



NEXT SOLUTIONS

The future of Energy

Energy Market Report | Q1 2022

Edited by:

Luca Prosdocimi | Dispatching Responsible

Gianluca Salerno | Power Trader

The first quarter of the year has been quite a roller coaster, with few days of tight margins, very high renewable penetration and the impact of the Ukraine's invasion on the gas and coal markets and consequently on the electricity one.

In January, we have experience two days with system prices over 2000€/MWh, in particular the 24th of January the system price was for eight Settlement periods higher than 2900€/MWh and for three SPs higher than 4000€/MWh. This was due to low wind penetration, temperatures below the average and high level of CCGTs unavailability during the entire day.

As shown in the table below, the first 10 highest offers accepted in the BM in the Q1 happened in January, excluding a record-breaking offer accepted at 10000€/MWh in February (but just for a 1.55 MWh).

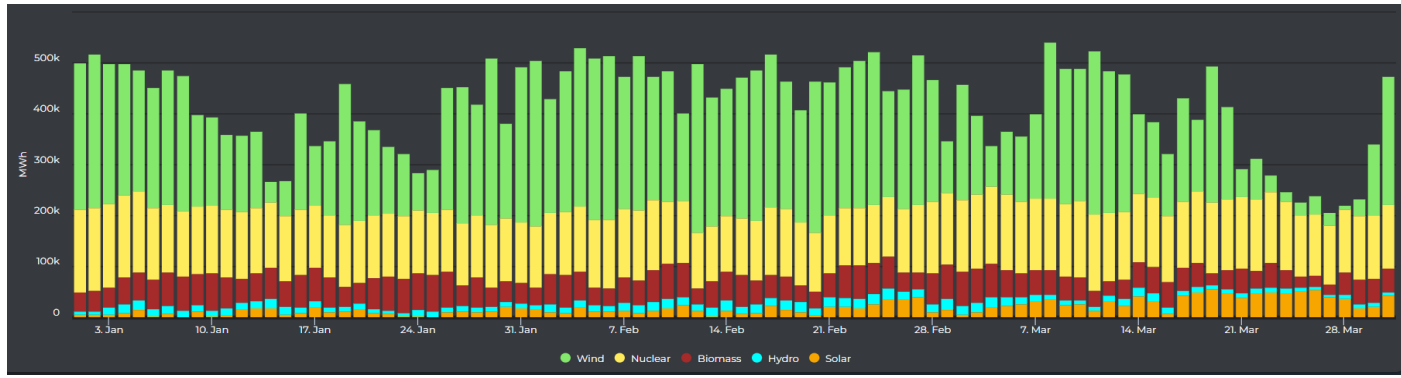
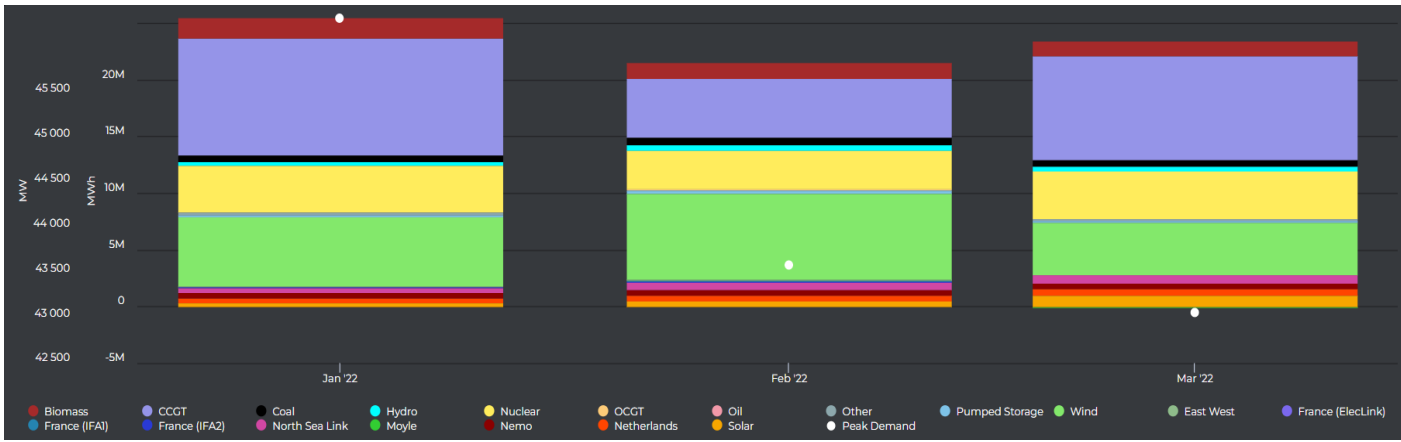
Excluding few days of tight margins, the first month of the year was characterized by very high wind production and temperature above the average and the same can be said about February. Indeed, **Q1 2022 has been the quarter with the highest wind generation ever recorded.**

In January and February, EPEX SPOT delivered some hours at negative prices, while in all three months of the quarter the system price was below -60€/MWh for at least one SP (as shown in the table below).

The fundamental scenario helped the grid in maintaining enough margins for the entire quarter even if the prices were anyway sustained by high gas and EUA prices, leading to the **most expensive Q1 ever recorded.**

Rank	Fuel	Price [€/MWh]	Total Volume	Time
1	Battery	10000	1.55	Multiple times, e.g. : Day: 23-02-2022 SP: 14
2	Coal	4050	1271.89	Multiple times, e.g. : Day: 24-01-2022 SP: 27
3	Coal	4000	1709.23	Multiple times, e.g. : Day: 24-01-2022 SP: 27
4	Coal	4000	1265.09	Multiple times, e.g. : Day: 24-01-2022 SP: 25
5	CCGT	3975	1431.5	Multiple times, e.g. : Day: 24-01-2022 SP: 28
6	CCGT	3970	590	Multiple times, e.g. : Day: 24-01-2022 SP: 33
7	CCGT	3750	2046.67	Multiple times, e.g. : Day: 14-01-2022 SP: 27
8	CCGT	3400	1503.06	Multiple times, e.g. : Day: 24-01-2022 SP: 31
9	Coal	3250	575	Multiple times, e.g. : Day: 24-01-2022 SP: 32
10	Coal	3000	256.47	Multiple times, e.g. : Day: 24-01-2022 SP: 25

	Jan-22	Feb-22	Mar-22	Q1 2022
Max Da Price [€/MWh]	1,000.00	400.00	702.50	1,000.00
Min Da Price [€/MWh]	- 24.90	- 0.50	79.00	- 24.90
Average Da Price [€/MWh]	183.10	164.31	251.19	200.71
Max Sys Price [€/MWh]	4,035.00	600.00	700.00	4,035.00
Min Sys Price [€/MWh]	- 77.55	- 63.72	- 90.32	- 90.32
Average Sys Price [€/MWh]	198.51	156.67	234.66	197.94



Source: LCP Enact

Generation share

If we now have a look at the share of generation for the period January-March 2022, we can observe:

- High demand in January, even if on average it was below compared to January 2021 due to higher temperatures; higher demand in March compared to a February where the temperature was always above the seasonal average.
- Low carbon generation higher than the thermal one in the entire quarter thanks to high wind penetration and stable nuclear output; in particular in February the wind production alone was higher than the one from CCGTs.
- Consistent and steady level of import from the Britned and North Sea Link interconnectors, while the cable linking UK and France alternated import and export across the quarter. The Q1 2022 saw a reduction of the level of import compared to the Q1 2021 mainly due to the high wind generation in UK.

