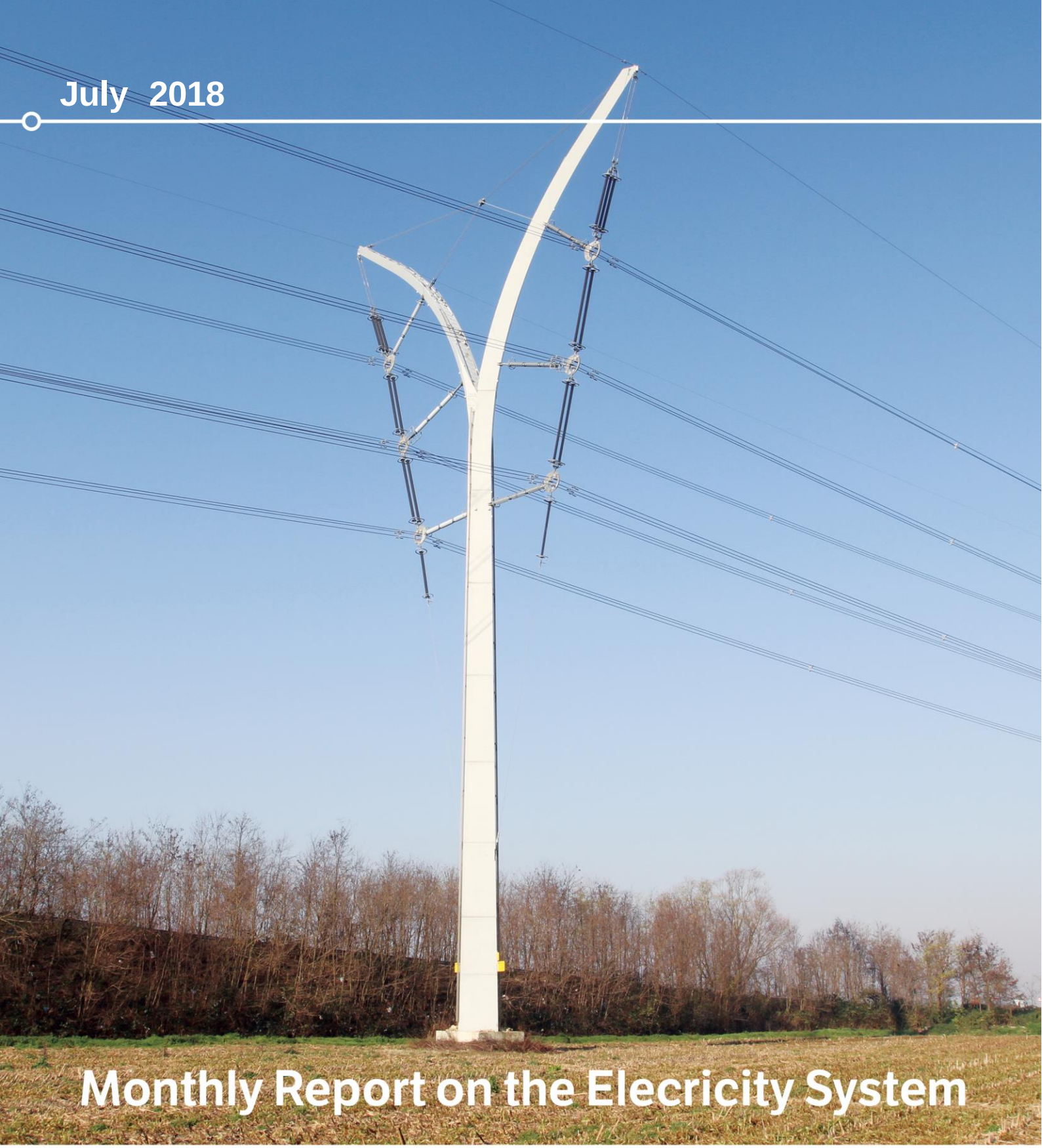
July 2018



Monthly Report on the Elecricity System

Terna
TERNA GROUP

Monthly Report on the Electricity System

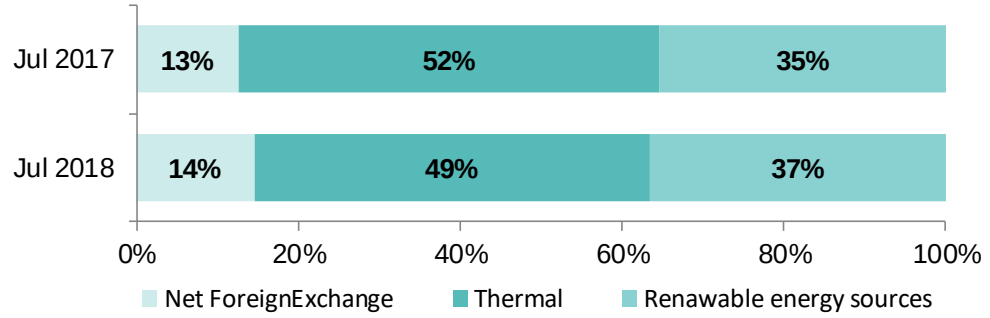
July 2018

Monthly Report on the Electricity System

Monthly summary

In July 2018, electricity demand was 30,417GWh, an increase compared to the same month of the previous year (+1.3%). In particular, an increase in renewable production (+4.5%), and net foreign exchange (+19.2%) and a decrease in thermoelectric production (-4.8%) was recorded compared to the same month of the previous year.

Breakdown of Demand



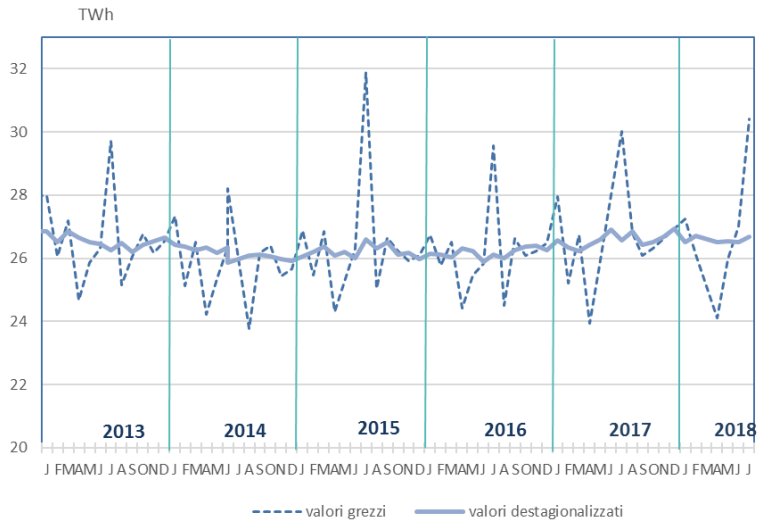
In July, energy demand on the grid was up +1.3% compared to the same month of 2017.

Source: Terna

Short-term analysis

The increase of 1.3% compared to July volumes of the previous year was achieved with one extra working day (22 against 21) and with an average monthly temperature in line with the previous July. Without the effects of the calendar and temperature (*), the change is less significant but still positive (+0.4%).
In the first seven months of 2018, demand increased +0.4% compared to the same period in 2017; in seasonally adjusted terms, the variation was zero.
At a regional level, in July 2018 the trend was varied: positive in the North (+2.7%), almost stable in Central Italy (+0.2%) and negative in the South (-0.9%).
The seasonally-adjusted value for electricity demand during July 2018 recorded weak growth: +0.6%. The stationary trend continues.
Finally, in July 2018, 85.7% of electricity demand in Italy was covered by national production, less pumping consumption, (-1.3% of net production compared to July 2017) and the remainder by imports (foreign exchange +19.2% compared to July 2017).

Short-term analysis of electricity demand



Without the effects of calendar and temperature, the change is less significant but still positive (+0.4%)

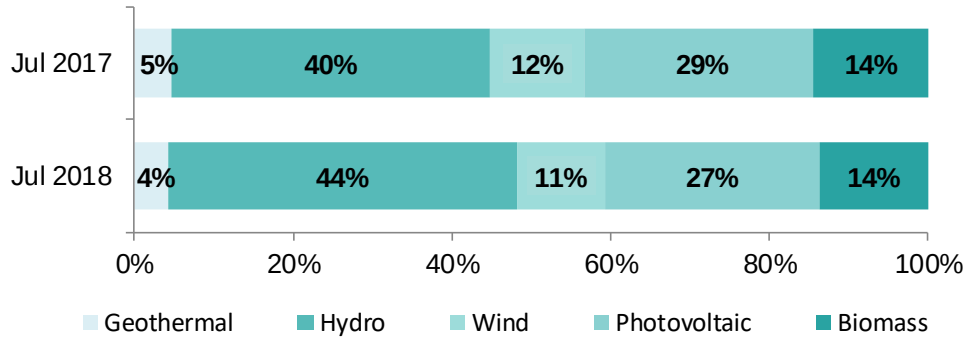
Source: Terna

(*) The adjusted figure is now published again employing a new methodology adopted by Terna using Demetra software for evaluation of calendar and temperature effects side by side. For further details please see attachment.

