

September 2018

# Monthly Report on the Electricity System



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## 01 Energy Balance Sheets

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In September 2018, electricity demand was 27,010GWh, an increase compared to the same month of the previous year (-3.6%). The seasonally-adjusted value for electricity demand during September 2018 again recorded an increase: +0.5%, thus continuing a positive trend. In September, net total production increased (+6.2%) compared to 2017. In September 2018, 89.2% of electricity demand in Italy was covered by national production, less pumping consumption, and the remainder by imports. Finally, in 2018, net total production (209,932GWh) met 86.7% of national electricity demand (242,177GWh).



## 02 Electricity System

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Energy produced by photovoltaic sources in September 2018 was 2,354GWh, down on the previous year (-4.5%); energy produced by wind was 949GWh, up compared to the previous year (+0.3%). Hydroelectric energy (reservoirs, tanks and run-of-river) was 3,397GWh, up (+23.8%) compared to the previous year.



## 03 Electricity Market

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The September total for withdrawal programmes on the DAM was approximately €1.9 Bn, up 13% compared to the previous month and up 60% compared to September 2017. In March, the spread between average bid-up and bid-down prices on the DSM was €89.4/MWh, up by 18% compared to the previous month and by 31% compared September 2017. Total volumes increased compared to the previous month (+11%). In September, the spread between bid-up and bid-down prices on the Balancing Market was up compared to both the previous month (€80.7/MWh; +8%) and compared to September 2017 (€83.0/MWh; +5%). Total volumes decreased compared to the previous month (-18%).



## 04 Regulation

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This month, we present a selection of AEEGSI resolutions relevant for dispatching and transmission activities.



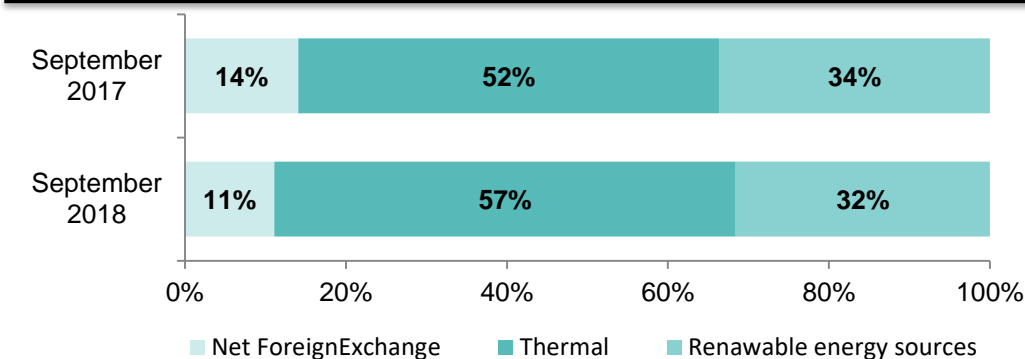
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# Monthly Report on the Electricity System

## Monthly summary

In September 2018, electricity demand was 27,010GWh, an increase compared to the same month of the previous year (+3.6%). In particular, an increase in thermoelectric production (+10.4%) and a decrease in foreign exchange (-14.7%) and production from renewable energy sources (-2.6%) was recorded compared to the same month of the previous year.

### Breakdown of Demand



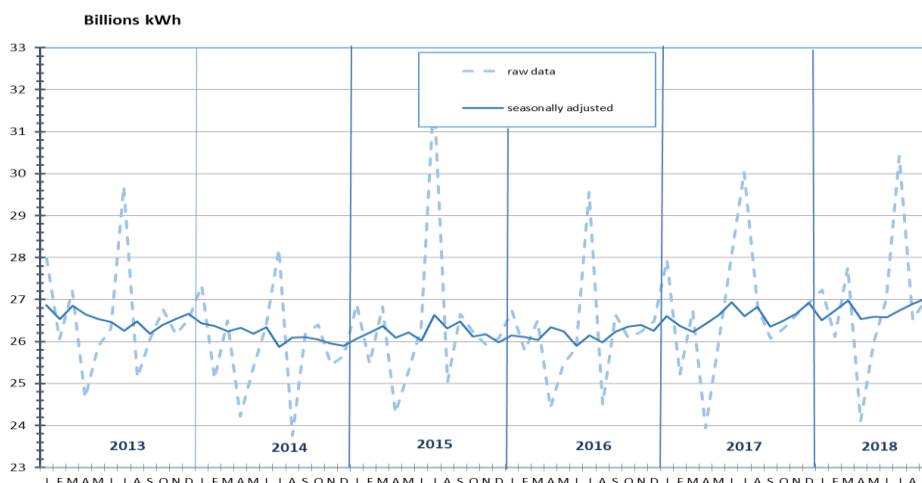
In September, production from renewable sources was down compared to the same month of 2017.

Source: Terna

## Short-term analysis

In September 2018, electricity demand in Italy (27 TWh) recorded an increase of 3.6% compared to the volumes of September 2017. This was achieved with one less working day (20 compared to 21), yet with an average monthly temperature that was over 2°C higher than September 2017. The seasonally-adjusted data, correct in terms of calendar and temperature, lead to a lower, but broadly positive variation: +2.5%. In the first nine months of 2018, demand varied by +0.6% compared to the same period in 2017; in adjusted terms, the variation was +0.5%. At the regional level, in September 2018 the annual trend was positive everywhere: +2.9% in the North, +4.0% in Central Italy and +4.7% in the South. The seasonally-adjusted value, correct in terms of calendar and temperature for electricity demand during September 2018, recorded an increase: +0.5%. This growth brings the third quarter of 2018 up by 1.2% compared to the previous quarter. In September 2018, electricity demand in Italy was covered 88.8% by national production, less pumping consumption, (+6.2% of net production Y-o-Y) and for the remainder by imports (foreign exchange -14.7% Y-o-Y).

### Short-term analysis of electricity demand (TWh)



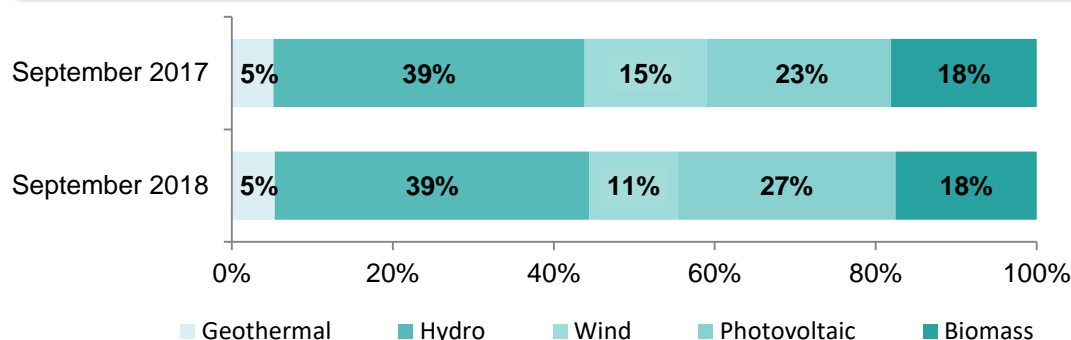
The seasonally-adjusted value, correct in terms of calendar and temperature for electricity demand during September 2018, recorded an increase for the third consecutive month: +0.5%.

Source: Terna

## Details of Renewable Energy Sources (RESs)

Focusing on monthly production from Renewables, a decrease was recorded in wind production (-30.1%) and in hydroelectric production (-2.0%) and an increase was recorded in photovoltaic production (+14.4%) compared to the previous year.

### Details of Renewable Energy Sources



In September 2018, the detailed breakdown of production from renewable energy sources recorded a M-o-M percentage reduction (-11.0%). Production from renewable energy sources is up by +7.7% in 2018 compared to the previous year.

Source: Terna

## Energy Balance Sheet

In 2018, cumulative electricity demand (242,177GWh) increased (+0.6%) compared to 2017.

In September 2018, net national production was 24,091GWh, 36% from renewable sources (8,589GWh) and the remaining 64% from thermal sources.

### Energy Balance Sheet

[GWh]	September 2018	September 2017	%18/17	Jan-Sep 18	Jan-Sep 17	%18/17
Hydro	3.397	3.468	-2,0%	38.364	30.980	23,8%
Thermal	16.927	15.336	10,4%	135.280	146.067	-7,4%
<i>of which Biomass</i>	1.425	1.475	-3,4%	13.237	13.391	-1,2%
Geothermal	464	464	0,0%	4.265	4.359	-2,2%
Wind	949	1.357	-30,1%	12.572	12.534	0,3%
Photovoltaic	2.354	2.058	14,4%	19.451	20.361	-4,5%
<b>Net Total Production</b>	<b>24.091</b>	<b>22.683</b>	<b>6,2%</b>	<b>209.932</b>	<b>214.301</b>	<b>-2,0%</b>
Import	3.167	3.887	-18,5%	36.375	32.460	12,1%
Export	147	347	-57,6%	2.445	4.313	-43,3%
<b>Net Foreign Exchange</b>	<b>3.020</b>	<b>3.540</b>	<b>-14,7%</b>	<b>33.930</b>	<b>28.147</b>	<b>20,5%</b>
<b>Pumping</b>	<b>101</b>	<b>147</b>	<b>-31,3%</b>	<b>1.685</b>	<b>1.770</b>	<b>-4,8%</b>
<b>Electricity demand<sup>(1)</sup></b>	<b>27.010</b>	<b>26.076</b>	<b>3,6%</b>	<b>242.177</b>	<b>240.678</b>	<b>0,6%</b>

A decrease in exports (-43.3%) has been recorded in 2018 compared to the previous year. In September 2018, an increase in production from thermal sources (+10.4%) and in photovoltaic production (+14.4%) and a reduction in hydroelectric production (-2%) has been recorded compared to the previous year.