Certificates

REGOs: The higher than expected renewable penetration, increasing the supply of renewable certificates, determined a strong decrease in the price of the Renewable Energy Guarantee of Origins; for example the REGOs value was traded at 7.2 £/REGO at the beginning of January while at the end of March its value was around 3-4 £.

ROCs: The Demand of ROCs for the CP20 has increased compared to the CP19, but still below CP18 levels (pre-Covid). The buy-out price is 50.8 £/ROC with a total recycle value around 7-9 £/ROC. The increase in the renewable supply in the last three months of the compliance period helped in reducing the total recycle value, while for the rest of the year the supply from renewables (excluding biomass) has been lower than the one in CP19.

Focus: British Energy Security Strategy

In order to respond to the Russian invasion of Ukraine, reducing the dependency from the gas import from Russia, the Government has just published a new "British Energy Security Strategy".

The strategy is very ambitious aiming to produce 95% of British electricity from low-carbon sources by 2030 and 100% by 2035.

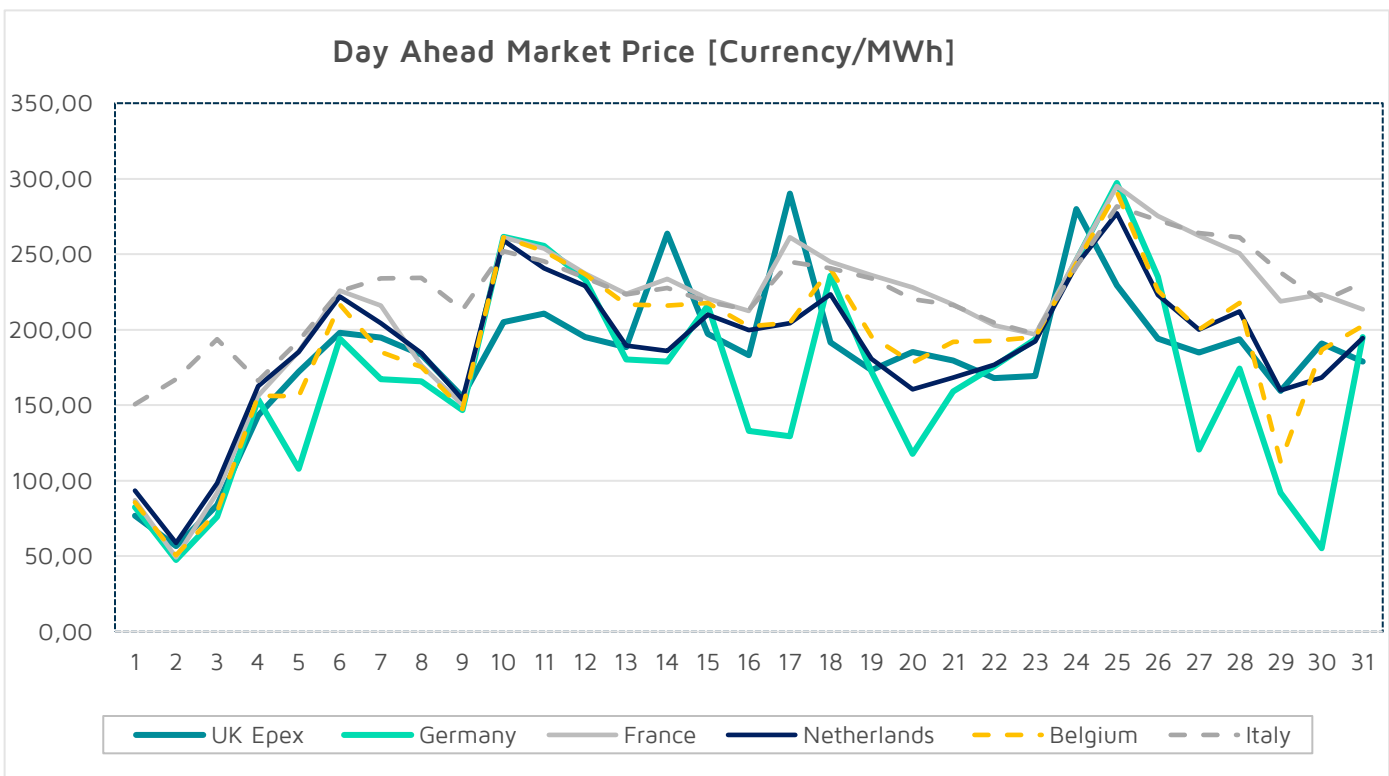
The 10 Point Plan mainly focuses on:

- Advancing wind offshore: Up to £320 million in government support for fixed bottom and floating wind ports and infrastructure; offshore wind represents the main column of the Government's Plan;
- Delivering new nuclear power: the aim is to reach up to 24 GW of nuclear power capacity by 2050, covering the 25% of the projected electricity demand;
- Enhancing hydrogen production: a target of 10 GW of hydrogen production capacity by 2030 with at least half of this coming from electrolysis;

The risk of such an ambitious plan lies on the possible impact on balancing and constraint cost, with a very high potential waste of renewables generation through curtailments. In order to avoid this scenario, the Government is planning to invest on energy storage facilities, interconnectors and electrolyzers. Will the Government be able to deliver these targets maintaining the cost down?

