Completed acquisition by Intercontinental Exchange of Trayport

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Glossary

Terms of reference and conduct of the inquiry

Terms of reference

1. In exercise of its duty under section 22(1) of the Enterprise Act 2002 (the Act) the Competition and Markets Authority (CMA) believes that it is or may be the case that:

   (a) a relevant merger situation has been created, in that:

      (i) enterprises carried on by Intercontinental Exchange, Inc. (ICE) have ceased to be distinct from enterprises carried on by Trayport Limited (Trayport); and

      (ii) the condition specified in section 23(2)(b) of the Act is satisfied with respect to the supply of front-end access services[1] to enable energy trading in the UK; and

   (b) the creation of that situation has resulted, or may be expected to result, in a substantial lessening of competition within a market or markets in the United Kingdom for goods or services, including the:

      (i) supply of energy trading front-end access services;

      (ii) supply of back-end technology to over-the-counter brokers and exchanges, respectively;

      (iii) supply of straight through processing access to clearinghouses;

      (iv) execution of trades; and

      (v) clearing of trades.

[1] Supplying energy traders with a front-end screen that enables them to enter quotes and initiate the execution of trades on electronic trading venues (exchanges and OTC/broker venues).

2. Therefore, in exercise of its duty under section 22(1) of the Act, the CMA hereby makes a reference to its chair for the constitution of a group under Schedule 4 to the Enterprise and Regulatory Reform Act 2013 in order that the group may investigate and report, within a period ending on 18 October 2016, on the following questions in accordance with section 35(1) of the Act:

   (a) whether a relevant merger situation has been created; and

   (b) if so, whether the creation of that situation has resulted, or may be expected to result, in a substantial lessening of competition within any market or markets in the United Kingdom for goods or services.

Andrea Coscelli
Executive Director, Markets & Mergers
Competition and Markets Authority
3 May 2016

Initial Enforcement Order

3. The CMA made an initial enforcement order on 25 January 2016 and derogations were granted on 11 January, 24 March and 2 August 2016. The order and redacted derogations were published on our webpages.

Conduct of the inquiry

4. We published biographies on the members of the inquiry group conducting the inquiry on 4 May 2016 and the administrative timetable for the inquiry was published on our webpages on 17 May 2016.

5. We invited a wide range of interested parties to comment on the acquisition. These included customers and competitors of ICE and Trayport. Evidence was also obtained from third parties through hearings, through telephone contact and through written requests. Summaries of hearings can be found on our webpages.

6. We received written evidence from ICE and Trayport and a non-confidential version of their main submission is on our webpages. We also held separate hearings with ICE and Trayport on 12 July 2016.

7. On 31 May 2016 we published an issues statement on our web pages, setting out the areas of concern on which the inquiry would focus.

8. On 7 June 2016 members of the inquiry group, accompanied by staff, visited the offices of ICE and Trayport, and a trader.

9. In the course of our inquiry, we sent to ICE and Trayport and other parties some working papers and extracts from those papers for comment.

10. A non-confidential version of the provisional findings report has been placed on the CMA's webpages.

11. We would like to thank those who have assisted us in our inquiry, so far.

Parties' financial information

Introduction

1. This appendix describes the main parties to the merger, Intercontinental Exchange, Inc. (ICE) and Trayport Limited (Trayport), identifies their significant entities, and summarises their high-level financials. Some high level summary financial information for selected third parties is also set out in this Appendix.

ICE

Overview of current business

2. ICE is a global operator of derivatives exchanges and clearinghouses, including in respect of derivatives with European gas and power, coal and emissions underlyings (European utilities). ICE offers its clients trade execution, central clearing, data, instant messaging, and listing services.

3. ICE owns the following 11 exchanges and 6 clearinghouses:[1]

   (a) Exchanges:

      (i) ICE Futures U.S.

      (ii) ICE Futures Europe

      (iii) ICE Futures Canada

      (iv) ICE Futures Singapore

      (v) ICE Endex

      (vi) New York Stock Exchange

      (vii) NYSE ARCA

      (viii) NYSE Mkt

      (ix) NYSE AMEX Options

[1] See ICE website, 'ICE at a glance'.

(x) NYSE ARCA Options

(xi) NYSE Bonds

(b) Clearinghouses:

(i) ICE Clear U.S.

(ii) ICE Clear Europe

(iii) ICE Clear Canada

(iv) ICE Clear Singapore

(v) ICE Clear Credit

(vi) ICE Clear Netherlands

4. The relevant exchanges for the merger under consideration are ICE Futures Europe (IFEU) (located in London) and ICE Endex (located in Amsterdam) (together, the Exchange). ICE Clear Europe (ICEU) (located in London) is the relevant clearinghouse for European utilities trades executed on IFEU and ICE Endex.

5. ICE's core customers include brokers, traders, utilities and financial institutions. Customers gain access to the ICE system via WebICE and ICEBlock.

6. WebICE is available to members of the Exchange, or existing subscribers who are active in the financial, energy and commodities markets. WebICE view-only is an internet-based subscription service that provides real-time access to trading activity on the ICE platform; WebICE read-write allows the user to create portfolios based on his or her individual requirements.[2]

7. The ICE Block application is designed to connect brokers to clearing and customer back offices, providing functionality for the submission of off-exchange trades for clearing.[3]

A short history

8. Below is a brief history of ICE and its activities prior and up to the merger under consideration:

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[2] See WebICE.
[3] See ICE Block.

Table 1: Brief history of ICE

Date	*Event*
2000	Intercontinental Exchange formed to develop transparent marketplace for OTC energy.
2001	ICE acquires International Petroleum Exchange.
2002	ICE introduces industry's first cleared OTC energy contracts.
2007	ICE acquires New York Board of Trade and Winnipeg Commodity Exchange.
2008	Launch of ICE Clear Europe, the UK's first new clearinghouse to be built in London for over a century.
2009	ICE launches two CDS clearinghouses.
2010	ICE acquires Climate Exchange
2013	Intercontinental Exchange acquires NYSE Euronext, and majority stake in APX Endex
	ICE launches ICE Endex, a continental European energy exchange.
2014	ICE acquires Singapore Mercantile Exchange and SuperDerivatives.
2015	ICE acquires Interactive data.
	ICE acquires Trayport from GFI.

Source: ICE website, ICE at a glance.

Company structure and significant entities

9. The ICE corporate structure is extensive, with [✂] entities across [✂] countries. At Figure 1 is a sub-section of the ICE Corporate structure as of May 2016, showing the three entities deemed relevant in the merger under consideration (the 'relevant entities'). The complete ICE Corporate structure diagram is included in Annex 1.

Figure 1: Sub-section of ICE Corporate structure diagram, with key entities circled.

[✂]

Source: ICE.

10. ICE Endex is a regulated futures and options trading platform for trading continental European gas and power. ICE Endex is located in The Netherlands and has permission to operate in 32 jurisdictions.

11. IFEU is a regulated exchange located in London for trading futures and options contracts for European natural gas, power, coal, emissions, as well as crude and refined oil, interest rates, equity derivatives, and soft commodities. IFEU has permission to operate in 63 jurisdictions.

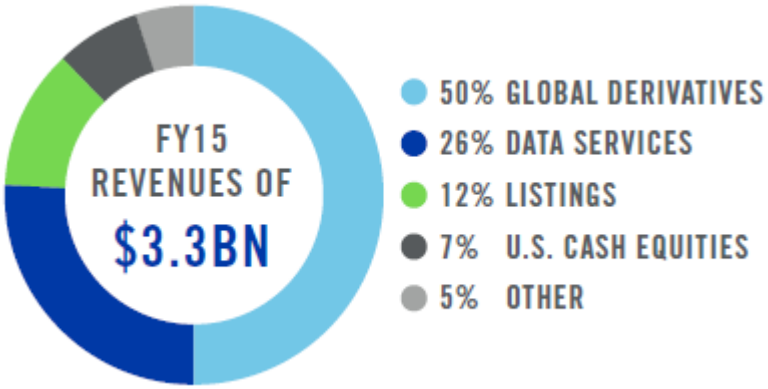
12. ICEU provides central counterparty clearing and risk management services for interest rate, equity index, agricultural and energy derivatives, as well as European credit default swaps (CDS). ICE Clear Europe is regulated by the Bank of England in the UK and by the Security and Exchange (SEC) and Commodity Futures Trading Commission (CFTC) in the US. [4]

[4] ICE Clear Europe.

ICE financials

13. At a global level, the ICE Group generated revenues of $3.3 billion in the financial year 2015, with half of this earned on global derivatives, as shown in Figure 2 below.

Figure 2: ICE revenue streams as a percentage of total 2015 global revenue.



Source: See ICE website, 'ICE at a glance'.

14. For the relevant entities, the high level figures for financial years 2013 and 2014 have been summarised in the tables below.

Table 2: IFEU high-level figures for financial years 2013 and 2014.

			$
	2014	*2013*	*Movement*
Revenue	118,196,000	98,057,000	20,139,000
Operating profit	76,195,000	62,632,000	13,563,000
EBITDA	78,238,000	64,302,000	13,936,000
Dividends	46,000,000	35,000,000	11,000,000
Employees	111	81	30

Source: ICE Futures Europe public financial statements for 2013 and 2014.

Table 3: ICE Endex high-level figures for financial years 2013 and 2014

			$
	2014	*2013*	*Movement*
Revenue	3,746,160	3,692,040	54,120
Operating profit	1,925,880	2,517,240	-591,360
EBITDA	1,929,840	2,517,240	-587,400
Dividends	2,269,080	0	2,269,080
Employees	7	11	-4

Source: ICE Endex public financial statements for 2013 and 2014.
Note: Figures are published in Sterling, so have been converted to US Dollar using prevailing rates ($1.32 to the pound).

Table 4: ICE Clear Europe high-level figures for financial years 2013 and 2014.

			$
	2014	*2013*	*Movement*
Revenue	758,045,000	634,731,000	123,314,000
Operating profit	548,910,000	461,386,000	87,524,000
EBITDA	548,946,000	461,414,000	87,532,000
Dividends	331,000,000	300,000,000	31,000,000
Employees	66	53	13

Source: ICE Clear Europe public financial statements for 2013 and 2014.

15. The data from Table 2, Table 3, and Table 4 above show that in both 2013 and 2014, 86% of the revenue earned by the three companies was earned by ICEU. Further to this, 87% of the combined EBITDA of the three entities was recorded by ICEU in both 2013 and 2014.

Specific revenue analysis

16. Table 5 sets out the exchange, clearing and market data fees earned by the relevant entities, split out by fee type and commodity.

Table 5: ICE 2015 exchange and clearing fee revenue, split by commodity.

					$	%
Product	*Gas*	*Power*	*Coal*	*Emissions*	*Total*	*Total*
Exchange fees, exchange	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Exchange fees, OTC	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total exchange fees					[✂]	[✂]
Clearing fees, exchange	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Clearing fees, OTC	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total clearing fees					[✂]	[✂]
Market data			[✂]		[✂]	[✂]
Total fee revenue					[✂]	[✂]

Source: ICE.

17. Looking at just the exchange and clearing fees earned by the relevant entities, a similar split is seen as in the high-level figures, such that [✂]% of the combined exchange and clearing fees have been earned by ICE clearing.

18. Table 5 also shows that across the commodities, gas is the largest earner accounting for [✂]% of the exchange and clearing fee revenue. This is followed by emissions with [✂]%, coal with [✂]%, and finally power which accounted for only [✂]% of the 2015 exchange and clearing fee income.

19. Taking into account fees earned on market data, the figures show that the revenue distribution for 2015 is [✂]% exchange fees, [✂]% clearing fees, and [✂]% market data fees.

Figure 3: Pie chart of ICE relevant entity 2015 revenue, split by fee type.

[✂]

Source: ICE.

Marginal costs and revenues

20. In response to the CMA Market questionnaire, ICE told us that the costs of ICE's EU utilities trade execution venue and clearinghouses [✂].

21. The additional revenues associated with providing one additional trader with membership are set out in Table 6 below.

Table 6: Membership revenues[5] from one additional trader, split by membership type.

$

ICE entity	*Type of membership*	*Annual subscription*	*One off application*	*Additional membership*
IFEU	General participant	11,500	4,500	16,000
IFEU	Trade participant	4,500	4,500	9,000
IFEU	Individual participant	600	800	1,400
IFEU (Emissions trading)	General/Trade participant	2,773	2,773	5,546
ICE Endex	Continental Gas Spot Markets (TTF & ZTP)	7,765	-	7,765

Source: See ICE 'Gas B.V fees' and 'Membership Fees'.

Trayport

Overview of current business

22. Trayport is an ISV providing business software to traders, brokers, exchanges, and clearinghouses to facilitate trading activity across multiple European utilities markets (including those operated by ICE). Trayport's software products communicate with each other through an API and as a result of this inter-functionality together form a platform which supports the entire lifecycle of a trade: from price discovery through to execution and clearing. Trayport's core offering is comprised of the following software products:

    (a) Broker Trading System (BTS) – software used by brokers to operate OTC trading venues. It essentially comprises: a matching engine to arrange trades; and direct front end screen access for traders and brokers to the broker's trading venue (only). The main brokers active in European utilities markets all use BTS.

[5] Emissions trading and Endex figures were provided in Euro, and have been converted using prevailing rates ($1.11 to the Euro).

(b) Exchange Trading System (ETS) – equivalent software to BTS made available to exchanges. The main exchange groups active in trading/clearing for European utilities use proprietary technology or solutions sourced from third party ISVs other than Trayport (not ETS).

(c) Joule/Trading Gateway – software for traders providing aggregated, multi-venue front end screen access which enables traders to view derivatives contracts and pricing, etc., available for trading on all connected trading venues, and to initiate a trade on each of those venues, i.e. send a buy or sell order message to a connected trading venue which facilitates the matching of orders under the relevant rules of that trading venue. Trading Gateway does not allow orders to be matched across trading venues (even those operating BTS); orders can only be matched within the same trading venue.

(d) GV Portal – a software interface which allows non-ETS exchanges to connect to Trading Gateway and have their markets/contracts displayed on and accessible for trading via Trading Gateway.

(e) An STP link – a software interface which facilitates straight-through processing (STP) of OTC trades executed on a BTS venue whereby the OTC trades are routed from the broker OTC venue's 'back-end' system (BTS) to an exchange and registered for clearing.

23. In addition to its core services, Trayport offers a number of ancillary services including: gold mapping; implied price calculator; automated trading; virtual markets; and Contigo, a risk management and compliance tool.

24. Trayport does not itself operate any regulated exchanges or OTC derivatives trading markets, nor does it operate any clearinghouses.

A short history

25. Below is a brief history of Trayport and its ownership before the merger under consideration:

Table 7 : Brief history of Trayport

Date	*Event*
1993	Trayport founded by Edmund Hor.
1994	Price Distribution System released, providing consolidated view of the market.
1997	Launch of GlobalVision
1999	Latest version of GlobalVision is capable of exchange trading, used as an automated exchange to trade electricity.
2001	Live trading of cleared and bilateral European electricity.
2002	Latest version of GlobalVision caters for clearing functionality
2005	Office opened in Hong Kong.
2006	New York office established.
2008	Trayport acquired by GFI Group Inc.
2010	Automated Trading Engine launched.
2011	Joule launched.
	Singapore office established.
2012	Energy Market Access Gateway launched, (a pre-trade risk and market access system).
2013	Trayport acquires Contigo.
2015	BGC acquires GFI, including Trayport.
2015	ICE acquires Trayport from BGC.

Source: Trayport Company History Overview.

Company structure and significant entities

26. The merger having completed in December 2015, Trayport is now included in the ICE Corporate structure diagram. A sub-section of that diagram showing where Trayport has been included in shown in Figure 4 below.

Figure 4: Sub-section of ICE Corporate structure diagram, with Trayport circled.

[✂]

Source: ICE

Trayport financials

27. The high level figures for Trayport Limited in financial years 2013 and 2014 have been summarised in Table 8 below.

Table 8: Trayport high-level financials for financial years 2013 and 2014.