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

Source: Terna



## Monthly Energy Balance Sheets

In 2018, net total production (209,932GWh) met 87% of national electricity demand (242,177GWh).

### 2018 Monthly Electricity Statement in Italy

[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	4.268	3.397				38.364
Thermal	16.650	16.093	15.725	11.940	12.513	13.137	16.568	15.727	16.927				135.280
Geothermal	494	445	492	476	486	466	470	472	464				4.265
Wind	1.986	1.696	2.422	1.221	909	1.418	1.225	746	949				12.572
Photovoltaic	1.029	1.052	1.688	2.428	2.437	2.794	2.967	2.702	2.354				19.451
<b>Net Total Production</b>	<b>22.890</b>	<b>21.887</b>	<b>23.514</b>	<b>20.740</b>	<b>22.863</b>	<b>23.833</b>	<b>26.199</b>	<b>23.915</b>	<b>24.091</b>				<b>209.932</b>
Import	4.899	4.610	4.732	4.004	3.671	3.613	4.686	2.993	3.167				36.375
Export	326	199	179	337	370	275	327	285	147				2.445
<b>Net Foreign Exchange</b>	<b>4.573</b>	<b>4.411</b>	<b>4.553</b>	<b>3.667</b>	<b>3.301</b>	<b>3.338</b>	<b>4.359</b>	<b>2.708</b>	<b>3.020</b>				<b>33.930</b>
Pumping	223	192	286	299	201	139	135	109	101				1.685
<b>Electricity demand<sup>(1)</sup></b>	<b>27.240</b>	<b>26.106</b>	<b>27.781</b>	<b>24.108</b>	<b>25.963</b>	<b>27.032</b>	<b>30.423</b>	<b>26.514</b>	<b>27.010</b>				<b>242.177</b>

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

Source: Terna

In September, net total production increased (+6.2%) compared to 2017. In 2018, the month with the maximum demand for electricity was July, with 30,423GWh.

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

### 2017 Monthly Electricity Statement in Italy

[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
<b>Net Total Production</b>	<b>26.969</b>	<b>22.252</b>	<b>22.174</b>	<b>21.117</b>	<b>22.877</b>	<b>25.358</b>	<b>26.553</b>	<b>24.318</b>	<b>22.683</b>	<b>22.893</b>	<b>24.205</b>	<b>23.866</b>	<b>285.265</b>
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
<b>Net Foreign Exchange</b>	<b>1.270</b>	<b>3.185</b>	<b>4.751</b>	<b>3.076</b>	<b>3.203</b>	<b>2.829</b>	<b>3.653</b>	<b>2.640</b>	<b>3.540</b>	<b>3.579</b>	<b>2.683</b>	<b>3.352</b>	<b>37.761</b>
Pumping	298	226	189	250	141	180	180	159	147	164	251	293	2.478
<b>Electricity demand<sup>(1)</sup></b>	<b>27.941</b>	<b>25.211</b>	<b>26.736</b>	<b>23.943</b>	<b>25.939</b>	<b>28.007</b>	<b>30.026</b>	<b>26.799</b>	<b>26.076</b>	<b>26.308</b>	<b>26.637</b>	<b>26.925</b>	<b>320.548</b>

(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 Territorial Area

In September 2018, there was an increase in demand in the Northern zone (To-Mi-Ve), in the Centre (Rm-Fi), in the South (Na) and on the Islands (Ca-Pa) compared to the same period of the previous year.

### Demand by Territorial Area

[GWh]	Turin	Milan	Venice	Florence	Rome	Naples	Palermo	Cagliari
September 2018	2.665	5.823	4.182	4.268	3.735	3.871	1.688	778
September 2017	2.700	5.625	4.055	4.073	3.528	3.747	1.611	737
% Sep 2018/2017	-1,3%	3,5%	3,1%	4,8%	5,9%	3,3%	4,8%	5,6%
Cumulated 2018	24.614	52.185	37.441	38.183	33.645	34.576	14.561	6.972
Cumulated 2017	24.897	51.599	36.576	37.341	33.352	35.219	14.834	6.860
% Cumulated 18/17	-1,1%	1,1%	2,4%	2,3%	0,9%	-1,8%	-1,8%	1,6%

In 2018, the Y-o-Y percentage change in demand was +1.0% in the Northern zone, +1.6% in the Centre, -1.8% in the South and -0.7% on the Islands.

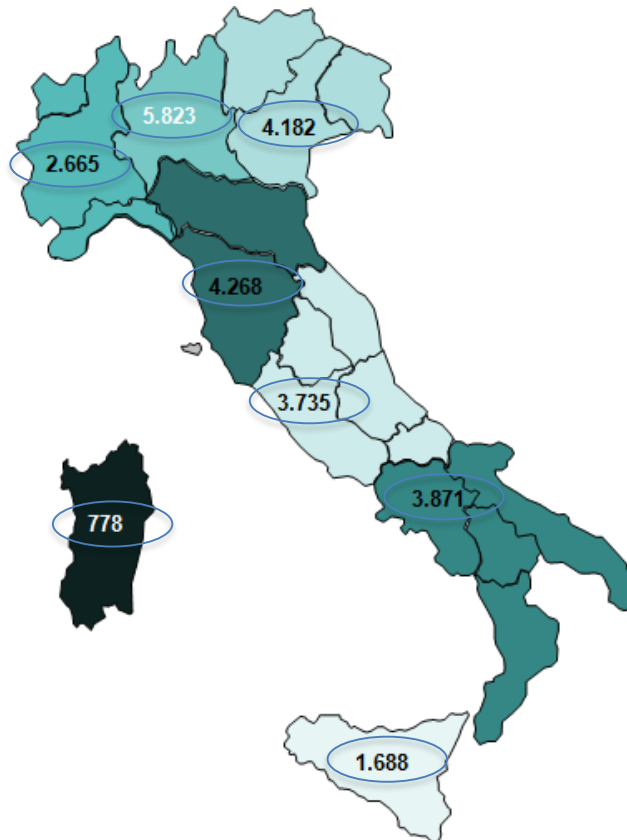
Source: Terna

### Demand by Territorial Area – 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.

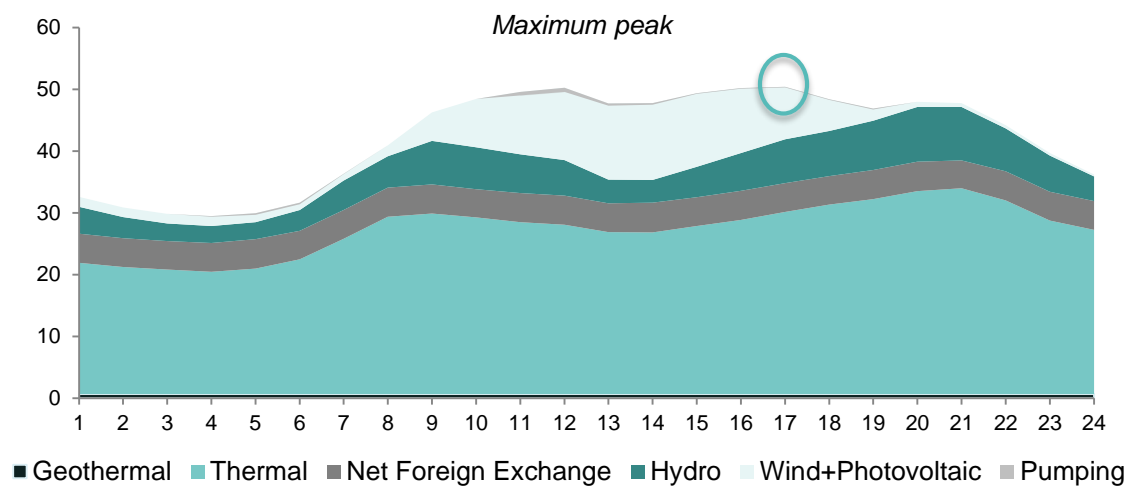


## Peak Demand

In September 2018, peak demand was recorded on **Wednesday 12 at 17:00** and was 50,323 MW (-4.3% Y-o-Y). The hourly demand diagram of the peak day is presented below.

