

Specifications Guide

European Electricity

Latest update: October 2021

Detailed specifications	2
Electricity price assessments	3
UK	3
Netherlands	5
Other European countries	5
Guarantees of Origin price assessments	7
Spark and dark spreads	9
Spark spreads	9
Dark spreads	11
Electricity generation economics	14
Coal switching price indicator (CSPI)	14
Cross-fuel comparisons	14
Revision history	16

DETAILED SPECIFICATIONS

All the assessments listed here employ Platts Assessments Methodology, as published at https://www.spglobal.com/platts/plattscontent/_assets/_files/en/ourmethodology/methodologyspecifications/plattsassessmentsmethodologyguide.pdf

These guides are designed to give Platts subscribers as much information as possible about a wide range of methodology and specification questions.

This guide is current at the time of publication. Platts may issue further updates and enhancements to this guide and will announce these to subscribers through its usual publications of record. Such updates will be included in the next version of this guide. Platts editorial staff and managers are available to provide guidance when assessment issues require clarification.

All price assessments are published according to the publication schedule which can be found here <https://www.spglobal.com/platts/en/our-methodology/holiday>.

PLATTS UK ASSESSMENTS (GTMA)

ASSESSMENT	CONTRACT	GBP/MWh	MAvg GBP/MWh	Eur/MWh	MAvg Eur/MWh	Eur/Gj	USD/MMBtu	p/therm	DATE	MIN VOLUME	MAX VOLUME	FREQUENCY	TIME STAMP
Day ahead	Baseload	AADET00	AADET03	AADEY00	AADEZ03				Trade date	50 MW	100 MW	Daily	9.20 London time
Day ahead	Peakload	AADFC00		AADFE00					Trade date	50 MW	100 MW	Daily	9.20 London time
Day ahead	Baseload	AADET21	AADET20	AADEY21	AADEY03				Flow date	50 MW	100 MW	Daily	9.20 London time
Day ahead	Peakload	AADFC21		AADFE21					Flow date	50 MW	100 MW	Daily	9.20 London time
Day ahead Block 5	Block 5	GTB5G00		GTB5E00					Trade date	50 MW	100 MW	Daily	9.20 London time
Day ahead + 1	Baseload	AADET27		AADEY27					Trade date	50 MW	100 MW	Before public holidays	9.20 London time
Day ahead + 1	Peakload	AADFC27		AADFE27					Trade date	50 MW	100 MW	Before public holidays	9.20 London time
Day ahead + 2	Baseload	AADET28		AADEY28					Trade date	50 MW	100 MW	Before public holidays	9.20 London time
Day ahead + 2	Peakload	AADFC28		AADFE28					Trade date	50 MW	100 MW	Before public holidays	9.20 London time
Day ahead + 3	Baseload	AADET29		AADEY29					Trade date	50 MW	100 MW	Before public holidays	9.20 London time
Day ahead + 3	Peakload	AADFC29		AADFE29					Trade date	50 MW	100 MW	Before public holidays	9.20 London time
Day ahead + 4	Baseload	AADET30		AADEY30					Trade date	50 MW	100 MW	Before public holidays	9.20 London time
Day ahead + 4	Peakload	AADFC30		AADFE30					Trade date	50 MW	100 MW	Before public holidays	9.20 London time
Weekend	Baseload	AADNN00		AADNP00					Trade date	50 MW	100 MW	Daily	16.30 London time
Month ahead	Baseload	AADGP00	AADGP03	AADGT00	AADGT03	AANEK00	AANEL00	AANEJ00	Trade date	5 MW	20 MW	Daily	16.30 London time
Month ahead	Peakload	AADGV00		AADIJ00					Trade date	5 MW	20 MW	Daily	16.30 London time
Month ahead + 1	Baseload	AADNS00		AADNU00		AANEE00	AANEF00	AANED00	Trade date	5 MW	20 MW	Daily	16.30 London time
Month ahead + 1	Peakload	AADXH00		AADXJ00					Trade date	5 MW	20 MW	Daily	16.30 London time
Month ahead + 2	Baseload	AADXL00		AADXN00					Trade date	5 MW	20 MW	Daily	16.30 London time
Month ahead + 2	Peakload	AADXP00		AADXR00					Trade date	5 MW	20 MW	Daily	16.30 London time
Quarter ahead	Baseload	AADXU00		AADXW00		AANEH00	AANEI00	AANEG00	Trade date	5 MW	20 MW	Daily	16.30 London time
Quarter ahead	Peakload	AADXZ00		AADYB00					Trade date	5 MW	20 MW	Daily	16.30 London time
Quarter ahead + 1	Baseload	AADYD00		AADYF00					Trade date	5 MW	20 MW	Daily	16.30 London time

PLATTS UK ASSESSMENTS (GTMA)

ASSESSMENT	CONTRACT	GBP/MWh	MAvg GBP/MWh	Eur/MWh	MAvg Eur/MWh	Eur/Gj	USD/MMBtu	p/therm	DATE	MIN VOLUME	MAX VOLUME	FREQUENCY	TIME STAMP
Quarter ahead + 1	Peakload	AADYK00		AADZP00					Trade date	5 MW	20 MW	Daily	16.30 London time
Season ahead	Baseload	AADZS00		AAESW00					Trade date	5 MW	20 MW	Daily	16.30 London time
Season ahead	Peakload	AAEYV00		AAEZB00					Trade date	5 MW	20 MW	Daily	16.30 London time
Season 2	Baseload	AAEZD00		AAFPL00					Trade date	5 MW	20 MW	Daily	16.30 London time
Season 2	Peakload	AAFPM00		AAFPN00					Trade date	5 MW	20 MW	Daily	16.30 London time
Season 3	Baseload	AAIJX00		AAIKB00					Trade date	5 MW	20 MW	Daily	16.30 London time
Season 3	Peakload	AAIJY00		AAIKC00					Trade date	5 MW	20 MW	Daily	16.30 London time
Season 4	Baseload	AAIJZ00		AAIKD00					Trade date	5 MW	20 MW	Daily	16.30 London time
Season 4	Peakload	AAIKA00		AAIKE00					Trade date	5 MW	20 MW	Daily	16.30 London time
Season 5	Baseload	AASTR00		AASTQ00					Trade date	5 MW	20 MW	Daily	16.30 London time
Season 5	Peakload	AASTT00		AASTS00					Trade date	5 MW	20 MW	Daily	16.30 London time
Year ahead	Baseload	FUKZY01		FUKXY01					Trade date	5 MW	20 MW	Daily	16.30 London time
Year ahead	Peakload	FUKYY01		FUKWY01					Trade date	5 MW	20 MW	Daily	16.30 London time

Electricity price assessments

In Europe Platts publishes electricity assessments for the UK and the Netherlands markets. Platts assessments are based on standard contract definitions and volumes.

