



European Power & Utilities Report

KPMG Global Energy Institute Europe, EMA

—
Q3 2017



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Price and margins overview

Electricity prices	Baseload prices and peak-base differentials remained stable during Q3 in major EU countries, with higher levels compared to Q2 in the UK, Germany and to a lesser extent in Spain.
Oil prices	Both Brent and WTI Oil prices initiated an upward trend during the quarter, reaching US\$55/bbl and US\$50/bbl in September respectively (up from US\$47/bbl and US\$45/bbl in June).
Gas prices	While Henry Hub average prices during the quarter fell by 3.8 percent (reaching US\$2.96/MMBTU in September), EU border prices remained stable (US\$5.51/MMBTU in September) and NBP prices increased above GBP£41/MWh (10 percent higher than the previous quarter).
Coal prices	Both Australian and Colombian Coal prices increased during Q3 2017. Australian Coal led this trend and reached an average price of US\$93.43/mt in Q3 (16 percent more than the previous quarter). South African Coal prices fell by 3.8 percent in Q3 compared to the previous one.
Carbon prices	Carbon prices rocketed during the quarter, reaching an average price of EU€5.89/T, up from EU€4.81/T in the previous period (up 23 percent).
Dark/spark spreads	In general, spreads have remained at values close to zero during the quarter with some strong negative peaks in Germany, France and Italy. The UK is the only country that has experienced a sustained improvement trend.

