Power transactions and trends

Q2 2017

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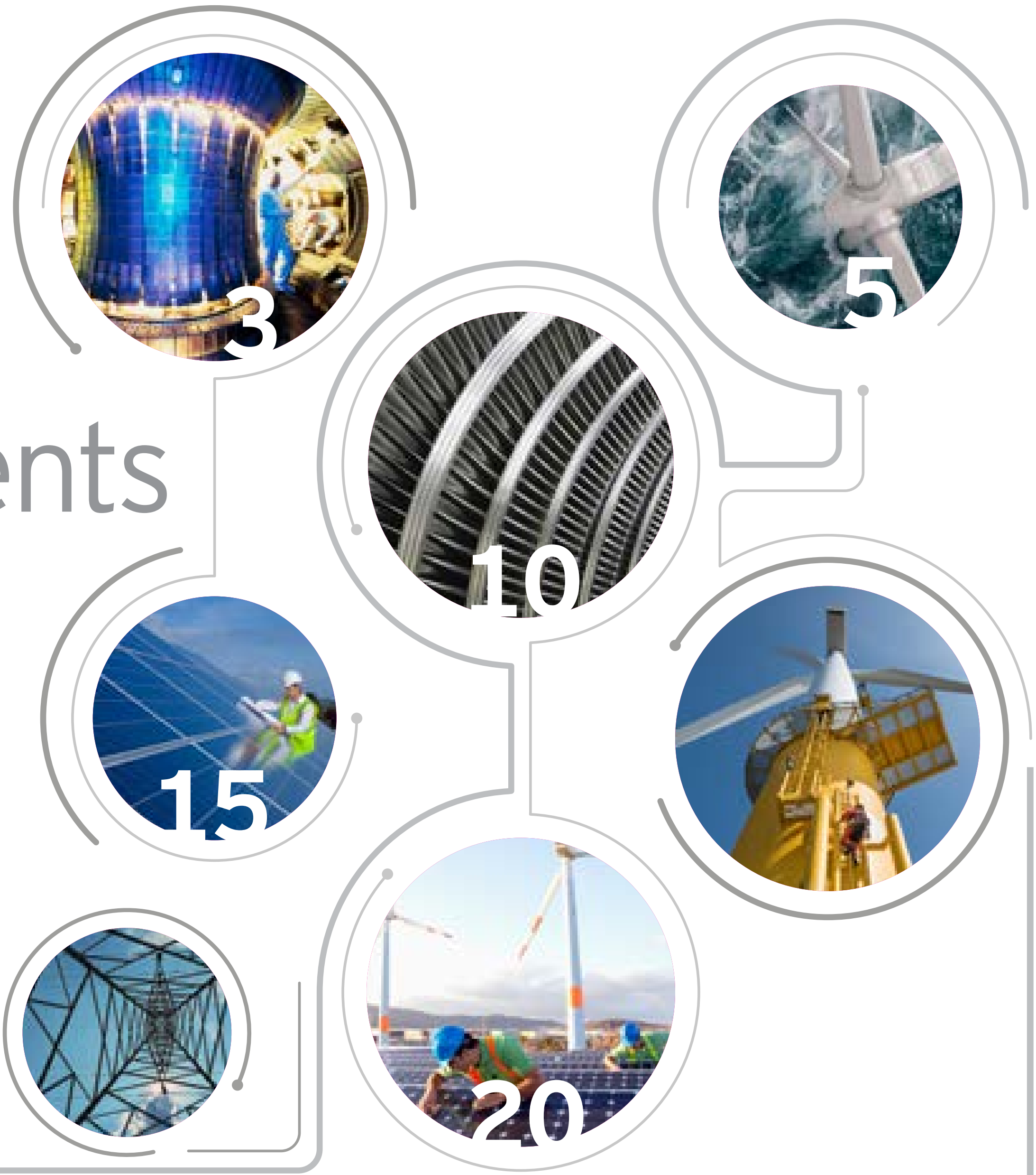
Contents



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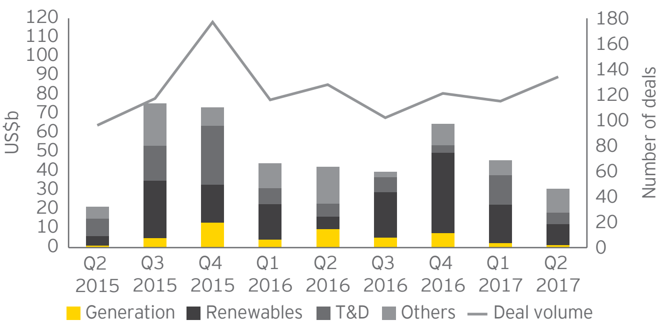
Overview

Market reform and new technology drive M&A activity

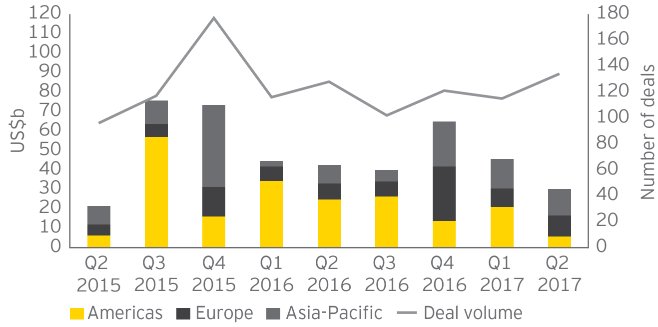
While they were of lower value, power and utilities (P&U) deals in Q2 outnumbered those of Q1, with transactional activity dominated by market reform outcomes, renewables and new energy. Could this be the beginning of a new era in P&U investment?

Chart 1: Global P&U deal value by segment (Q2 2015-Q2 2017)



Source: EY analysis based on Mergermarket data.

Chart 2: Global P&U deal value and volume by region (Q2 2015-Q2 2017)



Source: EY analysis based on Mergermarket data.

With sustained deal activity in conventional generation still subdued, P&U transactions are taking on more unpredictable characteristics. Quarterly reports of transactional activity are dominated by large network asset sales combined with a steady undercurrent of low-value renewables and new energy deals. Deal value dropped in all regions except Europe (+12%), with the Americas recording the biggest decline (-72%).

It may be tempting to impute a reduction in overall activity and sentiment from these numbers, but we do not subscribe to this view. The continuing low interest rate environment and a surplus of global capital against available opportunities provide a favorable environment and outlook for P&U assets. As we explain further in this issue, reform initiatives, the rising value of network assets and the quest for a new energy business model that is capable of deploying bulk capital mean that investment remains top of the agenda for corporate investors, funds and new entrants in 2017.

Q2 2017 has provided the most obvious outline of a trend that is starting to emerge in P&U transactions, where deal value decreases alongside underlying growth in deal volume. This illustrates the following:

1. The increasing role that renewable energy is playing in overall investment, as a landing pad for the deployment of funds that would otherwise have been invested in conventional generation, but that is now stymied by overcapacity in developed markets. Small value deals in renewables accounted for 48% of total deal volume but just US$6.1b of deal value. As demand for these assets increases, so do their valuations. Renewable assets traded at high premiums to long-term price-to-earnings (P/E) multiples across the regions, with Europe's 79% premium the highest this quarter.