In addition to its own assessments, Platts also publishes settlement values, based on the data from relevant exchanges, for France, Germany, Spain and Italy.

UK

Assessments: Platts assesses over-the-counter (OTC) trade under the Grid Trade Master Agreement contract for the day ahead (DA), weekend, next three months, next two quarters, next five seasons and the year ahead. During holiday periods Platts may assess prices for DA+1, DA+2, DA+3 and DA+4. Platts also assesses intraday prices for Block 5.

Platts DA assessments are databased both by trade date and by flow date.

Platts publishes DA power market assessments for Monday to Friday and a single weekend assessment for Saturday and Sunday. On Fridays, the day-ahead price reflects following Monday's delivery date.

Seasons are defined as follows: Winter = October-March; Summer = April-September.

Contract definitions: Baseload = 23:00-23:00, Peakload = 07:00-19:00 (London time). Platts does not assess the UK off-peak contracts (19:00-07:00 London time) and overnight contracts (23:00-07:00 London time).

Day-ahead baseload delivery is from 23:00 the day of trade until 23:00 the day after; peakload delivery is 07:00-19:00 the day following trade.

Weekend baseload delivery is from 23:00 Friday until

23:00 on Sunday.

In the event of no confirmed peakload UK day-ahead trades before the market close, Platts assesses the implied value of the day-ahead peakload contract using OTC prices for individual intra-day Blocks. Electricity Forward Agreements (EFA) Block definitions (London time):

Block 1 = 23:00-03:00

Block 2 = 03:00-07:00

Block 3 = 07:00-11:00

Block 4 = 11:00-15:00

Block 5 = 15:00-19:00

Block 6 = 19:00-23:00.

All forward months, quarters and years are calendar months,

quarters and years.

Delivery: Prices are for firm delivery on the high-voltage grid network of England, Wales and/or Scotland. This includes the Scotland-Northern Ireland interconnector but not Northern Ireland itself. Distribution network costs are not included. All prices are for physically delivered trades.

Assessment range: Platts publishes a single value for its UK electricity assessments in European Power Daily and on European Power Alert.

Platts also publishes a low-high range around its assessments for UK electricity symbols in Market Data categories EE and PE, unless otherwise stated. The low and high reflect a fixed value either side of the assessment. Low-high ranges for primary assessments in GBP/MWh are standardized to +/-15 pence.

Publication schedule: Platts publishes forward power

assessments for the UK on all UK working days. Assessments for UK public holidays and the first working day following a UK public holiday weekend are published on the last working day before the public holiday. Ahead of public holidays Block 5 assessments reflect the value of the Block 5 contract for the next working day. Eg. On Friday, ahead of a bank holiday Monday, the Block 5 assessments refers to Tuesday's Block 5 contract.

Timestamp:

Day-ahead contracts, including Block 5 – 9:20 am London time.

Prompt and forward contracts – 16:30 London time.

On certain days ahead of some UK Public Holidays, such as Christmas Eve and New Year's Eve, Platts publishes prompt and forward assessments at 12:00 noon London time. This is to take account of typically much lower liquidity and the earlier end of trade.

Monthly averages: Platts publishes monthly averages for day-ahead and month-ahead. For day-ahead, monthly averages are calculated on a flow-date and trade-date basis.

For flow date: monthly averages include all assessments reflecting delivery within a given month. For example, an August 1 day-ahead assessment would be included in the August average, although the contract traded on July 31. UK flow-date averages calculate Saturday and Sunday values based on Friday assessments of weekend delivery.

For trade date: monthly averages include Friday assessments of Monday delivery, but do not include weekends. The trade-date calculations do not include DA+1, DA+2, DA+3 and DA+4 prices assessed ahead of UK public holidays.

Rolling logic: All monthly, quarterly, seasonal and annual power contracts roll on the first working day of each new calendar period.

PLATTS DUTCH ASSESSMENTS

ASSESSMENT	CONTRACT	CODE	DATE	MIN VOLUME	MAX VOLUME	CURRENCY	UOM	FREQUENCY	TIMESTAMP
Month ahead	Baseload	AADMN00	Trade date	5 MW	20 MW	Eur	MWh	Daily	16:30 London time
Month ahead	Peakload	AADMP00	Trade date	5 MW	20 MW	Eur	MWh	Daily	16:30 London time

GERMANY BASELOAD UNIT CONVERSIONS

	p/th	Eur/GJ	\$/MMBtu
Germany Baseload Month Ahead	AANFA00	AANFB00	AANFC00
Germany Baseload Month Ahead +1	AANFD00	AANFE00	AANFC00
Germany Baseload Quarter Ahead	AANFG00	AANFH00	AANFI00

Netherlands

Assessments: Platts assesses over-the-counter trade for the Netherlands power grid for only month-ahead baseload and peak prices.

Contract definitions: Baseload = 24:00-24:00, Peak = 08:00-20:00 (Central European time).

Delivery: Prices are for firm delivery on the high-voltage grid network of The Netherlands. Distribution network costs are not included. All prices are for physically delivered trades.

Assessment range: +/- 5 euro cents for primary assessments in Eur/MWh.