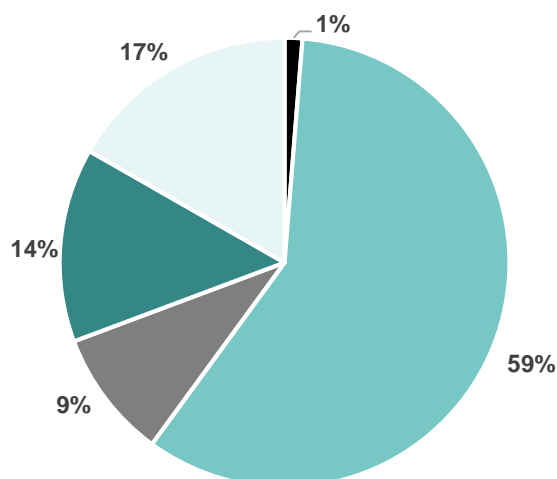
### Peak Demand

[GW]



Source: Terna

### Coverage at Peak Demand- 12 September 2018 17:00



At peak, production from renewable sources contributed to covering demand for 32%, thermal production for 59% and the remainder was the net foreign exchange.

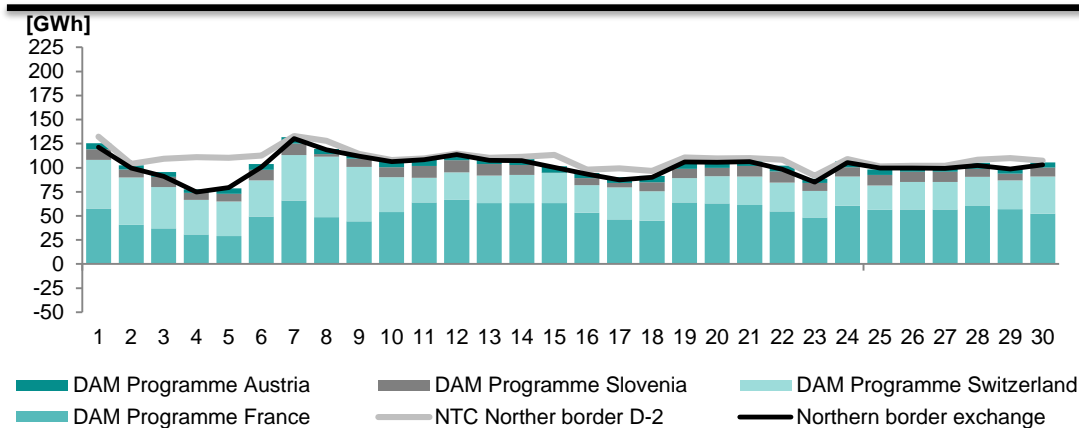
■ Geothermal ■ Thermal ■ Net Foreign Exchange ■ Hydro ■ Wind+Photovoltaic

Source: Terna

## Net Foreign Exchange – August 2018

In the first half of September, 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 September 2018, there were imports of 3,167GWh and exports of 147GWh.

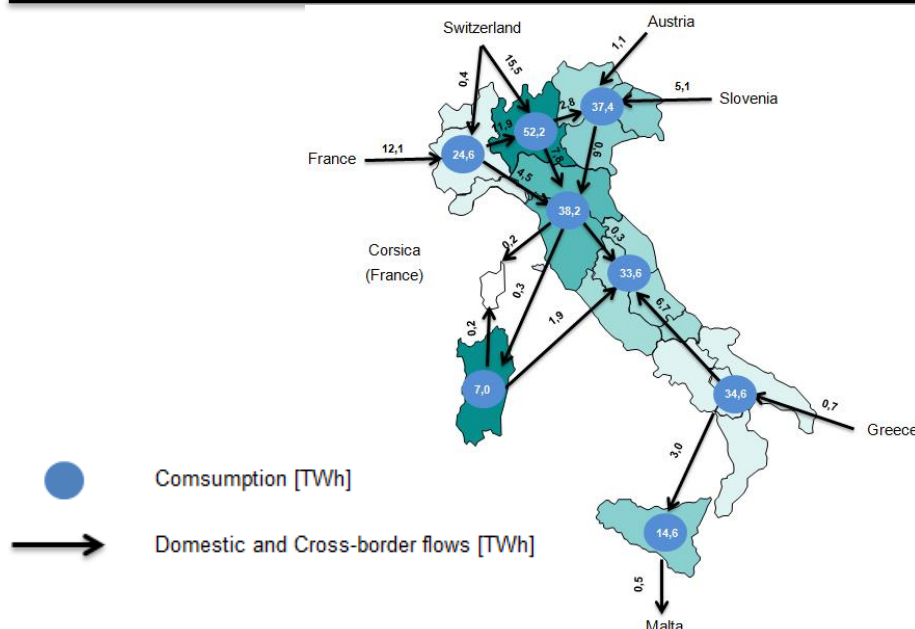
Source: Terna

## 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



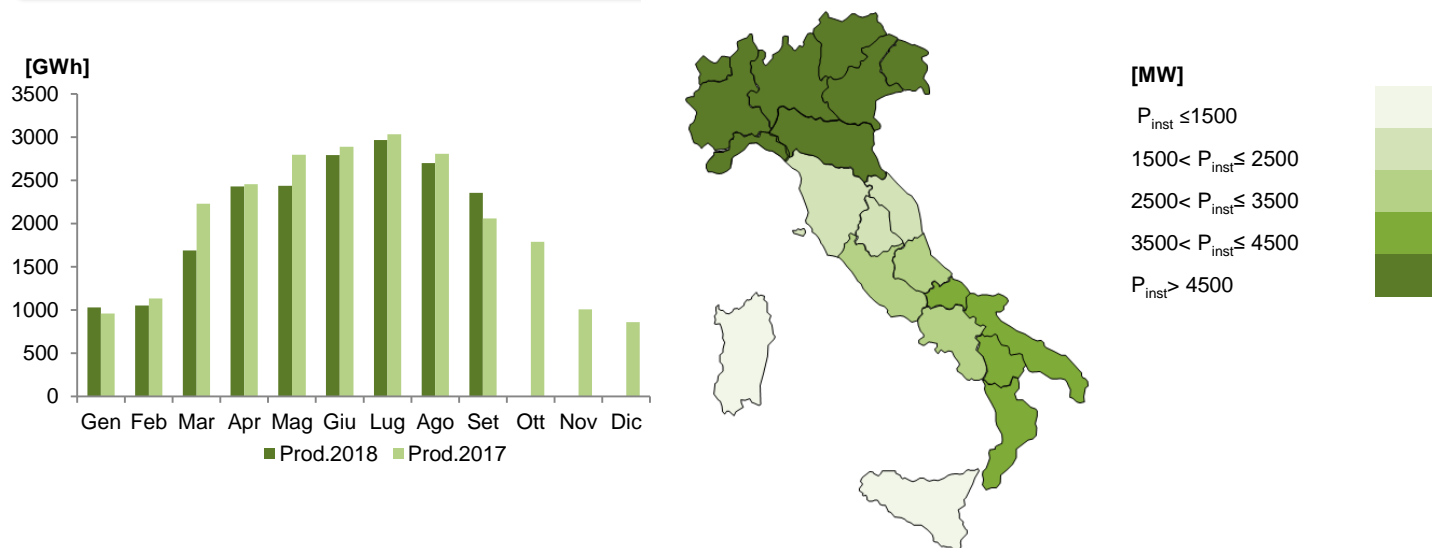
In 2018, a net exchange was recorded from the Northern zone to Emilia Romagna and Tuscany of approximately 12.9TWh. The Continent recorded a net exchange towards Sicily of 3.0TWh.

Source: Terna

## Production and installed capacity

Energy produced by photovoltaic sources in September 2018 was 2,354GWh, down on the previous month by 348GWh. The annual cumulative figure fell compared to the previous year (-4.5%).

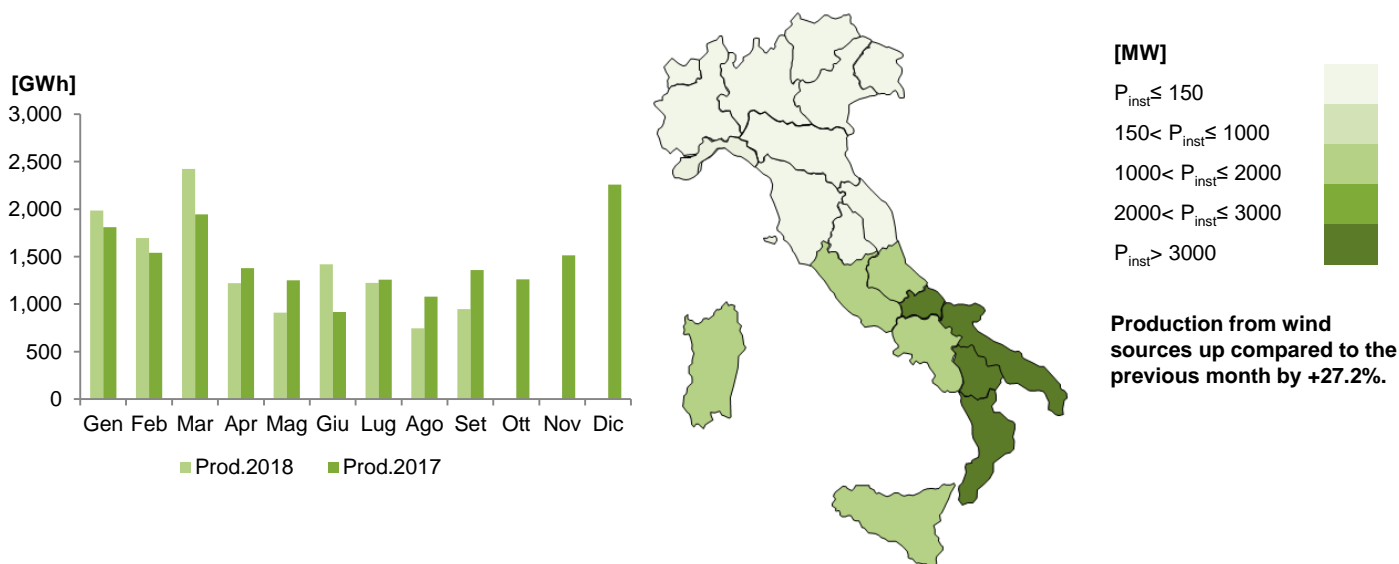
### Photovoltaic Production and Capacity



Source: Terna

Energy produced by wind power in September 2018 was recorded at 949GWh, up compared to the previous month by 203GWh. The annual cumulative figure is in line with the previous year (+0.3%).