			£
	2014	*2013*	*Movement*
Revenue	46,336,074	43,106,833	3,229,241
Operating profit	22,194,773	19,375,230	2,819,543
EBITDA	22,974,283	19,941,831	3,032,452
Dividends	15,200,000	10,500,000	4,700,000
Employees	174	167	7

Source: Trayport published accounts for years ending 31 December 2013 and 2014.

Specific revenue analysis

28. Table 9 below sets out Trayport's 2015 revenue, split out by product type and by customer group.

Table 9: Trayport 2015 revenue, split by product and customer type.

£

Product	*Traders*	*Brokers*	*Exchanges*	*Clearinghouses*	*Totals*
Trading Gateway	[✂]	[✂]	[✂]	[✂]	[✂]
BTS	[✂]	[✂]	[✂]	[✂]	[✂]
ETS	[✂]	[✂]	[✂]	[✂]	[✂]
GV Portal	[✂]	[✂]	[✂]	[✂]	[✂]
Clearing Link	[✂]	[✂]	[✂]	[✂]	[✂]
Ancillary Services (all other revenues)	[✂]	[✂]	[✂]	[✂]	[✂]
Totals	[✂]	[✂]	[✂]	[✂]	[✂]
% of 2015 revenue	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Trayport.

29. Table 9 shows that in 2015, Trayport's highest earning product was the Trading Gateway, accounting for [✂]% of the total revenue for the year. This was followed by the BTS with [✂]%, the ETS with [✂]%, the Clearing link with [✂]%, and the GV portal with [✂]%. All other ancillary services together accounted for the remaining [✂]% of Trayport's 2015 annual revenue.[6]

30. Considering which of Trayport's customer groups are the greatest revenue earners, the table shows that over [✂]% of all Trayport revenue in 2015 was accounted for by traders. This was followed by brokers, bringing a further [✂]%, exchanges with [✂]%, and finally clearinghouses with [✂]%. This is represented by the pie chart at Figure 5 below.

Figure 5: Pie chart of Trayport 2015 revenue, split by customer type.

[✂]

Source: Trayport.

Marginal costs and revenues

31. Based on the 2015 annual revenues, Trayport provided us with an estimate of the additional revenues achievable by serving one additional customer for each of its core products. These are set out in Table 10 below.

[6] Ancillary Services includes: Whiteboard; Automated Trading and Implied Price Calculator; Automated Trading; Managed Services; Gold Mapping; IMP; Additional server; Trade Feed Service; Customer Portal; Implied Price Calculator; JTT; Trade Reporting Solution; Virtual Markets; Risk API; Whiteboard Server; Data CSP; RMDS Connector; Joule Mobile; ETRM API; Report Subscription; EMA; Complete; and Consultancy.

Table 10: Estimates for annual revenues[7] associated with servicing one additional customer for each of Trayports core products, split by customer size.

£

		Core markets	
	*Nascent markets**	*Small/medium customer*	*Large customer*
Additional exchange using GV Portal or ETS†	[✂]	[✂]	[✂]
Additional broker using BTS	[✂]	[✂]	[✂]
Additional clearinghouse using STP link	[✂]	[✂]	[✂]
Additional screen to a trader	[✂]	[✂]	[✂]

Source: Trayport
* For venues offering trading services where electronic trading is not as developed as in the core geographies (e.g. the UK and Continental Europe) Trayport may front-load any discounts (eg, the standard discount offered to venues committing to a 3-5 year contract) to help the venue gain traction.
† Trayport has aligned is pricing for GV Portal against the ETS customers in its pricing.

32. The larger clients are [✂], but in both cases the estimates suggest that [✂].

33. Trayport told us that there [✂] listed in Table 10 above.

Third party costs

34. This section reviews some information received from third parties regarding payments made to Trayport over the past three financial years.

35. In order to put these figures into context, they need to be compared with other financial metrics. There a number of metrics from which to choose – revenues, costs, profits – each of which can be broken down further into relevant subsets, adding to the complexity and granularity of the choice. For example, it may be sufficient to consider the payments against group figures, or comparison could be made at a geographic/departmental/commodity level. Given the need to have comparable results across companies, and understanding that each company will report its figures in different way and using different sub-sets, for the purposes of this review the payments made have been compared against each company's total operating costs (op costs) and earnings before interest, tax, depreciation and amortisation (EBITDA).

Brokers

36. In November 2015, Trayport had [✂] broker clients, the most important of which were: [✂].

37. During financial year 2015, the average annual amount paid by each of these brokers[8] to Trayport was £[✂] (2014: £[✂]; 2013: £[✂]), which represented between [✂]% and [✂]% of operating costs (2014: [✂]% and [✂]%; 2013:

[7] Rounded to the nearest thousand.
[8] [✂] did not respond to the data request in this instant, so the figures represent the other [✂] broker responses only.

[✂]% and [✂]%) and between [✂]% and [✂]% of EBITDA (2014: [✂]% and [✂]%; 2013: [✂]% and [✂]%).[9] These figures are set out in Table 11 to Table 13 in Annex 2.

38. This suggests that if Trayport were to increase its fees by 20%, this would result in an increase in operating costs faced by brokers of between 0.2% and 3% (based on 2015 figures).

39. Oxera compiled an alternative presentation of the broker figures, comparing the fees paid to Trayport in 2015 by four brokers to an estimate of each selected broker's European utility revenues (set out in Table 14 in Annex 2). This resulted in an average annual amount paid by each broker of £[✂], representing between [✂]% and [✂]% of the annual European utility revenues of each. Oxera suggests that if Trayport were to increase its fees by 20%, this would result in a maximum [✂]% increase in trading fees faced by brokers.

Exchanges

40. In November 2015, Trayport had [✂] exchange and clearinghouse clients, the most important of which were: [✂], [✂], and [✂].

41. During the financial year 2015, the average amount paid to Trayport by each of EEX (including Powernext) and CME was £[✂] (2014: £[✂]; 2013: £[✂]). This represents approximately [✂]% of EEX's 2015 operating costs (2014: [✂]%; 2013 [✂]%), and between [✂]% and [✂]%[10] of CME's operating costs.[11] Included in these figures is the payments made for Trayport's clearing link.

42. This suggests that if Trayport were to raise its fees by 20%, this would result in an increase in operating costs faced by exchanges of between [✂]% and [✂]%.

Clearinghouses

43. The clearinghouses supported by Trayport's STP link in November 2015 were: [✂].

44. Indicative financial data for clearinghouses has been included in the data presented for exchanges in the section above.

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[9] Note: Trayport told us that the average annual figures for these brokers was [✂].
[10] Based on rough estimates.
[11] Data collected from third parties. These figures are different to those provided by Trayport, which are [✂].

Annex 1: Corporate Structure

Figure 6: ICE Corporate Structure as of May 2016

[✂]

[✂]

[✂]

[✂]

Source: ICE.

Annex 2: Third party figures[12]

Table 11: 2015 fees paid to Trayport by four of its five most significant broker clients

Broker	*£m*	*% of op costs*	*% EBITDA*
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]

Source: Third parties.

Table 12: 2014 fees paid to Trayport by four of its five most significant broker clients

Broker	*£m*	*% of op costs*	*% EBITDA*
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]

Source: Third parties.

Table 13: 2013 fees paid to Trayport by four of its five most significant broker clients

Broker	*£m*	*% of op costs*	*% EBITDA*
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]

Source: Third parties.

Table 14: Trayport fees as a percentage of European utility revenues

		£m	*%*
Broker	*Fees paid to Trayport*	*Oxera's estimate of European utility revenues*	*Fees as a % of European utility revenues*
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]

Source: ICE.

[12] Note: Trayport told us that some of the figures in tables 9, 10, and 11 are different to the revenues based on Trayport's data. These differences are to be resolved in advance of the final report.

Financial regulation

1. The purpose of this appendix is to examine two pieces of EU legislation which address the operation and regulation of financial markets and counterparties and which impact directly on the trade in energy products and derivatives:

   (a) The regulation of OTC derivative transactions, central counterparties (CCPs) and trade repositories (Regulation 648/2012) (EMIR); and

   (b) The Markets in Financial Instruments Directive (2014/65/EU) (MiFID) and the Markets in Financial Instruments Regulation (Regulation 600/2014) (MiFiR) together (MiFID II).

2. This legislation regulates the structure and operation of market places for the trading of financial instruments and the activities of market participants. The variation in the rules and obligations, and availability of compliance exemptions may affect the preferences of energy traders for trading on particular types of venue. The legislation therefore helps set the parameters of future competition between exchanges such as ICE, on the one hand, and OTC brokers on the other.

3. This appendix will first set out the purpose and provisions of the legislation and the specific requirements and obligations it imposes. It will then examine how these will affect the operation of energy markets and participants. This will include an examination of the immediate consequences on venues and participants including the extent to which regulation could drive changes in choice of venue.

4. This appendix will then briefly examine possible long term effects on competition between energy trading venues.

Context

Drive for greater transparency and market stability

5. EMIR and MiFID II are part of the broader effort in the wake of the global financial crisis to increase the standard of regulation in financial markets and to increase transparency in trading. The legislation builds on preceding regulations and directives to address and govern numerous features of financial markets, products, investment firms and counterparties. Both pieces of legislation apply much more widely than just to the markets in which Trayport operates. They apply to financial instruments of all kinds, including

bonds, equities and foreign exchange derivatives for example. Energy derivatives are a subset of the product classes affected and are partly exempt from the legislation. The focus of this appendix is to evaluate the consequences of this partial exemption.

6. It is beyond the scope of this appendix to set out in full the content or functions of the pieces of legislation. MiFID II in particular addresses features of regulated markets, investment advice and financial products and counterparties which are not relevant to gas, power, oil, coal and emissions markets. This paper will instead identify the provisions which directly relate to the regulation of trading in power and gas and related derivatives, the reporting and clearing of such trades, and the resulting requirements placed on energy traders.

REMIT

7. An earlier piece of EU regulation – Regulation (EU) No. 1227/2011, Regulation on Wholesale Energy Market Integrity and Transparency (REMIT) covered the physical market in power and gas (ie those transactions which are not in financial instruments under MIFID). This imposed transaction reporting obligations for REMIT products but was primarily focused on the prevention of market abuse and insider trading in wholesale energy markets. REMIT does have relevance for the present appendix as the categories of product benefitting from certain exemptions from obligations (the REMIT carve-out[1]), discussed below, and are subject to similar obligations imposed by REMIT.

8. REMIT also provides an indication of the effects that increased regulation may have on market participants and brokers. Even though REMIT was ostensibly venue-neutral, the fact that it imposed additional obligations and compliance measures resulted in an increase in trading and venue costs, affecting competition and driving some smaller venues out of energy markets. One broker venue indicated that the measure, aimed at supporting energy markets and ensuring transparency, had adverse effects:

> REMIT and the Markets in Financial Instruments Directive (MiFID) had the potential to force small brokers and trading companies out of the energy market because they may not have the requisite resources for regulatory compliance. It said an effect of regulations might result in reduced liquidity.

[1] MiFID II, Preamble paragraph 9 and Annex II, section C6.

Tradition said REMIT had imposed significant costs on its business. It said it was forced to change its own record keeping and had to report every order to a regulator on a daily basis. Tradition said its parent company had an entire department focussed on MiFID II and compliance.[2]

MiFID II

Overview

9. The first Markets in Financial Instruments Directive 2004/39/EC (MiFID I) was an early attempt to harmonise the operation of financial markets and investment services in the EU. It is the precursor to MiFID II and most of its provisions remain in force pending full implementation of MiFID II in January 2018. The first MiFID required certain financial instruments to be traded on regulated venues and imposed licensing requirements on investment firms and advisors. It was largely unconcerned with the operation of energy and commodities markets because the definition of financial instruments excluded commodities products.

10. Work started on MiFID, as well as on related instruments such as the EMIR and the Market Abuse Regulation (MAR), in the aftermath of the global financial crisis in 2007/8, when it was considered that tighter regulation of financial trading and instruments such as derivatives was required. The Commission's proposals were published in October 2011. The Directive entered into force on 2 July 2014. Member States are required to adopt implementing legislation. These, together with the operative provisions of MiFID II, were due to come into effect on 3 January 2017. However, due to delays caused by the non-readiness of some of the technical processes and infrastructure, the date of final implementation is now 3 January 2018.[3]

11. The changes are required to reflect the increasing complexity of financial instruments trading, the need for increased transparency and better regulation of the sector and of the participants in it. The aim of the new law is to ensure that financial markets operate fairly, safely and transparently so as to avoid a repeat of the turmoil experienced in the aftermath of the global financial crisis. One element of MiFID II is to extend regulatory oversight from exchanges and

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[2] Tradition hearing summary, paragraphs 21 and 22.
[3] Following the recent UK referendum on whether the UK should leave the European Union (EU) it is possible that there could be significant changes to the regulatory framework that applies to UK financial markets in the future. However, the CMA notes that the UK currently remains bound by its EU treaty obligations and that Article 50 of the Treaty on European Union contemplates a process under which, from the date the UK gives notice under that Article, the UK would remain a member of the EU for a period of at least two years. It also notes that many of the relevant European laws have been transposed into UK law and would not be automatically repealed on the UK leaving the EU.

multilateral trading facilities (MTFs), to also include organised trading facilities and to deepen and widen this oversight.

12. MiFID II contains a series of regulatory requirements for the trading of financial instruments. It builds on the first MiFID directive by introducing new obligations and extending the scope of application to new products. Energy and commodity products were entirely outside the scope of the first MiFID directive so each requirement on these products under MiFID II would constitute an additional requirement and regulatory burden.

Organised trading facilities

13. One key achievement of MiFID II was the creation of a new type of trading venue within the regulatory framework: the organised trading facility (OTF). OTFs are multilateral discretionary trading platforms that are not currently regulated, but have an increasingly important role (for example, in the trading of standardised derivatives contracts). The definition will catch trading systems such as OTC networks. One of the main differences between OTFs and other trading venues is that the operator of an OTF must exercise discretion when matching orders.[4]

14. The basic idea of OTF regulation is to restrict the potentially 'dark' OTC trading space to bring as much trading as possible onto trading venues that are regulated entities and bound by significant trade transparency requirements. There was a concern that OTC broker venues were insufficiently transparent. Although there are still key characteristics of OTC trading and exceptions which make it preferable for certain participants, OTC trading is likely to be less prevalent than before the introduction of MiFID II.

Increased supervision and energy products

15. One of the overarching objectives of MiFID II is to bring more trading onto regulated markets to enable more comprehensive supervision. This was achieved by introducing a new obligation to trade financial instruments on regulated marketplaces, a category which includes regulated markets (exchanges such as ICE Endex or EEX) as well as MTFs and OTFs. Financial Instruments are subject to additional regulatory obligations which are currently not applied to all energy products and which are not currently met by all major energy market participants. One such requirement is the imposition of position limits on trading in commodity derivatives.

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[4] Discretion is introduced in the Industry Background section, but essentially means that brokers are able, if necessary to intervene in markets, contact parties to amend or negotiate changes to bids and offers and facilitate agreements.

16. If these general requirements for financial instruments were to apply to gas or power futures and forwards, this would amount to a significant change for energy trading, where there are many European markets, including most national power and gas markets, on which trading predominantly still occurs on a less regulated OTC basis. A consequence of MiFID II, combined with EMIR, could be to encourage energy traders to shift to trading on energy markets at exchanges. This is the process of regulatory 'futurisation' which has, to a certain extent, already occurred in US markets and which was referred to by some third parties. However, the wording of section C6 to Annex I of MiFID II has paved a pathway for the physical gas and power markets to remain outside of financial regulation where it is traded through an OTF (Organised Trading Facility). The concept of an OTF is being introduced with MiFID II and is expected will take the form of the hybrid platforms currently operated by the existing OTC energy brokers. As this exemption will apply only to trades passing through an OTF, physical gas and power contracts which are traded through an exchange under MiFID II will be deemed to be financial instruments and will fall within financial regulation. This could act as a disincentive for certain market participants to trade physical gas and power through exchanges.