2. Asset privatizations are becoming a driver of network asset sale activity. Governments are selling stakes in utilities to aid economic growth and take advantage of record multiples for these assets, particularly as long-term

US$30.8b
global deal value, decreasing 32% quarter on quarter

66 deals
in renewable energy, nearly half of total deal volume

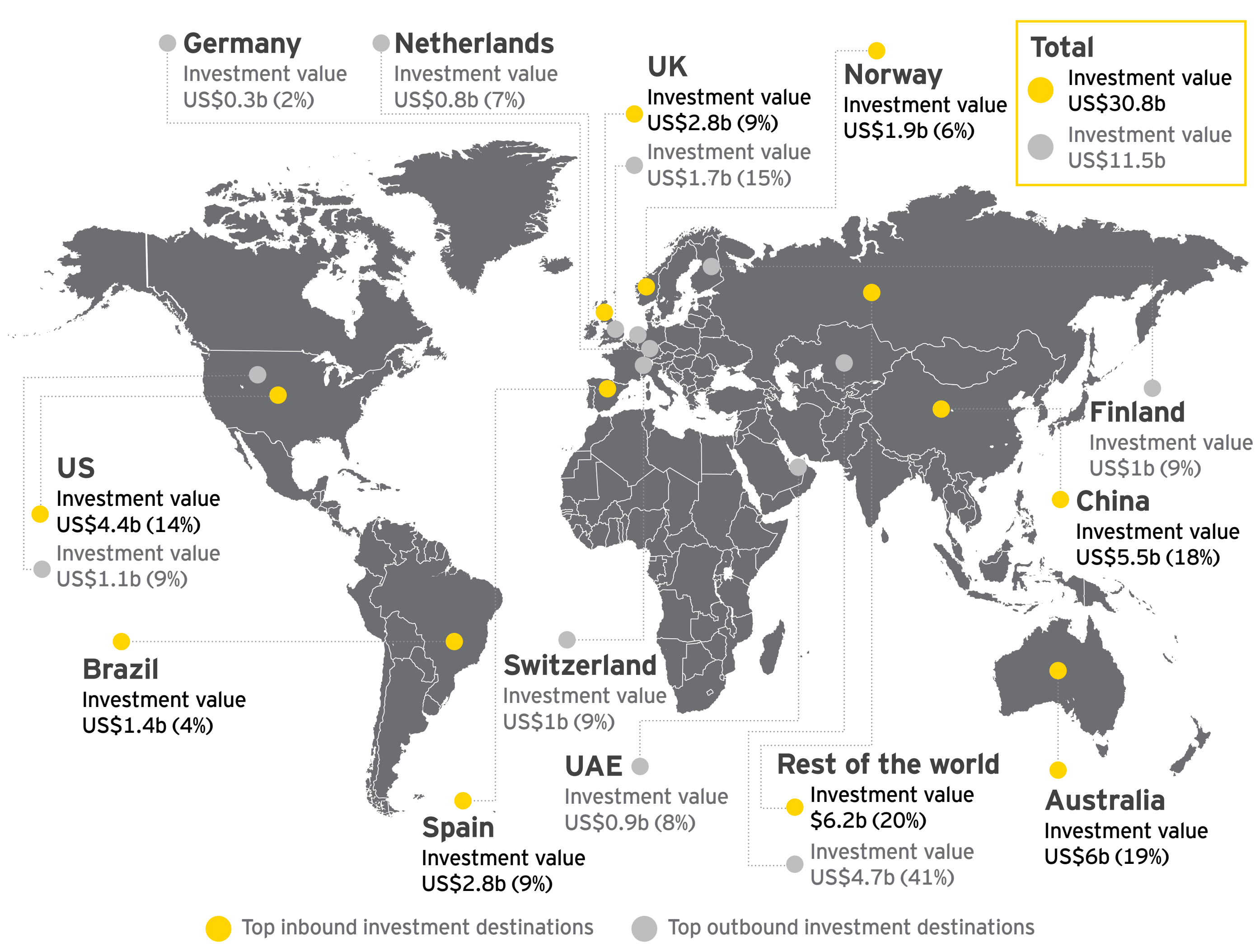
US$13.3b
deals in asset privatization, 43% of total deal value

valuations face uncertainty as batteries and new energy investments threaten the future of the peak (and the capex that supports it). Almost half (43% or US$13.3b) of Q2 deal value was driven by energy reform and privatizations. This included four billion-dollar-plus transactions.

We expect these factors to gain momentum in the coming quarters until new energy and renewables mature to their ultimate places in the supply chain, and the implications on the value of generation, networks and retail become clearer. Already, the increasing presence of renewables is spawning new markets for gas-fired generation and batteries to provide reliability and security of supply. Transactions in this space will likely be driven primarily by corporate investors. For example, Enel, Dynergy and Eneco recently acquired energy trading, battery storage and virtual power plant assets. Mitsubishi and Eneco have also announced plans to set up a 48 MW battery storage project in Germany.

As the P&U sector transitions into this new era, investors will need to take note of new conditions. In particular, financial investors must remain aware that new technologies designed to arbitrage technical shortfalls – for example, intermittent frequency and peaking demand issues – will have value implications for traditional market players unless they evolve. This is particularly the case when competing to deploy capital into an oversupplied conventional market or where deal availability is dependent upon government decisions surrounding privatization and reform.

Image 1: Global investment flows inbound and outbound by country, (Q2 2017)*



*Note: percentages may not add up to 100% due to rounding.

Europe

Government privatization drives deal value; renewables boost deal volume

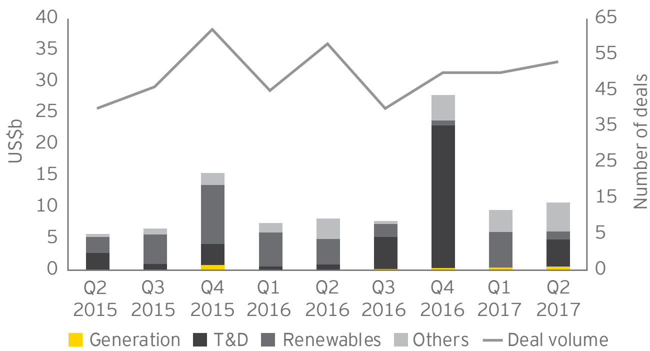
In Q2, Europe's P&U deal activity followed a similar theme to that seen globally. Volume was driven by a large number of low-value renewables deals, while most billion-dollar-plus deals resulted from ongoing energy reform. The growing presence of renewables is driving down overall average regional deal value, which decreased from US$325m in Q1 to US$295m in Q2.

Four billion-dollar-plus deals contributed 67% of deal value, with two of these transactions involving the privatization of government assets. Together, privatization deals made up nearly one-third (29%) of total regional deal value.

Traditional utilities continue to diversify geographically and with an increased focus on renewable energy and disruptive technologies, including smart grids, blockchain and battery storage. This strategic shift in focus is starting to pay off with several major European utilities, including Iberdrola and Enel, indicating improved operating results.

Political conditions in the region continue to impact investment. While France's election of Macron brings some economic stability, upcoming elections in Germany and Italy may increase investment uncertainty.

Chart 3: European deal value and volume, by segment
(asset and corporate-level deals, Q2 2015–Q2 2017)



Source: EY analysis based on Mergermarket data.

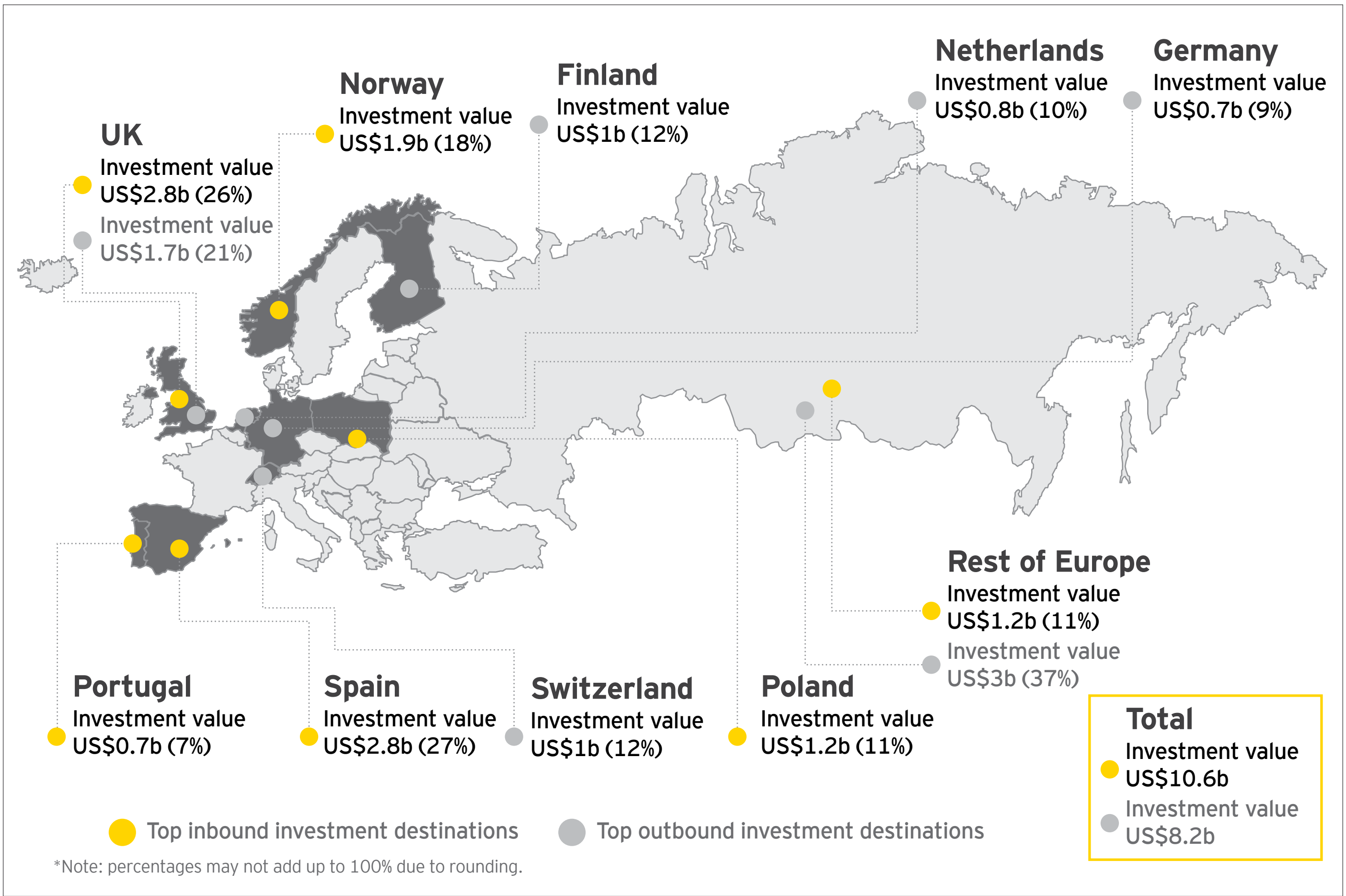
US$10.6b
deal value in Q2, a 12% increase from Q1 2017 and a 31% increase year on year

