Power transactions and trends
Q3 2016
Overview

Power transactions and trends

This Q3 2016 edition of *Power transactions and trends* reviews quarterly deal activity within the power and utilities (P&U) sector and forecasts the trends that will shape future M&As.

Buyers across regional markets continue to pursue regulated network assets as the “safe haven” for investment. This trend, as observed in our Q2 edition, saw deals worth US$23.6b in the transmission and distribution (T&D) segment in Q3. They accounted for more than half of the quarter’s total deal value.

Both T&D assets and renewable energy assets (particularly sovereign power purchase agreement-backed projects) continue to enjoy record valuation multiples. However, as these assets become increasingly competitive and opportunities for new conventional power projects become more limited in developed markets, we expect investors to seek out investment opportunities in emerging markets and in innovative disruptive assets, such as battery storage, micro-grids and virtual power plants.

Overall, despite some of the prevailing global economic challenges, we expect M&A deal intentions to remain strong in the coming months. Our latest Power & Utilities Capital Confidence Barometer reveals that 63% of P&U executives surveyed expect the M&A market to remain stable over the next 12 months, while 24% expect it to improve.

Q3 2016 highlights

**Regulated assets continue to attract premium prices:** Amid volatile market conditions, investors are persuaded by the prospects of stable and long-term returns from T&D network assets. The average deal size for T&D assets continues to increase – up 200% quarter-on-quarter to US$3.9b in Q3.

**More buyers investing in renewables:** A political mandate for cleaner energy sources across the globe, coupled with the need to meet energy demand in emerging markets, drives more investors toward renewable energy opportunities. In Q3, 53% of total global deal volume came in the form of renewable assets, valued at US$7.9b.

**Investors diversifying into disruptive technologies:** Incentivized by the falling costs of PV panels and energy storage batteries, investors venture increasingly into disruptive technologies. We saw sizable new investment and M&A activity in this segment in Q3, particularly in Europe and Asia-Pacific.
Regional snapshot

The Americas remained the hot spot for deal activity in Q3 – contributing 66% of total global deal value at US$26.3b. Strategic investments by buyers in T&D and renewables assets drove deal value and volume in the region. We also saw merchant investors selling off generation assets to private equity (PE) investors in a bid to optimize their portfolios. (Read more)

In Europe, deal value reduced slightly, compared with Q2, despite a 40% rise in average deal size quarter-on-quarter. Investment in regulated network assets, renewables and disruptive technologies remained at the top of investors’ capital agendas. (Read more)

Overall, activity was subdued in the Asia-Pacific region, compared with the previous quarter. At US$5.7b, total deal value was down by 39% quarter-on-quarter. However, renewable energy deals drove transactional activity in the region. China and India contributed 77% of the region’s total deal value in Q3. (Read more)

Investment activity in the P&U sector in Africa and the Middle East continues to be dominated by greenfield investment, with some small brownfield deals. The ongoing need for electrification provides significant opportunity for new conventional power and renewable energy projects in the region. China has emerged as the most significant investor in Africa. (Read more)
Regulated assets and renewables maintain deal momentum

A number of key factors continue to shape Europe’s P&U sector; chief among them are:

- A policy shift toward low-carbon energy, nudging utilities to change their energy mix
- Modest economic growth and low interest rates, pushing financial investors toward P&U assets with stable and long-term revenues
- Changing customer expectations and the growth of distributed energy resources (DER), continuing to impact demand growth
- Retirement of coal-fired power plants, giving way to increased renewable and gas-powered capacity

Restructuring, diversification and strategic acquisitions continue to present utilities with avenues to increase shareholder value. In Q3 2016, P&U assets worth US$7.7b exchanged hands, with average deal value shooting up by 71% to US$367m year-on-year. During the quarter, E.ON completed the spin-off of its conventional power unit, Uniper, while Latvijas Gaze approved the spin-off of its gas transportation and storage assets. Greece also plans to spin off the retail activities of its main utility, Public Power Corporation (PPC).

T&D and renewable energy assets continue to offer safe havens for investors. During Q3, US$5.1b worth of deals in T&D assets were struck (more than 66% of total European deal value). The US$4.3b acquisition of a 20% stake in Gas Natural Fenosa by US-based Global Infrastructure Partners III was the biggest deal of the quarter.

In the renewables segment, we saw 23 deals worth a total of US$2b during the quarter. Offshore wind assets are gaining attention from investors. Sumitomo Corporation, for example, is investing around US$2b in a 12.5% stake in the Galloper Offshore Wind Farm project in the UK, alongside Macquarie Capital and other investors.
Q3 2016 highlights

- **Renewables and regulated assets attract financial investors from the Americas region:** BlackRock, Global Infrastructure Partners, First Reserve Fund XIII, L.P. Ontario Teachers’ Pension Plan, Public Sector Pension Investment Board and J.P. Morgan Asset Management acquired European renewable energy and T&D assets worth more than US$4.3b during the quarter.

- **Utilities team up with financial investors to buy T&D assets:** Investors continue to rate T&D assets as attractive bets amid an uncertain economic environment. In July, Allianz Capital Partners GmbH and Snam SpA acquired a 49% stake in Gas Connect Austria GmbH for US$674m from OMV, the integrated oil company of Austria. Similarly, Marubeni and Toho Gas acquired a 22.5% stake in Galp Gas Natural Distribuica from Galp Energia and SGPS, a Portugal-based oil company, for US$153m.

- **Utilities invest in assets with disruptive potential:** In Europe, disruptive technologies continue to emerge as new investment destinations. In August, RWE agreed to acquire Belectric Solar and Battery Holding GmbH to strengthen its renewable energy business. Meanwhile, National Grid announced the winning bidders for 201 MW of energy storage projects by utilities, including EDF Energy and Vattenfall. Recently, EDF launched its Mon Soleil & Moi (My Sun & Me) self-consumption offering for residential customers to generate, use and store their own electricity more efficiently.

