nationalgridESO

Final Annual Load Factors for 2020/21 TNUoS Tariffs

November 2019

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Summary of Annual Load Factors for the 2020/21 charging year

Executive summary

These are the final ALFs that will be used for TNUoS charging in 2020/21

National Grid Electricity System Operator (NGESO) is responsible for calculating, billing and collecting the Transmission Network Use of System (TNUoS) charges from transmission customers for the electricity industry in the UK. The TNUoS charges are designed to recover the allowed revenue, set by Ofgem, for the Electricity Transmission Owners (ETO) to fund the ETOs to install and maintain the transmission networks. The methodologies for TNUoS charges are defined in the Connection and Use of System Code (CUSC).

One of the key parameters for the generator TNUoS charges is Annual Load Factors (ALFs). ALFs are calculated, each year, for every generator which is connected to the transmission network; they are used to calculate what share of the TNUoS wider tariff they will pay.

This document contains the final Annual Load Factors (ALFs) to be used in the calculation of generator TNUoS tariffs for 2020/21, effective from 1 April 2020. The ALFs are based on generation data for five years, from 2014/15 until 2018/19, for each generating station.

Where historic data is not available for a new or mothballed station, we use a generic ALF corresponding to the station's generation technology type.

The ALFs for each generator at station level, and the generic ALF for each generation technology type, are published below.

For more information on the ALFs calculation process, please see CUSC section 14.15.101-113[1], or our guide within this document on page **Error! Bookmark not defined.**2.

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[1] https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc

Final Annual Load Factors for 2020/21

The table below shows the final ALFs using data from the 2014/15 to 2018/19 charging years.

The column headers for each year reflect the charging year that began during that year. For example, "2018" refers to the 2018/19 charging year.

Table 1: Final ALFs by generating station

Power Station	Technology	Yearly Load Factor Source					Yearly Load Factor Value					Specific ALF
		2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	
ABERDEEN	Offshore_Wind	Generic	Generic	Generic	Generic	Partial	0.0000%	0.0000%	0.0000%	0.0000%	44.7745%	47.1384%
ABERTHAW	Coal	Actual	Actual	Actual	Actual	Actual	59.0043%	54.2611%	50.8335%	5.0742%	4.1987%	36.7230%
ACHRUACH	Onshore_Wind	Generic	Partial	Actual	Actual	Actual	0.0000%	33.6464%	36.7140%	44.3464%	42.2005%	41.0870%
AFTON	Onshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	34.8738%	37.3713%	35.9704%
AIKENGALL II	Onshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	33.5082%	22.4459%	30.5401%
AN SUIDHE	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	36.9422%	35.4900%	34.0938%	41.2323%	36.2945%	36.2422%
ARECLEOCH	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	29.7298%	36.8612%	19.7246%	35.1728%	30.6827%	31.8618%
BAD A CHEO	Onshore_Wind	Generic	Generic	Generic	Generic	Partial	0.0000%	0.0000%	0.0000%	0.0000%	21.5538%	30.9619%
BAGLAN BAY	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	37.9194%	29.1228%	55.2030%	24.2891%	17.7390%	30.4438%
BARROW	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	47.0231%	47.1791%	44.2584%	47.0417%	39.0292%	46.1078%
BARRY	CCGT_CHP	Actual	Actual	Partial	Actual	Actual	0.4003%	2.1727%	24.3468%	0.5407%	0.0368%	1.0379%
BEATRICE	Offshore_Wind	Generic	Generic	Generic	Generic	Partial	0.0000%	0.0000%	0.0000%	0.0000%	51.8538%	49.4982%
BEAULY CASCADE	Hydro	Actual	Actual	Actual	Actual	Actual	37.1167%	35.0094%	30.4872%	21.9937%	34.5072%	33.3346%
BEINNEUN	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	30.9623%	25.8214%	37.9202%	31.5679%
BHLARAIDH	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	33.4339%	46.3209%	40.1955%	39.9834%
BLACK LAW	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	26.7881%	26.9035%	23.4623%	21.2137%	26.3658%	25.5387%
BLACKCRAIG WINDFARM	Onshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	36.0208%	40.3666%	37.3511%
BLACKLAW EXTENSION	Onshore_Wind	Generic	Partial	Actual	Actual	Actual	0.0000%	33.4635%	13.1095%	30.4870%	33.9916%	25.8627%
BRIMSDOWN	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	11.1229%	16.4463%	45.0615%	27.6168%	34.1757%	26.0796%
BURBO BANK EXT	Offshore_Wind	Generic	Actual	Actual	Actual	Actual	0.0000%	16.7781%	25.0233%	49.3850%	42.5220%	38.9768%
CARRAIG GHEAL	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	48.9277%	45.6254%	40.4211%	45.5371%	45.7472%	45.6366%
CARRINGTON	CCGT_CHP	Generic	Partial	Actual	Actual	Actual	0.0000%	38.7318%	58.0115%	58.8066%	65.4275%	60.7485%