29%
of deal value from asset privatizations, **55%** of deal volume from renewables

Q2 2017 transactional highlights

- **High number of low-value renewables deals:** 29 renewables deals formed 55% of the total deal volume, with average renewables deal size declining from US$278.5m in Q1 to US$62.15m in Q2.
- **Investment in networks drives deal value:** transmission and distribution (T&D) investment increased from US$76m in Q1 to US$4.3b in Q2, totaling 40% of deal value.
- **Outbound investment rebounds:** 11 outbound deals in Q2 (up from four in Q1) contributed US$8.2b. Assets in Brazil, Australia and the UAE were targeted by investors.
- **UK and Spain remain deal hotspots:** Spain and the UK accounted for 27% and 26%, respectively, of total regional deal value. The UK hosted 17 inbound deals, totaling US$2.8b, while Spain attracted US$2.8b of funding from financial investors, mostly in T&D.
- **Increasing focus on battery storage and new technology:** Enel acquired the UK-based operator of the Tynemouth stand-alone battery energy storage system. UK-based private equity firm Foresight Group acquired a planned battery project in England from Renewable Energy Systems. German utility, TenneT, and Vandebron, a renewable energy marketplace operator, are testing blockchain technology for electric vehicles in the Netherlands.
- **Independent power producer (IPP) investment moves in favor of gas:** corporate investors from Eastern Europe and the US acquired 3.9 GW of generation assets (69% gas and 31% coal generation capacity) for US$552m (disclosed value).

Image 2: European investment flows inbound and outbound by country, (Q2 2017)*



Top five European deals, Q2 2017

All deal values indicated are disclosed enterprise values comprising equity and debt components.

Announcement date	Target	Target country/ bidder country	Bidder	Deal value (US$)	Bidder rationale	Segment
24 April	Naturgas Energia Distribucion, S.A.	Spain/UAE; US; Switzerland	Abu Dhabi Investment Council; J.P. Morgan Asset Management; Swiss Life Asset Management AG	2.8b	Provides long-term stable returns to investors	T&D: gas
2 May	Affinity Water Limited	UK/Germany; Netherlands; UK	Allianz Capital Partners GmbH; HICL Infrastructure Company Limited; DIF	2.1b	Expands bidder's portfolio of infrastructure assets	Other: water and wastewater
19 May	EDF Polska S.A.	Poland/Poland	PGE Polska Grupa Energetyczna S.A.	1.2b	The purchase of eight combined heat and power (CHP) plants strengthens PGE's market share in Poland's electricity market	Other: integrated
26 April	Hafslund ASA (46.27% stake)	Norway/Norway	City of Oslo	1.0b	Furthers Oslo's strategy to become greener and more innovative	Other: integrated
7 April	EDP Gas S.G.P.S., S.A.	Portugal/ Portugal	REN – Redes Energeticas Nacionais, SGPS, S.A.	0.6b	Strengthens REN's position in Portugal's gas market	T&D: gas

Source: EY analysis based on Mergermarket data.

Valuations snapshot

Overall sector valuation in Europe has increased slightly, trading at a two-year forward enterprise value by earnings before interest, tax, depreciation and amortization EV/EBITDA ratio of 8.3x in Q2, compared with a long-term average of 7.7x. The EV/EBITDA premium is driven by T&D valuations, while the high P/E premium is driven by the significant increase in renewable energy valuations.

During Q2, **T&D assets** traded at a two-year forward EV/EBITDA ratio of 10.9x, compared with a long-term ten-year average of 9.4x, representing a premium of 16%. Similarly, the two-year forward P/E ratio increased 9.7% from Q1, trading at 14.8x, representing a premium of 10% compared to the long-term average of 13.4x. The continued demand for large deals in regulated assets is pushing up valuations. In Q2, several European governments were actively selling assets as they pursued energy sector reforms.

Integrated utilities traded at a two-year forward EV/EBITDA ratio of 7.1x in Q2, compared with a long-term ten-year average of 6.8x. The two-year forward P/E ratio for the segment traded at 12.6x, a premium of 10% compared with the long-term average of 11.5x. As integrated utilities dispose of underperforming assets, these valuations may have some upside in coming quarters.

During Q2, the two-year forward EV/EBITDA ratio of **renewable energy** assets increased to 7x (from 6x in Q1), bringing it in line with the long-term average. The two-year forward P/E ratio traded at 19.9x, a 79% premium compared with the long-term average of 11.1x. The high forward P/E indicates high demand for these assets, as also evident from the increasing deal volumes quarter on quarter.

Valuations of **traditional generation** companies are challenged by the declining share of thermal energy and an increasing focus on clean energy. Investment in thermal generation is shifting from coal and oil to gas.

Chart 4: Average EV/EBITDA trading multiples for select utilities
(on FY2 consensus earnings-per-share estimates, 2010–Q2 2017)

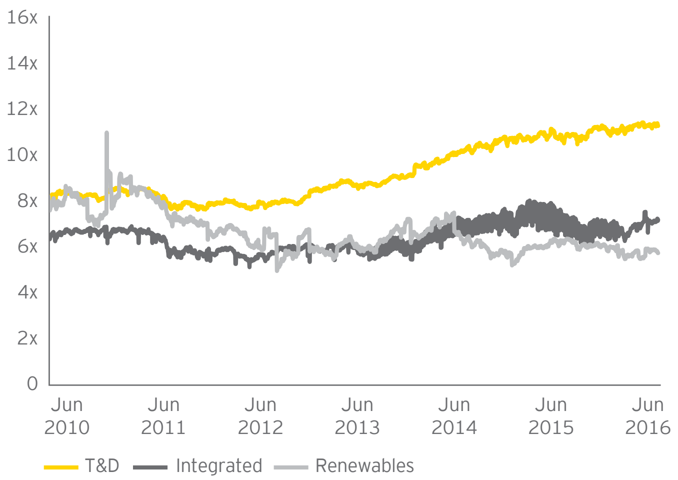
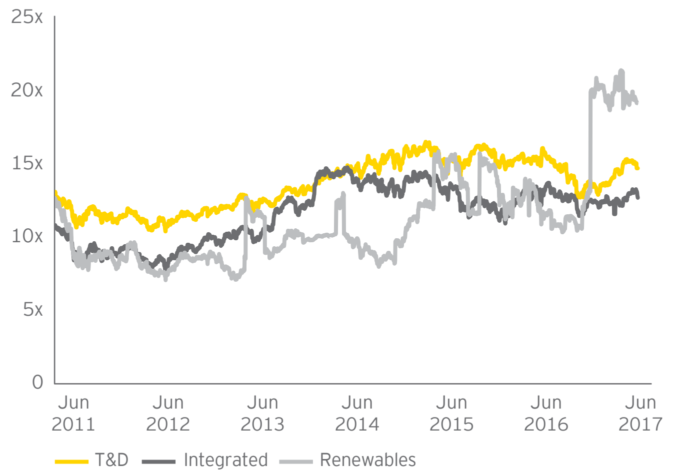


Chart 5: Average P/E trading multiples for select utilities
(on FY2 consensus earnings-per-share estimates, 2011–Q2 2017)



Note: the valuations analysis only contains pure-play publicly listed companies in each relevant market segment.
Sources: Bloomberg and EY analysis.