REMIT carve-out

17. The EU, recognising the market transparency and conduct rules contained in REMIT, acknowledged the concerns felt by market participants that the measures aimed at protecting markets could have the adverse effect of destabilising energy markets. The drafters of MiFID II defined financial instruments such that it will exclude wholesale energy products that are traded on an OTF (a category which is expected to include current OTC broker trading platforms) and which must be physically settled. Section C of Annex 1 to MiFID defines[5] the categories of financial instruments and paragraph 6 includes:

> Options, futures, swaps, and any other derivative contract relating to commodities that can be physically settled provided that they are traded on a regulated market, a MTF, or an OTF, except for wholesale energy products traded on an OTF that must be physically settled[6]

18. This is the so-called REMIT carve-out. Wholesale energy products are themselves defined in REMIT as:

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[5] In accordance with Article 4(15) which cross refers to the Annex.
[6] MiFID II, Annex 1, section C6.

(a) ‘contracts for the supply of electricity or natural gas where delivery is in the Union;

(b) derivatives relating to electricity or natural gas produced, traded or delivered in the Union;

(c) contracts relating to the transportation of electricity or natural gas in the Union; and

(d) derivatives relating to the transportation of electricity or natural gas in the Union.’[7]

19. The additional requirements imposed by MiFID on market participants do not apply to gas and power derivatives, assuming they are within the REMIT carve-out. OTC traded products are commonly subject to physical settlement – as opposed to exchange traded products where there is more balance between physical and financial settlement.

20. Oil and coal products, which also fall within the product types traded using Trayport, are excluded from this definition and are accordingly subject to the requirements of MiFID II insofar as they are financial instruments.

21. In respect of these oil and coal derivatives, MiFID II does, however, contain a transitional provision in relation to the applicability of the EMIR clearing and collateralisation obligations for derivatives relating to coal or oil that are traded on an OTF and which must be physically settled. This provides that such products are excluded from the clearing obligation contained in EMIR (discussed below) and are excluded from the clearing threshold until 3 July 2020. All other MiFID II and EMIR obligations, including the risk mitigation obligations, the reporting obligation and position limits apply immediately.

22. The immediate consequence is that REMIT carve-out contracts do not count as financial instruments and are excluded from the scope of MIFID II in its entirety. Firms which trade in such wholesale energy products can, however, be subject to the MiFID licensing and other requirements should they qualify in their own right in respect of their trading in other commodity derivatives or in gas and power products which are traded on regulated markets, MTFs or OTFs.

Ancillary services exemption

23. Commercial traders which are active in commodities other than those covered by the REMIT carve-out can benefit from the separate ancillary services

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[7] REMIT, Article 2(4).

exemption which provides that the licensing and supervisory requirements under MiFID do not apply to businesses where this trading activity is ancillary to their main commercial activities.[8] Where this exemption does not apply, commodity or utility companies are required to be authorised as financial entities.

24. Article 2 of MIFID II, provides that:

> The directive does not apply to …
>
> (j) persons:
>
> > (i) dealing on own account, including market makers, in commodity derivatives or emission allowances or derivatives thereof, excluding persons who deal on own account when executing client orders; or
> > (ii) providing investment services, other than dealing on own account, in commodity derivatives or emission allowances or derivatives thereof to the customers or suppliers of their main business;
>
> provided that:
>
> for each of those cases individually and on an aggregate basis this is an ancillary activity to their main business, when considered on a group basis, and that main business is not the provision of investment services within the meaning of this Directive or banking activities under Directive 2013/36/EU, or acting as a market-maker in relation to commodity derivatives.

25. This exemption applies on the basis that the trader's trading activities are ancillary to its primary commercial activities. The criteria for assessing whether trading is ancillary is set out in Regulatory Technical Standards (RTS). There are two elements to the test. The first is a comparison of capital employed at a group level for trading compared with overall capital employed. The second is a market share test comparing the entity's trading of a particular asset class with all trading in the market for that asset class. The

[8] Article 2 provides that the calculation excludes (a) intra-group transactions as referred to in Article 3 of Regulation (EU) No 648/2012 that serve group-wide liquidity or risk management purposes; and (b) transactions in derivatives which are objectively measurable as reducing risks directly relating to the commercial activity or treasury financing activity.

market share threshold is currently set at 3% for gas trading and 6% for power trading.

26. Trade in derivatives which benefit from the REMIT carve-out or C6 exemption for EMIR are excluded from the ancillary services calculation because they not financial instruments and do not fall within the definition of 'commodities derivatives' used in MiFID. This in turn refers to instruments defined in sections C5-7 (and 10) of Annex I to MiFID. Broadly speaking, the C5 instruments are financially settled derivatives relating to commodities[9]; the C6 instruments are derivatives traded on regulated marketplaces which can be settled physically, excluding derivatives under the REMIT carve-out[10]; and the C7 instruments are derivatives that can be settled physically and are otherwise traded[11]. Trades conducted for hedging purposes and liquidity provided under market making obligations are also exempt.

27. The result of these cumulative deductions is that many trading entities currently outside of MiFID regulation under the current ancillary services exemption (which excluded all commodities instruments from the assessment altogether) will remain outside.

28. Nevertheless commodity firms that currently rely on any of the exemptions in MiFID should reassess their access to the exemption from being categorised as a financial counterparty. Where a firm is no longer able to rely on a MiFID II exemption, it will need to become authorised to carry out the relevant MiFID II business and comply with the applicable rules relating to organisation, conduct and capital. This is likely to be a risk for firms whose trading volumes in financially settled C5 instruments or C6 instruments which are settled both physically and financially exceed the thresholds for the 'ancillary' test. We understand that some major utilities companies currently exceed or are close to the 3% threshold for gas.

Consequences of the ancillary services exemption

29. Article 1(6) provides that 'Articles 57 and 58 shall also apply to persons exempt under Article 2', meaning that the position limit provisions of MiFID II apply to parties benefitting from the ancillary services exemption. However, Article 57(1) itself provides that 'Position limits shall not apply to positions held

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[9] Options, futures, swaps, forwards and any other derivative contracts relating to commodities that must be settled in cash.
[10] Options, futures, swaps, and any other derivative contract relating to commodities that can be physically settled provided that they are traded on a regulated market, a MTF, or an OTF, except for wholesale energy products traded on an OTF that must be physically settled.
[11] Options, futures, swaps, forwards and any other derivative contracts relating to commodities, that can be physically settled not otherwise mentioned in point 6 of this Section and not being for commercial purposes, which have the characteristics of other derivative financial instruments.

by or on behalf of a non-financial entity and which are objectively measurable as reducing risks directly relating to the commercial activity of that non-financial entity' meaning that it is still possible to escape these restrictions depending on the purpose of the trading activity.

EMIR and MiFiR requirements

30. Further consequences of classification of a financial counterparty extend to the clearing and trading obligation under EMIR and MiFiR respectively.

31. Under Article 4 of EMIR, financial counterparties (which will include all trading firms not benefitting from the ancillary exemption) are subject to the clearing obligation in respect of all their OTC trading. The consequences of this are discussed below in the section on EMIR.

32. Similarly, in accordance with Article 28 of MiFiR classification as a financial counterparty means that trade in derivatives subject to the clearing obligation will have to be made on regulated marketplaces. Trades for hedging purposes will remain exempt from pre trade transparency requirements in Article 8(1).

EMIR

33. The Regulation on OTC derivative transactions, central counterparties (CCPs) and trade repositories) (Regulation 648/2012) (EMIR) was introduced as a result of the financial crisis and to implement the G20 Commitments in the EU that all 'standardised derivatives' should be cleared. EMIR came into force on 16 August 2012 and most provisions are in force although some, namely the bilateral margining requirements, have not yet taken effect (the secondary implementing measures (RTS) setting out procedures and detailed rules for bilateral margining are being finalised).

34. EMIR imposes an obligation to centrally clear standardised OTC derivative contracts as well as including requirements to reduce the risk arising from entering into derivative contracts that cannot be centrally cleared.

35. EMIR imposes (i) an obligation to centrally clear standardised OTC derivative contracts and (ii) requirements to exchange collateral to reduce the risk arising from entering into derivative contracts that cannot be centrally cleared ie bilateral.

36. EMIR also establishes common organisational, conduct of business and prudential standards for central counterparties and trade repositories although these are outside the scope of this paper and are not relevant for an assessment of how EMIR will affect trading and clearing choices.

37. Article 9 of EMIR requires counterparties that enter into any form of derivative contract, including interest rate, foreign exchange, equity, credit and commodity derivatives, to report every derivative contract to a trade repository. This applies separately and in addition to the clearing obligation discussed below and would therefore apply to derivative contracts which do not require to be cleared. Note also this applies separately to the MIFID reporting obligation. However, to avoid duplication it has been agreed (through regulatory technical standards) that transaction reporting of wholesale energy trades, required under REMIT, will satisfy this requirement so that no additional steps need be taken. This will help to avoid duplication and should ensure that the reporting obligation under EMIR does not constitute an additional burden.

The clearing obligation

38. EMIR is primarily concerned with transparency and systemic risk reduction. It features two key measures to achieve these goals. The reporting obligation ensures greater market transparency. The clearing obligation is a key measure to reduce systemic risk and its purpose is to ensure that, in respect of derivatives that are mandated for clearing (currently only interest rate and credit default derivatives), the default of a firm is managed in an orderly way by a CCP, thereby avoiding any contagion to the rest of the market. The purpose of clearing is to lower the risk of market disorder and loss contagion in the event of default by a trading counterparty by placing a central counterparty between every buyer and seller to act as an intermediary. The concept of clearing is discussed in Appendix B in greater detail. The clearing obligation is the functional heart of EMIR and much of the regulation is constituted by the legal and technical framework it introduces for clearing and the regulation of central counterparties. However it is worth noting that only the most standardised and liquid derivatives will be subject to mandatory clearing. Therefore, for the non-cleared market, systemic risk is reduced through bilateral risk mitigation techniques.

39. Article 4 of EMIR introduces a clearing obligation:

‘Counterparties shall clear all OTC derivative contracts pertaining to a class of OTC derivatives that has been declared subject to the clearing obligation in accordance with Article 5(2)’

provided that those contracts have been entered into

‘(ii) between a financial counterparty and a non-financial counterparty that meets the conditions referred to in Article 10(1)(b);

(iii) between two non-financial counterparties that meet the conditions referred to in Article 10(1)(b)'

40. There are two limitations on the application of the obligation.

The clearing threshold

41. It only applies to financial counterparties (broadly authorised firms) and non-financial counterparties (broadly, non-authorised firms) which meet the clearing threshold contained in Article 10(1)(b), designed to capture 'systemically important' non-financial firms within the regulatory EMIR scope. EMIR defines a non-financial counterparty as any entity which is not a financial counterparty. This term is itself defined and includes banks, insurance companies, investment firms and other entities whose primary activities are financial in nature. It is clear that energy trading companies such as the major utilities, which currently are responsible for the bulk of trading volumes in OTC gas and power markets, are non-financial counterparties.

42. The clearing threshold is set out in Regulatory Technical Standards and is currently set at €3 billion for commodity derivatives and, per Article 10 of EMIR, relates to the net position, based on notional amount and not market value, of the trader over a rolling 30 day period. Where the net position falls below the threshold, the clearing obligation does not apply to any of the counterparty's commodity trades. Where the position falls above it, the obligation applies to all of that counterparty's eligible trades going forward (it does not apply to existing trades) unless/until the counterparty falls below the threshold. There is accordingly an 'all or nothing' position where there is a strong incentive on firms wishing to avoid the obligation, and its costs, to stay well under the limit.

Classes of derivatives

43. There is a further restriction on the scope of the obligation. It applies only to some classes of derivatives. Counterparties are required to clear all OTC derivative contracts pertaining to a class of OTC derivatives that has been declared subject to the clearing obligation in accordance with Article 5(2). Article 5(2) permits the European Securities and Markets Authority (ESMA)[12] to submit regulatory technical standards (RTS) setting out which derivatives qualify for the clearing obligation.

[12] ESMA is an independent EU Authority that contributes to safeguarding the stability of the European Union's financial system by enhancing the protection of investors and promoting stable and orderly financial markets. It is the centralised EU equivalent of the FCA in the UK.

44. ESMA has issued RTS covering two categories of OTC derivative: interest rate derivatives and credit default swaps.

45. Although ESMA has the power to propose a new clearing mandate for more asset classes including, in theory, energy and commodity markets, the clearing obligation set out in Article 4 is unlikely to apply to any of these products, meaning that utility companies can continue to trade OTC bilaterally without submitting their trades to CCPs for clearing.

46. Should a company exceed the clearing threshold for whatever reason then the clearing obligation will apply to all of its trading that is conducted OTC.

The consequences of the exemption

47. As noted above, the combination of the clearing exemption and the clearing threshold will likely ensure that most energy businesses, and other non-financial counterparties such as municipalities, whose trading activities are primarily to hedge energy costs etc., will be exempt from the clearing obligation in the foreseeable future and will not be exposed to this additional cost and step when trading OTC.

48. Even without the clearing obligation, we understand that the rollout of REMIT and its transaction reporting and other obligations increased businesses' compliance costs and burdens, leading to the exit of some firms. Some third parties indicated during hearings that they expected something similar for the rollout of EMIR and MiFID even if clearing was not required.

49. Uncertainty about the exact scope of exemptions and their duration and the increased costs and risks of trading OTC may affect the behaviour of some traders.

Non-MTF platforms

50. During the third party hearings we learned that some exchanges are responding to the changing market environment by launching or considering to launch alternative platforms. These would sit alongside their established exchange products but would be subject to less stringent trading and eligibility requirements and are designed to qualify as OTFs. This would allow market participants to trade on the exchange group's platforms without foregoing the advantages of broker/OTC trading relative to on-exchange trading in respect of MiFID regulatory requirements and the clearing threshold. EEX informed the CMA that it intended to additionally introduce a new trading venue for

power and gas with an alternative regulatory status.[13] This OTF venue would be a complementary alternative to its main exchanges, seeking to capture trading activity from counterparties wary of the costs of on-exchange trading and wishing to remain outside of MiFID II. [✂]. Although the CMA does not have direct evidence that other exchange groups are planning similar products, EEX anticipated that their competitors would follow suit [✂].

51. The key differences between trading on non-MTF platforms and trading OTC are that non-MTF trading would still require to be cleared at the exchange group's clearing house and that trading would be discretionary – the platform would not intervene to bring parties together or negotiate trades. The prices would be available for discovery and for entering into a transaction on screen. In effect, there would be two order stacks for each relevant product – one for the regulated exchange and one for the non-MTF platform. EEX indicated that their offering would initially be limited to power and gas products.[14] The clearing requirement indicates that non-MTF platforms might not initially appeal to counterparties who predominantly deal in OTC bilateral trading.

52. Alternatively, where sufficient liquidity for products which suit a participant's trading or hedging needs are available only on these new platforms, and not OTC, then such traders may be disposed to trade, at a higher transactional cost, in order to achieve the best price in the desired product, without sacrificing their overall exemption from the MiFID II or EMIR obligations. Such trades would not contribute to the overall clearing threshold at which point all trading would require to be cleared as they would not be financial instruments.

53. It is not possible to draw firm conclusions about any impact on the market and the choice of trading venue which the introduction of OTF alternatives will have.

ICE/Trayport and third party submissions

54. It is difficult to come to firm overall conclusions about the impact of MiFID and EMIR on competition and trader choice between exchanges, brokers and other new venues because the legislation is complex, and has not yet been finalised, implemented or, in the case of the MiFID directive, transposed. We considered the views held by ICE, Trayport and third parties about the effects of financial regulation when considering our assessment. .

[13] EEX hearing summary, paragraph 2.
[14] EEX hearing summary, paragraph 2.

ICE/Trayport views

55. ICE submitted in its site visit materials that the impact of MiFID II and EMIR on OTC trading was likely to be mitigated by the exemptions and carve-outs, meaning that there would continue to be significant demand for broker OTC/OTF, and therefore a major role for Trayport, post implementation. This assessment was made in the course of a submission about why ICE decided to buy Trayport now:

> In Europe, gas and power products which are traded on an Organised Trading Facility (which includes broker platforms) and which must be physically settled are outside the scope of both MiFID/MiFiR and EMIR […] We therefore expect significant demand for the services of OTF platforms for the foreseeable future, enhancing the importance of Trayport.