Power Station	Technology	Yearly Load Factor Source					Yearly Load Factor Value					Specific ALF
		2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	
CLUNIE	Hydro	Actual	Actual	Actual	Actual	Actual	43.2488%	47.9711%	32.8297%	32.1699%	36.8500%	37.6429%
CLYDE (NORTH)	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	36.8882%	41.4120%	26.8858%	39.2619%	41.4890%	39.1873%
CLYDE (SOUTH)	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	29.4115%	39.9615%	34.8751%	39.1634%	38.7296%	37.5893%
CONNAHS QUAY	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	18.3739%	28.2713%	37.4588%	20.0846%	19.0546%	22.4702%
CONON CASCADE	Hydro	Actual	Actual	Actual	Actual	Actual	55.5287%	58.9860%	48.6782%	50.8547%	50.7941%	52.3925%
CORBY	CCGT_CHP	Actual	Actual	Generic	Partial	Actual	9.6755%	4.5411%	0.0000%	44.6503%	1.8650%	5.3605%
CORRIEGARTH	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	22.5645%	41.2013%	44.7484%	36.1714%
CORRIEMOILLIE	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	32.2316%	30.4210%	30.7985%	31.1504%
CORYTON	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	17.5123%	26.4000%	63.0383%	16.4022%	23.4777%	22.4633%
COTTAM	Coal	Actual	Actual	Actual	Actual	Actual	51.4426%	34.4157%	14.9387%	21.6580%	14.4319%	23.6708%
COTTAM DEVELOPMENT CENTRE	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	31.3132%	28.2382%	67.2482%	56.3007%	77.5270%	51.6207%
COUR	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	38.3247%	55.4273%	55.6107%	49.7875%
COWES	Gas_Oil	Actual	Actual	Actual	Actual	Actual	0.3135%	0.4912%	0.5319%	0.6942%	0.0395%	0.4456%
CRUACHAN	Pumped_Storage	Actual	Actual	Actual	Actual	Actual	9.0516%	8.8673%	7.1914%	9.6225%	6.5778%	8.3701%
CRYSTAL RIG II	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	47.5958%	48.3836%	40.2679%	52.5802%	48.7267%	48.2354%
CRYSTAL RIG III	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	39.9503%	51.9020%	49.5314%	47.1279%
DAMHEAD CREEK	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	67.4641%	64.8983%	68.1119%	63.5108%	45.2453%	65.2910%
DEESIDE	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	13.9018%	17.4579%	27.1090%	20.8164%	0.0000%	17.3921%
DERSALLOCH	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	33.7728%	39.8576%	35.2052%	36.2785%
DIDCOT B	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	25.5345%	41.1389%	50.1358%	44.1234%	50.9938%	45.1327%
DIDCOT GTS	Gas_Oil	Actual	Actual	Actual	Actual	Actual	0.2843%	0.4861%	0.0452%	0.6337%	0.7115%	0.4680%
DINORWIG	Pumped_Storage	Actual	Actual	Actual	Actual	Actual	15.0650%	14.6353%	15.9596%	14.9467%	12.5027%	14.8823%
DORENELL	Onshore_Wind	Generic	Generic	Generic	Generic	Partial	0.0000%	0.0000%	0.0000%	0.0000%	39.7116%	37.0145%
DRAX	Coal	Actual	Actual	Actual	Actual	Actual	82.2149%	76.2030%	62.2705%	55.8896%	50.9593%	64.7877%
DUDGEON	Offshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	42.4791%	46.9782%	47.2525%	45.5699%
DUNGENESS B	Nuclear	Actual	Actual	Actual	Actual	Actual	54.6917%	70.7617%	79.3403%	68.2086%	39.8945%	64.5540%
DUNLAW EXTENSION	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	30.0797%	29.1203%	26.5549%	31.0840%	28.4604%	29.2201%
DUNMAGLASS	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	38.9713%	75.6936%	51.5228%	55.3959%
EDINBANE WIND	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	31.2458%	35.5937%	32.5009%	34.5929%	34.9938%	34.0292%
EGGBOROUGH	Coal	Actual	Actual	Partial	Actual	Actual	45.7421%	27.0157%	40.0283%	7.1715%	0.0175%	26.6431%
ERROCHTY	Hydro	Actual	Actual	Actual	Actual	Actual	25.3585%	28.1507%	16.1775%	13.6081%	17.9492%	19.8284%
EWE HILL	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	33.3314%	33.1849%	32.9121%	33.1428%
FALLAGO	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	44.7267%	55.7992%	43.2176%	49.4158%	47.9232%	47.3552%

