Power transactions and trends
Q1 2018
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Overview

Megadeals drive eight-year high in deal value

• 15 multi-billion-dollar deals formed 90% of deal value
• 48% contributed by one European megadeal

In Q1 2018, deal value in the global power and utilities (P&U) sector rose to an all-time quarter high of US$97b and deal volume increased to 128. This record first quarter highlights an increased willingness from industry executives to transact, as demonstrated in EY’s 18th Edition of the Global Capital Confidence Barometer.

We see continued strong interest in regulated businesses, including electricity transmission and distribution (T&D), contracted power generation, water distribution and treatment businesses, as well as renewable energy assets. Favorable M&A conditions look set to heat up further as investors bid aggressively for fewer desirable opportunities amid historically low interest rates, high stock valuation currency and robust access to the capital markets. The trend of financial sponsors’ involvement in the P&U market has strengthened since 2017 and is expected to continue.

A more complex deal environment is emerging, driven by several factors. New technology and new competitors are aggressively challenging the traditional monopoly mindset, resulting in disruptive trends, including government and regulatory change, a changing generation mix, grid defection, increasing customer expectations and the entry of nontraditional competitors. In addition, investors’ desire for opportunistic investment in the P&U sector is growing rapidly, resulting in a highly competitive deal market. Financial sponsors have raised substantial capital over the past three years, and we see large amounts of “dry powder” looking for appropriate power, utilities and energy infrastructure deals. Against this backdrop, both financial sponsors and corporates are seeking to strategically align their portfolios.

We see several trends with global relevance. First, it appears that there is a shift away from coal-fired generation, as demonstrated by the segment’s deal value and low multiples this quarter. A number of regions are accelerating the

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1 Defined in this report as private equity funds, infrastructure funds, sovereign wealth funds and pension funds.
Retirement of coal generation, while others are banning the development of new coal plants. The profitability of coal-fired generation is struggling in most regions.

Second, both M&A and greenfield investment in renewable energy are gaining speed, driven by policy support and improving economics as the cost of renewables continues to decline. Nearly half of all announced deals in Q1 2018 were in renewables. Investors have historically sought clean energy deals backed by power purchase agreements (PPAs) with regulated utility off-takers; however, corporations are now stepping into that role and signing PPAs directly with project sponsors. Renewable developers also face increased competition as many utilities are beginning to build, own and operate renewable assets themselves, further propelling the renewable energy subsector.

Third, this rise of renewables, as well as the growing adoption of electric vehicles (EVs) in many markets, has boosted interest and investment in supporting technologies, such as batteries, and infrastructure, including EV charging stations.

### Trading multiples dashboard, Q1 2018

<table>
<thead>
<tr>
<th></th>
<th>Current multiples</th>
<th>Historic multiples</th>
<th>Forward EBITDA CAGR</th>
<th>Historic EBITDA CAGR</th>
</tr>
</thead>
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<tr>
<td></td>
<td>Market capitalization weighted average EV/NTM EBITDA trading multiples</td>
<td>Market capitalization weighted average EV/LTM EBITDA trading multiples for Q1 2013-Q4 2017</td>
<td>Two-year forward from Q1 2018 compound annual growth rate (CAGR) of selected utilities’ market capitalization weighted adjusted EBITDA</td>
<td>Five-year (Q1 2013-Q1 2018) CAGR of selected utilities’ market capitalization weighted adjusted EBITDA</td>
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<tr>
<td>Transmission and distribution (T&amp;D)</td>
<td>10.6</td>
<td>10.4</td>
<td>1.7%</td>
<td>6.3%</td>
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<tr>
<td>Renewable energy (RE)</td>
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<td>15.9</td>
<td>3.3%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Integrated utilities</td>
<td>11.9</td>
<td>9.9</td>
<td>2.2%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Independent power producers (IPPs)</td>
<td>10.8</td>
<td>20.0</td>
<td>nm</td>
<td>nm</td>
</tr>
<tr>
<td>Water and wastewater (W/WW)</td>
<td>14.5</td>
<td>12.2</td>
<td>3.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Americas</td>
<td>12.6</td>
<td>13.7</td>
<td>3.2%</td>
<td>5.2%</td>
</tr>
<tr>
<td>TD</td>
<td>11.1</td>
<td>10.5</td>
<td>0.8%</td>
<td>0.2%</td>
</tr>
<tr>
<td>RE</td>
<td>11.4</td>
<td>12.8</td>
<td>2.3%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Integrated</td>
<td>7.2</td>
<td>8.4</td>
<td>0.8%</td>
<td>-3.9%</td>
</tr>
<tr>
<td>IPP</td>
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<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>W/WW</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Europe</td>
<td>8.7</td>
<td>10.6</td>
<td>1.2%</td>
<td>-2.8%</td>
</tr>
<tr>
<td>TD</td>
<td>9.4</td>
<td>10.7</td>
<td>3.0%</td>
<td>1.0%</td>
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<tr>
<td>RE</td>
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<td>6.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>W/WW</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>9.5</td>
<td>12.2</td>
<td>3.0%</td>
<td>12.0%</td>
</tr>
</tbody>
</table>

**Key**

- **EV/EBITDA multiples**
  - Multiples currently trading at a high premium
  - Multiples currently trading at a slight premium
  - Multiples currently trading at a slight discount
  - Multiples currently trading at steep discount

<table>
<thead>
<tr>
<th></th>
<th>EBITDA CAGR</th>
<th>Low EBITDA CAGR</th>
<th>Moderate EBITDA CAGR</th>
<th>High EBITDA CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EBITDA CAGR &lt;0%</td>
<td>Low EBITDA CAGR</td>
<td>Moderate EBITDA CAGR</td>
<td>High EBITDA CAGR</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 | Power transactions and trends: Q1 2018
Finally, investors continue to be attracted to network deals globally. While these large deals are becoming increasingly hard to come by, their long-term, steady returns remain attractive to both corporates and financial sponsors.