- **Oil companies diversify into disruptive technologies:** Amid depressed commodity prices, oil companies are looking to diversify into downstream disruptive assets. In September, Total SA acquired a strategic stake in AutoGrid System, a developer of digital solutions to manage energy supplied to and from the power grid.

<table>
<thead>
<tr>
<th>US$7.7b</th>
<th>US$5.1b</th>
<th>US$5.5b</th>
<th>79%</th>
</tr>
</thead>
<tbody>
<tr>
<td>total deal value for Q3, up 17% from US$6.6b in Q3 2015</td>
<td>deal value powered by T&amp;D transactions</td>
<td>deal value undertaken by financial investors</td>
<td>deal value contributed by cross-border deals</td>
</tr>
</tbody>
</table>
Transaction snapshot
Financial investors boost deal activity in T&D assets

Our analysis of historical M&A data suggests that activity by financial investors fluctuates over time. For instance, financial investors contributed just US$1.9b in M&A activity in Q2, but activity stepped up 187% in Q3, and they contributed US$5.5b. Average deal value per quarter by corporate buyers, on the other hand, is fairly consistent. In Q3, corporate buyers favored investment in renewables, with deals worth US$1.4b.

Top five deals, Q3 2016

<table>
<thead>
<tr>
<th>Announcement date (2016)</th>
<th>Target</th>
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<th>Bidder</th>
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<th>Deal value (US$m)</th>
<th>Rationale</th>
<th>Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 September</td>
<td>Gas Natural Fenosa (20% stake)</td>
<td>Spain</td>
<td>US-based fund of Global Infrastructure Partners (GIP)</td>
<td>US</td>
<td>4,273</td>
<td>Aligns with GIP’s strategy of investing in stable, cash flow generating assets</td>
<td>T&amp;D</td>
</tr>
<tr>
<td>27 July</td>
<td>Enel Green Power España S.L. (60% stake)</td>
<td>Spain</td>
<td>Endesa, S.A.</td>
<td>Spain</td>
<td>1,327</td>
<td>Strengthens Endesa’s presence in the Iberian electricity generation market and expands its production mix</td>
<td>Renewable energy: solar and wind</td>
</tr>
<tr>
<td>22 September</td>
<td>Gas Connect Austria GmbH (49% stake)</td>
<td>Austria</td>
<td>Allianz Capital Partners GmbH; Snam SpA</td>
<td>Germany, Italy</td>
<td>674</td>
<td>Enhances development of GCA and makes cash available to the seller, OMV AG</td>
<td>T&amp;D</td>
</tr>
<tr>
<td>11 August</td>
<td>Tees Renewable Energy Plant</td>
<td>United Kingdom</td>
<td>Macquarie Group Limited; PKA A/S</td>
<td>Australia, Denmark</td>
<td>390</td>
<td>Supports Macquarie’s expansion and diversification into the renewable energy segment</td>
<td>Renewable energy: biomass</td>
</tr>
<tr>
<td>29 July</td>
<td>Acea SpA (10.85% stake)</td>
<td>Italy</td>
<td>Suez</td>
<td>France</td>
<td>322</td>
<td>Enables Suez to strengthen its position in the environmental markets in Italy</td>
<td>Others: water and wastewater</td>
</tr>
</tbody>
</table>
Valuations snapshot
Regulated assets continue to command high valuations

Valuations of generation assets and independent power producers (IPPs) remain low in the region. Utilities that have retained thermal generation assets continue to feel a drag on their balance sheets, prompting more to exit the segment. E.ON, for example, spun off its conventional generation assets and plans to exit completely over time. RWE separated its loss-making conventional generation business from its renewables, grid and retail business. It plans to use its conventional generation assets for backup capacity in Germany. In September, EDF decided to sell off its coal-trading business in a bid to make its balance sheet greener. Vattenfall received approval from the European Union (EU) to sell off its coal generation plants and coal mines business in Germany to EPH, a Czech Republic-based financial investor. Increased renewable capacity suppressed the operating income of German utilities by 44% during the 2013-2015 period. Some utilities are trying to maximize generation earnings by participating in the power grid balancing market. In August 2016, EDF Renewables, Vattenfall and EON won four-year contracts with Britain’s National Grid to supply super-fast balancing services.

The long-term average valuations of T&D assets remain high, trading at a premium of 11% in Q3, based on average FY2 earnings-per-share (EPS) multiples. There is, however, a slight quarter-on-quarter decrease, with Q3 valuations 8% lower than in Q2. Though this is a small change, it could signal the emerging impact of disruptive technologies, such as renewables and energy storage, on T&D valuations over the longer term. For now, investors are still prepared to pay a premium for these assets, as evidenced by the US$674m acquisition of a 20% stake in Gas Connect by Snam, at an implied EV/EBITDA (enterprise value/earnings before interest, taxes, depreciation and amortization) of 7.7x (according to industry estimates). Also, given significant planned investments to modernize the grid, investors will likely be keen to increase their exposure to this segment.

Renewable energy assets continue to attract premium values from corporate and financial investors. RWE recently set the price range for its initial public offering (IPO) of Innogy at around US$22b, making it one of the biggest IPOs in Europe’s history. Appetite for renewables, particularly offshore wind, is evident in the market. Around 3.7 GW of capacity was financed in the first half of 2016, with another 1.4 GW of capacity expected to come online over the next 12 months. This will trigger investment in T&D infrastructure. Already, investment in offshore T&D assets has increased year-on-year, standing at US$1.34b in 1H 2016.
Renewables and disruptive technologies to shape future M&A

Europe’s P&U sector has seen a long cycle of divestments and consolidation. We expect M&A activity in the region to remain at similar levels, unless more billion-dollar-plus deals emerge. The anticipated partial divestment of National Grid’s UK gas distribution unit could boost deal value significantly. The focus is now shifting to renewables and disruptive technologies that generate small to medium-sized deals. We expect increasing outbound activity as utilities and investors look to the emerging markets for opportunities.

