August 2021

Monthly Report on the Electricity System



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In August 2021, electricity demand was 26,760 GWh, an increase both compared to the same month of the previous year (+2.7%) and compared to August 2019 (+2.4%). In particular, there was an increase in wind production (+19.4%), and in the foreign exchange (+142.5%), compared to the same month of 2020. In 2021, electricity demand (211,937 GWh) decreased (+6.7%) compared to the same period of 2020 but decreased (-1.5%) compared to the cumulative figure for 2019.

The value of the demand was achieved with one more working day (22 vs 21) and an average monthly temperature that was lower by almost 0.4° C. When adjusted for seasonal, temperature and calendar effects, the figure represents a variation of +2.4%. Compared to August 2019, the raw change amounts to +2.4%. The annual trend of industrial consumption increased by 10.6% with raw data. The index value remained above the August 2019 level (+9.2%).

In August 2021, electricity demand was met 45% via production from Non-Renewable Energy Sources, 41% via Renewable Energy Sources and the remainder via foreign exchange.

In August, production from Renewable Energy Sources increased (+7.2%) compared to the same month of the previous year. Specifically, there was an increase in wind production (+19.4%), in renewable hydroelectric production (+9.1%), photovoltaic production (+3.1%) and a decrease in geothermoelectric production (-1.5%).







Electricity

System

page 13

The August total for withdrawal programmes on the DAM was approximately $\in 2.8$ Bn, sligthly down (-2%) compared to the previous month and up 181% compared to August 2020.

In August, the spread between average bid-up and bid-down prices on the DSM was €124/MWh, up by 10% compared to the previous month and by 54% compared to August 2020. Total volumes decreased slightly compared to the previous month (-1%).

In August, the spread between bid-up and bid-down prices on the Balancing Market was \in 118/MWh, up compared to the previous month (\in 115/MWh; +3%) and up compared to August 2020 (\in 84/MWh; +41%). Total volumes decreased compared to the previous month (-10%).



Monthly Report on the Electricity System

Energy Balance Sheets

Monthly Summary and Short-Term Analysis

In August 2021, electricity demand was 26,760 GWh, an increase both compared to the same month of the previous year (+2.7%) and compared to August 2019 (+2.4%). In particular, there was an increase in wind production (+19.4%), and in the foreign exchange (+142.5%), compared to the same month of 2020.

In 2021, electricity demand (211,937 GWh) decreased (+6.7%) compared to the same period of 2020 but decreased (-1.5%) compared to the cumulative figure for 2019.

Demand breakdown - coverage by sources

[GWh]	Aug 2021	Aug 2020	%21/20	Aug - Jun 21	Aug - Jun 20	%21/20
Hydro	4.741	4.322	9,7%	33.660	32.407	3,9%
of which Pumping Production	142	107	32,7%	1.238	1.147	7,9%
Thermal	13.652	15.813	-13,7%	113.642	113.551	0,1%
of which Biomass	1.565	1.524	2,7%	12.145	11.954	1,6%
Geothermal	463	470	-1,5%	3.680	3.778	-2,6%
Wind	1.440	1.206	19,4%	13.613	12.526	8,7%
Photovoltaic	2.949	2.859	3,1%	19.115	19.427	-1,6%
Net Total Production	23.245	24.670	-5,8%	183.710	181.689	1,1%
of which Renewable Production	11.016	10.274	7,2%	80.975	78.945	2,6%
Import	3.993	2.187	82,6%	32.186	24.545	31,1%
Export	275	654	-58,0%	2.191	6.030	-63,7%
Net Foreign Exchange	3.718	1.533	142,5%	29.995	18.515	62,0%
Pumping	203	153	32,7%	1.768	1.638	7,9%
Electricity demand ⁽¹⁾	26.760	26.050	2,7%	211.937	198.566	6,7%

In August 2021, an increase was recorded in hydroelectric (+9.7%) and photovoltaic production (+3.1%), whilst there was a decrease in thermoelectric production (-13.7%) compared to the previous year. In 2021, exports fell significantly (-63.7%) compared to 2020. The trend of total net production in August increased by -5.8% compared to the same period of 2020.

