





#### Edition:

DIRECCIÓN GENERAL DE NEGOCIO Y OPERACIONES COMERCIALES

Dirección de Explotación Comercial

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# CATALOGUES

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## **CATALOGUE 5**

**Traction Power Supply Cost Tables** 





#### SC-2\_SUPPLY COSTS ON ALTERNATING CURRENT POWER LINES

MONTHLY PUBLICATION OF PRICES AND RATIOS THAT WILL BE USED TO ISSUE THE CORRESPONDING INVOICE FOR THE SERVICES PERFORMED IN MARCH 2023.

SC-2	Reviewed reference	e / Invoicing prices *	Revi	ewed reference / Invo	picing conversion rat	ios *
Month of Service	<i>TES</i> <sup>ca</sup> €/MWh net**	<i>TATRS</i> <sup>ca</sup> €/MWh net**	Passengers rc <sup>ca</sup> (Wh/TKB)	Passengers rg <sup>ca</sup> (Wh/TKB)	Freight rc ar (Wh/TKB)	Freight rg co (Wh/TKB)
jan-23	137.19428181	34.53217285	49.00866226	6.37112609	17.50309366	2.27540218
feb-23	164.11947310	37.87818892	48.18288397	6.26377492	17.20817285	2.23706247
mar-23	138.70949326	26.17228847	46.86160410	6.09200853	16.73628718	2.17571733
apr-23	92.13*	17.17*	48.28*	6.28*	17.24*	2.24*
may-23	118.52*	18.45*	48.28*	6.28*	17.24*	2.24*
jun-23	128.84*	20.56*	48.28*	6.28*	17.24*	2.24*
jul-23	140.20*	34.89*	48.28*	6.28*	17.24*	2.24*
aug-23	137.84*	21.47*	48.28*	6.28*	17.24*	2.24*
sep-23	137.10*	21.13*	48.28*	6.28*	17.24*	2.24*
oct-23	153.62*	17.50*	48.28*	6.28*	17.24*	2.24*
nov-23	153.63*	25.27*	48.28*	6.28*	17.24*	2.24*
dec-23	153.65*	35.00*	48.28*	6.28*	17.24*	2.24*

<sup>\*</sup> Reference Prices/Ratios estimated as of 04/24/2023 are not binding to invoice. The energy cost estimate from April to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 26 April 2023



<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.



### SC-2\_costs for supplying direct current to electrified lines in a conventional network:

MONTHLY PUBLICATION OF PRICES AND RATIOS THAT WILL BE USED TO ISSUE THE CORRESPONDING INVOICE FOR THE SERVICES PERFORMED IN MARCH 2023.

SC-2		reference / g prices *		R	eviewed refe	erence / Inv	oicing conve	ersión ratios	5 *	
Month of service	<i>TE</i> <sup>ccc</sup> €/MWh net**	TATR <sup>ccc</sup> €/MWh net**	Freight rc_m <sup>cc</sup> (Wh/TKB)	Freight  rg  cc  (Wh/TKB)	Long distance $\kappa_{ld}^{\ \ cc}$ (Wh/TKB)	Long distance rg <sup>ccc</sup> (Wh/TKB)	Medium Distance rc <sub>md</sub> <sup>ccc</sup> (Wh/TKB)	Medium Distance rg <sub>md</sub> ccc (Wh/TKB)	Commuter rc <sup>cc</sup> (Wh/TKB)	Commuter  rg ccc  (Wh/TKB)
jan-23	99.67034293	49.71432141	20.29957300	2.02995730	32.47931681	3.24793168	36.53923141	3.65392314	52.77888981	5.27788898
feb-23	153.40454695	51.13252109	20.31363094	2.03136309	32.50180951	3.25018095	36.56453569	3.65645357	52.81544045	5.28154404
mar-23	109.73395710	38.97547394	19.66360640	1.96636064	31.46177024	3.14617702	35.39449152	3.53944915	51.12537664	5.11253766
apr-23	94.73*	31.27*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
may-23	122.18*	27.64*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
jun-23	132.92*	32.00*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
jul-23	144.73*	48.56*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
aug-23	142.27*	32.03*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
sep-23	141.51*	31.86*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
oct-23	158.69*	26.60*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
nov-23	158.68*	39.18*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
dec-23	158.71*	47.70*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*

<sup>\*</sup> Reference Prices/Ratios estimated as of 04/24/2023 are not binding to invoice. The energy cost estimate from April to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 26 April 2023



<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.