M&A capital outlook and investment hotspots

- **European investors seek opportunities in South America:** Italian utility Terna is building a 138 kV transmission project in Peru for US$37.2m. Actis, a UK-based financial investor, is set to acquire Spanish wind energy developer Gestamp's Brazilian wind assets. Saeta Yield, the renewable energy unit of Spanish construction group Actividades de Construccion y Servicios, is focused on acquiring renewable energy assets in Mexico, Chile and Peru.
- **PPA-backed wind assets in development:** in May, Germany awarded 70 onshore wind projects with an average price of US$63.9/MWh for 807 MW of total capacity. Almost all (96%) bids were won by cooperative-style "citizens' energy" companies. Also in May, Russia awarded 1.65 GW of wind energy tenders.
- **Privatization of assets to continue:** this quarter's large number of privatization deals signals a trend likely to continue. Turkey is planning to sell stakes in both the Cine Hydroelectric Power Plant and Manyas Hydroelectric Power Plant.
- **Spain remains an investment hotspot:** the country has announced an upcoming tender for the construction of 3 GW of solar and wind energy projects.
- **UK focuses on emerging technology:** Vattenfall has announced plans to invest US$12.9m in a 22 MW battery storage facility to balance power from a wind farm in Wales. The UK Government is also investing US$1b in electric vehicle research with a focus on charging infrastructure.

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Asia-Pacific

Technology and new energy deals play a bigger role

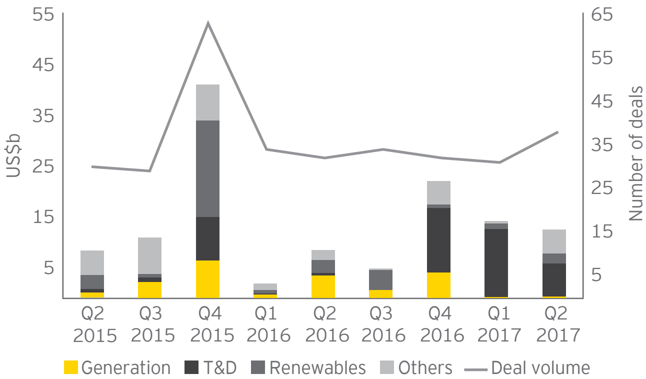
The Asia-Pacific P&U sector recorded the highest regional deal value of Q2 – US$13.5b – as well as the highest average deal size – US$384m. While the largest deal was in the T&D segment (the sale of a majority stake in Endeavour Energy) as might be expected, the second highest was in technology. This highlights the increasing presence of non-traditional energy deals in the Asia-Pacific M&A space.

More than half the region's deals were in renewable energy. While low in value (US$127m average deal value), the deals represent growing interest in these assets due to policy support across major markets and their ability to deliver certainty of returns through long-term contracts or PPAs. In Australia, about 70% of proposed new capacity is in wind and solar, while India has risen to second on EY's Renewable Energy Country Attractiveness Index due to its strong government support for clean energy.

While fossil fuel generation remains attractive in developing countries, for most markets, the low marginal cost of renewable generation is impacting investment in merchant generation, particularly coal.

As renewables become a bigger part of the energy mix, ensuring the reliability of electricity supply becomes more important. There is an increasing focus in the region, particularly Australia, on investment in gas-fired generation and battery technology aimed at balancing the frequency and voltage stability of the grid. The South Australian Government recently engaged Tesla and French wind company Neoen to build what will be the world's biggest large-scale battery – a 100 MW lithium ion battery capable of providing 129 MWh of electricity. These developments raise questions around the future of peaking power, a concept Matt Rennie discusses in more detail here.

Chart 6: Asia-Pacific deal value and volume, by segment
(asset and corporate-level deals, Q2 2015–Q2 2017)



Source: EY analysis based on Mergermarket data.