Details of Renewable Energy Sources (RES)

Monthly production from renewables saw an increase in hydroelectric production (+13.9%), while there was a drop in photovoltaic production (-2.2%), wind production (-2.5%) and geothermal production (-5.1%) compared to the previous year.

Details of Renewable Energy Sources



In July 2018, the detailed breakdown of production from renewable energy sources recorded a M-o-M percentage reduction (-8.5%).

Source: Terna

Energy Balance Sheet

In 2018, cumulative electricity demand (188,647GWh) increased (+0.4%) compared to 2017.

In July 2018, net national production was 26,199GWh, 43% from renewable sources (11,137GWh) and the remaining 57% from thermal sources.

Energy Balance Sheet

[GWh]	Jul 2018	Jul 2017	%18/17	Jan-Jul18	Jan-Jul17	%18/17
Hydro	4.969	4.361	13,9%	30.699	23.736	29,3%
Thermal	16.568	17.407	-4,8%	102.626	114.555	-10,4%
of which Biomass	1.506	1.515	-0,6%	10.351	10.408	-0,5%
Geothermal	470	495	-5,1%	3.329	3.415	-2,5%
Wind	1.225	1.257	-2,5%	10.877	10.097	7,7%
Photovoltaic	2.967	3.033	-2,2%	14.395	15.497	-7,1%
Net Total Production	**26.199**	**26.553**	**-1,3%**	**161.926**	**167.300**	**-3,2%**
Import	4.679	4.161	12,4%	30.208	25.561	18,2%
Export	326	508	-35,8%	2.012	3.594	-44,0%
Net Foreign Exchange	**4.353**	**3.653**	**19,2%**	**28.196**	**21.967**	**28,4%**
Pumping	**135**	**180**	**-25,0%**	**1.475**	**1.464**	**0,8%**
Electricity demand[1]	**30.417**	**30.026**	**1,3%**	**188.647**	**187.803**	**0,4%**

(1) Electricity Demand = Production + Net Foreign Exchange – Pumping Consumption.

Source: Terna

In 2018, a decrease in exports (-44.0%) was recorded compared to the previous year.
In July 2018, a reduction was recorded in production from thermal sources (-4.8%) and in photovoltaic production (-2.2%), while there was an increase in hydroelectric production (+13.9%) on the previous year.

Monthly Energy Balance Sheets

In 2018, net total production (161,926GWh) met 86% of national electricity demand (188,647GWh).

Monthly Electricity Statement in Italy 2018

[GWh]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hydro	2.731	2.601	3.187	4.675	6.518	6.018	4.969						30.699
Thermal	16.650	16.093	15.725	11.940	12.513	13.137	16.568						102.626
Geothermal	494	445	492	476	486	466	470						3.329
Wind	1.986	1.696	2.422	1.221	909	1.418	1.225						10.877
Photovoltaic	1.029	1.052	1.688	2.428	2.437	2.794	2.967						14.395
Net Total Production	**22.890**	**21.887**	**23.514**	**20.740**	**22.863**	**23.833**	**26.199**						**161.926**
Import	4.899	4.610	4.732	4.004	3.671	3.613	4.679						30.208
Export	326	199	179	337	370	275	326						2.012
Net Foreign Exchange	**4.573**	**4.411**	**4.553**	**3.667**	**3.301**	**3.338**	**4.353**						**28.196**
Pumping	223	192	286	299	201	139	135						1.475
Electricity demand(1)	**27.240**	**26.106**	**27.781**	**24.108**	**25.963**	**27.032**	**30.417**						**188.647**

(1) Electricity Demand = Production + Net Foreign Exchange – Pumping Consumption.

Source: Terna

In July, net total production decreased (-1.3%) compared to 2017. In 2018, the month with the maximum demand for electricity was July, with 30,417GWh.

The evolution of the monthly statement for 2017 is given below.

Monthly Electricity Statement in Italy 2017

[GWh]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hydro	2.685	2.232	2.779	2.937	4.086	4.656	4.361	3.776	3.468	2.231	2.064	2.282	37.557
Thermal	21.004	16.893	14.717	13.863	14.249	16.422	17.407	16.176	15.336	17.129	19.143	17.966	200.305
Geothermal	508	456	505	482	493	476	495	480	464	483	479	500	5.821
Wind	1.811	1.539	1.944	1.379	1.251	916	1.257	1.080	1.357	1.262	1.512	2.257	17.565
Photovoltaic	961	1.132	2.229	2.456	2.798	2.888	3.033	2.806	2.058	1.788	1.007	861	24.017
Net Total Production	**26.969**	**22.252**	**22.174**	**21.117**	**22.877**	**25.358**	**26.553**	**24.318**	**22.683**	**22.893**	**24.205**	**23.866**	**285.265**
Import	2.073	3.568	5.155	3.613	3.701	3.290	4.161	3.012	3.887	3.782	2.991	3.662	42.895
Export	803	383	404	537	498	461	508	372	347	203	308	310	5.134
Net Foreign Exchange	**1.270**	**3.185**	**4.751**	**3.076**	**3.203**	**2.829**	**3.653**	**2.640**	**3.540**	**3.579**	**2.683**	**3.352**	**37.761**
Pumping	298	226	189	250	141	180	180	159	147	164	251	293	2.478
Electricity demand(1)	**27.941**	**25.211**	**26.736**	**23.943**	**25.939**	**28.007**	**30.026**	**26.799**	**26.076**	**26.308**	**26.637**	**26.925**	**320.548**

(1) Electricity Demand = Production + Net Foreign Exchange – Pumping Consumption.

Source: Terna

In 2017, the month with the maximum demand for electricity was July with 30,026GWh.

Demand by Geographical Areas

In July 2018, there was an increase in demand in the North (To-Mi-Ve) and Centre (Rm-Fi), while demand in the South (Na) decreased and demand on the Islands (Ca-Pa) remained in line with the same period of the previous year.

Demand by Geographical Areas

[GWh]	Turin	Milan	Venice	Florence	Rome	Naples	Palermo	Cagliari
Jul 2018	3.060	6.537	4.611	4.875	4.256	4.344	1.898	836
Jul 2017	2.962	6.346	4.533	4.740	4.185	4.518	1.882	860
% Jul 2018/2017	3,3%	3,0%	1,7%	2,8%	1,7%	-3,9%	0,9%	-2,8%
Cumulated 2018	19.367	41.306	29.257	29.692	26.117	26.525	11.101	5.282
Cumulated 2017	19.624	41.059	28.618	28.990	25.978	27.027	11.278	5.229
% Cumulated 18/17	-1,3%	0,6%	2,2%	2,4%	0,5%	-1,9%	-1,6%	1,0%

Source: Terna

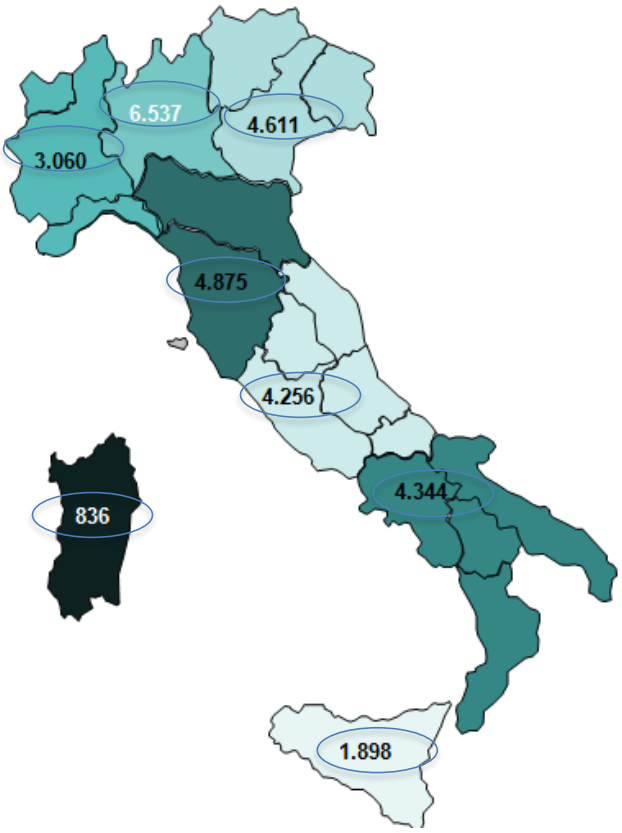
In 2018, the Y-o-Y percentage change in demand was +0.7% in the Northern zone, +1.5% in the Centre, -1.9% in the South and -0.8% on the Islands.