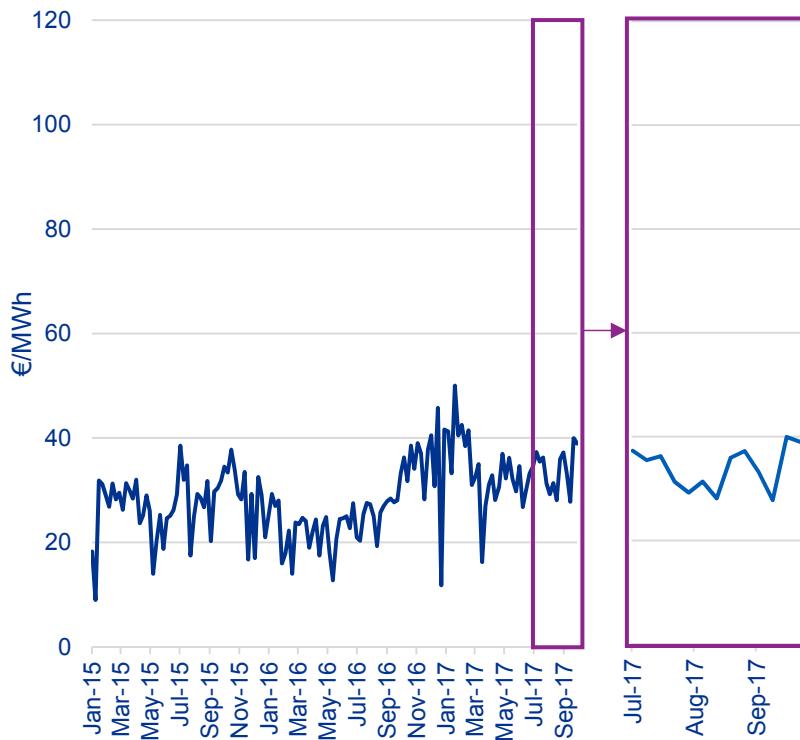
Price and margins

Electricity price evolution

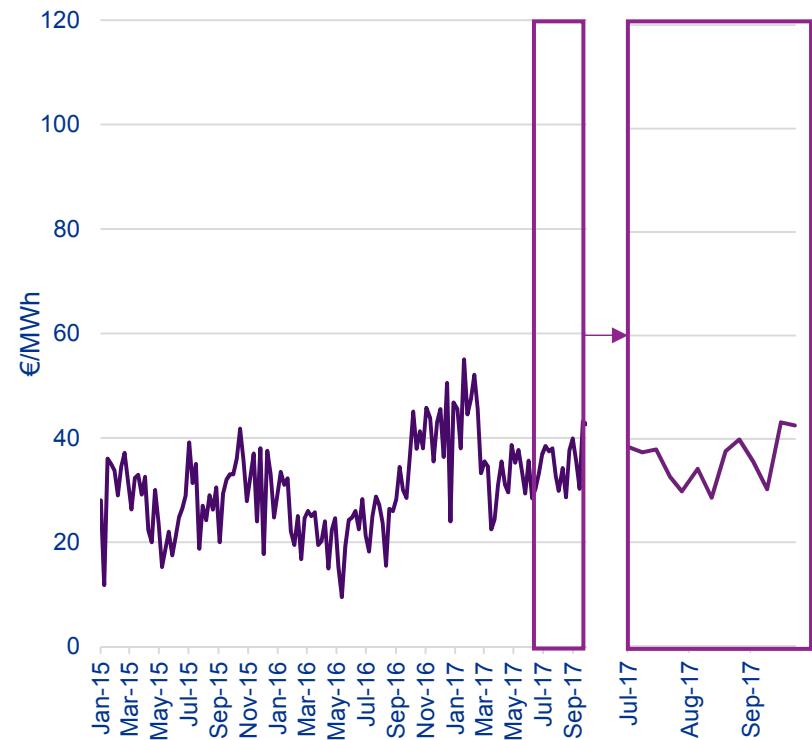


Germany

Base load



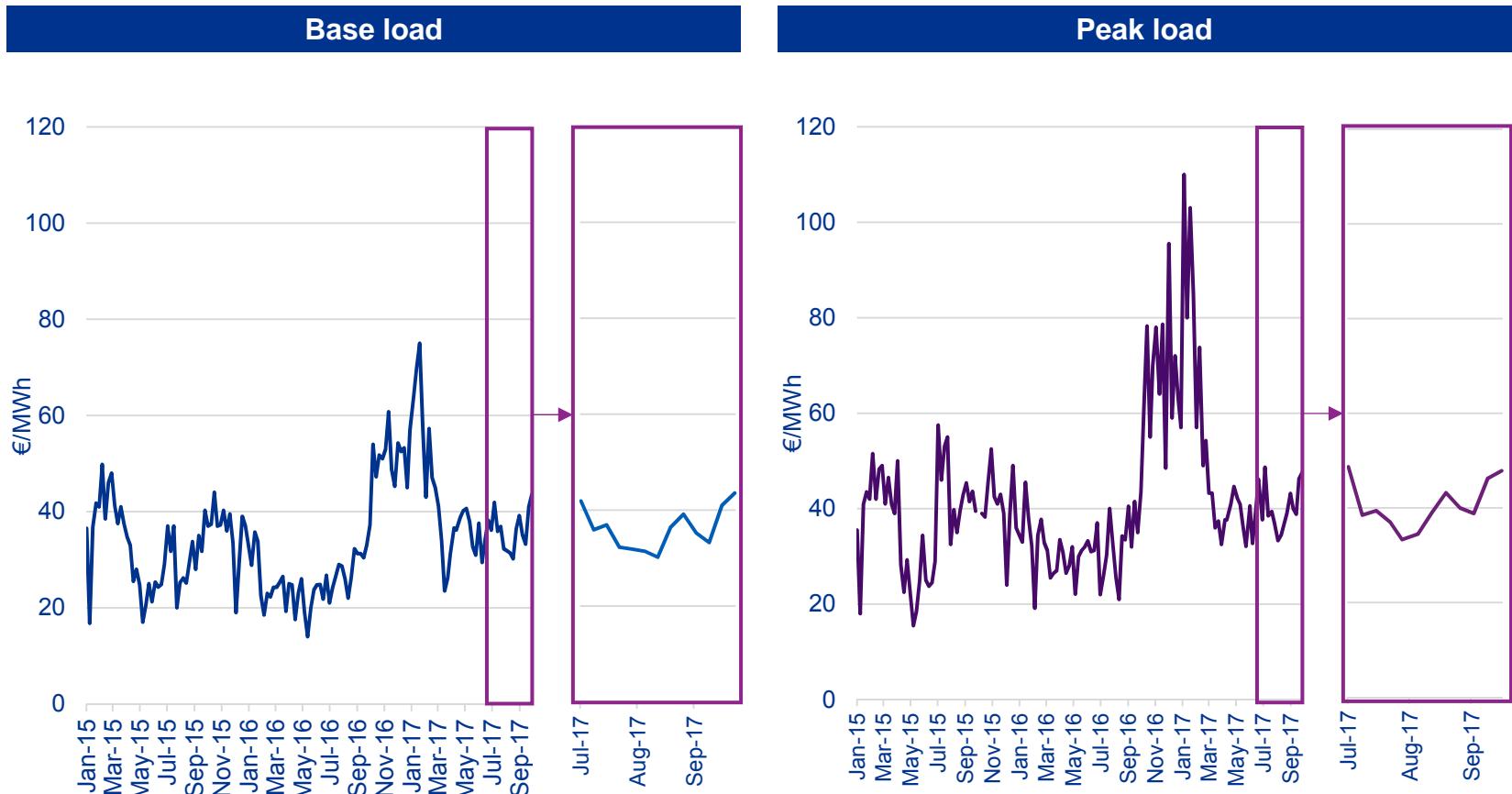
Peak load



Source: Bloomberg; 2017.

Price and margins

Electricity price evolution



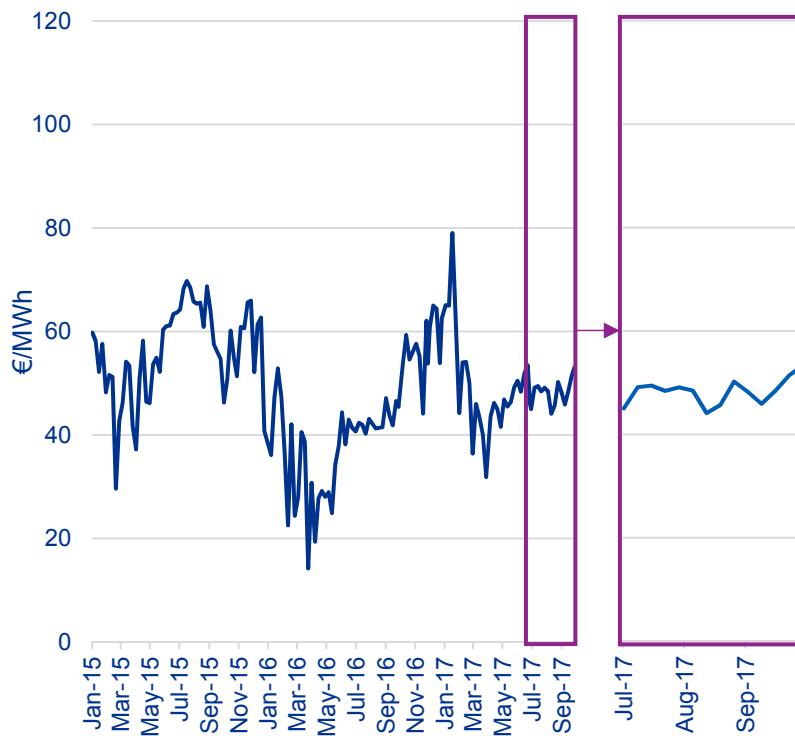
Source: Bloomberg; 2017.

Electricity price evolution

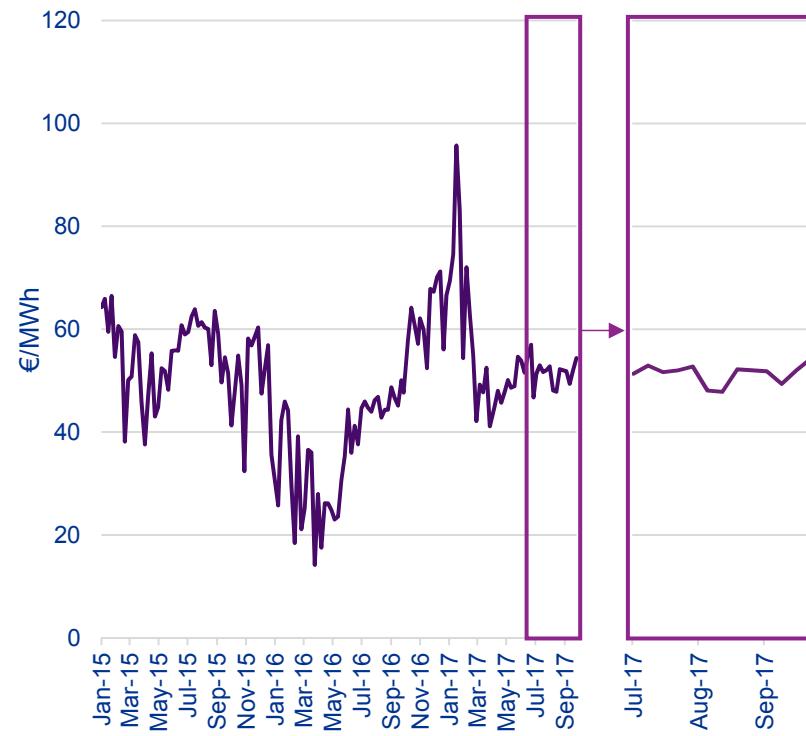


Spain

Base load



Peak load



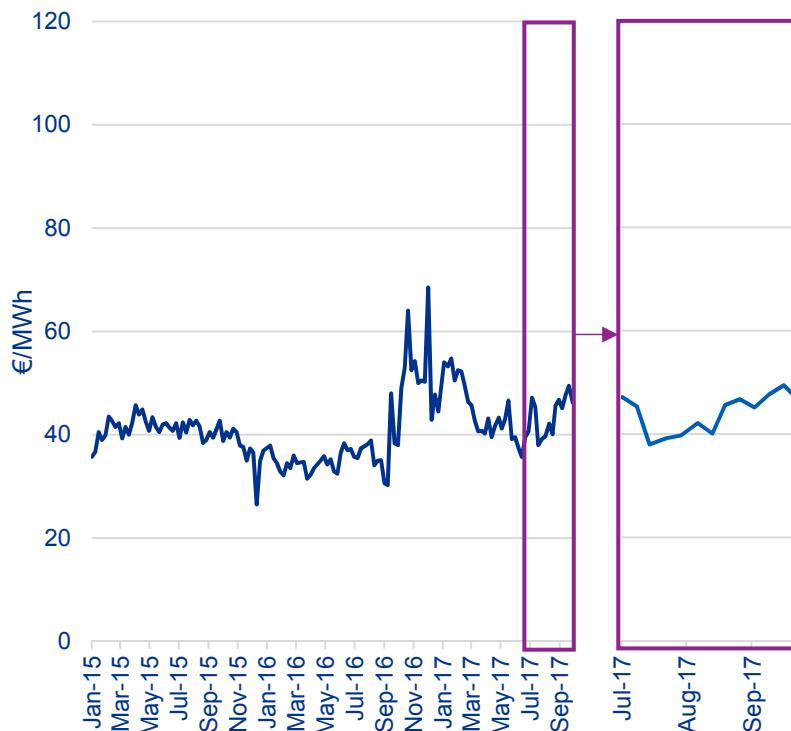
Source: Bloomberg; 2017.