Some trends are more regionally aligned. In countries that have a high penetration of renewable energy (particularly Australia and parts of Europe), investment in gas-fired generation is becoming increasingly important to help balance intermittency.

The world continues to be divided on investment in nuclear energy. In some countries, policy is the determining factor. From an economic perspective, nuclear faces a similar fate to coal in developed regions that have an oversupply of generation or where margins earned by nuclear generators are squeezed as a result of lower power prices – i.e., Western Europe and the US. In regions with growing electricity demand – developing countries in Asia, Africa and the Middle East – investment in nuclear is on the rise.

Overall, the start of 2018 has delivered a robust environment for sellers with premium asset valuations and highly favorable transaction terms. We are seeing strong participation in the market from both corporates and financial sponsors. In many regions, this is an excellent environment in which to sell assets and earn premium valuations with astute investors taking advantage of regional valuation differences – as always, timing is of the essence in dealmaking markets.
Deal value in the Americas power and utilities (P&U) sector rose to US$29.4b in Q1 2018, with increases in both value and volume driven by low interest rates, robust access to capital and favorable transaction terms. Eight multi-billion-dollar investments contributed US$25.2b. Almost half (49%) of the quarter’s transactional value was contributed by the announced all stock merger of SCANA Corporation and Dominion Energy. This deal is a strategic move by Dominion, whose proposed purchase offers SCANA a way to ease concerns from customers, regulators and investors after its failed new nuclear construction project in South Carolina. The completion of this deal faces an uphill battle on current terms after South Carolina’s Senate voted to cut the money SCANA can collect from its customers to cover the stranded costs of building the plant.

In the US, mounting pressure on merchant generators is prompting some companies to seek federal and state government support. In just one of many examples of the retreat from merchant generation, First Energy filed bankruptcy for both its coal and nuclear merchant power plants, citing an inability to compete with cheap gas and renewable energy. First Energy called for federal support to invoke Section 202(c), which allows the US Department of Energy (DoE) to keep power stations running during war and natural disasters. While there is debate on whether plant closures are a national security risk, Energy Secretary Rick Perry has indicated his support for the bailout. State support to protect nuclear also remains strong; after months of lobbying, in April, New Jersey became the third US state (after New York and Illinois) to invoke a retail surcharge to subsidize nuclear power.

![Chart 3: Americas deal value and volume, by segment (announced asset and corporate-level deals, Q1 2016–Q1 2018)](source: EY analysis based on Mergermarket data.)
These developments play out against a backdrop of investment in renewable energy, with Q1 2018 hosting 22 clean energy deals worth US$3.1b. After initial concerns that federal tariff increases on imported solar cells would slow the US industry, a continued decline in prices has sustained momentum in this segment. At the end of 2017, the national average retail electricity rate to customers in the US averaged US$0.13/kWh, and the DoE forecasts that rooftop photovoltaic (PV) solar could cost as little as $0.05/kWh by 2030. In Central and South America, greenfield investment in renewable energy is becoming highly competitive, with 1,672 renewable projects registered to bid for a 1 GW auction in Brazil in April 2018.

Q1 2018 transactional highlights

• Support for EVs increases: In January, US-based Pacific Gas and Electric Company launched a US$130m program to build 7,500 EV charging stations in California. In Maryland, utility companies are supporting plans to invest US$104m to install 24,000 charging stations, with the initiative to be supported by charging customers 25 to 42 cents more a month on their electricity bills.

• M&A in integrated assets drives deal value: Investments in US integrated assets drove 57% of the region’s deal value and included the quarter’s biggest deal: the Dominion-SCANA merger for US$14.3b (completion contingent on shareholder and regulatory approvals).

• Gas asset deals boost generation M&A: Value of generation M&A tripled from Q4 2017 to reach US$8.2b, while deal volume in this segment doubled from 5 to 10 over the same period. The number of publicly traded independent power producers (IPPs) continues to shrink through M&A by private equity buyers. In 2016, Riverstone acquired 100% of Talen Energy, Energy Capital Partners announced the take private of Calpine Corporation, NRG made significant divestitures in 2017, and Vistra Energy and Dynegy announced their merger that same year.

• Corporate investors bet big: Corporate buyers announced 30 deals totaling US$23.1b – 79% of total regional deal value. In contrast, financial sponsors announced 12 deals worth US$6.3b.

• Domestic deals dominate: Almost all (90%) deal value was domestic, with only US$2.9b contributed from cross-border buyers.

• Renewable deals increase: Investment in renewables rose 24% to reach US$3.1b.
### Americas regional capital flows, Q1 2018

**Top investment destinations**
- **US**
  - Investment value US$25.3b (86%)
  - Investment value US$4.8b (8%)
- **Canada**
  - Investment value US$0.6b (12%)
- **Brazil**
  - Investment value US$0.3b (1%)
- **Argentina**
  - Investment value US$0.3b (1%)
- **Chile**
  - Investment value US$3.3b (11%)
- **Colombia**
  - Investment value US$0.3b (1%)