#### SC-2\_costs for supplying direct current to electrified lines on RAM:

MONTHLY PUBLICATION OF PRICES AND RATIOS THAT WILL BE USED TO ISSUE THE CORRESPONDING INVOICE FOR THE SERVICES PERFORMED IN MARCH 2023.

SC-2	Reviewed r Invoicing		Reviewed		Invoicing co	onversión
Month of service	<i>TE<sup>ccR</sup></i> €/MWh net**	<i>TATR<sup>ccR</sup></i> €/MWh net**	Passengers rc  (Wh/TKB)	Passengers $rg_{_{_{\boldsymbol{\nu}}}}^{_{_{\boldsymbol{c}}\boldsymbol{c}\boldsymbol{R}}}$ (Wh/TKB)	Freight rc, <sup>cc®</sup> (Wh/TKB)	Freight rg <sub>m</sub> cck (Wh/TKB)
jan-23	93.49960364	37.25570386	61.06097137	6.10609714	23.48498899	2.34849890
feb-23	151.49264829	36.92143296	60.35583444	6.03558344	23.21378248	2.32137825
mar-23	103.26022958	32.18423939	55.29770711	5.52977071	21.26834889	2.12683489
apr-23	95.28*	31.40*	53.73*	5.37*	20.67*	2.07*
may-23	122.83*	26.72*	53.73*	5.37*	20.67*	2.07*
jun-23	133.60*	57.17*	53.73*	5.37*	20.67*	2.07*
jul-23	145.46*	91.99*	53.73*	5.37*	20.67*	2.07*
aug-23	142.99*	44.47*	53.73*	5.37*	20.67*	2.07*
sep-23	142.22*	28.60*	53.73*	5.37*	20.67*	2.07*
oct-23	159.46*	23.87*	53.73*	5.37*	20.67*	2.07*
nov-23	159.46*	35.65*	53.73*	5.37*	20.67*	2.07*
dec-23	159.46*	44.89*	53.73*	5.37*	20.67*	2.07*

<sup>\*</sup> Reference Prices/Ratios estimated as of 04/24/2023 are not binding to invoice. The energy cost estimate from April to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 26 April 2023



<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.

### **SC-2** TRACTION **CURRENT SUPPLY**

PREVIOUS MONTHLY AND ANNUAL **PUBLICATIONS OF THE FORECAST OF** THE RATES OF THE SUPPLY COSTS IN **ELECTRIFIED LINES IN ALTERNATE AND DIRECT CURRENT** 





### SC-2\_SUPPLY COSTS ON ALTERNATING CURRENT POWER LINES

MONTHLY PUBLICATION OF PRICES AND RATIOS THAT WILL BE USED TO ISSUE THE CORRESPONDING INVOICE FOR THE SERVICES PERFORMED IN FEBRUARY 2023.

SC-2	Reviewed reference	e / Invoicing prices *	Revi	ewed reference / Inv	oicing conversion rat	ios *
Month of Service	<i>TES</i> <sup>ca</sup> €/MWh net**	<i>TATRS</i> <sup>ce</sup> €/MWh net**	Passengers rc <sup>co</sup> (Wh/TKB)	Passengers rg <sup>ca</sup> (Wh/TKB)	Freight rc "" (Wh/TKB)	Freight rg ar (Wh/TKB)
jan-23	137.19428181	34.53217285	49.00866226	6.37112609	17.50309366	2.27540218
feb-23	164.11947310	37.87818892	48.18288397	6.26377492	17.20817285	2.23706247
mar-23	139.89*	25.69*	48.28*	6.28*	17.24*	2.24*
apr-23	113.36*	17.17*	48.28*	6.28*	17.24*	2.24*
may-23	129.18*	18.45*	48.28*	6.28*	17.24*	2.24*
jun-23	136.15*	20.56*	48.28*	6.28*	17.24*	2.24*
jul-23	139.58*	34.89*	48.28*	6.28*	17.24*	2.24*
aug-23	135.97*	21.47*	48.28*	6.28*	17.24*	2.24*
sep-23	135.71*	21.13*	48.28*	6.28*	17.24*	2.24*
oct-23	147.43*	17.50*	48.28*	6.28*	17.24*	2.24*
nov-23	147.44*	25.27*	48.28*	6.28*	17.24*	2.24*
dec-23	147.45*	35.00*	48.28*	6.28*	17.24*	2.24*