Power Station	Technology	Yearly Load Factor Source					Yearly Load Factor Value					Specific ALF
		2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	
FARR WINDFARM	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	38.5712%	40.9963%	34.1766%	38.3046%	39.5693%	38.8150%
FASNAKYLE G1 & G3	Hydro	Actual	Actual	Actual	Actual	Actual	57.4834%	53.1573%	30.9768%	38.1673%	43.6554%	44.9933%
FAWLEY CHP	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	72.8484%	57.6978%	63.2006%	76.0793%	68.2899%	68.1130%
FFESTINIOG	Pumped_Storage	Actual	Actual	Actual	Actual	Actual	4.3251%	3.4113%	5.6749%	4.2118%	2.9504%	3.9827%
FIDDLERS FERRY	Coal	Actual	Actual	Actual	Actual	Actual	45.2435%	27.4591%	8.2478%	13.9908%	5.7753%	16.5659%
FINLARIG	Hydro	Actual	Actual	Actual	Actual	Actual	59.4092%	65.1349%	49.6402%	52.6415%	64.1387%	58.7298%
FOYERS	Pumped_Storage	Actual	Actual	Actual	Actual	Actual	12.3048%	15.4323%	11.3046%	14.5333%	14.9278%	13.9220%
FREASDAIL	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	32.5600%	38.9709%	40.4607%	37.3305%
GALAWHISTLE	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	34.9765%	42.4455%	47.4443%	41.6221%
GALLOPER	Offshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	54.7593%	53.8046%	52.2948%
GARRY CASCADE	Hydro	Actual	Actual	Actual	Actual	Actual	64.3828%	60.2772%	61.0498%	60.0010%	54.2012%	60.4426%
GLANDFORD BRIGG	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	0.5401%	1.8191%	2.7682%	1.8418%	1.0295%	1.5635%
GLEN APP	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	25.1373%	24.8393%	22.0870%	24.0212%
GLENDOE	Hydro	Actual	Actual	Actual	Actual	Actual	32.3494%	34.8532%	23.8605%	24.0105%	31.6076%	29.3225%
GLENMORISTON	Hydro	Actual	Actual	Actual	Actual	Actual	48.7487%	50.6921%	34.6709%	44.3960%	37.8283%	43.6576%
GORDONBUSH	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	47.7981%	47.7161%	50.4126%	34.1762%	38.6227%	44.7123%
GRAIN	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	44.0031%	39.7895%	53.8227%	39.7755%	50.2928%	44.6951%
GRANGEMOUTH	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	62.6168%	59.8274%	51.4558%	58.9786%	63.5659%	60.4743%
GREAT YARMOUTH	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	18.6633%	59.8957%	63.5120%	50.1521%	36.5911%	48.8796%
GREATER GABBARD	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	42.1327%	50.2468%	43.1132%	46.4939%	39.9735%	43.9132%
GRIFFIN WIND	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	31.3152%	31.0284%	25.8228%	28.8970%	27.3684%	29.0979%
GUNFLEET SANDS I	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	47.0132%	50.4650%	45.7940%	47.3019%	39.8080%	46.7030%
GUNFLEET SANDS II	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	44.7211%	49.0521%	43.9893%	46.9928%	39.6453%	45.2344%
GWYNT Y MOR	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	61.6185%	63.1276%	44.8323%	50.4031%	42.8331%	52.2846%
HADYARD HILL	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	27.7635%	36.6527%	31.4364%	34.0375%	31.2735%	32.2491%
HARESTANES	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	28.6355%	27.8093%	22.5464%	29.0125%	23.8473%	26.7640%
HARTLEPOOL	Nuclear	Actual	Actual	Actual	Actual	Actual	56.2803%	53.8666%	78.0390%	80.6218%	85.4489%	71.6471%
HEYSHAM	Nuclear	Actual	Actual	Actual	Actual	Actual	68.8252%	72.7344%	79.6169%	85.1617%	77.3512%	76.5675%
HINKLEY POINT B	Nuclear	Actual	Actual	Actual	Actual	Actual	70.1411%	67.6412%	71.2265%	83.4643%	79.8462%	73.7379%
HORNSEA 1B	Offshore_Wind	Generic	Generic	Generic	Generic	Partial	0.0000%	0.0000%	0.0000%	0.0000%	39.4929%	45.3779%
HUMBER GATEWAY	Offshore_Wind	Partial	Actual	Actual	Actual	Actual	43.9343%	62.9631%	59.7195%	54.9913%	46.8351%	59.2246%
HUNTERSTON	Nuclear	Actual	Actual	Actual	Actual	Actual	79.1368%	82.1786%	83.2939%	79.8644%	24.0813%	80.3933%
IMMINGHAM	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	56.8316%	69.4686%	71.9550%	64.3175%	72.9980%	68.5804%
INDIAN QUEENS	Gas_Oil	Actual	Actual	Actual	Actual	Actual	0.0876%	0.0723%	0.0847%	0.0740%	0.0288%	0.0770%