### Top five Americas deals, Q1 2018

<table>
<thead>
<tr>
<th>Announcement date</th>
<th>Target</th>
<th>Target country/bidder country</th>
<th>Bidder</th>
<th>Deal value (US$)</th>
<th>Bidder rationale</th>
<th>Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 January</td>
<td>SCANA Corporation</td>
<td>US/US</td>
<td>Dominion Energy Inc.</td>
<td>14.3b</td>
<td>Expands Dominion’s presence in the Southeast; increases its compounded annual earnings-per-share target growth rate to 8% through 2020 and reduces customer bills through refunds of US$1.3b</td>
<td>Others: integrated</td>
</tr>
<tr>
<td>16 February</td>
<td>Enel Generación Chile (40.02% stake)</td>
<td>Chile/Chile</td>
<td>Enel Chile S.A.</td>
<td>3.3b</td>
<td>Aligns with Enel Chile's strategy to consolidate the Chilean energy companies of majority shareholder Enel S.p.A and strengthen its leadership of Chile's energy market</td>
<td>Generation: hydro, wind, thermal</td>
</tr>
<tr>
<td>5 February</td>
<td>8point3 Energy Partners LP</td>
<td>US/Switzerland</td>
<td>Capital Dynamics AG (CDAG)</td>
<td>1.7b</td>
<td>Boosts CDAG’s global presence in solar, wind, biomass, combined-cycle gas and waste gas-fueled power generation technology</td>
<td>Renewables: solar</td>
</tr>
<tr>
<td>22 January</td>
<td>FirstEnergy Corp (equity injection)</td>
<td>US/US</td>
<td>GC Private Limited; Elliott Management Corporation; Bluescape Resources Company LLC</td>
<td>1.6b</td>
<td>Reduces FirstEnergy’s company debt and helps the business prepare to exit merchant generation and focus on regulated business activities</td>
<td>Others: integrated</td>
</tr>
<tr>
<td>7 February</td>
<td>NRG Yield Inc. (46.00% stake); NRG Energy Inc. (100.00% stake)</td>
<td>US/US</td>
<td>Global Infrastructure Partners (GIP)</td>
<td>1.4b</td>
<td>Enables GIP to capitalize on increasing market demand for low cost, clean energy</td>
<td>Generation: renewable and thermal</td>
</tr>
</tbody>
</table>

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

Sources: EY analysis based on Mergermarket data.
Valuations snapshot

The P&U sector traded at a current market capitalization weighted average EV/NTM EBITDA (enterprise value by next 12 months’ earnings before interest, tax, depreciation and amortization) multiple of 12.6x during Q1 2018, an 8% discount to the long-term (five-year) historic market capitalization weighted average multiple of 13.7x. Renewables and water and wastewater companies traded at a premium to sector multiples, while others assets traded at a discount.

T&D assets in Q1 2018 traded at an average EV/NTM EBITDA multiple of 10.6x, a 2% premium to the historic average multiple of 10.4x. The T&D EV/NTM EBITDA traded at a discount of 16% to the sector average. Lower forecasted EBITDA growth may be a contributing factor to T&D assets trading at a 16% discount to the sector average on an EV/NTM EBITDA basis. Over the past five years, the compound annual growth rate (CAGR) of T&D EBITDA was 6.3%; however, analysts predict this to slow to 1.7% over the next two years.

Renewable assets traded at an average current EV/EBITDA multiple of 15.0x, a 6% discount to the historic average multiple of 15.9x. The renewable assets EV/NTM EBITDA multiple traded at a premium of 19% to average sector valuations. M&A premiums may be a contributing factor to renewable assets trading at a 19% premium to the sector average on an EV/NTM EBITDA basis. Over the past five years, the CAGR of renewable energy EBITDA was 4.7%; however, analysts predict it to reach 3.3% for the next two years.

Integrated assets traded at an average current EV/EBITDA multiple of 11.9x, a 20% premium to the historic average multiple of 9.9x. This was demonstrated by the implied offer price of acquisition for SCANA Corporation by Dominion that represented a premium of 38.2% over SCANA’s last trading day closing share price. Over the past five years, the CAGR of integrated asset EBITDA was 4.3%, but analysts predict this to slow to 2.2% for the next two years.

IPP assets traded at an average current EV/EBITDA multiple of 10.8x, a 46% discount to the historic average multiple of 20.0x. The IPP EV/NTM EBITDA multiple traded at a discount of 14% to the sector average. We have not included analysis of the EBITDA growth for IPPs, as subsector market consolidation, including the merger of

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Chart 4: Market capitalization weighted average EV/NTM EBITDA trading multiples for select utilities (Q1 2013–Q1 2018)

Chart 5: Adjusted market capitalization weighted EBITDA CAGR for select utilities²

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

² Historic EBITDA CAGR: five-year (Q1 2013–Q1 2018) compound annual growth rate (CAGR) of select utilities’ market capitalization weighted adjusted EBITDA;
Two-year forward EBITDA CAGR: two-year forward from Q1 2018 compound annual growth rate (CAGR) of select utilities’ market capitalization weighted adjusted EBITDA.
Vistra Energy and Dynegy and the private equity takeover of Calpine, does not provide for a significant population for analysis.

**Water and wastewater assets** traded at an average EV/NTM EBITDA multiple of 14.5x, a 19% premium to the historic average multiple of 12.2x. The water and wastewater EV/NTM EBITDA multiple traded at a premium of 15% to the average sector valuations. Capital spending and subsequent earnings growth across the water utility sector have been consistent, allowing the companies to be not only consistent dividend payers but also reliable sources of modest dividend growth. This highlights ongoing demand for these assets. The US$1b merger of Connecticut Water Service (CWS) and SJW Group demonstrated these assets’ premium valuations – the implied offer was 17.7% higher than CWS’s share price. Over the past five years, the CAGR of EBITDA grew at a rate of 4%, with analysts predicting a CAGR of 3% over the next two years.
M&A capital outlook and investment hotspots

- **Increasing momentum in renewables:** US-based NextEra plans to invest US$2.1b in wind energy through 2020, while Duke Energy will invest US$425m in renewables during 2018. A deal that will see Canada Pension Plan Investment Board acquire US$582.3m of NextEra wind and solar assets is set to close in Q2 2018. Utilities are planning solar investments to take advantage of the federal solar investment tax credit before it drops permanently to 10% after 2021. Total planned solar capex is expected to be US$9.7b in 2018, US$10.7b in 2019 and US$9.5b in 2020.

- **Increasing focus on water utilities:** Q1 2018 saw three water utility deals with a combined disclosed value of US$1b. The announced merger of CWS and SJW Group saw the unusual occurrence of both utilities receiving unsolicited bids (from Eversource Energy and California Water Service, respectively). This development highlights that utilities are increasingly looking to M&A as a cheaper way to fund investments for infrastructure upgrades. In an interview with Miles Huq, Aqua America Chief Financial Officer David Smeltzer emphasised the importance of growth through acquisitions.