Electricity price evolution



UK

Base load



Peak load¹

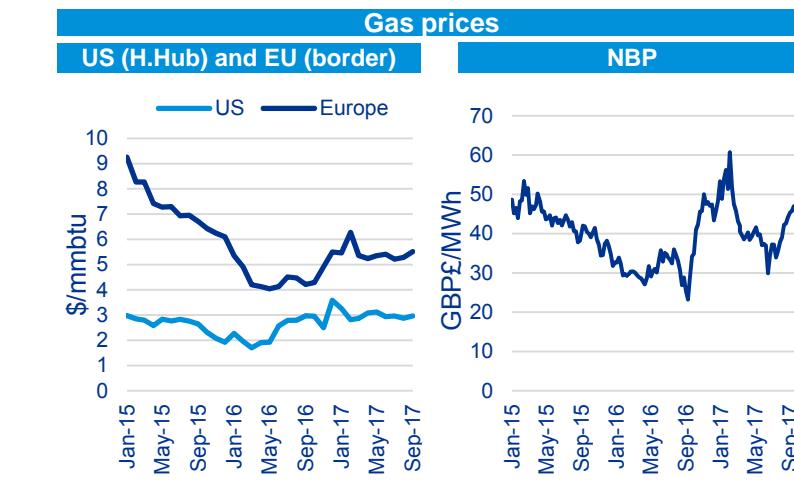
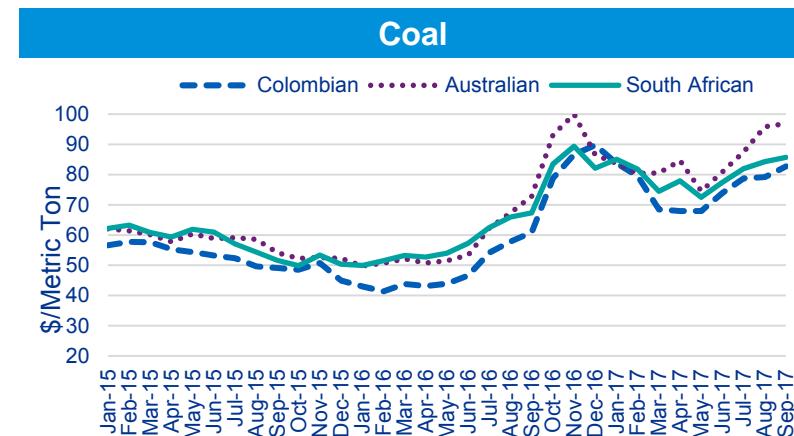
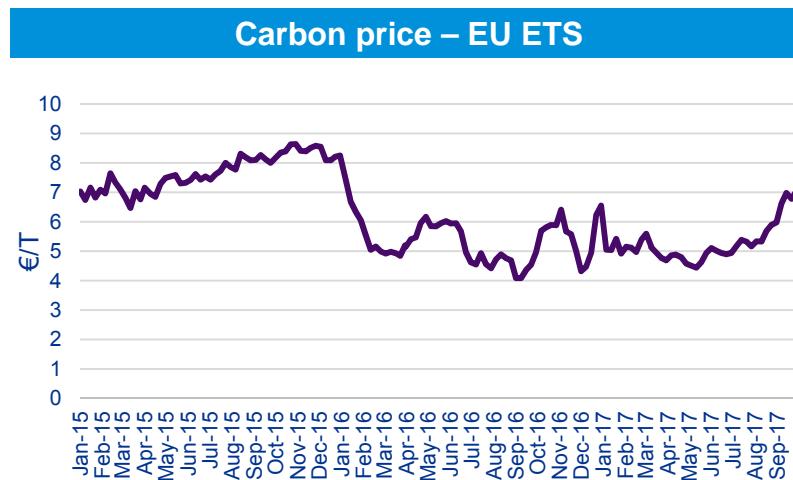
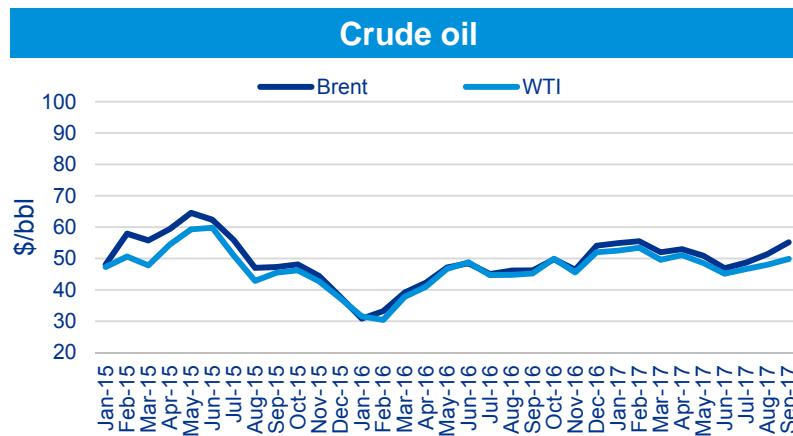


¹ Due to lack of information, the line reflecting peak load prices in 2016 and 2017 is incomplete.

Source: Bloomberg; 2017.