<sup>\*</sup> Reference Prices/Ratios estimated as of 03/22/2023 are not binding to invoice. The energy cost estimate from March to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 24 March 2023



/ 1. GRAL.INF. / 2. INFRA

/ 3. ACCES.CO

ND. / 4. CAPACI ALLOCATI 5. SERVICES

6. OPERATIONS

7. SERVICE

/8. ANN

/9. MAPS

/10. CATALO

<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.



### SC-2\_SUPPLY COSTS ON ALTERNATING CURRENT POWER LINES

MONTHLY PUBLICATION OF PRICES AND RATIOS THAT WILL BE USED TO ISSUE THE CORRESPONDING INVOICE FOR THE SERVICES PERFORMED IN JANUARY 2023.

SC-2	Reviewed reference	e / Invoicing prices *	Revi	ewed reference / Invo	oicing conversion rat	ios *
Month of Service	<i>TES</i> <sup>co</sup> €/MWh net**	<i>TATRS</i> <sup>ca</sup> €/MWh net**	Passengers rc <sup>co</sup> (Wh/TKB)	Passengers rg <sup>ca</sup> (Wh/TKB)	Freight rc co (Wh/TKB)	Freight rg co (Wh/TKB)
jan-23	137.19428181	34.53217285	49.00866226	6.37112609	17.50309366	2.27540218
feb-23	160.84*	30.47*	48.28*	6.28*	17.24*	2.24*
mar-23	144.04*	25.69*	48.28*	6.28*	17.24*	2.24*
apr-23	124.62*	16.72*	48.28*	6.28*	17.24*	2.24*
may-23	140.63*	17.79*	48.28*	6.28*	17.24*	2.24*
jun-23	150.82*	19.90*	48.28*	6.28*	17.24*	2.24*
jul-23	155.23*	33.49*	48.28*	6.28*	17.24*	2.24*
aug-23	155.23*	21.00*	48.28*	6.28*	17.24*	2.24*
sep-23	155.24*	20.36*	48.28*	6.28*	17.24*	2.24*
oct-23	164.53*	16.88*	48.28*	6.28*	17.24*	2.24*
nov-23	164.54*	23.87*	48.28*	6.28*	17.24*	2.24*
dec-23	164.55*	33.24*	48.28*	6.28*	17.24*	2.24*

<sup>\*</sup> Reference Prices/Ratios estimated as of 02/20/2023 are not binding to invoice. The energy cost estimate from February to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 23 February 2023



<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.



## SC-2\_ANNUAL PUBLICATION OF THE FORECAST (\*) OF THE SUPPLY COST RATES FOR ELECTRIFIED LINES IN ALTERNATING CURRENT FOR 2023:

SC-2	Reviewed reference	e / Invoicing prices *	Revi	ewed reference / Invo	picing conversion rat	ios *
Month of Service	<i>TES</i> <sup>cr</sup> €/MWh net**	<i>TATRS</i> <sup>ca</sup> €/MWh net**	Passengers rc <sup>cc</sup> (Wh/TKB)	Passengers rg <sup>ca</sup> (Wh/TKB)	Freight rc ca (Wh/TKB)	Freight <sup>rg</sup> " (Wh/TKB)
jan-23	176.88*	31.53*	48.28*	6.28*	17.24*	2.24*
feb-23	181.31*	36.31*	48.28*	6.28*	17.24*	2.24*
mar-23	184.91*	32.57*	48.28*	6.28*	17.24*	2.24*
apr-23	178.01*	29.51*	48.28*	6.28*	17.24*	2.24*
may-23	205.78*	28.18*	48.28*	6.28*	17.24*	2.24*
jun-23	214.21*	27.17*	48.28*	6.28*	17.24*	2.24*
jul-23	233.70*	38.32*	48.28*	6.28*	17.24*	2.24*
aug-23	233.70*	25.69*	48.28*	6.28*	17.24*	2.24*
sep-23	233.70*	26.15*	48.28*	6.28*	17.24*	2.24*
oct-23	255.65*	23.71*	48.28*	6.28*	17.24*	2.24*
nov-23	255.66*	28.09*	48.28*	6.28*	17.24*	2.24*
dec-23	255.66*	36.79*	48.28*	6.28*	17.24*	2.24*

