



European Power & Utilities Report

KPMG Global Energy Institute

Q2 2018



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Price and margins overview

Electricity prices

Prices in France and Germany continued to increase in Q2 2018, similar to the pattern of Q1. The Spanish electricity market closed with record prices, compared to the Q2 price trend of the last 10 years. This was due to significant increases in gas and coal prices, along with the impact of CO2 emission rights. Electricity prices in the UK showed moderate growth from April to June, contrary to pronounced peak and decline in March.

Oil prices

Both WTI and Brent Oil average prices maintained an upward trend during Q2 2018, reaching US\$70/b and US\$76.70/b, respectively, at the end of May. The rising prices largely reflect the continuous decline in global oil inventory levels, impact of US sanction on Iran and economic crisis in Venezuela (see note below).

Gas prices

HH average prices remained fairly constant during Q2 2018 with minor fluctuations, closing at US\$2.78/Mbtu by the end of May 2018. EU border average prices declined slightly during the quarter, reaching US\$7.19/Mbtu. NBP prices were on the rise, attributing to the higher seasonal demand in April (see note below).

Coal prices

Australian, Colombian and South African coal prices increased significantly at the end of May 2018, thus following the January 2018 trend. The contributing factors were tight supply and strong consumption; however, this is expected to be temporary. South African coal average prices increased by 5.3 percent in Q2 2018 to US\$98.80/Mt at the end of May 2018, reaching a peak in the last 7 years (see note below).

Carbon prices

Carbon prices increased moderately between April and May 2018 reaching EUR16.27/T, then declined to EUR14.99/T at the end of June. The average quarterly carbon price was up by 48 percent in Q2 vs. Q1.

Dark/spark spreads

Dark and spark spreads experienced strong volatility in continental Europe and touched negative values in Germany and France in the quarter. The UK and Italy were not affected by this trend as spreads remained stable during the quarter.

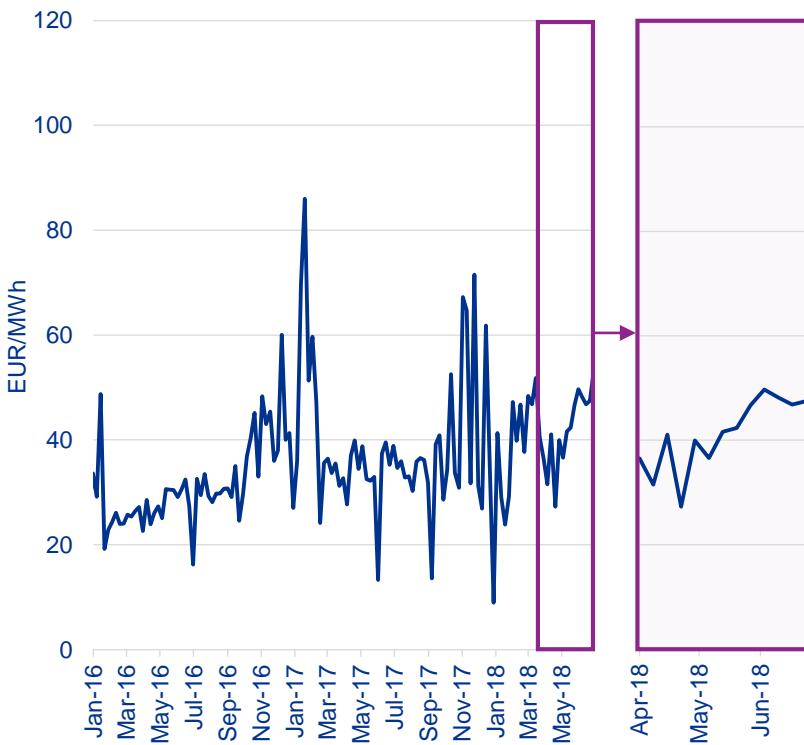
Note: The World Bank source will publish the June month prices for Crude Oil, Coal and Europe gas prices in the next report, which will be released in September 2018.

Electricity price evolution

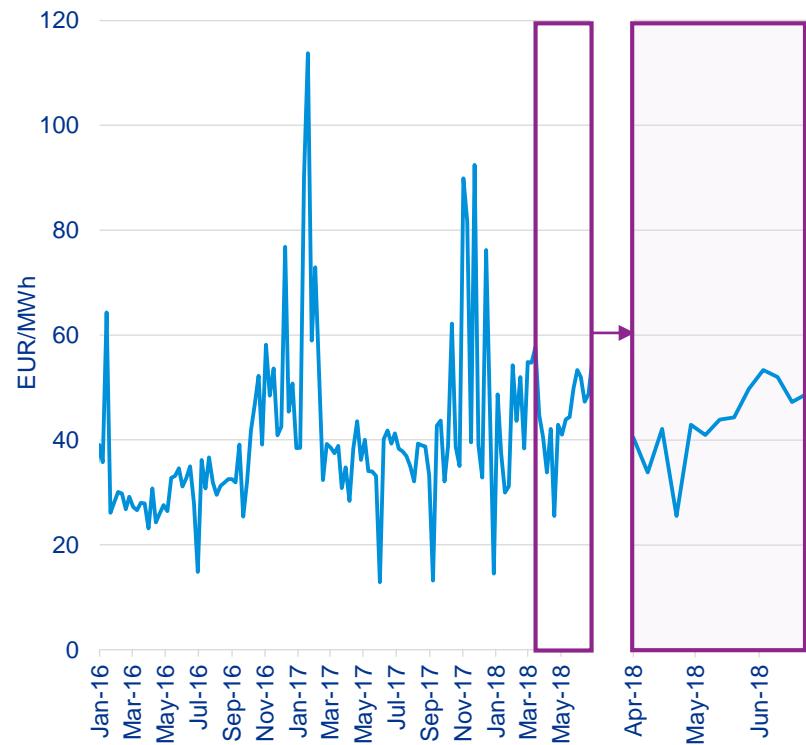


Germany

Base load



Peak load

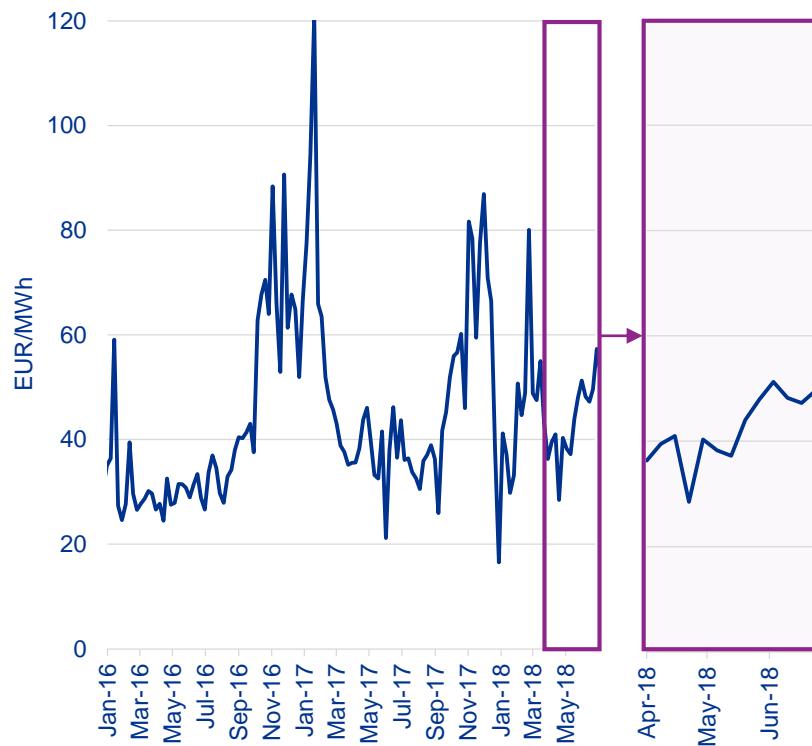


Source: Reuters; 2018.