### Wind Production and Capacity

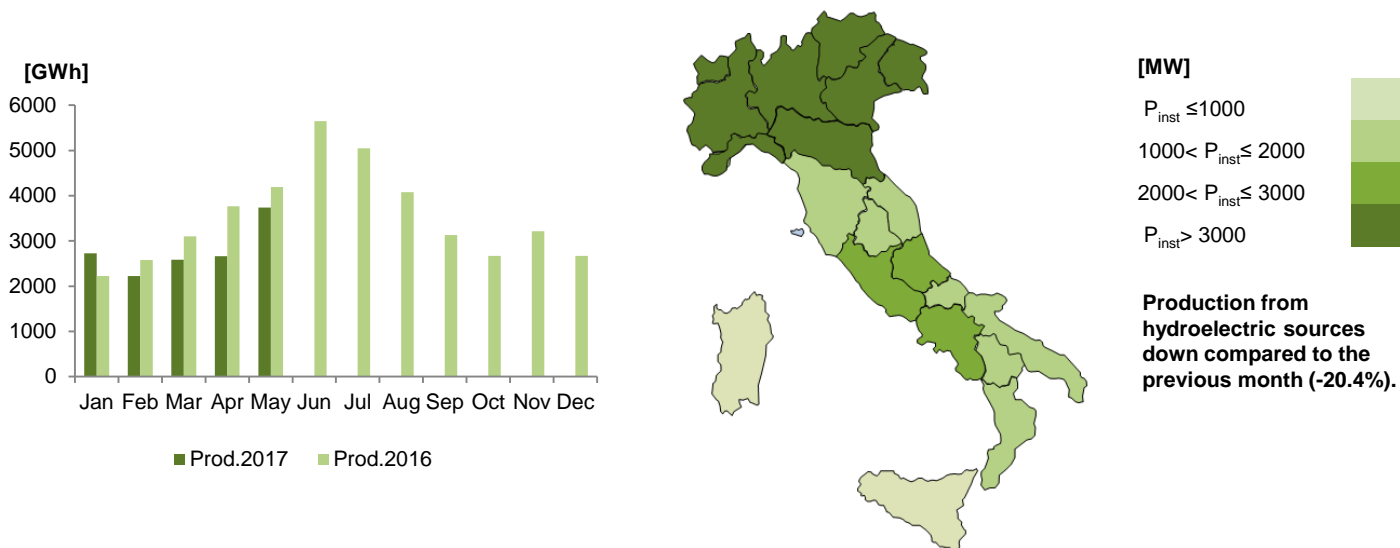


Source: Terna



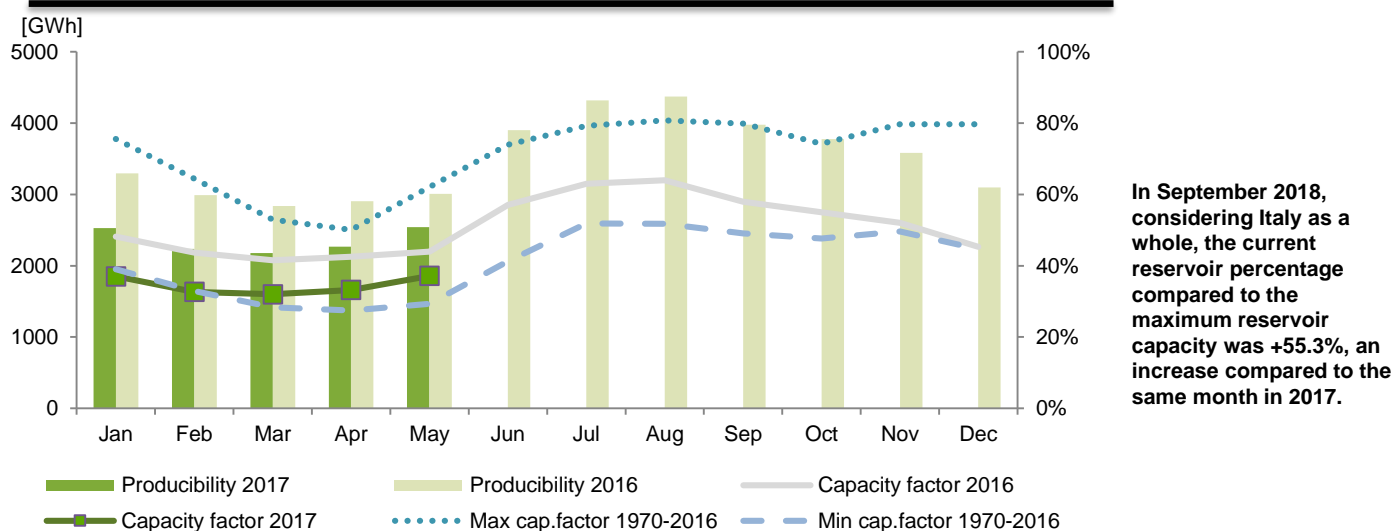
□ Energy produced by hydroelectric sources (e.g. reservoirs, tanks and run-of-river) in September 2018 was 3,397GWh, down on the previous month by 871GWh. The annual cumulative figure was up (+23.8%) compared to the previous year.

### Hydroelectric Production and Capacity



In September, hydroelectric producibility fell compared to the previous month.

### Hydroelectric Producibility and Reservoir Percentage

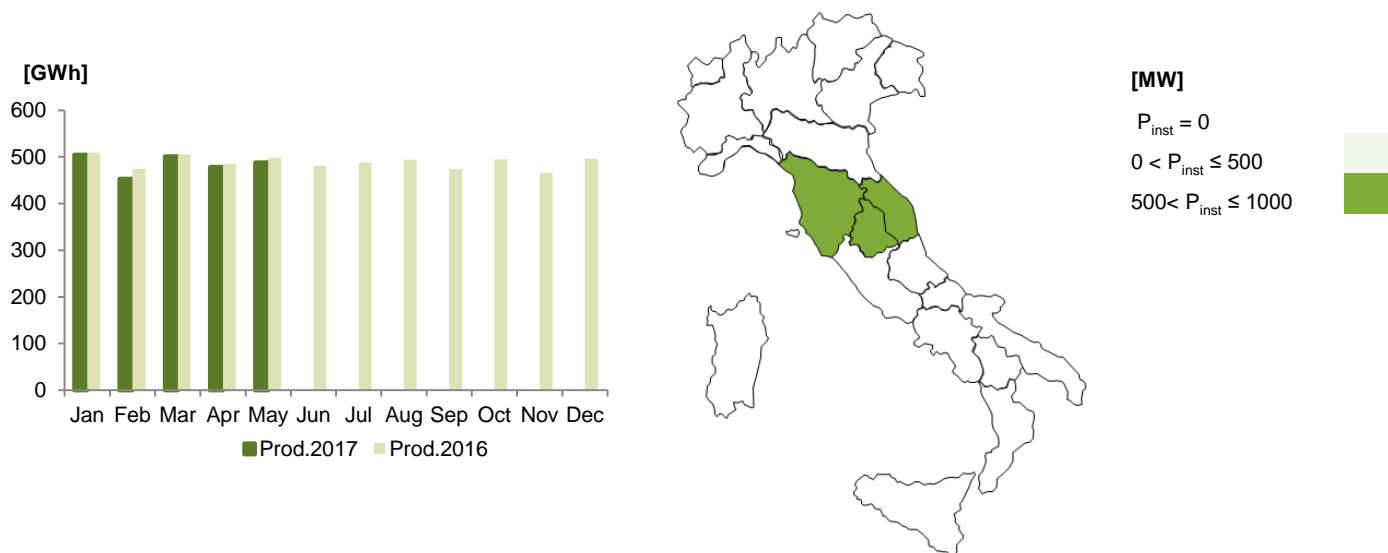


Reservoir Capacity		NORTH	CENTRE	SOUTH	ISLANDS	TOTAL
2017	[GWh]	1,251	1,021	270		2,542
	% (capacity/max capacity)	26.9%	56.3%	70.8%		37.2%
2016	[GWh]	1,418	1,311	277		23,006
	% (capacity/max capacity)	30.5%	72.3%	72.9%		44.0%