Publication schedule: Platts publishes forward power assessments for the Netherlands on all UK working days.

Timestamp: 16:30 London time. On certain days ahead of some UK Public Holidays, such as Christmas Eve and New Year's Eve, Platts publishes assessments at 12:00 noon London time. This is to take account of typically much lower liquidity and the earlier end of trade.

Other European countries

Assessments: Platts publishes power settlement prices from the European Energy Exchange (EEX) for Germany, France and Italy and from OMIP for Spain.

Rolling logic: Platts rolls power contracts on the first day of each new calendar period. Platts rolling schedule differs from EEX's rolling schedule. Platts assesses quarterly and annual power contracts when it observes a mismatch between Platts and EEX power contracts' rolling dates. Roll dates for Spanish contracts correspond to those listed on OMIP.

Platts fuel spread calculations incorporate these power settlement prices.

Codes for these third-party data are not included in this guide and can be found in the Symbols Directory <https://www.spglobal.com/platts/en/our-methodology/symbol-page-directories>.

EUROPEAN GUARANTEES OF ORIGIN

ASSESSMENT	CODE	GENERATION	ORIGIN	VINTAGE	MIN VOLUME	MAX VOLUME	CURRENCY UOM	FREQUENCY	TIMESTAMP		
Large Nordic Hydro Current Yr	NHGY004	NHGY003	Unsupported Hydro	Denmark, Finland, Norway, Sweden	Current Year	5 GWh	100 GWh	Eur	MWh	Daily	16.30 London time
Large Nordic Hydro Yr 01	NHGY104	NHGY103	Unsupported Hydro	Denmark, Finland, Norway, Sweden	Year Ahead	5 GWh	100 GWh	Eur	MWh	Daily	16.30 London time
Large Nordic Hydro Yr 02	NHGY200	NHGY203	Unsupported Hydro	Denmark, Finland, Norway, Sweden	Year Ahead +1	5 GWh	100 GWh	Eur	MWh	Daily	16.30 London time
Large Nordic Hydro Yr 03	NHGY300	NHGY303	Unsupported Hydro	Denmark, Finland, Norway, Sweden	Year Ahead +2	5 GWh	100 GWh	Eur	MWh	Daily	16.30 London time
Large Nordic Hydro Yr 04	NHGY400	NHGY403	Unsupported Hydro	Denmark, Finland, Norway, Sweden	Year Ahead +3	5 GWh	100 GWh	Eur	MWh	Daily	16.30 London time
EU Wind Current Yr	EWGY004	EWGY003	Supported or unsupported Wind	EU27*	Current Year	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
EU Wind Yr 01	EWGY104	EWGY103	Supported or unsupported Wind	EU27*	Year Ahead	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
EU Wind Yr 02	EWGY200	EWGY203	Supported or unsupported Wind	EU27*	Year Ahead +1	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
EU Wind Yr 03	EWGY300	EWGY303	Supported or unsupported Wind	EU27*	Year Ahead +2	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
EU Wind Yr 04	EWGY400	EWGY403	Supported or unsupported Wind	EU27*	Year Ahead +3	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
EU Solar Current Yr	ESGY200	ESGY203	Supported or unsupported Solar	EU27*	Current Year	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
EU Solar Yr 01	ESGY300	ESGY303	Supported or unsupported Solar	EU27*	Year Ahead	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
EU Solar Yr 02	ESGY400	ESGY403	Supported or unsupported Solar	EU27*	Year Ahead +1	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
EU Biomass Current Yr	EBGY200	EBGY203	Supported or unsupported Biomass	EU27*	Current Year	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
EU Biomass Yr 01	EBGY300	EBGY303	Supported or unsupported Biomass	EU27*	Year Ahead	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
EU Biomass Yr 02	EBGY400	EBGY403	Supported or unsupported Biomass	EU27*	Year Ahead +1	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time

*EU member states with EECS certification

UK RENEWABLE ENERGY GUARANTEES OF ORIGIN

ASSESSMENT	CODE	GENERATION	ORIGIN	VINTAGE	MIN VOLUME	MAX VOLUME	CURRENCY UOM	FREQUENCY	TIMESTAMP		
Non-Bio Current CP	ERGY200	ERGY203	Hydro, Wind, Solar	--	Current CP	5 GWh	50 GWh	GBP	MWh	Daily	16.30 London time
Non-Bio Current CP	EEGY200	EEGY203	Hydro, Wind, Solar	--	Current CP	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
Non-Bio CP 01	ERGY300	ERGY303	Hydro, Wind, Solar	--	CP +1	5 GWh	50 GWh	GBP	MWh	Daily	16.30 London time
Non-Bio CP 01	EEGY300	EEGY303	Hydro, Wind, Solar	--	CP +1	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
Non-Bio CP 02	ERGY400	ERGY403	Hydro, Wind, Solar	--	CP +2	5 GWh	50 GWh	GBP	MWh	Daily	16.30 London time
Non-Bio CP 02	EEGY400	EEGY403	Hydro, Wind, Solar	--	CP +2	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
Bio Current CP	ECGY200	ECGY203	Biomass	--	Current CP	5 GWh	50 GWh	GBP	MWh	Daily	16.30 London time
Bio Current CP	EDGY200	EDGY203	Biomass	--	Current CP	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
Bio CP 01	ECGY300	ECGY303	Biomass	--	CP +1	5 GWh	50 GWh	GBP	MWh	Daily	16.30 London time
Bio CP 01	EDGY300	EDGY303	Biomass	--	CP +1	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time
Bio CP 02	ECGY400	ECGY403	Biomass	--	CP +2	5 GWh	50 GWh	GBP	MWh	Daily	16.30 London time
Bio CP 02	EDGY400	EDGY403	Biomass	--	CP +2	5 GWh	50 GWh	Eur	MWh	Daily	16.30 London time

Guarantees of Origin price assessments

Assessments: Platts publishes prices of European Guarantees of Origin (EuGO) and UK Renewable Energy Guarantees of Origin (REGO).