<sup>\*</sup> Reference Prices/Ratios estimated as of 16/12/2022 are not binding to invoice. The energy cost estimate from January to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 28 December 2022



<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.



### SC-2\_ANNUAL PUBLICATION OF THE FORECAST (\*) OF THE SUPPLY COST RATES FOR ELECTRIFIED LINES IN ALTERNATING CURRENT FOR 2023:

SC-2	Reviewed reference	e / Invoicing prices *	Reviewed reference / Invoicing conversion ratios *						
Month of Service	<i>TES™</i> €/MWh net**	<i>TATRS</i> <sup>cr</sup> €/MWh net**	Passengers rc <sup>cc</sup> (Wh/TKB)	Passengers rg <sup>a</sup> (Wh/TKB)	Freight rc co (Wh/TKB)	Freight rg " (Wh/TKB)			
jan-23	192.85*	36.51*	52.15*	6.78*	18.63*	2.42*			
feb-23	192.85*	41.33*	52.15*	6.78*	18.63*	2.42*			
mar-23	192.85*	37.57*	52.15*	6.78*	18.63*	2.42*			
apr-23	244.16*	34.50*	52.15*	6.78*	18.63*	2.42*			
may-23	244.16*	33.16*	52.15*	6.78*	18.63*	2.42*			
jun-23	244.16*	32.16*	52.15*	6.78*	18.63*	2.42*			
jul-23	253.23*	43.36*	52.15*	6.78*	18.63*	2.42*			
aug-23	253.23*	30.69*	52.15*	6.78*	18.63*	2.42*			
sep-23	253.23*	31.16*	52.15*	6.78*	18.63*	2.42*			
oct-23	264.63*	28.72*	52.15*	6.78*	18.63*	2.42*			
nov-23	264.64*	33.08*	52.15*	6.78*	18.63*	2.42*			
dec-23	264.64*	41.76*	52.15*	6.78*	18.63*	2.42*			

<sup>\*</sup> Reference Prices/Ratios estimated as of 05/09/2022 are not binding to invoice. The energy cost estimate from January to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 7 December 2022



<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.



### SC-2\_costs for supplying direct current to electrified lines in a conventional network:

MONTHLY PUBLICATION OF PRICES AND RATIOS THAT WILL BE USED TO ISSUE THE CORRESPONDING INVOICE FOR THE SERVICES PERFORMED IN FEBRUARY 2023.

SC-2		reference / g prices *		R	eviewed ref	erence / Inv	oicing conve	ersión ratios	; *	
Month of service	<i>TE</i> <sup>ccc</sup> €/MWh net**	TATR <sup>ccc</sup> €/MWh net**	Freight rc <sub>m</sub> cc (Wh/TKB)	Freight rgg (CC (Wh/TKB)	Long distance rc <sub>i</sub> <sup>cc</sup> (Wh/TKB)	Long distance rg <sup>cc</sup> (Wh/TKB)	Medium Distance rc <sub>m</sub> ccc (Wh/TKB)	Medium Distance rg <sub>m</sub> <sup>ccc</sup> (Wh/TKB)	Commuter κ <sup>(cc</sup> (Wh/TKB)	Commuter  rg ccc (Wh/TKB)
jan-23	99.67034293	49.71432141	20.29957300	2.02995730	32.47931681	3.24793168	36.53923141	3.65392314	52.77888981	5.27788898
feb-23	153.40454695	51.13252109	20.31363094	2.03136309	32.50180951	3.25018095	36.56453569	3.65645357	52.81544045	5.28154404
mar-23	118.60*	53.38*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
apr-23	116.82*	31.27*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
may-23	133.27*	27.64*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
jun-23	140.52*	32.00*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
jul-23	144.08*	48.56*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
aug-23	140.33*	32.03*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
sep-23	140.06*	31.86*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
oct-23	152.24*	26.60*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
nov-23	152.24*	39.18*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
dec-23	152.26*	47.70*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*