Power Station	Technology	Yearly Load Factor Source					Yearly Load Factor Value					Specific ALF
		2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	
J G PEARS	Biomass	Generic	Generic	Generic	Generic	Actual	0.0000%	0.0000%	0.0000%	0.0000%	36.3135%	38.6636%
KEADBY	CCGT_CHP	Generic	Partial	Actual	Actual	Actual	0.0000%	35.1858%	28.6076%	38.6957%	40.3687%	35.8907%
KEITH HILL	Onshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	36.9858%	23.8493%	32.1670%
KILBRAUR	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	54.3550%	50.3807%	46.5342%	56.7501%	49.7699%	51.5019%
KILGALLIOCH	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	25.2739%	25.3254%	43.3442%	31.3145%
KILLIN CASCADE	Hydro	Actual	Actual	Actual	Actual	Actual	44.8205%	53.2348%	27.4962%	34.9231%	40.4764%	40.0734%
KILLINGHOLME (POWERGEN)	Gas_Oil	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	0.5489%	0.6139%	0.5188%
KINGS LYNN A	CCGT_CHP	Actual	Generic	Generic	Generic	Actual	0.0000%	0.0000%	0.0000%	0.0000%	0.4254%	17.1241%
KYPE MUIR	Onshore_Wind	Generic	Generic	Generic	Generic	Partial	0.0000%	0.0000%	0.0000%	0.0000%	27.7774%	33.0365%
LANGAGE	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	34.8629%	16.5310%	44.5413%	42.3368%	24.5591%	33.9196%
LINCS WIND FARM	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	43.8178%	49.1306%	44.5192%	51.0911%	46.7412%	46.7970%
LITTLE BARFORD	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	49.6644%	39.9829%	64.8597%	66.3067%	63.2342%	59.2528%
LOCHLUICHART	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	20.2103%	29.2663%	31.6897%	34.3322%	32.8475%	31.2678%
LONDON ARRAY	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	64.0880%	66.8682%	53.6245%	50.5515%	36.8539%	56.0880%
LYNEMOUTH	Biomass	Generic	Generic	Generic	Actual	Actual	0.0000%	0.0000%	0.0000%	1.0783%	85.6495%	42.1888%
MARCHWOOD	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	66.4021%	55.0879%	75.4248%	67.3692%	72.2737%	68.6817%
MARK HILL	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	26.7942%	34.0227%	21.9653%	31.0915%	28.6666%	28.8508%
MEDWAY	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	28.0962%	34.1799%	35.1505%	36.7261%	27.4290%	32.4756%
MIDDLE MUIR	Onshore_Wind	Generic	Generic	Generic	Generic	Partial	0.0000%	0.0000%	0.0000%	0.0000%	29.3669%	33.5663%
MILLENNIUM	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	53.2636%	48.4038%	44.9764%	53.6488%	54.1216%	51.7721%
MINNYGAP	Onshore_Wind	Generic	Generic	Generic	Actual	Actual	0.0000%	0.0000%	0.0000%	30.9962%	32.4279%	33.0300%
NANT	Hydro	Actual	Actual	Actual	Actual	Actual	36.4040%	37.3788%	30.6350%	34.9026%	34.0281%	35.1116%
ORMONDE	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	42.8711%	47.1986%	41.2188%	37.7162%	40.8646%	41.6515%
PEMBROKE	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	67.5346%	64.5596%	77.6478%	70.2866%	70.5263%	69.4492%
PEN Y CYMOEDD	Onshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	26.9446%	36.0948%	33.2009%	32.0801%
PETERBOROUGH	CCGT_CHP	Actual	Partial	Actual	Actual	Actual	1.0929%	4.1032%	1.7914%	0.4349%	0.4136%	1.1064%
PETERHEAD	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	0.4858%	23.3813%	42.2292%	65.7808%	61.5747%	42.3950%
POGBIE	Onshore_Wind	Generic	Generic	Generic	Generic	Partial	0.0000%	0.0000%	0.0000%	0.0000%	29.0769%	33.4696%
RACE BANK	Offshore_Wind	Generic	Generic	Partial	Actual	Actual	0.0000%	0.0000%	45.3062%	38.1978%	47.1320%	43.5453%
RAMPION	Offshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	40.9885%	35.4891%	41.5993%
RATCLIFFE-ON-SOAR	Coal	Actual	Actual	Actual	Actual	Actual	56.1767%	19.6814%	15.4657%	19.3780%	16.8536%	18.6376%
ROBIN RIGG EAST	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	55.3209%	51.9700%	50.5096%	42.5599%	34.4229%	48.3465%
ROBIN RIGG WEST	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	53.4150%	56.0881%	51.5383%	47.3991%	40.9494%	50.7841%
ROCKSAVAGE	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	4.4252%	19.8061%	58.6806%	29.8122%	35.6214%	28.4132%