1. **Activity in renewables to continue:** Renewables are climbing up the maturity curve in developed markets such as Germany, where capacity auctions for solar and wind are planned for 2017. As costs for renewable energy projects come down, bidding will become increasingly competitive, making them attractive assets for acquisition. The impact of the planned EU Renewable Energy Directive (REDII), which is intended to enable priority access and priority dispatch of renewables to the grid, remains to be seen. For now, investors consider renewables a safe bet. Italian utility Alperia, for instance, recently raised about US$225m from institutional investors through green bonds.

2. **Disruptive technologies to drive investment:** Along with utilities, private equity (PE) investors have begun focusing on investment in disruptive technologies. In July, PE investors (who formerly headed utilities Centrica, SSE and Innogy) invested in Moixa Technology, a London-based start-up that makes small battery systems to store electricity from home solar panels for onward sale to the grid. In August, Iberdrola secured a US$223m investment from the European Investment Bank to fund innovative smart grid, electric mobility, clean energy and energy storage projects. Increasing investment and M&A in disruptive technologies and companies seems likely in the coming quarters as European utilities continue to transform and diversify their businesses.
Spain

- The planned renewable energy auction of 3 GW capacity is expected to generate interest from investors. Political instability and regulatory uncertainty could increase investment risk.

United Kingdom

- The current investment climate is marred by expectations that the UK will miss its 2020 renewable energy targets.
- Brexit is likely to have an impact on the sector, judging by early indicators. Iberdrola’s renewable arm, for example, reported a 3.3% decrease in net profit for 1H 2016 due to its exposure to the UK market.
- Nuclear capacity could see more investment in the coming months. KEPCO, reportedly, is in talks with Toshiba and Engie to invest US$13b into the UK NuGen nuclear project. In September, the UK Government and EDF signed a contract for the US$23b Hinkley Point nuclear power station.

Italy

- The outlook for renewables seems positive as the Government plans to close nearly 13 GW of thermal capacity, and has introduced a revised decree on incentives for renewable energy plants.
- Alperia plans to invest US$250m in renewables, notably in hydro energy, in the country.
Renewables sustain M&A deal value

Despite a 17% increase in deal volume in Q3, deal value fell 52% year-on-year to US$5.7b. Renewables, disruptive technologies and energy reforms are driving investment activity in the Asia-Pacific region.

Stakeholders across the region remained bullish on renewables during the quarter. South Korea announced plans to invest US$36.6b in renewables, including solar, wind and eco-friendly power plants, by 2020. Thailand’s oil retailer, Bangchak, listed a 30% stake in its renewable power unit to exploit current high valuations for renewables in the region. In July, the Australian state of Victoria issued US$224.8m in green bonds for renewable energy, energy efficiency, low-carbon public transport and water treatment projects. Indonesia introduced its new solar power regime, intended to boost solar energy investment in the country.

In India, investors were also bullish on renewable energy assets. Among the domestic players, Greenko Solar agreed to acquire solar assets from Sun Edison India for US$315m. Renew Power consolidated its position by acquiring 25 MW of renewable assets during the quarter. Tata Power also concluded the largest renewables transaction in India – the acquisition of Welspun Renewable Energy for US$1.4b.
Q3 2016 highlights:

- **Renewables move up the maturity curve:** In India, Solar Energy Corporation of India (SECI) awarded 450 MW of solar capacity in Maharashtra. The winning bid was a low US$0.066/kWh, without viability gap funding. The Australian Renewable Energy Agency (ARENA) recently awarded 480 MW of large-scale solar projects in its latest competitive funding round.

- **Energy storage gains traction in the market:** Governments and utilities across the region are venturing into new technologies, such as solar-plus-energy-storage. AGL Energy is investing about US$15m in installing 1,000 batteries in Adelaide, Australia, making it one of the biggest virtual power plants in the world. Kansai Electric Power is partnering with Hitachi, Mitsubishi and other players to set up a virtual power plant in Japan. The Government of South Korea announced incentives for utility-scale solar operators to install energy storage units alongside solar PV plants. In September, India issued its second solar energy storage tender for 200 MW capacity.

- **Governments consider new energy sector reforms:** In Australia, the Energy Council of the Council of Australian Governments (COAG) is preparing to implement reforms in gas markets, to improve customer choice, and ensure stability and connectivity of the National Energy Market (NEM). In a bid to liberalize its power sector, South Korea plans to partially open its generation segment to private players. In India, the State Government of Haryana is planning to merge its distribution companies (discoms) to improve efficiencies and cut losses. China is considering a switch from central planning in power distribution to a model that allows generators to decide how much electricity to generate based on market demand. These activities should drive investment activity in the region.

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**Total Q3 2016 deal value, down 39% quarter-on-quarter:**
- US$5.7b
- US$3.9b

**Deals in renewable assets, 68% of total deal value:**
- 77%

**Discount to historic valuations for generation and independent power producers (IPPs):**
- 16%
### Transaction snapshot

**Renewable energy dominates deal activity**

China led the Asia-Pacific region, accounting for 48% of deal volume, with a total deal value of US$4.4b. However, in Australia, Chinese investment hit a roadblock during the quarter when the anticipated network deal for a 99-year lease over a 50.4% stake in AusGrid stalled. The Federal Government opted to block foreign investors, Chinese state-owned State Grid Corporation and Hong Kong’s Cheung Kong Infrastructure Group, from holding a controlling stake. In October, however, the New South Wales (NSW) Government agreed on the stake sale in Ausgrid to a consortium of super funds, IFM Investors and AustralianSuper, for US$16.2b.