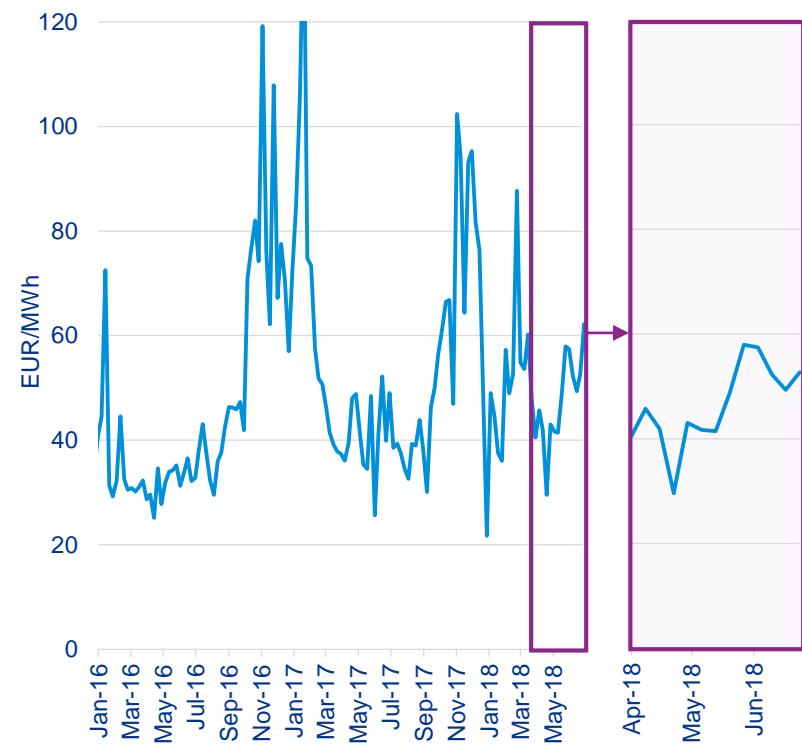
Electricity price evolution



Base load



Peak load



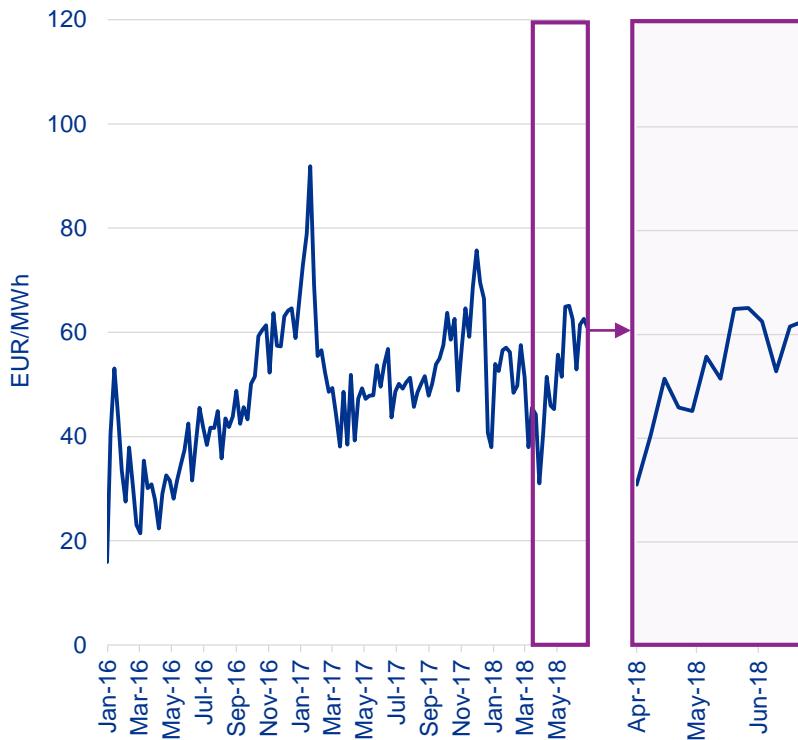
Source: Reuters; 2018.

Electricity price evolution

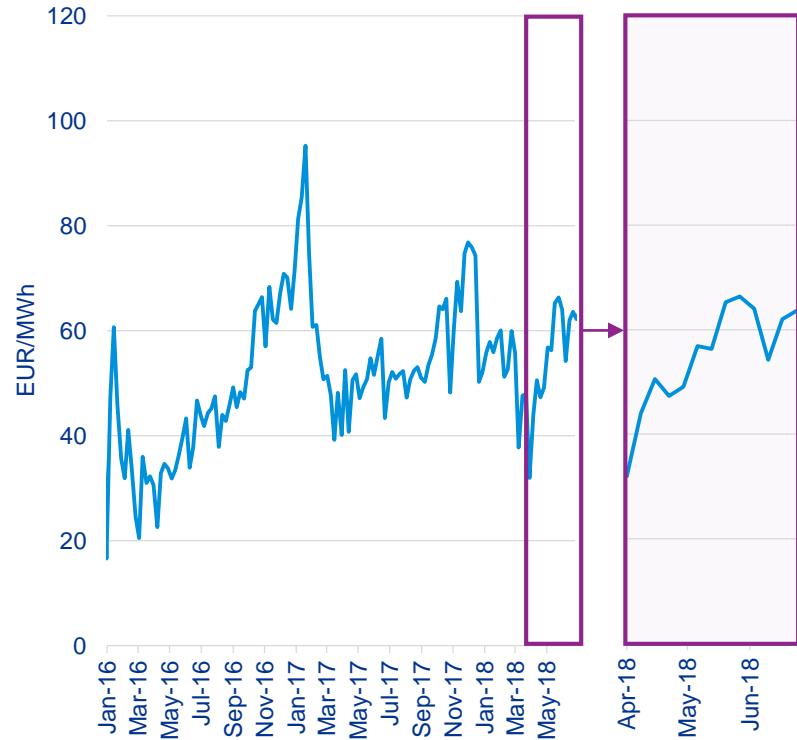


Spain

Base load



Peak load



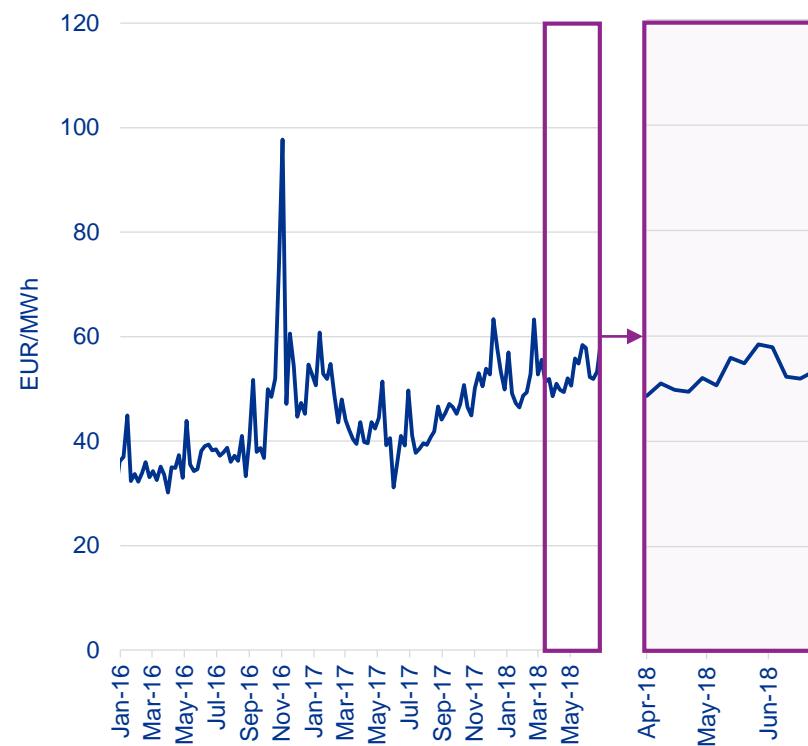
Source: Reuters; 2018.