Power Station	Technology	Yearly Load Factor Source					Yearly Load Factor Value					Specific ALF
		2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	
RYE HOUSE	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	5.3701%	7.7906%	15.6538%	13.4736%	8.6393%	9.9678%
SALTEND	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	67.9518%	55.6228%	77.4019%	70.1596%	71.3266%	69.8126%
SANQUHAR	Onshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	35.2098%	50.9844%	40.6201%
SEABANK	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	25.6956%	27.2136%	41.6815%	55.4606%	32.6753%	33.8568%
SELLAFIELD	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	18.9719%	28.6790%	19.8588%	13.6007%	8.8320%	17.4771%
SEVERN POWER	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	24.6354%	18.3226%	64.4246%	55.6920%	39.5616%	39.9630%
SHERINGHAM SHOAL	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	46.2286%	53.6184%	46.9715%	54.3071%	50.7594%	50.4498%
SHOREHAM	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	10.2239%	48.9514%	68.9863%	64.2994%	12.0983%	41.7830%
SIZEWELL B	Nuclear	Actual	Actual	Actual	Actual	Actual	84.7924%	98.7826%	81.6359%	73.3708%	98.0180%	88.1488%
SLOY G2 & G3	Hydro	Actual	Actual	Actual	Actual	Actual	15.5941%	13.9439%	8.1782%	12.0303%	9.8246%	11.9329%
SOUTH HUMBER BANK	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	34.4673%	48.6753%	55.3419%	34.6174%	31.0569%	39.2533%
SPALDING	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	39.3092%	47.9407%	60.9748%	52.9683%	38.1850%	46.7394%
STAYTHORPE	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	56.6148%	69.4422%	65.7791%	52.0701%	60.3233%	60.9057%
STRATHY NORTH & SOUTH	Onshore_Wind	Generic	Partial	Actual	Actual	Actual	0.0000%	49.6340%	36.1987%	40.2313%	34.0711%	36.8337%
STRONELAIRG	Onshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	37.5366%	48.4638%	40.5555%
SUTTON BRIDGE	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	17.2025%	13.1999%	38.0184%	29.1878%	22.3560%	22.9154%
TAYLORS LANE	Gas_Oil	Actual	Actual	Actual	Actual	Actual	0.0640%	0.1708%	0.8047%	1.1712%	0.1133%	0.3629%
THANET	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	35.5935%	41.3434%	33.7132%	38.5069%	35.8373%	36.6459%
TODDLEBURN	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	33.7211%	35.0823%	31.3435%	38.0158%	34.7062%	34.5032%
TORNESS	Nuclear	Actual	Actual	Actual	Actual	Actual	91.4945%	85.7725%	97.9942%	86.4413%	85.4632%	87.9028%
USKMOUTH	Coal	Partial	Actual	Actual	Actual	Actual	46.9428%	25.5184%	24.3304%	0.1000%	0.0108%	16.6496%
WALNEY 4	Offshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	45.2033%	50.3338%	47.9525%
WALNEY I	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	52.0555%	50.7535%	47.4617%	55.9472%	41.6150%	50.0902%
WALNEY II	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	58.2355%	35.7988%	54.9727%	62.8290%	48.7292%	53.9791%
WALNEY III	Offshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	50.1762%	50.7716%	49.7561%
WEST BURTON	Coal	Actual	Actual	Actual	Actual	Actual	61.5364%	32.7325%	10.1071%	11.8199%	6.3690%	18.2198%
WEST BURTON B	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	46.8421%	59.3477%	54.2878%	63.2420%	62.8067%	58.8141%
WEST OF DUDDON SANDS	Offshore_Wind	Actual	Actual	Actual	Actual	Actual	40.0506%	48.7540%	48.7691%	55.4034%	48.9209%	48.8146%
WESTERMOST ROUGH	Offshore_Wind	Partial	Actual	Actual	Actual	Actual	26.2900%	54.8014%	58.1061%	63.4740%	52.5501%	58.7938%
WHITELEE	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	29.8105%	31.8773%	27.2893%	29.6336%	30.7296%	30.0579%
WHITELEE EXTENSION	Onshore_Wind	Actual	Actual	Actual	Actual	Actual	27.7787%	26.7655%	23.5253%	25.1664%	26.6647%	26.1989%
WHITESIDE HILL	Onshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	38.3704%	55.0847%	43.0404%
WILTON	CCGT_CHP	Actual	Actual	Actual	Actual	Actual	21.5867%	16.1379%	14.4130%	15.5750%	21.4515%	17.7214%
WINDY STANDARD II	Onshore_Wind	Generic	Generic	Generic	Partial	Actual	0.0000%	0.0000%	0.0000%	43.2981%	49.4509%	42.8050%

Generic Annual Load Factors

Generic ALFs are used to fill in the gaps for a generator if it does not have a full three years' worth of generation history.

Table 2: Final Generic ALFs for 2020/21

Technology	Generic ALF
Gas_Oil	0.3935%
Pumped_Storage	10.2893%
Tidal *	18.9000%
Biomass	39.8387%
Wave *	31.0000%
Onshore_Wind	35.6660%
CCGT_CHP	50.9470%
Hydro	41.7886%
Offshore_Wind	48.3204%
Coal	27.7372%
Nuclear	77.5645%

*Note: ALF figures for Wave and Tidal technology are generic figures provided by BEIS due to no metered data being available.

2

Changes compared to the draft ALFs

Summary of changes

This section summarises the changes that have been made to the draft ALFs.

Changes to specific ALFs

The table below shows the stations which have seen a change to either their 2018 ALF, or both their 2018 ALF and their specific ALF.

If a station has four or five years of historic ALF data, then it might be the case that a change to their 2018 ALF data doesn't affect their specific ALF, because 2018 data might not be included in the calculation of the specific ALF. For more information on the ALF calculation, see page 14.

During the calculation of draft ALFs, data relating to a number of cascade hydro stations was inadvertently included which led to the calculation of specific ALFs for 3 additional stations: Deanie, Invergarry and Luichart. These stations are actually part of cascades and therefore already have specific ALFs. The calculation of ALFs for Clunie and Glenmoriston were also affected by the same issue. The erroneous data, and therefore the additional sites, have been removed for the final ALFs calculation resulting in the changes as detailed below:

Table 3: Details of changes to specific ALFs

Station	Fuel type	Draft 2018 ALF	Final 2018 ALF	Draft Specific ALF	Final Specific ALF
Clunie	Hydro	45.8819%	36.8500%	40.6535%	37.6429%
Glenmoriston	Hydro	0.0764%	37.8283%	42.6052%	43.6576%
Deanie	Hydro	0.0000%	N/A	27.7889%	N/A
Invergarry	Hydro	0.0000%	N/A	27.7889%	N/A
Luichart	Hydro	0.0000%	N/A	27.7889%	N/A

Changes to Generic ALFs

The Generic ALF for Hydro has increased due to the removal of the erroneous demand data, as described above. This has not resulted in a change to the specific ALFs for any station. All other Generic ALFs are as per the Draft publication.

Table 4: Details of changes to Generic ALFs

Technology	Draft Generic ALF	Final Generic ALF	Difference (Final – Draft)
Hydro	41.6834%	41.7886%	0.1052%

3

How are ALFs calculated?

The ALFs calculation

For each charging year 2014/15 to 2018/19 a Yearly Load Factor has been calculated using the higher of Metered Output (MO), Final Physical Notification (FPN) or zero in each half hour settlement period, divided by the sum of Transmission Entry Capacity (TEC), Short Term TEC (STTEC) and Limited Duration TEC (LDTEC) applicable in the same half hour.