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</tr>
</thead>
<tbody>
<tr>
<td>1 August</td>
<td>Trina Solar Limited (94.5% stake)</td>
<td>China</td>
<td>Consortium for Trina Solar Ltd</td>
<td>China</td>
<td>2,203</td>
<td>Supports Trina’s long-term strategy to counter decreasing demand and low margins</td>
<td>Renewable energy: Solar</td>
</tr>
<tr>
<td>12 August</td>
<td>Inner Mongolia North Longyuan Wind Power Co., Ltd. (81.25% stake)</td>
<td>China</td>
<td>Inner Mongolia Huaneng Thermal Power Corporation Ltd</td>
<td>China</td>
<td>714</td>
<td>Expands bidder’s alternative energy business and strengthens its market competitiveness</td>
<td>Renewable energy: Solar and wind</td>
</tr>
<tr>
<td>13 August</td>
<td>Wuxi Huilian Thermoelectric Power Co., Ltd. (25% stake); Guolian Environment &amp; Energy Group; Wuxi Youlian Thermoelectric Power Co., Ltd. (25% stake)</td>
<td>China</td>
<td>Wuxi Huaguang Boiler Co., Ltd.</td>
<td>China</td>
<td>678</td>
<td>Improves bidder’s business structure, profitability, and anti-risk and sustainable development capabilities</td>
<td>Generation</td>
</tr>
<tr>
<td>18 July</td>
<td>Bina Power Supply Company Ltd</td>
<td>India</td>
<td>JSW Energy Limited</td>
<td>India</td>
<td>402</td>
<td>Diversifies JSW Energy’s geographical footprint and strengthens its existing business model</td>
<td>Generation</td>
</tr>
<tr>
<td>19 August</td>
<td>China Smarter Energy Group Holdings Ltd.</td>
<td>China</td>
<td>Shanghai Gorgeous Investment Development Company Limited</td>
<td>China</td>
<td>347</td>
<td>Gives Shanghai Gorgeous the remaining 48.28% stake in China Smarter Energy Group</td>
<td>Renewable energy: Solar</td>
</tr>
</tbody>
</table>

Source: EY analysis based on Mergermarket data
Valuations snapshot

Valuations reflect reforms and a shift toward renewables

Valuations of generation assets are impacted by regional factors. Electricity demand in China and Japan is moderating, with China planning a trial of an energy-use trading program to curb the power consumption of major power companies. Meanwhile, the push for low-cost, clean energy is putting pressure on the valuations of higher-cost, conventional energy sources. South Korea, for instance, announced the retirement of 10 coal-fired plants from 2017. Consequently, generation and IPPs are trading at a discount of 16% to long-term average EV/EBITDA (enterprise value/earnings before interest, taxes, depreciation and amortization) two-year forward estimate values. With greenfield thermal generation investments remaining low in developed countries in the region, large institutional investors may find this an opportune time to snap up these assets at attractive prices.

Renewable energy assets continue to achieve attractive valuations in Asia-Pacific. A Chinese consortium agreed to buy a 94.5% stake in Trina Solar for US$2.2b, valuing solar PV at a premium of 40%. Competitive bidding in renewable energy auctions — in India, for instance, 450 MW of solar was auctioned at US$0.066/kWh — may start to put pressure on the valuations of greenfield renewable assets. Some investors may choose to take stakes in operational assets with stable returns rather than become exposed to low bidding prices and the potential risks associated with greenfield projects.

Across the region, T&D utilities are trading at a premium of 16% to long-term private equity (PE) two-year forward estimates. Utility earnings are increasing on the back of big capital investments in some countries. In India, for example, earnings (net profit) for Power Grid Corporation of India Limited (PGCIL) grew at 33% year-on-year in Q1FY17. AusNet Services is trading at a premium of 55% to long-term average PE two-year forward estimate values. As more investment flows into the sector to stabilize and modernize grids, we expect T&D assets to remain in demand and maintain high valuations. In July, Adani Transmission acquired a 74% stake in Maru Transmission Service Company and a 49% stake in Aravali Transmission Service Company, for an undisclosed value. The NSW Government is also planning to sell around a 50% stake in distributor Endeavour Energy at an estimated value of US$3b.

Integrated utilities are currently trading at a premium of 4.2% to long-term average EV/EBITDA two-year forward estimates. Investors favor integrated utilities for their stable and low-risk profiles. In Japan, however, monopoly utilities are feeling the impact of retail competition, which got the go-ahead in April this year. As of 30 June, the Tokyo Electric Power Company (TEPCO), for instance, had already lost about 762,500 consumers to new electricity providers.
Activity in renewables to drive deal value

While countries such as China and Japan grapple with subdued energy demand, India, the Philippines, Indonesia and Vietnam are working hard to meet demand for electricity. Q3 saw about US$1.5b worth of brownfield investments in the conventional generation segments in India, the Philippines, Malaysia and China. Though we expect this trend to continue, clean energy mandates may start to put pressure on greenfield investment. In addition to ongoing Chinese inbound and outbound M&A, two major drivers will shape the sector outlook in Asia-Pacific:

1. **Renewable assets to attract investors:** Stakeholders across the region prioritize renewables in their capital agendas. Australian institutional investment manager Queensland Investment Corporation (QIC) agreed to invest US$601m to build a 1 GW large-scale renewables portfolio in Australia. In countries where renewable energy auctions are very competitive, some investors may opt instead for operational assets. We expect this trend to continue as countries such as India push for reverse bidding in both solar and wind.

