



## US renewable energy M&A reaches new heights

Continued growth brings new  
investors and drives deal activity



# Executive summary

In 2015, renewable energy assets continued to attract attention from Wall Street and other influential buyers, driving deal count up 42 percent from the prior year, to 163 deals (see figure 1). Total capacity acquired in the US rose 17 percent, to nearly 19.7 gigawatts (GW) (see figure 2). Renewable assets, which in this report refers to wind and solar resources, established a greater presence in publicly traded financial markets through YieldCo-related activity. Furthermore, large corporations, many of which were eager to lock in future electricity rates, entered into long-term contracts with solar and wind developers, growing demand and garnering interest in the sector. Solar emerged as the most active subsector in 2015, with 115 deals (nearly doubling deal

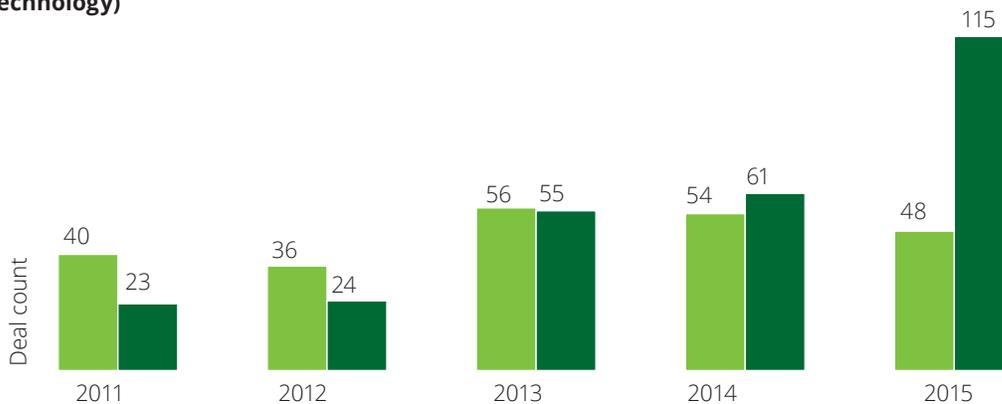
count from 2014), compared to 48 wind transactions. However, given the typically larger size of wind farms, wind capacity acquired amounted to 11.3 GW, exceeding that of solar at 8.3 GW. Many developers sought opportunities to monetize the federal Investment Tax Credit (ITC) prior to its scheduled 2016 stepdown, which was postponed at yearend with multi-year extensions of both the solar ITC and the Production Tax Credit (PTC) that benefits wind. Additionally, the declining cost of solar gave both utilities and independent power producers (IPP) with historically wind-dominated renewable portfolios the opportunity to add solar capacity.

One of the top drivers of IPP renewable acquisitions early in 2015 was the need to feed YieldCos. However, stock market volatility decreased YieldCo valuations toward the end of the third quarter, driving some sponsor developers of YieldCos to sell off assets. As a result, financial institutions

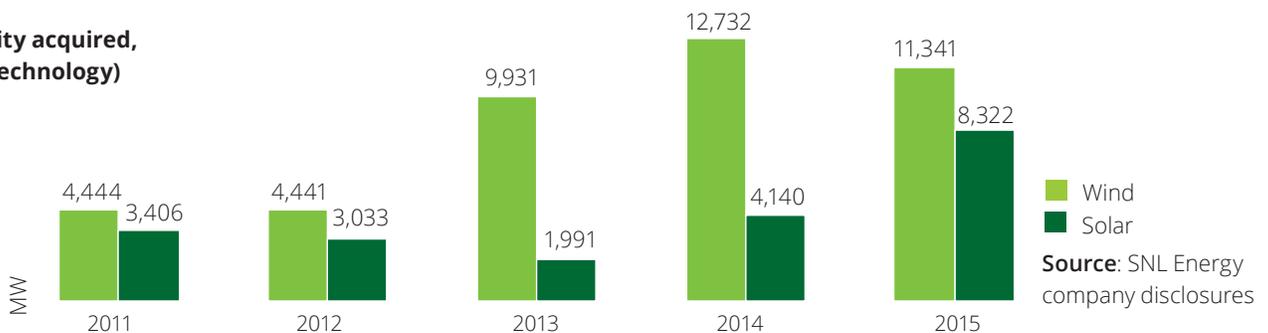
and utilities saw an opportunity to acquire 7.6 GW of solar and wind capacity in the second half of 2015.<sup>1</sup>

The renewables sector ended 2015 on a very high note, primarily due to extensions of federal tax credits and a heightened global interest in low carbon energy resources following the 2015 United Nations conference on climate change (COP21) in Paris in December 2015. Looking ahead, 2016 could be a year of robust growth for the sector, driven by regulatory directives and attractive economics. Utilities could demonstrate a strong appetite for solar and wind acquisitions, and IPPs will presumably move forward in developing their project pipelines. According to SNL Energy, in 2016, renewables are projected to account for 73 percent of the 55 GW of capacity additions.<sup>2</sup> This magnitude of build out could propel merger and acquisition (M&A) activity through 2017.