Demand by Geographical Areas – Regional Representation

[GWh]

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 - Veneto - Trentino Alto Adige;
- FLORENCE: Emilia Romagna (*) - Tuscany;
- ROME: Lazio - Umbria - Abruzzo - Molise - Marche
- NAPLES: Campania - Apulia - Basilicata - Calabria;
- PALERMO: Sicily
- CAGLIARI: Sardinia



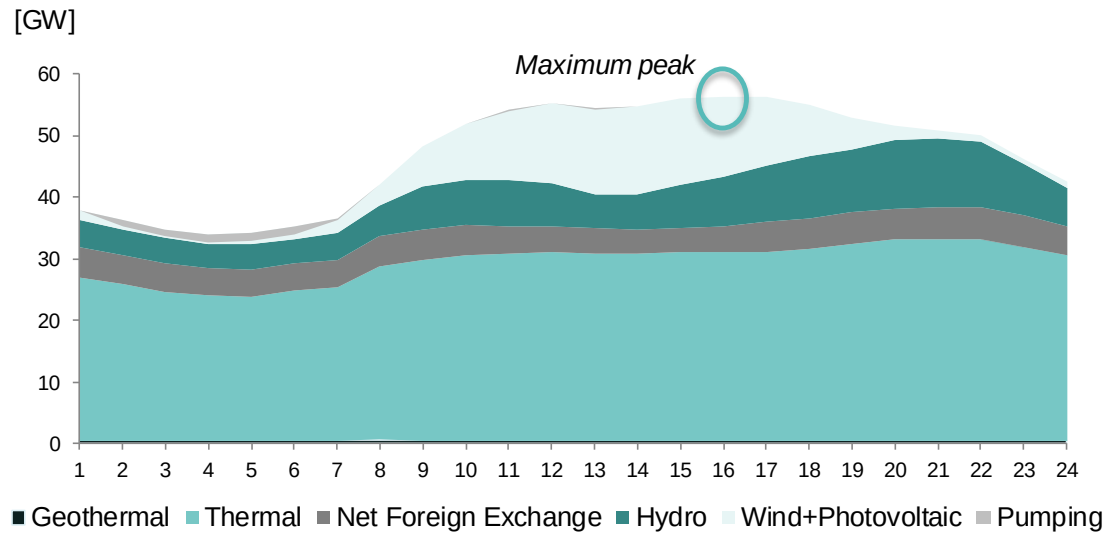
Source: Terna

(*) 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 July 2018, peak demand was recorded on **Tuesday 31 July at 16:00** and was 56,212MW (-0.4% Y-o-Y). The hourly demand diagram of the peak day is presented below.

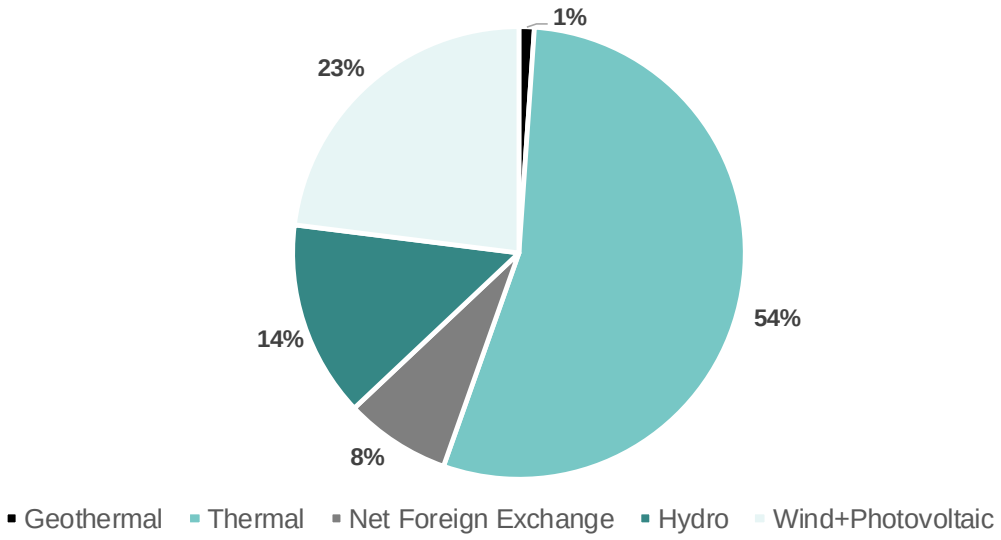
Peak Demand



At peak, the contribution of thermal production was 30,523 MW.

Source: Terna

Coverage at Peak Demand- 31 July 2018 16:00



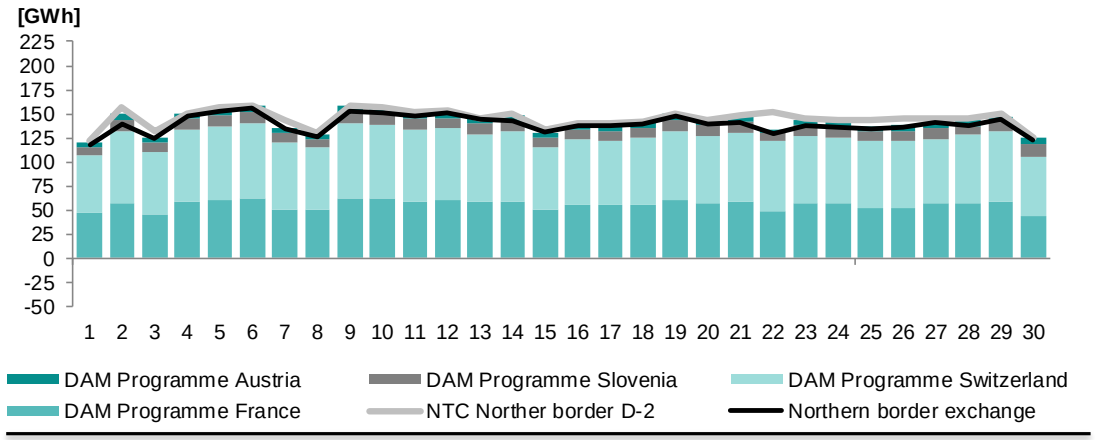
At peak, production from renewable sources contributed to covering demand for 38%, thermal production for 54% and the remainder was the net foreign exchange.

Source: Terna

Net Foreign Exchange – July 2018

In July, there was good saturation of the planned figure for NTC (Net Transfer Capacity) calculated in D-2 compared to the exchange programmes on the Northern border.

Net Foreign Exchange Balance on the Northern border



In July 2018, there were imports of 4,679GWh and exports of 326GWh.

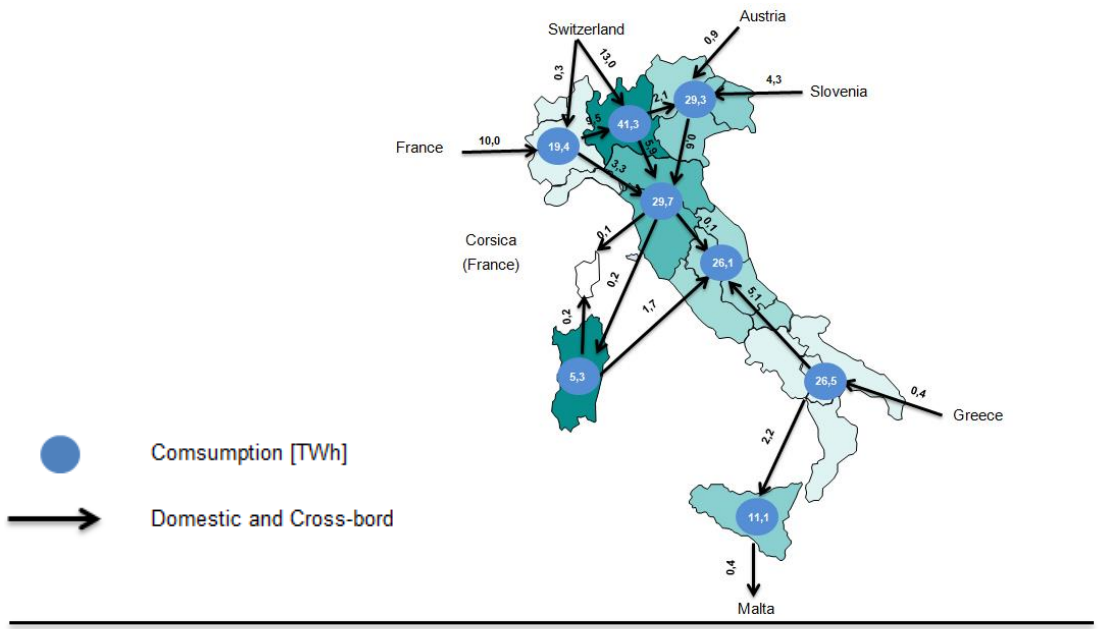
Source: Terna

Balance of Physical Exchanges – Annual Cumulative Figure

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

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

Balance of physical electricity exchanges: map chart



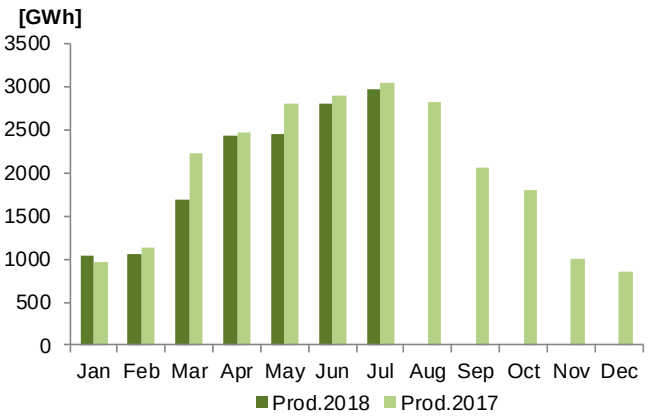
In 2018, a net exchange was recorded from the Northern zone to Emilia Romagna and Tuscany of 9.8TWh. The Continent recorded a net exchange towards Sicily of 2.2TWh.