<sup>\*</sup> Reference Prices/Ratios estimated as of 03/22/2023 are not binding to invoice. The energy cost estimate from March to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 24 March 2023



<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.



### SC-2\_costs for supplying direct current to electrified lines in a conventional network:

MONTHLY PUBLICATION OF PRICES AND RATIOS THAT WILL BE USED TO ISSUE THE CORRESPONDING INVOICE FOR THE SERVICES PERFORMED IN JANUARY 2023.

SC-2		l reference ng prices *		R	eviewed refe	erence / Inv	oicing conve	ersión ratios	; *	
Month of service	<i>TE</i> <sup>ccc</sup> €/MWh net**	<i>TATR</i> <sup>ccc</sup> €/MWh net**	Freight rc" <sup>cc</sup> (Wh/TKB)	Freight rgg (CC) (Wh/TKB)	Long distance rc <sub>li</sub> cc (Wh/TKB)	Long distance rg, <sup>cc</sup> (Wh/TKB)	Medium Distance rc <sub>m</sub> <sup>ccc</sup> (Wh/TKB)	Medium Distance rg <sub>m</sub> <sup>ccc</sup> (Wh/TKB)	Commuter rc <sup>cc</sup> (Wh/TKB)	Commuter rg <sup>((C</sup> (Wh/TKB)
jan-23	99.67034293	49.71432141	20.29957300	2.02995730	32.47931681	3.24793168	36.53923141	3.65392314	52.77888981	5.27788898
feb-23	151.92*	69.44*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
mar-23	125.16*	53.38*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
apr-23	128.51*	31.27*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
may-23	145.15*	27.64*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
jun-23	155.74*	32.00*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
jul-23	160.33*	48.56*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
aug-23	160.33*	32.03*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
sep-23	160.33*	31.86*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
oct-23	170.00*	26.60*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
nov-23	169.99*	39.18*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*
dec-23	170.02*	47.70*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*

<sup>\*</sup> Reference Prices/Ratios estimated as of 02/20/2023 are not binding to invoice. The energy cost estimate from February to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 23 February 2023



<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.





## SC-2\_ANNUAL PUBLICATION OF THE FORECAST (\*) OF THE SUPPLY COST RATES FOR ELECTRIFIED LINES IN DIRECT CURRENT IN THE CONVENTIONAL NETWORK FOR 2023:

SC-2		l reference ng prices *		Reviewed reference / Invoicing conversión ratios *									
Month of service	<i>TE</i> <sup>ccc</sup> €/MWh net**	<i>TATR</i> <sup>ccc</sup> €/MWh net**	Freight rc, "c" (Wh/TKB)	Freight rg mc (Wh/TKB)	Long distance rc <sub>i</sub> <sup>cc</sup> (Wh/TKB)	Long distance rg <sub>id</sub> cc (Wh/TKB)	Medium Distance rc <sub>md</sub> ccc (Wh/TKB)	Medium Distance rg <sub>md</sub> cc (Wh/TKB)	Commuter rc <sup>cc</sup> (Wh/TKB)	Commuter  rgç (Wh/TKB)			
jan-23	177.03*	57.84*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			
feb-23	184.21*	61.02*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			
mar-23	189.78*	47.67*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			
apr-23	184.19*	30.12*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			
may-23	212.95*	29.99*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			
jun-23	221.68*	37.84*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			
jul-23	241.86*	60.55*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			
aug-23	241.86*	38.99*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			
sep-23	241.86*	37.37*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			
oct-23	264.61*	31.33*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			
nov-23	264.60*	47.31*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			
dec-23	264.62*	59.85*	19.12*	1.92*	30.59*	3.06*	34.41*	3.44*	49.71*	4.97*			

<sup>\*</sup> Reference Prices/Ratios estimated as of 16/12/2022 are not binding to invoice. The energy cost estimate from January to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 28 December 2022



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<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.