Price and margins

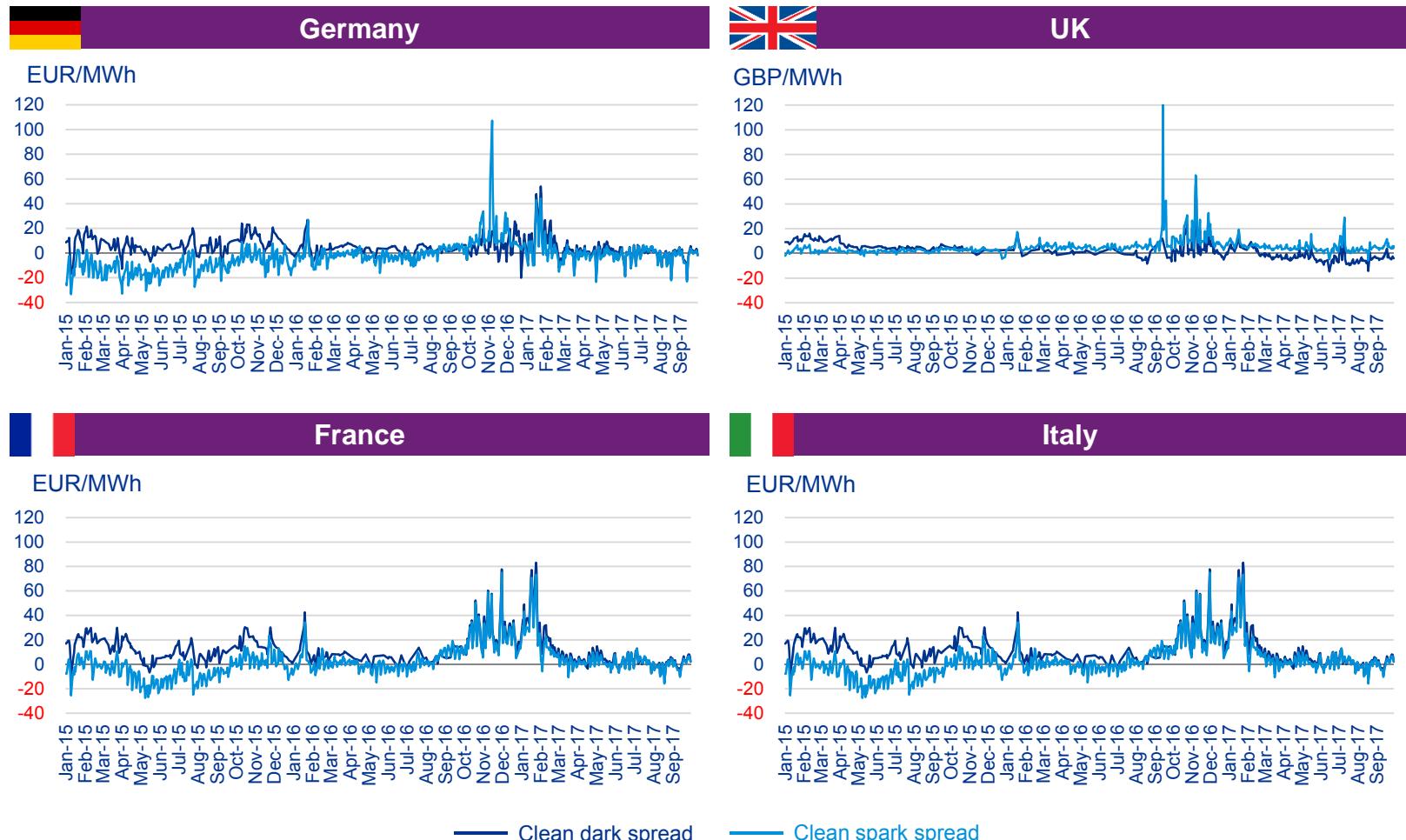
Fuel price evolution



Source: Bloomberg; 2017.

Price and margins

Clean dark and spark spreads



Source: Bloomberg; 2017.

Regulatory overview

EU	European Courts of Justice support the right of state members to apply any measure (including cuts and retroactive measures) to the support mechanisms for renewable energy investments that they may have, in order to reach the objective of 20 percent renewable energy production in 2020.
Germany	The Grid Cost Modernization Act came into force on 22 July 2017. The act enables the introduction of uniform charges for the usage of the transmission grid. On 25 July 2017 the act on the supply of electricity to tenants came into force. The act aims to subsidy the use of electricity by tenants when a photovoltaic power generation unit is installed.
Italy	Resolution 579/2017/R/Eel approves the lists of development works to national electric transmission network, which are admitted to the transitional investment incentive mechanism, for 2016-2019. The document contains timing and economic features binding for incentives.
Netherlands	A coalition government agreement has been reached. Efforts will be made to reduce CO2 emissions by 49 percent by 2030 using a EUR€4 billion budget. However, there is no mention in the agreement to the Renewable Energy Directive (RED), which will take into effect on 1 January 2021.
Nordics	The Danish Energy Regulatory Authority will be reinforced and change name to Danish Utility Regulatory Authority. The change has been decided by the government due to the need of a smoother and more efficient case handling and an increased focus on driving efficiency in the utility sector.
Portugal	Law 105/2017 was issued with the purpose of offering the option for domestic consumers of electricity to opt for a regime similar to the transitional or regulated tariffs.
Spain	The Spanish and French regulation authorities have subscribed an agreement to finance an interconnection project to integrate the Spanish network in the European Electrical Market as well as to fulfill the climate and energy objectives of the European Union. This interconnection will allow to duplicate the interconnection capacity from 2.8 GW to 5 GW.
Turkey	A consortium of German giant Siemens and Turkey's Türkerler and Kalyon Enerji holdings won a billion dollar wind energy tender on 3 August, offering the lowest price at US\$3.48 cents per kilowatt hour.
UK	Domestic Gas and Electricity Bill: This is designed to enable Ofgem to implement an absolute price cap on standard variable tariffs. The new price cap is expected to be temporary and to last until the end of 2020. Royal Assent is not expected until the end of 2018 at the earliest, and possibly early 2019.

Links to new key regulation



News

The Official Journal of the European Union has published the Council Directive 2011/70/Euratom which establishes a community framework for the responsible and safe management of spent fuel and radioactive waste.

[Link I](#)



European Courts of Justice support the right of state members to apply any measure (including cuts and retroactive measures) to the support mechanisms for renewable energy investments that they may have, in order to reach the objective of 20 percent renewable energy production in 2020.

[Link II](#)



The European Commission updates the Security of Gas Supply Regulation with new rules to ensure a regionally coordinated and common approach to security of supply measures among EU Member States. Its aim is to prevent potential gas supply crises and it applies the solidarity principle for the first time.

[Link III](#)

The European Commission has adopted a new regulation to establish a framework on the labelling of the energy efficiency, substituting the actual regulation (Directive 2010/30/UE). The Commission has also agreed on its position towards revising the current directives on reaching the 30 percent energy efficiency objective and promoting the energy efficiency on buildings.

[Link IV](#)

Links to new key regulation

News

Germany



After discussion in the Upper House of the German Parliament (Bundesrat) the Grid Cost Modernization Act (Netzentgeltmordernisierungsgesetz, 'NEMoG') came into force on 22 July 2017. The act enables the introduction of uniform charges for the usage of the transmission grid.

On 25 July 2017 the act on the supply of electricity to tenants (Mieterstromgesetz) came into force. The act aims to subsidy the use of electricity by tenants when a photovoltaic power generation unit is installed.

The first regulation modifying the Gas Network Access Regulation (GasNZV) was enacted on 18 August 2017. The amendment aims to optimize the gas grid access system based on recent experiences and respond to the new challenges at a national and European level.

[Link I](#)

The Federal Network Agency (Bundesnetzagentur) announced on 15 August 2017 the bid results for the second auction for Onshore Wind Energy which took place on 1 August 2017 and was characterized by the heavy competition which took place. In the auction procedure, the Federal Network Agency awarded 67 bids with 1,013 MW. The average award price was 4.28 ct/kWh. The highest bid accepted, which was still awarded, was 4.29 ct/kWh. The Federal Network Agency announced on 18 September 2017 that a third auction will be commenced. Bids for this auction may be submitted by 2 November 2017. The volume which will be awarded is 1,000 MW with a starting bidding price of 7.00 ct/kWh.

[Link II](#)

Links to new key regulation

News

Germany



On 14 July 2017 the Federal Regulation Authorities in cooperation with the Regional Regulation Authorities published common interpretation principles about energy unbundling regarding the metering point (Messstellenbetrieb). The core statement of the interpretation principles is that the metering point equipped with modern measuring devices and intelligent measuring systems belongs to the grid operation and is completely subject to the unbundling regulations of the Energy Act (Energiewirtschaftsgesetz - §§ 6 ff. EnWG).