Source: Terna

Production and installed capacity

Energy produced by photovoltaic sources in July 2018 was 2,967GWh, up on the previous month by 173GWh. The annual cumulative figure fell compared to the previous year (-7.1%).

Photovoltaic Production and Capacity

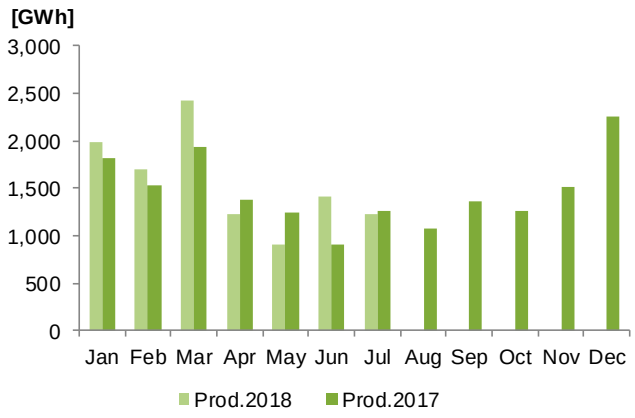


Production from photovoltaic sources up by +6.2% compared to the previous month.

Source: Terna

The energy produced by wind power in July 2018 was 1,225GWh, down compared to the previous month by 193GWh. The annual cumulative figure increased compared to the previous year (+7.7%).

Wind Production and Capacity

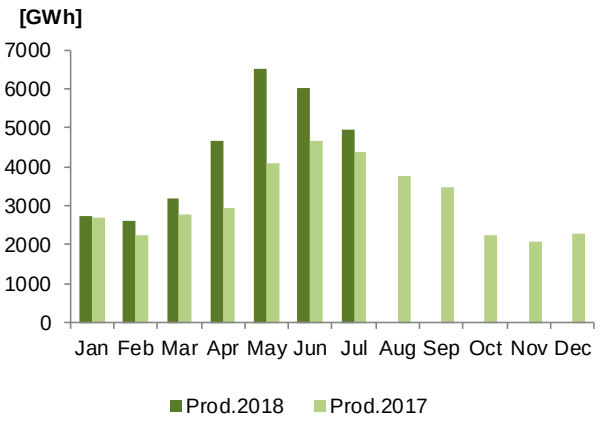


Production from wind sources down compared to the previous month by -13.6%.

Source: Terna

Energy produced by hydroelectric sources (e.g. reservoirs, tanks and run-of-river) in July 2018 was 4,969GWh, down on the previous month by 1,049GWh. The annual cumulative figure was up (+29.3%) compared to the previous year.

Hydroelectric Production and Capacity



[MW]

$P_{inst} \leq 1000$

$1000 < P_{inst} \leq 2000$

$2000 < P_{inst} \leq 3000$

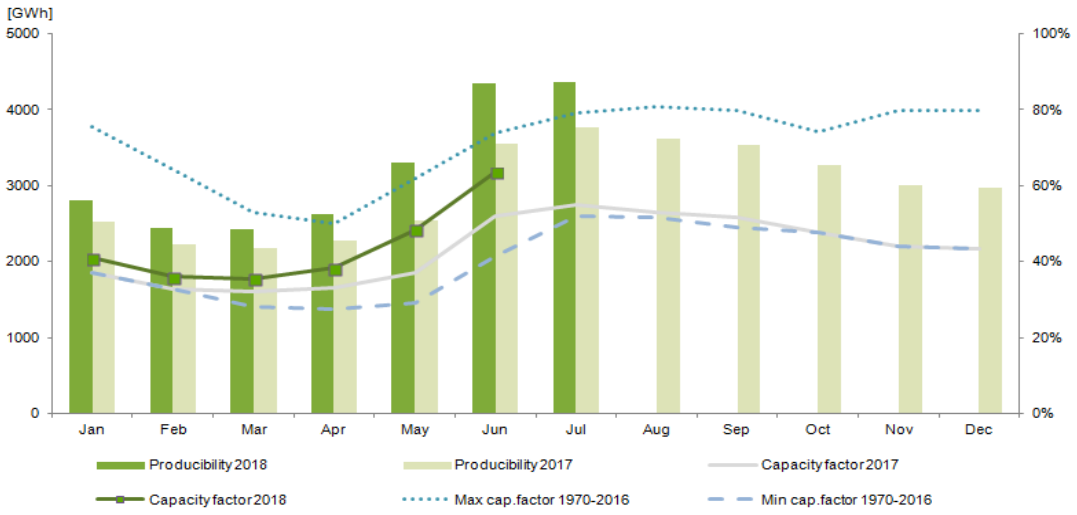
$P_{inst} > 3000$

Production from hydroelectric sources down compared to the previous month (-17.4%).

Source: Terna

In July, hydroelectric producibility was in line with the previous month.

Hydroelectric Producibility and Reservoir Percentage



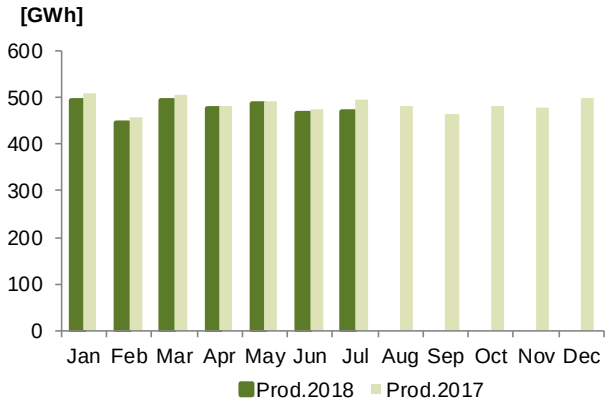
July 2018, considering Italy as a whole, the current reservoir percentage compared to the maximum reservoir capacity was +63.8%, an increase compared to the same month in 2017.

	Reservoir Capacity	NORTH	CENTRE SOUTH	ISLANDS	TOTAL
2018	[GWh]	3.009	1.107	244	4.360
	% (capacity / max capacity)	64,8%	61,0%	64,1%	63,8%
2017	[GWh]	2.678	877	214	3.769
	% (capacity / max capacity)	57,7%	48,4%	56,3%	37,2%

Source: Terna

Energy produced by geothermal sources in July 2018 was 470GWh, up compared to the previous month by 4GWh. The annual cumulative figure was down (-2.5%) compared to the previous year.

Geothermal Production and Capacity

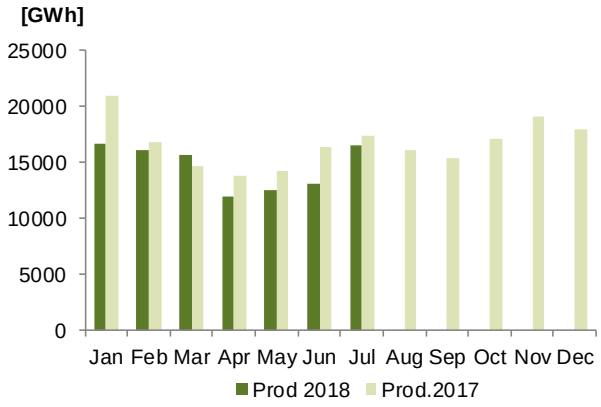


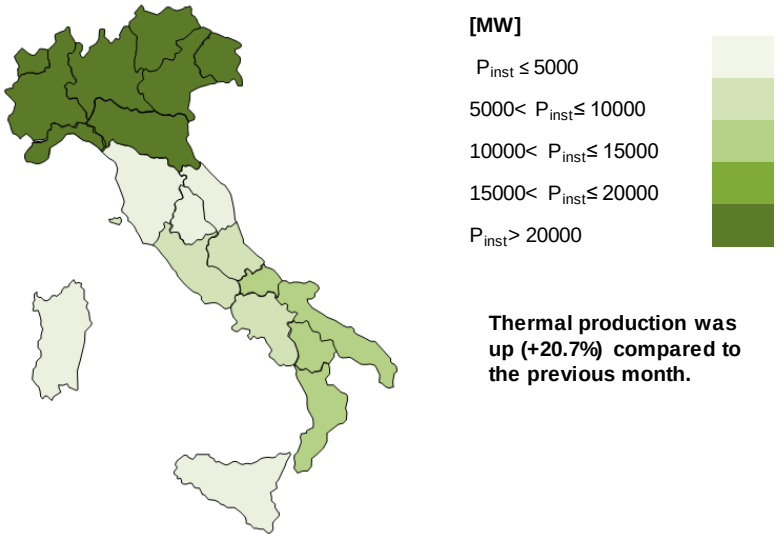
Thermal production increased (+0.9%) compared to the previous month.