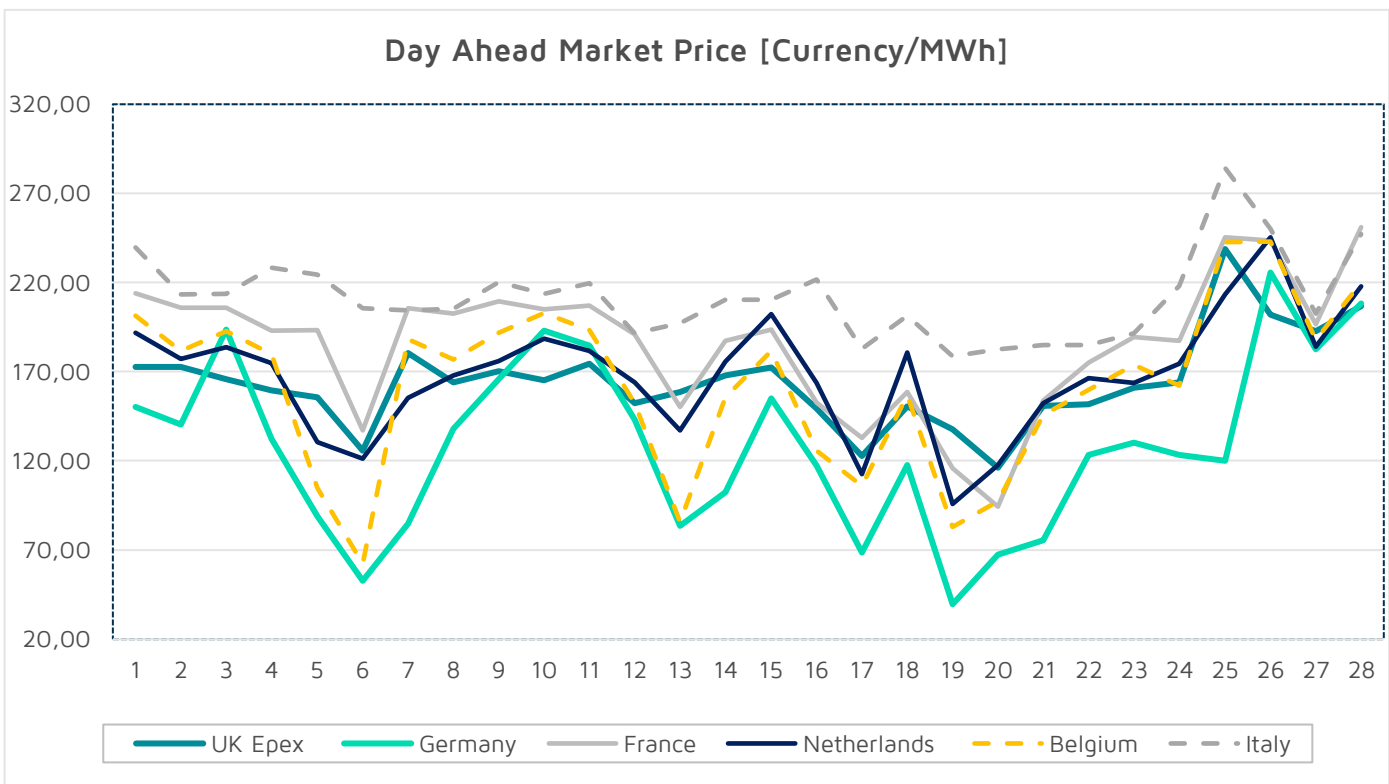
UK Day Ahead Market Price [£/MWh] European Day Ahead Market Price [€/MWh], source: EPEX Spot, Nordpool

Day	UK Epex	Germany	France	Nordics	Belgium	Netherlands	Italy
01/01/2022	76,59	82,58	87,08	76,24	85,68	93,51	150,69
02/01/2022	56,67	47,35	49,12	57,53	50,62	58,81	167,21
03/01/2022	83,85	76,11	92,12	81,10	79,40	98,38	193,64
04/01/2022	143,31	153,92	156,30	116,00	156,28	162,67	166,09
05/01/2022	172,23	107,87	185,56	119,09	155,75	185,32	192,54
06/01/2022	198,05	194,10	225,77	144,40	216,73	222,10	225,70
07/01/2022	194,93	167,18	215,92	141,71	185,14	204,28	233,97
08/01/2022	183,39	165,90	176,56	136,53	175,36	184,68	234,47
09/01/2022	155,72	146,56	150,28	123,47	147,51	153,74	213,28
10/01/2022	204,94	261,55	261,25	170,15	261,17	259,11	252,19
11/01/2022	210,60	255,41	253,96	133,63	251,96	240,89	245,24
12/01/2022	195,31	233,32	237,20	96,65	236,66	229,04	234,33
13/01/2022	188,46	180,16	223,70	33,92	216,60	189,65	223,41
14/01/2022	263,66	178,76	233,58	59,95	215,89	186,00	227,55
15/01/2022	197,15	216,00	220,50	113,33	217,60	210,00	218,63
16/01/2022	182,96	133,10	212,55	28,75	202,32	199,89	213,05
17/01/2022	290,15	129,31	261,13	71,55	204,71	204,29	244,86
18/01/2022	191,72	235,87	244,83	117,48	240,35	223,31	240,68
19/01/2022	173,06	172,18	236,03	45,90	195,54	180,53	234,18
20/01/2022	185,08	117,70	228,02	49,13	178,31	160,52	220,31
21/01/2022	179,48	159,27	216,69	105,48	191,79	168,28	216,49
22/01/2022	168,09	175,76	202,74	118,77	192,50	176,82	204,63
23/01/2022	169,40	193,70	196,97	93,07	195,22	192,48	197,38
24/01/2022	279,88	245,94	247,00	71,54	244,06	242,93	241,88
25/01/2022	229,48	297,29	295,11	115,29	291,16	276,95	281,66
26/01/2022	193,91	234,98	275,45	88,85	225,84	222,96	272,69
27/01/2022	184,82	120,71	262,15	81,60	200,25	200,08	263,94
28/01/2022	193,89	174,35	250,65	94,29	217,75	212,15	261,15
29/01/2022	159,28	92,13	218,90	24,87	112,46	159,77	237,96
30/01/2022	190,96	55,30	223,55	43,85	186,48	168,39	218,72
31/01/2022	179,03	195,20	213,48	136,53	202,44	194,60	231,01
Average day ahead market price	183,10	167,73	211,42	93,25	191,40	189,10	224,50



UK Day Ahead Market Price [£/MWh] European Day Ahead Market Price [€/MWh], source: EPEX Spot, Nordpool