(1) Electricity Demand = Production + Foreign Balance - Pumping Consumption

Pumping production is calculated assuming theoretical efficiency during the pumping phase
RES Production = Hydro - Pumping production + Biomass + Geothermal + Wind + Photovoltaic

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Source: Terna

The value of the demand was achieved with one more working day (22 vs 21) and an average monthly temperature lower by almost 0.4° C. When adjusted for seasonal, temperature and calendar effects, the figure represents a variation of +2.4%. Compared to August 2019, the raw change amounts to +2.4%.

Demand in the first eight months of 2021 increased by 6.7% compared to the corresponding period of 2020. In adjusted terms, it remains essentially unchanged.

The data for August 2021, adjusted for calendar and temperature effects, recorded an increase of 1.7% in electricity demand compared to the previous month.





The value, adjusted for seasonal, calendar and temperature effects, shows an increase of 1.7%.

IMCEI



The annual trend for August 2021 (compared to August 2020) was up by 10.6% based on raw data. Using data adjusted for calendar differences, the change is +10.3%.

The index value remained above the August 2019 level (+9.2%).

In the first eight months of 2021, the change in withdrawals by HV customers was +16.4% compared to the same period of 2020; with data adjusted for seasonal and calendar effects the change remains the same.



In August, the change in the monthly index of Italian electricity consumption increased by 10.6% compared to August 2020.

Source: Terna

The short-term data adjusted for seasonal and calendar effects for the industrial electricity consumption index increased by 3.5% in August 2021 compared to July.

IMCEI short-term analysis (base 2015 = 100)



When adjusted for seasonal, temperature and calendar effects, the figure for August 2021 represents an increase of 3.5% compared to the previous month

Energy Balance Sheets

Energy Demand Mix

In August 2021, electricity demand was met 45% via production from Non-Renewable Energy Sources, 41% via Renewable Energy Sources and the remainder via foreign exchange.

In 2021, electricity demand was 211,937 GWh, 48% of which was met via production from Non-Renewable Energy Sources, 38% from Renewable Energy Sources and the remainder from the foreign balance.



Demand breakdown – coverage by sources

In August, production from renewable sources was up compared to the same month of 2020 (+7.2%).

In 2021, production from Non-Renewable Energy Sources recorded a percentage in line (-0.1%) with 2020.

Source: Terna





In 2021 electricity demand on the grid increased by +6.7% compared to 2020 and decreased when compared to the cumulative figure for 2019 (-1.5%). In 2021, energy production from renewable sources totalled 81.0 TWh, a +2.6% increase compared to 2020.

Details of Renewable Energy Sources

In August, production from Renewable Energy Sources increased (+7.2%) compared to the same month of the previous year. Specifically, there was an increase in wind production (+19.4%), in renewable hydroelectric production (+9.1%), photovoltaic production (+3.1%) and a decrease in geothermoelectric production (-1.5%).



RES Production - Breakdown

Source: Terna

Trend of 2021 RES net production compared to 2020



In August, renewable production represented 47.4% of total net national production, an increase compared to the same month in 2020 (41.6%). In 2021, renewable production represented 44.1% of total net national production, a slight increase compared to 2020 (43.5%).

In August 2021, the greater contribution of renewable energy sources to the total is attributed to renewable hydroelectric production (42%) and photovoltaic production (27%).

In 2021, the greater contribution of renewable sources to the total is attributed to renewable hydroelectric production (40%) and photovoltaic production (24%).

Historical Energy Balance Sheets

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In 2021, total net production allocated for consumption (181,942 GWh) met 85.8% of national electricity demand (211,937 GWh).

2021 Historical Monthly Energy Balance Sheet

[GWh]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hydro	3.743	3.526	3.195	3.186	4.599	5.538	5.132	4.741					33.660
of which Pumping Production $^{(2)}$	136	174	168	185	199	132	102	142					1.238
Thermal	16.160	13.571	14.706	14.066	11.339	14.052	16.096	13.652					113.642
of which Biomass	1.555	1.377	1.595	1.534	1.497	1.531	1.491	1.565					12.145
Geothermal	465	427	475	459	465	456	470	463					3.680
Wind	2.664	1.702	1.854	1.576	1.986	978	1.413	1.440					13.613
Photovoltaic	920	1.465	2.420	2.407	2.965	3.025	2.964	2.949					19.115
Net Total Production	23.952	20.691	22.650	21.694	21.354	24.049	26.075	23.245					183.710
of which Renewable Production $^{(3)}$	9.211	8.323	9.371	8.977	11.313	11.396	11.369	11.016					80.975
Import	3.863	4.602	4.469	3.188	3.675	3.766	4.630	3.993					32.186
Export	507	197	206	310	227	225	244	275					2.191
Net Foreign Exchange	3.356	4.405	4.263	2.878	3.448	3.541	4.386	3.718					29.995
Pumping	194	249	240	264	284	189	145	203					1.768
Electricity demand (1)	27.114	24.847	26.673	24.308	24.518	27.401	30.316	26.760					211.937