All calculations are in local time, i.e. clock change days have 46 or 50 half hour settlement periods rather than the usual 48. TEC, STTEC and LDTEC are daily products so changes occur at midnight.

ALFs are calculated at station level, so where a station has multiple Balancing Mechanism Units (BMUs) representing generating units, station demand or trading site demand, the MO and FPN will be the aggregate of these.

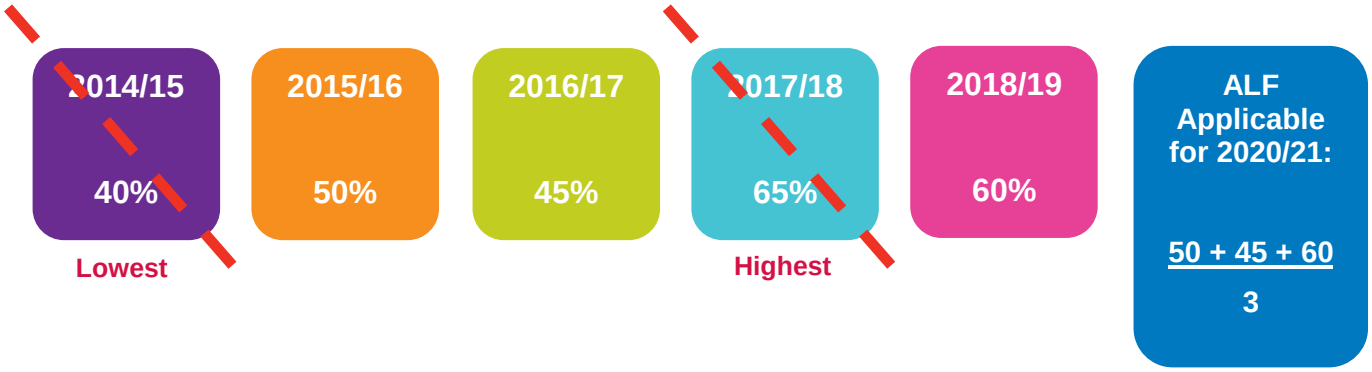
For cascade hydro schemes, the ALF is calculated at scheme level, so the MO and FPN will be the aggregate of the BMU associated with the scheme. The scheme ALF is applied to each station in the scheme.

We are happy to provide support and advice on the derivation of ALFs to our customers.

Below is a guide on how we calculate ALFs based on the number of years of generation data available for that station.

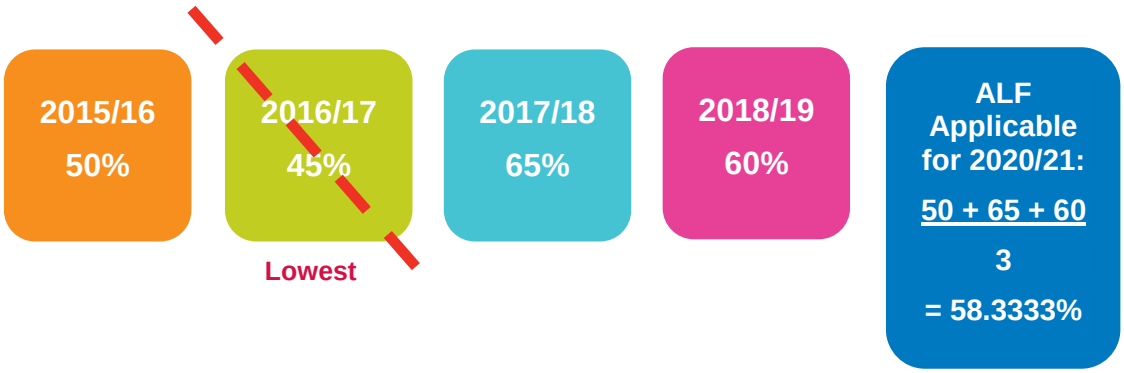
Five years of data

If your station has full ALF data over the past five years, then the highest and lowest years are discounted. Your ALF is then calculated by averaging the output from the remaining three years.



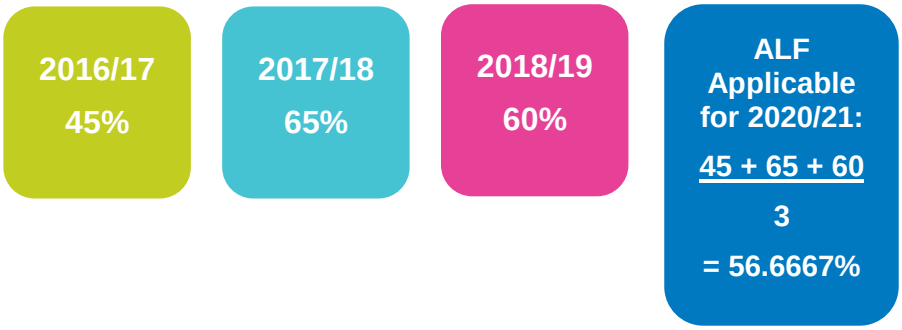
Four years of data

If your station has full ALF data over the past four years, then the lowest year is discounted. Your ALF is then calculated by averaging the output from the remaining three years. If you have four full years and one partial year, the partial year is ignored.