- **Focus remains on integrated assets:** These assets will remain attractive to buyers. Financial sponsors are rumored to be interested in acquiring US electricity retailer Puget Energy, whose business is valued at US$7b. Meanwhile, CenterPoint Energy announced plans to acquire US electricity retailer Vectren for US$8.5b.

- **Continued exit from merchant generation:** Companies are shedding merchant generators in favor of T&D and renewable assets that offer safe, stable returns.

In March, DPL Inc. sold around 1 GW of generation assets for US$241m – the deal saw the company’s senior unsecured debt ratings upgraded from Ba3 to Ba2. We expect other companies to make similar moves through 2018.

- **Brazil to attract investors:** Buyers are expected to be interested in the sale of a stake in state-owned utility, Eletrobas, as well as government plans to invest US$300m to develop renewable energy plants in Brazil’s northeast.

- **Energy reforms in Argentina:** The Compania Administradora del Mercado Mayorista Electrico SA (Cammesa) is planning to deregulate Argentina’s wholesale electricity market to cut subsidies and rationalize power prices.

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3 Please note, at the time of publication, both unsolicited takeover bids were rejected.
The US water and wastewater sector is on the brink of transformative change, with huge investment needed to upgrade aging infrastructure. Miles Huq – EY’s new Global P&U Transactions Advisory Leader – spoke to David Smeltzer, Chief Financial Officer at Aqua America to get his perspective on the sector.

David Smeltzer is Executive Vice President and Chief Financial Officer for Aqua America, Inc. In this role, he oversees all financial functions including accounting, tax, treasury, planning, Sarbanes-Oxley compliance and capital spending in regards to return on investment.
Collaborative approach to regulatory change

David Smeltzer joined Aqua America in 1986 and held various leadership roles before moving into his current position of Chief Financial Officer. Aqua is one of the US water sector’s strongest utilities, delivering steady dividends and some of the industry’s highest yields.

But the line between steady and stagnation can be a fine one. In the 1990s, when regulatory inertia threatened to cripple growth, Smeltzer led the charge for sweeping changes including the Distribution System Improvement Charge (DSIC).

“We needed major continuous capital investment to replace aging infrastructure and found ourselves filing rate cases too frequently. The introduction of DSIC allowed utilities to more proactively replace aging infrastructure for our customers and recover returns on capital investment through regularly updated bill surcharges, rather than waiting for costly rate cases.

“We worked collaboratively with public utility commissions (PUCs) to adapt regulation to changing conditions. You don’t want to try to dictate change but work together to address the issue.”

Growth + capital = long-term success

Once a small regional utility, Aqua America is now one of the US’s biggest, serving three million people across eight states. Smeltzer says growth through acquisitions is critical.

“Growth creates economies of scale, which delivers savings and keeps rates in check. You need growth and capital together to create the best outcome over the long term.”

Aqua’s dedicated integration team has been a key element of ensuring smooth transactions. Being transparent is also important, says Smeltzer, especially when bills may rise post-sale.

“Government officials go into the sale process with eyes wide open. We tell them what their bills will be over the next 10 years, including rate increases relative to capital that we’ll deploy, and how we’ll create water of a better, safer quality.”

Private sector investment in US water can be controversial, but recent incidents such as that in Flint, Michigan have opened the door to new opportunities.

“The time when municipalities can provide water services at a lower cost than the private sector is coming to a close. Regulated companies bring our economies of scale to deliver the best solution for the rehabilitation of the American water system.”

“Our nation’s water and wastewater infrastructure is not at an acceptable standard for a country like the US. We expect to be part of that correction – it’s just a matter of time.”

Never accept the status quo

David Smeltzer retires this October but his passion for the sector he’s helped shape shows no sign of waning.

“I see tremendous opportunities in US water. It’s a business in continuous growth.”

Lessons learned over his career include the importance of treating employees well – “they are where it all happens” – as well as a timely call to action for a sector in transformation.

“Never accept the status quo. We’ve done over 300 acquisitions, we’ve initiated scores of regulatory changes and continuous improvement through rethinking commission practices and rethinking our internal practices.

“When practices need to change, don’t bully your way through – do it in a collaborative way.”

“It’s about making life better for everyone.”

Introducing Miles Huq

Miles Huq became EY Global Transactions P&U Leader in April 2018. Based in the Northeast US region, Miles has more than 20 years’ experience in corporate finance, with a particular focus on power and utilities.
In Q1 2018, the European power and utilities (P&U) sector achieved a record deal value of US$61.3b, with 96% of this attributed to renewables, transmission and distribution (T&D), and integrated assets. The largest announced deal of the quarter — E.ON’s acquisition of Innogy — contributed more than 76% of deal value. The deal sees E.ON acquiring Innogy, with a series of asset swaps between E.ON and RWE to follow. If the transaction completes, RWE will focus solely on generation, and E.ON will control networks and retail, with a strategic focus on intelligent networks. Though the deal sees RWE swap its regulated asset base, it is still expected to improve the company’s stand-alone business risk profile with approximately 50% of its operating EBITDA (earnings before interest, tax, depreciation and amortization) coming from contracted generation. The transaction will increase E.ON’s regulated asset base from US$28.4b to US$45.6b, with a customer base of 50 million across Europe.

This complex deal is not expected to complete until the third quarter of 2019. When final, it will trigger a fundamental shift in the German power market, ending the era of vertically integrated utilities as the two largest utilities double down on one subsegment and focus on scale. Analysts predict that, if successful, the deal may spark more transactions of a similar nature, as traditional utilities in Europe continue to feel pressure from renewable energy, oversupply and declining demand.

Beyond this deal, Q1 2018 saw US$6.2b attributed to T&D assets (financial sponsors contributed US$4.7b or 76%), US$6.3b in renewable energy deals and US$1.3b in water and wastewater deals.

Analysts predict that, if successful, the deal may spark more transactions of a similar nature, as traditional utilities in Europe continue to feel pressure from renewable energy, oversupply and declining demand.