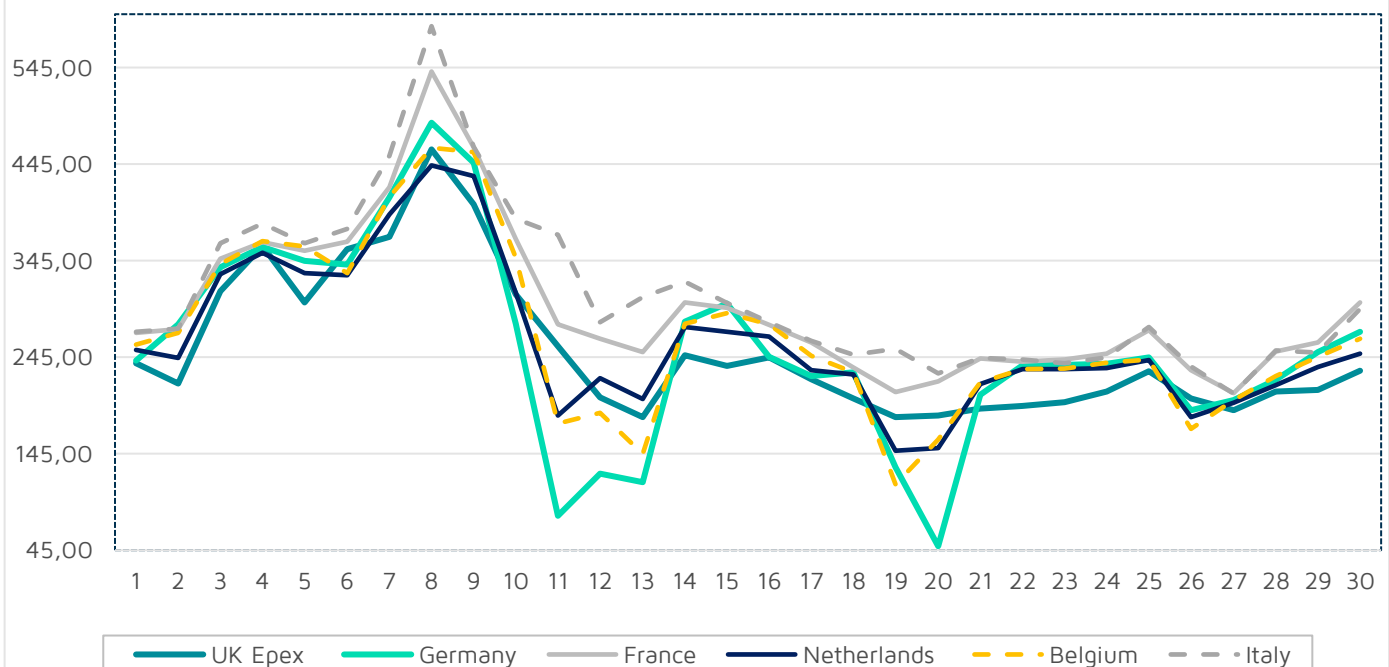
Day	UK Epex	Germany	France	Nordics	Belgium	Netherlands	Italy
01/02/2022	172,70	150,25	213,76	132,25	201,33	191,70	239,50
02/02/2022	172,68	140,22	205,81	135,05	181,46	177,12	213,27
03/02/2022	165,83	193,56	205,97	143,41	192,68	183,75	213,62
04/02/2022	159,43	132,37	192,81	77,52	179,86	174,78	228,21
05/02/2022	155,50	88,89	193,28	33,97	104,60	130,43	224,27
06/02/2022	125,53	52,78	136,96	47,57	62,36	121,11	205,62
07/02/2022	180,44	84,68	205,50	92,02	188,31	155,26	204,42
08/02/2022	163,95	137,81	202,53	92,33	176,89	167,79	205,29
09/02/2022	170,22	165,89	209,29	75,60	191,76	175,82	220,21
10/02/2022	165,16	192,82	204,92	87,70	202,91	188,56	213,64
11/02/2022	174,34	184,58	206,96	110,06	193,27	181,68	219,70
12/02/2022	152,40	143,05	190,93	73,00	152,28	164,09	191,49
13/02/2022	158,51	83,58	150,26	25,68	85,62	137,04	197,22
14/02/2022	167,81	102,22	187,27	81,59	155,51	175,76	210,21
15/02/2022	172,41	155,00	193,45	91,64	181,64	202,10	210,20
16/02/2022	149,41	117,38	152,46	90,81	125,67	163,79	221,78
17/02/2022	122,76	68,64	132,70	76,49	105,87	112,38	182,68
18/02/2022	150,36	117,63	158,69	86,28	156,86	180,55	201,37
19/02/2022	137,53	39,62	115,95	55,28	82,84	95,72	178,56
20/02/2022	116,16	67,28	94,34	81,09	97,18	117,59	182,49
21/02/2022	150,93	75,42	153,67	80,90	145,80	152,38	185,02
22/02/2022	151,55	123,24	175,00	120,66	159,88	166,25	184,80
23/02/2022	161,08	130,09	189,38	94,02	173,94	163,79	191,48
24/02/2022	163,88	123,39	187,14	75,73	162,15	174,48	218,18
25/02/2022	238,86	119,96	245,43	95,08	242,66	213,35	284,29
26/02/2022	202,01	225,43	243,40	130,79	242,99	245,33	250,21
27/02/2022	192,64	182,41	196,55	113,59	187,78	183,95	202,54
28/02/2022	206,58	208,30	250,95	126,78	219,78	217,75	247,04
Avarage day ahead market price	164,31	128,80	185,55	90,25	162,64	168,37	211,69



UK Day Ahead Market Price [£/MWh] European Day Ahead Market Price [€/MWh], source: EPEX Spot, Nordpool

Day	UK Epex	Germany	France	Nordics	Belgium	Netherlands	Italy
01/03/2021	238,42	241,40	270,02	126,26	258,04	252,33	271,13
02/03/2021	217,71	278,78	274,02	130,24	269,97	244,05	274,63
03/03/2021	313,31	338,20	346,67	152,35	341,49	330,90	362,73
04/03/2021	359,82	358,78	363,70	191,10	364,87	352,77	383,13
05/03/2021	301,29	344,40	355,04	168,05	359,57	332,11	363,08
06/03/2021	356,61	340,80	364,42	162,48	332,01	329,92	377,75
07/03/2021	369,67	410,10	421,05	184,16	410,97	392,56	453,51
08/03/2021	459,99	487,57	540,66	203,61	461,95	443,32	587,67
09/03/2021	402,90	446,25	462,30	202,03	457,55	432,22	463,01
10/03/2021	309,99	279,15	367,23	136,21	347,82	311,40	388,23
11/03/2021	256,23	80,44	278,65	90,53	175,75	184,05	371,49
12/03/2021	202,97	124,25	263,96	125,96	186,90	222,94	281,11
13/03/2021	182,76	115,10	250,32	95,23	144,68	201,18	307,07
14/03/2021	246,53	281,44	301,27	185,22	279,54	275,95	323,28
15/03/2021	235,53	300,54	295,77	194,19	290,65	271,11	301,15
16/03/2021	244,49	245,30	278,33	165,93	278,99	266,24	281,11
17/03/2021	222,07	225,41	260,26	113,12	246,31	231,23	261,73
18/03/2021	202,23	228,90	233,83	139,03	229,07	227,11	247,22
19/03/2021	182,79	130,95	208,45	52,67	113,18	147,88	253,48
20/03/2021	184,40	49,04	219,68	38,77	159,46	150,45	228,07
21/03/2021	191,71	205,75	243,59	141,51	218,68	217,02	243,93
22/03/2021	194,49	236,49	239,93	179,40	232,22	232,34	242,28
23/03/2021	198,14	236,53	242,44	167,27	232,81	232,24	238,60
24/03/2021	209,00	238,00	248,21	164,38	239,00	233,40	244,52
25/03/2021	230,14	244,38	272,79	111,00	242,07	242,03	275,98
26/03/2021	201,80	189,55	231,24	69,71	170,48	182,67	235,29
27/03/2021	190,07	200,59	207,57	124,02	200,55	197,78	206,83
28/03/2021	208,92	221,57	250,66	91,31	225,20	215,85	251,75
29/03/2021	210,78	250,18	260,19	189,21	244,94	234,34	249,44
30/03/2021	230,96	271,03	301,26	195,25	264,04	248,26	294,82
31/03/2021	239,05	209,19	294,20	199,82	255,65	258,23	281,90
Average day ahead market price	251,86	253,36	295,12	143,01	265,96	261,19	308,80