The Federal Network Agency regulated on 23 August 2017 the adjustments of the contract clauses for the standardized metrology contracts. These adjustments were necessary in order for the contracts to comply with the requirements and provisions of the Digitalization of the Energy Transition Act (Gesetz zur Digitalisierung der Energiewende).

[Link III](#)

The new information Platform of the Federal Network Agency SMARD has been online since July 2017. On the website, central electricity market data for Germany and other parts of Europe are presented in real time. Relevant data on production, consumption, wholesale prices, import and export can be determined and combined for different periods of time. The focal point and intention of the SMARD database is to strengthen the energy market transparency.

[Link IV](#)

Links to new key regulation

News

Resolution 622/2017/E/ldr starts a procedure for extending to the water sector the protection system for consumer and users of the electricity and gas sectors, regulated by the authority through a gradual process, including the use of 'Acquirente Unico' in relation to activities related to the call center service, complaints management and disputes between users and providers of integrated water services and online reconciliation service.

[Link I](#)

Resolution 579/2017/R/Eel approves the lists of development works to national electric transmission network, which are admitted to the transitional investment incentive mechanism, for 2016-2019. The document contains timing and economic features binding for incentives.

[Link II](#)

Resolution 574/2017/R/Gas has started a process for the definition of standard costs including installation and commissioning costs to be applied to gas measurement groups for the years 2018 and 2019.

[Link III](#)

Resolution 522/2017/R/Gas changes the resolution 574/2013/R/Gas and introduces new measures aimed at improving the performance of the natural gas measurement service. The document deliberates the modification of the standard for metering attempts and the requirements for the replacement of traditional devices with smart meters.

[Link IV](#)

Links to new key regulation

News

Netherlands



After over 6 months of negotiations between two liberal and two Christian-democratic parties, a coalition agreement has been reached led by VVD's Mark Rutte. Efforts will be made to reduce CO2 emissions by 49 percent by 2030 using a budget of EUR€4 billion.

In the agreement, there is no mention to the Renewable Energy Directive (RED), which will take into effect 1 January 2021. RED, among other things, requires member states to ensure gross consumption of renewable energy is at 27 percent by 2030.

The government is looking into enabling more offshore wind. Currently, plans are being developed for additional offshore areas.

The regulation on net metering of renewable energy will be modernized. This will take place in 2020. The present arrangement will be replaced with a subsidy for solar energy delivered to the grid for which EUR€300 million is budgeted.

The taxation on gas and electricity will be reformed and will become more balanced from a CO2 perspective. A minimum price for CO2 in the electricity sector will be enforced per 2020.

From 2024 onwards subsidies on co-firing of biomass in coal-fired power stations will be terminated as part of the new coalition agreement.

After years of discussion measures are now being taken to reduce the amount of natural gas retrieved in Groningen. The government will participate in discussions to switch to more sustainable sources or the import of gas.

More detailed plans will be released in the coming months.

Links to new key regulation

News

Netherlands



Following the German offshore sector, the Dutch government had kicked off the first Dutch, zero-subsidy, offshore wind tender for the locations Hollandse kust (zuid) Sites I and II and Borssele Site V. In a tender without subsidies, bids are evaluated on other criteria in accordance with the offshore wind energy act. These include the knowledge and experience of the bidder, the quality of the proposed project design, the capacity of the wind farm and the quality of the identification of project risks. An informative meeting will be held on 1 November and applications can be submitted from 15-21 December.

Links to new key regulation

News

The Danish Energy Regulatory Authority (DERA) will be reinforced and change name to Danish Utility Regulatory Authority. The change has been decided by the government due to the need of a smoother and more efficient case handling (average processing time is 7 months with extreme cases of processing time of 14 years) and an increased focus on driving efficiency in the utility sector. In contrast the policy in other countries, the DERA is today merely an administrative authority. Going forward, the authority will be further integrated in developing new regulation and policies (link in Danish).

[Link I](#)

The Danish Energy Regulatory Authority (DERA) has decided on a new method for estimating WACC, used in calculating return on the regulatory net-debt for gas distribution companies in Denmark. The change is implemented on the recommendation of a panel of Danish experts, who argue that the WACC should be calculated based on a standard model and disregard company specific risk and tax issues. The expert panel furthermore argues that the risk free interest rate used to calculate the WACC should match Danish Treasury Bonds with a 4 year zero coupon rate. For the Danish companies this change will result in a lower return on their regulatory net debt, thereby decreasing the margins for each company (link in Danish).

[Link II](#)

The Danish government has decided on a new regulation for production of heating through cooling production. Followed by this decision, Facebook will build a new data center in the Danish city of Odense, the California-based tech company said at a press conference with local authorities, "the Odense data center will be one of the most advanced, energy-efficient data centers in the world". The data center cooling will be powered exclusively by renewable energy, by adding that the cold climate could help to cool servers instead of relying on air conditioners. The Facebook data center produces heat through the cooling process, due to the right technology and regulation, the heat will be used to heat up 6,900 private homes.

[Link III](#)



Links to new key regulation

News

The Danish Government has decided to change the taxation on private cars. Currently, private cars are taxed with 105 percent of the basic car value up to 106,600 Denmark Krone (DKK) (EUR€14,300) and 150 percent of the value above this level. In the future the taxation will be 85 percent of the car value up to DKK180,000 (EUR€24,900) and 150 percent of the value above this level. Furthermore the new legislation levies an extra tax on cars, based on their level of pollution and fuel efficiency. However, as this tax is relatively low compared to the overall price of cars, the composition of the Danish car portfolio, is not expected to change significantly as a result of the new regulations. It is interesting to note, that electrical powered cars are not mentioned in the new legislation, despite the government's goal of ensuring 50 percent of the private cars should be electrical by 2030 ([link in Danish](#)).

[Link IV](#)

On 28 September 2017 DONG Energy received a regulatory approval for the divestment of its upstream oil and gas business to INEOS. The transaction has been approved by the authorities in Denmark and Norway and included that INEOS takes over all decommissioning liabilities, while DONG Energy assumes a secondary liability for the decommissioning of existing Danish and Norwegian offshore facilities. Following the transaction it was announced on 2 October 2017 that DONG Energy will change its name to Ørsted. The decision of changing name relies on the profound strategic transformation of the company from black to green energy. Over the past decade, the former DONG Energy has transformed from an energy company based on coal and oil to a global leader in renewable energy. The vision of Ørsted is thereby a world that runs entirely on green energy, [see link](#) for more information.

[Link V](#)

The Danish government has decided on a new method to improve the environment for new sustainable business models, starting with decreasing the solar cells regulation. The Danish Government have established a pool of earmarked state financed solar projects with a guaranteed fixed price pr. kW. Only the best tender proposal will become part of the earmarked projects. Previously the government offered financial support to all potential solar projects ([link in Danish](#)).

[Link VI](#)



Links to new key regulation



News

The Regulatory Entity for Energy Services (ERSE) approved the profiles of consumption of natural gas and average daily consumption to be in effect in the gas year 2017-2018.