A Guarantee of Origin (GO) is an electronic tracking certificate that labels electricity attributes/technology behind generated electricity, as regulated in Article 15 of the European Directive 2009/28/EC. One GO certificate corresponds to one MWh of electricity produced using renewable sources.

The value of a GO is the premium to the wholesale price of

electricity that a counterpart is willing to pay for the attributes of electricity generated from a renewable source when compared to undisclosed electricity.

A GO is physically used or consumed via the cancellation process which is the method of allocating specific electricity to a single end-user. Cancelling a GO from the relevant national registry is the only way to remove a GO from the market and redeem its benefits.

The trading of GOs can be done on a spot, forward or term basis. The spot market involves the buying and selling of GOs for the current time period, while the forward market entails future delivery. The term market refers to a multi-year contract obliging

one party to sell the GOs it generates to another party.

Origin: The physical location of the specified generation. For Nordic Hydro GOs origin is specified as Denmark, Finland, Norway, Sweden. For other EU GO certificates the power is generated within EU27's member states with EECS certification.

Vintage: The period of generation for EuGO. The compliance period, running from April 1 to March 31 of every year, for REGO.

Pricing information reflecting GO certificates with other specification (volume, vintage, origin, type of generation etc) may be normalized to the standard.

PLATTS DAILY SPARK SPREADS

	‘--SPARK SPREAD--			--CLEAN SPARK SPREAD (CPS)--			--CLEAN SPARK SPREAD (CPS)--	
	45% EFFICIENCY	50% EFFICIENCY	60% EFFICIENCY	45% EFFICIENCY	50% EFFICIENCY	60% EFFICIENCY	45% EFFICIENCY	50% EFFICIENCY
UK (GBP/MWh)								
Day ahead	UKHDA00	AAKBA00	AAKBB00	UEIDA00	CKFDA00	CKSDA00	CKHDA00	CKGDA00
Month ahead	UKHMA00	AAKBC00	AAKBD00	UEIMA00	CKFMA00	CKSMA00	CKHMA00	CKGMA00
Month ahead + 1	UKHM200	UKFM200	UKSM200	UEIM200	CKFM200	CKSM200	CKHM200	CKGM200
Quarter ahead	UKHQ100	UKFQ100	UKSQ100	UEIQ100	CKFQ100	CKSQ100	CKHQ100	CKGQ100
Quarter ahead + 1	UKHQ200	UKFQ200	UKSQ200	UKIM200	CKFQ200	CKSQ200	CKHQ200	CKGQ200
Season ahead	UKHS100	UKFS100	UKSS100	UKIQ100	CKFS100	CKSS100	CKHS100	CKGS100
Season ahead + 1	UKHS200	UKFS200	UKSS200	UKIQ200	CKFS200	CKSS200	CKHS200	CKGS200
Season ahead + 2	UKHS300	UKFS300	UKSS300	UKIM300	CKFS300	CKSS300	CKHS300	CKGS300
Season ahead + 3	UKHS400	UKFS400	UKSS400	UEIS400	CKFS400	CKSS400	CKHS400	CKGS400
UK (Eur/MWh)								
Day ahead	UEHDA00	UEFDA00	UESDA00	UKIDA00	CEFDA00	CESDA00	CEHDA00	CEGDA00
Month ahead	UEHMA00	UEFMA00	UESMA00	UKIMA00	CEFMA00	CESMA00	CEHMA00	CEGMA00
Month ahead + 1	UEHM200	UEFM200	UESM200	UKIQ200	CEFM200	CESM200	CEHM200	CEGM200
Quarter ahead	UEHQ100	UEFQ100	UESQ100	UEIS100	CEFQ100	CESQ100	CEHQ100	CEGQ100
Quarter ahead + 1	UEHQ200	UEFQ200	UESQ200	UEIS200	CEFQ200	CESQ200	CEHQ200	CEGQ200
Season ahead	UEHS100	UEFS100	UESS100	UKIS100	CEFS100	CESS100	CEHS100	CEGS100
Season ahead + 1	UEHS200	UEFS200	UESS200	UKIS200	CEFS200	CESS200	CEHS200	CEGS200
Season ahead + 2	UEHS300	UEFS300	UESS300	UKIS300	CEFS300	CESS300	CEHS300	CEGS300
Season ahead + 3	UEHS400	UEFS400	UESS400	UKIS400	CEFS400	CESS400	CEHS400	CEGS400
German (Eur/MWh)								
Day ahead	GEHDA00	AAKBI00	AAKBJ00	GEIDA00	CGFDA00	CGSDA00		
Month ahead	GEHMA00	AAKBL00	AAKBL00	GEIMA00	CGFMA00	CGSMA00		
Month ahead + 1	GEHM200	GEFM200	GESM200	GEIM200	CGFM200	CGSM200		
Quarter ahead	GEHQ100	GEFQ100	GESQ100	GEIQ100	CGFQ100	CGSQ100		
Quarter ahead + 1	GEHQ200	GEFQ200	GESQ200	GEIQ200	CGFQ200	CGSQ200		
Year ahead	GEHYA00	GEFYA00	GESYA00	GEIYA00	CGFYA00	CGSYA00		
Italian (Eur/MWh)								
Month ahead	ITKMA00	ITFMA00	ITSMA00	ITIQA00	CIFMA00	CISYM00		
Quarter ahead	ITKQA00	ITFQA00	ITSQA00	ITIMA00	CIFQA00	CISQA00		
Year ahead	ITSYA00	ITSYB00		CIFYA00	CIFYB00			
Spanish (Eur/MWh)								
Day ahead	PVSPA00	PVSPB00		PVCSA00	PVCSB00			
Month ahead	SPHMA00	SPFMA00		SPGMA00	SPIMA00			
Month ahead + 1	GAPDE00	GAPDF00		GAPDG00	GAPDF00			
Quarter ahead	GAPDA00	GAPDB00		GAPDC00	GAPDD00			
Quarter ahead + 1	GAPEA00	GAPEB00		GAPEC00	GAPED00			
Year ahead	GAPFA00	GAPFB00		GAPFC00	GAPFD00			
Year ahead+1	GAPFE00	GAPFF00		GAPFG00	GAPFH00			

Spark and dark spreads

In addition to spark and dark spreads, Platts publishes their clean equivalents, which factor in relevant emissions costs: Platts EU emissions Allowance (EUA) assessments for continental European countries and Platts UK Allowance (UKA) assessments for the UK. EUA and UKA prices reflect a December annual expiry date. The calculation typically references the emissions contract most relevant to the delivery period for the fuel legs of the spread. In the UK, seasonal clean fuel spreads that include delivery during winter periods which touch on two calendar years use an average of two emissions contracts for the 'clean' component of the spread.