US$13.5b

deal value, a decrease of 11% quarter on quarter

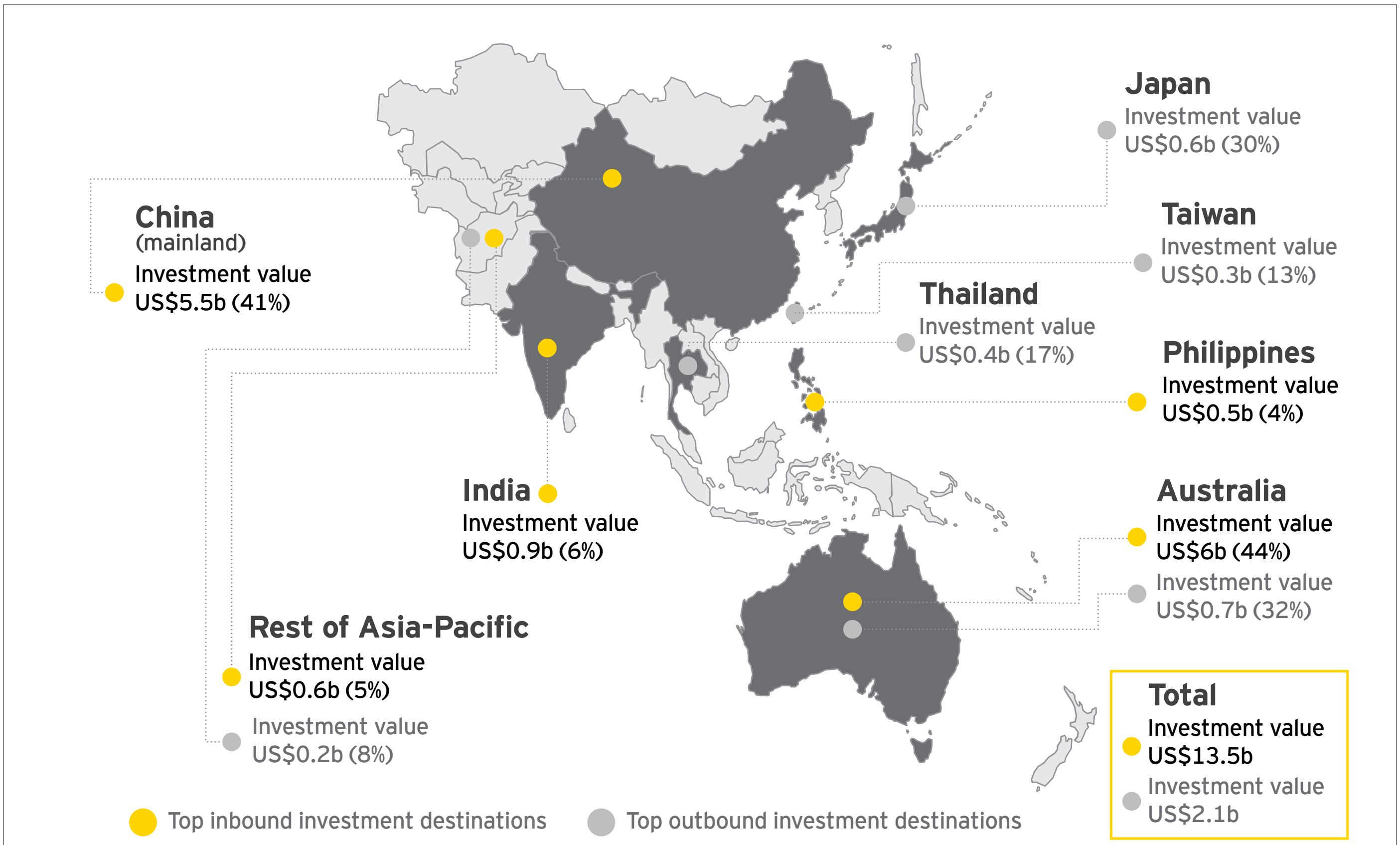
20

deals in renewable energy, more than half the region's total deals

Q2 2017 transactional highlights

- **Increased deals in renewables:** Q2 renewables deals rose slightly in both value (US$2b) and volume (20 deals). Solar energy dominated, with 14 deals totaling US$1.1b.
- **Largest deal in T&D:** the T&D segment made the biggest contribution to quarterly deal value, including the largest regional deal of Q2: the acquisition of a 50.4% stake in Endeavour Energy for US$5.6b by a consortium led by Macquarie Infrastructure Group.
- **Emerging "other" utilities segment:** other – non-traditional – utility investments attracted US$4.7b of deal value in Q2, representing more than a third (35%) of deal value. This was driven in part by a large technology play where NARI Technology, a China-based company that develops software and hardware products for the power sector, acquired a high voltage transmission technology, worth US$3.8b. Investors in the region are increasingly exploring energy technology, energy services and battery storage assets in a bid to diversify their portfolios.
- **M&A in fossil fuel generation assets driven by developing countries:** China, the Philippines and Indonesia were the target destinations for generation M&A, with US$294m of assets acquired by corporate investors from a mix of financial and corporate investors.
- **Sharp decline in outbound investment:** outbound investment declined from US$14.5b in Q1 to US$2.1b in Q2.
- **Australia and China remain hotspots for deal activity:** Australia attracted 44%, or US$6b, of investment in the region, with investments targeting T&D and renewables. China hosted 23 deals valued at US$5.5b.

Image 3: Asia-Pacific investment flows inbound and outbound by location, (Q2 2017)*



*Note: percentages may not add up to 100% due to rounding.

Top five Asia-Pacific deals, Q2 2017

All deal values indicated are disclosed enterprise values comprising equity and debt components.

Announcement date	Target	Target country/ bidder country	Bidder	Deal value (US$)	Bidder rationale	Segment
11 May	Endeavour Energy (50.4% stake)	Australia/ Australia; Canada; Australia; Qatar	Macquarie Infrastructure and Real Assets, British Columbia Investment Management Corporation; AMP Capital Investors Limited; Qatar Investment Authority	5.6b	Provides increased regulated returns to investment portfolio	T&D: electricity
17 May	Yunnan Nari Electric Technology Co., Ltd. (35% stake); Nari Group Corporation (operating business and 10 subsidiaries); State Grid Electric Power Research Institute	China/China	NARI Technology Co., Ltd.	3.8b	Enhances buyer's competitiveness, enhancing its grid automation and protection capability	Other: technology
25 May	Chongqing Derun Environment Company Limited (20% stake)	China/China	Shenzhen Expressway Co., Ltd.	0.6b	Helps Shenzhen Expressway expand into recycling and waste disposal while generating a reasonable return	Other: energy service
11 April	Hindustan Powerprojects Pvt Ltd (330 MW solar assets)	India/Australia	Macquarie Group Limited	0.6b	Supports Macquarie's move into India's renewable energy sector	Renewables: solar
14 June	Beacon Electric Asset Holdings, Inc. (25% stake)	Philippines/ Philippines	Metro Pacific Investments Corp (MPIC)	0.4b	Realigns MPIC's portfolio toward a more appropriate strategic ownership mix and is expected to deliver incremental profits and cash yields	T&D: electricity

Source: EY analysis based on Mergermarket data.

Valuations snapshot

Overall, the Asia-Pacific P&U sector traded at a two-year forward EV/EBITDA of 8.5x, in line with Q1 and slightly above the long-term average of 8.3x. In contrast, the two-year forward P/E multiples increased 6.1% to 12.9x from Q1, driven by positive sentiment around the value of renewable energy assets.

In Q2, **T&D** assets traded at a two-year forward EV/EBITDA average of 9.6x, compared with a long-term average of 9.2x. Two-year forward P/E values increased from 16.7x in Q1 to 17.3x in Q2, a 20% premium compared with the long-term average of 14x. Strong demand, particularly from financial investors, has increased these valuation multiples. Governments are making the most of this interest, as evidenced by the US$5.6b sale of a 50.4% stake in Endeavour Energy by Australia's New South Wales Government.

The region's energy companies are expanding into renewable generation, driving up valuations in this segment. In Q2, **renewable energy** assets traded at a two-year forward EV/EBITDA average of 8.4x, compared with a long-term average of 7x, a premium of 20%. Similarly, the P/E ratio increased 13% compared with long-term averages, trading at a two-year forward P/E multiple of 12.4x. This indicates positive market sentiment as stock prices are increasing but also presents a risk as the stocks are overvalued versus long-term averages.

The two-year forward EV/EBITDA ratio for **integrated utilities** inched up from 8x in Q1 to 8.3x in Q2, which is a slight discount to the long-term average of 8.6x. The two-year forward P/E average increased 6.1% to 12.2x and is now trading at a 6% premium to the long-term average of 6x. While these assets are trading at higher valuations than their counterparts in other regions, there were no deals in Asia-Pacific in the first half of 2017. It seems that Asia-Pacific's integrated utilities are not prioritizing asset disposal unlike many in Europe and the Americas.

The two-year forward EV/EBITDA ratio for **IPPs** traded at 7.8x, compared with a long-term average of 8.2x. The two-year forward P/E ratio dropped 10.2% to 7.7x, trading at a 13% discount to the long-term average of 8.9x. This indicates weak market sentiment toward these assets. The quarter saw five deals involving IPPs, with an average deal value of US$58.8m.

Chart 7: Average EV/EBITDA trading multiples for select utilities
(on FY2 consensus earnings-per-share estimates, 2010–Q2 2017)

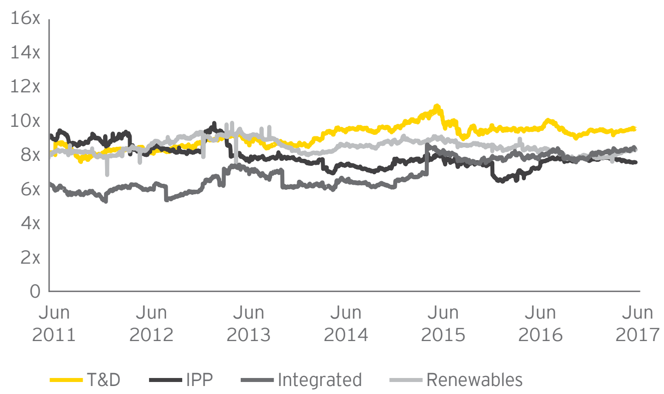
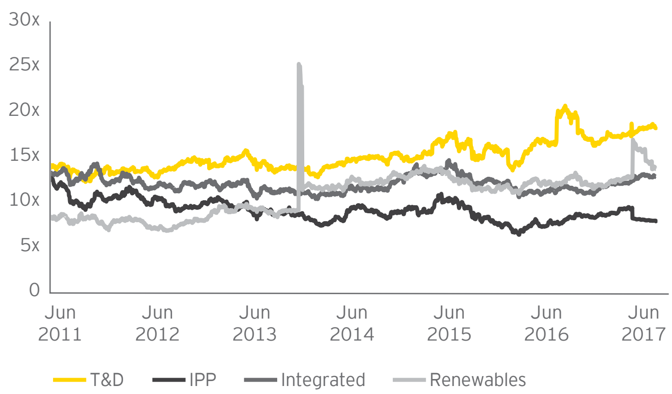


Chart 8: Average P/E trading multiples for select utilities
(on FY2 consensus earnings-per-share estimates, 2011–Q2 2017)



Sources: Bloomberg and EY analysis.
Note: the valuations analysis only contains pure-play publicly listed companies in each relevant market segment.

M&A capital outlook and investment hotspots

- **Increased investment ensuring reliability in Australia:** AGL Energy has announced plans to set up a 210 MW gas generation plant in South Australia, with a total planned investment of US$295m. In July, Tesla and Neoen won a tender to build 100 MW/129 MWh of battery storage capacity in South Australia.
- **Coal generation loses its appeal in China:** across the region, utilities with exposure to coal power generation are under pressure, and investment in these assets is declining. In January, China scrapped plans to develop 120 GW of new coal capacity. In May, it announced plans to suspend approvals for new coal-fired power plants in 29 provinces to reduce overcapacity in the sector.
- **India emerges as an attractive investment destination:** federal and state policy support, including government plans to invest US$104.5m in 200 MW of renewable energy, has boosted energy investment in India. The country's new goods and services tax also provides support, allowing renewable energy equipment to attract the lowest tax rate of 5%. Solar installation in India is expected to increase 360% by 2020, and Fortum has announced plans to set up 250 MW solar capacity every year until it owns 1 GW of installed capacity in India.
- **Continued interest in renewables across the region:** Vietnamese state-run utility EVN has adopted a new solar policy to reduce the country's reliance on coal. In Q2, construction of about 4.6 GW of renewable energy projects was announced in Australia. Offshore Energy has announced plans to set up the first offshore wind farm in Australia with a capacity of 2 GW. China has proposed plans to build 38.2 GW of offshore wind capacity by 2020.