## SC-2\_ANNUAL PUBLICATION OF THE FORECAST (\*) OF THE SUPPLY COST RATES FOR ELECTRIFIED LINES IN DIRECT CURRENT IN THE CONVENTIONAL NETWORK FOR 2023:

SC-2		l reference ng prices *		Reviewed reference / Invoicing conversión ratios *									
Month of service	<i>TE</i> <sup>ccc</sup> €/MWh net**	<i>TATR</i> <sup>ccc</sup> €/MWh net**	Freight rc <sub>m</sub> cc (Wh/TKB)	Freight rg mc (Wh/TKB)	Long distance rc <sub>i</sub> <sup>cc</sup> (Wh/TKB)	Long distance rg <sup>cc</sup> (Wh/TKB)	Medium Distance rc <sub>md</sub> cc (Wh/TKB)	Medium Distance rg <sub>md</sub> cc (Wh/TKB)	Commuter rc <sup>cc</sup> (Wh/TKB)	Commuter  rgç (Wh/TKB)			
jan-23	199.56*	62.84*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			
feb-23	199.56*	66.02*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			
mar-23	199.57*	52.67*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			
apr-23	252.71*	35.12*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			
may-23	252.71*	34.99*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			
jun-23	252.71*	42.84*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			
jul-23	262.10*	65.55*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			
aug-23	262.10*	43.99*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			
sep-23	262.10*	42.37*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			
oct-23	273.91*	36.33*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			
nov-23	273.91*	52.31*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			
dec-23	273.92*	64.85*	22.17*	2.22*	35.46*	3.55*	39.90*	3.99*	57.63*	5.76*			

<sup>\*</sup> Reference Prices/Ratios estimated as of 05/09/2022 are not binding to invoice. The energy cost estimate from January to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 7 December 2022



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<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.



#### SC-2\_costs for supplying direct current to electrified lines on RAM:

MONTHLY PUBLICATION OF PRICES AND RATIOS THAT WILL BE USED TO ISSUE THE CORRESPONDING INVOICE FOR THE SERVICES PERFORMED IN FEBRUARY 2023.

SC-2	Reviewed r Invoicing		Reviewed		Invoicing co	onversión
Month of service	<i>TE<sup>ccR</sup></i> €/MWh net**	<i>TATR<sup>ccR</sup></i> €/MWh net**	Passengers rc, <sup>cck</sup> (Wh/TKB)	Passengers $rg_{_{_{V}}}^{_{_{\mathrm{CR}}}}$ (Wh/TKB)	Freight rc, cct (Wh/TKB)	Freight  rg, <sup>cck</sup> (Wh/TKB)
jan-23	93.49960364	37.25570386	61.06097137	6.10609714	23.48498899	2.34849890
feb-23	151.49264829	36.92143296	60.35583444	6.03558344	23.21378248	2.32137825
mar-23	112.91*	32.55*	53.73*	5.37*	20.67*	2.07*
apr-23	117.44*	31.40*	53.73*	5.37*	20.67*	2.07*
may-23	133.96*	26.72*	53.73*	5.37*	20.67*	2.07*
jun-23	141.23*	57.17*	53.73*	5.37*	20.67*	2.07*
jul-23	144.81*	91.99*	53.73*	5.37*	20.67*	2.07*
aug-23	141.04*	44.47*	53.73*	5.37*	20.67*	2.07*
sep-23	140.77*	28.60*	53.73*	5.37*	20.67*	2.07*
oct-23	153.00*	23.87*	53.73*	5.37*	20.67*	2.07*
nov-23	153.00*	35.65*	53.73*	5.37*	20.67*	2.07*
dec-23	153.00*	44.89*	53.73*	5.37*	20.67*	2.07*

<sup>\*</sup>Reference Prices/Ratios estimated as of 03/22/2023 are not binding to invoice. The energy cost estimate from March to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 24 March 2023



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<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.