Electricity price evolution

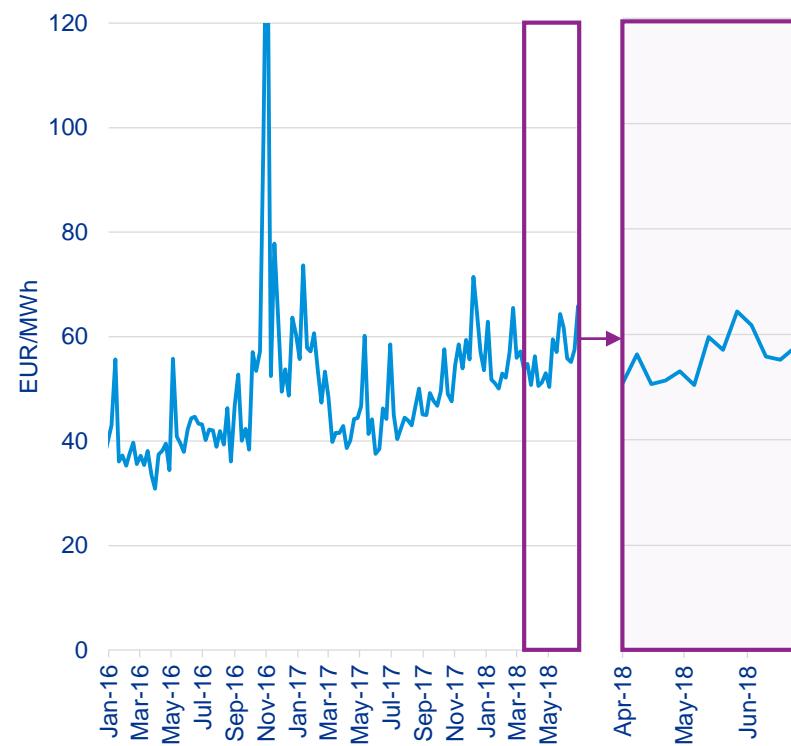


United Kingdom

Base load



Peak load



Source: Reuters; 2018.

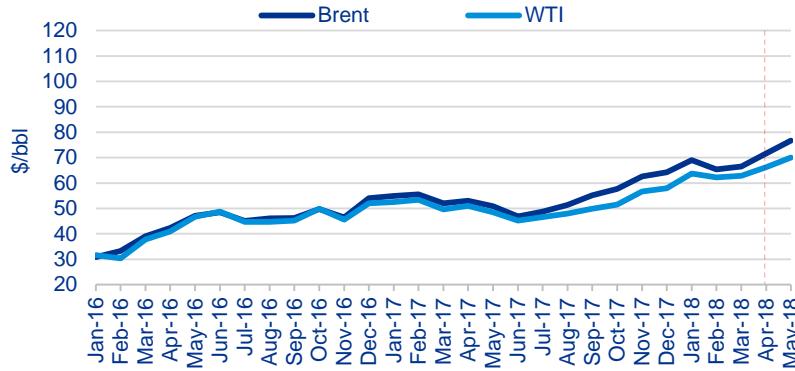


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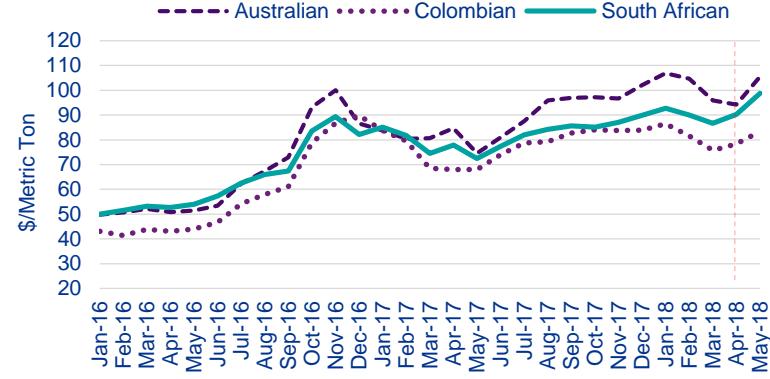
Price and margins

Fuel price evolution

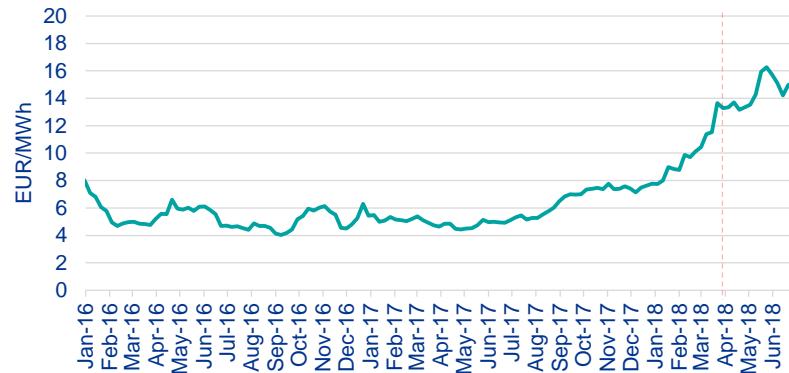
Crude oil



Coal

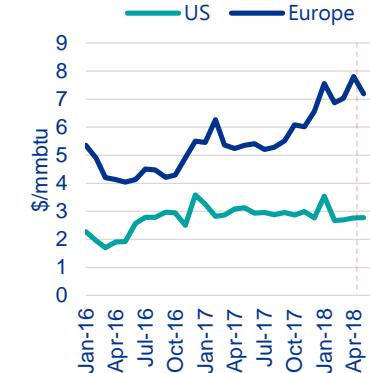


Carbon price — EU ETS



Gas prices

US (H.Hub) and EU (border)

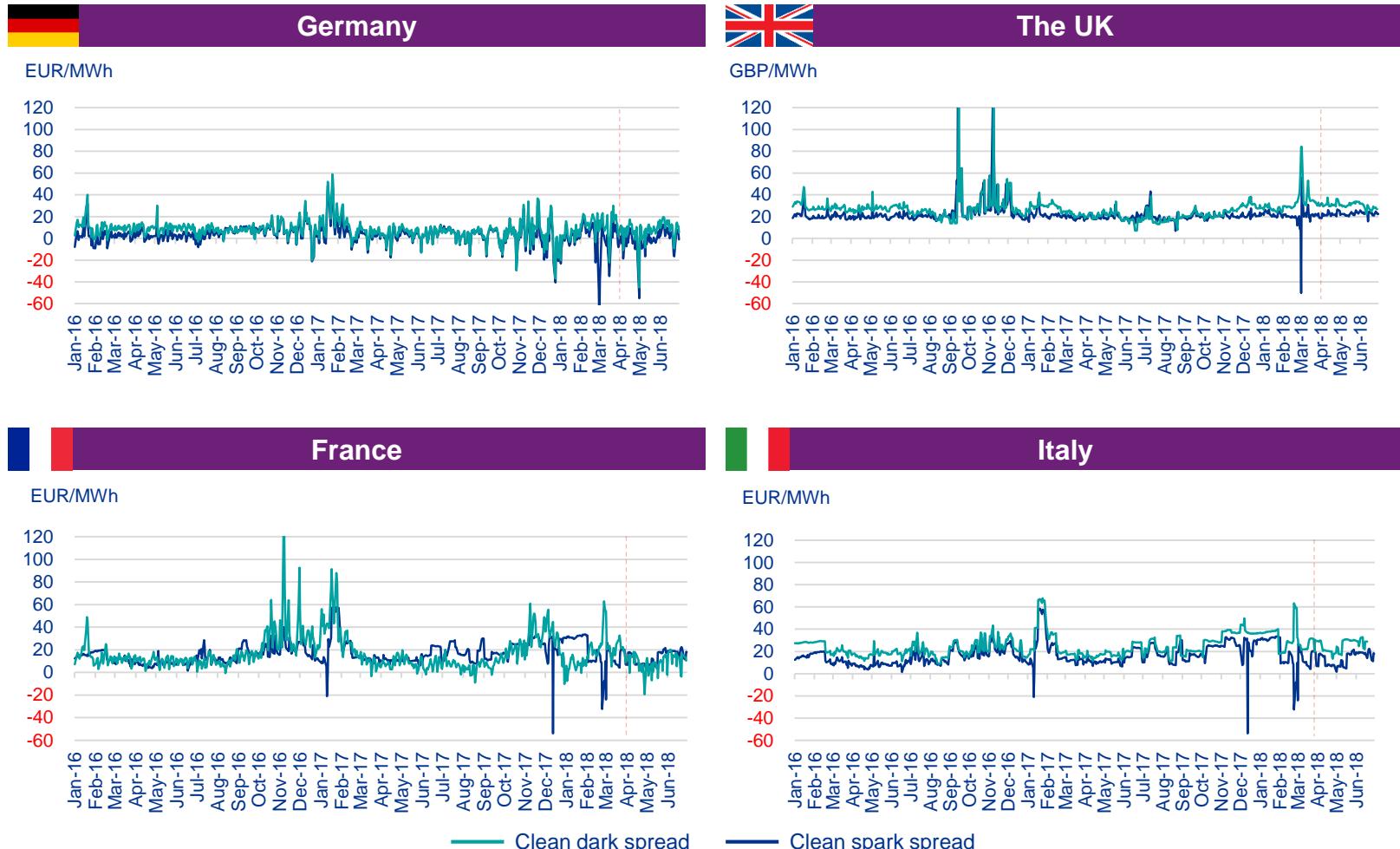


NBP



Note: The World Bank source will publish the June month prices for Crude Oil, Coal and Europe gas prices in the next report, which will be released in September 2018.
 Source: World Bank/Reuters; 2018.