Source: Terna

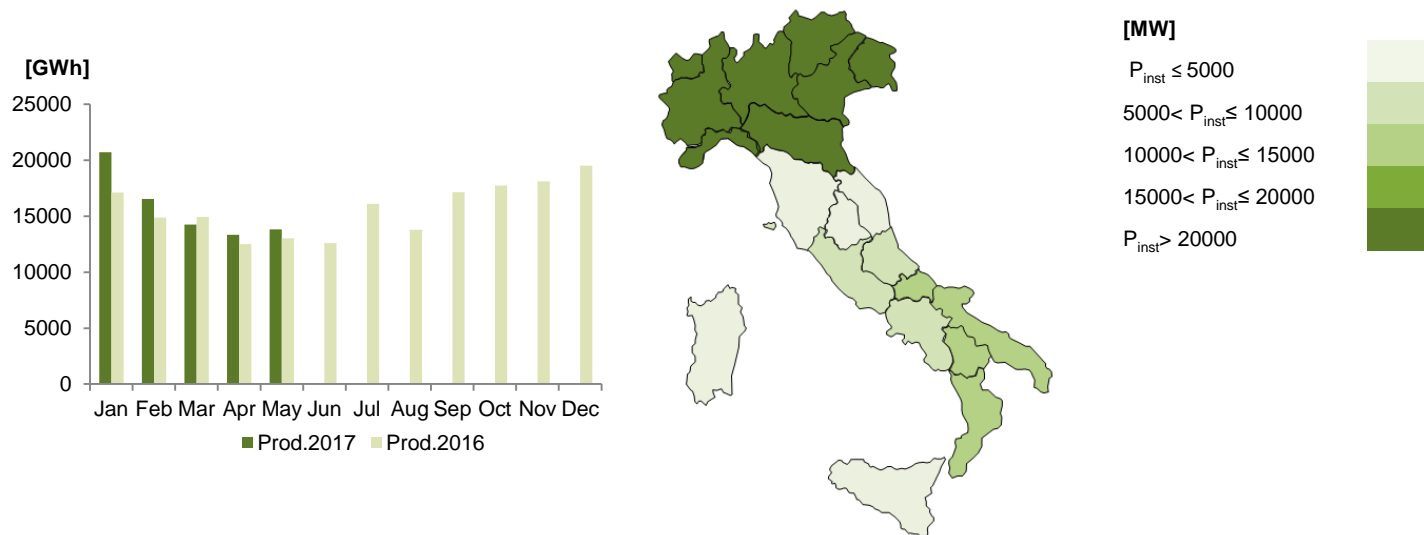
The energy produced by geothermal sources in September 2018 came out at 464GWh, down compared to the previous month by 8GWh. The annual cumulative figure was down (-2.2%) compared to the previous year.

## Geothermal Production and Capacity



Energy produced by thermal power in September 2018 was recorded at 16,927GWh, up compared to the previous month by 1,200GWh. The annual cumulative figure was down (-7.4%) compared to the previous year.

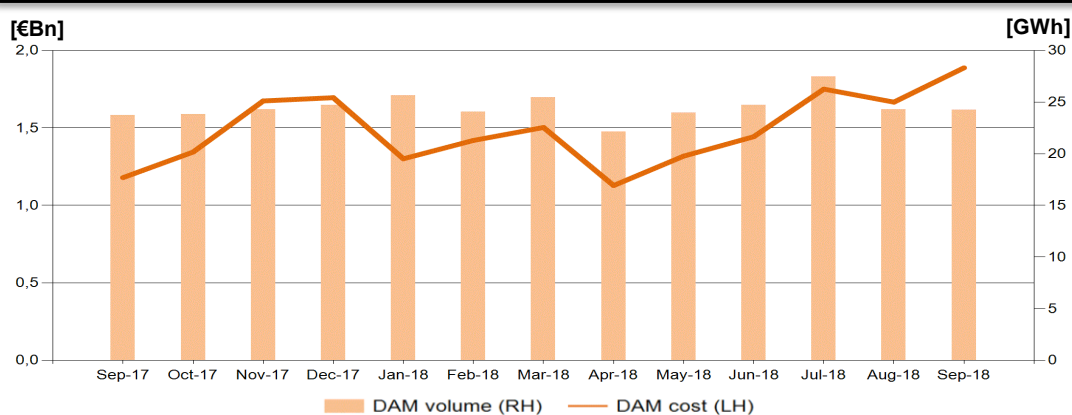
## Thermal Production and Capacity



## Day-Ahead Market

The September total for withdrawal programmes on the DAM was approximately €1.9 Bn, up 13% compared to the previous month and 60% compared to September 2017. The increase compared to August is due to growth in average PUN, just as the increase on the previous year is due to growth in past average PUN from €48.6/MWh (September 2017) to €76.3/MWh (September 2018).

### Day-Ahead Market – amounts and volumes

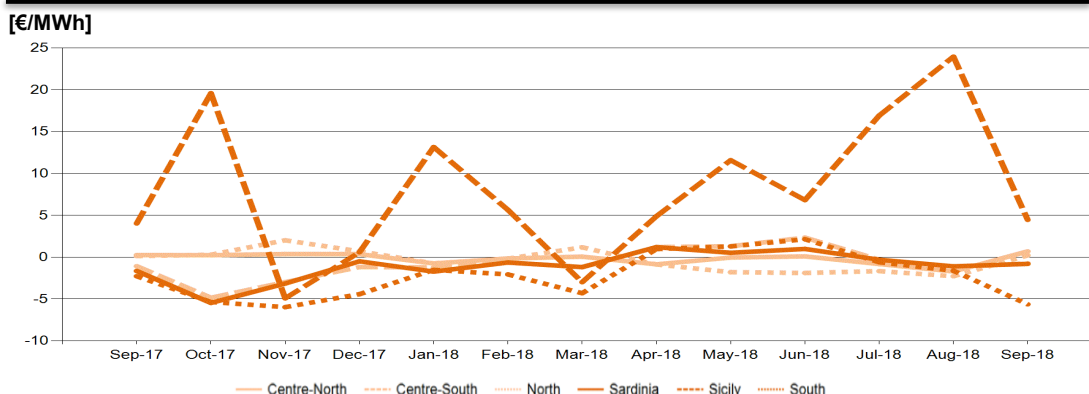


Total amount in September 2018 up by 60% compared to September 2017

Source: Terna calculation on GME data

In September, the zonal prices were substantially in line with the PUN, with the exception of the Sicily zone, which recorded a spread of +€4.5/MWh and the Southern zone which had a spread of -€5.6/MWh. Compared to September 2017, the price in all the zones recorded an average increase of €28.1/MWh.

### Spread compared to the PUN



September 2018 zonal prices in line with the PUN for all zones except Sicily and the South

Source: Terna calculation on GME data



In September, the spread between the peak and off-peak prices was -€0.3/MWh for the Southern zone, €0.4/MWh for Sicily and €12.3/MWh on average for the other zones. The spread between the peak and off-peak prices was €0.1 for the Sicily zone, €3.6/MWh on average for the Southern zone, Centre-South and Sardinia, and €5.6/MWh on average for North and Centre-North.

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

€/MWh	PUN	North	Centre-North	Centre-South	South	Sicily	Sardinia
Average	76.3	76.5	77.0	75.6	70.7	80.8	75.5
Y-o-Y	27.7	27.8	28.2	28.1	24.4	28.2	28.6
Δ vs PUN	-	0.2	0.7	-0.7	-5.6	4.5	-0.8
Δ vs PUN 2017	-	0.1	0.2	-1.1	-2.3	4.0	-1.7
Peak	84.3	86.4	86.5	82.5	70.5	81.1	82.3
Off Peak	72.3	71.6	72.3	72.1	70.8	80.6	72.1
Δ Peak vs Off Peak	12.0	14.8	14.2	10.4	-0.3	0.4	10.2
Minimum	49.0	54.1	54.1	54.1	5.0	0.0	52.7
Maximum	135.6	138.2	138.2	138.2	138.2	138.2	138.2

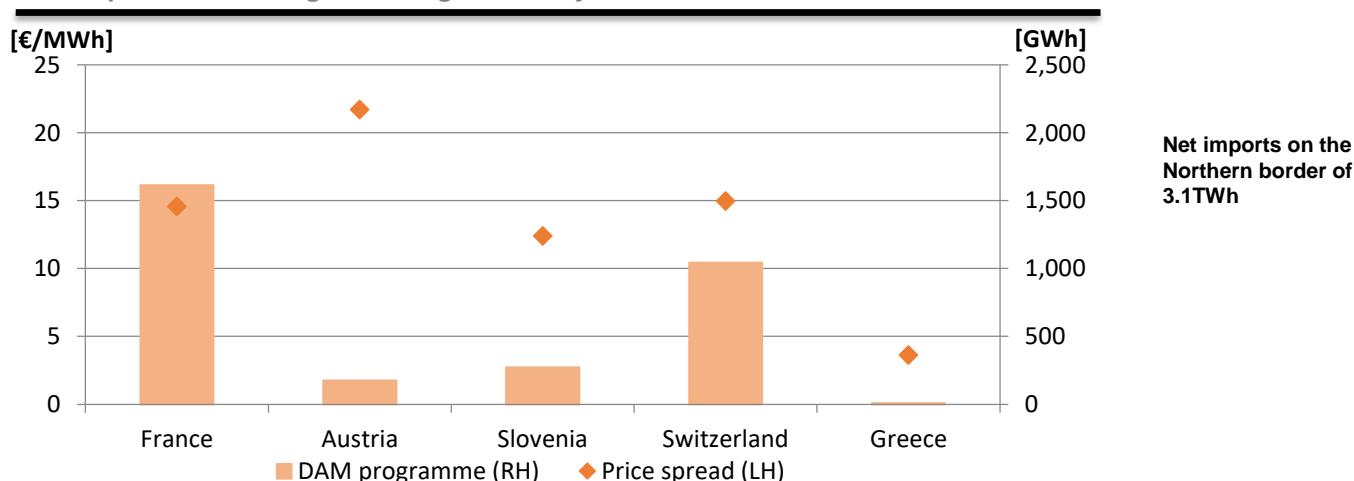
Peak-off peak spread up compared to the previous month for all zones except the South

Source: Terna calculation on GME data

September saw a rise in price spreads on all borders compared with the previous month.