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Americas

Deal value dips to a four-year low

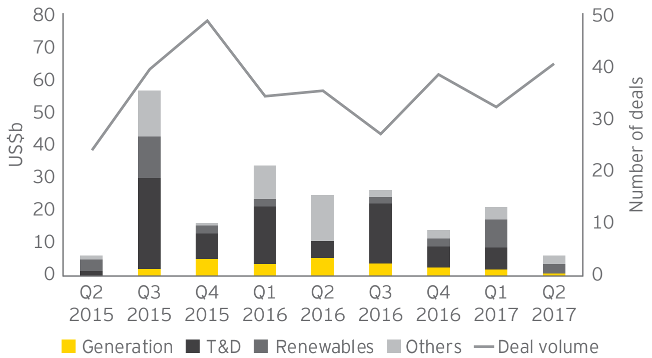
In Q2, the Americas P&U sector experienced a significant downturn in deal value, which decreased 72% to US$5.9b – a four-year low. The US led this decline, with quarterly deal value dropping 77% to US$4.4b. Most deals (US$3.5b, 60% of total deal value) were domestic as outbound investment slowed. Canada's quarterly outbound investment of US$1b was 93% less than that of Q1.

Deal volume increased 25% to a five-quarter high of 40 deals with an average deal value of just US$269m – the lowest of all regions. As in other regions, the US P&U sector is experiencing an abundance of capital chasing a shrinking number of high-value, low-risk deals.

As noted in our Q1 report , US federal policy changes around renewables have increased the risk associated with greenfield development of these assets, despite ongoing state-based support. Going forward, all eyes will be on how renewable energy developers respond to this complex operating environment, and whether their strategies pay off. It seems some are deciding to double down. Reports say that Pattern Energy Group has increased its development pipeline to 40,000 MW and that NextEra Energy has boosted its pipeline to 10,000 MW (a 70% increase in its project capacity) to capitalize on their ability to access an excess pool of capital.

The challenge with this approach will be the increased demand for supply contracts and PPAs to secure the required returns as increased competition drives down the off-take price. In addition, an increasing interest rate environment will reduce available capital as investors seek higher returns. The US is a market to watch, as what happens here will determine investment flow in the entire region.

Chart 9: Americas deal value and volume, by segment
(asset and corporate-level deals, Q2 2015–Q2 2017)



Source: EY analysis based on Mergermarket data.

US$5.9b

deal value for Q1, decreasing 72% from Q1 2017 and 76% year on year

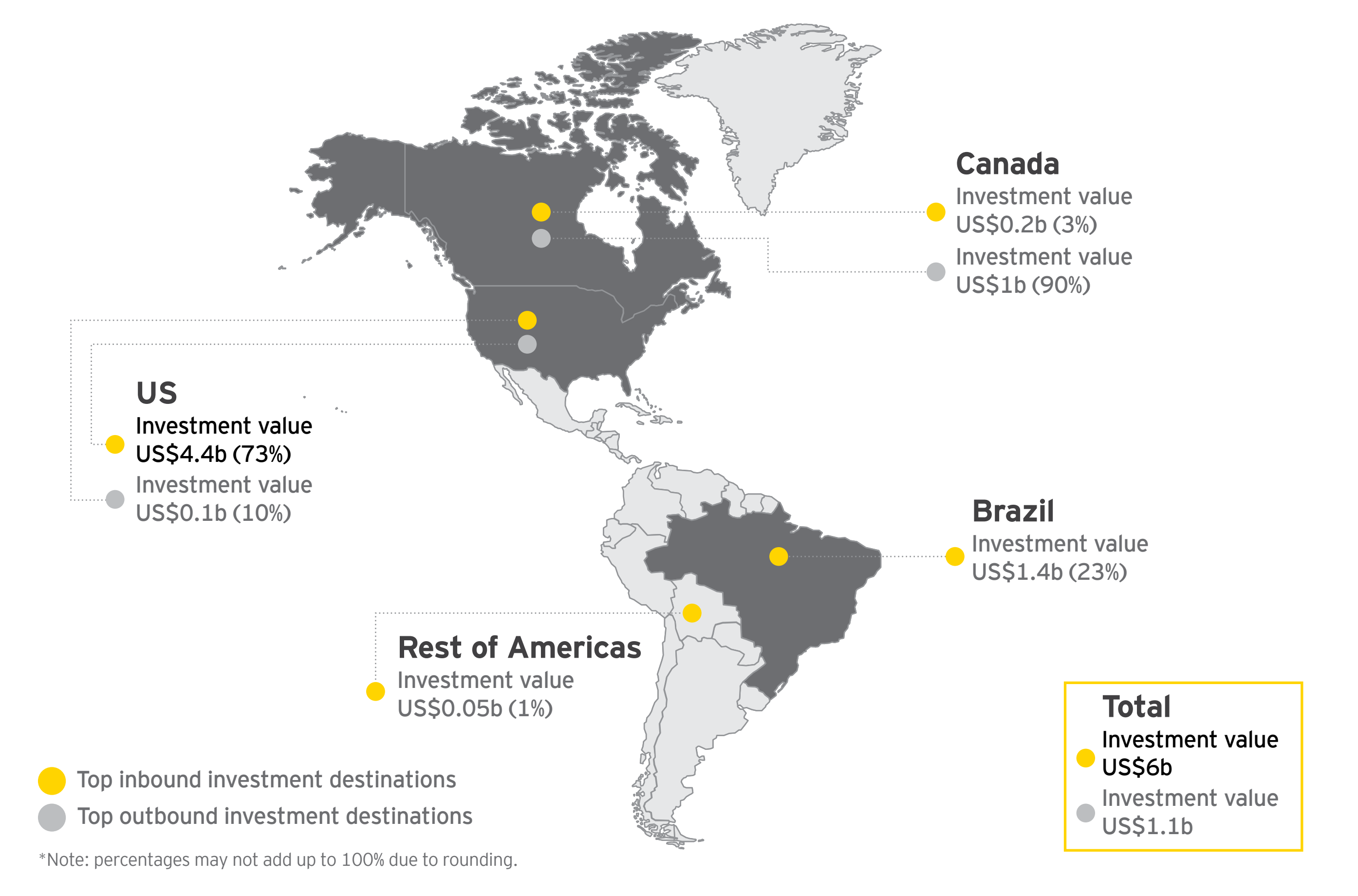
67%

decline in renewables investment, to US$2.9b

Q2 2017 transactional highlights

- **Large number of low-value deals:** while deal value decreased, deal volume increased from 32 deals in Q1 to 40 deals in Q2 with an average deal size of US$269m, compared with US$954m in Q1. Q2 saw only one billion-dollar-plus deal, compared with six in Q1, with all segments seeing sharp quarter-on-quarter declines: 98% in T&D, 69% in generation and 34% in all others.
- **More M&A in water and wastewater:** the water and wastewater segment recorded total Q2 deal value of US$1.8b, including the region's largest deal of the quarter: the US$1.67b acquisition of Aquarion Water Company by Eversource Energy.
- **Investment in gas generation continues:** five deals in gas generation assets accounted for US$440m in Q2, compared with two deals worth US$925m in Q1.
- **Renewables decline, but drive deal value and volume:** 17 small renewables deals contributed US$2.9b (48% of total deal value). Utilities, including Exelon, Pattern Energy and Con Ed, sold US$459m worth of renewable assets to institutional investors at high valuations.
- **Higher US interest rates influence buyers:** in June, the Federal Reserve lifted interest rates by 250 basis points and signaled the potential for another rate rise this year. Increased interest rates may have already influenced financial investors, as deal value contributed by these buyers fell 87% this quarter.
- **Cross-border investment declines:** the majority (66%) of US deals were domestic, in contrast to last quarter's trend that saw Canadian financial investors acquire US$10.4b of US assets.

Image 4: Americas investment flows inbound and outbound by country, (Q2 2017)*



*Note: percentages may not add up to 100% due to rounding.