[Link I](#)

The Regulatory Entity approved the Manual of Procedures for Access to Infrastructures of the Natural Gas Sector.

[Link II](#)

Law 105/2017 was issued with the purpose of offering the option for domestic consumers of electricity to opt for a regime similar to the transitional or regulated tariffs, for the supply of electricity to normal low voltage customers, during the period in which that regime is in force.

[Link III](#)

The EU has established guidelines, through Regulation EU 2017/1485 for the operation of electricity transmission networks, with the objective of ensure the operational safety, frequency quality and efficiency in the use of the interconnected network and its resources.

[Link IV](#)



Links to new key regulation

News



Portugal



The government issued decree-laws in which defined the system of supervision and regulation of the activities related with the private service of electrical installations powered by the public service of electricity network and to the installations of combustible gases in buildings.

[Link V](#)
[Link VI](#)

The Secretary of State for Energy issued the Order 7875/2017, which declared the invalidity of certain subjects in previously issued standards regarding the conditions and criteria for a reserve power injection capacity in the network utility and licensing of the electric energy production activity under the special guaranteed remuneration regime.

[Link VII](#)

The Assembly of the Republic has issued a resolution recommending the government to reflect the amount of the final adjustment of costs for the maintenance of the contractual balance (CMEC) in electricity tariffs for the year 2018 and subsequent years and to eliminate excessive rents in the electricity sector.

[Link VIII](#)

The Secretary of State for Energy determined that in the procedures for authorizing the over-equipment of power plants; the Directorate-General for Energy and Geology (DGEG) should consult the Energy Services Regulatory Body (ERSE) before completing the instruction of that equipment.

[Link IX](#)

Links to new key regulation



News

Spain



Following the CNMC Circular 2/2014, the Spanish and French regulation authorities have subscribed an agreement to finance an interconnection project to integrate the Spanish network in the European Electrical Market as well as to fulfill the climate and energy objectives of the European Union. This interconnection will allow to duplicate the interconnection capacity from 2.8 GW to 5 GW.

[Link I](#)

[Link II](#)

The resolution approved by the Secretary of Energy on 27 July 2017 details the awarded companies of the latest renewable auction in Spain which concluded awarding more than 5 GW of new capacity in renewable energy projects which will receive retribution according to Order ETU 315/2017 by General Directorate for Energy Policy and Mines.

[Link III](#)

The Ministry of Energy, Tourism and Digital Agenda is projecting a Ministerial Order, allowing public participation, to modify Order IET/2013/2013 which regulates the mechanism of awarding the service of management of the electrical demand that guarantees interruptibility. This modification will allow to adjust timing, requisites and prices related to the reduction of power when operating generation stations with manageable production.

[Link IV](#)

CNMC publishes Circular Proposal X/2017 where the mechanisms of awarding gas pipeline transport capacity in interconnections between Spain and Europe are established.

[Link V](#)

The Official Journal of the State (BOE) publishes the Regulation (UE) 2017/1485 on 2 August 2017 which sets directives about carrying out the management of the electrical transport network.

[Link VI](#)

Links to new key regulation



News

TURKEY



A consortium of German giant Siemens and Turkey's Türkerler and Kalyon Enerji Holdings won a billion dollar wind energy tender on 3 August, offering the lowest price at US\$3.48 cents per kilowatt hour.

[Link I](#)

The price of US\$3.48 per kilowatt-hour determined by the Turkish-German consortium of Siemens Gamesa, Türkerler and Kalyon for the Wind Energy Renewable Energy Resource Areas (YEKA) contract it won last week, set up a new record price worldwide and is expected to decrease Turkey's energy imports significantly, reducing energy costs both for the state and households.

[Link II](#)

Energy investments in Turkey exceeded US\$4 billion with a capacity of 3,620 megawatts (MW) generated in electricity in the January-September period of this year. According to the data compiled from the Energy and Natural Resources Ministry, Turkey's installed power rose to 81,647 MW at the end of September.

[Link III](#)

The world's biggest liquefied natural gas (LNG) producer, Qatar's Qatargas, and Turkey's Petroleum Pipeline Corporation company BOTAS have signed a medium-term sales and purchase agreement.

[Link IV](#)

Links to new key regulation



News

Turkey



Striving to diversify energy supply channels as much as possible, Turkey plans to build three nuclear power plants between 2023 and 2030, which are expected to provide 10 percent of domestic electricity consumption.

[Link V](#)

Energy and Natural Resources Minister Berat Albayrak stated that the ministry would complete all the filtering systems of the old-generation power plants by 2019 based on the latest environmental criteria, stressing the role of new technology in increasing efficiency and managing the environmental impact of thermal power plants.

[Link VI](#)

The Interconnector Turkey-Greece-Italy (ITGI) natural gas transportation project, which was proposed within the framework of the Southern Gas Corridor to transport Caspian gas to European markets via Turkey, was approved and released in Turkey's official gazette.

[Link VII](#)

Links to new key regulation



News

OFTO, Round Four (25 July 2017)

- Ofgem appointed Diamond Transmission Partners (DTP), a consortium of Mitsubishi Corporation and HICL Infrastructure Company Limited, to own and operate the offshore transmission link to the Burbo Bank Extension windfarm for the next 20 years, as part of the Round Four tender of the OFTO (offshore transmission owner) regime.
- The bids in Round Four were the lowest to date, relative to asset values. Ofgem noted that this “demonstrates the value of continuing to use competitive tendering to provide the best value for consumers”.
- Round Five is well underway to allocate up to five OFTO’s, the largest tender round yet.

[Link I](#)

CfD allocation round two (11 September 2017)

- The Contract for Difference (CfD) round two auction delivered a dramatic reduction in costs for offshore wind.
- Three offshore wind projects were awarded contracts, with two projects clearing at GBP£57.50/MWh (2012 real)
- In total, the government announced that 11 projects had successfully been awarded a CfD totalling 3.346GW of renewable capacity.
- Despite the high volume of capacity procured, just GBP£176 million, or 60 percent of the allocated budget was utilized.
- These results will have a significant impact for UK energy policy and the energy mix going forward.

[Link II](#)

Brexit Transitional Arrangements (22 September 2017)

- The Prime Minister, Theresa May, has proposed that Brexit should be delayed until 2021, allowing for a 2 year transitional period after the current March 2019 deadline (which would mark 2 years since the triggering of Article 50).
- During this time, May would like to maintain continued access to the single market, as new arrangements are put in place.
- Views on such arrangements are wide ranging. It remains to be seen whether UK government and European counterparts are able to agree on such arrangements.

[Link III](#)



Links to new key regulation



News

Clean Growth Strategy: (12 October 2017)

The Department of Business, Energy and Industrial Strategy (BEIS) released its Clean Growth Strategy, outlining government's plans to meet the legislated carbon budgets to 2032. This included developments across power, heat, transport, energy efficiency and LULUCF. Despite the swathe of new measures which were announced to incentivize additional decarbonization, the UK is unlikely to meet its fourth and fifth carbon budgets without a flexible accounting policy.

[Link IV](#)



Winter Outlook 2017/18

National Grid published their annual 'Winter Outlook' for 2017/18 which estimates a margin of 6.2GW for power, or 10.3 percent, above peak demand. This equates to a loss of load expectation of 0.01 hours (less than 1 minute), compared to the 3 hours reliability standard set by government. In the short term, this healthy margin will allay security of supply concerns, although it will also raise questions about whether the government and national grid have 'over-procured' and that consumers are over-paying for security of supply this winter.