Platts clean fuel spread calculations incorporate three emissions contracts ahead with specifications and roll dates as listed on Platts Carbon methodology for both EUAs and UKAs https://www.spglobal.com/platts/PlattsContent/_assets/_files/en/our-methodology/methodology-specifications/method_carbon_credits.pdf.

For UK only Platts also publishes UK CPS clean spreads that incorporate the cost of the UK government's Carbon Price Support (CPS) levy at the following confirmed rates:

Year	Levy in GBP/mt
April 1, 2014- March 31, 2015	9.55
April 1, 2015- March 31, 2016	18.08
April 1, 2016 - March 31, 2017	18.00
April 1, 2017 - March 31, 2018	18.00
April 1, 2018 - March 31, 2019	18.00
April 1, 2019 - March 31, 2020	18.00
April 1, 2020 - March 31, 2021	18.00
April 1, 2021 - March 31, 2022	18.00

Spark spreads

Platts spark spreads measure the difference between the cost of feedstock gas and the equivalent price of electricity on a High Heating Value (HHV) basis.

Locations: Platts publishes all simple spark spreads and clean spark spreads in the UK, Germany, Italy and Spain and CPS clean spark spreads in the UK only.

Assumptions: Gas-to-power energy conversion factor is 3.412141.

All spark spreads are published for gas-fired plants with efficiencies of 45% and 50% for all locations, and 60% for UK, Germany, and Italy.

Clean spark spreads are based on emissions intensity of

0.053942 tCO₂e/MMBtu HHV (thermal basis, before combustion).

Formulas:

Spark spread: Baseload power price – Gas price ÷ fuel efficiency.

Clean spark spread: Platts spark spread – Relevant emissions price * emissions intensity factor ÷ fuel efficiency.

CPS clean spark spread (UK only): Platts spark spread - (UKA emissions price + CPS levy) * emissions intensity factor ÷ fuel efficiency

Inputs:

Germany: Platts TTF gas assessments and third-party power price settlements, Platts EUA assessments;

Italy and Spain: Platts assessments of relevant national gas contracts and third-party power price settlements, Platts EUA assessments;

UK: Platts assessments of power and gas contracts, Platts UKA assessments, relevant CPS levy as mentioned above.

The day-ahead gas assessments reflect the next UK working day.

PLATTS DARK SPREADS

	'--DARK SPREAD--'		--CLEAN SPARK SPREAD--		--CLEAN DARK SPREAD (CPS)--
	35% EFFICIENCY	40% EFFICIENCY	35% EFFICIENCY	40% EFFICIENCY	45% EFFICIENCY
UK (Eur/MWh)					
Month ahead	CDUTM00		CCUTM00		CCHTM00
Month ahead + 1	CDUTM27		CCUTM27		CCHTM27
Quarter ahead	CDUTQ00		CCUTQ00		CCHTQ00
Quarter ahead + 1	CDUTQ27		CCUTQ27		CCHTQ27
Season ahead	CDUTS00		CCUTS00		CCHTS00
UK (GBP/MWh)					
Month ahead	CDUZM00		CCUZM00		CCHZM00
Month ahead + 1	CDUZM27		CCUZM27		CCHZM27
Quarter ahead	CDUZQ00		CCUZQ00		CCHZQ00
Quarter ahead + 1	CDUZQ27		CCUZQ27		CCHZQ27
Season ahead	CDUZS00		CCUZS00		CCHZS00
UK (\$/MWh)					
Month ahead	CDUXM00		CCUXM00		CCHXM00
Month ahead + 1	CDUXM27		CCUXM27		CCHXM27
Quarter ahead	CDUXQ00		CCUXQ00		CCHXQ00
Quarter ahead + 1	CDUXQ27		CCUXQ27		CCHXQ27
Season ahead	CDUXS00		CCUXS00		CCHXS00
German (Eur/MWh)					
Month ahead	CDGTM00	CDGUM00	CCGTM00	CCGUM00	
Month ahead + 1	CDGTM27	CDGUM27	CCGTM27	CCGUM27	
Quarter ahead	CDGTQ00	CDGUQ00	CCGTQ00	CCGUQ00	
Quarter ahead + 1	CDGTQ27	CDGUQ27	CCGTQ27	CCGUQ27	
Year ahead	CDGTY00	CDGUY00	CCGTY00	CCGUY00	
Year ahead + 1	CDGTY27	CDGUY27	CCGTY27	CCGUY27	
Year ahead + 2	CDGTY28	CDGUY28	CCGTY28	CCGUY28	
German (\$/MWh)					
Month ahead	CDGXM00	CDGYM00	CCGXM00	CCGYM00	
Month ahead + 1	CDGXM27	CDGYM27	CCGXM27	CCGYM27	
Quarter ahead	CDGXQ00	CDGYQ00	CCGXQ00	CCGYQ00	
Quarter ahead + 1	CDGXQ27	CDGYQ27	CCGXQ27	CCGYQ27	
Year ahead	CDGXY00	CDGYY00	CCGXY00	CCGY00	
Year ahead + 1	CDGXY27	CDGYY27	CCGXY27	CCGY27	
Year ahead + 2	CDGTX28	CDGUX28	CCGTX28	CCGUX28	

Dark spreads

Platts dark spreads measure the difference between the cost of feedstock coal and the equivalent price of electricity.