In September, imports totalled 3.2TWh, with France and Switzerland accounting for 51% and 33% of the total, respectively. Total exports were 44GWh, with Greece accounting for 56%.

#### Price spread with foreign exchanges and day ahead market DAM

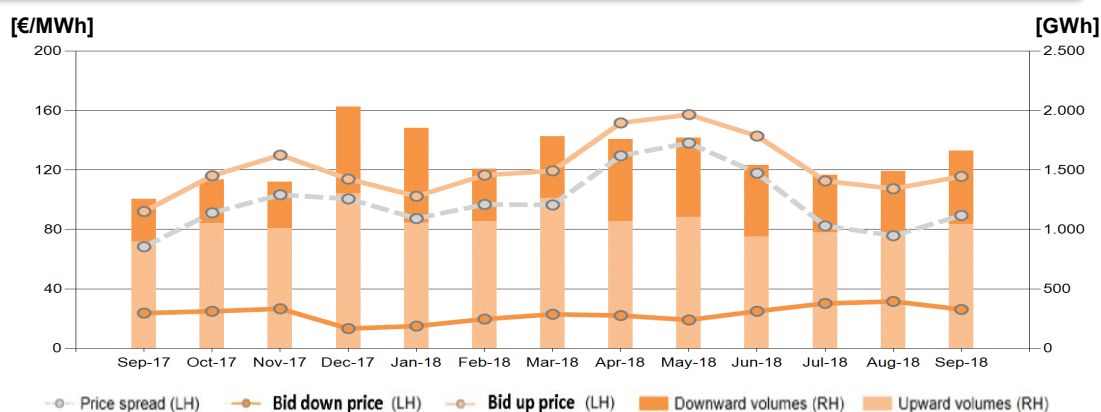


Source: Terna calculation

## Ex-ante Ancillary Services Market

In September, the spread between average bid-up and bid-down prices was €89.4/MWh, up by 18% compared to the previous month and down by 31% compared to September 2017. Total volumes increased compared to the previous month (+11%), in particular upward volumes increased by 8% and downward volumes increased by 17%. The upward volumes increased by 16%, while the downwards volumes rose by 73% compared to the same month of the previous year.

### Ex ante DSM prices and volumes

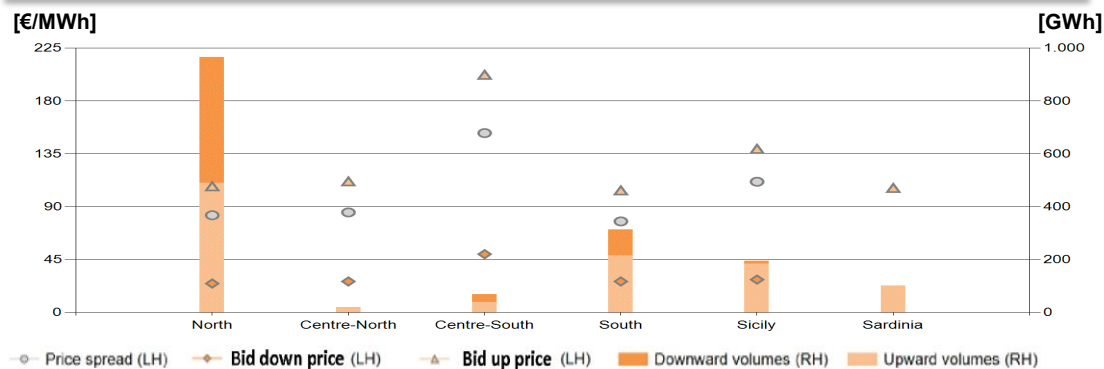


Average bid-up price in September 2018 of €115.6/MWh  
Average bid-down price in September 2018 of €26.2/MWh

Source: Terna

The market zone characterised by the highest spread (€152.6/MWh) is the Centre-South, as in the previous month. This spread recorded a 4% decrease compared to the previous month due to an increase in the average bid-down price of 32% (from €37.4/MWh in August to €49.6/MWh in September) despite an increase in the average bid-up price of 3% (from €195.8/MWh in August to €20.2/MWh in September).

### Ex ante DSM prices and volumes by market zone



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

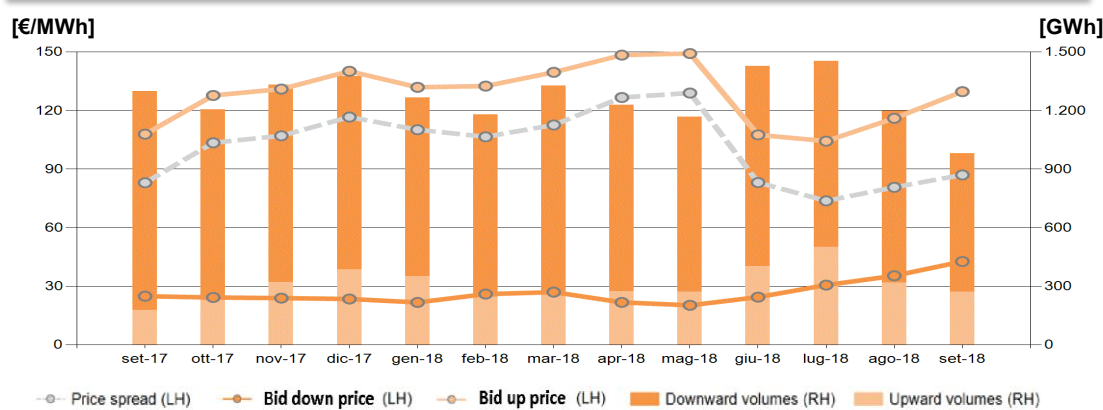
Source: Terna

## Balancing Market

In September, the spread between bid-up and bid-down prices was €87.0/MWh, up compared to both the previous month (€80.7/MWh; +8%) and compared to September 2017 (€83.0/MWh; +5%).

The total volumes fell compared to the previous month (-18%), in particular upward volumes decreased by 14% and downward volumes decreased by 20%. Compared to September 2017, upward volumes increased by 53% and downward volumes fell by 37%.

### Balancing market – prices and volumes



Average bid-up price in September 2018 of €129.6/MWh  
Average bid-down price in September 2018 of €42.7/MWh

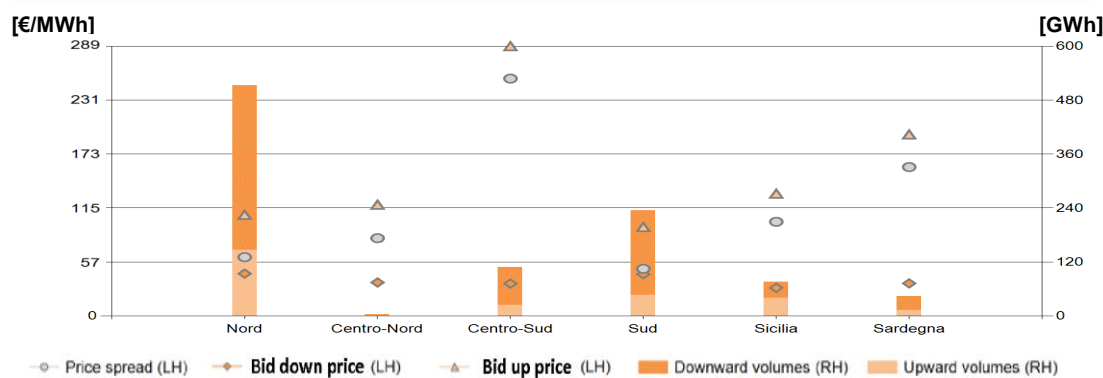
Source: Terna

The market zone characterised by the highest spread (€254.3/MWh) is the Centre-South, similar to the previous month (spread of € 243.4/MWh).

In September, the Northern zone was confirmed as the zone showing the highest downward volumes (366GWh), followed by the Southern zone (188GWh).

The price spread increased across all zones, with the exception of Sardinia. The Centre-North was the zone with the greatest increase over the previous month, both in absolute and percentage terms (€16.5/MWh; +25%).