Day Ahead Market Price [Currency/MWh]



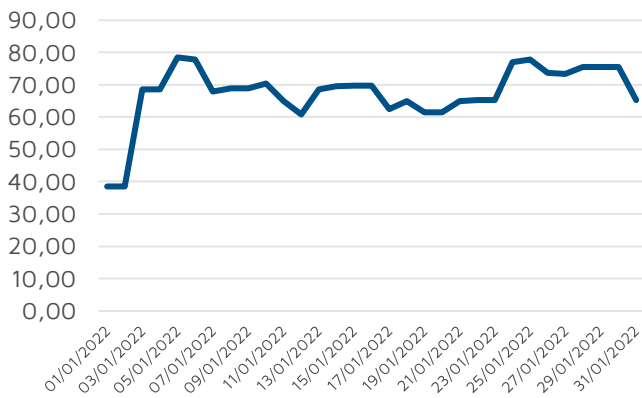
Source: Nordpool, ICE

Day	NBP [€/MWh]	CO2 [€/Ton]	Clean Spark Spread [€/MWh]	TTF [€/MWh]	Oil [\$/BBL]	Coal [\$/Ton]
01/01/2022	38,57	84,01	-25,30	86,00	78,98	130,50
02/01/2022	38,57	84,01	-45,22	86,00	78,98	130,50
03/01/2022	68,60	84,01	-75,80	86,00	78,98	130,50
04/01/2022	68,60	84,91	-16,63	86,00	80,00	130,50
05/01/2022	78,50	87,58	-7,63	90,00	80,80	130,50
06/01/2022	77,82	86,74	19,78	96,50	81,99	130,50
07/01/2022	67,92	85,42	36,13	84,40	81,75	130,50
08/01/2022	68,94	85,42	22,62	84,40	80,00	130,50
09/01/2022	68,94	85,42	-5,05	84,40	80,80	130,50
10/01/2022	70,29	80,09	43,34	84,20	80,87	130,50
11/01/2022	64,85	81,30	59,07	88,15	83,72	130,50
12/01/2022	60,75	80,01	52,08	75,40	84,67	130,50
13/01/2022	68,60	80,56	29,95	79,95	84,47	130,50
14/01/2022	69,45	82,08	103,01	85,40	86,06	130,50
15/01/2022	69,62	82,08	36,17	85,40	83,72	130,50
16/01/2022	69,62	82,08	21,98	85,40	84,67	130,50
17/01/2022	62,46	80,58	143,45	76,05	86,48	157,50
18/01/2022	64,85	82,67	39,73	79,08	87,51	160,00
19/01/2022	61,43	82,09	27,83	73,60	88,44	156,25
20/01/2022	61,43	85,59	38,69	76,00	88,38	156,00
21/01/2022	64,85	84,47	26,90	80,50	87,89	161,75
22/01/2022	65,19	84,47	14,85	80,50	87,51	160,00
23/01/2022	65,19	84,47	16,16	80,50	88,44	156,25
24/01/2022	76,96	84,02	104,15	93,00	86,27	165,00
25/01/2022	77,82	87,45	50,98	92,90	88,20	165,00
26/01/2022	73,63	88,66	23,05	91,70	89,96	165,00
27/01/2022	73,29	89,76	14,25	91,70	89,34	165,00
28/01/2022	75,43	89,22	19,40	92,43	90,03	165,00
29/01/2022	75,43	89,22	-15,21	92,43	88,20	165,00
30/01/2022	75,43	89,22	16,47	92,43	89,96	165,00
31/01/2022	65,19	89,24	24,22	84,60	91,21	165,00

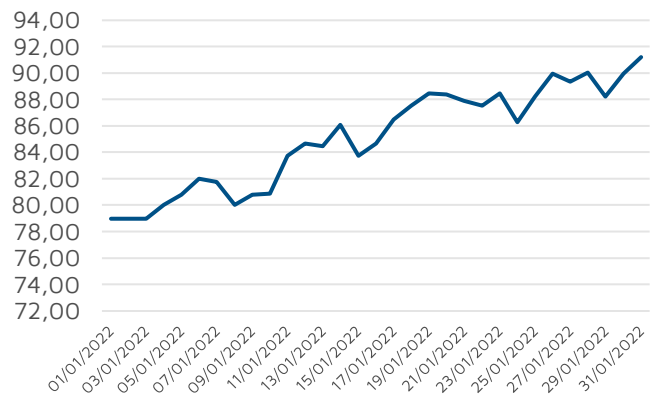
Average Market price

NBP [€/MWh]	CO2 [€/Ton]	Clean Spark Spread [€/MWh]	TTF [€/MWh]	Oil [\$/BBL]	Coal [\$/Ton]
67,36	84,74	25,59	85,32	85,11	145,67

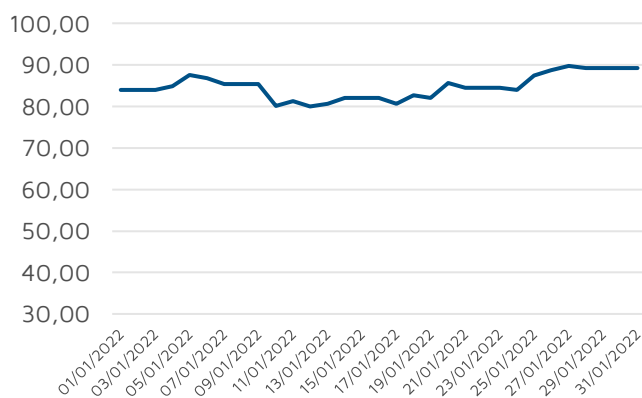
NBP Price [€/MWh]



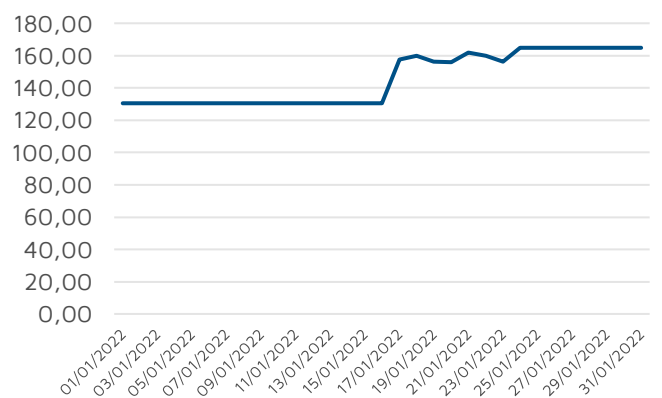
Oil Price [\$/BBL]



Carbon price [€/Ton]



Coal Price [\$/Ton]