Three years of data

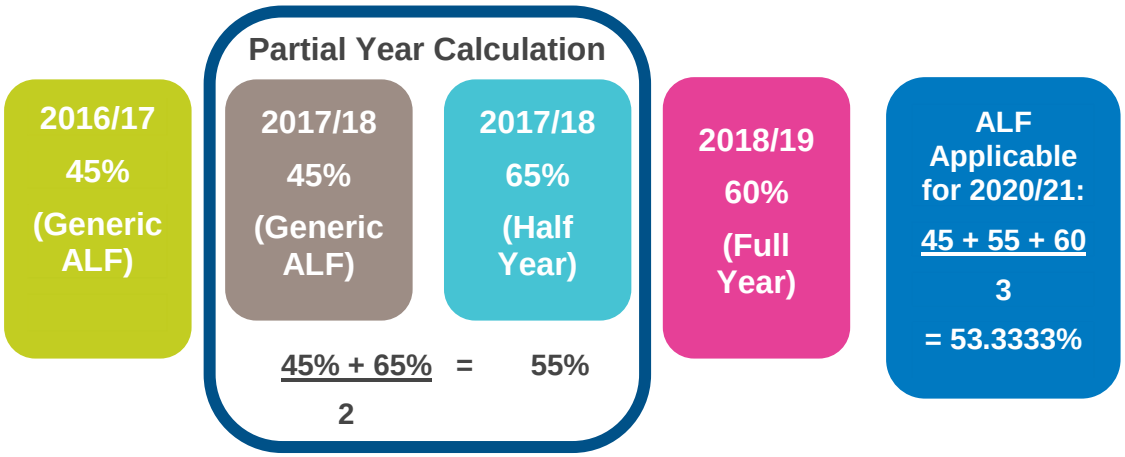
If your station has full ALF data over the past three years, then your ALF is the average of these three years. If you have three full years and one partial year, the partial year is ignored.



Fewer than three years of data

If your station has fewer than three full years of ALF data available, then any full years are used. Any gaps in the generation data from partial years are filled in using the generic ALF for the station's generation type.

In the example below it is assumed that there is half a year of generation data available from 2017/18.



Any years with no data at all are filled in full by the generic ALF until there are at least three years of data available.

A partial year would most likely occur when TEC is held for only part of the year. The station's output data is used from the day in the year that the station first begins to output onto the system.

Calculation of partial year ALFs

Each partial year ALF is calculated using a combination of actual station data and the generic ALF for the relevant year. This means that the partial year ALF will remain the same for each year that it is used, rather than being updated each year using the most recently calculated ALF.

For new generators, the station specific load factor is calculated from the earliest date on which TEC is held. The generic ALF is used for the period prior to TEC being held to form a 'partial' year of ALF data for that power station.

Commissioning years have been taken from the Digest of United Kingdom Energy Statistics Table 5.11[2] but commissioning dates within the five charging years under consideration have been checked against Metered Output and Final Physical Notification data to determine the exact date.

Generic ALFs

For a generator with no output data history, the generic ALF for that generation technology type will be used.

Generic ALFs are calculated from the ten most recently commissioned generators from each technology (where available).

Please note that there are currently no generic ALFs for Battery or Solar technology. For the purposes of these calculations Battery technology is counted as "Pumped Storage" and Solar technology is counted as "Onshore Wind".

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[2] https://www.gov.uk/government/publications/electricity-chapter-5-digest-of-united-kingdom-energy-statistics-dukes

A

Generation charging principles

Generation charging principles

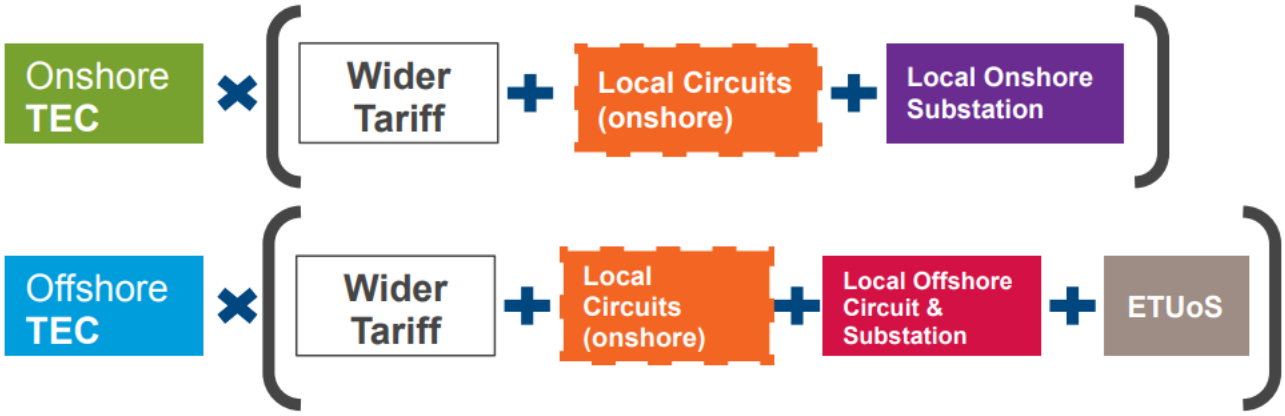
Generation charging principles

Transmission Network Use of System Charges (TNUoS) recover the money that GB Transmission Owners (TOs) spend on building, owning and maintaining transmission assets. Generators and suppliers are set charges which differ depending on where in the country they are located, and also by how they use the transmission network. TNUoS tariffs are calculated, set and billed by National Grid Electricity System Operator (NGESO), who recover revenue from generators and suppliers and pay it to the TOs.