Top five Americas deals, Q2 2017

All deal values indicated are disclosed enterprise values comprising equity and debt components.

Announcement date (2017)	Target	Target country/ bidder country	Bidder	Deal value (US$)	Bidder rationale	Segment
2 June	Aquarion Water Company	US/US	Eversource Energy	1.7b	Complements Eversource's commitment to environmental goals	Other: water and wastewater
24 May	Gestamp Renewables Corp. (416 MW wind farms in Brazil)	Brazil/UK	Actis LLP	0.8b	Helps Actis become Brazil's second-largest renewable energy company	Renewables: wind
4 May	Ormat Technologies Inc. (22.12% stake)	US/Japan	ORIX Corporation	0.6b	Accelerates ORIX's growth strategy	Renewables: geothermal
18 April	Renova Energia S.A. (Alto Sertao II Wind Complex	Brazil/Brazil	AES Tiete Energia S.A.	0.6b	Aligns with AES Tiete's strategy to generate 50% of its EBITDA from PPA-backed generation from non-hydro sources	Renewables: wind
12 April	Decatur Energy Center, LLC	US/Canada	Capital Power Corporation	0.4b	Supports Capital Power's growth strategy to strengthen its cash flow and increase its geographical diversification	Generation: gas

Source: EY analysis based on Mergermarket data.

Valuations snapshot

The Americas P&U sector is currently trading at a two-year forward EV/EBITDA of 8.5x, which is in line with the long-term average, but down 7.4% from Q1.

The P/E ratio saw little movement, trading at 20.2x compared with 20x in Q1, which represents a premium of 10% compared with the long-term average of 18.4x. It appears that analysts are forecasting little earnings impact despite federal policy announcements and the interest rate increase, which were fully priced in to expectations. Additional rate rises this year may affect analyst expectations, impacting valuations.

T&D assets traded at a two-year forward EV/EBITDA ratio of 9.8x, a reduction of 10.5% compared with Q1. This is in line with the long-term average of 10.1x. The two-year forward P/E ratio pushed slightly higher to trade at 17.3x, a premium of 10% compared with the long-term average of 15.7x. A gradual decline in the EV/EBITDA multiple over the past few quarters has brought the pricing of these assets in line with long-term value expectations. This, together with the premiums in the two-year forward P/E multiple, signals a positive market sentiment and expectation of future price growth.

Integrated utilities showed little movement from Q1, trading at a two-year forward EV/EBITDA average of 7.9x, in line with the long-term average. The two-year forward P/E ratio traded at 12.7x, a 6.4% drop from Q1, and a slight discount to the long-term average of 13.2x. Despite this, analysts believe that many integrated companies remain fundamentally strong as they sell merchant plants to focus on gas and renewable generation.

Renewable energy assets traded at a two-year forward EV/EBITDA of 8.6x in Q2, a 14% premium to the long-term average of 7.5x. The P/E ratio for these assets was in line with the long-term average multiple at 20.2x. Uncertainty surrounding renewable energy policy has yet to affect valuations, and investors continue to seek PPA-backed deals.

IPP asset valuations increased 7.7% to trade at a two-year forward EV/EBITDA of 7.7x, but this is still a discount to the long-term average of 8.5x. In contrast, P/E ratios remained high, trading at 30.6x (compared with the long-term average of 24.6x), driven by gas IPPs. Government policy support may boost coal IPPs in the coming quarters; however, gas remains a solid investment due to its ability to ramp quickly to balance the impact of renewable penetration.

Chart 10: Average EV/EBITDA trading multiples for select utilities
(on FY2 consensus earnings-per-share estimates, 2010–Q2 2017)

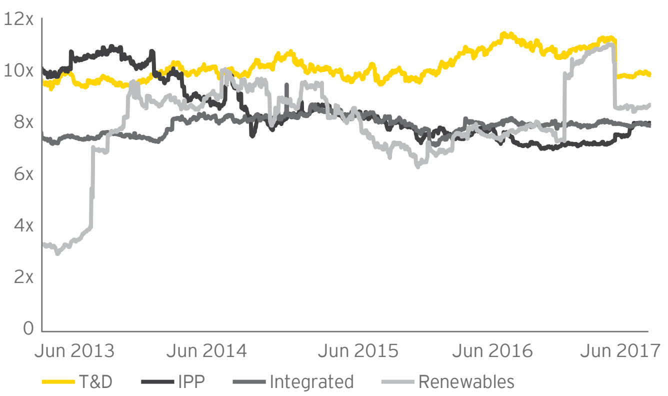
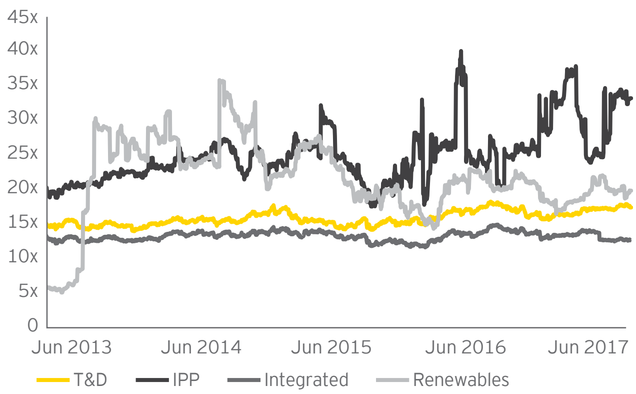


Chart 11: Average P/E trading multiples for select utilities
(on FY2 consensus earnings-per-share estimates, 2011–Q2 2017)



Sources: Bloomberg and EY analysis.
Note: the valuations analysis only contains pure-play publicly listed companies in each relevant market segment.

M&A capital outlook and investment hotspots

- **Institutional investors drive demand for renewables:** expectations that institutional investors' demand for renewable energy assets will soon outstrip supply are behind numerous new renewable developments. In Q2, developers, including NextEra and Pattern Energy, announced 63 new US projects, including 3.3 GW of solar capacity, 2.3 GW of wind capacity and 280 MW of geothermal capacity.
- **Continued T&D investment in Latin America:** Interconexión Eléctrica, Enel Distribución Chile and Red Eléctrica Chile-Cobra Instalaciones Servicios have announced plans to build T&D infrastructure in Chile.
- **Increasing greenfield investment in Mexico:** Mexico has invited bids for a third power auction that will see developers able to sell power to participants other than state-owned utility Comisión Federal de Electricidad (CFE). Spain's Eosol is planning to set up 283 MW of solar capacity in the country, while Aluar, an Argentinian metals producer, will invest more than US$600m in a 200 MW wind farm in Mexico.

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Africa and the Middle East

European investment behind big M&A increase

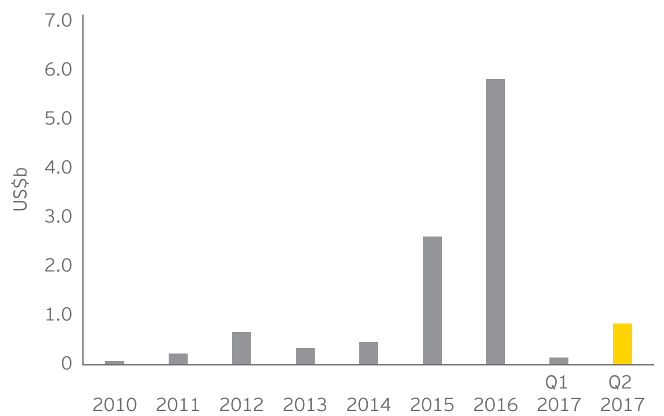
Africa and the Middle East continue to offer opportunities for investors looking to diversify their portfolio. As low-risk, high-value projects dry up in developed countries, investors are starting to move into higher-risk regions where they can expect less competition and higher returns.

An influx of European investors saw the region's deal activity increase to six times that of Q1, reaching US$845m in Q2. Though the quarter's deal value and volume are still small compared with other regions, they represent marked progress from previous inactivity. As in previous quarters, greenfield investment, particularly by foreign multilateral development banks, outstripped brownfield investment, but increasing M&A signifies growing investor confidence.

Across the region, energy reforms remain a prime source of investment opportunities as governments work to increase the appeal of their markets to private capital. In May, Namibia increased the tariffs paid by large electricity customers by 8% to allow state-owned generator Namibia Power Corp. to recover its costs. In July, Egypt raised household electricity prices by 42% in a bid to rationalize subsidies.