Beyond this deal, Q1 2018 saw US$6.2b attributed to T&D assets (financial sponsors contributed US$4.7b or 76%), US$6.3b in renewable energy deals and US$1.3b in water and wastewater deals.

**Chart 6: Europe deal value and volume, by segment* (announced asset and corporate-level deals, Q1 2016-Q1 2018)**
Q1 2018 transactional highlights

• **Renewable energy continues to attract investment:** The quarter saw 30 clean energy deals with a total value of US$6.3b.

• **All-time low in conventional generation deals:** Q1 2018 hosted just two deals in gas and coal assets, which were acquired by corporate investors for undisclosed values.

• **More investment in electric vehicle (EV) technology:** Enel announced plans to develop a network of charging stations in Spain by the second half of 2018. E.ON will partner with Nissan to explore opportunities in EV charging and energy storage. Fortum has entered into partnership with Hungarian utility NKM National Utilities to expand EV charging infrastructure in that country. The Russian Government announced support for the development of an EV charging network as part of plans to replace Moscow’s bus fleet with electric buses by 2021.

• **Utilities bet big on energy storage:** EDF has announced it will invest US$10b to develop 10 GW of battery storage assets through 2035. Centrica plans to develop 1 MW of battery storage at its UK headquarters.
Europe regional capital flows, Q1 2018

Image 3: Investment activity in Europe by country, (Q1 2018)*

**Top investment destinations**

- **UK**: Investment value US$0.7b (1%)
- **Luxembourg**: Investment value US$0.9b (2%)
- **Belgium**: Investment value US$1.2b (13%)
- **Spain**: Investment value US$10.4b (17%)
- **Switzerland**: Investment value US$0.9b (2%)
- **Germany**: Investment value US$47.9b (78%)
- **France**: Investment value US$0.9b (10%)
- **Rest of the region**: Investment value US$0.5b (<1%)

**Top outbound investing countries**

- **Germany**: Investment value US$47.9b (78%)
- **Luxembourg**: Investment value US$0.9b (2%)
- **Rest of the region**: Investment value US$0.5b (5%)

*Note: Numbers may not add to total due to rounding.*

**Total**

- Investment value US$61.3b
- Investment value US$9.4b

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**Top five Europe deals, Q1 2018**

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

<table>
<thead>
<tr>
<th>Announcement date</th>
<th>Target</th>
<th>Target country/bidder country</th>
<th>Bidder</th>
<th>Deal value (US$)</th>
<th>Bidder rationale</th>
<th>Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 March</td>
<td>Innogy SE</td>
<td>Germany/Germany</td>
<td>E.ON SE</td>
<td>46.6b</td>
<td>Supports E.ON's strategy to rationalize its portfolio and focus on energy networks and retail customer solutions</td>
<td>T&amp;D: integrated</td>
</tr>
<tr>
<td>22 February</td>
<td>Gas Natural Fenosa (20.07% stake)</td>
<td>Spain/UK</td>
<td>CVC Capital Partners Limited; Corporacion Financiera Alba SA</td>
<td>4.7b</td>
<td>Aligns with the investors' strategy of investing in assets with long-term stable returns</td>
<td>T&amp;D: electricity and gas</td>
</tr>
<tr>
<td>7 February</td>
<td>Saeta Yield S.A.</td>
<td>Spain/US</td>
<td>TerraForm Power Inc.</td>
<td>3.0b</td>
<td>Helps TerraForm Power scale its presence in western Europe</td>
<td>Renewables: solar, wind</td>
</tr>
<tr>
<td>17 March</td>
<td>FCC Aqualia S.A. (49% stake)</td>
<td>Spain/Australia</td>
<td>IFM Investors</td>
<td>1.3b</td>
<td>Helps IFM enter Spanish water utility market</td>
<td>Others: water and wastewater</td>
</tr>
<tr>
<td>23 March</td>
<td>50Hertz Transmission GmbH (20% stake)</td>
<td>Germany/Belgium</td>
<td>Elia System Operator NV</td>
<td>1.2b</td>
<td>Reinforces Elia's position as a leading transmission system operator</td>
<td>T&amp;D: electricity</td>
</tr>
</tbody>
</table>

Source: EY analysis based on Mergermarket data.
Valuations snapshot

During Q1 2018, the European P&U sector traded at a current market capitalization weighted average EV/NTM EBITDA (enterprise value by next 12 months' earnings before interest, tax, depreciation and amortization) multiple of 8.7x, a 17% discount to the long-term historic average multiple of 10.6x. T&D and renewable companies traded at a premium to the sector multiples: It appears that sentiment toward integrated assets is weak, as these traded at the biggest discount to sector averages.

**T&D assets** traded at a current weighted market capitalization average EV/NTM EBITDA multiple of 11.1x, a 6% premium to the historic average multiple of 10.5x. The current multiple was at a premium of 27% to the current average sector valuations, demonstrating a favorable investor sentiment toward this asset class. Over the past five years, the compound annual growth rate (CAGR) of EBITDA grew at 0.2%, similar to the 0.8% CAGR forecasted for the next two years.

**Renewable assets** traded at a current market capitalization weighted average EV/NTM EBITDA multiple of 11.4x, a 38% discount to the historic average multiple of 12.8x. The EV/NTM EBITDA traded at an 11% premium to average sector valuations, reversing the trend of the previous two quarters. The five-year CAGR of EBITDA was 4.3%; however, analysts predict this to slow to 2.3% for the next two years.

**Integrated assets** traded at a current market capitalization weighted average EV/NTM EBITDA multiple of 7.2x, a 14% discount to the historic average multiples of 8.4x. Over the past five years, the CAGR of EBITDA was -3.9%, reflecting pressure on earnings of major utilities; however, analysts predict some upside with the CAGR growing to 0.8% for the next two years - a trend in line with observations that the European energy sector sees limited value in integrated assets.