[Link V](#)



Domestic Gas and Electricity (Tariff Cap) Bill

This is designed to enable Ofgem to implement an absolute price cap on standard variable tariffs. The new price cap is expected to be temporary and to last until the end of 2020, with an option for extension until the end 2023. Royal Assent is not expected until the end of 2018 at the earliest, and possibly early 2019. This new legislation would potentially benefit around 12 million households.

[Link VI](#)

Links to new key regulation



News

The Environmental Protection Agency and the Department of Transportation announced formal steps to begin reconsidering the greenhouse gas pollution and fuel economy standards of large trucks, focused on the standards for freight trailers which aimed to make heavy-duty tractor-trailers more efficient and less polluting.

[Link I](#)

The Federal Energy Regulatory Commission (FERC) issues final rules to enhance bulk electric system resilience and reliability. One final rule approves revised reliability standards that clarify and consolidate existing requirements related to frequency control while the second final rule approves a revised reliability standard on Remedial Action Schemes.

[Link II](#)

US Secretary of Energy formally proposed the Federal Energy Regulatory Commission (FERC) to issue a final rule requiring its organized markets to develop and implement reforms that would fully price generation resources necessary to maintain the reliability and resiliency of the nation's grid.

[Link III](#)

The US Department of Energy (DOE) announces the availability of a Notice of Proposed Rulemaking that will allow a faster approval of small-scale exports of natural gas, including liquefied natural gas (LNG), from US export facilities.

[Link IV](#)



The Bureau of Land Management sent a notice of proposed rulemaking regarding fracking on federal lands to the Office of Management and Budget for its review. Should this result in a relaxing of the BLM's regulations on fracking on federal lands, an increase in the exploration of both natural gas and crude oil is expected. These regulatory changes will increase the supply of natural gas over the medium-term.

[Link VI](#)

Capital markets overview

Eurostoxx Utilities

Eurostoxx Utilities index increased an average of 3.33 percent QoQ. The Index gained 10.55 percent in the last 12 months.

Best performance

E. ON SE and RWE AG registered the best performance in Q3 2017 in terms of share price, in a quarter where only six out of the 18 European players have experienced a positive QoQ price evolution.

Valuation levels

Valuation levels in the sector averaged at 7.9 EV/EBITDA in Q3 2017; 5.3 percent higher than the previous quarter.

EBITDA multiples

Wide differences persist in EBITDA multiples, with Snam S.p.A., Centrica plc, Fortum OyJ, Enagás S.A. and EDP reaching highest values, trading above 10.5 x EV/EBITDA.

Net debt levels

Net debt levels remained stable at 3.11 x EBITDA in Q3 2017, very close to the figure registered in Q2 2017 (3.14 x EBITDA).

Credit ratings

The only change in credit ratings in the European sector during the quarter was the upgrade of EDP by S&P to BBB-.

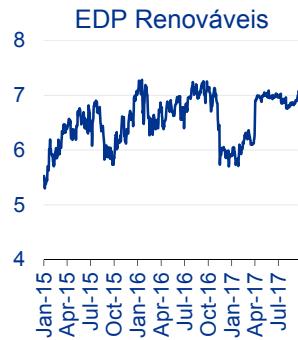
Share price evolution: overview

Company	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Last quarter Q3 2017/Q2 2017	Last year Q3 2017/Q3 2017
E.ON SE	10.6	9	8.62	8.65	8.33	6.45	7.14	7.74	9.01	16.42%	8.22%
RWE AG	15.78	11.81	11.28	12.21	15.06	12.7	13.28	17.01	19.26	13.24%	27.89%
Enel SpA	4.12	4.06	3.72	3.93	3.99	3.88	4.10	4.62	5.00	8.21%	25.22%
Fortum Oyj	15.24	13.79	12.88	13.14	14.26	14.48	14.59	13.84	14.88	7.51%	4.33%
EDF	19.52	15.19	10.94	11.29	11.22	10.12	8.85	8.86	9.25	4.35%	-17.58%
ENGIE SA (GDF Suez S.A.)	16.36	15.85	14.19	13.79	14.41	12.4	11.88	13.48	13.93	3.33%	-3.32%
EDP	3.3	3.27	3.01	2.97	2.97	2.84	2.84	3.13	3.12	-0.26%	5.09%
EDP Renováveis	6.3	6.46	6.72	6.72	7.04	6.31	6.13	6.98	6.92	-0.79%	-1.65%
Iberdrola SA	6.13	6.43	6.13	5.99	5.98	5.93	6.17	6.89	6.81	-1.10%	13.89%
Snam SpA	4.45	4.71	5.02	5.21	5.06	4.09	3.81	4.11	4.03	-1.93%	-20.36%
Centrica plc (*GBP)	2.54	2.21	2.11	2.16	2.33	2.15	2.26	2.04	1.98	-2.47%	-14.82%
SSE Plc (*GBP)	15.08	14.98	14.26	15.1	15.5	15.23	15.19	14.71	14.27	-2.97%	-7.92%
REE¹	72.12	78.82	73.94	77.88	19.811	17.82	17.21	19.17	18.47	-3.67%	-6.79%
Enagás SA	25.16	27.1	25.88	26.7	26.82	24.61	23.43	25.37	24.14	-4.85%	-10.00%
CEZ as (*CZK)	557.01	467.82	391.38	428.52	436.75	435.84	435.62	437.61	413.66	-5.47%	-5.29%
Gas Natural SDG SA	19.11	19.46	17	17.49	18.31	17.19	18.32	21.17	20.00	-5.51%	9.26%
Endesa SA	18.57	19.45	17.05	17.76	18.54	19.24	20.04	21.85	20.17	-7.67%	8.81%
National Grid plc (*GBP)	8.54	9.23	9.58	9.9	10.82	9.83	9.63	10.74	9.52	-11.40%	-12.02%
Eurostoxx Utilities	269.1	264	249.28	251.42	255.19	238.6	244.04	273.03	282.12	3.33%	10.55%

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

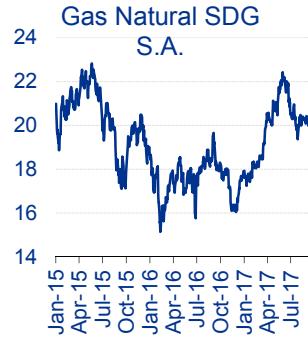
Source: Bloomberg; 2017.

Share price evolution: individual stocks (1)



Source: Bloomberg; 2017.

Share price evolution: individual stocks (2)



Source: Bloomberg; 2017.