Clean dark and spark spreads



Source: Reuters; 2018.

Regulatory overview

European Union

On 14 June 2018, the European Commission, the European Parliament and the Council of Ministers reached a political agreement regarding increasing renewable energy in Europe and implementing new rules for energy efficiency, which were both contemplated in the 'Clean Energy for all Europeans Package'. The new targets are 32 percent renewable energy contribution and 32.5 percent energy-efficiency savings by 2030.

The UK

On 19 July 2018, the Parliament approved a law capping energy tariffs across the Great Britain (GB) energy market. The law will require Ofgem, the energy regulator, to provide a cap for standard variable and default tariffs offered by suppliers for household energy consumers across gas and electricity products. It will take effect in the winter of 2018 and is expected to last until 2020, impacting some 12 million people in Great Britain. Ofgem is currently undertaking analysis on the level of the cap and is expected to report its policy position on 23 August 2018.

Spain

The National Commission on Markets and Competition (CNMC) published a report focused on the financial analysis of Red Eléctrica de España (REE), as the sole transmission and operator of the Spanish Power sector. Based on its analysis for the period 2013–2016, the CNMC has recommended lowering the financial retribution of sole TSO operator, REE, for the next regulatory period and putting legal upper limits to the company's financial leverage.

Italy

The Italian Minister for Economic Development approved a decree, according to which major gas consumers are partially exempted from the payment of the general service charges, related to the gas commodity. The goal of such a measure is to incentivize companies to pursue more ambitious targets.

Germany

The Federal Network Agency has launched another phase of its consultation on the Network Development Plan (NEP) Gas during 2018–2028. After a public consultation on the transmission system's draft in February and early March, it is now up to the downstream network operators to approve the plan. Actual and potential users of the gas network can submit their comments on the NEP by 25 May 2018. The most important topics are the planned conversion of the H-gas areas to L-gas, the production restrictions in the Groningen field, the connection of the Nord Stream 2 pipeline and the market for liquefied natural gas (LNG).

Regulatory overview

Portugal

The new Tariff Regulation of natural gas sector was approved in April 2018, which establishes the criteria and methods for the formulation of natural gas tariffs and prices for determining the allowed revenues, as well as the obligations of entities in the sector concerning the provision of information. In June 2018, the ERSE 'Board of Directors' approved the first amendment to the Tariff Regulation.

The Netherlands

The Dutch government has formulated the objectives for a national climate agreement. This gives the go-ahead to discussions with the private sector, civil society organizations and subnational authorities. The aim is to reach a broad consensus on ways the Netherlands can reduce its CO2 emissions by 49 percent by 2030. It will be then developed into concrete programs in the second half of 2018. Implementation of the agreement will begin in 2019.

France

Revision of the Multiannual Energy Plan in 2018

The law on energy transition for green growth, the foundation for 'Energy Transition' in France, was passed in 2015. It rules the revision of the Multi-annual Energy Plan (MEP) after 5 years. The main objectives (previous target) that will be updated in 2018 cover:

- the share of renewable energy: 50 percent of power by 2023
- bio-methane injected into the gas network: 8TWh by 2023
- total energy consumption: down by 12 percent compared to 2012
- primary consumption of fossil fuels: down by 22 percent compared to 2012
- primary consumption of coal: down by 37 percent compared to 2012
- primary consumption of oil products: down by 23 percent compared to 2012
- primary consumption of gas: down by 16 percent compared to 2012
- emission of greenhouse gases from energy production: 254 MtCO₂ in 2023 (compared to 294 in 2018).

Regulatory overview

Nordics

Denmark

On 29 June 2018, the Danish government, together with all parliamentary parties, entered into a new energy agreement with the aim to cover the Danish electricity consumption with renewable sources of energy by 2030. The agreement focuses on building three new offshore wind farms having capacity of 2,400MW utilizing solar cells and land winds thus aiming to provide technology-neutral supply of energy. Also, new pool of EUR32.2 million (DKK4.2 billion) will be allocated annually over 20 years, for technology-neutral expansion using biogas and other green gases.

Turkey

The Energy Market Regulatory Authority (EMRA) announced that the organized wholesale natural gas market will come into effect at 8:00am on 1 September 2018, following the activation of the Continuous Trade Platform, in a manner that there will be an obligation for delivery, invoicing and payment.

Links to new key regulation



News

The European Parliament and Council of Ministers of the EU gave their final approval for the revised 'Energy Performance of Buildings' directive, which is part of the 'Clean Energy for All Europeans' package. The new rules that came into effect on 9 July 2018, are expected to make buildings smarter and more energy efficient, save money and create jobs in the renovation and construction sector.

[Link I](#)



On 14 June 2018, the European Commission, European Parliament and Council of Ministers reached a political agreement regarding increasing renewable energy in Europe and implementing new rules for energy efficiency, which were both contemplated in the 'Clean Energy for All Europeans' package. The new targets are 32 percent renewable energy contribution and 32.5 percent energy-efficiency savings by 2030.

[Link II](#)

[Link III](#)

An agreement has been reached among the European Commission, European Parliament and Council of Ministers on the governance of the Energy Union — which is another legislative proposal that initially appeared in the 'Clean Energy for All Europeans' package. The main goal was to design a simplified, robust and transparent governance structure that would facilitate the achievement of ambitious environmental targets.

[Link IV](#)

The European Commission has imposed binding obligations on Gazprom to enable the free flow of gas at competitive prices in the Central and Eastern European gas markets, to the benefit of European consumers and businesses.

[Link V](#)

Links to new key regulation



News

Energy price cap

On 19 July 2018, the Parliament approved a law capping energy tariffs across the Great Britain's energy market. The law will require Ofgem (energy regulator) to provide a cap for standard variable and default tariffs offered by suppliers for household energy consumers, across gas and electricity products. It will take effect from the winter of 2018 and is expected to last until 2020, impacting about 12 million people in Great Britain. Ofgem is currently undertaking analysis on the level of cap and is expected to report the policy position on 23 August 2018.

[Link I](#)

New nuclear negotiations

- The UK Government has announced that it has formally entered negotiations with Horizon Nuclear Power, the developer of a 2.9GW nuclear project in Wylfa. The government will take a EUR5 billion equity stake in the power project, reducing the expected strike price to EUR75/MWh–77/MWh (down from EUR92.50/MWh for Hinkley Point C).
- The UK planning Inspectorate has accepted proposals to develop the project, enabling the developer to submit its Development Consent Order — a process which could take up to 22 months to complete.
- The nuclear sector and the government have also committed to a new 'sector deal,' committing EUR200 million of government funding for nuclear research and development, establishing the government's commitment to the industry.

[Link II](#)

Swansea Bay tidal lagoon negotiation cancellation

The UK Government has rejected plans for establishment of a pathfinder tidal lagoon project, 'Swansea Bay Tidal Lagoon,' in Swansea, citing high costs with little evidence of cost reduction or local economic benefits as the principle drivers of ceasing negotiations. The project has been the subject of ongoing discussions since 2015, when the government first entered negotiations with the developer, Tidal Lagoon Power.

[Link III](#)

Links to new key regulation

News



Spain

The National Commission on Markets and Competition (CNMC) published a report focused on the financial analysis of Red Eléctrica de España (REE), as the sole transmission and operator of the Spanish Power sector. Based on its analysis for the period 2013–2016, the CNMC has recommended lowering the financial retribution of sole TSO operator, REE, for the next regulatory period and putting legal upper limits to the company's financial leverage.