Source: Terna

Energy produced by geothermal sources in July 2018 was 16,568GWh, up on the previous month by 3,431GWh. The annual cumulative figure was down (-10.4%) compared to the previous year.

Thermal Production and Capacity





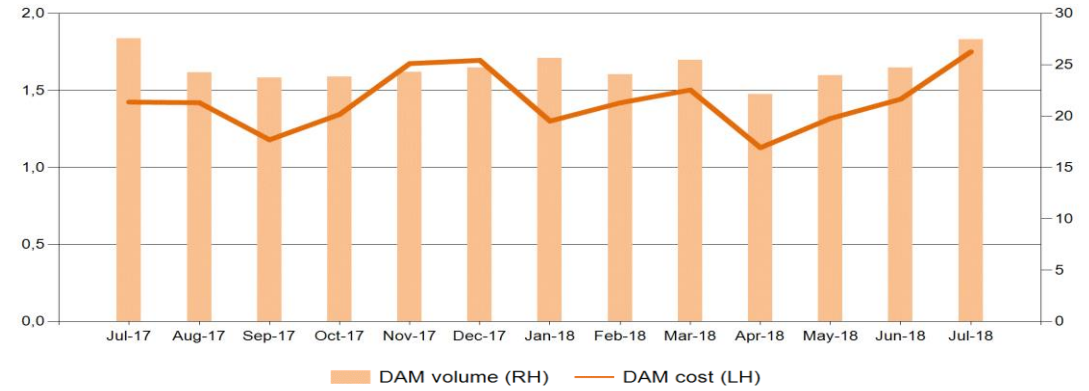
Thermal production was up (+20.7%) compared to the previous month.

Source: Terna

Day-Ahead Market

The July total for withdrawal programmes on the DAM was approximately €1.8 Bn, up 21% compared to the previous month and up 23% compared to July 2017.
The increase compared to June is due to a rise in both average PUN and demand, while the increase over the previous year is due to a growth in average PUN from €50.3/MWh (July 2017) to €62.7/MWh (July 2018).

Day-Ahead Market – amounts and volumes

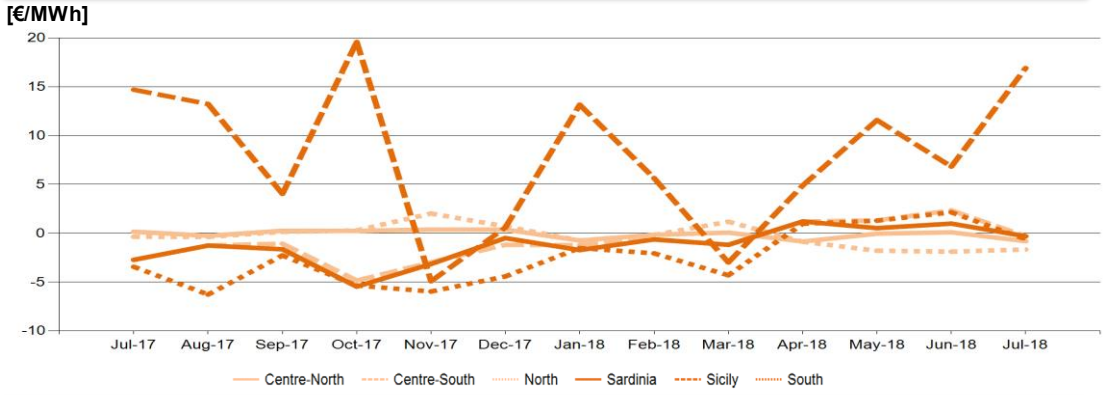


Total amount in July 2018 up by 23% compared to July 2017

Source: Terna calculation on GME data

In July, the zonal prices were basically in line with the PUN, with the exception of Sicily which recorded a spread of +€16.9/MWh.
Compared to July 2017, the price of the Sicily zone recorded an average increase of €14.6/MWh, while the other zones saw an average increase of €13.5/MWh.

Spread compared to the PUN



July 2018 zonal prices in line with the PUN for all zones except Sicily

Source: Terna calculation on GME data

In July, the spread between the peak and off-peak prices was €9.2/MWh for the Northern zone, €5.3/MWh on average for the Centre-North, Centre-South and Southern zones, and €2.2/MWh on average for Sicily and Sardinia.
In June, the spread between the peak and off-peak prices was €10.2/MWh for the North and Centre-North and €2.9/MWh for the other zones.

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

€/MWh	PUN	North	Centre-North	Centre-South	South	Sicily	Sardinia
Average	62.7	61.0	61.9	62.4	62.1	79.6	62.4
Y-o-Y	12.4	11.1	11.4	14.8	15.2	14.6	14.8
Δ vs PUN	-	-1.7	-0.8	-0.3	-0.6	16.9	-0.3
Δ vs PUN 2017	-	-0.4	0.1	-2.7	-3.4	14.7	-2.7
Peak	67.2	66.9	66.9	65.1	64.6	79.8	65.1
Off-peak	60.2	57.8	59.1	60.9	60.7	79.5	60.9
Δ Peak v Off Peak	6.9	9.2	7.8	4.2	3.9	0.3	4.2
Minimum	36.9	30.0	30.0	34.3	12.0	32.2	34.3
Maximum	83.4	89.7	89.7	83.0	80.0	135.9	83.0

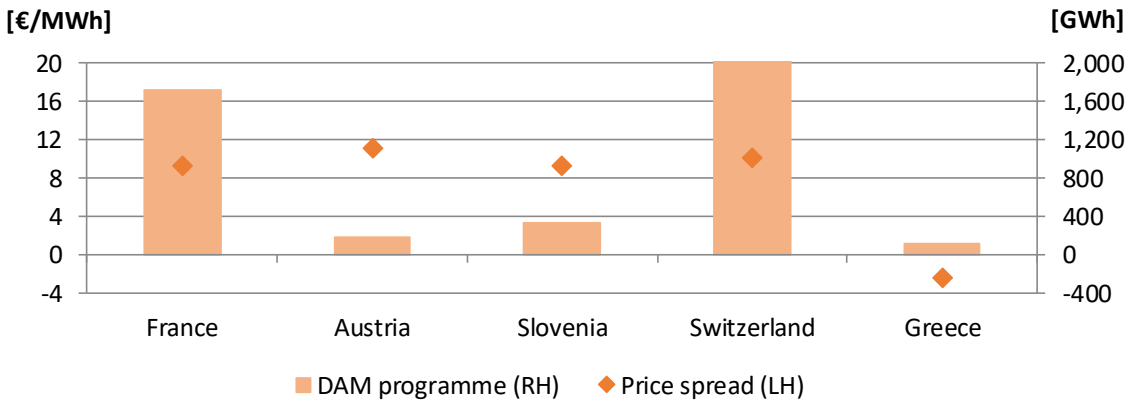
Source: Terna calculation on GME data

The spread between peak and off-peak prices compared to the previous month decreased in all zones except for the South and Sardinia, where it rose

In July, a decrease in the price spread compared to the previous month was recorded on all borders except for that with Slovenia.

In July imports totalled 4.7TWh, with France and Switzerland accounting for 36% and 46% of the total, respectively. Total exports were 0.2TWh, with Greece accounting for 99%.

Price spread with foreign exchanges and day ahead programmes



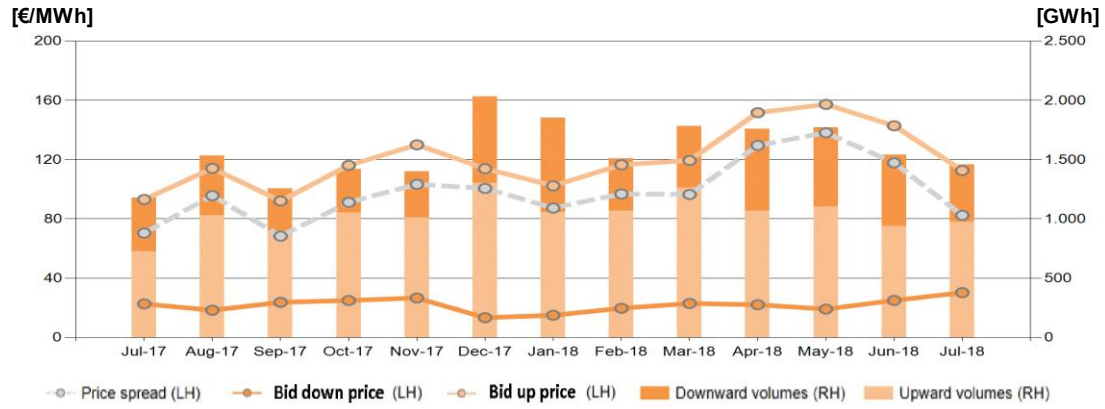
Source: Terna calculation

Net imports on the Northern border of 4.4TWh

Ex-ante Ancillary Services Market

In July, the spread between average bid-up and bid-down prices was €82.4/MWh, down compared to the previous month by 30% and up by 17% compared to July 2017.
The total volumes decreased compared to the previous month (-5%), in particular upward volumes increased by 4% and downward volumes fell by 20%.
The upward volumes increased by 35%, while downward volumes rose by 7% compared to the same month of the previous year.