**Figure 1: M&A deal count, 2011-2015 (by technology)**



**Figure 2: Capacity acquired, 2011-2015 (by technology)**

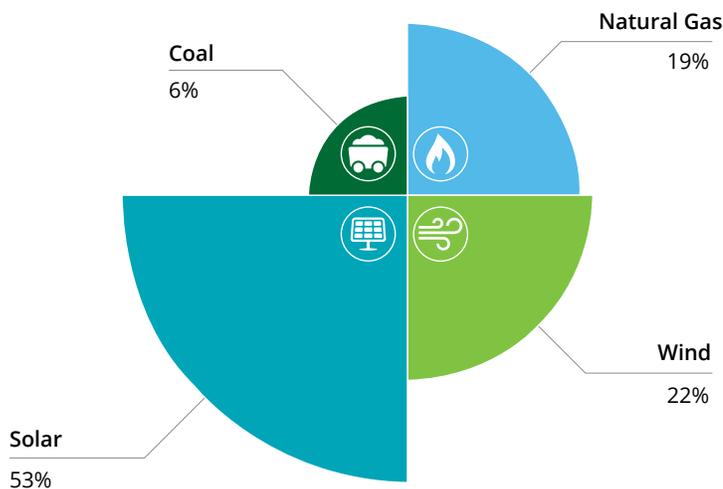


# Renewables compete for investor interest

The cost of wind and solar technologies continued to decline over 2015, moving renewables further into mainstream power markets. Oversupply of generation and lower natural gas prices put downward pressure on wholesale electricity prices across the nation. According to the Energy Information Administration (EIA), prices at major trading hubs during on-peak hours declined between 27-37 percent on average in 2015 compared to prices in 2014.<sup>3</sup> Such market conditions typically make it tough for renewables to compete with lower cost, dispatchable resources such as natural gas and coal. Wind and solar have historically had higher levelized costs of energy (LCOE), which is the measure used to compare the overall competitiveness of different generating technologies, but the sector's diligence in cost reduction has contributed to its improving LCOE. The LCOE of wind and solar photovoltaics (PV) technologies dropped again this past year, falling by eight and four percent, respectively (see figure 3).<sup>4</sup> These cost declines and other favorable market conditions have contributed to wind and solar accounting for more than 60 percent of all new capacity additions in 2015. According to SNL Energy, wind capacity additions in 2015 accounted for 47 percent of all new generation, followed by natural gas at 35 percent and solar at 14 percent.<sup>5</sup>

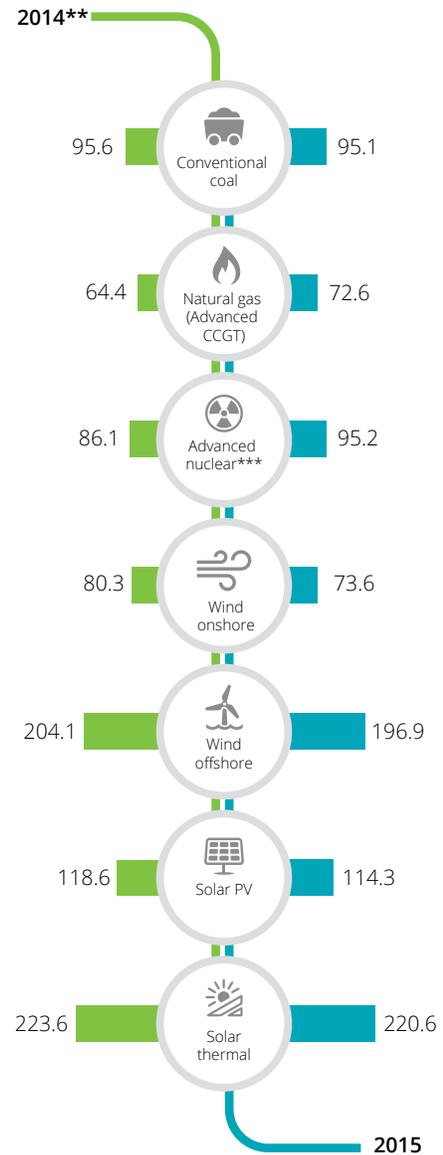
An increase in renewable capacity additions was not the only trend driven by attractive economics. M&A activity was affected as well. During 2015 there were more asset acquisitions and corporate deals (excluding utility mergers) involving wind and solar assets than natural gas and coal assets. Renewables accounted for 74 percent of these deals, further demonstrating investors' interest in these technologies (see figure 4).