### Balancing Market – prices and volumes by market zone



Centre-south: zone characterised by the highest price spread  
North: zone with the most volumes moved

Source: Terna



## Commodities – Spot Market

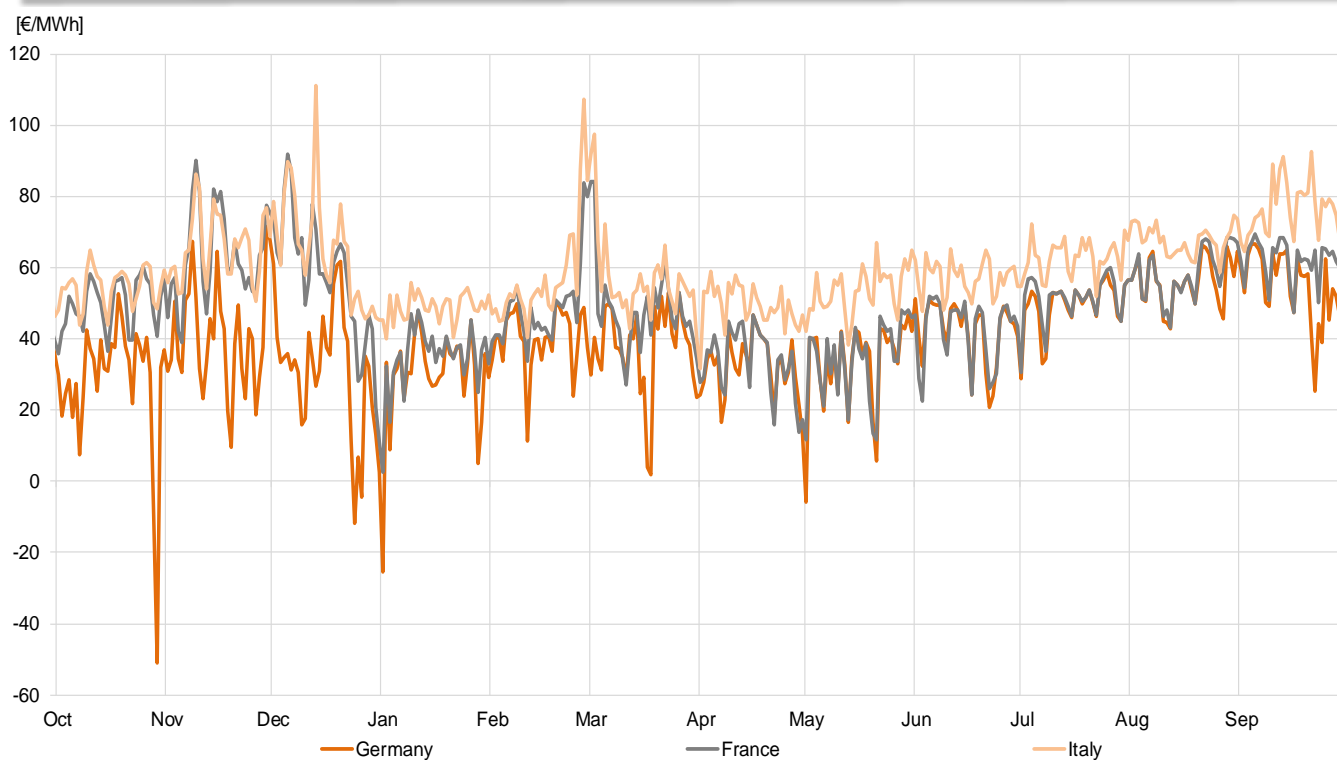
In September, prices of Brent oil stood at around \$78.9/bbl, up on the \$73.1/bbl recorded in August (+7.9%).

Coal prices (AP12) came out at approximately \$100.2/t, an increase compared to the prices in August of \$97.0/t (+3.3%).

Gas prices in Europe increased in September, reaching €27.9/MWh, +15.8% compared to the previous month; the PSV recorded an average of €29.7/MWh, up compared to August (+16.0%).

Electricity prices in Italy increased in September compared to July with a monthly average of €79.9/MWh (+15.4%).

### Spot electricity prices



Source: Terna calculation on GME, EPEX data

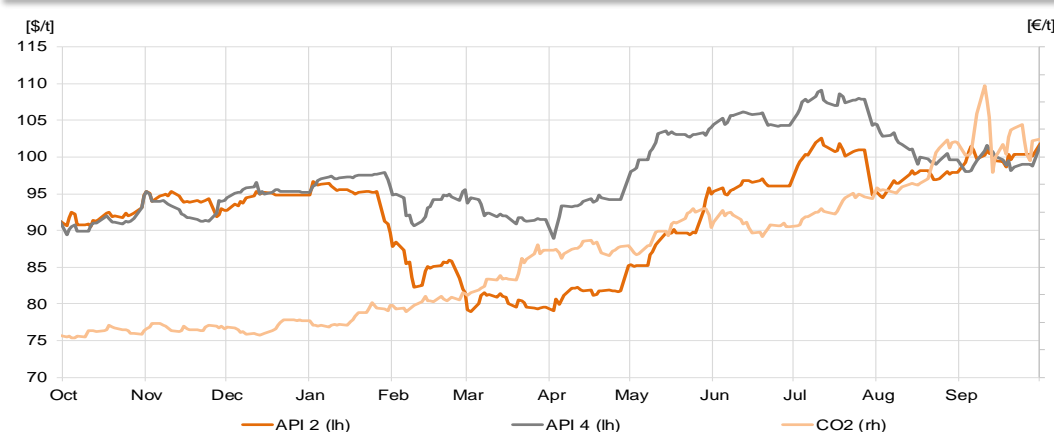
## Gas &amp; Oil spot prices



Monthly average  
change PSV-TTF =  
+€1.8/MWh

Source: Terna calculation on Bloomberg data

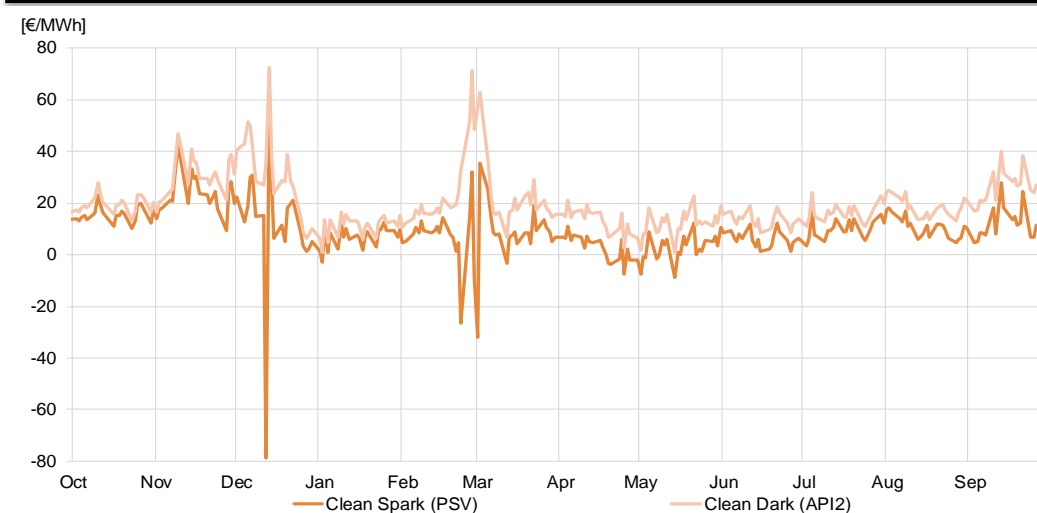
## Coal &amp; Carbon spot prices



Monthly average change  
API2-API4 = +\$0.9/tn

Source: Terna calculation on Bloomberg data

## Clean Dark&amp;Spark spreads Italy



Clean spark spread PSV  
monthly average =  
€12.4/MWh (+14.8% M-o-M)

Clean dark spread API2  
monthly average =  
€26.34/MWh (+41.4% M-o-M)