Ex ante MSD prices and volumes

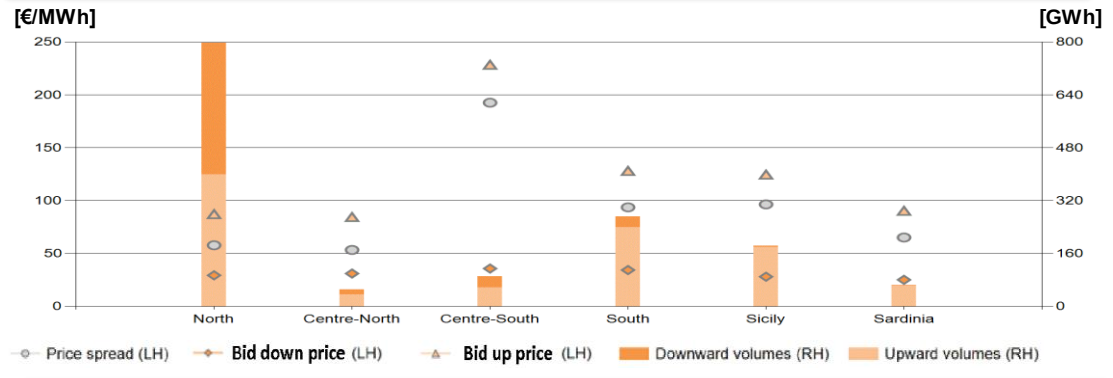


Average bid-up price in July 2018 of €112.6/MWh
Average bid-down price in July 2018 of €30.2/MWh

Source: Terna

The market zone characterised by the highest spread (€192.6/MWh) is the Centre-South, as in the previous month.
This spread recorded a 34% reduction compared to the previous month due to a reduction in the average bid-up price of 30% (from €324.7/MWh in June to €228.5/MWh in July) and an increase in the average bid-down price of 8% (from €33.1/MWh in June to €35.8/MWh in July).

Ex ante MSD prices and volumes by market zone



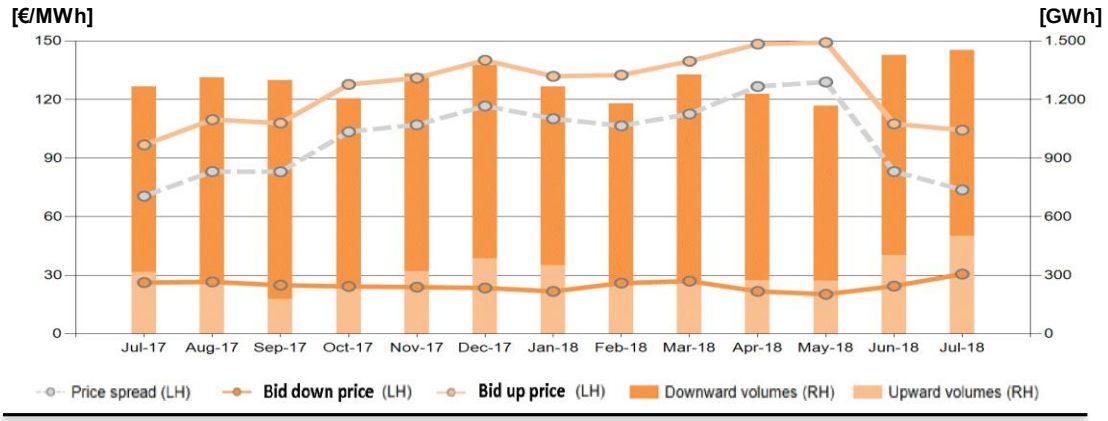
Centre-South: zone with the highest price spread
North: zone with the greatest volumes moved

Source: Terna

Balancing Market

In July the spread between bid-up and bid-down prices was €73.7/MWh, down on the previous month (€83.1/MWh) and up on July 2017 (€70.5/MWh; 5%).
Total volumes increased compared to the previous month (+2%), in particular, upward volumes increased by 24% and downward volumes fell by 7%. Compared to July 2017, upward volumes increased by 59% and downward volumes remained basically unchanged.

Balancing market – prices and volumes



Average bid-up price in July 2018 of €104.3/MWh
Average bid-down price in July 2018 of €30.6/MWh

Source: Terna

The market zone characterised by the highest spread (€173.4/MWh) is Sardinia.
In July, the Northern zone was confirmed as the zone showing the highest downward volumes (645GWh), as for the previous month, followed by the Southern zone (124GWh).
The price spread decreased across all zones, with the exception of Sardinia.
The Centre-South was the zone with the greatest decrease compared to the previous month (€93.8/MWh, -39%).

Balancing market – prices and volumes by market zone

Sardinia: zone characterised by the highest price spread
North: zone with the greatest volumes moved

Source: Terna

Commodities – Spot Market

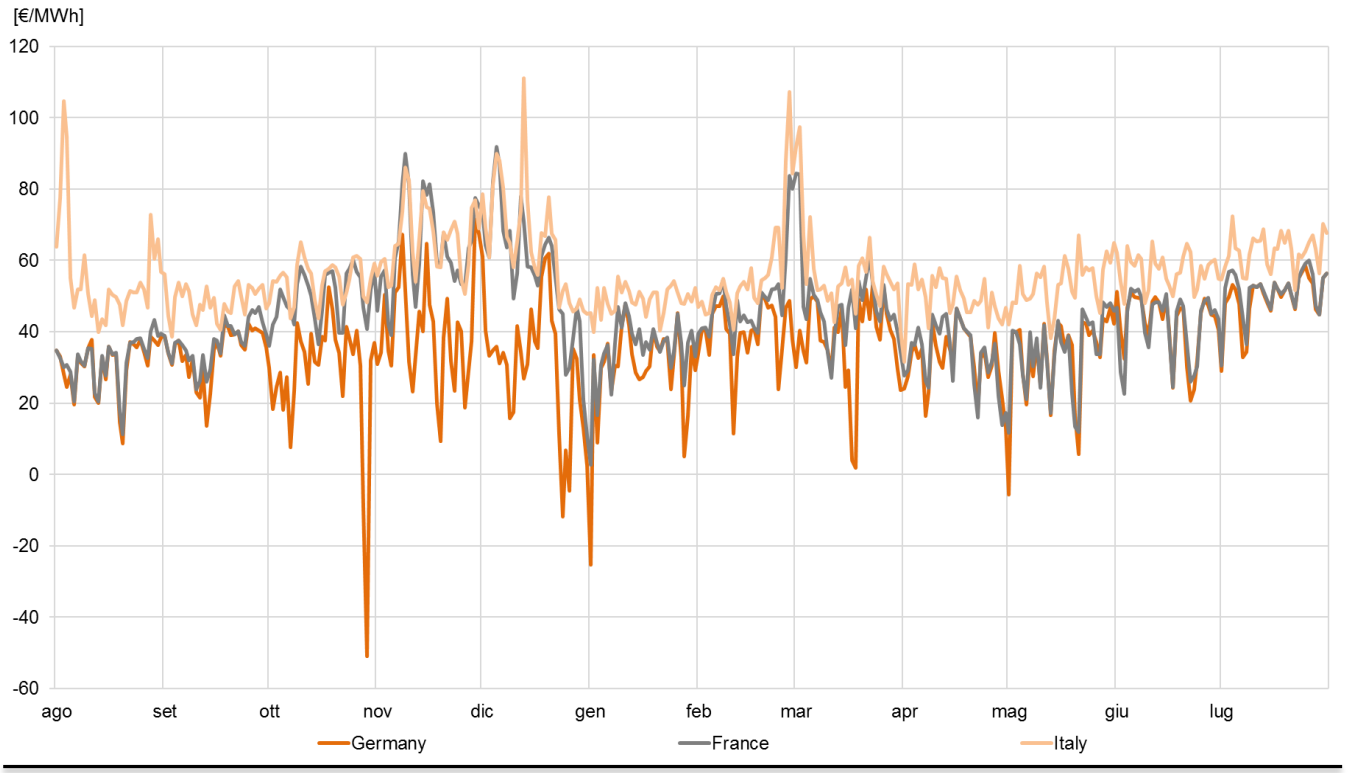
In July, prices of Brent oil stood at around $74.6/bbl, down on the $75.2/bbl recorded in June (-0.8%).

Coal prices (AP12) came out at approximately $100.3/t, an increase compared to the prices in June which were around $96.1/t (+4.3%).

Gas prices in Europe increased compared to the previous month by 1.3%, reaching €22.2/MWh; the PSV recorded an average of €24.5/MWh, up 2.2% on June.