**Figure 4: M&A deal count by technology, 2015**



Source: SNL Energy, M&A League Tables.

**Figure 3: Levelized cost of electricity (LCOE), 2014-2015\***



\*Non-dispatchable energy sources like wind and solar cannot be directly compared with dispatchable sources like natural gas, coal, and nuclear. Refer to EIA's LCOE/LACE analysis for further information: [http://www.eia.gov/forecasts/aeo/pdf/electricity\\_generation](http://www.eia.gov/forecasts/aeo/pdf/electricity_generation)

\*\*2014 data reflects 2012 dollars per megawatt hour for plants entering service in 2019; 2015 data reflects 2013 dollars per megawatt hour for plants entering service in 2020

\*\*\*Costs for the advanced nuclear technology reflect an online date of 2022. Up to 6 GW of new nuclear plants are eligible to receive an \$18/MWh production tax credit if in service by 2020; nuclear plants shown in this table have an in-service date of 2022. Therefore, the advanced nuclear LCOE in 2014 includes a subsidy while the 2015 does not.

Source: US EIA "Annual Energy Outlook 2014" and "Annual Energy Outlook 2015"

## YieldCos drive M&A activity through third quarter

In addition to competitive pricing, renewable M&A in 2015 was fueled by publicly traded YieldCos eager to deliver competitive dividends to shareholders. Many expected 2015 to be the “Year of the YieldCo” as these power plant holding companies drove down developers’ cost of capital and fueled growth in the sector.<sup>6</sup> Because YieldCos are designed to put the majority of realized proceeds toward dividend yields as opposed to reinvestment in the company, growth is typically achieved through acquisition. As a result, transactions associated with YieldCos accounted for 29 percent of capacity acquired through the third quarter of 2015. However, by the end of the third quarter, YieldCo valuations declined significantly due to headwinds, including volatility in broader energy markets and shareholders’ concerns over undisciplined growth.<sup>7</sup> This dip in the market caused major developers to adjust their growth strategies, and in some cases, shed assets, driving M&A activity in the sector.

YieldCos are power plant holding companies for operating assets that allow renewable energy developers to access public financial markets and return attractive dividends to shareholders. They serve a similar function to that of master limited partnership entities in the oil and gas industry. For YieldCos, assets are primarily utility-scale solar and wind generation units with low-risk, long-term contracted cash flows. Cash flows also benefit from reduced taxable income (driven by the accelerated depreciation and tax credit benefits enjoyed by renewable investments), allowing for a greater portion of operating income to be available for dividends. The developer, typically referred to as the “YieldCo sponsor,” secures a pipeline of renewable assets to be acquired by an independent or dropdown entity. This entity is then taken public through an initial public offering (IPO). As the value of the YieldCo grows, the dividend increases, attracting investment and providing the sponsor developer with low-cost capital for existing or future projects.



# Corporations' drive to reduce electricity costs and carbon footprints fuels M&A activity

While many renewable energy developers made efforts to lower their cost of capital in 2015, many large corporations made strides to lock in future electricity rates and reduce their carbon footprints through renewable procurement. The global business community's rising commitment to clean energy made headlines in 2015. Large corporations from Goldman Sachs to Procter & Gamble publicized their intentions to transition to 100 percent renewable energy ahead of the COP21 that took place in Paris this past December.<sup>8</sup> According to RE100, a joint initiative by The Climate Group and CDP, as part of the We Mean Business Coalition, 70 companies worldwide have committed to going 100 percent renewable.<sup>9</sup> By the end of 2015,

companies had broken the global record for corporate procurement by signing on to roughly 3 GW of wind and solar power purchase agreements (PPAs).<sup>10</sup> Furthermore, according to Bloomberg New Energy Finance (BNEF), corporate buyers now account for more than 40 percent of all publicly announced utility-scale wind and solar PPAs.<sup>11</sup>