56. Similarly, in their response to the Issues Statement, ICE submitted that the decision (purchase) was prompted in part by the European regulatory position 'crystallising so that OTC brokered markets will remain an efficient option for trading European Utilities'.[15]

57. [✂]

58. Trayport had considered the considerable damage that a sudden and total shift of trading to an exchange would cause to its broker customers and to its own revenue, following the introduction of a new regulatory structure. In the event, this eventuality, and the need for a Trayport response, did not come to pass due to the softer shape of regulatory change in Europe, compared with the USA.

> The phrase Nuclear Domino Theory is referencing a risk of trading migrating from OTC markets to on-exchange and this happening quickly and being impossible to stop. This was in the context of potential regulatory reform, specifically the regulatory driven shift from swaps (OTC) to futures (on-exchange) which would be damaging to Trayport's broker customers and therefore Trayport's revenues. In the end the shift did not occur in Europe due to a different regulatory structure emerging than in the US, specifically the carve-out for physical gas and power in MiFID II.

59. It is likely that were the carve-outs from MiFID and EMIR to disappear, so that OTC trading became impossible or was subject to the clearing obligation in

[15] Response to Issues Statement, page 3.

full, then we would see a much more rapid and clear shift to exchange trading, coupled with likely market exit or trading activity reductions from some participants.

Third party views - exchanges

60. Not all market participants agreed without reservation that the exemptions guaranteed survival for OTC venues in the long term or were even helpful to them. The exemptions do not apply universally and, as noted above, MiFID II and EMIR impose other obligations which increase the regulatory burden and costs of trading OTC. There is sufficient uncertainty that exchange venues are unclear as to the future shape of the market and are taking appropriate precautions.

61. [✂] admitted that it simply could not anticipate with certainty what the market would look like:

> I do not know the trend. I just know that products, the move or the decision to move from one to another side, regulated, unregulated, broker, OTC, except bilateral - OTC bilateral, there are recommendations and so on - it is the same. For me, it is one market [✂].

62. CME indicated in their hearing that it was likely that the REMIT carve-out would likely allow trading on broker venues using Trayport, as an OTF platform, to continue, but that it was not possible to predict the response of exchanges or the future development of markets:

> CME Group said that the REMIT carve out for energy products in relation to MiFID II is the first time that regulation clearly specifies that the physical trading activity has to take place on organised trading facilities (OTF), in order to avoid classification as financial instruments under MiFID II. Physical products have to be physically delivered, cannot be netted, and have to be traded through an OTF. Effectively, what Trayport is today is a software provider for non-MTF platforms and the expectation in the market is that the non-MTFs will become OTFs. A physical market participant, in Europe, with bona fide physical hedging requirements, will want to continue trading in the same way as they are today via an OTF. This is critical to how market

participants in Europe will be conducting their business going forward.[16]

Third party views – brokers

63. The broker Griffin noted on the future of OTC trading:

> in the context of the current regulatory environment, some counterparties would be very keen to trade in the OTC market as much as possible. This was because they did not want to trade financial instruments, which were caught by regulatory requirements under MiFID. Companies trading financial instruments could be required to be regulated like a bank; this would be costly for come companies.[17]

Third party views – traders

64. As an example of a trader's perspective, RWE were clear that the upcoming implementation of MiFID II would provide a reason to focus trading on OTF platforms ie OTC brokers:

> RWE also said that there was a boundary between the physical markets and the financial markets that was covered under the Markets in Financial Instruments Directive (MiFID). At the moment, the trading of physical products on multilateral trading facilities was not regulated under the directive. The proposed revisions to MiFID could result in a change in the boundaries of these products, so that physical power and gas traded on organised trading facilities (essentially broker platforms) may not fall within the boundaries of financial regulation. As a result of these revisions, there could be a shift from exchanges towards brokers.[18]

65. However, RWE also considered that for some traders whose OTC volumes were close to the clearing threshold, there could be an incentive instead to trade on exchange, indicating that the regulation drives in both directions.[19]

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[16] CME hearing summary, paragraph 34.
[17] Griffin hearing summary, paragraph 23.
[18] RWE hearing summary, paragraph 9.
[19] RWE hearing summary, paragraph 7.

Third party evidence on the role of Trayport and barriers to entry

Introduction

1. We held 13 hearings with 5 exchanges, 5 brokers, and 3 traders. We also received market questionnaire responses from 25 third parties, and 39 responses to a specific trader questionnaire. We also received submissions from an ISV in response to our issues statement.

2. In this evidence, third parties provided views on the role of Trayport and the extent to which there are barriers to entry in the supply of software services provided by Trayport to facilitate European utilities trading. We summarise the key themes from this evidence in sections 7 and 9 of the main report. This appendix summarises this evidence in more detail under the following headings:

    - An overview of the importance of Trayport in European utilities trading
    - Aggregation
    - The closed API
    - Trayport's role in developing and launching new products
    - Trayport's role in clearing
    - Potential entry dependent on Trayport's Trading Gateway
    - Evidence on past attempts to set up alternative platforms to Trayport

An overview of the importance of Trayport in European utilities trading

3. Third parties consistently emphasised that Trayport's software and services were an essential input into trading on the European utilities market and that it enjoyed a 'de facto monopoly'.

Trader views

4. Engie told us that in principle, traders could use whatever screen and trading venue offered the lowest transaction fee for the same quality of services and provided it had the necessary liquidity. However, Engie said that it, and traders generally, did not consider that there were front-end screens available as viable alternatives to Trayport's Joule/Trading Gateway screen for the

energy markets. Engie said that Exxeta and Trading Technology provided screens with price aggregation but that they were dependent on, and paid a fee to, Trayport. The only other alternative was CME Direct and this was very small. Engie told us that voice dealing was also processed via Trayport.[1]

5. RWE told us that Trayport has an effective monopoly over access to the brokered OTC markets. The contractual framework surrounding the back-end broker trading systems and the Trading Gateway means that any market participant needs to purchase the Trading Gateway to trade energy in Europe and any broker or exchange has to be available via Trayport. It stated that the barriers to entering on either side of this 'monopolistic nexus' are extremely high.

6. RWE said that in UK power and gas markets, OTC brokers required Trayport to be able to host prices correctly. Although ICE had its own front-end screen, RWE said that the majority of traders accessed ICE products through Trayport's Trading Gateway. In UK power and UK gas, Trayport was therefore embedded as the main access point for traders dealing on exchanges and with brokers for OTC trades.[2]

7. RWE said that in other markets there were other front-end screen choices, for example, in oil RWE said that it could use X-Trader, TT or EXXETA. However, RWE emphasised that these front ends still needed to utilise Trayport's Trading Gateway to access the UK power market.[3]

Exchange views

8. CME told us that Trayport's main value was not just in providing aggregation but that Trayport provides access to the entire life cycle of a trade, i.e. price discovery, trade agreement, and trade submission. It stated that the value for market participants is having access to the entire life cycle of a trade in one place. If there is no price discovery, there will likely be no trade agreement and trade submission, including for clearing to CME.[4]

9. CME told us that its front-end distribution platform, CME Direct, had not gained traction in the European Utility trading place, despite offering comparable technology solutions to both Trayport and WebICE. The reason for this was that with Trayport and WebICE, market participants are already using two trading screens and therefore have been reluctant to consider a third screen for accessing what are similar energy derivative products. This

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[1] Engie hearing summary, paragraph 5.
[2] RWE hearing summary, paragraph 2.
[3] RWE hearing summary, paragraph 3.
[4] CME hearing summary, paragraph 23.

reluctance by the trader community to accept the CME Direct front end platform also means that brokers have not been able to utilize CME Direct for any broker match engines away from Trayport.

10. [An exchange] told us that Trayport has a virtual monopoly on the OTC markets in power and gas trading as this is the trading system used by all major brokers. Furthermore, all trading members active in power and gas trading have to connect to Trayport to access best execution prices. Due to Trayport's established position in the market, as well as the integration of the Trayport system into the IT architecture of virtually all trading companies, any trading company or exchange not granted access to Trayport is put at a significant competitive disadvantage.

11. EEX told us that in gas and power markets the Trayport Joule/Trading Gateway screens were the only way to access the market successfully. EEX said that trading venues or clearinghouses could not compete with ICE if they were not connected to Trayport. EEX said that approximately 80% of European power is traded via Trayport and that any trading venue excluded from using the system would face a rapid drop in market share and competitiveness.[5]

12. Nasdaq told us that Trayport is essential to compete in the European energy markets and for all the gas hubs in Europe, as a very high number of the trades go through Trayport. Nasdaq said that the proportion of trades it receives through Trayport in its continental power offering (consisting mainly of German power market for the time being) is a bit lower than one would see on other trading venues, as Nasdaq has many traders also using other systems due to its history where they mainly focus on Nordic power. However, for other continental exchanges and brokers connected to Trayport, Nasdaq believes their volume of trades received through Trayport to be substantially higher.[6]

13. Powernext told us that Trayport's Trading Gateway currently acted as a spur to competition, allowing firms to enter new markets and challenge rivals. Trayport offered thousands of products that provided valuable services, especially to small firms, but that it also increased dependability on Trayport. It said switching to an alternative could be inhibited if companies outsourced more of their technical infrastructure to Trayport. Powernext said it had continued to use Trayport's products as Powernext had the expertise and knowledge-base to make best use of the software, and because Trayport had the most advanced products. It said that using familiar and reliable software

[5] EEX hearing summary, paragraph 5.
[6] Nasdaq hearing summary, paragraphs 8 and 9.

was important as it enabled them to focus on expanding from being a French gas exchange to a European one. It told us that its use of Trayport's back-end technology was one of the reasons it was successful in gas markets.[7]

Broker views

14. Broker A stated that it used the Trayport technology primarily for price dissemination, i.e. to get its prices out in front of all of the clients who were connected to Trayport. The Trayport system also provided Broker A with a reference point for its own internal voice-brokers. Broker A also pointed out that ICE venue prices were also disseminated over the Trayport software in the same way.[8]

15. Griffin stated that there was currently no one who provided an alternative software to enable a technology platform to launch in competition to Trayport.[9]

ISV views

16. [An ISV] told us that the Trayport platform is the most widely used price discovery and trade aggregation tool for European and UK energy derivative products and shows bids and offers from a large number of brokers on one screen, as well as providing direct access to exchanges. As such, it is indispensable for OTC energy brokers and traders.

Aggregation

17. Third parties told us that the importance of Trayport lay in its aggregated front-end offering.

Trader views

18. Engie considered Trayport's key value was as a price aggregator. Engie said that it had recently renegotiated its three year contract with Trayport and that Trayport had been able to leverage its dominant market position to negotiate a [✂] price increase and enforce a move to software as a service (SaaS).[10]

19. Financial Institution A said it used Trayport predominantly as a price-discovery tool as its key advantage was that it seamlessly combined prices from exchange and broker markets. It said although it only traded in the financial markets, it required access to the physical markets in order to inform its

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[7] Powernext hearing summary, paragraph 10.
[8] Broker A hearing summary, paragraph 4.
[9] Griffin hearing summary, paragraph 36.
[10] Engie hearing summary, paragraph 12.

pricing strategy. It said that it was not as reliant on Trayport as many other parties because it used the technology for price-discovery, rather than execution.[11]

20. RWE said that an attempt to launch an alternative execution venue would more than likely fail if its prices were not consolidated into the Trayport system. Historically, EEX did not have a Trayport link and the EUREX system was deemed to be quite difficult to access. In response, EEX put a lot of effort into working with Trayport to provide this translator.[12]

Exchange views

21. EEX told us that the use of Trayport's front-end screen was widespread due to its price aggregation on a single screen and the competition it produced amongst venues to lower fees.[13]

22. EEX said that Trayport has a significant offering of products, functions and services. Similar products or suppliers of similar services are available, but not in the same combination or combined with the same functionality that Trayport provides. This makes the Trayport offering entirely unique. Trayport offers a consolidated trading screen that is essential for all major brokers, and they would not be willing (or indeed able) to move away to any other product that is currently available on the market. Trading companies could potentially move to another system provider, but will still need to connect to Trayport to receive OTC prices. Therefore, even if another system is in place, Trayport access is required, and this access is entirely within the control of Trayport's owner, ICE.[14]

23. Exchange C told us that the 'ubiquitous presence' of Trayport makes European energy and commodities trading different to other markets. Best prices offered by all trading venues – OTC brokers and exchanges – are shown on a single screen that is embedded in the trading processes of customers. As a result, Trayport facilitates intense competition, both amongst exchanges and amongst OTC brokers, as well as between exchanges and OTC brokers.[15]

24. Nasdaq told us that Trayport charges both exchanges to obtain access to customers (e.g. traders) and charges customers for access to different exchanges and trading venues. In theory traders could use alternative

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[11] Financial Institution A hearing summary, paragraphs 2 and 3.
[12] RWE hearing summary, paragraph 23.
[13] EEX hearing summary, paragraph 3.
[14] EEX initial submission, page 5.
[15] Exchange C additional submission, paragraph 3.1.

platforms provided by other ISVs, but Nasdaq believes that the strength of Trayport primarily lies in terms of the number of customers it can reach through its aggregated front-end screen, Joule/Trading Gateway by giving access to multiple exchanges and trading venues including brokers, and both exchange and cleared liquidity as well as OTC non cleared liquidity. In Nasdaq's view, Trayport is unique in its ability to bundle all price information from multiple venues into one hub and, in this sense, there are no practical alternatives to reach the same amount of information and liquidity.[16]

25. Nasdaq said that in most European energy markets, Trayport is essential in order to compete. Trayport is not unique for its front-end system and functionality, but for its level of distribution and market information that allows market participants to get a complete view of the respective markets with aggregation capabilities. There is currently no true competitor in this segment and it is practically impossible to switch away from Trayport as there are no feasible alternatives available.

Broker views

26. Griffin said that it failed to migrate liquidity from the Trayport platform. Griffin told us that one of the primary reasons for the failure of its joint venture with ICE was the lack of aggregation available on the ICE platform (see below for further Griffin comments on its joint venture with ICE).[17]

27. Griffin said that it was theoretically possible for firms to switch away from Trayport's infrastructure. However, in the markets where Trayport was strong, Griffin's experience was that it was not a practical option as it was unlikely that there would be any aggregation of products from different venues in the new platform without wholesale migration. Griffin said that without aggregation, traders would need multiple screens – one for each marketplace - containing the information they needed to make trading decisions but that traders wanted to be able to see the market in one aggregated stack. Griffin's ICE offering was outside of that aggregated screen and it was, therefore, onerous and inefficient for traders who had to look at more than one screen to try to work out the best bid, or the best offer.[18]

28. Griffin stated that the power of Trayport was demonstrated by the fact that it took 12 months to launch its offering with ICE, whereas it took less than a month to launch its offering with Trayport. It also stated that it was the number one broker in the title transfer facility (TTF) front month market on its first day.

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[16] Nasdaq hearing summary, paragraph 7.
[17] Griffin hearing summary, paragraph 5.
[18] Griffin hearing summary, paragraph 6.

Griffin, as a broker, had not got close to this volume of activity when it was on ICE.[19]

ISV views

29. [An ISV] told us that although brokers and traders could theoretically conduct business directly in the absence of such an aggregation platform by, for example executing trades by phone, this would not provide visibility of the entire market on a single screen. As such, it would place brokers and traders that did not use Trayport at a significant trading disadvantage. Therefore in practice, in order to continuing trading competitively, users must continue to use Trayport. This is demonstrated by Trayport's recent fee increases that accompanied its introduction of a SaaS model, which [the ISV] understands Trayport was able to implement in the face of customer resistance, due to the lack of viable alternative options.

The closed API

30. Third parties consistently told us that Trayport's success in the European utilities market stemmed from its closed API policy.