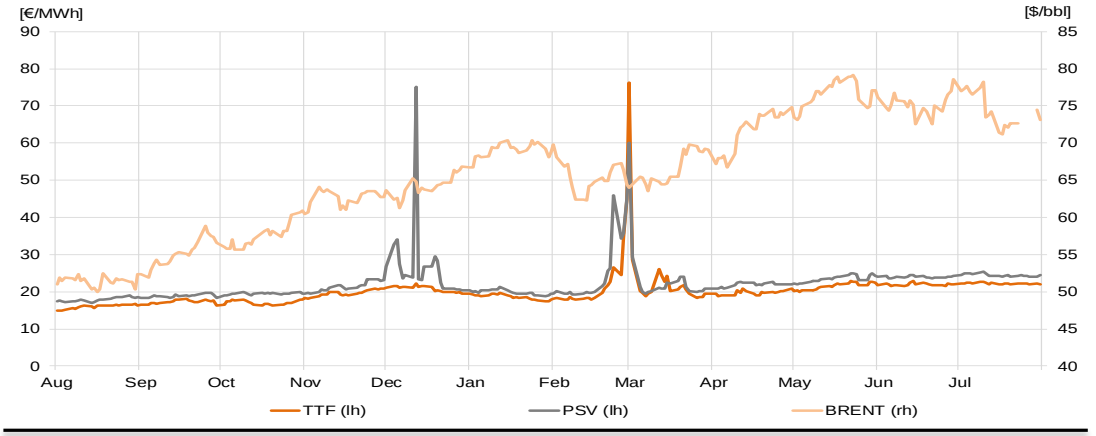
Electricity prices in Italy in July rose compared to June with a monthly average of €65.0/MWh (+8.5%).

Spot electricity prices



Source: Terna calculation on GME, EPEX data

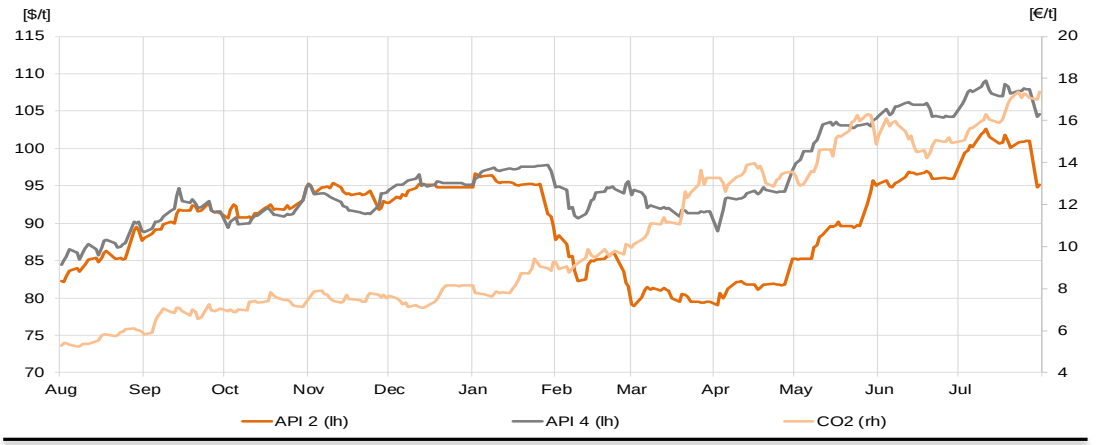
Gas & Oil spot prices



Monthly average change PSV-TTF = €2.3/MWh

Source: Terna calculation on Bloomberg data

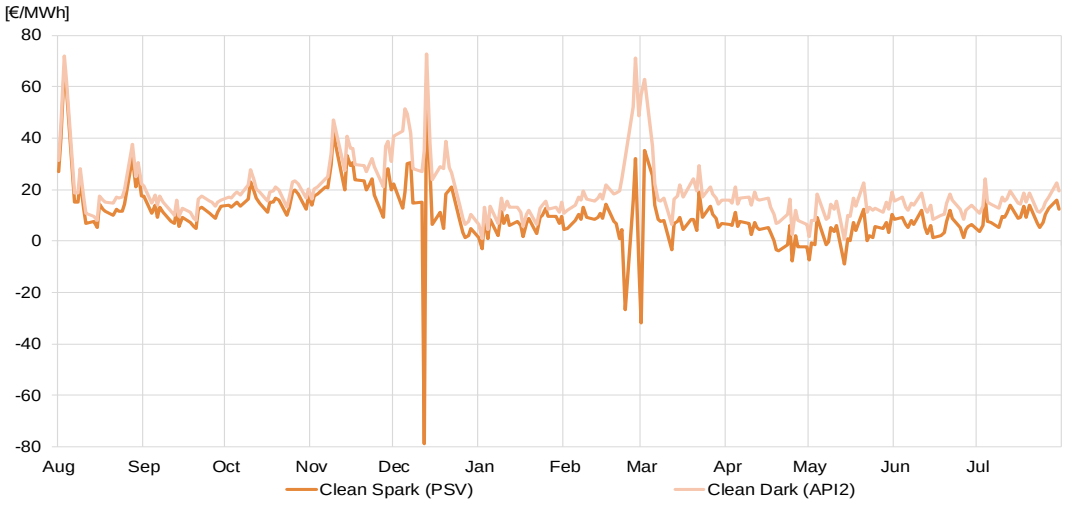
Coal & Carbon spot prices



Monthly average change API2-API4 = -$7.1/t

Source: Terna calculation on Bloomberg data

Clean Dark & Spark spreads Italia



Clean spark spread PSV monthly average = €9.7/MWh (59% M-o-M)

Clean dark spread API2 monthly average = €16.0/MWh (20% M-o-M)

Source: Terna calculation on Bloomberg data

Commodities – Forward Market

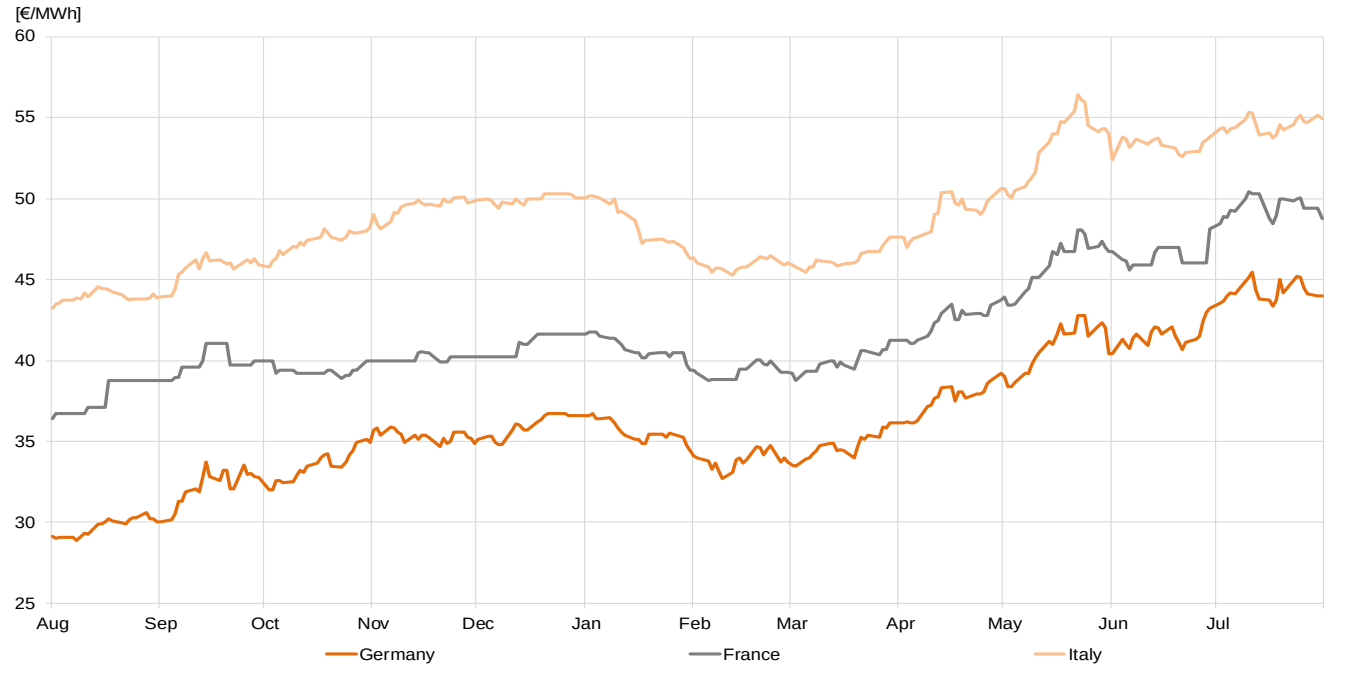
In July, the 2019 Brent forward prices were around $73.3/bbl, up on the $72.4/bbl recorded in June (1.2%)

The 2019 average forward prices of coal (API2) increased to approximately $89.0/t (+1.4%) compared to the $87.8/t recorded in June.

The 2019 average forward prices of gas in Italy (PSV) increased 3.6% between July and the previous month, coming out at around €23.0/MWh.