This growing interest from influential corporate buyers generally drives demand for renewables and propels M&A activity. For example, this past year, Amazon Web Services, the cloud computing unit of Amazon.com, Inc., teamed up with Community Energy, Inc. to build an 80 MW solar farm in Accomack County, Virginia that will power the company's cloud data centers.<sup>12</sup> On November 16, 2015, Community Energy, Inc. sold the farm to Dominion Energy, a subsidiary of the large utility company, Dominion Resources, Inc.<sup>13</sup> Once complete, this solar facility will be the largest in Virginia and is expected to spur growth in the state's solar market. As Amazon and others progress toward their 100 percent renewable energy procurement goals, the industry could see M&A activity driven by corporate off takers.



## Solar deal count soars

Solar surpassed wind in terms of deal count in a big way in 2015. Solar accounted for 115 deals (nearly doubling deal count from 2014) compared to 48 wind transactions (a decrease of 11 percent from 2014) (see figure 1). In terms of capacity, wind transactions continued to outpace solar in 2015, although the gap significantly narrowed compared to 2014 (see figure 2). Despite the uncertainty over tax credit extensions, wind appeared to remain an attractive investment for buyers in 2015.

Solar had a landmark year in many respects, including M&A activity. Around 8.3 GW of solar capacity was bought in 2015, more than tripling from 2 GW in 2013, only two years prior. For the majority of 2015, commercial and utility-scale solar developers were planning for the ITC to drop down to 10 percent at the end of 2016. This anticipation contributed to an uptick in development and related investment ahead of the impending stepdown. As previously mentioned, the decline of the ITC was postponed when Congress passed a multi-year extension at the end of 2015.

Another notable trend was that of utilities and IPPs acquiring mid-sized solar developers specializing in distributed, commercial-scale projects. The US commercial solar market can be difficult to navigate. Varying regulatory policies across states, moderate appetite from the investment community, and, in some cases, less attractive project economics constrain commercial-scale growth. Due to these barriers, some large players are choosing to penetrate the market by acquiring mid-sized developers who typically bring financing partners and processes to the table.

This past year, AES Corporation acquired the Boulder, Colorado-based commercial-scale solar company, Main Street Power. The company will be known as AES Distributed Energy and will leverage Main Street's existing relationship with MS Solar Solutions, a solar financing arm of Morgan Stanley. Similar mergers in the solar subsector in 2015 included Coronal Management LLC's purchase of HelioSage and Duke Energy Corporation's acquisition of REC Solar.<sup>14</sup> Such deals point toward what may be a trend of consolidation in the subsector.



# Utilities regain position as lead buyer of renewable capacity

Utilities took back their position as lead capacity buyer from IPPs in 2015, more than doubling capacity acquired from 3.3 GW in 2014 to 7.6 GW (see figure 5). As a result, utilities accounted for 38 percent of total capacity acquired by all buyer types. Regulatory reform in states such as California, New York, and Hawaii, as well as the progression of the federal Environmental Protection Agency's (EPA) Clean Power Plan (CPP), encouraged many utilities to invest in renewables. Several states even decided to "up the ante," so to speak, of their renewable portfolio standards to incent utilities to continue to procure renewables.

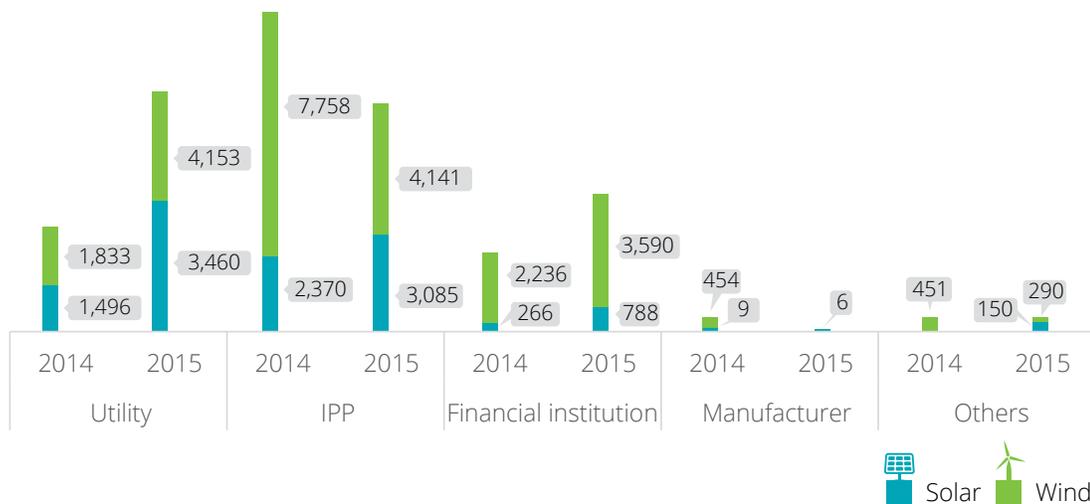
Vermont, for example, adjusted its goal of 20 percent renewables by 2017 to 75 percent by 2032.<sup>15</sup> These drivers, coupled with the aforementioned