Trader views

31. RWE told us that the closed API created an inability for traders to plug other front-end and back-end systems into Trayport. As a result, Trayport exclusively controlled access to broker venues.[20]

Exchange views

32. CME said that the reason Trayport is so successful in its distribution is that the only way to get access to its back-end software is to buy the front-end, which is typically not the way trading software companies work. Other ISVs do not also supply a back-end matching engine. As such, the closed API is a unique feature of Trayport.[21]

33. Powernext told us that extensive reliance on Trayport's products was common throughout the market for both brokers and exchanges, and that this was due to the closed API strategy adopted by Trayport which had effectively made its software the 'backbone' of European energy trading.[22]

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[19] Griffin hearing summary, paragraph 17.
[20] RWE hearing summary, paragraph 33.
[21] CME hearing summary, paragraph 48a.
[22] Powernext hearing summary, paragraph 5.

Broker views

34. Griffin stated that the main value of Trayport, in addition to the aggregation that it had achieved, was the closed API strategy. With the closed API in operation, there was only room for one aggregating platform where liquidity gathered.[23]

35. ICAP told us to compete effectively an exchange needed their liquidity to be aggregated into the front end trader stack. It said due to the closed nature of the Trayport API this meant that any trading venue wanting to compete effectively for execution and clearing would need to connect to trader front-end systems via an agreement with Trayport rather than directly with traders as they can do in the majority of other markets.[24]

36. Marex Spectron told us that given Trayport's closed BTS API, the only way to connect to the OTC energy markets was either a Trayport screen connecting to Trayport's Trading Gateway, or a third-party screen connecting to Trayport's Trading Gateway. Marex said that if an ISV wants to provide a front-end access screen to a customer in the energy trading space then that customer will need to purchase a licence to the Trayport Trading Gateway and separately contract to use an alternative ISV's front-end which will need to be built on top of the code to the Trading Gateway. The customer will need to see incremental value in doing so given the double-cost. Marex said that its EasyScreen could potentially be used as an alternative on the power and gas markets but this is not possible because of Trayport's closed API. It has a relatively high market share on the metals market for the London Metal Exchange with full access to all functionality. EasyScreen does not operate with any limitations on any of the other listed markets that Marex actively trades on and the closed API is specific to Trayport and the energy trading markets.[25]

37. Tradition said it was contractually prevented from distributing real-time price data outside of Trayport's software due to its closed API.[26]

Trayport's role in developing and launching new products

38. Some third parties told us that Trayport had an important role in helping them to develop and launch new products.

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[23] Griffin hearing summary, paragraph 22.
[24] ICAP hearing summary, paragraph 15.
[25] Marex Spectron hearing summary, paragraphs 5 and 6.
[26] Tradition Finance Services hearing summary, paragraph 26.

Exchange views

39. CME told us in order for CME to successfully launch [✂] cleared product, CME needed to be on Trayport. [✂].

40. CME said that brokers and traders may approach CME wanting a new product, or CME could discuss a need that it thinks it has identified in the market place with brokers and traders. CME could then launch a new product, which they would discuss with Trayport in advance, [✂]. Once CME has a regulatory approval to launch this product CME sends out announcements - official vendor notices – with details of the product. The vendor notice will make clear that CME is making this product available on CME's exchange and clearing house on this date, and include the technical specifications.

41. CME said that Trayport will then create the product as a tradable product within their product master database (often referred to as 'gold mapping'). Trayport will then send out a notice to their users, saying these new products are now available in the Trayport database. Brokers and traders will then pull the products into their work environment so that they can see it.

42. CME said that, typically for straightforward products, the turnaround period that CME would give to vendors would be [✂]. The product needs to be live and visible within the Trayport ecosystem. Clients will also need to understand where it is on Trayport, and for this they will rely on the 'gold mapping' to pull down the database and recreate this on the back-end.

43. CME said that for something that is more complicated, this can [✂].

44. Exchange C told us where attempts have been made to enter new products or markets, the presence of bid ask prices on Trayport has been crucial and a necessary requirement to even consider entering. [✂]. Without the visibility on the Trayport screen, entry would not have been viable. [✂].[27]

45. Powernext told us that it was common for it to discuss product plans with Trayport a year in advance.[28]

46. Powernext said it had recently launched an hourly spot product after significant time spent on design collaboration with Trayport. It considered Trayport's input as key to the early success of this product as it ensured the screen design was well suited to the complexity of the product. Powernext

[27] Exchange C additional submission, page 3.
[28] Powernext hearing summary, paragraph 24.

said this was one example of how the two companies worked to release new products.[29]

Broker views

47. ICAP told us that Trayport's closed API strategy made it an unattractive proposition for ICAP to choose Trayport as a software provider for new product or asset class launches. ICAP said doing so would only compound the current issues markets face regarding lack of access and control over their systems, connectivity and data. ICAP said that where it does use Trayport for new products or asset class launches, it is typically where Trayport already has some traction and connectivity and to use a system other than Trayport would require overcoming all the barriers to entry that exist and which have been discussed extensively elsewhere. For example, this was the case in the Wet FFA market.

Trayport's role in clearing

STP link

48. Third parties also provided evidence on Trayport's role in the clearing of trades (i) directly through its provision of an STP link and (ii) indirectly through its product dissemination function to traders. We consider each of these in turn, including alternatives to Trayport's STP link.

Exchange views

49. CME is connected to Trayport's STP link. CME told us that, as part of a [✂] deal, CME Group pays Trayport [✂].

50. EEX said that Trayport's STP link was a key part of its clearing service infrastructure as it was used in around half of EEX's exchange volume. It told us that that Trayport's STP link was a vital instrument for the multiple parties involved in clearing operations. It said that there was no viable alternative on the market, and stressed that it had was business critical that it functioned correctly.[30]

51. CME told us that there are many ways that a broker can submit a trade for clearing. For example, the broker could submit a trade to CME for clearing by fax, by email, or he could call it in using CME's facilitation desk. However, brokers are more likely to use an electronic platform which is written directly to

[29] Powernext hearing summary, paragraph 25.
[30] EEX hearing summary, paragraphs 18 to 20.

the interface, such as Trayport's STP link. The broker could submit the trade via the Trayport clearing link, or do the same via a similar clearing link on CME Direct. It is the broker's choice how he prefers to submit it on behalf of the trader.[31]

52. However, CME told us there are risks associated with these alternative routes, for example traders need to have trades cleared by a certain time because of block trade price reporting requirements. CME said that even if trades are not submitted through the Trayport STP link, almost 100% of the OTC trades in relation to European utilities products cleared by CME Group are trades where price discovery and trade agreement occur on Trayport.

53. Exchange C told us that in addition to manual registration, there are three alternatives zto Trayport's STP link: EFET.net eXRP, Trigonal, and Cleartrade. All three (theoretically) could potentially offer comparable functionality to Trayport. However, in reality all three are weak options:

(a) First, the network effects of Trayport mean that using another one would be very inconvenient for a trader and the incremental costs of using one in the day-to-day operations of a trader would be very high. These network effects reduce the scope for any alternative to Trayport to be feasible.

(b) Second, as Trayport has a closed API system, alternatives are always dependent on Trayport as Trayport's BTS back-ends are only accessible to traders via Trayport front-ends. The eXRP solution is used by only one of eight brokers who are using STP.

(c) Third, a switch to EFET.net eXRP would involve an investment by each broker of approximately €120K (based on 60 person days of estimated effort). At [✂], there would be an additional 10 person days for each broker that switches. Even following this investment, there is still a risk that Trayport will refuse usage of the API for brokers processing their trades via EFET.net eXRP. [32]

54. EEX said approximately half its volumes were registered trades the vast majority of which were forwarded automatically through the STP link. Manual entry was no alternative due to the volumes registered, the additional operational burden on traders, and the risk of human error which was considerably higher.[33]

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[31] CME hearing summary, paragraph 7.
[32] Exchange C additional submission, page 16.
[33] EEX hearing summary, paragraph 19.

55. Powernext said that no viable alternative existed to Trayport's STP link. It said that eXRP and EFETnet were contenders but they lacked functionality by comparison. It said eXRP did not operate seamlessly within Trayport's Trading Gateway, required important IT development from the brokers, and still relied on Trayport to access their back-end system.[34]

Broker views

56. Broker A stated that EFETnet provided a platform with similar functionality to the hosted clearing link provided by Trayport, although there may be differences in features such as the range of clearing houses that each had access to. However, it believes that the connectivity of the EFET platform occurs post-trade which is too late in the trade process and trade work flow. Broker A's futures trades are required to be with the exchange within a 5 – 15 minute timescale for execution, and in its view the current functionality available from EFET would be unable to meet this deadline.[35]

57. Griffin stated that it preferred not to use Trayport's hosted clearing link because it had more control over trades coming through its back-office system. Instead, Griffin preferred to use its own direct links to clearing houses.[36]

58. Tradition told us that it was possible to build its own alternative to Trayport's STP link; however it would lack the technical functionality and efficiency expected by traders when compared to Trayport's product. It said for an efficient STP process, any clearing link would need to send the trade for clearing at the point of execution and feedback any reference data. It said this was only possible with Trayport's compatible clearing service. It had considered eXRP as an alternative, but had chosen Trayport's SaaS because eXRP did not have the capability to write the clearing status back into the Tradition BTS due to the closed architecture of Trayport's software. It said Trayport's read-only closed API prevented Tradition enriching trades with additional data from third party clearing services such as providing an update to traders when its products had cleared.[37]

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[34] Powernext hearing summary, paragraph 23.
[35] Broker A hearing summary, paragraph 9.
[36] Griffin hearing summary, paragraph 25.
[37] Tradition Finance Services hearing summary, paragraphs 8 and 9.

Product dissemination to traders

Exchange views

59. CME told us that CME's only services on Trayport is clearing trades through the STP link. CME's role will begin once a trade has been made, but in order for the trade to be agreed the traders will first need to have seen the bids and offers on that price for a CME block.[38]

60. Exchange C told us that trades through exchanges [✂] must be cleared. As a result, when traders choose to trade on a specific trading venue, they also automatically choose to clear that trade through the adhered clearing house. This means that the Trayport front-end, which is used by traders to choose a trading venue, is critical to the trading venue for the volumes and revenues generated from exchange execution *and* the clearing revenue generated from exchange executed order book trades. When executing on exchange, the choice of trading venue dictates the choice of clearing house. This has the effect of amplifying the revenue impact of Trayport on the [✂].[39]

61. Nasdaq said that a key component of competition is an exchange's level of distribution, and Trayport can be very important for exchanges to increase the level of their distribution towards brokers for OTC clearing. It is very important for exchanges that brokers have direct access to their clearinghouse through the Trayport facility.[40]

Potential entry dependent on Trayport's Trading Gateway

62. Exxeta told us that there was 'currently no possibility for a full-fledged direct access'[41] to broker or exchange markets using the Trayport back-end systems, without going through Trading Gateway. It explained that this was due to the fact that Trayport did not allow the usage of a Read/Write API for direct access to BTS or ETS contractually.

63. Similarly, [an ISV] told us that whilst other technology platforms such as [✂] could in principle provide a similar price discovery and aggregation service for OTC energy trading, this was currently prevented by the exclusive arrangements between Trayport and brokers, which meant that Trayport remained an unavoidable platform for such services.

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[38] CME hearing summary, paragraph 23.
[39] Exchange C additional submission, page 3.
[40] Nasdaq hearing summary, paragraph 27.
[41] Exxeta defined 'full-fledged' direct access as access which allowed sending orders directly to the market without going through Trading Gateway.

64. CME told us that ISVs were not able to provide access to broker marketplaces in the same way as Trayport, given that Trayport ran the broker match engines (back-end systems) for the brokers that were active on the Trayport platform, and these did not allow for any external parties to connect to them via, eg, writing to an API. It told us that the only way for a trader to access the broker match engines was to become a client of Trading Gateway.

65. [An exchange] told us that given Trayport's 'closed commercial model', it was 'impossible' to find an alternative front-end access supplier that could provide the same aggregation service as Trading Gateway, given that Trayport only allowed Trading Gateway to aggregate Trayport back-end systems.

66. We were told by third parties that a trader using third-party front-end access under the Trayport-dependent route would be required to pay not only for the third-party provider's fees but also for the Trading Gateway access fee, and therefore would incur higher costs than a trader using Trading Gateway, whilst not benefitting from any additional aggregation as its aggregation was indirectly provided via Trading Gateway.

67. For example, Exxeta told us that Trayport required each customer to pay fees to Trayport for usage of software that utilized the Trayport API but did not belong to Trayport, and therefore customers had to incur 'double cost' if accessing Trading Gateway with a third-party application (ie fees to Trayport to gain access to the market and charges for the third-party front-end).

68. [An ISV] told us that: (i) its inability to access the tradable API without already purchasing the Trayport front-end software; (ii) the requirement to licence all users of its software with Trayport as well as pay a usage fee to Trayport for each user of the [ISV's] software; and (iii) Trayport's other licencing requirements, made this proposition 'prohibitive'. It added that if Trayport were to increase its prices for Trading Gateway, then it would make it less likely that customers would consider asking it to help them develop a solution, ie because the customer would first have to pay the higher Trading Gateway licence fee and also the ISV fee.

69. Griffin also told us that the 'double licence fees' (ie a Trading Gateway fee and an ISV fee) a trader would pay for using an ISV connected to the Trading Gateway for aggregation, was one of the 'weaknesses' of this model, but highlighted several others, including the risk that Trayport could stop supporting a connection between the ISV and the Trading Gateway, as well as the limited benefits offered to market participants, given that the ISV would most likely not be providing any additional aggregation of the Trayport markets based upon the current market setup.

70. Marex Spectron told us that if an ISV wanted to provide a front-end access screen to a customer in the energy trading space then that customer would need to purchase a Trading Gateway licence and separately contract to use an ISV's front-end, which would need to be built on top of the code to the Trading Gateway. It added that the customer would need to see 'incremental value in doing so given the double-cost'.[42]

71. [A trader] told us that whilst Exxeta was a 'competing service' which had tried to enter the market, trading firms still needed a version of Trading Gateway to use the Exxeta service (given Trayport's 'closed technology system'). It considered that this 'hampered' new entry. Whilst [a trader] told us that it had explored the possibility of Exxeta's front-end access as an alternative to Trayport, it would have incurred additional costs and still required Trayport's Trading Gateway technology. Furthermore, it told us that it would have also resulted in additional costs and complexity to manage and maintain.

72. Engie told us that whilst Exxeta and Trading Technologies provided screens with price aggregation, they were dependent on, and paid a fee to, Trayport. It added that traders did not consider the various front-end screens available as viable alternatives to the Trayport screen.[43]

73. RWEST told us that any new entrant providing an offering similar to Trayport would be an 'empty offering' given that all market users would still need to maintain a Trading Gateway subscription in any case, and therefore, any alternative front-end access would appear as an 'incremental cost' without the benefit of being able to access any additional market liquidity.[44]

74. In relation to other parties' views concerning alternative front-end access providers, we noted that ICAP cannot distinguish trades executed on third-party front-end access systems (eg Exxeta or an in-house system) from those executed directly on Trayport Trading Gateway as they all flow via Trading Gateway to ICAPs BTS, whilst [an exchange] told us that alternative energy trading front-end access providers were 'weak alternatives', as they were either 'too complex'; required 'special software'; or required further developments for the financial markets.

[42] Marex Spectron hearing summary, paragraphs 5 and 6.
[43] Engie hearing summary, paragraph 6.
[44] RWE Supply and Trading initial submission, page 5.