[Link I](#)

The CNMC published Circular 1/2018, that sets the regulation for the 'System of Guarantee of Origin' for renewable sources and highly efficient CHP plants. The Guarantee of Origin is an electronic accreditation that ensures that a determined number of MWh produced by a generator comes from the above-mentioned sources.

[Link II](#)

Royal Decree 335/2018 was published on 25 May 2018. It modifies various Royal Decrees within the Natural Gas sector. RD 949/2001 is modified to adapt the tolling system for the regasification plants, including services such as LNG storage or entering/exiting the 'Virtual Balance Point'. The regulation concerning the closure procedures of transport, regasification, storage or distribution installations is modified in RD 1434/2002. Finally, RD 984/2015 — which regulates the organized gas market and third-party access to the system — is modified as well, allowing the contracting of output capacity from the Virtual Balance Point for indefinite periods of time.

[Link III](#)

On 12 June 2018, the Minister of Ecologic Transition approved Order TEC/625/2018 that modifies the rules for the day and intraday electric market, overriding the previous rules approved by the CNMC, leading to an open conflict between the regulator and the Ministry. The new order modifies those rules of the resolution in conflict with the CNMC ruling.

[Link IV](#)

Links to new key regulation

News

The ARERA (Italian Authority) approved relevant modifications to Terna's (Italian TSO) Grid Code, which is applied in relations between Terna and grid users. The main changes relate to Delibera 300/2017, with the introduction of the Rotary Reserve (both rump-up and rump-down) and the concept of thermoelectric units in 'linked mode'.

[Link I](#)

The Italian Minister for Economic Development approved a decree according to which major gas consumers are partially exempted from the payment of the general service charges, related with gas commodity. The goal of such measure is to incentivize companies to pursue more ambitious targets.

Italy

With the approval of resolution 350/2018/R/Gas, the ARERA (Italian Authority) disciplined the criteria for the definition of the disposals concerning regulation of the economic stocks, relative to gas storage for thermic year 2018-2019. The goal of this resolution is to ensure that storage companies attain a level of revenues equivalent to the one they would be able to earn, through the application of fare considerations.

[Link II](#)

The resolution 247/2018/R/gas approves the agreement between the GME (Gestore dei Mercati Energetici) and Snam Rete Gas S.p.a. that disciplines the terms of access to Snam's database of fundamental data, together with the terms of extraction and consultation of reports stored in the database.

[Link III](#)

Links to new key regulation

News

Germany

The Federal Network Agency has launched another phase of its consultation on the Network Development Plan (NEP) Gas during 2018–2028. After a public consultation on the transmission system's draft in February and early March, it is now up to the downstream network operators to approve the plan. Actual and potential users of the gas network can submit their comments on the NEP by 25 May 2018. The most important topics are the planned conversion of the H-gas areas to L-gas, the production restrictions in the Groningen field, the connection of the Nord Stream 2 pipeline and the market for liquefied natural gas (LNG).

[Link I](#)

On 17 May 2018, the Federal Network Agency (Bundesnetzagentur) announced the results for the second auction for Onshore Wind-parks. The bids ranged from 4.65ct/kWh to 6.28ct/kWh. The average bid value was 5.73ct/kWh. In the previous round of bids in February 2018, the surcharges averaged 4.73ct/kWh. The tender volume is 670,161 kilowatts.

[Link II](#)

On 27 April 2018, the Federal Network Agency (Bundesnetzagentur) announced the results for the second auction for Offshore Wind-parks. Taking into account the available tender volume of 1,610 megawatts and the remaining free capacity of the connection lines, six bids could be awarded. The lowest bid value was 0.00ct/kWh. The highest bid value awarded was 9.83ct/kWh. The average bid is 4.66ct/kWh. Of the approved projects, three are located in the North and Baltic Seas.

[Link III](#)

Links to new key regulation



News

Portugal

The Regulatory Entity for Energy Services (ERSE) has established and approved the natural gas tariffs and prices to be applied in the gas year 2018–2019.

[Link I](#)

The new Tariff Regulation of the natural gas sector was approved in April 2018, which establishes the criteria and methods for formulation of natural gas tariffs, prices for determination of allowed revenues, and the obligations of entities in the sector concerning the provision of information.

In June 2018, the ERSE Board of Directors approved the first amendment to the Tariff Regulation.

[Link II](#)

[Link III](#)

As a result of the need to adapt the activity of Logistics Operator Change (OLMC) to the legislative changes already in force and, on the other hand, to the changes related to the financing mechanism of the social tariff, two amendments were made to the Trade Relations Natural Gas Sector during the second quarter.

[Link IV](#)

[Link V](#)

The General Directorate for Energy and Geology has made the quarterly update of the cogeneration reference tariff for the second quarter of 2018.

[Link VI](#)

Links to new key regulation



News

ERSE approved an amendment to the model of risk and guarantee management of the National Electric System, which will strengthen the measurement and prevention of risks for this system. The Directive 7/2018 approved a transitory regime for guarantees and risk management in the National Electric System.

Portugal

Following Law 31/2017 and the Council of Ministers resolution n.º 5/2018, which established the program of studies and actions to be developed for completing the tenders of low voltage distribution concessions on 29 June 2018. ERSE put in public consultation the proposals of:

- the main determinants of the concession procedures
- proposal of grouping the territorial areas of the concessions for tender procedures.

[Link VII](#)

Links to new key regulation

News

Netherlands

The Dutch government set out the objectives for a national climate agreement. This gives the go ahead to discussions on the agreement with the private sector, civil society organizations and subnational authorities. The aim is to reach a broad consensus on the ways the Netherlands can reduce its CO2 emissions by 49 percent by 2030. This will then be developed into concrete programs in the second half of 2018. Implementation of the agreement will begin in 2019.

[Link I](#)

The Netherlands will ban the use of coal in electricity generation in the coming decade and shut down two of its five coal-fired plants by the end of 2024, unless they switch fuels. The law announced by the Minister of Economic Affairs and Climate Policy, Eric Wiebes, applies to plants set up in the 1990s while newer ones will have to shut down by the end of 2029, marking the first step toward the government's goal of shutting all coal-fired plants by 2030.

[Link II](#)

On 26 March 2018, the Dutch government said it will phase out gas production at the Groningen field (once Europe's largest) by 2030 as part of its efforts to reduce the dangers caused by small, but damaging earthquakes. No later than 2022 and possibly 1 year sooner, the natural gas extraction level will be reduced to below 12bcm. In the subsequent years, it will be gradually reduced to zero.

[Link III](#)

The Dutch Government signed an Energy Agreement with parties involved in the energy market. It was agreed that five wind farms should be completed by 2023. Together with the existing wind farms, these should ensure a total installed capacity of 4.5GW. The new roadmap calls for offshore wind farms worth an additional 7GW.

[Link IV](#)

Links to new key regulation

News

France

Announcement of renegotiation for offshore wind tariffs

- Projects for six 500MW off-shore wind-farms were granted approval through competitive tenders in 2012 and 2014.
- The French State and the related operators finally reached a financial agreement after negotiation, which according to public subsidy will decrease by about 40 percent (from EUR40 billion to EUR25 billion) and the related tariffs by about 25 percent (from EUR200/KWh to EUR150/KWh). The projects are expected to be on-stream in 2021, 2022, 2023 and 2024.

[Link I](#)

Increase in gas regulated tariffs (Engie)

Gas regulated tariffs sold by Engie and local distribution companies have increased from 1 July 2018 for two major reasons:

- market gas tariffs increase, following 2 years of quasi-flat evolution
- distribution costs surge, linked to gas storage costs catch up.

Gas regulated tariffs are expected to level in 2018 and will be back to the 2015. As a reminder, following the Conseil d'Etat (French highest court) decision dated 19 July 2017, the gas regulated tariffs will progressively disappear, after negotiations with consumer associations and the operators.