Locations: Platts publishes dark and clean dark spreads in the UK and Germany, and CPS clean dark spreads in the UK only.

Assumptions: Coal-to-power energy conversion is 6.978 (converting 1 metric ton of coal into MWh).

Dark spreads are published for coal-fired plants with efficiencies of 35% and of 45% for Germany, and with efficiency

of 35% for the UK.

Clean dark spreads are based on emissions intensity of 0.973 mtCO₂/MWh for 35% efficiency and 0.757 mtCO₂/MWh for 45% efficiency.

Formulas:

Dark spread: Baseload power price – Coal price ÷ energy conversion factor ÷ fuel efficiency.

Clean dark spread: Platts dark spread – Relevant emissions price * emissions intensity factor ÷ fuel efficiency.

CPS clean dark spread (UK only): Platts dark spread at 35% fuel efficiency - (UKA emissions price + CPS levy) * emissions intensity factor ÷ fuel efficiency.

Inputs:

Germany: Platts CIF ARA coal assessments, third-party EEX German electricity settlement prices, Platts EUA assessments;

UK: Platts CIF ARA coal assessments and UK electricity assessments, Platts UKA assessments, relevant CPS levy as mentioned above.

GENERATING FUEL COST COMPARISONS

ASSESSMENT	CONTRACT	GBP/MWh	Eur/MWh	\$/MWh	\$/MMBtu	Eur/Gj	p/therm	FEEDSTOCK	LOCATION	FREQUENCY	TIMESTAMP
UK											
Gas											
Cost of CO2		AANFK00						Gas	UK	Daily	16.30 London time
Balance month cost			AANCI00		AANCL00	AANCK00	AANCJ00	Gas	UK	Daily	16.30 London time
Month ahead cost		AANFJ00	AANCM00		AANCP00	AANCO00	AANCN00	Gas	UK	Daily	16.30 London time
Month ahead Total cost		AANFL00						Gas	UK	Daily	16.30 London time
Month ahead Profit/Loss	Baseload	AANFM00	AANFN00	AANFP00				Gas	UK	Daily	16.30 London time
Month 2 cost			AANCQ00		AANCT00	AANCS00	AANCR00		UK	Daily	16.30 London time
Quater ahead cost		AANFW00	AANCU00		AANCX00	AANCW00	AANCV00	Gas	UK	Daily	16.30 London time
Quater ahead Total cost		AANFX00						Gas	UK	Daily	16.30 London time
Quater ahead Profit/Loss	Baseload	AANFY00	AANFZ00	AANGA00				Gas	UK	Daily	16.30 London time
Coal											
Cost of CO2		AANGH00						Coal	UK	Daily	16.30 London time
Month ahead cost		AANGG00						Coal	UK	Daily	16.30 London time
Month ahead Total cost		AANGJ00						Coal	UK	Daily	16.30 London time
Month ahead Profit/Loss	Baseload	AANGK00	AANGL00	AANGM00				Coal	UK	Daily	16.30 London time
Quater ahead cost		AANGU00						Coal	UK	Daily	16.30 London time
Quater ahead Total cost		AANGV00						Coal	UK	Daily	16.30 London time
Quater ahead Profit/Loss	Baseload	AANGW00	AANGX00	AANGY00				Coal	UK	Daily	16.30 London time
Fuel Oil 1% S											
Cost of CO2		AANHF00						Fuel Oil 1% S	UK	Daily	16.30 London time
Month ahead cost		AANHE00						Fuel Oil 1% S	UK	Daily	16.30 London time
Month ahead Total cost		AANHG00						Fuel Oil 1% S	UK	Daily	16.30 London time
Month ahead Profit/Loss	Peakload	AANHH00						Fuel Oil 1% S	UK	Daily	16.30 London time
Quater ahead cost		AANHN00						Fuel Oil 1% S	UK	Daily	16.30 London time
Quater ahead Total cost		AANHP00						Fuel Oil 1% S	UK	Daily	16.30 London time
Quater ahead Profit/Loss	Peakload	AANHQ00						Fuel Oil 1% S	UK	Daily	16.30 London time
NWE											
Gas											
Cost of CO2			AANFR00					Gas	NWE	Daily	16.30 London time
Month ahead cost			AANFQ00, AANDA00		AANDD00	AANDC00	AANDB00	Gas	NWE	Daily	16.30 London time
Month ahead Total cost			AANFS00					Gas	NWE	Daily	16.30 London time

GENERATING FUEL COST COMPARISONS

ASSESSMENT	CONTRACT	GBP/MWh	Eur/MWh	\$/MWh	\$/MMBtu	Eur/Gj	p/therm	FEEDSTOCK	LOCATION	FREQUENCY	TIMESTAMP
Month ahead Profit/Loss	Baseload	AANFU00	AANFT00	AANFV00				Gas	NWE	Daily	16.30 London time
Month 2 cost			AANDE00		AANDH00	AANDG00	AANDF00	Gas	NWE	Daily	16.30 London time
Quater ahead cost			AANGB00, AANDI00		AANDL00	AANDK00	AANDJ00	Gas	NWE	Daily	16.30 London time
Quater ahead Total cost			AANGC00					Gas	NWE	Daily	16.30 London time
Quater ahead Profit/Loss	Baseload	AANGE00	AANGD00	AANGF00				Gas	NWE	Daily	16.30 London time