The developments in the monthly balance sheet for 2020 are provided below.

2020 Historical Monthly Energy Balance Sheet

[GWh]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hydro	3.476	2.674	2.878	3.641	5.188	5.416	4.812	4.322	4.046	4.478	3.444	3.615	47.990
of which Pumping Production (2)	120	130	213	211	179	95	92	107	136	194	135	179	1.790
Thermal	17.364	14.605	13.069	11.379	11.385	13.408	16.528	15.813	16.458	13.951	15.355	16.061	175.376
of which Biomass	1.543	1.408	1.531	1.518	1.452	1.459	1.519	1.524	1.458	1.520	1.524	1.569	18.025
Geothermal	489	460	498	477	479	442	463	470	454	477	462	475	5.646
Wind	1.686	2.351	1.755	1.255	1.725	1.573	975	1.206	1.350	1.605	1.057	2.009	18.547
Photovoltaic	1.222	1.740	2.025	2.704	2.801	2.861	3.215	2.859	2.353	1.831	1.200	738	25.549
Net Total Production	24.237	21.830	20.225	19.456	21.578	23.700	25.993	24.670	24.661	22.342	21.518	22.898	273.108
of which Renewable Production $^{(3)}$	8.296	8.503	8.474	9.384	11.467	11.656	10.892	10.274	9.525	9.717	7.552	8.228	113.967
Import	4.068	4.622	4.435	1.798	2.325	1.566	3.543	2.187	2.518	4.306	4.563	3.859	39.790
Export	749	549	499	984	1.048	1.051	496	654	459	175	369	557	7.590
Net Foreign Exchange	3.319	4.073	3.936	814	1.277	515	3.047	1.533	2.059	4.131	4.194	3.302	32.200
Pumping	171	186	304	301	255	136	132	153	194	277	193	255	2.557
Electricity demand ⁽¹⁾	27.385	25.717	23.857	19.969	22.600	24.079	28.908	26.050	26.526	26.196	25.519	25.945	302.751

In 2020, the month with the highest demand for electricity was July, with 28,908 GWh.

In 2021, net total

30,316 GWh.

production was up (+1.1%) compared to 2020, and

peak electricity demand was reached in July, with

Source: Terna

Electricity Demand = Production + Foreign Balance - Pumping Consumption (1)

(2) (3) Pumping production is calculated assuming theoretical efficiency during the pumping phase RES Production = Hydro - Pumping production + Biomass + Geothermal + Wind + Photovoltaic

Demand by Operational Area Ю

In August 2021, demand was unchanged in the Northern zone (TO-MI-VE), and up in the Centre (RM-FI), in the Southern zone (NA) and on the Islands (PA-CA) compared to the same period of the previous year.

Demand by Operational Area									
[GWh]	Turin	Milan	Venice	Florence	Rome	Naples	Palermo	Cagliari	
Aug 2021	2.517	4.847	3.764	4.127	3.928	4.597	2.093	887	
Aug 2020	2.487	4.883	3.769	3.998	3.826	4.352	1.896	839	
% Aug 2021/2020	1,2%	-0,7%	-0,1%	3,2%	2,7%	5,6%	10,4%	5,7%	
Cumulated 2021	20.820	45.446	32.552	32.444	29.734	31.602	13.246	6.093	
Cumulated 2020	19.781	42.311	30.348	30.373	27.938	29.762	12.429	5.624	
% Cumulated 21/20	5,3%	7,4%	7,3%	6,8%	6,4%	6,2%	6,6%	8,3%	

In 2021, the Y-o-Y percentage change in demand is +6.9% in the Northern zone, +6.6% in the Centre, +6.2% in the South and +7.1% for the Islands.