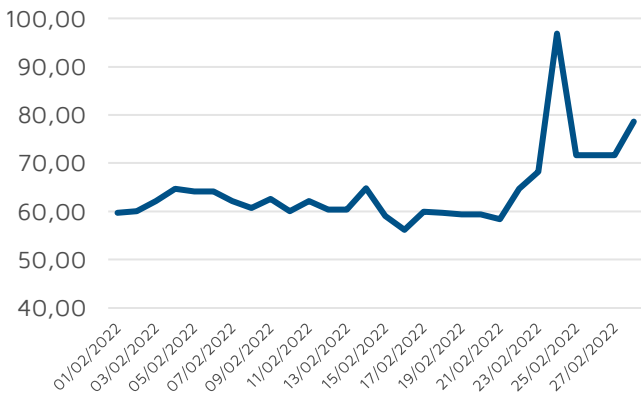
Source: Nordpool, ICE

Day	NBP [€/MWh]	CO2 [€/Ton]	Clean Spark Spread [€/MWh]	TTF [€/MWh]	Oil [\$/BBL]	Coal [\$/Ton]
01/02/2022	59,73	89,52	28,30	75,90	89,16	158,00
02/02/2022	60,07	94,21	26,08	76,50	89,47	158,00
03/02/2022	62,12	94,81	15,09	77,60	91,11	156,50
04/02/2022	64,68	96,45	3,23	80,20	93,27	156,50
05/02/2022	64,16	96,45	0,28	80,20	93,27	156,50
06/02/2022	64,16	96,45	-29,69	80,20	93,27	156,50
07/02/2022	62,12	96,70	29,08	78,50	92,69	156,50
08/02/2022	60,75	96,93	15,13	75,70	90,78	175,25
09/02/2022	62,63	90,79	19,82	75,65	91,55	180,00
10/02/2022	60,07	90,78	19,69	72,57	91,41	173,50
11/02/2022	62,12	92,87	24,24	74,57	94,44	174,00
12/02/2022	60,41	92,87	5,58	74,57	94,44	174,00
13/02/2022	60,41	92,87	11,69	74,57	94,44	174,00
14/02/2022	64,85	91,76	12,82	80,00	96,48	177,50
15/02/2022	59,04	91,14	28,79	67,95	93,28	172,75
16/02/2022	56,14	89,86	11,79	68,90	94,81	163,53
17/02/2022	59,98	86,44	-21,12	72,00	92,97	161,00
18/02/2022	59,73	89,47	5,98	73,50	93,54	161,00
19/02/2022	59,39	89,47	-6,20	73,50	93,54	161,00
20/02/2022	59,39	89,47	-27,57	73,50	93,54	161,00
21/02/2022	58,36	89,68	9,10	71,50	95,39	161,00
22/02/2022	64,68	89,77	-2,45	80,30	96,84	187,00
23/02/2022	68,26	95,07	-1,56	89,20	96,84	202,00
24/02/2022	96,93	87,03	-51,24	119,00	99,08	240,00
25/02/2022	71,67	88,14	71,94	89,95	97,93	217,00
26/02/2022	71,67	88,14	35,09	89,95	97,93	217,00
27/02/2022	71,67	88,14	25,72	89,95	97,93	217,00
28/02/2022	78,67	82,21	28,16	101,13	100,99	250,50

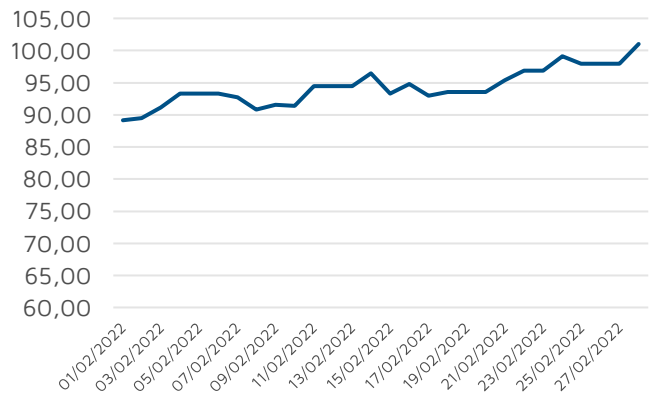
Average Market price

NBP [€/MWh]	CO2 [€/Ton]	Clean Spark Spread [€/MWh]	TTF [€/MWh]	Oil [\$/BBL]	Coal [\$/Ton]
64,42	91,34	10,28	79,90	94,30	178,52

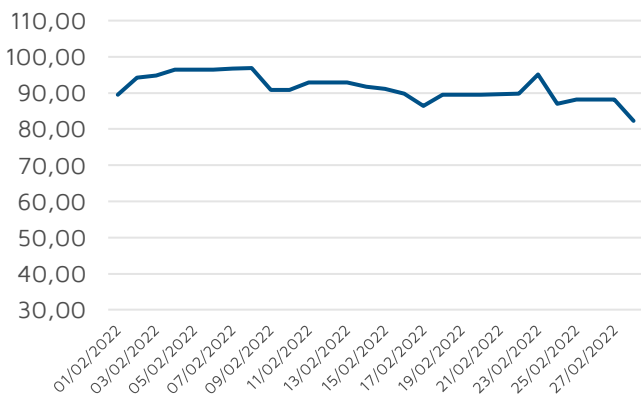
NBP Price [€/MWh]



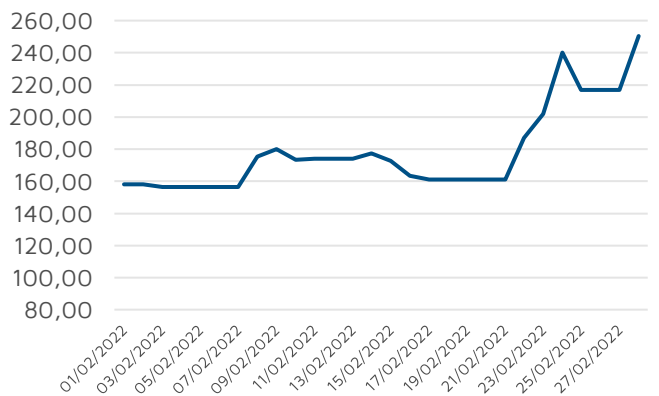
Oil Price [\$/BBL]



Carbon price [€/Ton]



Coal Price [\$/Ton]