[Link II](#)

Links to new key regulation

News

Revision of the Multiannual Energy Plan in 2018

The law on energy transition for green growth, the foundation for 'Energy Transition' in France, was passed in 2015. It rules the revision of the Multi-annual Energy Plan (MEP) after 5 years. The main objectives (previous target) that will be updated in 2018, cover:

- the share of renewable energy: 50 percent of power by 2023
- bio-methane injected into the gas network: 8TWh by 2023
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- primary consumption of fossil fuels: Down by 22 percent compared to 2012
- primary consumption of coal: Down by 37 percent compared to 2012
- primary consumption of oil products: Down by 23 percent compared to 2012
- primary consumption of gas: Down by 16 percent compared to 2012
- emission of greenhouse gases from energy production: 254 MfCO² in 2023 (compared to 294 in 2018).

[Link III](#)

Domestic power tariffs will decrease by 0.5 percent, while small business tariffs will increase by 1.1 percent

In compliance with the Power Code, the CRE (Commission for power regulation) will propose a change in regulated power tariffs, to the Minister of Energy and the Minister of Economy. The proposed changes are mostly influenced by:

- public power network tariffs evolution from 1 August 2018
- the end of the catch-up mechanism to reduce the 2012 variance, between actual costs and tariffs.

[Link IV](#)

Links to new key regulation

News

Denmark

The Danish Government, together with all parliamentary parties, on 29 June 2018 entered into a new energy agreement. With the agreement, the ambition is that the Danish electricity consumption can be covered by renewable energy in 2030.

Highlights from the agreement:

- building 3 new offshore wind-farms totaling 2,400 MW, which can cover more power consumption than all Danish households
- solar cells and land winds must compete in technology-neutral supply for a total of EUR563.3 million (DKK4.2 billion)
- a new pool of EUR32.2 million (DKK240 million) to be allocated annually over 20 years for technology-neutral expansion using biogas and other green gases
- a change in the heat sector to promote new green solutions and technologies.

[Link I](#)

Denmark

Ørsted (the largest Danish utility company — one of the global leaders within offshore wind) divested its power distribution and residential customer businesses.

In light of Ørsted's strategic growth toward becoming a global leader in green energy, it concluded a strategic review that the company's downstream business is not part of its core business and focus.

Owing to the divestment, Ørsted continues to focus on technological innovations in green energy, which is expected to translate into continued cost reductions and a gradual decrease in subsidies. This also furthers its emerging agenda on producing and selling green energy entirely on commercial terms.

[Link II](#)

Links to new key regulation



News

TURKEY

The Turkish Energy and Natural Resources Ministry will accept applications for the world's biggest offshore wind power plant and the first of its kind in the country, until 23 October 2018. According to the Official Gazette announcement on 21 June 2018, the Renewable Energy General Directorate of the Ministry will start assessing applications the same day and will inform applicants on the date and place of tender.

- The applicants may form a consortium to attend the auction.
- The selling price for one kilowatt-hour has been set at US\$0.08 and applicants will compete for the lowest bid in a reverse auction.
- The investor who submits the lowest bid will sign an energy purchase agreement that will include the first 50 terawatt-hours of electricity production, once the plant has been commissioned.
- The tender specifications require 60 percent local equipment production and 80 percent employment rate of Turkish engineers.

In 2018, the cost of imported gas in US\$ terms and US\$/TRY exchange rate, increased over 50 percent on a combined basis. Botaş (state entity) is the dominant importer of gas and sets the benchmark for gas market price.

The increase in import cost was only partly reflected to consumers until August 2018. However, starting 1 August 2018, Botaş increased the cost of natural gas to power plants by 50 percent.

In the Turkish market, electricity prices heavily depend on the cost of natural gas supplied to power plants, as they are last in the merit order and set the market prices. Although, electricity market prices increased only by 20 percent between August 2017–18 in the local currency (TRY), prices are expected to increase significantly August 2018 onward, due to the 50 percent increase in costs.

Increased electricity prices are expected to put significant pressure on the electricity demand, which in turn may decrease the capacity utilization rates of gas power plants.

Links to new key regulation



News

The Energy Market Regulatory Authority (EMRA) announced that the organized wholesale natural gas market will actually come into effect at 8:00am on 1 September 2018, following the activation of the Continuous Trade Platform, in a manner that there will be an obligation for delivery, invoicing and payment.

TURKEY

Türkiye Elektrik Ticaret ve Taahhüt A.Ş. (TETAŞ) was closed with the Statutory Decree No. 703, which was published in the re-edition of the Official Gazette, dated 9 July 2018. Under this regulation, all rights and obligations as well as responsibilities of TETAŞ was transferred to Elektrik Üretim A.Ş.

TETAŞ was responsible for wholesale electricity operations, including the long-term electricity purchase agreements with build-operate-transfer. The build, operate and transfer of operating rights of companies was dated to the period before the Energy Market Law was enacted in 2001 and when TETAŞ was also established.

Furthermore, as per an amendment made with Presidential Decree, the General Directorate of Renewable Energy was closed and the General Directorate of Nuclear Energy was established.

Capital markets overview

Eurostoxx Utilities

The Eurostoxx Utilities Index maintained an upward trend at the end of Q2 and increased an average of 3.8 percent QoQ.

Best performance

RWE AG, EDP and EDP Renovaveis registered the best performance in Q2 2018, in terms of QoQ growth of share price. During this period, 16 out of the top 18 European players experienced a positive QoQ price evolution.

Valuation levels

Valuation levels in the sector averaged at 7.8 EV/EBITDA in Q2; 1.3 percent lower than the previous quarter.

Wide differences persist in EBITDA multiples, with Fortum Oyj, Iberdrola, S.A., Snam S.p.A., National Grid plc and EDP receiving the highest valuations, trading at 11 x EV/EBITDA and above.

Net debt ratios

Net debt ratios averaged at 3.1 x EBITDA in Q2 2018; 3.1 percent lower than the figure registered in Q1 2018 (3.2 x EBITDA).

Credit ratings

Iberdrola and Centrica experienced an upgrade in their ratings; while EDP, Enel, Endesa, Eon and Fortum observed a downgrade in their respective ratings.