Many governments are also diversifying their energy mix as oil prices fall. Saudi Arabia has launched a tender to build a 400 MW utility-scale wind power plant – a first for the country. In June, Botswana Power Corp.'s 100 MW solar tender attracted 166 domestic and foreign bidders.

Chart 12: Africa and the Middle East deal value (2010–Q2 2017)



Source: EY analysis based on Bloomberg New Energy Finance data.

US$845m

of M&A in the region in Q2

35 GW

of additional wind capacity expected to be installed in the region through 2026

Q2 2017 transactional highlights

- **European investors acquire assets in energy services and power generation:** in June, French utility Engie invested US$775m in a 40% stake in Tabreed, a UAE-based company that provides innovative alternatives to traditional air-conditioning. Engie plans to use this acquisition to support expansion into emerging markets within the Middle East. In April, UK investment firm, CDC Group plc, acquired generation projects under an industrial development arm of the Aga Khan Fund for Economic Development, in Kenya and Uganda, as part of a US$70m deal. This acquisition gives CDC Group a platform to boost power generation in sub-Saharan Africa by mobilizing US$1b in funds.
- **Foreign players fund new energy and disruptive technology:** Gullspang Invest, a Spain-based financial investor, led a US$6.8m Series A funding to provide capital to Trine Finance, a company that crowdfunds to provide solar power in Africa. In April, Facebook and Microsoft agreed with Allotrope Partners, a US-based investment firm, to launch a financing facility for microgrids in Africa.
- **More greenfield renewables projects:** Bui Power is planning to build a 250 MW solar-hydro plant in Ghana. Also in Ghana, Engie has partnered with eleQtra, a UK-based developer of power and transportation projects, to build a 50 MW wind project.

Top investment deals, Q2 2017

All deal values indicated are disclosed enterprise values comprising equity and debt components.

Bidder company/country	Target country	Project description	Segment
European Bank for Reconstruction & Development	Egypt	Plans to provide US$500m debt facility to build 750 MW of solar photovoltaic (PV) capacity	Renewables: solar
Engie Africa and Eleqtra Infraco	Ghana	Agreed to invest US$120m to set up a 50 MW wind power plant by 2019	Renewables: wind
World Bank	Burkina Faso	Plans to provide US$80m debt for two solar projects of undisclosed capacity	Renewables: solar
International Finance Corporation	Jordan	Plans to provide US$70m debt to Masdar's 200 MW Baynouna solar (PV) project	Renewables: solar
European Bank for Reconstruction & Development	Jordan	Plans to provide US$70m debt to build a 51 MW solar PV power plant	Renewables: solar
Emerging Africa Infrastructure Fund (EAIF) and International Finance Corporation (IFC)	Mozambique	EAIF has signed a participation agreement with IFC to provide US$16.9m debt to build the 40 MW Mocuba solar plant	Renewables: solar
Undisclosed private investors	Ghana	Private investors have announced plans to invest in Bui Power Authority, a utility in Ghana, to build a 250 MW solar and hydro power plant	Renewables: solar and hydro
Kalahari GeoEnergy	Zambia	Plans to invest US$47m in building a 10 MW geothermal power plant by 2018	Renewables: geothermal

M&A capital outlook and investment hotspots

- **Market reforms will drive investment:** Marafiq, a Saudi Arabian integrated power and water company, plans to launch an IPO by 2019. South Africa also plans to remove subsidies from electricity prices by 2019.
- **Investment in greenfield renewable energy to continue:** Zimbabwe is developing a green energy fund to promote the use of renewables in the region, with an initial aim to set up 600 MW capacity. According to Bloomberg New Energy Finance, it is expected that US$212b will be invested in new generation in sub-Saharan Africa between 2017 and 2030, with renewables forecast to make up three-quarters of the total power investment.
- **Egypt and Saudi Arabia remain hotspots for investments:** amid the region's political and economic constraints, Egypt and Saudi Arabia are expected to remain attractive to investors. Scatec Solar, a European utility, has agreed to build a 400 MW solar power plant in Egypt. Saudi Arabia is moving ahead with its plan to develop more than 30 renewables projects by 2027: 400 MW of wind and 300 MW of solar. The Government has shortlisted developers to set up the projects.

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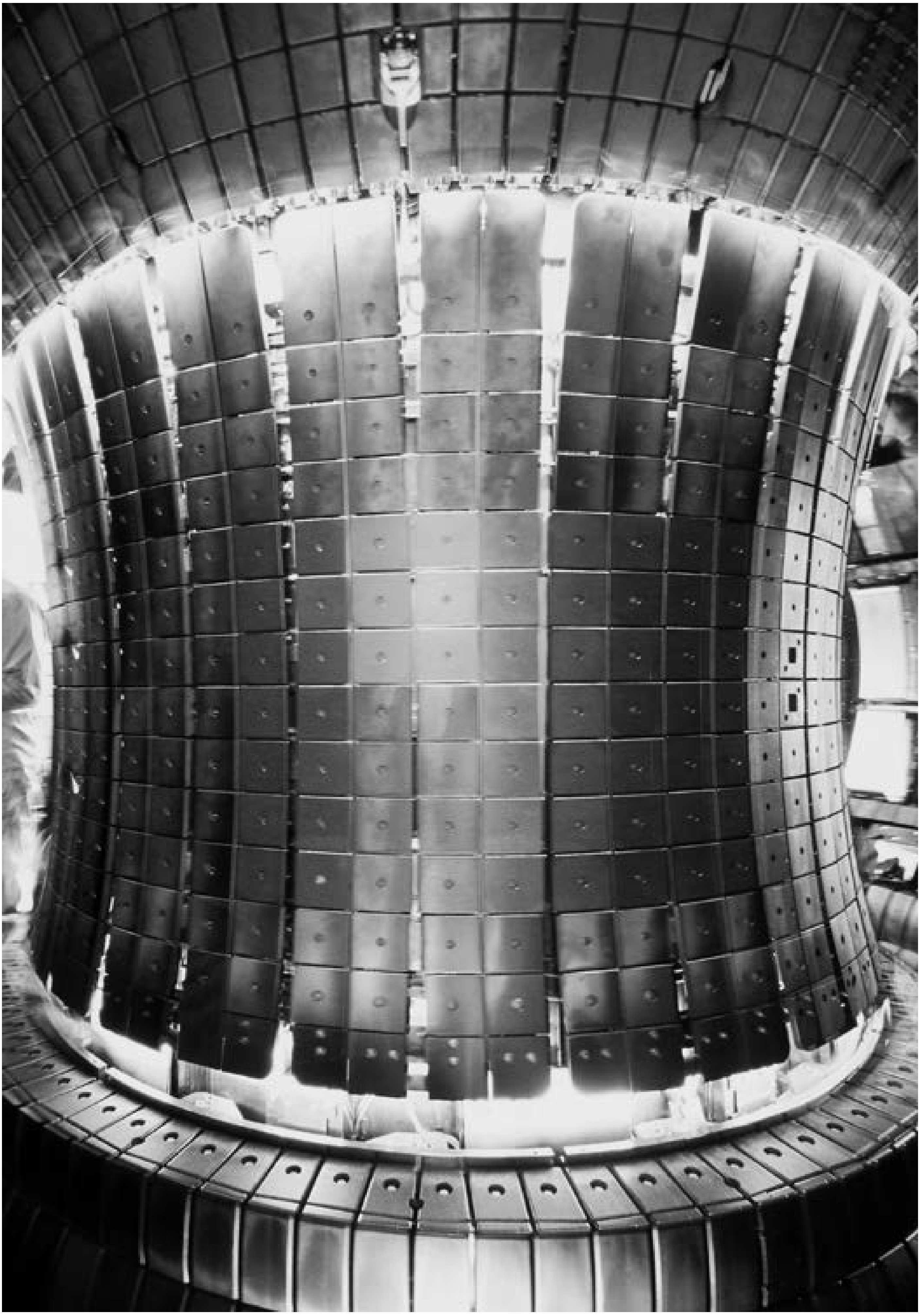

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Data source and industry scope

The EY analysis and perspectives within *Power transactions and trends* are based on global financial releases and Mergermarket data, as well as global engagements conducted by EY member firms over the period 2012 to 2017. They provide an up-to-date assessment of outcomes and trends in the global utilities industry. For more information on the methodology employed in the preparation of this report, please contact:

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