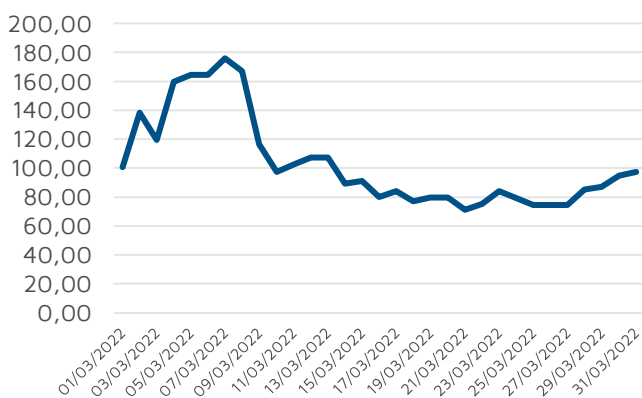
Source: Nordpool, ICE

Day	NBP [€/MWh]	CO2 [€/Ton]	Clean Spark Spread [€/MWh]	TTF [€/MWh]	Oil [\$/BBL]	Coal [\$/Ton]
01/03/2022	100,68	68,85	22,08	114,00	104,97	415,00
02/03/2022	138,22	68,49	-70,71	169,80	112,93	415,00
03/03/2022	119,45	67,35	61,37	154,50	110,46	365,00
04/03/2022	159,73	65,10	31,17	203,00	118,11	365,00
05/03/2022	164,50	65,10	-36,55	203,00	104,97	415,00
06/03/2022	164,50	65,10	18,77	203,00	112,93	415,00
07/03/2022	175,77	58,30	12,42	227,00	123,21	415,00
08/03/2022	167,23	68,51	115,78	210,00	127,98	415,00
09/03/2022	116,72	73,18	154,28	149,75	111,14	462,00
10/03/2022	97,27	76,41	97,72	134,03	109,33	365,00
11/03/2022	102,39	76,76	34,00	132,00	112,67	365,00
12/03/2022	107,34	76,76	-28,78	132,00	127,98	415,00
13/03/2022	107,34	76,76	-48,99	132,00	111,14	462,00
14/03/2022	89,42	78,28	48,74	109,50	106,90	462,00
15/03/2022	91,13	77,43	34,74	114,15	99,91	300,00
16/03/2022	80,20	78,16	64,46	97,28	98,02	265,00
17/03/2022	83,96	79,89	34,25	102,35	106,64	240,00
18/03/2022	77,13	78,89	27,86	100,40	107,93	240,00
19/03/2022	79,86	78,89	3,17	100,40	99,91	300,00
20/03/2022	79,86	78,89	4,78	100,40	98,02	265,00
21/03/2022	71,33	78,39	28,67	92,40	115,62	265,00
22/03/2022	75,09	80,67	23,47	98,85	115,48	260,00
23/03/2022	83,96	76,60	11,40	109,00	121,60	292,00
24/03/2022	79,18	78,24	30,91	102,60	119,03	292,00
25/03/2022	74,57	78,60	60,79	101,00	120,65	292,00
26/03/2022	74,57	78,60	32,45	101,00	115,48	260,00
27/03/2022	74,57	78,60	20,72	101,00	121,60	292,00
28/03/2022	85,32	80,81	18,17	103,00	112,48	292,00
29/03/2022	87,03	81,70	16,45	108,35	110,23	292,00
30/03/2022	94,88	78,31	22,66	115,75	113,45	280,00
31/03/2022	97,27	76,48	26,76	124,75	107,91	276,00

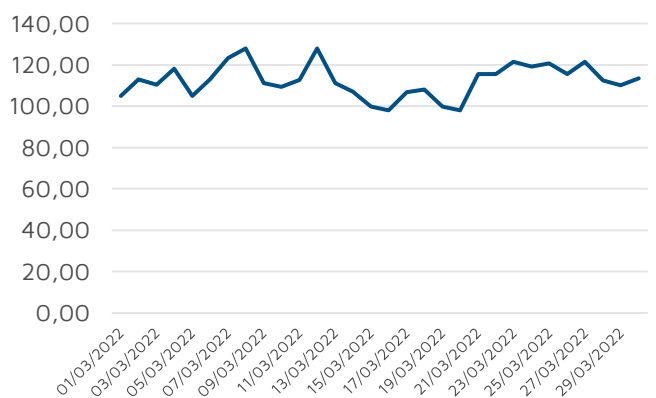
Average Market price)

NBP [€/MWh]	CO2 [€/Ton]	Clean Spark Spread [€/MWh]	TTF [€/MWh]	Oil [\$/BBL]	Coal [\$/Ton]
103,24	74,97	28,16	130,52	112,22	337,23

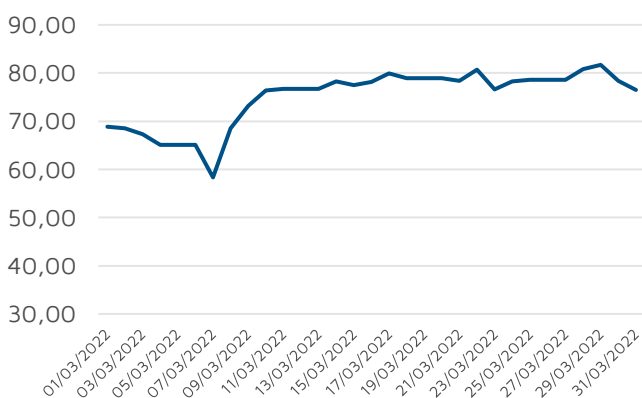
NBP Price [€/MWh]



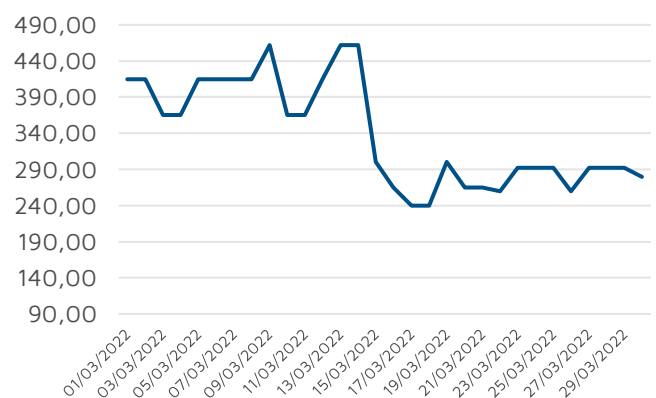
Oil Price [\$/BBL]



Carbon price [€/Ton]