2. **Investment in T&D assets and new technologies:** The region has a robust pipeline of new capacity projects, which require upgrades to T&D infrastructure if they are to be integrated effectively into the grid. According to Northeast Research, China and India will account for the largest investment in T&D over the next decade in order to meet demand, modernize their grids, improve connectivity and minimize losses. With stakeholders attracted increasingly to the potential of disruptive technologies, such as virtual power plants and energy storage, we expect investment and M&A in this segment to increase over time as the market matures and technology costs decrease.
### Philippines

<table>
<thead>
<tr>
<th>Deal value</th>
<th>Deal volume</th>
<th>Capital outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>US$251m</td>
<td>1</td>
<td>After power outages in July, when about 2,000 MW of electricity were lost, state utilities are planning investment into smart grid technologies and energy management services. The thermal generation sector in the Philippines remains attractive to investors. In October, Aboitiz Power Corp. announced the acquisition of the thermal assets of Blackstone Group for US$1.2b, making it one of the country’s biggest P&amp;U deals.</td>
</tr>
</tbody>
</table>

### China

<table>
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<th>Deal value</th>
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<th>Capital outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>US$3987m</td>
<td>15</td>
<td>With the Chinese consolidation cycle largely complete, utilities are increasingly looking outbound for expansion. Chinese utilities acquired US$2b assets overseas in Q3. With US$3.2b renewables deals in China in Q3, we expect interest in this segment to continue in coming quarters. For example New Energy Investment and State Power Investment plan to invest US$600m in 500 MW wind capacity in the country.</td>
</tr>
</tbody>
</table>

### India

<table>
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<th>Deal value</th>
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</tr>
</thead>
<tbody>
<tr>
<td>US$472m</td>
<td>7</td>
<td>Renewables remain attractive for investors. EDF is planning a US$2b investment in the country, while, reportedly, Primal Enterprises is planning to invest US$120m in ACME Solar. The introduction of reverse auctions for wind energy, similar to solar, could bring down prices and attract greater investment as overall deployment costs reduce.</td>
</tr>
</tbody>
</table>

### EY Global Transaction Advisory Services (TAS) Power & Utilities (P&U) contacts

**Matt Rennie**  
EY Global and Asia-Pacific TAS Power & Utilities Leader  
Brisbane, Australia  
+61 7 3011 3239  
matthew.rennie@au.ey.com

**Nick Cardno**  
Oceania TAS Power & Utilities Leader  
Sydney, Australia  
+61 2 9248 4817  
nick.cardno@au.ey.com

**Gilles Pascual**  
ASEAN TAS Power & Utilities Leader  
Singapore  
+65 6309 6208  
gilles.pascual@sg.ey.com

**Somesh Kumar**  
India TAS Power & Utilities Leader  
New Delhi, India  
+91 11 66718270  
somesh.kumar@in.ey.com

**Alex Zhu**  
Greater China TAS Power & Utilities Leader  
Beijing, China  
+86 10 5815 3891  
alex.zhu@cn.ey.com

**Bum Choong Kim**  
Korea TAS Power & Utilities Leader  
Seoul, Korea  
+82 23787 4107  
bum-choong.kim@kr.ey.com

**Peter Wesp**  
Japan TAS Power & Utilities Leader  
Tokyo, Japan  
+81 3 4582 6400  
peter.wesp@jp.ey.com
Utilities pursue strategic transactions amid dynamic operating environment

The Americas remained the M&A hot spot, with deals in the power sector worth US$26.3b in Q3. The region saw three billion-dollar-plus deals, as well as three midsize deals (greater than US$500m), with NextEra’s US$18.4b acquisition of Energy Future Holdings (EFH) the largest deal of the quarter. Domestic investors were dominant in the US, accounting for US$22.9b of deal value and 88% of total deal volume.

With interest rates remaining low – the Federal Reserve abstained from raising rates in its September review – investors, in search of attractive but stable returns, were bullish on utility valuations. We saw a revival in private equity (PE) investor appetite for merchant assets as generation utilities continue to optimize their portfolios. Generation asset sales worth US$2.9b were announced during the quarter. Some utilities exposed to wholesale markets reported losses. NRG and Dynegy, for example, stated net losses of US$276m and US$801m, respectively, in Q2 2016. Given the current scenario of volatile gas prices, we may see more utilities diversify into the retail energy segment. Calpine Energy, for instance, recently agreed to acquire Noble Americas Energy Solutions, the nation’s largest independent supplier of power to commercial and industrial retail customers.

Renewables continued to attract investment from both domestic and foreign utilities. Renewable energy deals accounted for more than 40% of total deal volume in the region. The US$850m sale of the wind farm assets of Mexico-based Ventika Wind Power was the largest renewable deal of the quarter. Engie announced a partnership with Solairedirect Chile to build 400 MW of new solar capacity in Chile on the back of the country’s successful renewable energy auction held in August.
Q3 2016 highlights:

- **Utilities look for opportunities to decrease merchant exposure:** In a bid to optimize portfolios, utilities are selling off their merchant assets to deep-pocketed financial investors. In September, PE firms Blackstone and ArcLight Capital acquired the thermal generation assets of AEP Generation Resources for US$2.2b. Similarly, in July, Starwood Energy Group acquired gas generation capacity from NextEra for US$760m.

- **Chinese utilities focus on investment in Latin America:** Chinese investors are betting big on assets in the region’s key emerging markets. In September, State Grid Corporation of China (SGCC) acquired a 23.6% stake in Brazil’s CPFL Energia for US$1.8b. SGCC is also in the process of acquiring remaining stakes in the utility – making it the biggest acquisition by China in the country. The China Three Gorges Corporation, along with PE firm I Squared Capital, has recently agreed to acquire Duke Energy’s hydro-generation assets in Brazil for US$2.4b.