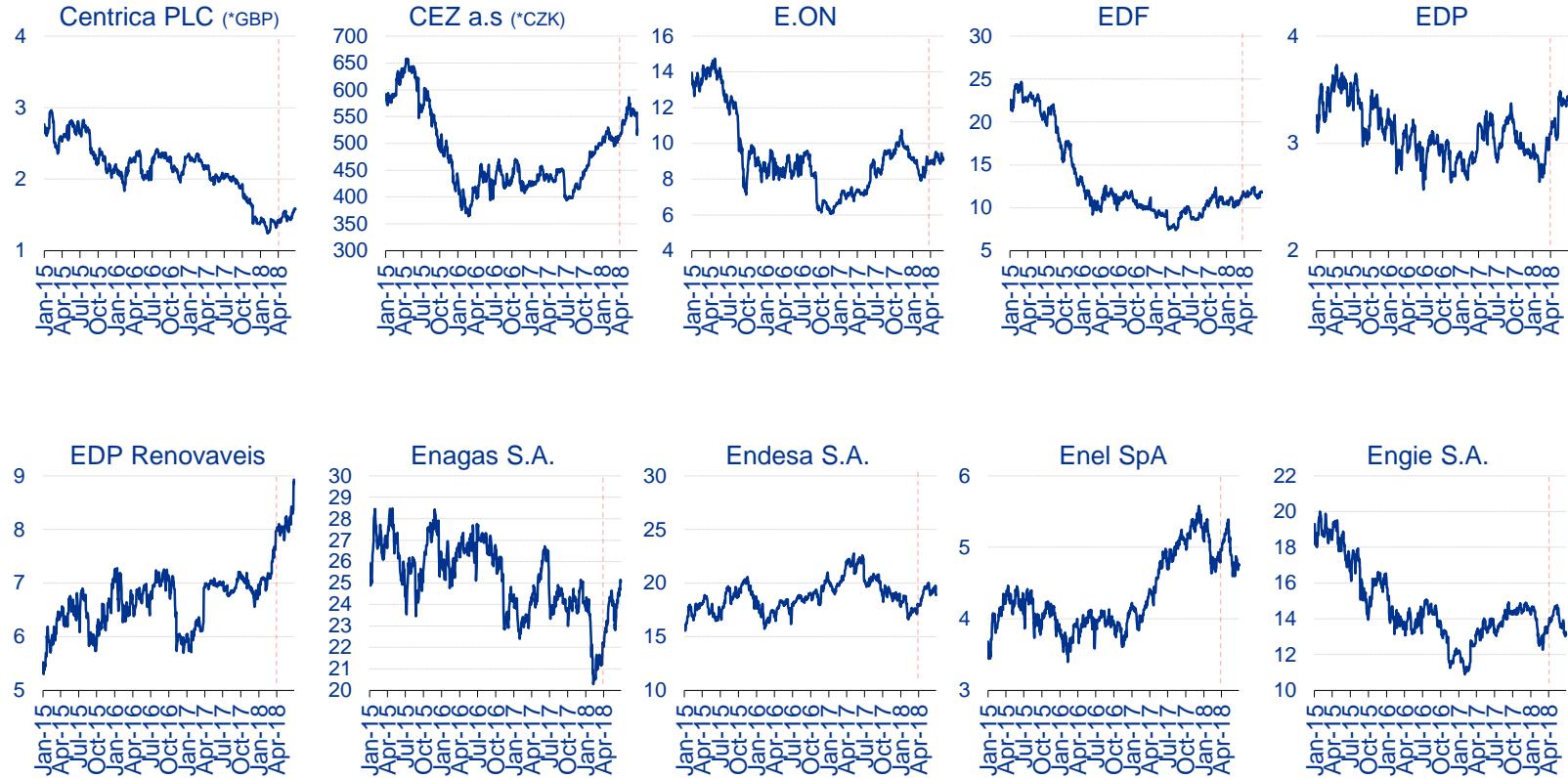
Share price evolution: overview

Company	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Last quarter Q2 2018/ Q1 2018	Last year Q2 2018/ Q2 2017
RWE AG	12.21	15.06	12.7	13.28	17.01	19.26	19.98	17.44	20.00	14.68%	17.62%
EDP	2.97	2.97	2.84	2.84	3.13	3.12	2.97	2.87	3.28	14.37%	4.84%
EDP Renovaveis	6.72	7.04	6.31	6.13	6.98	6.92	6.92	7.19	8.14	13.15%	16.57%
Naturgy Energy Group, S.A	17.49	18.31	17.19	18.32	21.17	20.00	18.63	19.17	21.14	10.32%	-0.13%
Fortum Oyj	13.14	14.26	14.48	14.59	13.84	14.88	17.57	17.72	19.44	9.68%	40.47%
Centrica plc (*GBP)	2.16	2.33	2.15	2.26	2.04	1.98	1.59	1.37	1.48	8.25%	-27.20%
Endesa SA	17.76	18.54	19.24	20.04	21.85	20.17	18.92	17.69	19.13	8.09%	-12.46%
SSE Plc (*GBP)	15.1	15.5	15.23	15.19	14.71	14.27	13.54	12.55	13.56	8.06%	-7.84%
EDF	11.29	11.22	10.12	8.85	8.86	9.25	10.93	10.79	11.65	8.03%	31.50%
Enagás SA	26.7	26.82	24.61	23.43	25.37	24.14	24.19	22.05	23.80	7.92%	-6.20%
CEZ as (*CZK)	428.5	436.8	435.8	435.62	437.61	413.66	477.50	510.22	549.44	7.69%	25.56%
National Grid plc (*GBP)	9.9	10.82	9.83	9.63	10.74	9.52	8.98	7.89	8.37	6.06%	-22.12%
E.ON SE	8.65	8.33	6.45	7.14	7.74	9.01	9.79	8.67	9.13	5.39%	17.94%
ENGIE SA (GDF Suez S.A.)	13.79	14.41	12.4	11.88	13.48	13.93	14.53	13.52	13.95	3.18%	3.46%
Iberdrola SA	5.99	5.98	5.93	6.17	6.89	6.81	6.62	6.25	6.39	2.25%	-7.24%
REE ¹	77.88	19.81	17.82	17.21	19.17	18.47	18.39	16.84	17.13	1.73%	-10.66%
Enel SpA	3.93	3.99	3.88	4.10	4.62	5.00	5.29	4.96	4.96	-0.04%	7.48%
Snam SpA	5.21	5.06	4.09	3.81	4.11	4.03	4.23	3.81	3.72	-2.25%	-9.40%
Eurostoxx Utilities	251.42	255.19	238.6	244.04	273.03	282.12	291.95	272.82	283.24	3.82%	3.74%

¹On 11 July 2016, REE executed a 4-to-1 stock split. Values in Q3 2016 reflect that split.

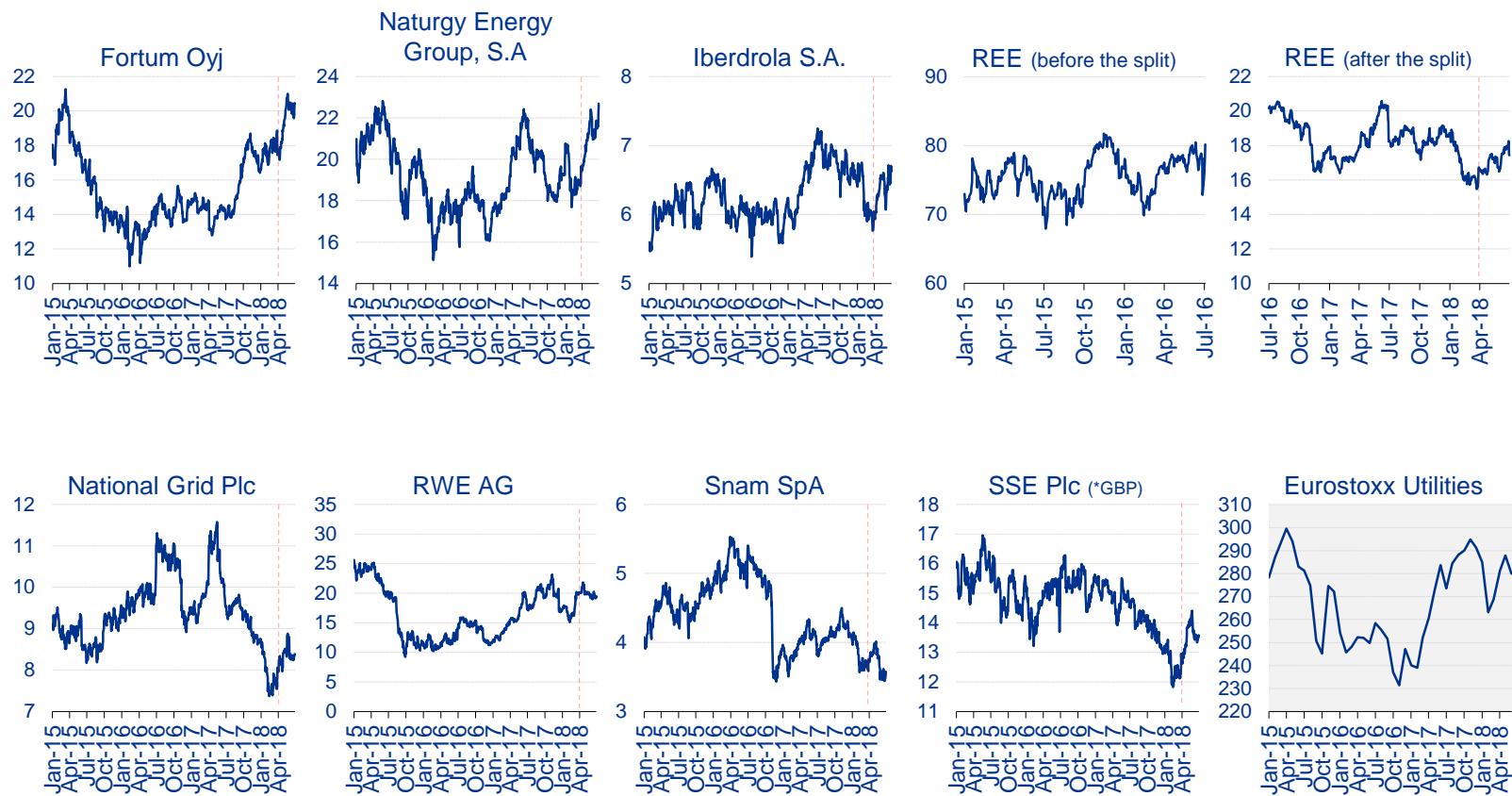
Source: S&P Capital IQ; 2018

Share price evolution: individual stocks (1)