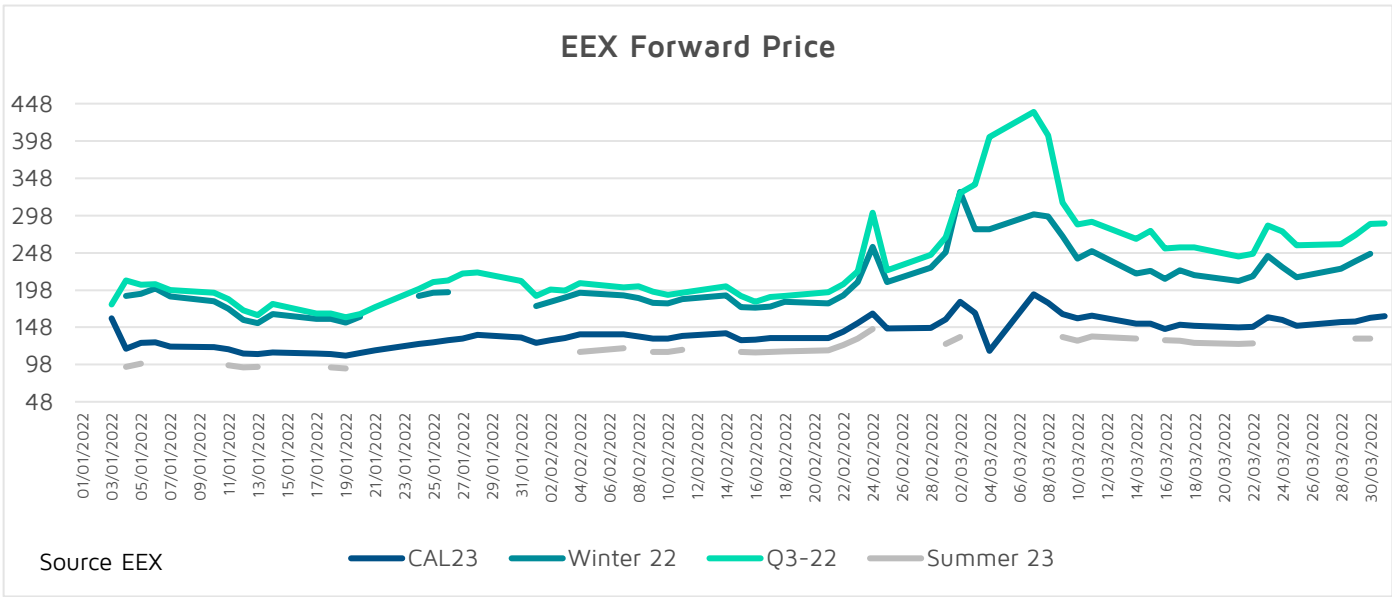


Coal Price [\$/Ton]



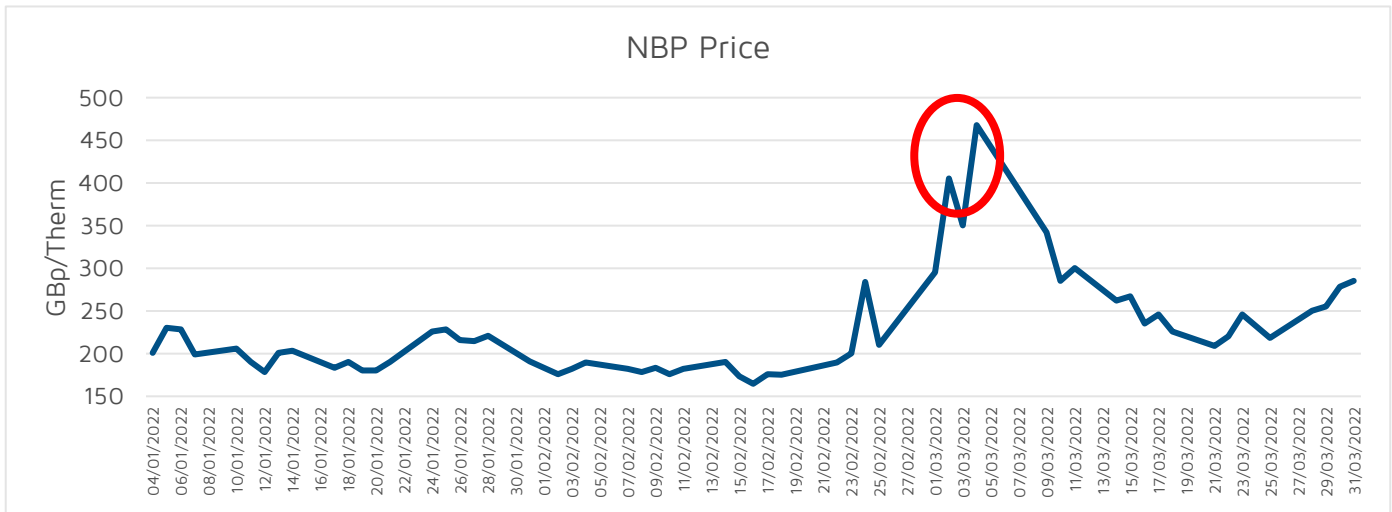
Source: EEX [€/MWh]

	Q3-22	Summer 23	Winter 22	CAL23
Baseload	233,27	119,11	208,20	140,56

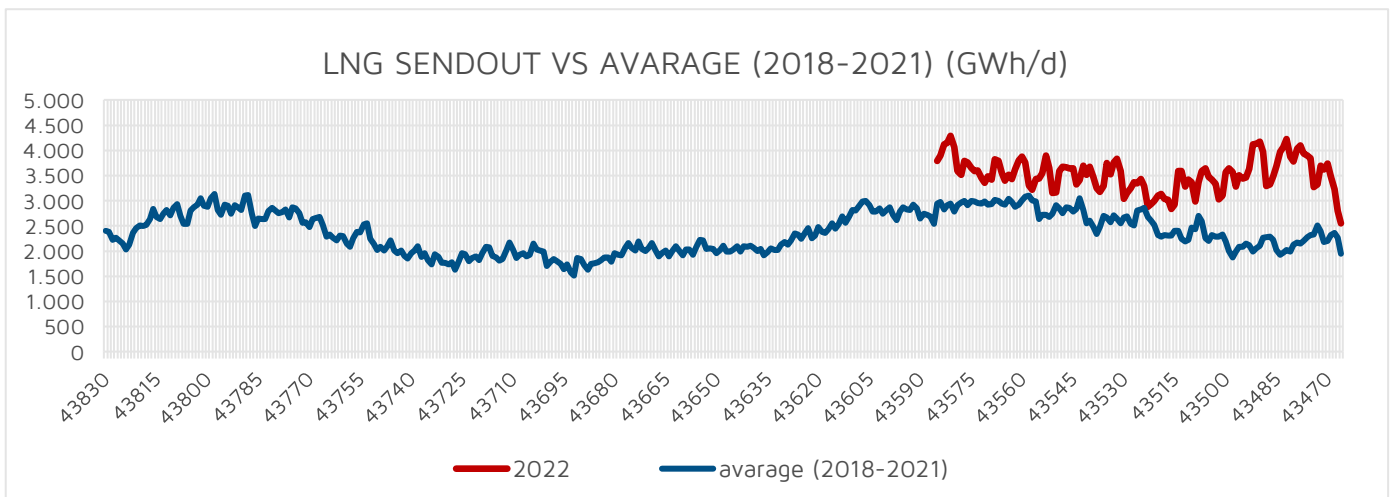


The below image shows how NBP price had started in the first two months of 2022 a bearish trend, passing from 200 GBp/Therm to a minimum of 150 GBp/Therm. However, the beginning of Ukraine-Russia war (circled in red) rekindled the tensions about a possible interruption of Russian gas flow and generated a spike in its price which reached 500 GBp/Therm in the days following the beginning of the invasion. After the first days of war during which the gas flow remained constant, the NBP prices lost 200 GBp/Therm, but remained over the meaningful quotation of 200 GBp/Therm due to the uncertainty arising from the continuation of the conflict.

Power price followed the same pattern of gas price due to the marginality of gas-fired plants. Especially products with nearest delivery as Q3-2022 have been most influenced with spike of more than 200% of their pre-war price.



One of the main reasons why gas price has withstood the shock of Ukraine-Russia war was the great influx of LNG (Liquefied Natural Gas) in Europe. January had 68% more injection than the average of the previous year, corresponding to an increase around 1,500 GWh/day.





NEXT SOLUTIONS

THANK YOU