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4 Historic EBITDA CAGR: five-year (Q1 2013–Q1 2018) compound annual growth rate (CAGR) of select utilities’ market capitalization weighted adjusted EBITDA; two-year forward EBITDA CAGR: two-year forward from Q1 2018 compound annual growth rate (CAGR) of select utilities’ market capitalization weighted adjusted EBITDA.

Source: Bloomberg, 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

- **Renewables to remain investment priorities:** Spain’s Iberdrola will invest US$14.1b in renewable energy projects through 2022 – 37% of its capex spend over that period. In a US$220m deal, Enel will acquire Parques Eolicos Gestinver, a Spanish company with 132 MW of wind capacity.

- **Policy support for renewables to continue:** The EU has extended its 20% renewable target by 2020 to 35% by 2030. In France, the government will simplify administrative procedures to fast-track wind power projects and help meet its target of doubling installed wind generation capacity to 26 GW by 2023.

- **Increased investment in storage:** Enel will build a 22 MW/12.5 MWh lithium-ion storage system in Germany after signing a US$21m agreement with German wind turbine manufacturer Enertrag and Swiss energy storage provider Leclanché. ENGIE has acquired a majority stake in French hydrogen-based power storage firm Electro Power Systems.

- **Focus on EV charging:** The UK’s National Grid plans to build super rapid charging stations at 50 motorway sites at an estimated cost of between US$618.5m and US$1.2b. In Spain, Iberdrola will install 25,000 EV charging points by 2021.

- **Central and Eastern Europe to attract increasing energy investments:** Under the 2017 initiative EU4Energy, the EU will finance projects focused on energy security, efficiency and renewable energy in Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine. Moldova has already commenced policy discussions around energy efficiency reforms. In February, Norway’s Statkraft signed agreements to buy and resell electricity from three Polish wind farms, with an 80 MW combined capacity, to boost its onshore renewable energy and market operations.

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</table>
The Asia-Pacific power and utilities (P&U) sector continues to be a region of contrasts, marked by the varying investment drivers of diverse economies. In Q1 2018, total deal value in the region cooled to US$5.8b, from a Q4 high of US$13.8b. Volume in the region also declined 46% to 27 – the lowest in three-and-a-half years.

China remains the region’s growth story, with both domestic and outbound deals and a greater focus on greenfield investment in Q1 2018. In one example, General Nuclear Power announced plans to build 3 GW of offshore wind capacity in the country. China also hosted the region’s largest deal of the quarter – the announced merger of the coal generation assets of GD Power and China Shenhua. This was a strategic move prompted by the Chinese Government’s supply side reform that aims to shed excess generation capacity and enhance operating efficiencies. The resulting company, China Energy Group, will emerge as a generation giant with 78 GW of coal generation capacity.

India is continuing to focus on renewable energy as the country works toward a 2020 target of 100 GW of installed solar. In a push to meet the target, the government recently introduced a “rent-a-roof” policy where developers can rent residential rooftops and offer a solar lease to each household. The central government has also announced a US$3.5b subsidy program to incentivize rooftop solar through 2022.
Q1 2018 transactional highlights

- **Sharp drop in investment:** Investment in the region decreased 58% from Q4 2017 to US$5.8b. Deal value dropped 90% in renewables and 100% in integrated assets quarter-on-quarter.

- **Renewables drive deal volume:** While the value of clean energy M&A fell in Q1, the volume of these deals (10) made up the bulk of the quarter’s transactions.

- **Greenfield investment in renewables increases:** Chinese energy firm SPIC Shijiazhuang Dongfang Energy announced plans to build a US$7.3b concentrated solar plant (CSP) plant in Mongolia with a total capacity of 2 GW. Another Chinese utility, Zhongmin Energy, will invest US$91.3m to develop a 72 MW wind farm in China. In an auction in early April, Malaysia awarded utility solar projects with a total capacity of 1,228 MW.

- **Investment focus on energy storage:** Danish utility Ørsted A/S announced plans to set up a 1 MW lithium-ion energy storage pilot project in Changhua County, Taiwan. In Australia, the state government of Victoria announced plans to build two large-scale batteries of capacity ~ 25 MW/50 MWh and 30 MW/30 MWh – in partnership with the Australian Renewable Energy Agency (ARENA) and two consortia of energy companies as part of its Energy Storage Initiative.

Australia, a country that usually attracts significant M&A, seems to be in a holding pattern. The federal government’s National Energy Guarantee policy has the potential to significantly affect contracting arrangements in the National Electricity Market, so investors are remaining cautious.

Asia-Pacific is an interesting market to watch – upcoming policy decisions (or indecision) will determine the state of play for the remaining year.
Asia-Pacific regional capital flows, Q1 2018

Image 4: Investment activity in Asia-Pacific by country, (Q1 2018)*

Top investment destinations

Top outbound investing countries

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

Top five Asia-Pacific deals, Q1 2018

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

<table>
<thead>
<tr>
<th>Announcement date</th>
<th>Target</th>
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<th>Bidder</th>
<th>Deal value (US$)</th>
<th>Bidder rationale</th>
<th>Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 March</td>
<td>GD Power Development Co., Ltd. (22 subsidiaries); China Shenhua Energy Company Limited (18 subsidiaries)</td>
<td>China/China</td>
<td>GD Power Development Co., Ltd./China Shenhua Energy Company Limited Joint Venture</td>
<td>4.4b</td>
<td>Joint venture is in line with the strategies of GD Power Development and China Shenhua Energy to reduce competition and improve core competitiveness</td>
<td>Generation: coal</td>
</tr>
<tr>
<td>26 February</td>
<td>Green Power Tsugaru GK</td>
<td>Japan/US</td>
<td>Pattern Energy Group Inc. (PEGI)</td>
<td>0.2b</td>
<td>Helps PEGI enter Japanese renewables market, grow its portfolio and enhance economics</td>
<td>Renewables: wind</td>
</tr>
<tr>
<td>16 March</td>
<td>The Hub Power Company Limited (16.83% stake)</td>
<td>Pakistan/Pakistan</td>
<td>Mega Conglomerate (Private) Limited</td>
<td>0.2b</td>
<td>Aligns with Mega Conglomerate’s plans to diversify its investment portfolio</td>
<td>Generation: thermal</td>
</tr>
<tr>
<td>29 January</td>
<td>Sterlite Grid Ltd (28.4% stake)</td>
<td>India/India</td>
<td>Sterlite Power Transmission Limited</td>
<td>0.2b</td>
<td>Helps Sterlite Power strengthen its position in the power transmission market</td>
<td>T&amp;D: electricity</td>
</tr>
<tr>
<td>22 January</td>
<td>ReNew Power Ventures Pvt. Ltd. (6.3% stake)</td>
<td>India/Canada</td>
<td>Canada Pension Plan Investment Board (CPPIB)</td>
<td>0.1b</td>
<td>Helps CPPIB to enter Indian renewable energy market</td>
<td>Renewables: solar and wind</td>
</tr>
</tbody>
</table>