- **Offshore wind moves up stakeholders’ agenda:** Governments are introducing supportive policies to trigger offshore wind development in the region. In September, the Governor of New York released a blueprint aimed at developing offshore wind along its coast. The state of Massachusetts has passed an offshore wind bill, which requires utilities to take on 1.6 GW of offshore wind power by July 2027. In September, Copenhagen Infrastructure Partners (CIP) acquired 100% of OffshoreMW, a US company with a 675-square-km offshore wind energy lease and planned 1 GW offshore capacity.
Transaction snapshot

Corporate investors drive deal value by transacting in diversified and regulated assets

Dominating activity in Q3 were 10 deals, with a cumulative value of US$20.5b, in the T&D, integrated and water and wastewater segments. Activity by financial investors was subdued, compared with the previous quarter, with total deal value down 63% quarter-on-quarter to US$2.9b. Corporate investors accounted for 71% of total deal volume, valued at US$23.3b, split between T&D and renewables in their domestic markets (US$20b) and cross-border transactions in integrated and solar energy assets (US$3.3b).

Consolidation in the US power sector is ongoing, amid a tough operating environment. There were two billion-dollar-plus deals in the country in T&D and generation assets. Large diversified and regulated network deals contributed significant value during the quarter, the largest of which was NextEra’s acquisition of EFH for US$18.4b. The acquisition included an 80% stake in Oncor’s regulated and contracted assets, consistent with NextEra’s focus on assets that offer regulated and long-term stable returns.

Brazil, Canada, Chile and Mexico also saw deals worth US$3.3b in renewable energy and regulated assets. More than half of these acquisitions were by foreign buyers from Australia, China, Spain and the UK.

Top five deals, Q3 2016

<table>
<thead>
<tr>
<th>Announcement date (2016)</th>
<th>Target</th>
<th>Target country</th>
<th>Bidder</th>
<th>Bidder country</th>
<th>Deal value (US$m)</th>
<th>Rationale for deal</th>
<th>Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 July</td>
<td>Energy Future Holdings Corporation</td>
<td>US</td>
<td>NextEra Energy, Inc.</td>
<td>US</td>
<td>18,400</td>
<td>Enables 6%-8% per year adjusted EPS growth through to 2018</td>
<td>T&amp;D</td>
</tr>
<tr>
<td>14 September</td>
<td>AEP Generation Resources Inc. (four power plants)</td>
<td>US</td>
<td>Blackstone Group LP; ArcLight Capital Partners, LLC</td>
<td>US</td>
<td>2,170</td>
<td>Supports AEP’s transition from a wholesale electricity provider to a regulated energy company</td>
<td>Thermal</td>
</tr>
<tr>
<td>2 September</td>
<td>CPFL Energia S.A. (23.6% stake)</td>
<td>Brazil</td>
<td>State Grid Corporation of China</td>
<td>China</td>
<td>1,856</td>
<td>Provides State Grid of China with power generation and power grid assets in Brazil</td>
<td>Integrated</td>
</tr>
<tr>
<td>5 September</td>
<td>Ventika Wind Power Project</td>
<td>Mexico</td>
<td>Infraestructura Energetica Nova</td>
<td>Mexico</td>
<td>852</td>
<td>Enhances IEnova’s renewables portfolio</td>
<td>Renewable energy: Wind</td>
</tr>
<tr>
<td>29 July</td>
<td>Marcus Hook Energy Center (NextEra)</td>
<td>US</td>
<td>Starwood Energy Group Global, LLC</td>
<td>US</td>
<td>760</td>
<td>Optimizes Starwood’s power generation asset portfolio</td>
<td>Gas</td>
</tr>
</tbody>
</table>
Valuations snapshot

Regulated and renewable assets remain safe havens for investors

We expect deal making in the Americas to remain robust in the coming quarters, as utilities continue to consolidate and optimize their asset portfolios. As utilities’ balance sheets can be vulnerable to interest rate hikes, any decision by the US Federal Reserve to raise rates could impact deal values. Utilities with exposure to foreign markets are also looking to de-risk their assets. PPL Corporation, for example, revised its foreign currency hedging strategy to mitigate exposure to the declining foreign exchange rate and “35-year low” in the British pound.

Merchant generators continue to trade at a discount – valuations were down 13% in Q3, compared with long-term averages. A challenging operating environment is leading some generators to complement their wholesale businesses with retail operations to better manage power-price volatility and align generation and retail loads. Calpine’s recent announcement to acquire Noble Americas Energy Solutions, for example, is expected to help it weather weak gas prices with more stable cash flows from retail sales. Alternatively, loss-making independent power producers (IPPs) are looking to sell off their conventional generation assets to PE investors. Among them is our second top deal of the quarter, AEP Generation Resources’ sale of four thermal generation plants to PE investors.

Regulated assets remain the safe haven for investors. There was a 23% rise in two-year PE-forward estimates of T&D utilities in Q3, compared with long-term averages. Utilities across the US and Chile acquired T&D assets valued at US$18.5b (disclosed value).

Diversified assets also climbed in value, trading at average enterprise value/earnings before interest, taxes, depreciation and amortization (EV/EBITDA) two-year forward estimates of 8.1x in Q3, compared with 7.7x in Q2. The risk of diversified utilities, due to their exposure to generation assets, can be offset by their investment in regulated assets. Exelon, for example, reported a US$13m loss in its generation business in Q2, while its regulated business reported a net operating profit of US$671m.