Evidence on past attempts to set up alternative platforms to Trayport

Griffin (2011-2014)

75. Griffin told us that Griffin was set up in September 2011 with a view to create an alternative energy broker that was more transparent, using different technology to challenge the position of Trayport. It told us that it partnered with ICE under a long-term agreement with a plan to use ICE's technology in order to set up an alternative trading platform by granting traders access to the ICE matching engine through WebICE front end. It told us that it intended to try to migrate liquidity away from the Trayport platform on to the Griffin/ICE platform in many of the energy markets.[45]

76. Griffin told us that at the time, it considered that ICE was the standout candidate to work with as traders already used WebICE, and that reduced the hurdle of introducing a new platform to traders.[46]

77. Griffin told us that it planned to use an open API on the ICE platform although ICE had to approve any third party platform wanting to connect to the Griffin platform. However, Griffin managed to connect a number of ISV platforms, such as Exxeta. Griffin told us that it planned to use its interconnected platforms to produce aggregated information. It added that traders who switched to Griffin would be switching from Trayport's back-end to ICE's matching engine. It told us that Griffin's strategy was to have a more electronic solution rather than large teams of brokers, so that it could pass savings on in terms of its fee structure. It told us that it hoped that a competitive platform with lower costs would be enough to shift liquidity.[47]

78. When Griffin was using WebICE, Griffin told us that Trayport did not develop against the available ICE API and instead Trayport had suggested that the solution for Griffin was to switch to the Trayport BTS. It added that Trayport did not connect ICE's matching engine to the Trading Gateway for the OTC markets, and as a result of having limited liquidity and being isolated from the aggregated market, Griffin told us that it had to cease using ICE and switch to the Trayport BTS.

79. Griffin told us that it failed to migrate liquidity from the Trayport platform, and that one of the primary reasons for the failure of the system was the lack of aggregation available on the ICE platform. Griffin explained that it abandoned its agreement with ICE in 2014 and switched to Trayport. It added that since

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[45] Griffin hearing summary, paragraph 2.
[46] Griffin hearing summary, paragraph 10.
[47] Griffin hearing summary, paragraph 4.

that decision, Griffin's broker operation had conducted significantly higher levels of business as a result of being on Trayport. Griffin told us that when it was on the ICE platform, it had the same fee structure, the same business model, the same marketers, but the only difference was that Griffin was on a different technology platform and that platform had no aggregation.[48]

80. In relation to Griffin's past attempt at establishing a competing platform, parties broadly agreed that Trayport's closed API and lack of aggregation were the key reasons for its failure. For example:

(a) [An exchange] told us that WebICE could have evolved into a competing technology against Trayport over time, but it could not 'fully succeed' in the short term due to Trayport's 'closed commercial model' which allowed Trayport to refuse to list Griffin products on Trading Gateway in order to block other brokers to switch to WebICE back-end.

(b) CEL told us that Griffin's failed attempt to establish itself as an alternative market access provider whilst offering cheaper brokered fees using the WebICE service, highlighted the importance of liquidity and aggregation for entry to be viable.

Project Trafalgar (2009-Present)

81. [✂] told us that 'Trafalgar' was the name given to a discussion group which initially comprised broking companies that met around 2009 to discuss potential courses of action which would allow brokers and traders to move away from Trayport as their software provider. [✂] told us that this was a 'wide group' involving the majority of the brokers of the day, including [✂].

82. [✂] told us that the Trafalgar group had continued to meet from time to time, but no concrete plans had ever come from these discussions. It told us that a high level document outlining potential required functionality for any Trayport alternative was produced by an external consultant in April 2016, the purpose of which was to establish some common understanding and inform the many discussions arising from approaches to the broker community from third party software providers, particularly in light of the proposed ICE/Trayport transaction.

83. Tullett told us that it, along with a consortium of brokers, had discussed alternatives to the Trayport platform, with ICE being considered as a reasonable option' due to ICE's market presence, technology and connectivity. It also told us that some of the brokers in the consortium were

[48] Griffin hearing summary, paragraph 5.

already using ICE's technology for oil products, and therefore the consortium believed that ICE would be well positioned to develop a 'Trayport competitor', by broadening the supported products beyond oil into other energy and commodity markets. Tullett told us that ultimately, this proposal was considered 'extremely high risk', eg if clients and liquidity did not move to the new order book, this would result in all brokers on the new technology suffering a loss of business. Tullett explained that for this reason, the project did not progress further.

84. [An exchange] also told us that it participated in various discussions in the industry to come up with alternative solutions (to Trayport), but having assessed these in some detail the governance and directions set by these initiatives did not allow [the exchange] to believe that anything performant and cost-effective could come out from these initiatives.

Overview of European trading by asset class

Introduction

1. This appendix provides an overview of European utilities trading in five different asset classes: gas, power, emissions, coal and oil.[1] It presents the volumes shares of the main exchanges and clearinghouses active in execution and clearing in each asset class and the evolution of these shares and volumes in each asset class over time.

2. In the following sections, we first describe the data used and then provide an overview of the main exchanges active in the execution and clearing of trades in each of the five asset classes.

Data description

3. ICE has been the primary source of data, including data for rival exchanges and broker venues. Data provided by Trayport was limited to aggregate statistics that are presented in its monthly market dynamic reports.[2]

4. The dataset provided by the Parties included trades executed and cleared by trading venues and clearinghouses in gas, power, coal and emissions. The Parties have also provided high level figures on oil trading.

5. The data ICE provided on rival exchanges and brokers comes from publicly reported sources and data subscription services:

    - For brokers, ICE provided London Energy Brokers' Association (LEBA) data. That implies that OTC volumes presented in this report represents trades executed on a broker that is a member of LEBA.

    - For non-ICE exchanges, ICE used publicly available sources e.g. the respective exchanges' websites. For EEX, ICE provided data from a subscription service which has been used as source of historical data for EEX power and Pegas gas.

6. A limitation of the data used for non-ICE exchanges is that they are at a 'total' cleared level, which does not distinguish whether a cleared trade was executed on-exchange or OTC. As such, ICE has split the data between on-exchange and OTC cleared. The split was based on the ratio of broker

[1] European Utilities includes also the UK.
[2] Trayport.

cleared volumes to exchange executed volumes, at a product level, as reported by Trayport on a monthly basis in its market dynamic reports. [3] ICE did not use this approach for CME, because all its cleared volumes are understood to reflect OTC cleared volumes and were therefore allocated accordingly.

7. A second limitation is the aggregation of voice and electronic brokered trades. To split these volumes between voice and electronic, ICE used the screen and voice-traded quantity shares reported in the most recent FSA energy market report.[4]

8. To compare volumes across asset classes, ICE provided the following conversion rule of thumbs:

- Emissions and coal: 1 standard monthly lot equals 1000 tonnes;
- UK gas: 1 standard monthly lot equals 879 MWh; and
- European power and gas and UK power: 1 standard monthly lot equals 720 MWh.

9. We have analysed this data at the asset class level, without assessing it separately by product (e.g. delivery hub) or maturity (i.e. spot, futures and options).[5]

Asset classes

Gas

10. We considered 11 products in the European gas market.[6] ICE was not able to provide data for ZEE, another European gas product. As an indication of the size of this product, the Parties mentioned that LEBA reports MWh 795m of total OTC volumes in 2015. UK's National Balancing Point (NBP) and Dutch Title Transfer Facility (TTF) hubs account for more than [90-100]% of volumes in the gas market.[7] In particular, trading in TTF has risen in recent years[8] and accounted for more than [40-50]% of all[9] traded gas in 2015.[10]

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[3] Trayport.
[4] Financial Services Authority, 2012, 'Analysis of activity in the energy markets 2012'
[5] Options are not universally available for all products.
[6] These products are: Czech gas, Gaspool, NBP, NCG, OCM, PEG, PSV, TRS, TTF, VTP and ZTP.
[7] Parties' data, 2015.
[8] Ofgem, Wholesale Energy Markets in 2015, par.3.16
[9] "All" or "total" volumes must be interpreted throughout this appendix as all OTC and on-exchange volumes for which ICE could provide data.
[10] Parties' data, 2015 share

Execution

11. In 2015 [70-80]% of gas volumes were traded OTC. The remaining volumes were split mainly between ICE and Pegas with Wiener Borse accounting for a very small proportion of on-exchange trades. As shown in Table 1, over [90-100]% of on-exchange executed gas volumes in 2015 were executed on ICE exchanges.

Table 1: Share of on-exchange volume in European gas in 2015

	%
Execution venue	*Share of on-exchange volumes*
ICE	[90-100]
PEGAS	[5-10]
PXE	[0-5]
Wiener Borse	[0-5]

Source: Parties' data. Based on 2015 volumes.

12. The total size of the gas market increased in the same period. The volume of total gas traded grew from [20-30] billion MWh in 2011 to nearly [40-50] billion MWh in 2015. As noted above, this was in part driven by the growth in TTF volumes.

13. Although during this period of market growth OTC cleared volumes grew from [1-2] billion MWh in 2011 to [4-5] billion MWh in 2015, the share of OTC executed gas traded fell slowly relative to on-exchange execution: in 2011 OTC trading accounted for [80-90]% of total traded gas volumes and in 2015 this fell to [70-80]%. During the same period, the proportion of trades executed on ICE as a share of all trades (i.e. OTC and on-exchange) increased from [10-20]% to [20-30]%.

Clearing

14. In 2015 [80-90]% of OTC-executed gas volumes were uncleared. This was equivalent to [50-60]% of the total traded gas volumes.

15. The remaining OTC volumes were cleared through ICE, ECC and CME. Table 2 shows the shares of OTC cleared volumes for each of these clearing venues. ICE cleared over [90-100]% of OTC cleared gas trades; CME and ECC together accounted for [✂] [5-10]% of total OTC cleared gas trades.

Table 2: Share of OTC cleared volumes in European gas in 2015

	%
Clearing venue	*Share of OTC cleared*
ICE	[90-100]
ECC	[0-5]
CME	[0-5]

Source: Parties' data. Based on 2015 volumes.

16. ICE's share of OTC clearing has been [✂] over the period 2011-2015, peaking in 2014 when it cleared [90-100]% of OTC cleared volumes.

Power

17. Power includes 17 products.[11] German power accounted for [50-60]% of the power volume traded in 2015. Table 3 shows the top five traded power products.

Table 3: Total traded volumes in European power in 2015

	bn MWh
Product	*Trade volume*
German Power	[6-7]
Nordic Power	[1-2]
French Power	[1-2]
UK Power	[1-2]
Italian Power	[1-2]

Source: Parties' data. Based on 2015 volume.

Execution

18. In 2015 [70-80]% of power was traded OTC. Of the volume executed on-exchanges, [50-60]% was executed on EEX which is the largest exchange venue in power, followed by Nasdaq with [30-40]% of on-exchange volumes. ICE is relatively small in power execution with [0-5]% of on-exchange volumes. Table 4 shows the shares of the exchanges active in the power execution.

Table 4: Exchange share of European on-exchange power volumes in 2015

	%
Exchange	*Share of on-exchange volumes*
EEX	[50-60]
Nasdaq	[30-40]
POLPX	[5-10]
ICE	[0-5]
PXE	[0-5]
OMIP	[0-5]
MEFF	[0-5]

Source: Parties' data. Based on 2015 volume.

[11] These products are: Belgian, CEE, Czech, Dutch, French, German, Greek, Hungarian, Italian, Nordic, Polish, Portuguese, Romanian, Slovak, Spanish, Swiss and UK Power.

19. On-exchange execution shares varied significantly across different products. For example, in 2015 EEX executed [90-100]% of on-exchange German power volumes, Nasdaq executed [90-100]% of on-exchange [✂] power volumes, and ICE [90-100]% of on-exchange [✂] power.

20. ICE told us that the split between on-exchange, OTC cleared and uncleared volumes is not available prior to May 2012 for Nordic power volumes. For this reason we considered how power volumes changed over time in the period between 2013 and 2015. The data shows that from 2013 OTC trading has been relatively stable at around [70-90]% of total power execution. Similarly, ICE has had a relatively constant share of about [0-5]% over the same period.

Clearing

21. In 2015, [60-70]% of all power volumes were OTC uncleared. This is equivalent to [70-80]% of OTC executed power volumes being uncleared. The remaining [20-30]%, i.e. all the OTC cleared volumes, was cleared mainly by ECC and Nasdaq, as shown in the Table 5.

Table 5: Clearing house share of European power volume in 2015

	%
Clearing house	*Share of OTC cleared*
ECC	[60-70]
Nasdaq	[30-40]
OMIP	[0-5]
ICE	[0-5]
MEFF	[0-5]
CME	[0-5]

Source: Parties' estimates. Based on 2015 volume.

22. OTC cleared power volumes increased from [1-2] billion MWh in 2013 to [2-3] billion MWh in 2015. In the same period, OTC cleared volumes cleared at Nasdaq fell from [50-60]% to [30-40]% whereas ECC's share went from [40-50]% to [60-70]% and ICE from [0-5] to [0-5]%.

Emissions

23. Emissions has two distinct markets:

- Primary market: this is the market for emissions permits which are first auctioned on behalf of the Government. These volumes are allocated between exchanges based on a public procurement process, rather than simply the decisions of traders.

- Secondary market: this is the market where permits are subsequently traded following auction or free allocation. The remainder of this section is based on Parties' estimates of emissions' secondary market only.

24. We considered 4 products in the emission asset class.[12] However, the EUA product was the main product accounting for [90-100]% of total executed emissions in 2015.

Execution

25. [30-40]% of emissions were executed OTC. Of the remaining on-exchange executed volumes, [90-100]% was traded on ICE and [0-5]% on EEX.

Table 6: Share of European on-exchange executed volumes in 2015

	%
Exchange	*Share of on-exchange volumes*
ICE	[90-100]
EEX	[0-5]
Nasdaq	[0-5]

Source: Parties' estimates. Based on 2015 volume.

26. OTC execution volumes share fell from [40-50]% of total traded volumes in 2011 to [30-40]% in 2015. In the same period, ICE's share of total executed volumes grew from [50-60]% to [60-70]%. EEX's share of total executed volume reached [0-5]% in 2015.

Clearing

27. In 2015, only [0-5]% of the total executed volumes was uncleared. That is equivalent to [40-50]% of OTC traded emissions.

28. Over [90-100]% of OTC cleared volumes were cleared at ICE in 2015. The following table shows the shares of OTC cleared emissions.

Table 7: Clearing house shares of total OTC cleared emissions in 2015

	%
Clearing house	*Share of OTC cleared*
ICE	[90-100]
CME	[0-5]
ECC	[0-5]
Nasdaq	[0-5]

Source: Parties' estimates. Based on 2015 volume.

[12] These products are: CER, ERU, EUA and EUAA.

29. ICE's share of OTC clearing has been greater than [80-90]% since 2011 and its peak was reached in 2014 with [90-100]% of OTC cleared volume cleared at ICE.

Coal

30. Coal includes 8 products.[13] However, three products (i.e. API2, API5 and API4) represented more than [90-100]% of the traded coal. In particular, API2 is the product with the highest traded volume within the coal asset class with its [3-4] billion tonnes traded in 2015 against a total coal volume of [4-5] billion tonnes.

Execution

31. Coal is largely traded OTC. Nearly [90-100]% of the trading in coal is done OTC. The remaining [0-5]% is traded on ICE, although EEX offers on-exchange coal contracts.

32. OTC prevalence has been stable since 2011, with ICE being the only active execution exchange. Its share of total executed coal volumes remained stable around [0-5]% since then.

Clearing

33. Over [90-100]% of OTC executed coal was cleared in 2015. Only [0-1] million tonnes of coal were OTC uncleared, out of a total amount of [4-5] billion tonnes coal executed OTC.

34. OTC clearance in 2015 was split between CME and ICE. CME cleared most of the volume with a [50-60]% share of OTC cleared. ICE had a share of [40-50]% of OTC cleared volume.

35. The share of OTC cleared volumes over the entire traded coal volumes [✂] from 2011 to 2015. OTC uncleared was [30-40]% of all traded coal in 2011 and fell to less than [0-5]% in 2015.

36. The proportion of OTC cleared volumes cleared at CME increased from [✂] in 2011 to [50-60]% in 2015. During the same period, the proportion of OTC cleared volumes cleared at ICE fell from [90-100]% in 2011 to [40-50]% in 2015. Table 8 shows the breakdown of OTC traded coal by clearinghouse.

[13] These products are: API2, API4, API5, Central Appalachian, CSX, FOB Indo sub-bit, Powder River Basin and South China.