#### SC-2\_costs for supplying direct current to electrified lines on RAM:

MONTHLY PUBLICATION OF PRICES AND RATIOS THAT WILL BE USED TO ISSUE THE CORRESPONDING INVOICE FOR THE SERVICES PERFORMED IN JANUARY 2023.

	Reviewed reference / Invoicing prices *		Reviewed reference / Invoicing conversión ratios				
<i>TE<sup>ccR</sup></i> €/MWh net**	<i>TATR<sup>ccR</sup></i> €/MWh net**	Passengers rc, <sup>cck</sup> (Wh/TKB)	Passengers $rg_{_{_{\!$	Freight rc <sub>m</sub> cet (Wh/TKB)	Freight rg <sub>m</sub> ccR (Wh/TKB)		
.49960364	37.25570386	61.06097137	6.10609714	23.48498899	2.34849890		
150.06*	37.26*	53.73*	5.37*	20.67*	2.07*		
120.21*	39.40*	53.73*	5.37*	20.67*	2.07*		
129.17*	31.40*	53.73*	5.37*	20.67*	2.07*		
145.88*	26.72*	53.73*	5.37*	20.67*	2.07*		
156.51*	57.17*	53.73*	5.37*	20.67*	2.07*		
161.12*	91.99*	53.73*	5.37*	20.67*	2.07*		
161.12*	44.47*	53.73*	5.37*	20.67*	2.07*		
161.12*	28.60*	53.73*	5.37*	20.67*	2.07*		
170.81*	23.87*	53.73*	5.37*	20.67*	2.07*		
170.81*	35.65*	53.73*	5.37*	20.67*	2.07*		
170.81*	44.89*	53.73*	5.37*	20.67*	2.07*		
	2/MWh net**  2.49960364  150.06*  120.21*  129.17*  145.88*  156.51*  161.12*  161.12*  170.81*  170.81*	E/MWh net**       €/MWh net**         .49960364       37.25570386         150.06*       37.26*         120.21*       39.40*         129.17*       31.40*         145.88*       26.72*         156.51*       57.17*         161.12*       91.99*         161.12*       28.60*         170.81*       23.87*         170.81*       35.65*	### F/MWh net**  #### A7/Feb.  #### A7/Feb.  #### A7/Feb.  #### A7/Feb. ##### A7/Feb. ####################################	F/MWh net**  1.49960364  37.25570386  61.06097137  6.10609714  150.06*  37.26*  53.73*  5.37*  120.21*  39.40*  53.73*  5.37*  129.17*  31.40*  53.73*  5.37*  145.88*  26.72*  53.73*  5.37*  156.51*  57.17*  53.73*  5.37*  161.12*  91.99*  53.73*  5.37*  161.12*  44.47*  53.73*  5.37*  161.12*  161.12*  28.60*  53.73*  5.37*  170.81*  35.65*  53.73*  5.37*  5.37*	F/MWh net**         €/MWh net**         rc√ct (Wh/TKB)         rg√ct (Wh/TKB)         rc√ct (Wh/TKB)           4.49960364         37.25570386         61.06097137         6.10609714         23.48498899           150.06*         37.26*         53.73*         5.37*         20.67*           120.21*         39.40*         53.73*         5.37*         20.67*           129.17*         31.40*         53.73*         5.37*         20.67*           145.88*         26.72*         53.73*         5.37*         20.67*           156.51*         57.17*         53.73*         5.37*         20.67*           161.12*         91.99*         53.73*         5.37*         20.67*           161.12*         44.47*         53.73*         5.37*         20.67*           161.12*         28.60*         53.73*         5.37*         20.67*           170.81*         23.87*         53.73*         5.37*         20.67*           170.81*         35.65*         53.73*         5.37*         20.67*		

<sup>\*</sup> Reference Prices/Ratios estimated as of 02/20/2023 are not binding to invoice. The energy cost estimate from February to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 23 February 2023



<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.