Average renewable energy deal values increased to US$231.7m during the quarter, from US$67.5 in Q2. Policy support for renewable energy continues across the region. A number of US states are pushing investment in offshore capacity. Bolivia is planning to invest US$1.4b in the development of renewable energy in the country, while Chile plans to introduce a US$800m solar transformation program to support its development of solar energy. The growing attractiveness of renewable energy in the region’s emerging markets is illustrated by a record 84 bidders in Chile’s recent renewable energy auctions. With bids at about US$47.6 per MW, these are the lowest prices achieved in the country since the introduction of the auction system.
Portfolio optimization to remain high on utilities’ agendas

1. **Deal volume in renewables segment to increase:** As investors look for stable returns, buoyed by positive policy support across the region, we expect M&A in renewables to increase. Following the acquisition of SolarCity by Tesla for US$2.6b, we expect more M&A in this segment, with several midsize deals already in the pipeline. Among them is the acquisition of a stake in Utah Red Hills renewable park by Macquarie Infrastructure Corporation, and Avangrid Renewables’ planned acquisition of 50 MW solar capacity from SunPower Corporation.

2. **Utilities exposed to merchant generation assets to optimize portfolio:** We expect continued portfolio optimization as utilities seek to hedge their balance sheets against volatile gas prices and falling support for coal generation. DTE Energy, for example, is planning to invest US$1b to US$1.5b in setting up 1 GW natural gas-fired plants to replace its retiring coal assets. In July, the Los Angeles Department of Water and Power agreed to divest its 21% stake in the coal-fired Navajo Generating Station and to source 477 MW of power from renewable sources of energy.
Brazil

Deal value | Deal volume | Capital outlook
---|---|---
US$1,935m | 3 | Political instability, currency fluctuations, drought and low energy demand make doing business in Brazil challenging. Duke Energy, for instance, has agreed to exit the market and sell off its assets at US$2.4b.

Chinese utilities, on the other hand, with cheap debt from domestic banks and a clear mandate to expand in emerging markets, are bullish on the Brazilian market. Opposition to Chinese investment in other markets, such as Australia and Europe, also makes Brazil an attractive destination for Chinese utilities. China Three Gorges and State Grid Corporation of China are making acquisitions in the country.

Mexico

Deal value | Deal volume | Capital outlook
---|---|---
US$893m | 2 | With agreements in place with the US and Canada to generate 23% energy from renewable sources, Mexico is continuing to attract the attention of clean-energy investors.

In its second clean-energy auction, concluded in September, Mexico selected 23 bidders for development of close to US$4b worth of renewable power capacity.
Renewables, nuclear and disruptive technologies to drive investment

Continuing along the same track as previous quarters, greenfield investment dominated activity in Q3. Chinese investors have been the driving force behind the growth of Africa’s P&U sector. They accounted for 30% of installed capacity growth between 2010 and 2015 from more than 200 greenfield power projects worth US$13b, according to International Energy Agency (IEA) estimates.

Increasingly, European utilities are also making their presence felt in the region. In August, Scatec Solar agreed to set up a 100 MW solar plant in Nigeria, and in September, Engie invested an undisclosed amount in BBOXX, an off-grid solar company in East Africa.

The push from governments across Africa and the Middle East to promote renewables, disruptive technologies and energy reforms is shaping the sector and making it more attractive to investors. The renewables sector in the region is maturing. In South Africa, investment in renewables is becoming increasingly independent of subsidies. With the forecast addition of 2.3 GW of wind, 4.8 GW of solar and 1 GW of concentrated solar power (CSP) from 2016 to 2020, South Africa will remain a key renewables investment destination.

Other African countries are pursuing disruptive technologies. During the quarter, state-owned Nigerian utility Kaduna Electric announced plans to deploy prepaid smart meters in the country. Tanzania simplified its rules for small-scale power projects in a bid to promote access to electricity in rural areas.

In the Middle East, the National Bank of Abu Dhabi announced in August its plans to issue a benchmark-sized green bond, a first for the region, which could fetch US$500m.
Q3 2016 highlights:

- **Middle Eastern governments progress power sector reforms:** Muted economic growth, coupled with a need to curb inefficiencies, has led governments across the Middle East to progress reforms in the sector. The Saudi Electricity Company plans to unbundle and privatize its assets by the end of 2016. In Oman, the Public Authority for Electricity and Water (PAEW) is planning to merge its water resources, potable water and wastewater segments into one company, and is also in the process of privatizing the Muscat Electricity Distribution Company. In addition, the country is planning to introduce cost-reflective tariffs for industrial power consumers. Egypt, meanwhile, plans to increase electricity tariffs for household consumers by 40%.

- **Cross-border investment in new generation capacity:** Despite political and financial risks, foreign investors continue to invest in generation capacity in the region, particularly in nuclear and renewable energy. China is investing heavily in renewables. Xinjiang SunOasis agreed to build a 1 GW solar power plant in Egypt and, in August, the Government of China announced plans to invest in solar and wind energy plants in Namibia. Russia has agreed to build 1 GW nuclear capacity in Jordan and Iran. The Japanese Government is planning to grant US$10m for the development of geothermal capacity in Kenya and Tanzania.

- **Foreign utilities seek partnerships to enter the African power sector:** Driven by renewables and electrification targets, many African countries are emerging as attractive destinations for P&U investors. However, to reduce their risk exposure, some foreign utilities are partnering with local utilities. In July, for instance, French utility Engie announced its collaboration with Moroccan energy company Nereva Holding, to invest in 5 to 6 GW of renewable energy capacity in North and West Africa.

- **Investment in off-grid solutions gains pace:** Increasingly, stakeholders are investing in off-grid solutions to bridge the gap between demand and supply of electricity. In September, the International Finance Corporation (IFC) and the UK’s Department for International Development (DFID) agreed to provide technical and financial support to small enterprises seeking off-grid solutions in Nigeria. In July, Aquion Energy, a manufacturer of energy storage systems, and SolarAfrica, an African solar energy services company, commissioned an off-grid micro-grid and battery storage project in South Africa to replace diesel power generation. In August, Off Grid Electric, a Tanzania-based solar installer, raised US$18m for rooftop solar panels in Africa.