Generators which pay generation TNUoS will be charged several components, depending on their characteristics. The wider tariff applies differently depending on several factors, and the local elements differ according to the specific arrangements by which the generator is connected to the transmission network.

Different charges may apply to onshore generators compared to offshore generators.

The wider and local components are shown below



All components of TNUoS tariffs are multiplied by the TEC of the generator to calculate the annual TNUoS liability.

There are four factors that affect what charges apply to each generator:

- **TEC**: the amount of capacity (in kW) that the generator can use to connect to the transmission system according to their connection agreement
- **Geographic location**: currently there are 27 generation zones in Great Britain; this determines the wider tariff that applies to the generator
- **Generator fuel type:** whether a generator is gas-fired or wind powered, for example, will determine how the wider tariff applies to them. It may also affect how the Annual Load Factor (ALF) is calculated for newly or recently commissioned generators
- **Connection voltage:** generators connecting at 400kV and 275kV in England and Wales, or at 400kV, 275kV and 132kV in Scotland are directly connected to the electricity transmission system, and so will be charged TNUoS. Generators connected at lower voltages are embedded, and will pay TNUoS if they have 100MW or more TEC.

The wider tariff

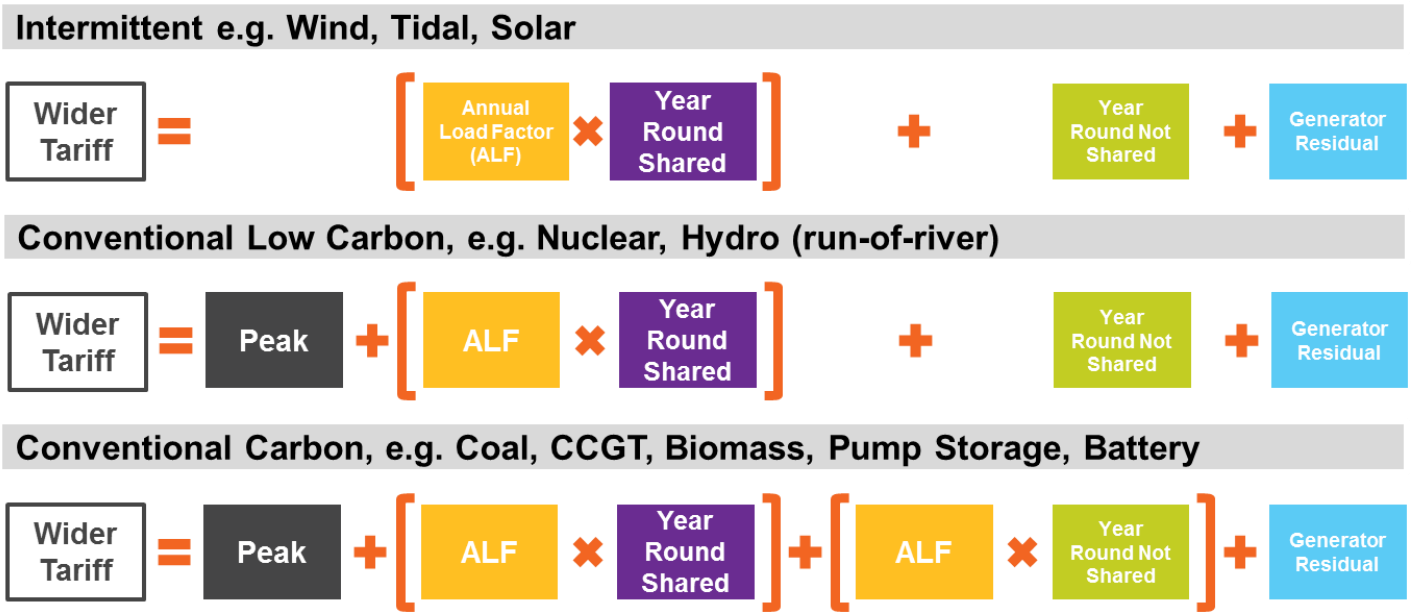
The wider tariff is made up of several parts to reflect the cost of different generator types connecting to the transmission system in different parts of the country.

There are four parts that make up the wider tariff: **The Peak**, **Year Round Shared**, **Year Round Not Shared**, and the **Residual**. These apply differently to each generator, depending on the type of generator.

The Peak element is paid only by generators which are designed to run at Peak times. The Year Round Elements are paid by all generators to reflect year round system usage. Depending on the generator classification, some of the Year Round elements are multiplied by the **Annual Load Factor (ALF)** of the generator.

The Residual is a non-locational element and so is the same in every zone.

How these components apply to different generators is represented in the diagram below.



Generation classifications

All generators are classified according to how they use the transmission system:

- **Intermittent**: these generators are unable to control when they run, instead they run when their fuel is available. They are unlikely to be near full capacity at peak times.
- **Conventional Low Carbon**: these generators are conventional generators which are designed to be run as baseload, but they are less controllable than other types of generator. This could be because their fuel type dictates when they must run, or because they are very difficult to switch off. They are very likely to be generating at peak times.
- **Conventional Carbon**: these generators are more easily controllable than other generators and can be instructed to increase or decrease their output easily. They will almost certainly be running at peak times as their flexibility means they can run at times when electricity prices are highest.

Battery storage is treated the same as Pump Storage, and so is considered to be a Conventional Carbon generator.

Solar PV would be considered as an Intermittent generator.

*For more in depth guidance on TNUoS Charging, please visit the NGESO **website**.*