Table 8: Breakdown of OTC traded coal volumes (billion tonnes) in 2015

bn tonnes

Year	*OTC cleared at CME*	*OTC cleared at ICE*	*Uncleared*	*Total OTC volumes*
2011	[0-1]	[1-2]	[0-1]	[1-2]
2012	[0-1]	[1-2]	[0-1]	[2-3]
2013	[1-2]	[1-2]	[0-1]	[3-4]
2014	[2-3]	[1-2]	[0-1]	[3-4]
2015	[2-3]	[1-2]	[0-1]	[4-5]

Source: Parties' data. Based on 2015 volume.

Oil

37. Oil is traded both on exchange and OTC. Data provided by the Parties shows that [✂] million lots were executed on ICE across different oil futures products in 2015.[14] [20-30] million lots of the same products were cleared on ICE in 2015. This is equivalent to [5-10]% of the total oil futures volumes cleared by ICE (these include ICE executed and OTC cleared on ICE). OTC executed oil is primarily traded by voice.

[14] These products are: Brent, WTI, Gasoil, Heating oil and RBOB gas.

Incentives to foreclose

Introduction

1. In this appendix we present a quantitative analysis of the merged firm's incentives to foreclose its rivals using volume and revenue data provided by the Parties.

2. Through this analysis we sought to obtain a broad indication of the potential magnitude of the gains and losses to the merged firm of foreclosure, in order to provide a cross-check on our qualitative analysis.

Parties' views

3. The Parties submitted that they would not have the ability or incentive to foreclose ICE's rival trading venues or clearinghouses.

4. Specifically, they stated that it would not be possible to use Trayport's software to divert trading and clearing away from rivals towards ICE's exchanges and clearinghouse to capture additional profits.[1] This was on the basis that the importance of liquidity and open interest to traders means that they would not contemplate switching away from their preferred venues to ICE.[2]

5. The Parties stated that these facts also meant that, even if they did have the ability to foreclose other venues and clearinghouses to some extent, ICE could plausibly obtain only a fraction of its rivals' volumes as a result as ICE would also need to cut off access to other trading venues (this would include OTC brokers as well as the other exchange groups) and clearing houses.

6. The Parties submitted estimates of the plausible potential revenue gains of foreclosure on the basis of (i) estimates of the extent of volume switching to ICE, and (ii) ICE's unit revenues, net of rebates and revenue sharing agreements. The Parties submitted that net revenues is the appropriate revenue measure on the basis that its revenue sharing agreements (in coal) effectively means it faces an incremental 'cost' of additional coal volumes, and its incentive programmes are not restricted to market-makers or products where ICE has a limited share of volumes.

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[1] ICE/Trayport Initial Submission, paragraphs 6-6.8.
[2] ICE/Trayport Initial Submission, paragraphs 6.3.

7. From foreclosing exchanges the Parties estimated the plausible potential gains as £[✂], on the basis of:

   (a) ICE obtaining all rival exchange volumes on its exchange in those products where ICE is the incumbent exchange, namely emissions, TTF and NBP, for a gain of £[✂].

   (b) ICE obtaining [✂]% of rival exchange volumes on its exchange of power and other gas products, on the basis of ICE achieving twice the [✂]% share that Nasdaq has achieved in German power since launching this product 3 years ago, for a gain of £[✂].

8. From foreclosing brokers the Parties estimated the plausible potential gains as around £[✂], based on:

   (a) ICE obtaining all OTC rival cleared volumes on its exchange in those products where ICE is the incumbent clearinghouse, namely emissions, TTF and NBP, for a gain of £[✂].

   (b) ICE obtaining 40% of OTC rival cleared coal volumes, on the basis that this is the share of coal clearing that CME achieved in the 12 months after first attracting material coal volumes, for a gain to ICE of £[✂].

   (c) ICE obtaining no additional power volumes on its exchange, except for OTC rival cleared UK power, on the basis that these volumes would instead divert to EEX and Nasdaq, for a gain to ICE of less than £[✂].

9. The Parties considered that ICE could not gain OTC uncleared volumes, as these have different attributes from OTC cleared trades.[3] They also considered that ICE would not gain from switching OTC volumes that it already clears to execution on its exchange, as it derives comparable revenues from OTC cleared trades than from trades executed on its exchanges.

10. The Parties said that ICE would have no ability to foreclose clearinghouses and without ability, there is no plausible incentive to be assessed.

11. Combined, the Parties' estimate of the total plausible potential gains from foreclosure was therefore £[✂].

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[3] For example, the parties noted that in *ICE/APX-Endex* the OFT found that cleared and uncleared products form separate product markets, and that regulatory pressures may keep substantial volumes uncleared. Supporting economic analysis: detailed pack, slides 39-42. 'Anticipated acquisition by Intercontinental Exchange Inc of a majority stake in the gas, derivatives and biomass operations of APX-ENDEX Holding B.V.', ME/5715/12, 2 April 2013.

12. In terms of the costs of foreclosure, the Parties submitted that they would not have an incentive to foreclose their rivals because they would face substantial costs from retaliation by other market participants, specifically in EU utilities and in oil.[4] They pointed to the example of coal trading, where in their view ICE's failure to respond adequately to market participants' demands resulted in much of coal clearing switching to CME, thereby costing ICE substantial revenues.

13. In addition, the Parties stated that foreclosure would inevitably undermine the venue-neutral aggregation business model of Trayport, which is the reason why it is so widely used. They told us that this would create the environment for users to sponsor a replacement to Trayport and therefore put at risk Trayport's entire annual revenues.[5]

Our assessment

14. In relation to the Parties' first argument, that they would not have the ability to foreclose ICE's trading venue and clearinghouse rivals, we considered this in our assessment of the merged firm's ability to foreclose in Section 8, based on our examination of the role of Trayport in Section 7. Based on our provisional conclusion that the Parties would possess the ability to foreclose ICE's rivals, in our quantitative assessment of incentives we therefore proceeded on the basis that ICE would be able to gain execution and clearing volumes as a result of partial foreclosure.

15. Our quantitative assessment of incentives to foreclose proceeded in three steps, set out in the following subsections.

    (a) First, we considered the potential benefits to ICE of a partial foreclosure strategy.

    (b) Second, we drew these potential benefits together into a scenario analysis that compared indicative estimates of their combined magnitude to estimates of the cost of partial foreclosure.

    (c) Finally, we drew our provisional conclusions.

Potential benefits of a partial foreclosure strategy

16. We identified six quantifiable potential benefits of a partial foreclosure strategy, and considered each of these in turn.

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[4] ICE/Trayport initial submission, paragraphs 11.1-12.11 and Annex 3.
[5] ICE/Trayport initial submission, paragraph 12.7 and Annex 3.

Volumes switching from rival exchanges to ICE's exchanges

17. The first benefit we considered is the possibility of volumes switching from rival exchanges to being executed on ICE's exchanges. We considered the maximum scope of these potential benefits in terms of the total value of trading that ICE could target with a foreclosure strategy, before then considering scenarios on what proportion of these volumes it may realistically be able to switch onto its own exchange.

18. In terms of which products ICE could gain additional volumes in, we considered that it could obtain volumes in all European utilities, not just those where it has existing products or volumes. This was on the basis of our assessment in Section 7 that this is a dynamic market, that ICE is a sophisticated exchange operator that is constantly introducing new products, and that exchanges compete and are able to win volumes in products where they have no existing volumes as a result of liquidity shifts.

19. In terms of which exchange rivals ICE could obtain these volumes from, we did not accept the Parties' argument that they could not foreclose [✂] as it has a multiple front-end strategy. As set out in Section 7, our analysis found that in practice [✂] is highly dependent on Trayport for most of its trading volumes, implying that the Parties would have the ability to foreclose it and thereby gain substantial volumes. However, we did find that the Parties would not be able to gain substantial volumes from foreclosing [✂] on the basis that very little of its [✂] power trading takes place through Trayport.

20. We therefore estimated the maximum gains here on the basis that ICE could target all European utility products of all rival exchanges, except those hosted by [✂].

21. In estimating the value of these additional volumes to ICE, here and throughout we used ICE's unit revenues net of its revenue sharing agreements, but without subtracting the value of rebates as done by the Parties'.[6] We adopted this approach on the basis that its well-established revenue sharing agreements implied a mechanistic link between the additional revenues received by ICE and the 'costs' it must face in compensating its partners. In contrast, our view is that on balance it is unlikely that ICE would have to offer the same level of discounts and rebates to customers if it was to obtain substantial additional volumes as a result of partial foreclosure, as opposed to competing aggressively to win these in the ordinary course of business.

[6] We adopt the Parties' approach of using incremental revenues as a proxy for incremental profits, on the basis that there are few incremental costs from additional trading volumes.

22. We therefore estimated the total value of rival exchange trading that ICE could target as worth £[✂].

23. In considering potential scenarios on how much of this trading ICE could switch on to its own exchange, we took into account our assessment in Sections 2 and 7 that liquidity can be sticky, and is not very easy to move. However, we also noted that the Parties' scenario of a [✂]% gain, based on twice Nasdaq's success in German power, may understate ICE's ability to obtain liquidity, as Nasdaq achieved its growth without the benefit of foreclosing its rivals, and on the basis of substantially less existing open-interest than ICE.

24. We therefore considered three possibilities in terms of the switching of these potential £[✂] in benefits: (i) ICE gains 5% of these volumes, (ii) ICE gains 10% of these volumes and (iii) ICE gains 20% of these volumes.

Volumes switching from OTC rival cleared to ICE's exchanges

25. On the possibility of OTC cleared volumes switching to being executed on ICE's exchanges, we took into account our assessment in Section 7 that there is competition between exchanges and brokers to execute trades.

26. In calculating the maximum value of OTC cleared trading that ICE could target, we accepted the Parties' point that ICE would primarily obtain value from switching OTC volumes cleared by rivals and undertook our calculations on this basis. However, our view is that this may understate the full extent of the benefits to ICE of foreclosure, as in practice it would still benefit from diverting OTC ICE cleared volumes onto its own exchange because this would boost its liquidity.

27. We considered that the maximum value of trading ICE could target should include all products, including power, which the Parties excluded from their estimates. This is on the basis that we are considering a combined scenario of brokers being foreclosed alongside exchanges, so it would not necessarily be the case that OTC power volumes would divert from brokers to ICE's rival exchanges. In estimating the value of these additional volumes to ICE, as above we used ICE's unit revenues net of its revenue sharing agreements, but without subtracting the value of rebates. We therefore estimated the total value of OTC rival cleared trading that ICE could target as worth £[✂].

28. In terms of the proportion of this trading that may switch to ICE's exchanges as a result of partial foreclosure, we considered 3 scenarios: (i) 5% switching, (ii) 10% switching and (iii) 20% switching.

Volumes switching from OTC uncleared to ICE's exchanges

29. In terms of OTC uncleared trading that could potentially switch to ICE's exchange, taking all of these volumes and multiplying them by our preferred measure of ICE's unit prices, as discussed above, we estimated the total value of this trading as £[✂].

30. In terms of how much of this ICE could obtain as a result of partial foreclosure, we took into account our assessment in Section 7. This noted that, in examining ICE's internal documents, we found a mixed picture on the extent to which ICE is seeking to win volumes from the OTC bilateral segment. Overall, based on the evidence we have gathered, our provisional view is that whilst there is a degree of competitive interaction between these two market segments, especially over the longer term, the extent of this will be less than that between exchanges and the OTC cleared segment.

31. However, we also took into account our assessment in Section 2 of industry trends, in particular the increase in the proportion of trades being cleared over time, and the results of our qualitative assessment of foreclosure in Section 8, which noted that ICE could use Trayport to accelerate such trends and direct them in its favour.

32. We therefore considered that as a result of partial foreclosure ICE could switch some OTC uncleared volumes onto its exchange, but that the extent of this switching would be lower than that of OTC cleared volumes. We therefore examined three scenarios: (i) no switching, (ii) 5% switching and (iii) 10% switching.

Protecting ICE's existing exchange volumes

33. All of the analysis set out above considered only the benefits to ICE of foreclosing its rivals in terms of the additional volumes that it could win as a result. However, in Section 8 we provisionally concluded that another benefit to ICE of partial foreclosure would be to help defend its existing position in those products where it currently hosts a large volume of the liquidity, most notably in TTF, NBP and emissions – a benefit the Parties did not quantify in their analysis. We noted that the net value of ICE's existing volumes in these products is £[✂].[7]

34. In quantifying the benefit of protecting these volumes, we took into account our assessment in Section 7 that ICE's rivals, in particular EEX, appear to be

[7] Since these relate to ICE's existing volumes, rather than additional volumes, we considered ICE's revenues net of revenue sharing agreements and rebates.

well placed to challenge its position. We therefore found that ICE would experience benefits from foreclosing its rivals, a benefit that can be perceived of either as a loss of ICE volumes that it would avoid, or the potential for ICE to set higher prices than it would otherwise have been able to.

35. We therefore considered three specific scenarios: (i) 5% price increase (or 5% volumes loss avoided), (ii) a 10% price increase (or 10% volume loss avoided), and (iii) a 20% price increase (or 20% volume loss avoided).

Volumes switching from OTC rival cleared to OTC ICE cleared

36. Next we considered the benefits that ICE could obtain from OTC volumes cleared by its rivals remaining OTC executed but switching to being cleared by ICE.

37. On the basis of our assessment in Section 8 that ICE would have the ability to foreclose rival clearinghouses, we did not accept the Parties' argument that it would not obtain any benefits from such foreclosure.

38. Taking the volumes of these trades and multiplying them by our measure of ICE's unit revenues, we estimated the total value of rival clearing that ICE could target as £[✂].[8] Consistent with our approach to the other benefits of partial foreclosure, we considered three scenarios: (i) ICE gains 5% of these volumes, (ii) ICE gains 10% of these volumes and (iii) ICE gains 20% of these volumes.[9]

Protecting ICE's existing OTC clearing volumes

39. Finally, we considered the potential for ICE to gain from foreclosure by protecting its existing OTC clearing volumes, which its rival clearinghouses may potentially have otherwise challenged. This is the equivalent benefit to our assessment of protecting ICE's exchange execution business set out above, but in relation to its OTC clearing activities.

40. Again, we focussed on ICE's revenues from the products where it has a strong existing position, namely emissions, NBP and TTF. We found that the net value of ICE's OTC clearing in these products is £[✂].[10]

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[8] While referring to the same volumes, this figure differs slightly from the one discussed above under 'volumes switching from OTC rival cleared to ICE's exchanges' because ICE would earn slightly different revenues if these were to switch to OTC ICE cleared or to being traded on ICE's exchanges.
[9] We did not consider that there was any double-counting of benefits in our approach here, as our view was that it is likely that, for example, 10% of volumes would switch from OTC rival cleared to OTC ICE cleared, and a further 10% would switch from OTC rival cleared to being executed on ICE's exchanges.
[10] Again, because these benefits relate to ICE's existing volumes we used its revenues net of revenue sharing agreements and rebates.

41. Again, as above, we considered three scenarios to quantify these benefits: (i) a 5% price increase (or 5% volumes loss avoided), (ii) a 10% price increase (or 10% volumes loss avoided), and (iii) a 20% price increase (or 20% volumes loss avoided).

Scenario analysis

Gains from partial foreclosure

42. In light of these six potential benefits of partial foreclosure to ICE, and our assessment of the appropriate basis on which to produce an indicative quantification of them, we undertook a scenario analysis. We considered the financial implications for the merged firm of engaging in partial foreclosure of its rival exchanges, brokers and clearinghouses simultaneously.

43. We considered three overall scenarios: 'low', 'medium' and 'high', corresponding to the respective estimates of each of the six individual benefits set out above. As summarised in Table 1 below, the low scenario is typically a 5% gain, the medium 10%, and the high 20%, except in the case of switching from OTC uncleared to ICE where we used 0%, 5%, and 10% respectively. The table also presents the base revenues to which these percentage gain scenarios are applied. In the case of volume switching this is the total value of rival volumes, while in the case of protecting ICE's existing position this is ICE's existing revenues, as set out above.