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**Summary:**

- **US$835b**
  - capital investment required for new generation and T&D in Africa by 2040

- **1,570 TWh**
  - of electricity consumption in Africa by 2040, 300%+ increase on 2015 levels

- **US$1b**
  - worth of commitments announced by the US under the Power Africa program

- **76.8 GW**
  - of power capacity to be added in Gulf Cooperation Council countries between 2016 and 2020
Transaction snapshot
M&A activity could rise in coming quarters

Despite no large M&A deals during Q3, the region is set to become more attractive to brownfield investors looking to deploy capital in the emerging markets. Energy reforms, strong government support for renewables and maturing greenfield development projects should create opportunities for brownfield M&A in coming quarters. Currently, investors are seeking to acquire small renewable assets that offer lower risk and stable returns:

- In July, Gaia Infrastructure Capital agreed to acquire a 25.2% stake in Dorper Wind Farm in South Africa for US$34m
- Engie acquired an 18.5% stake in Green Bio Energy, a Uganda-based provider of renewable energy solutions, in July
- In September, Hulisani, a South African renewable energy special-purpose acquisition company, agreed to acquire Red Cap Investment and Eurocape Renewables for US$10.7m, in a bid to expand its wind energy portfolio
- Access Power, a United Arab Emirates-based independent power producer, is planning to acquire renewable assets in Africa through its Access Infra Africa arm, set up in partnership with French renewable energy company Eren Groupe

Growing demand for electricity and associated infrastructure, favorable natural resources and policy support in key countries across the region have created investment opportunities. The internal rate of return from solar projects in the region is, on average, 10.35%, higher than in other emerging markets (8.4% in Asia).

South Africa has emerged as the most attractive destination for renewables in the region. Between 2014 and 2015, the country’s investment in renewables rose by 329% to US$4.5 billion (excluding hydropower).

According to EY’s latest Renewable Energy Country Attractiveness Index, Morocco (ranked 13), Egypt (ranked 19), Kenya (ranked 31) and Jordan (ranked 33) are the other top destinations for renewable energy.
Generation, particularly renewables and nuclear, to see significant investment

Investment in renewable and nuclear generation capacity is set to remain high on investors’ agendas. We also expect increasing M&A activity in renewable energy assets.

**Hydropower to remain strong:** Hydropower will remain a significant contributor to capital investment in the coming quarters. Ethiopia is building a US$2.8b hydropower dam, with support from Italy, which will have a total capacity of 2.2 GW. The World Bank and EDF are setting up a 420 MW hydropower plant with a US$1.3b investment in Cameroon.

**Investment in nuclear to increase:** As developed countries move away from nuclear energy, utilities are looking to Africa and the Middle East as attractive destinations for nuclear investment. Rosatom State Atomic Energy Corporation, for example, has announced plans to invest US$100b in Saudi Arabia to set up 16 nuclear power plants. Meanwhile, Egypt and Russia are finalizing plans to build a 1 GW nuclear power plant in the country.

**Activity in smart and off-grid solutions to intensify:** Increasingly, countries across the region are supporting smart and off-grid solutions in a bid to create efficiencies and provide uninterrupted power supply to customers. Bankymoon, a technology start-up providing energy services, is planning to launch blockchain-supported smart-energy metering in South Africa, which could reduce electricity costs for customers. In September, Orange launched a smart-metering pilot in partnership with STEG in Tunisia.
Egypt

Despite challenges — reportedly, EDF and Enel Green Power pulled out of the country, citing political and currency risks — the country remains on investors’ radar. For example, the Egyptian New and Renewable Energy Authority is in talks with Vestas Wind Systems to develop eight farms, totaling 2.3 GW of wind power capacity in the country.

The Government allocated US$999m to the National Authority for Potable Water and Sewage to set up new water and sanitation projects and upgrade existing infrastructure.

Iran

The Government is planning to launch its first tender for utility-scale renewable energy, including 1 GW of wind and 3 GW of solar power by the end of 2016. It is seeking US$12b in investment.

Unit International, reportedly, is planning to invest US$3b in the country to set up 5 GW of natural-gas combined cycle power capacity.

Italian and Swiss firms plan to invest US$43m to build Iran’s biggest solar power plant at 30 MW.

South Africa

South Africa’s power utility Eskom will spend US$11b by 2030 to set up 9.6 GW of nuclear capacity in the country.

Renewable energy investment is set to continue, although it may face a headwind. Eskom is reconsidering its participation in further power purchase agreements with independent power producers (IPPs) due to cost and grid-stability concerns.

Saudi Arabia

The Government is investing US$266m to set up new power capacity and is upgrading existing capacity in the Madinah region.

The Government is investing in new T&D infrastructure. National Grid Saudi Arabia awarded contracts to Larsen & Toubro for a 132kV double-circuit transmission line and 132kV cabling.

Source: EY analysis

EY Africa and the Middle East Transaction Advisory Services (TAS)
Power & Utilities (P&U) contacts

Matt Rennie
EY Global TAS Power & Utilities Leader
Brisbane, Australia
+61 7 3011 3239
matthew.rennie@au.ey.com

Bruce Harvey
Africa TAS Power & Utilities Leader
Johannesburg, South Africa
+27 772 535 2
bruce.harvey@za.ey.com

David Lloyd
Middle East TAS Power & Utilities Leader
Riyadh, Saudi Arabia
+966 11 215 9852
david.lloyd@sa.ey.com
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EYG no. 03920-164Gbl
BMC Agency
GA 0000_08568
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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 2016. 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:

Simone Zawadski
EY Global TAS Power & Utilities Resident
simone.zawadski@au.ey.com