Source: Terna

Demand by Operational Area – Map Chart



The regions are combined in clusters on the basis of production and consumption:

- TURIN: Piedmont Liguria -Valle d'Aosta
- MILAN: Lombardy (*)
- VENICE: Friuli Venezia Giulia -Greater Venice - Trentino Alto Adige
- FLORENCE: Emilia Romagna (*) - Tuscany
- ROME: Lazio Umbria -Abruzzo - Molise - August
- NAPLES: Campania Apulia -Basilicata - Calabria
- PALERMO: Sicily
- CAGLIARI: Sardinia



Source: Terna

(*) In these two regions, the geographical borders do not correspond to the electrical borders. Lombardy includes production plants that are part of the geographical administrative territory of Emilia Romagna.



Peak Demand

In August 2021, Peak Demand was recorded on **Wednesday 04 August between 11:00** and 12:00 and was 47,963MW (-2.3% Y-o-Y). The hourly demand diagram of the peak day is presented below.

Peak Demand



At peak, the contribution of thermal production was 23,638 MW, down by -16.1% compared to the contribution from thermal production at the August 2020 peak (28,188 MW).

Source: Terna

Coverage of demand - 4 August 2021 11:00-12:00



Net Foreign Exchange on the Northern border

Net Foreign Exchange – August 2021

In August there was good saturation on the whole of the Northern border and net exports on the Slovenian border in mid-August.



In August 2021 imports increased significantly Y-O-Y (+82.6%) amounting to 3,993 GWh and exports declined remarkably Y-O-Y (-58.0%) amounting to 275 GWh.



Source: Terna

Balance of Physical Exchanges – Annual Cumulative Figure

The balance of physical electricity exchanges mainly shows the energy flows among the various areas identified in the Italian electricity system.

The 380 kV connection between Sicily and the Mainland ensures secure management of the electricity system in Sicily and Calabria.



Balance of physical electricity exchanges: map

In 2021, a net exchange was recorded from the Northern zone to Emilia Romagna and Tuscany of 9.7 TWh. The Continent recorded a net exchange towards Sicily of 3.0 TWh.

12

Source: Terna

Production and Installed Capacity

Energy produced from photovoltaic sources in August 2021 reached 2,949 GWh, in line with the previous month (-15 GWh). The annual cumulative figure fell compared to the previous year (-1.6%).

Photovoltaic Production and Capacity





1500< P_{inst}≤ 2500 2500< P_{inst}≤ 3500

3500< P_{inst}≤ 4500

P_{inst}> 4500

Production from photovoltaic sources remained in line (-0.5%) with the previous

Source: Terna

Energy produced by wind power in August 2021 was recorded at 1,440 GWh, up compared to the previous month by 23 GWh. The annual cumulative figure increased compared to the previous year (+8.7%).

Wind Production and Capacity



Energy produced by hydroelectric sources (e.g. reservoirs, storage and run-of-river) in August 2021 was 4,741 GWh, down compared to the previous month by 391 GWh. The annual cumulative figure increased (+3.9%) compared to the previous year.



Hydroelectric Production and Capacity

Source: Terna

In August, hydroelectric producibility fell (-10%) compared to the same month of the previous year.



In August 2021, considering Italy as a whole, the reservoir percentage compared to the maximum reservoir capacity was 52.8%, a decrease compared to the same month in 2020 (58.7%).

[MW]

P_{inst} ≤1000

P_{inst}> 3000

1000< P_{inst}≤ 2000

2000< P_{inst}≤3000

Production from

hydroelectric sources down (-7.6%) compared to

the previous month.

	Reservoir Capacity	NORTH	CENTRE SOUTH	ISLANDS	TOTAL
51	[GWh]	2.421	868	156	3.445
%(capacity / ma	%(capacity / max capacity)	56,0%	47,9%	40,9%	52,8%
50	[GWh]	2.729	893	204	3.826
20	% (capacity / max capacity)	63%	49%	54%	59%

Hydroelectric Producibility and Reservoir Percentage

Geothermal Production and Capacity

Energy produced from geothermal sources in August 2021 reached 463 GWh, down compared to the previous month by 7 GWh. The annual cumulative figure was down (-2.6%) compared to the previous year.