Relative valuation per company

	TEV (as of Sep 30)/EBITDA (LTM) ▼	TEV (EUR € million) (as of Sep 30)	Market Capitalization (EUR € million) (as of Sep 30)
Snam S.p.A.	19.5x	39,241.1	28,065.1
Centrica plc	14.3x	16,215.1	11,704.3
Fortum Oyj	13.1x	15,782.5	15,004.5
Enagás, S.A.	12.1x	11,575.6	5,687.8
EDP - Energias de Portugal, S.A.	10.7x	34,063.6	11,577.3
Iberdrola, S.A.	10.3x	74,285.7	41,499.7
National Grid plc	10.2x	58,814.9	35,277.9
Red Eléctrica Corporación, S.A.	9.6x	14,354.3	9,591.7
EDP Renováveis, S.A.	9.5x	11,615.9	6,280.6
Gas Natural SDG, S.A.	8.8x	37,955.9	18,728.9
Enel SpA	8.1x	11,1771.2	51,799.2
Endesa, S.A.	7.9x	25,329.7	20,195.7
SSE plc	7.9x	23,800	15,918.8
ENGIE SA	6.8x	64,284.8	34,455.8
CEZ, a. s.	6.1x	13,193.4	9,126.1
Electricité de France S.A.	4.8x	67,074.7	29,643.7
E.ON SE	4.5x	24,280.5	20,737.5
RWE Aktiengesellschaft	4.5x	18,581.1	11,657.1
Weighted average: 7.9		662,233	376,951.7

Source: S&P Capital IQ; 2017

Leverage and credit ratings

	LTM net debt/EBITDA	Rating S&P	S&P financial update	Rating Moody's	Date	Rating Fitch	Date
Enagás. S.A.	6.01	A-	25 Jul 17	Baa2	20 Dec 16	A-	10 Jun 17
EDP - Energias de Portugal, S.A.	5.67	BBB-	9 Aug 17	Baa3	3 Apr 17	BBB-	22 Mar 17
Snam S.p.A.	5.54	BBB	1 Aug 17	Baa1	12 Dec 16	BBB+	28 Sep 17
Iberdrola, S.A.	4.15	BBB+	23 Jul 17	Baa1	25 Apr 17	BBB+	25 Jul 17
Centrica plc	4.14	BBB+	2 Aug 17	Baa1	13 May 16	A-	9 Au 17
National Grid plc	4.12	A-	7 Jun 17	Baa1	13 Dec 13	BBB	11 Oct 17
EDP Renováveis, S.A.	3.87	-	-	-	-	-	-
Gas Natural SDG, S.A.	3.54	BBB	2 Aug 17	Baa2	8 Aug 17	BBB+	22 Mar 17
Red Eléctrica Corporación, S.A.	3.17	A-	30 Jul 17	-	-	A	18 Sep 17
Enel SpA	3.09	BBB	6 Aug 17	Baa2	12 Dec 16	BBB+	11 Oct 17
SSE plc	2.81	A-	17 Jun 17	A3	3 Oct 16	BBB+	22 Sep 17
ENGIE SA	2.75	A-	30 Jul 17	A2	27 Apr 17	-	-
Electricité de France S.A.	2.29	A-	30 Jul 17	A3	28 Sep 16	A-	3 Aug 17
CEZ, a. s.	1.70	A-	10 Aug 17	Baa1	6 Apr 16	A-	22 Mar 17
Endesa, S.A.	1.56	BBB	27 Jul 17	-	-	BBB+	11 Oct 17
RWE Aktiengesellschaft	0.74	BBB-	15 Aug 17	Baa3	30 Jun 17	BBB	11 Oct 17
Fortum Oyj	0.64	BBB+	21 Jul 17	Baa1	3 Oct 17	BBB+	28 Sep 17
E.ON SE	0.24	BBB	12 Sep 17	Baa2	16 May 17	BBB+	25 Aug 17
Average:	3.11	Mode: A-		Baa1		BBB+	

Quarterly rating variation: Upgrade Unchanged Downgrade

Source: S&P Capital IQ / Moody's / Fitch; 2017.

Global M&A overview

Main Trends

The **largest deals** during Q3 2017 targeted mostly **US companies** (five American companies in the top 10). The **total value of these deals amounted to EUR€106 billion**.

Acquisition of **The Dow Chemical Company**, a US-based conglomerate with solutions in different fields including oil, gas and mining by E.I. du Pont de Nemours and Company (EUR€70,115 million).

The merge of **Baker Hughes Incorporated**, a US-based oilfield services company that provides products and services for drilling, formation evaluation, completion and production, and technology to find, develop, produce and manage oil and gas reservoirs with the **General Electric's oil and gas business** (EUR€28,898 million).

Main Transactions

Purchase of 50 percent of **AREVA SA**, a France-based nuclear fuel cycle business by the **Government of France** (EUR€6,939 million).

Acquisition of 49 percent of **Essar Oil Limited**, an India-based company focused mainly into exploration, production, refining and marketing of oil by **Trafigura Beheer BV and United Capital Partners Advisory OOO** (EUR€5,745m).

Purchase of 49 percent of **Essar Oil Limited** by **Rosneft Oil Company OAO** (EUR€5,745m).

Top 10 M&A operations in Q3 2017 by deal value (1)

Date	Target company	Target description	Target country	Bidder company	Bidder country	Seller company	Deal value EUR(m)
31 Aug 17	The Dow Chemical Company	US-based conglomerate with solutions in different fields including oil, gas and mining.	US	E. I. du Pont de Nemours and Company	US		70,114
3 Jul 17	Baker Hughes Incorporated	US-based oilfield services company that provides products and services for drilling, formation evaluation, completion and production, and technology to find, develop, produce and manage oil and gas reservoirs.	US	General Electric	US		28,898
12 Jul 17	AREVA SA (Fuel Cycle Business) (50 percent stake)	France-based nuclear fuel cycle business.	France	Government of France	France		6,939
21 Aug 17	Essar Oil Limited (49 percent stake)	India-based company mainly into exploration, production, refining and marketing of oil.	India	Trafigura Beheer BV; United Capital Partners Advisory OOO	Netherlands; Russia	Essar Group	5,745
21 Aug 17	Essar Oil Limited (49 percent stake)	India-based company mainly into exploration, production, refining and marketing of oil.	India	Rosneft Oil Company OAO	Russia	Essar Group	5,745

Top 10 M&A operations in Q3 2017 by deal value (2)

Date	Target company	Target description	Target country	Bidder company	Bidder country	Seller company	Deal value EUR(m)
25 Sep 17	Teekay Offshore Partners L.P. (60.47 percent stake)	Bermuda-based company engaged in providing marine transportation, oil production, storage, long-distance towing and offshore installation and maintenance and safety services.	Bermuda, Norway	Brookfield Business Partners L.P.	Bermuda, Canada		3,080
31 Jul 17	ConocoPhillips Company (San Juan Basin assets) (50 percent stake)	US-based San Juan Basin assets interest owned by ConocoPhillips Company.	US	Hilcorp San Juan L.P.	US	ConocoPhillips Company	2,818
27 Jul 17	Naturgas Energia Distribucion, S.A.	Spain-based gas distribution company.	Spain	Abu Dhabi Investment Council; J.P. Morgan Asset Management; Swiss Life Asset Management AG; Covalis Capital LLP	UAE; UK; USA; Switzerland	Energias de Portugal S.A.	2,591
1 Jul 17	HD Supply Water works Group, Inc.	US-based distributor of products used to build, repair and maintain water and wastewater transmission systems.	US	Clayton, Dubilier & Rice, LLC	US	HD Supply Holdings, Inc.	2,220
17 Jul 17	Houston Fuel Oil Terminal Company	US-based marine terminal for storage of residual fuel oil and crude oil.	US	SemGroup Corporation	US	Alinda Capital Partners LLC	1,865

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