the top 9 suppliers merging, and rising wholesale electricity prices caused smaller suppliers to discontinue. Decreasing share of suppliers outside the top nine is further reflected in recent increases in market concentration as evidenced by the Herfindahl-Hirschman Index in Chart 1.

Table 2: Percentage shares of total electricity supplied to all consumers

Electricity Suppliers	Market Share (%)								
	2010	2012	2014	2016	2017	2018	2019	2020	2021
Aggregated share of top 3 suppliers	55.4	49.1	47.0	43.7	42.4	41.8	40.9	38.9	48.9
Aggregated share of next 3 suppliers	35.6	36.7	33.9	31.7	31.1	29.0	27.5	23.7	18.1
Aggregated share of next 3 suppliers	6.3	6.2	8.9	10.9	11.7	12.0	11.6	14.2	13.6
Aggregated share of top 9 suppliers	97.3	92.0	89.9	86.3	85.1	82.9	80.1	76.8	80.6
Other suppliers	2.7	8.0	10.1	13.7	14.9	17.1	19.9	23.2	19.4

Electricity generation competition

Table 3 shows the number of companies that are counted as Major Power Producers (MPPs). The number of companies increased rapidly, from six before privatisation up to an early peak of 36 in 2001, before mergers caused numbers to fall back to 29 in 2006. Starting in 2007, several renewable generators were reclassified as MPPs, leading to an increase in the number of MPPs to 34; this remained stable through to 2009. Since 2010, the number of MPPs has steadily increased as new generators came online, reaching a peak in 2017 of 54. This has remained stable up to 2021.

Table 3: Number of Major Power Producers

Year	Number [note 1]	Number producing at least 5% of total generation
1989	6	[x]
1991	11	[x]
1993	20	[x]
1995	25	[x]
1997	27	[x]
1999	30	[x]
2001	36	6
2003	34	6
2005	30	7
2007	34	8
2009	34	8
2011	41	7
2013	44	7
2015	53	6
2017	54	4
2018	54	5
2019	54	6
2020	54	6
2021	54	7

Table 4 shows the MPPs aggregated share of generation and aggregated share of capacity for 2015 to 2021. The market share of the top 9 generators in this period peaked in 2013 at 86.7 per cent declining to 74.8 per cent in 2018, as new companies entered the market and reduced the share of total generation produced by the top 9 companies. This share increased in 2019 and 2020, before decreasing again to 77.3 per cent in 2021. The top 9 generators held a lower share of capacity (69.5 per cent in 2021) compared to generation. This indicates that a greater proportion of their generation was from non-renewable sources, which have higher load factors i.e. they operated closer to full capacity. The top 3 companies aggregated share in generation and capacity decrease between 2017 and 2021 was predominantly due to decommissioned nuclear sites.

Table 4: Percentage of total generation and total capacity by Major Power Producers

	Share in Generation (%)						Share in Capacity (%) [note 1]					
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Aggregated share of top 3 companies	48.9	50.7	49.0	48.3	46.4	45.4	32.9	35.3	33.8	42.5	42.2	36.2
Aggregated share of next 3 companies	15.5	15.0	16.6	17.6	21.2	19.0	18.2	22.2	21.4	20.3	15.5	19.7
Aggregated share of next 3 companies	11.4	9.2	9.2	11.6	10.2	13.0	11.4	8.8	11.9	9.2	12.4	13.6
Aggregated share of top 9 companies	75.8	75.0	74.8	77.5	77.8	77.3	62.4	66.4	67.1	72.1	70.1	69.5
Other major power producers	24.2	25.0	25.2	22.5	22.2	22.7	37.6	33.6	32.9	27.9	29.9	30.5

[note 1] Of the same companies in each band in generation terms

Data for this article

The data used to produce this article can be found in [Tables 1 to 6 of associated Competition in UK Electricity Markets workbook](#). Revisions to data in this article are noted here.

Further Sources of Information on competition in UK electricity markets

Ofgem release their own statistics on competition in [GB generation and the domestic suppliers' market](#).

Ofgem list [all companies that hold licenses in generation and supply](#).

The Competition and Markets Authority [published a report on competition in energy](#).

Methodology notes

In this article, '**electricity supplier**' refers to the major electricity suppliers surveyed by BEIS, covering approximately 96% of all UK electricity sales in 2018. '**Major electricity suppliers**' include suppliers that sold over 0.1% of traded electricity in the reference year, this was 253 GWh in 2021. This differs from previous editions of this article where all suppliers surveyed by BEIS were included. The change allows BEIS to increase its survey coverage whilst still presenting comparable trends in this article. Please see the [BEIS Electricity statistics data sources and methodologies](#) for more details.

The Herfindahl-Hirschman measure attempts to measure market concentration. It places extra emphasis on the contributions of participants with the largest shares. The measure is commonly used to assess whether mergers should go ahead and whether they will significantly affect the balance of the market in a particular sector. It is expressed by the following equation: Herfindahl-Hirschman measure = the square of each participant's market share added together across all participants in the market. Values vary between zero, which signifies a perfectly competitive industry, and ten thousand, for a pure monopoly.



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