competitiveness of solar and wind technologies and the opportunity to lock in long term energy costs and avoid exposure to fossil fuel price volatility, made a strong business case for renewable adoption by utilities in 2015.

IPPs also kicked off 2015 with a strong appetite for acquisitions, purchasing 4.5 GW of capacity in the first half of the year. However, when market valuations of YieldCos and their sponsor developers began to decline in mid-summer, sponsors sought opportunities to sell off assets they had originally intended to drop down into YieldCos. Utilities and financial institutions were the primary buyers of these assets, purchasing 1.4 GW and 1.2 GW, respectively, from YieldCo sponsors in the latter half of the year.

Financial institutions also revved up acquisitions in 2015 to 4.3 GW, up from 2.5 GW in 2014, for a 75 percent increase year over year. The capital protection provided by long-term, typically stable cash flows of wind and solar PPAs are often attractive to financial institutions seeking stable, lower risk investments. After having been crowded out of the market by IPPs and utilities, financial institutions seized the opportunity toward the end of the year to buy renewable assets shed by YieldCo sponsors and other IPPs.<sup>16</sup>

**Figure 5: Capacity acquired in 2014-2015 (by type of buyer)**



Source: SNL Energy, M&A League Tables.

## Outlook

Throughout 2015, analysts discussed the near-term outlook for the US renewables sector in the context of the expiration versus the extension of federal tax credits. Most companies in the sector rejoiced when in the last week of the 2015 Congressional session, an omnibus appropriations bill was passed that included a five-year extension of existing credits, including the ITC, PTC, and accelerated depreciation. The extension of these credits could shape both development pipelines and M&A activity over the next several years. For wind, an extension likely means that the subsector can move forward with more certainty than it operated under throughout 2015. BNEF projects that 44 GW of new wind capacity will be built by the end of 2021 and solar PV will likely enjoy a steady annual development rate of around 10 GW from 2017 through 2022.<sup>17</sup> BNEF also projects that for solar, a portion of the 15 GW of new solar PV capacity previously projected for 2016 will likely be pushed into 2017.<sup>18</sup> Assuming these growth estimates hold true, M&A activity could be driven by tax equity investors itching to take part in such unprecedented development and corporations eager to meet their renewable procurement goals.

Several non-tax equity drivers could impact the near-term outlook for M&A in the renewables sector as well. Over the next couple years, utilities will likely begin efforts to comply with the EPA's Clean Power Plan by acquiring renewable generation, in some instances through their unregulated subsidiaries. According to the EIA, wind generation is expected to be a large component of CPP compliance efforts.<sup>19</sup> Policies in certain states undergoing regulatory reform, such as California, New York, and Hawaii, incentivize investment in distributed generation, further driving the trend of utilities and IPPs acquiring commercial-scale solar developers.

Finally, the question that is on everybody's mind: will YieldCos be a blip on the sector's radar, or will the public markets realize that valuable assets underlie this emerging asset class, driving a rebound in YieldCo stock prices? The fate of YieldCos as a sustainable mechanism for lowering renewable developers' cost of capital is yet to be determined. However, their existence implies that assets will be shed or acquired by these entities in the near term, fostering M&A activity in the sector.

## Conclusion

If 2014 was the year renewables entered the mainstream, then 2015 proved that they are here to stay. Throughout 2015, the renewable sector demonstrated resilience to headwinds such as low wholesale electricity prices, tax credit uncertainty, and stock price volatility amongst YieldCos. With the extension of federal tax credits, developers' project pipelines will likely remain robust, buyers will likely continue to invest, and M&A activity is likely to remain strong.

This report is the second paper in a series looking at the top trends to watch in alternative energy. For more insights, visit [www.deloitte.com/us/aetrends](http://www.deloitte.com/us/aetrends)

## Endnotes

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