 $P_{inst} = 0$ $0 < P_{inst} \le 500$ $500 < P_{inst} \le 1000$



Source: Terna

Energy produced from thermal sources in August 2021 was 13,652 GWh, down on the previous month by 2,444 GWh. The annual cumulative figure is in line with the previous year (+0.1%).





15

Day-Ahead Market

The August total for withdrawal programmes on the DAM was approximately €2.8 Bn, slightly down (-2%) compared to the previous month and up 181% compared to August 2020.

The decrease compared to July is attributable to a reduction in demand, while the increase over the previous year is due to growth in average PUN from \leq 40.3/MWh (August 2020) to \leq 112.4/MWh (August 2021).



Day Ahead Market – amounts and volumes

Total amount in August 2021 up by 181% compared to August 2020

Source: Terna calculation on GME data

In August, only the zonal prices of the Sardinia and Centre-North zones were basically in line with the PUN; the Sicily zone recorded a spread of $+ \in 20.8$ /Mwh; Calabria, South and Centre-South recorded a spread of $- \in 6.6$ /MWh.

Compared to August 2020 the zonal prices recorded an average increase of €73.6/MWh.

Spread compared to the SNP

[€/MWh]						
Tan-1 possible environment						
Calabria	Centre-North	Centre-South	North	Sardinia	Sicily	South

Zonal prices in August 2021 in line with PUN only for the Sardinia and Centre-North zones

Source: Terna calculation on GME data

The spread between the peak and off-peak prices in August was on average \in -8.6/MWh for Sardinia, it was an average of \in 13.1/MWh for the Northern and Centre-North zones and it was an average of \notin 4.4/MWh for the remaining zones.

The spread between the peak and off-peak prices in August was on average \in 7.7/MWh for the Sicily zone, it was an average of \in 15.8/MWh for the Northern and Centre-North zones and it was an average of \in 9.8/MWh for the remaining zones.

€/MWh	PUN	North	Centre-North	Centre-South	South	Sicily	Sardinia	Calabria
Average	112.4	105.8	109.9	118.6	118.6	133.2	111.5	120.5
Y-0-Y	72.1	67.8	69.5	77.6	78.1	79.2	70.8	
Δ vs PUN	-	-6.6	-2.5	6.2	6.2	20.8	-0.9	8.1
Δ vs PUN 2020	-	-2.3	0.1	0.7	0.2	13.7	0.4	
Peak	118.4	115.3	117.3	120.7	120.7	136.8	106	120.8
Off Peak	109.1	100.5	105.9	117.4	117.4	131.2	114.6	120.4
Δ Peak vs Off Peak	9.4	14.8	11.4	3.3	3.3	5.6	-8.6	0.5
Minimum	60.1	36.1	48.2	50.1	50.1	76.2	0	72
Maximum	157	150	199	199	199	199	199	199

Day Ahead Market – PUN and zonal prices [€/MWh]

Peak-off peak spread down compared to the previous month across all zones.

Source: Terna calculation on GME data

August saw a rise in price spreads compared with the previous month on all borders except for Slovenia and Greece.

Imports totalled 4.1 TWh, with France and Switzerland accounting for 41% and 47% of the total respectively. Total exports were 0.1 TWh, with Montenegro accounting for 68% and Slovenia 28%.

Price spread with foreign exchanges and day ahead programmes



Net imports on the Northern border of 3.8 TWh

Source: Terna calculation

*No spread is represented for Montenegro because there is no power exchange.

Ex-ante Ancillary Services Market

In August, the spread between average bid-up and bid-down prices was €124/MWh, up compared to the previous month by 10% and by 54% compared to August 2020.

The total volumes fell slightly compared to the previous month (-1%), in particular upward volumes decreased by 9% and downward volumes increased by 12%.

The upward volumes fell by 32%, while the downwards volumes rose by 6% compared to the same month of the previous year.



Ex-ante Ancillary Services - prices and volumes

Average bid-up price in August 2021 of €180/MWh Average bid-down price in August 2021 of €56/MWh

Source: Terna

The market zone featuring the highest spread (\in 189/MWh) is the Centre-South, as in the previous month.

This spread recorded a slight decrease compared to the previous month (-1%), due to an increase in the average bid-up price of 2% (from €248/MWh in July to €252/MWh in August) and an increase in the average bid-down price of 12% (from €57/MWh in July to €63/MWh in August).