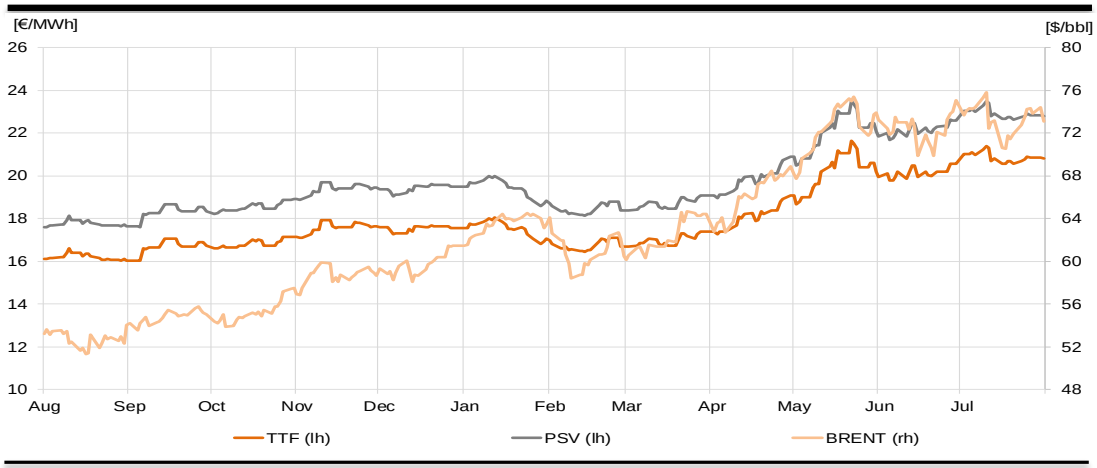
The 2019 average forward prices of electricity in Italy stood at around €54.5/MWh, an increase of +2.3% on the previous month. A slight positive trend was recorded for the French exchange where the price was approximately €49.5/MWh, while in Germany it also rose slightly to approximately €44.3/MWh.

2019 Forward Electricity Prices



Source: Terna calculation on Bloomberg data

2019 Forward Gas & Oil Prices



Monthly average change PSV-TTF = +€2.1/MWh

Source: Terna calculation on Bloomberg data

2019 Forward Coal & Carbon Prices

Monthly average change API2-API4 = -$2.7/t

Source: Terna calculation on Bloomberg data

Clean 2019 Forward Dark & Spark spreads – Italy

Clean spark spread PSV monthly average = €2.2/MWh (-27% M-o-M)

Clean dark spread API2 monthly average = €10.1/MWh (+2.3% M-o-M)

Source: Terna calculation on Bloomberg data

Below is a selection of ARERA provisions of major interest for dispatching and transmission activities in July 2018. This selection is not exhaustive with respect to the regulatory framework.

Decisions regarding essential plants of Porto Empedocle, Priolo and Termini Imerese of Enel Produzione S.p.a. for 2015, pursuant to Italian Law Decree 91/14.

Resolution 375/2018/R/EEL

The Authority has established that Terna pay Enel Produzione S.p.a. the balance of the fee supplementing costs, for 2015, relative to the essential plants of Porto Empedocle, Priolo and Termini Imerese.

Approval of the European common grid model methodology pursuant to EU Regulation 2016/1719 (FCA), resulting from the unanimous vote given by all the European Regulatory Authorities within the Energy Regulatory Forum

Resolution 378/2018/R/EEL

Approval of the European common grid model methodology pursuant to EU Regulation 2017/1485 (SO GL), resulting from the unanimous vote given by all the European Regulatory Authorities within the Energy Regulatory Forum

Resolution 379/2018/R/EEL

With these resolutions, the Authority, together with the other European Regulatory Authorities within the Energy Regulatory Forum (ERF), has approved the proposed methodologies drawn up by Terna together with the other European TSOs, pursuant to EU Regulations 2016/1719 (FCA) and 2017/1485 (SO GL), for the creation of:

- a common grid model for annual and monthly time frames pursuant to the FCA Regulation;
- a common grid model for annual, daily and intra-daily time frames pursuant to the SO GL Regulation.

Approval of the regulation, prepared by Terna S.p.a. pursuant to Authority resolution 300/2017/R/eel, regarding the pilot project for participation in the Dispatching Services Market (MSD) of significant production units non subject to mandatory activation

Resolution 383/2018/R/EEL

Approval of the regulation, prepared by Terna S.p.a. pursuant to Authority Resolution 300/2017/R/eel, regarding the pilot project for provision of the primary frequency regulation service via significant production units integrated with storage systems

Resolution 402/2018/R/EEL

With these resolutions, the Authority has approved the regulations prepared by Terna governing pilot projects, respectively:

- for participation in the dispatching Services Market (MSD) of significant production units not subject to mandatory activation, setting the date of application as 1 September 2018;
- for provision of the primary frequency regulation service via significant production units integrated with storage systems – UPI (integrated production units).

The aforementioned pilot projects, prepared on the basis of Authority resolution 300/2017/R/eel, aim to make new dispatching resources available immediately, pending organic reform in the dispatching service and adoption of the new Integrated Electricity Dispatching Text (TIDE).

Approval of changes to annexes A.4, A.11, A.17, A.53 and A.68 to the Grid Transmission, Dispatching, Development and Security Code prepared by Terna S.p.a.

Resolution 384/2018/R/EEL

The Authority has approved the proposed changes to certain technical annexes of the Grid Code presented by Terna regarding technical connection prerequisites.
The changes approved meet requirements to adapt the technical provisions in these annexes to fit with technological developments. Meanwhile, for annexes A.17 and A.68, there is also the goal of aligning certain technical connection criteria for wind and photovoltaic systems on the HV grid to provisions of the European Code on connection of production plants – Requirements for generators (Regulation EU 2016/631).

Provisions regarding zonal grid subdivisions, following the revision process undertaken pursuant to Regulation EU 2015/1222 (CACM)

Resolution 386/2018/R/EEL

The Authority:
- has approved the proposal for changes to the zonal configuration presented by Terna with reference to elimination of the limited production hubs of Foggia, Brindisi and Priolo, with effect from 1 January 2019;
- has postponed decisions regarding possible further changes to the zonal structure (revision of zones – movement of Umbria region from Centre-North to Centre-South zone and introduction of physical zone of Calabria in the place of limited production hub of Rossano);
- has put back the deadline of the report for identification of transport capacity targets for submission to public consultation.

Verification of conformity of proposals to modify the Grid Transmission, Dispatching, Development and Security Code in relation to PESSE (Emergency Plan for the Security of the Electrical System)

Resolution 401/2018/R/EEL

The Authority has approved the proposed changes to the Grid Code formulated by Terna, regarding:
- annex A.20 – Provisions for preparation and implementation of an Emergency Plan for the Security of the Electrical System (PESSE);
- chapter 10 – Safeguarding of Security and paragraph 4.10.17.3 of chapter 4, updated to correspond with the changes made to annex A.20.

The updates to annex A.20 with be applicable on the basis of time frames defined by Terna alongside distribution companies.

Instructions to GME and Terna for the planning of further amendments to the proposal for design and implementation of supplementary intraday auctions, presented pursuant to Regulation EU 2015/1222 (CACM Regulation)

Resolution 409/2018/R/EEL

The Authority, together with the other regulatory authorities in the Italy-North and Greece-Italy regions, has requested amendments to the common proposal regarding the methodology for design and implementation of supplementary regional intraday auctions, planned together with NEMOs (Nominated Electricity Market Operator) and TSOs of the regions pursuant to Regulation EU 2015/1222 (CACM).

Approval of the nomination rules for exchange programmes between bid zones on the Italia-Greece border pursuant to Article 36 of Regulation 2016/1719 (FCA)

Resolution 410/2018/R/EEL

The Authority has approved the proposal, formulated by Terna and the Greek TSO, for nomination rules (rules for the appointment of physical long-term transmission rights along the Greece-Italy border).
The nomination rules approved adopt the change requests formulated by the Authority in agreement with the Greek Regulator, taking into account recent developments in the Greek regulatory framework.

Approval of the calculation methodology for the Greece-Italy region capacity calculation (CCR), resulting from the unanimous vote given by all the Regulatory Authorities for the Greece-Italy region within the Energy Regulators' Regional Forum

Resolution 411/2018/R/EEL

The Authority has approved, together with the Greek Regulator within the GIERRF (Greece-Italy Energy Regulators Regional Forum), the capacity calculation methodology for the Greece-Italy Region that includes the border between Italy and Greece and the internal borders between the bid zones on Italian territory.

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 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 - Marche
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 combination 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), include the hours between 8:00 and 20:00 of working days only. **Off-peak hours** are all hours that are not in the peak.

CO_2 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

Disclaimer

1. The monthly electricity reports of the year 2018 are provisional, while those for 2017 are definitive, published on the website www.terna.it/it-it/sistemaelettrico/statisticheeprevisioni/datistatistici.aspx
2. In particular, the monthly electricity reports of the year 2018 – prepared at the end of each month using the operating archives – are subject to further and precise verification or recalculation in the following months on the basis of 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 www.terna.it.