Table 1: Summary of scenario analysis of potential gains of partial foreclosure

		Scenarios on potential gains		
	Base revenues (£m)	*Low*	*Medium*	*High*
Volumes switching from rival exchanges to ICE's exchanges	[✂]	5%	10%	20%
Volumes switching from OTC rival cleared to ICE's exchanges	[✂]	5%	10%	20%
Volumes switching from OTC uncleared to ICE's exchanges	[✂]	0%	5%	10%
Protecting ICE's existing exchange volumes	[✂]	5%	10%	20%
Volumes switching from OTC rival cleared to OTC ICE cleared	[✂]	5%	10%	20%
Protecting ICE's existing OTC clearing volumes	[✂]	5%	10%	20%

Source: CMA analysis of Parties' data.

44. We estimated the value of each of these benefits in each scenario by multiplying the base revenues by the percentage gain, and then summed these to obtain the total indicative estimate of the gains of partial foreclosure. The results of this analysis are presented in Table 2 below.

Table 2: Results of scenario analysis of potential gains of partial foreclosure

	Low scenario (£m)	*Medium scenario (£m)*	*High scenario (£m)*
Volumes switching from rival exchanges to ICE's exchanges	[✂]	[✂]	[✂]
Volumes switching from OTC rival cleared to ICE's exchanges	[✂]	[✂]	[✂]
Volumes switching from OTC uncleared to ICE's exchanges	[✂]	[✂]	[✂]
Protecting ICE's existing exchange volumes	[✂]	[✂]	[✂]
Volumes switching from OTC rival cleared to OTC ICE cleared	[✂]	[✂]	[✂]
Protecting ICE's existing OTC clearing volumes	[✂]	[✂]	[✂]
Total gains of foreclosure	[✂]	[✂]	[✂]

Source: CMA analysis of Parties' data.

45. We found that the total value of partial foreclosure varies substantially between the three scenarios. While in the high scenario these benefits are as large as £[✂] per year, even in the low scenario – corresponding to the lowest estimate of each potential gain – these still total £[✂]. We noted that this low scenario estimate is very similar to the Parties' plausible potential gains estimate of £[✂].

46. We also found that the overall magnitude of the gains of partial foreclosure were not largely driven by a single benefit, but rather that all six of the potential benefits we identified contributed substantially to the overall foreclosure incentives. Our view is that this means the overall magnitude of our estimates are likely to be robust, as these are not heavily dependent on only a single element of our assessment, but rather emerge from the consistent picture we observe across all potential benefits.

47. We noted that these scenarios excluded some of the potential benefits of foreclosure to ICE that were difficult to quantify. In particular, our qualitative assessment noted that ICE's control of Trayport would likely help it to gain control of new markets and segments, which is particularly important given that dynamic competition is important in this industry, and that there are important first-mover advantages. For example, this could relate to new products, asset classes and geographies as they migrate from voice to electronic trading, and innovative trading solutions that emerge in light of regulatory developments, such as non-MTF products. As a result, our view is that the figures in our scenario analysis are likely to underestimate the overall magnitude of the gains of foreclosure to ICE.

Costs of partial foreclosure

48. We then considered scenarios on the potential costs that the merged firm could face as a result of partial foreclosure.

49. In terms of retaliation, as discussed in Section 8, our view is that these costs are speculative and are unlikely to emerge in practice. For this reason we did

not incorporate any costs related to retaliation in our quantitative assessment of the merged firm's incentives to foreclose.

50. We next considered the costs the Parties could face in terms of lost revenues from Trayport's business activities. While we found that they could face some costs in this regard, our provisional view is that the magnitude of these costs is likely to be small. We reached this view again on the basis that foreclosure would take the form of incremental changes that would not fundamentally undermine the Trayport platform.

51. We also placed a lot of weight on the fact that all of the brokers, and most exchanges, are highly dependent on Trayport, with no effective current alternatives to its services (Section 7), and that the barriers to entry for an alternative system are very high (Section 9). Moreover, to the extent that brokers have historically at least considered an alternative to Trayport, in several instances this appears to have been through cooperation with ICE to use its technology and front-end – an alternative that will likely not be open to them post-merger. Market participants therefore have little or no scope to switch away from Trayport, and the merger may reduce their options even further.

52. On the basis of this evidence and assessment, we estimated the cost of partial foreclosure by assuming that it would result in a limited percentage reduction in Trayport's revenues, as summarised in the table below. We assumed a relatively lower percentage loss for ETS and BTS revenues because customers of these services are even more dependent on Trayport, and have even more limited alternative options, than those who use GV Portal and Clearing Link. We assumed a loss in revenues for traders to reflect the existence of indirect network effects, namely that a reduction in participation on Trayport by venues may reduce the value of the service that Trayport is able to offer to traders. However, we again assumed a relatively lower impact on these revenues to reflect the fact that this effect would generally be an indirect one.

Table 3: Summary of potential costs of partial foreclosure

	Trayport revenues (£m)	*Assumed loss (%)*	*Implied revenue loss (£m)*
Trading Gateway	[✂]	5%	[✂]
BTS	[✂]	5%	[✂]
ETS	[✂]	5%	[✂]
GV Portal	[✂]	10%	[✂]
Clearing Link	[✂]	10%	[✂]
Total			[✂]

Source: CMA analysis of Parties' data, as summarised in Appendix B.

53. Based on this analysis, we considered that a reasonable estimate for the cost of partial foreclosure would be £[✂]. We also considered an alternative methodology of estimating this cost by assuming that partial foreclosure would give rise to a 10% risk of jeopardising Trayport's business model and therefore losing all of its £[✂] profits. This gave rise to the same cost estimate of £[✂].[11]

54. As a high case scenario on the costs of partial foreclosure, we assumed that this loss might be twice that estimated above, implying that this cost could be £[✂].

Provisional conclusions on incentives

55. We compared our indicative estimates of the benefits the merged firm would obtain from foreclosure to our estimates of the costs that they would face. We found that in our mid-case scenario the estimated benefits, £[✂], were substantially greater than the costs, £[✂].

56. Moreover, we found that this result was highly robust to alternative assumptions. In particular, we noted that even the lowest estimate of the benefits of foreclosure, £[✂], was greater than the highest estimate of the costs, £[✂]. Similarly, we found that even the Parties' estimates of the plausible potential gains were greater than our highest estimates of the costs of foreclosure.

57. On the basis of this analysis, our view is that the merged firm would have an incentive to foreclose rival exchanges, brokers and clearinghouses.

[11] The Parties have submitted that Trayport's EBITDA is £[✂].

Glossary

API	Access (or application) programming interface.
Asset, asset class	The underlying **commodity** being traded.
Back-end systems	Software, or central **matching engine** technology, used by **OTC** brokers and **exchanges** to execute trades.
BGC	BGC Partners, Inc.
Broker	A broker is an individual or firm that arranges **OTC** transactions in financial or non-financial markets. Brokers provide a point of contact for **traders** seeking to buy or sell financial or non-financial **products**.
BTS	GlobalVision Broker Trading System. Trayport back-end system software used by brokers to operate **OTC** trading activities.
CCP	Central counterparty, eg a **clearinghouse**.
CDS	Credit default **swaps**.
CFTC	U.S. Commodity Futures Trading Commission.
Clearing	Activities between trade execution and final settlement. See also **clearinghouse**.
Clearinghouse	A central counterparty which acts as a buyer to the seller and a seller to the buyer, guaranteeing the transaction against default by either party between **execution** and delivery of the contract.
Clearing Link	Trayport's **STP** link which connects **venues**' back-ends to clearinghouses.
CMA	Competition and Markets Authority.
CME	CME Group, Inc.
CME Direct	A front-end access **product** owned by CME.
Collateral	Capital funds (or assets) put forward by a **trader** to the **clearinghouse** in respect of a trade to be cleared, to be used in the event of default.

Commodity	A physical asset, in this case gas, oil, coal, power, or **emissions**.
Contigo	A risk management and compliance tool owned by Trayport.
Correlation	**Exchange** products that correlate from a price perspective can result in offsetting risk and make the **trader** eligible for **margin** reductions.
Derivative	A contract with no intrinsic value other than that determined by its terms. It 'derives' its value from the underlying assets, in this case energy commodities.
EBITDA	Earnings before interest, tax, depreciation and amortisation.
ECC	EEX's **clearinghouse**.
EEA	European Economic Area.
EEX	European Energy Exchange AG.
EFET	European Federation of Energy Traders.
Electronic trading	Trading conducted on an electronic platform, with no voice component.
EMIR	European Markets Infrastructure Regulations.
Emissions	Emissions trading is a market-based approach to controlling pollution. Organisations bid in an auction (run on behalf of the government) for permits to produce specified amounts of carbon dioxide and other greenhouse gasses. These permits are then traded on the open market.
ETS	GlobalVision Exchange Trading System. Trayport back-end system software to facilitate exchange trading activities.
EUA	Energy and Utilities Alliance, a not-for-profit trade association.
EUREX	Eurex Exchange is an international **derivatives** exchange that is headquartered in Eschborn, Germany.
Exchange	A marketplace/**venue** in which securities, commodities, derivatives and other financial instruments are traded.

Exchange-traded	See **on exchange**.
Execution	The completion of a buy or sell order for a security. The execution of an order happens when it is matched and becomes a trade, be it **OTC**, bilateral or **on exchange**.
Exxeta	EXXETA AG.
FCA	Financial Conduct Authority.
FFA	Forward Freight Agreement. See also **Wet FFA**.
Forward	A non-standardised or bespoke contract to buy or sell an asset in the future at a fixed price.
FRAND	Fair, reasonable, and non-discriminatory.
Front end	Part of the software that is seen by the end-user, eg the screen viewed by a **trader**.
Front-end access	Service provided to software end-users (eg **traders** and **brokers**) that allows them to view the market activity.
Future	A standardised contract to buy or sell an asset in the future at a fixed price.
GFI	GFI Group, Inc. a wholly-owned subsidiary, and business division, of **BGC**.
Gold mapping	Configuration of new **products** onto the Trayport system.
Griffin	Griffin Markets Services Limited.
GUI	Graphical User Interface.
GV Portal	GlobalVision Portal. A software interface owned by Trayport which allows non-ETS exchanges to connect to **Trading Gateway**.
Henry Hub	A distribution hub on the natural gas pipeline system in Erath, Louisiana.
Hybrid trading	The combination of voice and electronic trading.
ICAP	ICAP plc.

ICE	Intercontinental Exchange Inc.
ICEBlock	An ICE application designed to connect **brokers** to **clearing** and customer back offices, providing functionality for the submission of off exchange trades for clearing.
ICE Endex	A regulated **futures** and **options** trading platform for trading continental European gas and power.
ICE exchange	**Exchange** owned by ICE.
ICEU	ICE Clear Europe – A **clearinghouse** owned by ICE providing central counterparty clearing and risk management services for, amongst other things, energy **derivatives**.
IDB	Inter-dealer broker. A **broker** that acts as an intermediary between major dealers to facilitate inter-dealer trades.
IFEU	ICE Futures Europe – A regulated **exchange** for trading **futures** and **options** including contracts for European natural gas, power, coal and **emissions**.
ISV	Independent software vendor.
Joule	The **Trayport** screen that each **trader** sees when it signs into the Trayport system.
LEBA	London Energy Brokers' Association.
Liquidity	**Venue** liquidity is the degree to which an asset can be quickly bought or sold in the market without affecting the asset's price. **Clearinghouse** liquidity refers to the concentration of trades being cleared by any one clearinghouse, usually split by **commodity**.
Marex/ Spectron	Marex Spectron Group.
Margin	Amount of collateral required by a **clearinghouse**.
Matching engine	The core software component of an electronic exchange, which matches up bids and offers to complete trades.

MFN	Most favoured nation. This is a contract provision or clause in which a seller (or licensor) agrees to give the buyer (or licensee) the best terms it makes available to any other buyer (or licensee).
MiFID	Market in Financial Instruments Regulations (also used to refer to the Directive).
MiFID II	MiFID II refers to the revision of MiFID, the changes are currently set to take effect from 3 January 2018, with the new legislation being known as MiFID II – this includes a revised MiFID and a new Markets in Financial Instruments Regulation (MiFIR).
MTF	Multilateral Trading Facility. A European regulatory term for a non-exchange trading facility.
Nasdaq	Nasdaq Inc. An **exchange**.
NBP	Natural Balancing Point, UK natural gas hub.
NDA	Non-disclosure agreement.
New Agreement	A new interface development and support agreement between **ICE** and **Trayport** entered into on 11 May 2016.
Off exchange	Trades executed at **venues** other than an exchange, ie **OTC** brokered or bilateral.
Ofgem	Office of Gas and Electricity Markets; energy regulator.
On exchange	Trades executed on an exchange.
Open interest	The total number of outstanding (not closed or delivered) **options** and/or **futures** contracts that exist on a given day.
Open position	Any trade, established or entered, that has yet to be closed with an opposing trade.
Option	A contract that gives the buyer the right to buy or sell an underlying asset at a fixed price at a future date.
OTC	Over-the-counter. Refers to trades made bilaterally or via a **broker**.
OTC cleared	Trades executed OTC that are subsequently cleared at a **clearinghouse**.

OTC non-cleared	Trades executed OTC that are settled bilaterally.
OTF	Organised Trading Facility; a **venue** with specific regulatory and reporting requirements.
Oxera	Oxera Consulting LLP.
Parties	**ICE** and **Trayport** are together referred to as the 'Parties'.
Powernext	Powernext SA. A regulated market operating under the supervision of the French Financial Supervisory Authority AMF.
Price dissemination	Distribution of available trading prices to a wider audience.
Product	A financial product is an agreement between two parties, which stipulates cash flows now and in the future, ie a trade agreement.
PXE	Power Exchange Central Europe, a.s.
RWEST	RWE Supply & Trading.
SAAS	Software as a service. Provision of **Joule/Trading Gateway** whereby **Trayport** hosts the software, (rather than on a deployed basis where it is hosted at the customer's site).
SEC	U.S. Securities and Exchange Commission.
SGX	Singapore Exchange Limited.
SLC	Substantial lessening of competition.
SPA	Sale and Purchase Agreement.
Spot	A contract to buy or sell an asset for the current or 'spot' price.
STP	Straight-through processing. Facility allowing **broker**-executed trade to be automatically registered on an **exchange** and sent through to an elected **clearinghouse**.
Swap	A non-standardised contract to swap cash-flows, or physical flows, based on the underlying asset.

TFS/Tradition	TFS Limited, or Tradition, is the inter-dealer broking arm of Compagnie Financière Tradition (listed on the Swiss stock exchange).
Total cleared	Trades executed on exchange plus **OTC** cleared trades.
Trade	An agreement between parties to exchange the goods or services of one for the goods or services of the other. In this case it is typically an agreement to exchange a **commodity** for cash-flow.
Trader	An individual or company which buys and sells assets, either for itself or on behalf of another individual or institution.
Trading Gateway	GlobalVision Trading Gateway, **Trayport**'s aggregation software sold to **traders**, **brokers**, financial institutions and **utilities** (see also **Joule**).
Trading venue	An **OTC** broker or an **exchange**.
Trayport	Collective term used for Trayport Inc. and GFI TP Ltd, and their subsidiaries as well as Trayport Limited.
Trayport Limited	The primary trading entity within Trayport.
Trayport platform	Combination of Trayport's front end, back end, and **STP** link, which together support the various stages involved in the lifecycle of a trade from price discovery to **execution** to **clearing**.
TTF	Dutch gas hub.
Tullett	Tullet Prebon plc.
UIL	Undertakings in lieu of a reference.
Uncleared	Executed trades that are cleared bilaterally, ie without the use of a **clearinghouse** as an intermediary.
Underlying	The asset/commodity for which an order is raised or a trade executed. See also **commodity**.
Utilities	Set of services provided to the public. In this case, utilities refers to gas, power, coal, oil, and **emissions**.
Venue	See **trading venue**.

Voice trading Trading that takes place verbally, without an electronic component.

WebICE **ICE**'s front-end software through which traders brokers, financial institutions and **utilities** can access ICE **products**, supplied to brokers, financial institutions and utilities for free.

Wet FFA Wet Forward Freight Agreement. A freight agreement for which the cargo is liquid (eg oil). If the cargo were solid (eg coal) the FFA would be expressed as 'dry'.

ZTP Zeebrugge Trading Point, Belgium gas hub.