Coal

Cost of CO2			AANGP00					Coal	NWE	Daily	16.30 London time
Month ahead cost			AANGN00, AANCA00		AANCD00	AANCC00	AANCB00	Coal	NWE	Daily	16.30 London time
Month ahead Total cost			AANGQ00					Coal	NWE	Daily	16.30 London time
Month ahead Profit/Loss	Baseload	AANGS00	AANGR00	AANGT00				Coal	NWE	Daily	16.30 London time
Quater ahead cost			AANGZ00, AANCE00		AANCH00	AANCG00	AANCF00	Coal	NWE	Daily	16.30 London time
Quater ahead Total cost			AANHA00					Coal	NWE	Daily	16.30 London time
Quater ahead Profit/Loss	BaseLoad	AANHC00	AANHB00	AANHD00				Coal	NWE	Daily	16.30 London time

Fuel Oil 1% S

Cost of CO2			AANHL00					Fuel Oil 1% S	NWE	Daily	16.30 London time
Month ahead cost			AANHJ00, AANDM00		AANDP00	AANDO00	AANDN00	Fuel Oil 1% S	NWE	Daily	16.30 London time
Month ahead Total cost			AANHK00					Fuel Oil 1% S	NWE	Daily	16.30 London time
Month ahead Profit/Loss	Peakload		AANHM00					Fuel Oil 1% S	NWE	Daily	16.30 London time
Month 2 cost			AANDQ00		AANDT00	AANDS00	AANDR00	Fuel Oil 1% S	NWE	Daily	16.30 London time
Quater ahead cost			AANHR00, AANDU00		AANDX00	AANDW00	AANDV00	Fuel Oil 1% S	NWE	Daily	16.30 London time
Quater ahead Total cost			AANHS00					Fuel Oil 1% S	NWE	Daily	16.30 London time
Quater ahead Profit/Loss	Peakload		AANHT00					Fuel Oil 1% S	NWE	Daily	16.30 London time

PLATTS COAL SWITCHING PRICE INDICATOR (CSPI)

	45% EFFICIENCY		50% EFFICIENCY	
	p/th	Eur/MWh	p/th	Eur/MWh
UK				
Month ahead	EUCVM00	EUCTM00	EUKVM00	EUKTM00
Quarter ahead	EUCVQ00	EUCTQ00	EUKVQ00	EUKTQ00
Year ahead	EUCVY00	EUCTY00	EUKVY00	EUKTY00
Netherlands				
Month ahead		EDCTM00		EDUTM00
Quarter ahead		EDCTQ00		EDUTQ00
Year ahead		EDCTY00		EDUTY00

Electricity generation economics

Platts publishes coal switching indicators and cross-fuel comparisons which aim at providing transparency into the electricity generation economics.

Coal switching price indicator (CSPI)

Platts CSPIs calculate the threshold at which gas is more competitive than coal as input fuel in power generation. When the gas price is higher than the CSPI, CCGT generation is more expensive than coal-fired generation and vice versa. The indicators are published for month ahead, quarter ahead and year ahead.

Locations: UK and the Netherlands.

Units: Eur/MWh. For UK the value is also converted into p/th, using a conversion factor of 2.9307 and the prevailing exchange rate.

Assumptions:

	Carbon emissions factor	UK plant efficiency	Dutch plant efficiency
Gas	0.18404 mtCO2/MWh	45% and 50% HHV	45% and 50% HHV
Coal	0.34056 mtCO2/MWh (thermal basis, before combustion)	35% LHV	40% LHV

Formulas:

UK: Gas efficiency * (coal price ÷ coal efficiency + (emissions factor for coal ÷ coal efficiency - emissions factor for CCGT ÷ gas efficiency) * (UKA emissions price + carbon levy))

Netherlands: Gas efficiency * (coal price ÷ coal efficiency + (emissions factor for coal ÷ coal efficiency - emissions factor for CCGT ÷ gas efficiency) * (EUA emissions price + coal tax ÷ coal efficiency))

Inputs: Coal price = Platts CIF ARA coal price assessment as quoted in USD/mt and converted into Eur/MWh; the corresponding UKA emission price converted into Eur/mt or EUA prices, relevant taxes, namely:

UK: UK government's CPS levy (see the CPS table above). For the calendar year ahead, a time-weighted average of the CPS is used to reflect two confirmed UK CPS rates for any given calendar year.

Netherlands: Power generators are currently exempt from coal tax. Previous Dutch coal tax rates were Eur14.40/mt for calendar year 2015 and Eur14.27/mt for calendar year 2014. From 2016 all coal plants with an efficiency of 40% or higher are exempt from the coal tax.

Cross-fuel comparisons

Platts cross-fuel comparisons represent indicative costs of burning oil, gas and coal in power stations. In each case, the price of the fuel is converted into an equivalent electricity price.

Platts also publishes costs of offsetting equivalent CO2 emissions and total costs, which aggregate these two elements (CO2 emissions costs and generating costs).

Platts then compares the price of electricity versus these indicative costs to calculate power stations' indicative profit/loss. Indicative natural gas and coal costs are compared with baseload power prices, while fuels oil costs are compared to peakload power prices.

Assumptions:

	Plant efficiency, %	Emissions intensity, kg CO2/MMBtu
Natural Gas	50	53.937
Coal	35	99.64
Fuel Oil	32	72.42

Inputs: Coal and distillates are priced at ARA. The standard specifications and sources of each fuel type can be found in the following documents published on <https://www.spglobal.com/platts/en/our-methodology/methodology-specifications>:

Natural gas - Platts European Natural Gas Specifications

Coal - Platts Coal Specifications

Fuel oil - Platts European Oil Products Specifications

REVISION HISTORY

October 2021: Platts conducted an annual review of the guide. As part of the review Platts added missing codes for conversions and additional contracts throughout. Platts also clarified calculations and amended the descriptions of symbols to make them more explicit of what they reflect.

June 2021: Platts launched UK Power day-ahead Block 5 in June 30, 2021 and started using EUA and UKA Platts assessments for corresponding clean spark and dark from June 18, 2021,

March 2021: Platts added REGO methodology in February 2021 and Netherlands month-ahead assessment in January 2021.

December 2020: Platts to amend UK day-ahead assessments timing to 9:20 am London time, effective January 1, 2021.

October 2020: Platts completed an annual review of the Specifications Guide European Electricity. Platts reviewed all content, corrected typos and made minor edits to language.