Source: Terna calculation on Bloomberg data

## Commodities – Forward Market

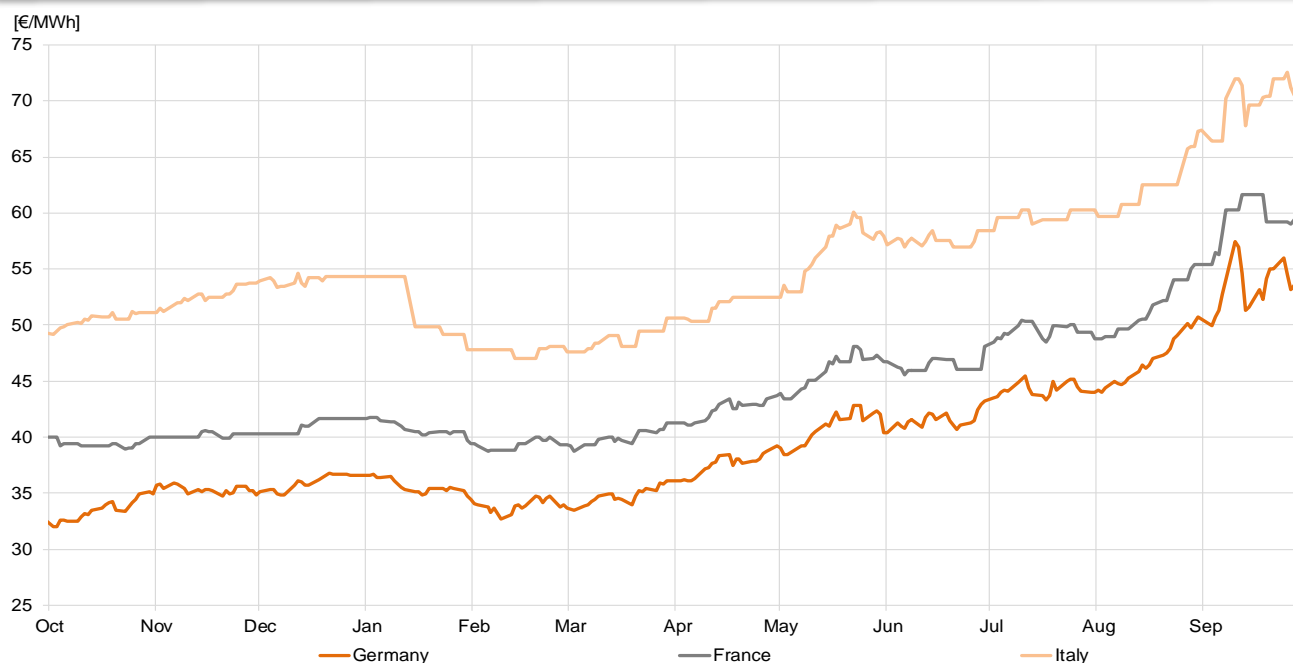
In September, the 2019 Brent forward prices were around \$76.5/bbl, up compared to the \$73.0/bbl of August (+4.8%).

The 2019 average forward prices of coal (API2) significantly increased to approximately \$96.3/t (+8.7%) compared to the \$88.6/t recorded in August.

The 2019 average forward prices of gas in Italy (PSV) increased between September and the previous month, coming out at €27.0 23.9/MWh (+13.0%).

The 2019 average forward prices of electricity in Italy stood at around €69.9/MWh, an increase on the previous month (+12.0%), when they stood at €62.4/MWh. A significant positive trend was recorded for the French exchange, where the price was approximately €59.5/MWh (+15.1%), and in Germany, where the price was approximately €53.6/MWh (+6.6%).

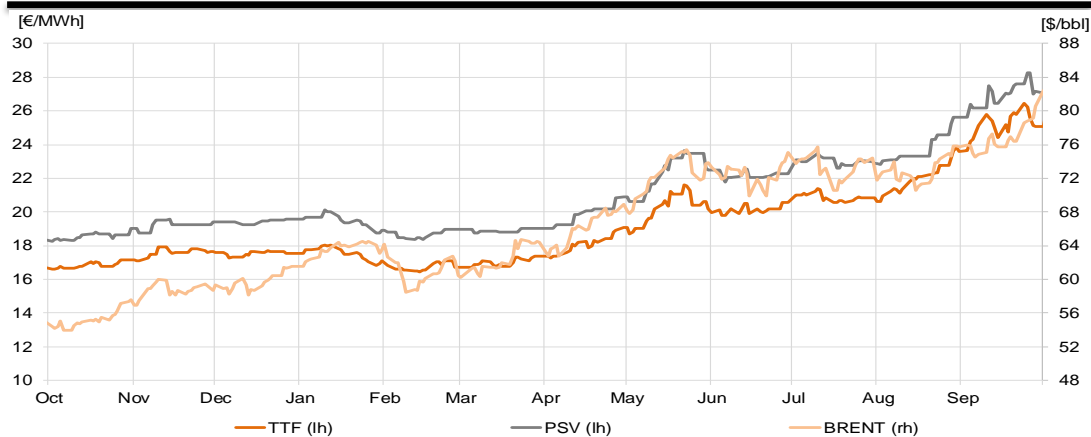
### 2019 Forward Electricity Prices



Source: Terna calculation on Bloomberg data



## 2019 Forward Gas &amp; Oil Prices



Monthly average change  
PSV-TTF = +€1.7/MWh

Source: Terna calculation on Bloomberg data

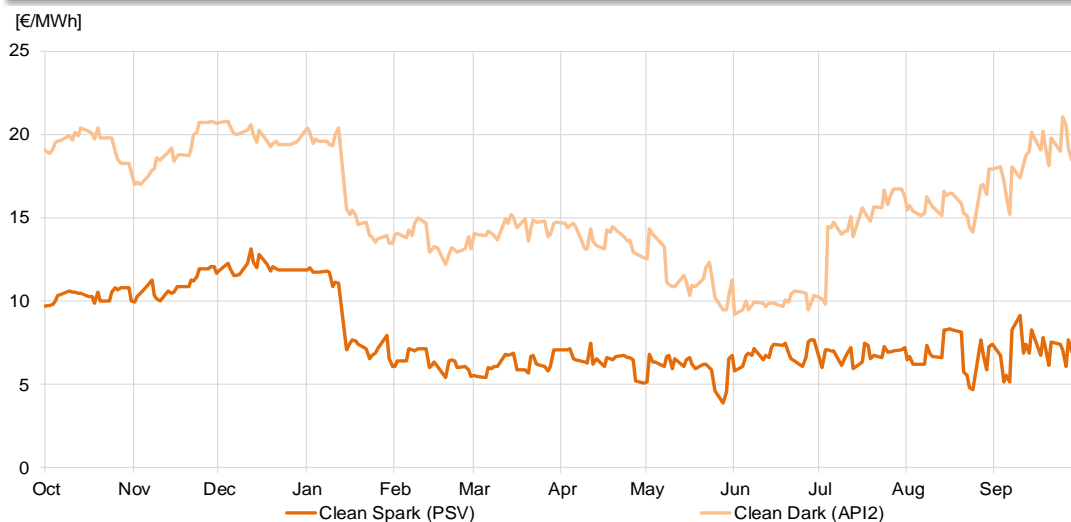
## 2019 Forward Coal &amp; Carbon Prices



Monthly average change  
API2-API4 = -\$1.3/t

Source: Terna calculation on Bloomberg data

## Clean 2019 Forward Dark &amp; Spark spreads Italy



Clean spark spread PSV  
monthly average =  
€7.7/MWh (+13.2% M-o-M)

Clean dark spread API2  
monthly average =  
€18.5/MWh (+59.5% 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 September 2018. This selection is not exhaustive with respect to the regulatory framework.*

**Approval of the proposal to define load frequency control blocks (LFC Blocks) for the continental Europe synchronous area, as a result of a unanimous vote by all the regulatory authorities in the synchronous area, under the terms of EU Regulation 2017/1485 (SO GL)**

[Resolution  
450/2018/R/EEL](#)

The Authority, in coordination with the other regulatory authorities of the continental Europe synchronous area, approved the definition proposal of Load Frequency Control Blocks (LFC Blocks) prepared by continental Europe synchronous area TSOs, under the terms of the SO GL Regulation. In particular, the proposal defines LFC blocks, LFC areas and monitoring areas for the continental Europe synchronous area, and, for Italy, identifies Terna as the reference TSO for the groups.

**Instructions to Terna for the implementation of amendments to the proposals for the calculation of exchanges programmed as a result of the market coupling of the Day-Ahead Market and the coupling process of the Intraday Market, presented under the terms of EU Regulation 2015/1222 (CACM Regulation)**

[Resolution  
463/2018/R/EEL](#)

The Authority, in coordination with the other European regulatory authorities, has requested that Terna modify the proposal for the calculation of the exchanges programmed as a result of the single day ahead coupling (SDAC) and the single intraday coupling (SIDC), prepared by the TSOs in accordance with the CACM Regulation. In particular, the proposal defines the method of calculating the exchange programmes between market zones and scheduling areas (the areas for which the TSO obligations concerning programming activities are defined).

The main change requested by the European Regulators at the Energy Regulators' Forum (ERF) concerns the insertion of a specific article aimed at describing the calculation of exchange programmes between NEMOs (Nominated Electricity Market Operators, i.e. the Exchanges operating on the electricity market).

**Resolutions concerning the Trapani turbogas production plant, essential for 2015**

[Resolution  
479/2018/R/EEL](#)

The Authority determined the amount of the cost coverage fee for the Trapani Turbogas essential plant for the year 2015.

**Verification of compliance of proposals to modify the Grid Transmission, Dispatching, Development and Security Code, in relation to the decommissioning of high-voltage and very-high-voltage overhead lines due to forest fires or dangerous situations in the proximity**

[Resolution  
482/2018/R/EEL](#)

The Authority has approved, within its area of competence, the modifications to the Grid Code proposed by Terna in relation to Annex A.21 to the Grid Code. In particular, the annex establishes the operational procedures for the management of requests for decommissioning of high-voltage and very-high-voltage overhead lines due to forest fires or dangerous situations in the proximity, even if only potential, for persons and/or things resulting from events involving the lines in question.

## 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 (DSM):** 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<sub>2</sub> 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

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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/dati statistici.aspx](http://www.terna.it/it-it/sistemaelettrico/statisticheeprevisioni/dati statistici.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](http://www.terna.it).