Sources: EY analysis based on Mergermarket data.
Valuations snapshot

The P&U sector traded at a current market capitalization weighted average EV/NTM EBITDA (enterprise value by next 12 months’ earnings before interest, tax, depreciation and amortization) multiple of 9.5x during Q1, a 22% discount to the long-term historic average multiple of 12.2x. Renewables traded at a premium to sector multiples, while all other assets traded at a discount.

**T&D assets** traded at a current market capitalization weighted average EV/NTM EBITDA multiple of 9.4x, a 12% discount to the historic average multiple of 10.7x. The current multiple was also in line with the current average sector valuations. Over the past five years, the compound annual growth rate (CAGR) of T&D EBITDA was 1%, and analysts are forecasting some upside with the expected CAGR increasing to 3% over the next two years.

**Renewable assets** traded at a current market capitalization weighted average EV/NTM EBITDA multiple of 11.3x, a 16% premium to the historic average multiple of 10.7x. The EV/NTM EBITDA traded at a 20% premium to the average sector valuations due to ongoing demand for these assets. Over the past five years, the CAGR of EBITDA was 5%, with some upside forecasted as CAGR is estimated to reach 6% for the next two years.

**Integrated assets** traded at a current market capitalization weighted average EV/NTM EBITDA multiple of 8.1x, a 32% discount to the historic average multiple of 11.8x. The EV/NTM EBITDA multiple traded in line with average sector valuations (1% discount). The five-year historic CAGR of EBITDA was 13%, but analysts predict this growth to slow to 3% over the next two years.

**IPP assets** traded at a current market capitalization weighted average EV/NTM EBITDA multiple of 9.1x, a 29% discount to the historic multiple of 12.8x. The EV/NTM EBITDA multiple traded at a 9% discount to the sector average due to continuing bearish market sentiment. Despite this, private equity investors remain attracted to these assets as seen by the recent acquisition of The Hub Power Company (Hubco) by private equity firm Mega Conglomerate who paid a premium of 9.2% over Hubco’s closing share price one day prior to the deal announcement. Over the last five years, the CAGR of EBITDA was 2%; however, analysts are forecasting an upside in growth that will see this figure reach 6% over the next two years.

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**Chart 10: Market capitalization weighted average EV/NTM EBITDA trading multiples for select utilities (Q1 2013–Q1 2018)**

**Chart 11: Adjusted market capitalization weighted EBITDA CAGR for select utilities**

Sources: Bloomberg, EY analysis.

Note: The valuations analysis only contains pure-play publicly listed companies in each relevant market segment.

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Historic EBITDA CAGR: five-year (Q1 2013–Q1 2018) compound annual growth rate (CAGR) of select utilities’ market capitalization weighted adjusted EBITDA; two-year forward EBITDA CAGR: two-year forward from Q1 2018 compound annual growth rate (CAGR) of select utilities’ market capitalization weighted adjusted EBITDA.
M&A capital outlook and investment hotspots

• Consolidation in Indian renewable energy market to drive deal activity: Solar auctions in India have driven a sharp decline in solar tariffs, which is eroding investor returns and has the potential to push a trend toward market consolidation. Renewable company, Greenko, is in talks to purchase Orange Renewables, an India-based wind and solar energy producer, for an expected price of US$1b. Indian conglomerate Shapoorji Pallonji Group has put its entire solar portfolio of more than 400 MW on the market, while Essel Infraprojects, part of another conglomerate (Essel Group), plans to sell 215 MW of solar capacity.

• India to remain a greenfield investment hotspot: India's renewable energy market is also attracting greenfield investment, which is driven by strong policy support. Chinese solar developer LONGi Green Energy Technology has announced plans to set up a solar equipment manufacturing facility in India to meet increasing demand with an investment of US$309m. Japanese multinational SoftBank Group and Chinese solar energy company GCL System Integration Technology have entered into a US$930m joint venture to develop 4 GW of solar energy in India. Italy's Enel plans to invest more than US$290m in a new 285 MW wind power farm in Gujarat. The Indian state of Tamil Nadu is expected to tender for 1.5 GW each for solar and wind energy projects during 2018.

• Thermal power under pressure: Under its Renewable Energy 3020 plan, the South Korean Government has committed to retire 2.3 GW of coal-fired capacity and not authorize any new licenses for coal-fired plants. The plan also requires existing coal plants to reduce carbon emissions by 40% by 2022 and 58% by 2030. In Japan, Chubu Electric has announced that it will decommission 500 MW of oil-fired generation and 220 MW of gas-fired power.

• Vietnam emerges as an investment hotspot: Investors are keen to capitalize on ongoing market reforms. Local company Thien Tan Group plans to develop 1,000 MW of solar capacity through 2021 with an investment of US$2b. Thai solar energy company Superblock has announced it will invest US$650m in building three offshore wind farms with a total capacity of 700 MW. Another Thai energy company, Gulf Energy Development, plans to develop a US$66m solar farm through a joint venture with an undisclosed domestic firm. Sterling and Wilson, an India-based engineering, procurement and construction (EPC) company, has announced plans to construct 300 MW of solar PV plants with an investment of US$250m by June 2019.
Across Africa and the Middle East, the push toward clean energy continues – but for very different reasons. In Africa, access to electricity remains a primary concern. While The World Bank forecasts that 1 billion people in Sub-Saharan Africa may gain access to electricity by 2040, an estimated 530 million will remain without power.