### SC-2\_ANNUAL PUBLICATION OF THE FORECAST (\*) OF THE SUPPLY COST RATES FOR DIRECT CURRENT ELECTRIFIED LINES IN RAM FOR 2023:

Month of service	<i>TE<sup>ccR</sup></i> €/MWh net**	<i>TATR</i> <sup>ccR</sup> €/MWh	Passengers	Passengers		
		net**	rc <sub>ν</sub> <sup>ccR</sup> (Wh/TKB)	rg <sub>v</sub> <sup>ccR</sup> (Wh/TKB)	Freight rc <sub>m</sub> cck (Wh/TKB)	Freight rgm <sup>cck</sup> (Wh/TKB)
jan-23	177.97*	42.60*	53.73*	5.37*	20.67*	2.07*
feb-23	185.93*	41.41*	53.73*	5.37*	20.67*	2.07*
mar-23	192.13*	34.93*	53.73*	5.37*	20.67*	2.07*
apr-23	185.40*	26.49*	53.73*	5.37*	20.67*	2.07*
may-23	214.27*	26.73*	53.73*	5.37*	20.67*	2.07*
jun-23	223.03*	30.64*	53.73*	5.37*	20.67*	2.07*
jul-23	243.29*	46.17*	53.73*	5.37*	20.67*	2.07*
aug-23	243.29*	29.90*	53.73*	5.37*	20.67*	2.07*
sep-23	243.29*	30.17*	53.73*	5.37*	20.67*	2.07*
oct-23	266.12*	26.53*	53.73*	5.37*	20.67*	2.07*
nov-23	266.12*	36.32*	53.73*	5.37*	20.67*	2.07*
dec-23	266.12*	42.48*	53.73*	5.37*	20.67*	2.07*

<sup>\*</sup> Reference Prices/Ratios estimated as of 16/12/2022 are not binding to invoice. The energy cost estimate from January to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

Published on 28 December 2022

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<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.





### SC-2\_ANNUAL PUBLICATION OF THE FORECAST (\*) OF THE SUPPLY COST RATES FOR DIRECT CURRENT ELECTRIFIED LINES IN RAM FOR 2023:

SC-2	Reviewed reference / Invoicing prices *		Reviewed reference / Invoicing conversión ratios				
Month of service	<i>TE<sup>ccR</sup></i> €/MWh net**	<i>TATR<sup>ccR</sup></i> €/MWh net**	Passengers rc, <sup>ccR</sup> (Wh/TKB)	Passengers rg, <sup>cck</sup> (Wh/TKB)	Freight $rc_{m}^{ccR}$ (Wh/TKB)	Freight rg mcR (Wh/TKB)	
jan-23	200.83*	47.60*	46.21*	4.62*	17.77*	1.78*	
feb-23	200.83*	46.41*	46.21*	4.62*	17.77*	1.78*	
mar-23	20.83*	39.93*	46.21*	4.62*	17.77*	1.78*	
apr-23	254.18*	31.49*	46.21*	4.62*	17.77*	1.78*	
may-23	254.18*	31.73*	46.21*	4.62*	17.77*	1.78*	
jun-23	254.18*	35.64*	46.21*	4.62*	17.77*	1.78*	
jul-23	263.60*	51.17*	46.21*	4.62*	17.77*	1.78*	
aug-23	263.60*	34.90*	46.21*	4.62*	17.77*	1.78*	
sep-23	263.60*	35.17*	46.21*	4.62*	17.77*	1.78*	
oct-23	275.46*	31.53*	46.21*	4.62*	17.77*	1.78*	
nov-23	275.46*	41.32*	46.21*	4.62*	17.77*	1.78*	
dec-23	275.46*	47.48*	46.21*	4.62*	17.77*	1.78*	

<sup>\*</sup> Reference Prices/Ratios estimated as of 05/09/2022 are not binding to invoice. The energy cost estimate from January to May 2023 does not include the effects of the cost excess generated by the gas cap mechanism, as set under Royal Decree-Law 10/2022, of 13 May, temporarily setting a mechanism to adjust production costs and reduce the price of electricity on the wholesale market. The volatility of this excess cost together with the large number of uncertain figures depending thereupon, prevent from giving a limited estimate of the value of this excess in said period.

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<sup>\*\*</sup> net = consumed - compensable regenerated, considered at border point with the electricity sector.