Ex-ante Ancillary Services - prices and volumes by market zone

Centre-South: zone with the highest price spread North: zone with the most volumes moved

Balancing Market

In August, the spread between bid-up and bid-down prices was €118/MWh, up compared to the previous month (€115/Mwh; +3%) and up compared to August 2020 (€84/MWh; +41%). The total volumes fell compared to the previous month (-10%), in particular upward volumes decreased by 23% and downward volumes increased by 1%. Compared to August 2020, upward volumes increased by 83% and downward volumes fell by 6%.



Average bid-up price in August 2021 of €173/MWh Average bid-down price in August 2021 of €55/MWh

Source: Terna

The market zone featuring the highest spread (€157/MWh) was the Centre-South, in line with the previous month (spread of €188/MWh).

This spread recorded a 17% decrease compared to the previous month, due to an increase in the average bid-down price of 10% (from €67/MWh in July to €74/MWh in August) and to a reduction in the average bid-up price of 10% (from €254/MWh in July to €230/MWh in August).





Centre-South: zone featuring the highest price spread North: zone with the most volumes moved

Commodities – Spot Market

In August 2021, Brent prices decreased compared to July and settled at \$70/bbl (-6.2%).

Coal prices (AP12) stood at \$146.5/t, an increase compared to the previous month (+13.1%).

Gas prices in Europe (TTF) increased in August with a monthly average of €44.1/MWh (+21.6% compared to the previous month); the PSV also recorded an increase and settled at €43/MWh (+20.3%).

Electricity prices in Italy rose in August compared to the previous month, with a monthly average of ≤ 112.4 /MWh (+9.5%). The French power exchange decreased, with the price of electricity at ≤ 76.1 /MWh (-3.3%), whilst the German exchange increased, with a price of ≤ 82.7 /MWh (+1.6%).



Spot electricity prices

Source: TERNA calculation on GME and EPEX data

Gas & Oil spot prices



Monthly average change PSV-TTF = €1.1/MWh

Source: Terna calculation on Bloomberg data



Coal & Carbon spot prices

Source: Terna calculation on Bloomberg data



Clean Dark & Spark spreads Italy

Monthly average change API2-API4 = +\$9.5/t

Clean spark spread PSV monthly average = +€7/MWh

Clean dark spread API2 monthly average = +€19.1/MWh



Source: Terna calculation on Bloomberg data

Commodities – Forward Market

In August 2021, Brent forward prices stood at around \$65.2/bbl, down compared to Julyh (-2.6%).

The average forward prices of coal (API2) were up compared to July, settling at around \$89.2/t (+11.5%).

The average forward prices of gas in Europe (TTF) increased compared to the previous month (+19.9%), settling at around €31/MWh; forward prices in Italy (PSV) also increased, reaching €31.1/MWh (+17.7%).

The average forward prices of electricity in Italy stood at around $\notin 90.3$ /MWh, up compared to the previous month (+13.8%). There was also an upward trend on the French stock exchange, where the price stands at around $\notin 80.3$ /MWh (+9.3%); as is the case in Germany, where the price settled at around $\notin 81.3$ /MWh (+12.7%).



Forward Electricity Prices – Year+1

Source: Terna calculation on Bloomberg data

Year+1 Forward Gas & Oil Prices



Monthly average change PSV-TTF = +€0.1/MWh

Source: Terna calculation on Bloomberg data



Year+1 Forward Coal & Carbon Prices



Source: Terna calculation on Bloomberg data



Clean Year+1 Forward Dark & Spark spreads Italy

Clean spark spread PSV monthly average = +€6.4/MWh

Clean dark spread API2 monthly average = +€11.6/MWh

Source: Terna calculation on Bloomberg data

Key

API2 – CIF ARA: the reference index for the coal price (with PCI of 6, 000 kcal/kg) imported from north-west Europe. It is determined on the basis of an assessment on the CIF (Cost, Insurance and Freight) prices of coal contracts, with delivery to the ports of Amsterdam – Rotterdam – Antwerp (ARA).

API4 – FOB Richard Bay: the reference index for the coal price (with PCI of 6,000 kcal/kg) exported from Richards Bay in South Africa. It is calculated on the basis of an assessment on the FOB (Free On Board) prices of contracts excluding transport starting from the port of Richards Bay.