Source: S&P Capital IQ; 2018

Share price evolution: individual stocks (2)



Source: S&P Capital IQ; 2018

Relative valuation per company

	TEV (as of June 30)/ EBITDA (LTM) ▼	TEV (EUR mill.) (as of June 30)	Market Capitalization (EUR mill.) (as of June 30)
Fortum Oyj	12.6x	EUR19,237.7	EUR18,156.7
Iberdrola, S.A.	11.9x	EUR80,220.2	EUR41,345.7
Snam S.p.A.	11.7x	EUR23,480.0	EUR12,040.0
National Grid plc	11.1x	EUR59,512.4	EUR31,775.6
EDP — Energias de Portugal, S.A.	11.0x	EUR31,465.0	EUR12,356.6
Enagas, S.A.	10.5x	EUR11,141.0	EUR5,970.2
Naturgy Energy Group, S.A.	9.6x	EUR39,225.0	EUR22,549.0
EDP Renovaveis, S.A.	9.4x	EUR12,366.7	EUR7,789.7
Red Electrica Corporación, S.A.	9.3x	EUR14,139.5	EUR9,408.3
SSE plc	9.3x	EUR25,479.9	EUR15,482.7
Endesa, S.A.	7.5x	EUR25,428.1	EUR20,005.1
Enel SpA	7.1x	EUR103,209.9	EUR48,362.9
CEZ, a. s.	7.0x	EUR14,429.2	EUR10,866.9
Centrica plc	6.7x	EUR14,768.4	EUR10,034.8
RWE Aktiengesellschaft	6.2x	EUR25,258.3	EUR11,847.3
ENGIE SA	6.1x	EUR54,253.0	EUR31,360.0
Electricite de France S.A.	5.8x	EUR73,989.4	EUR35,420.4
E.ON SE	4.4x	EUR31,973.7	EUR19,794.7
Weighted average: 7.8		EUR659,577.40	EUR364,566.60

Source: S&P Capital IQ; 2018

Leverage and credit ratings

	LTM Net Debt/ EBITDA ▼	Rating S&P	S&P financial update	Rating Moody's	Date	Rating Fitch	Date
Snam S.p.A.	5.7	BBB+	28 May 18	Baa1	22 Sep 17	BBB+	28 Sep 17
EDP - Energias de Portugal, S.A.	5.3	BBB-	30 May 18	Baa3	3 Apr 17	BBB-	14 Dec 17
National Grid plc	5.1	A-	6 Jun 18	Baa1	1 May 17	BBB	27 Mar 18
Iberdrola, S.A.	4.9	BBB+	7 May 18	Baa1	14 Mar 18	BBB+	16 Mar 18
Enagás, S.A.	4.9	A-	5 May 18	Baa1	14 Mar 18	A-	07 Jun 18
SSE plc	3.9	A-	16 Jun 18	A3	23 Aug 17	BBB+	22 Sep 17
EDP Renováveis, S.A.	3.5	-	7 Mar 18	-	-	-	-
Naturgy Energy Group, S.A.	3.1	BBB	29 Apr 18	Baa2	8 Aug 17	BBB+	31 Oct 17
Red Eléctrica Corporación, S.A.	3.1	A-	26 Apr 18	Baa2	12 Dec 16	BBB+	19 Feb 18
Enel SpA	2.6	BBB+	16 May 18	Baa2	12 Dec 16	BBB+	11 Oct 17
Electricite de France S.A.	2.5	A-	18 Feb 18	A3	28 Sep 16	A-	3 Aug 17
RWE Aktiengesellschaft	2.3	-	17 May 18	Baa3	18 May 18	BBB	18 May 18
ENGIE SA	2.0	A-	12 Mar 18	A2	13 Jun 18	A	14 Nov 17
Centrica plc	1.8	BBB+	6 Apr 18	Baa2	14 Mar 18	BBB+	14 Mar 18
Endesa, S.A.	1.6	BBB+	28 May 18	Baa2	31 Aug 17	BBB+	19 Feb 18
CEZ, a. s.	1.6	A-	16 May 18	Baa1	24 Apr 18	A-	15 Feb 18
E.ON SE	1.3	BBB	10 May 18	Baa2	16 May 17	BBB+	19 Feb 18
Fortum Oyj	0.6	BBB	27 Apr 18	Baa2	15 Feb 18	BBB	28 Jun 18
Average:		3.1	Mode: A-	Baa1-Baa2		BBB+	

Quarterly rating variation: Upgrade Unchanged Downgrade

Source: S&P Capital IQ/Moody's/Fitch; 2018

Global M&A overview

Main trends

The last quarter continued to see a very active M&A market. The total value of the top 10 deals exceeded EUR95 billion, with a broad diversification of subsectors (oil, gas, infrastructure, renewables and water).

Major deals during Q2 2018 targeted mostly US companies (5 deals in the top 10).

Main transactions

Acquisition of Andeavor Corporation, a US-based energy company engaged in the manufacturing and sale of transportation fuels, by Marathon Petroleum Corporation (EUR25,892 million).

Purchase of 76.73 percent stake in Energias de Portugal S.A, a Portugal-based energy company, by China Three Gorges (Europe), a Chinese state-owned power company (EUR22,947 million).

Acquisition of Santos Ltd., an Australia-based energy company, by EIG Global Energy Partners, a US-based investment company in the oil and gas sector (EUR10,100 million).

Acquisition of 26.71 percent stake in Williams Partners L.P., a US-based energy infrastructure company, by Williams Companies, Inc. (EUR8,867 million).

Acquisition of all outstanding shares of Vectren Corporation, a US-based energy and applied technology holding company, by CenterPoint Energy Inc. (EUR6,610 million).

Top 10 M&A operations in Q2 2018 by deal value (1)

Date	Target company	Target description	Target country	Bidder company	Bidder country	Seller company	Deal value EUR(m)
30 April 2018	Andeavor Corporation	US-based energy company engaged in the manufacturing and sale of transportation fuels	US	Marathon Petroleum Corporation	US		25,892
11 May 2018	Energias de Portugal S.A. (76.73 percent stake)	Portugal-based listed energy company and one of Europe's major electricity operators	Portugal	China Three Gorges Corporation	China		22,947
17 May 2018	Santos Ltd.	Australia-based energy company and one of the leading independent oil and gas producers in the Asia-Pacific region	Australia	EIG Global Energy Partners	US	Hony Capital Co., Ltd.; ENN Group	10,100
17 May 2018	Williams Partners L.P. (26.71 percent stake)	A listed US-based energy infrastructure company providing midstream natural gas services	US	Williams Companies, Inc.	US		8,867
23 April 2018	Vectren Corporation	US-based energy and applied technology holding company	US	CenterPoint Energy Inc.	US		6,610

Source: Mergermarket; 2018

Top 10 M&A operations in Q2 2018 by deal value (2)

Date	Target company	Target description	Target country	Bidder company	Bidder country	Seller company	Deal value EUR(m)
21 May 2018	Gulf Power Company	US-based company, engaged in energy generation and transmission activities	US	NextEra Energy, Inc.	US	Southern Company	4,889
25 May 2018	Techem GmbH	Germany-based provider of services and devices for the metering and billing of energy and water, along with device sales, hire and maintenance services	Germany	Caisse de Depot et Placement du Quebec; Ontario Teachers' Pension Plan; Partners Group Holding AG	Canada; Canada; Switzerland	Macquarie Infrastructure and Real Assets	4,600
20 June 2018	Glow Energy Public Co. Ltd.	Thailand-based power and utility company	Thailand	Global Power Synergy Public Company Limited	Thailand		4,467
4 May 2018	Rosneft Oil Company OAO (9.18 percent stake)	Russia-based oil and gas exploration and production company	Russia	Qatar Investment Authority	Qatar	Glencore Plc	3,700
1 May 2018	KLX Inc.	Provider of aerospace fasteners, consumables and logistics services	US	The Boeing Company	US		3,471

Source: Mergermarket; 2018

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