October 2019: Platts completed an annual update to the European Electricity methodology and specifications guide. Platts reviewed all content and made minor edits throughout.

September 2019: Platts launched European Guarantee of Origin (EuGO) for current year and year-ahead vintage.

April 2019: Platts completed an annual update to sections 1 to 6 of Platts Methodology and Specifications Guides in April 2019, and moved these sections into a standalone Methodology Guide.

April 2019: Platts clarified the emissions intensity factor used in its German clean dark spreads with 45% efficiency.

October 2018: Platts has replaced the use of EEX German/Austrian (DE/AT) power price component in with Germany-only (DE-only Phelix) settlement prices. Platts also launched Spanish

day-ahead spark spread and clean spark spreads with both 45% and 50% efficiency.

July 2018: Platts launched Spanish spark and clean spark spreads for the Month-ahead, +1, Year-Ahead +1 and Italian Year-ahead, with both 45% and 50% efficiency.

May 2018: Platts removed references to German, French, Italian and Spanish prompt and forward price assessments following the discontinuation of these markets on May 29, 2018. Platts also updated the fuel spread sections of this methodology guide to change the source of European power prices from Platts assessments to third-party exchanges.

May 2018: Platts completed an annual update to the European Electricity methodology and specifications guide. In this update, Platts revamped the guide to introduce greater consistency of layout and structure across Platts' published methodology guides. Platts also reviewed all content during this update.

March 2018: Platts removed references to Belgian and Dutch weekly power assessments and spark spreads following the discontinuation of these markets on March 5, 2018.

October 2017: Platts launched Spanish spark and clean spark spreads for the Quarter-ahead, Quarter-Ahead +1 and Year-ahead, with both 45% and 50% efficiency.

October 2017: Platts discontinued French Month-ahead+1, Month ahead+2, Year ahead+1, and Year ahead+2 base and peak power assessments. Platts also replaced French Saturday and Sunday power prices with the Weekend assessment for the flow date price data set. In addition, Spanish Day-ahead, Weekend, Month-ahead+1 and Quarter-ahead +2 baseload assessments were also discontinued. From October 2, French and Spanish Week-ahead contracts are only assessed on the last working day of the week.

May 2017: Platts updated the clean fuel spread sections of this

methodology guide to change the source of European emissions prices from Platts assessments to third-party exchange.

February 2017: Platts removed references to duplicate UK index symbols which were discontinued on February 3, 2017.

January 2017: Platts completed an annual update to the European Electricity methodology and specifications guide. In this update, Platts revamped the guide to introduce greater consistency of layout and structure across Platts' published methodology guides. Platts also reviewed all content during this update and introduced code lists. Methodologies for market coverage were not changed.

January 2017: Platts discontinued prompt power assessments for Switzerland, the Netherlands and Belgium. Platts also discontinued forward assessments of Dutch peakload contracts and Dutch quarter-ahead + 1 baseload and moved to weekly reporting for remaining Dutch and Belgian power assessments and associated spark and clean spark spreads. Platts discontinued the following calculated indices: Platts Power Index (German PPI); Continental European Forward Power Price indices; PEP and CONTI indices.

November 2016: Platts clarified the day-ahead definition for European spark spreads.

October 2016: Platts discontinued UK week-ahead and week-ahead+1 base and peak power assessments.

October 2016: Platts updated the Spark Spreads section of this guide to reflect the renaming of its Spanish gas assessments to PVB (formerly AOC).

September 2016: Platts updated the Currency conversions section of this guide. The source and timestamp for the foreign exchange data used to convert Platts European electricity assessments to foreign currency equivalents was revised from Tullett Prebon at 16:00 London time to Platts 16:30 London time

assessment. Platts also removed references to the previous calculations for exchange rates. Prior to June 2014, exchange rates were published with a working-day time lag, with the previous day's exchange rate close used in calculations.

August 2016: Platts updated this guide to remove references to CEE and Turkish power assessments and to Turkish dark and spark spreads. Platts discontinued assessments of the Czech, Hungarian, Polish and Turkish power markets. Turkish dark and spark spreads were also discontinued. Price history remains available in Market Data categories EE, PE and EM.

November 2015: Platts introduced additional German dark spread indicators, with a fuel efficiency factor of 45%.

September 2015: Platts discontinued its assessments of German month-ahead+4 and month-ahead+5 baseload and peakload electricity contracts.

March 2015: Platts discontinued publishing cross-fuel comparisons containing Gasoil 0.1% sulfur content and Fuel Oil 3.5% sulfur content.

December 2014: Platts updated the plant efficiencies and rates in its cross-fuel comparisons on December 16, 2014. Previous plant efficiencies were: Gas 49% (UK) and 54% (western Europe), Fuel Oil: 32%, Gasoil: 32%, Coal: 34%. Previous kg CO₂/MMBtu rates were 101.5 for coal, 55 for natural gas and 72.5 for oil.

April 2014: Platts revised the emissions intensity factor used in its spark spreads to 0.053942 tCO₂e/MMBtu from 0.055 with effect from April 1, 2014. The energy conversion factor (coal) used in dark spreads was revised to 6.978 from 7.1 and the emissions intensity factor used in clean dark spreads was revised to 0.973 mtCO₂/MWh from 0.96.

March 2014: Platts discontinued its assessment of the UK April

Annual contract.

January 2014: Platts moved its day-ahead timestamp to 11:00 am from midday as of January 2, 2014.

November 2013 – September 2014: Platts transitioned its UK forward power assessments to the Gregorian calendar from the EFA calendar. The last EFA roll date was September 29, 2014, and the first Gregorian roll date was November 3, 2014.

November 2013: Platts launched assessments of EFA-Gregorian "gap" products covering the following dates: September 29-30, 2014 and March 30/31, 2015. Assessments were only published in the event of trade or firm and verifiable indications of market value.

November 2009: Forward time stamp alignment to 16:30 London time as of November 1.