Territorial Areas: these consist of one or more adjacent regions and are aggregated as indicated:

TURIN: Piedmont - Liguria - Valle d'Aosta MILAN: Lombardy (*); VENICE: Friuli Venezia Giulia - Veneto - Trentino Alto Adige FLORENCE: Emilia Romagna (*) - Tuscany; ROME: Lazio - Umbria - Abruzzo - Molise - August NAPLES: Campania - Apulia - Basilicata - Calabria; PALERMO: Sicily CAGLIARI: Sardinia

(*) In these two regions, the geographical borders do not correspond to the electrical borders. Lombardy includes production plants that are part of the geographical administrative territory of Emilia Romagna.

The data related to the reservoirs table of tanks are **aggregated by ZONE** as indicated: NORTH - includes the Territorial Areas TURIN, MILAN and VENICE; CENTRE and SOUTH – includes the Territorial Areas FLORENCE, ROME and NAPLES; ISLANDS – includes the Territorial Areas PALERMO and CAGLIARI;

Brent: the oil price as global reference for the crude oil market. Brent Crude is the result of a mixture deriving from the union of different types of oil extracted from the North Sea.

Clean Dark Spread: the difference between the price of electricity and the cost of the fuel of a coal power station and the cost of the CO2 emission quotas.

Clean Spark Spread: the difference between the price of electricity and the cost of the fuel of a gas power station and the cost of the CO2 emission quotas.

Dirty Dark Spread: the difference between the price of electricity and the cost of the fuel of a coal power station.

Dirty Spark Spread: the difference between the price of electricity and the cost of the fuel of a gas power station.

Day-Ahead Market (DAM): the trading venue of offers to buy and sell electricity for each relevant period of the day after that of trading.

Balancing Market (MB): the set of activities performed by the Operator for selecting the offers presented on the Dispatching Services Market to resolve the congestions and establish secondary and tertiary reserve power margins, carried out on the same day as that to which the offers refer.

Dispatching Services Market (MSD): the trading venue of the resources for the dispatching service.

Dispatching Services Market - planning stage (Ex-ante Ancillary Services Market): the set of activities performed by the Operator for selecting the offers presented on the Dispatching Services Market to resolve the congestions and establish secondary and tertiary reserve power margins, carried out in advance with respect to real time.

M-o-M - Month on Month: percentage change of the difference between the reference month and the previous month

NET TRANSFER CAPACITY - NTC: the maximum transfer capacity of the grid for interconnection with other countries. NTC D-2 indicates the same capacity defined in day D-2.

Peak hours: these, according to the agreement with the electricity market operator (Gestore del Mercato Elettrico - GME), are the hours between 8:00 and 20:00 of working days only. **Off-peak hours** are all hours that are outside of peak hours.

CO₂ Price: determined by the European Union Emissions Trading Scheme (EU ETS), a system for the trading of greenhouse gas emission quotas in Europe aimed at reducing emissions.

Single National Price - PUN: the Single National Price calculated as a result of the Day-Ahead Market (DAM).

DAM Zonal Price: the balanced price of each zone calculated as a result of the Day-Ahead Market (DAM).

PSV - Punto Scambio Virtuale: the price at the virtual exchange point for the buying and selling of natural gas in Italy.

TTF - Title Transfer Facility: the price at the virtual exchange point for the buying and selling of natural gas in the Netherlands.

Y-o-Y – Year on Year: percentage change of the difference between the period of the current year and the same period of the previous year

IMCEI - Monthly Industrial Electrical Consumption Index: The monthly IMCEI index was constructed based on the size of the monthly withdrawals of the approximately 530 customers directly connected to the high voltage grid and for which Terna is responsible. These customers have been reclassified pursuant to the Ateco2007 Codes and aggregated by electrically relevant product class. The adimensional index has been created taking 2015 as a basis 100.

Disclaimer

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- 1. The 2020 and 2021 monthly electricity balances are provisional.
- 2. More specifically, the monthly electricity reports for 2021 prepared at the end of each month using the operating archives are subject to further and precise verification or recalculation in the following months based on additional information. This operation to refine the monthly figures translates, for the reporting data, into a higher degree of precision compared to the sum of the data processed in the single Monthly Reports published on the website <u>www.terna.it</u>.