African Development Bank’s (AfDB) New Deal on Energy for Africa aims to “light up and power Africa” and includes a call for the continent’s countries to increase their share of GDP devoted to the energy sector from 0.3% to 3.4% by 2025. The Bank also announced that 100% of its 2017 power sector investments were in renewables.

200 GW
solar development planned for Saudi Arabia – the world’s largest

US$12b
planned renewables investment by the African Development Bank in 10 central African countries
Financing of African energy projects is heavily dependent on developmental institutions, such as the AfDB, but we are seeing the private sector play a bigger role in infrastructure development. In April, South Africa signed a US$4.7b renewable energy contract with 27 renewable energy independent power producers (IPPs) that will account for 30% of the country’s electricity production.

In the Middle East, focus is on reducing reliance on oil. In a landmark agreement that aligns with its Vision 2030 plan, Saudi Arabia has signed a memorandum of understanding (MoU) with Japan’s SoftBank Group to develop a US$200b solar power development. If completed, the solar plant will be the world’s largest and see the region emerge as a major solar power exporter. Nuclear electricity generation in the Middle East is also set to increase from 3.6 GW in 2018 to 14.1 GW by 2028. Saudi Arabia plans to construct 16 nuclear power reactors over the next 20 to 25 years at a cost of more than US$80b.

Q1 2018 transactional highlights

- **Foreign investors acquire local companies to expand into Africa**: investors from the US, Japan and the UK conducted four deals worth US$0.4b in African integrated, water and wastewater, and renewables companies. The Commonwealth Development Corporation, a UK state-owned development finance institution, in partnership with APMoller Capital’s Africa Infrastructure Fund, acquired Zambian transmission and generation company Copperbelt Energy Corporation for US$385m to expand renewable energy generation in that country. ENGIE acquired two West African energy services companies – Afric Power and Tieri – to set up a regional platform to expand into west and central Africa. Canada’s Reservoir Capital Corporation acquired a 60% stake in Nigerian hydropower company Kainji Power Holding Limited.
- **Greenfield transactions in renewables continue**: Sterling and Wilson, a global solar EPC company, is planning a 54.3 MW solar plant in Zambia. French utility Voltalia plans to build two small hydropower plants in Morocco with capacities of 9.8 MW and 7.2 MW, respectively. In June, Dubai will launch a tender to build its first hydroelectricity power plant with installed capacity of 250 MW.
- **Financial sponsors accelerate investments in Africa**: Denham Capital Management LP, a UK-based private equity (PE) firm, plans to invest at least US$250m to develop gas-fired and renewable power in Africa to achieve 1 GW installed capacity by 2019. UK PE firm Helios Investment Partners, together with African Infrastructure Investment Managers, has invested US$30m in Starsight, a Nigeria-based energy services company. South African Water Works, a consortium of a South African infrastructure fund and other strategic investors, has acquired Sembcorp Silulumanzi Pty Ltd, which provides water and wastewater services in South Africa, and a 73.4% stake in water and sanitation company Sembcorp Siza Water for US$67.7m.
M&A capital outlook and investment hotspots

- **Policies and regulations will further boost renewables:** As part of its Solar Power Project Plan 2030, Saudi Arabia aims to produce 200 GW of solar power by 2030. Morocco is planning to develop an additional 1.5 GW of wind and solar generation capacity by 2020 to achieve its target of 42% renewable energy by 2020. Bahrain has raised its renewable energy target from 5% to 10% by 2035 and has mandated installation of solar panels on new buildings.

- **Increased focus on nuclear power generation:** Sudan is developing a roadmap for nuclear and has signed a contract with Russia to build nuclear power in the first half of 2019. Russia is also in early discussions with Ethiopia about developing a nuclear energy program. The Kenya Nuclear Electricity Board is planning the development of a nuclear energy plant by 2027 at an estimated cost of US$55b.

- **Foreign investment to continue:** In January, France's VINCI Construction won a contract to construct a US$346m pumped storage hydro power plant in Morocco. In Iran, South Korean investors plan to invest US$44m in a 17 MW solar power plant, and Italian renewable energy services provider Maresca Group has announced it will construct two 100 MW solar PV parks.

- **Increased focus on rooftop PV:** d.light, a Kenya-based off-grid solar product distributor, has secured US$25m of funding from the European Investment Bank to distribute “solar kits,” which include a solar panel, battery, LED lightbulbs and a recharging device, to enable households to access energy without relying on the grid. In a similar scheme, telecommunications giant Orange is partnering with UK-based renewable energy firm BBOX to roll out up to half a million solar kits in four African nations by 2023. In Nigeria, Rensource Energy has launched the country’s first solar micro-utility project to provide power to over 12,000 shops in Kano.

- **Egypt to remain attractive investment destination:** In January, UAE-based Masdar and Japan’s Marubeni Corp. agreed to develop 800 MW of wind power in Egypt. Italy’s Eni has tendered for the development of a 50 MW solar plant with a total investment of US$50m, while The World Bank is providing guarantees of up to US$102.6m for the construction, operation and maintenance of six Egyptian solar parks totaling 250 MW.

- **Ghana emerges as new investment hotspot:** ENGIE and EleQtra, a company that develops power and transportation projects in sub-Saharan Africa, will invest US$120m to develop a 50 MW wind project in Ghana’s Greater Accra Region by early 2019. Yam Pro Energy, an Israel-based clean energy company, and India’s Shapoorji Pallonji Group plan to build a 150 MW wave-power station for US$18m. Solar PV provider Off Grid Electric has secured US$55m in venture capital funding to expand into Ghana.
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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 2018. 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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