

# Renewable energy discount rate survey results - 2017

A Grant Thornton and Clean Energy Pipeline initiative

January 2018



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# About this report

Grant Thornton, in collaboration with Clean Energy Pipeline, is pleased to present the Grant Thornton renewable energy discount rate survey report.

The discount rate (a proxy of cost of capital) for secondary market renewable energy M&A deals is a vitally important piece of information for investors. It is a key driver in determining the fair value or market price for projects. However, this data is extremely hard to gather so investors often have to rely solely on their own experience and advice from valuation experts in evaluating the cost of capital.

In this spirit, Grant Thornton launched a survey to gauge investors' perception of cost of capital. We asked one simple question: What most closely matches the discount rate you would expect to see for the following secondary market deals? We asked this with respect to levered and unlevered secondary market ground mount solar, onshore wind, offshore wind and

hydro projects. We have also observed enterprise value per megawatt (EV/MW), a widely used metric across the industry. The survey was distributed across ten geographies which have strong renewable markets: Australia, Canada, France, Germany, Ireland, Italy, Nordics, Spain, the UK and the USA.

In total, over 100 investors responded to the survey, representing billions of pounds of capital under management. The results are shown in the following pages. Please note that cost of capital needs to be considered in the context of the various underlying assumptions such as power curves, inflation and project lives (amongst others), which will vary for all of the respondents.

## How to value renewable energy projects

Renewable energy represents a niche segment of the overall infrastructure asset class. These assets need to be approached slightly differently due to the varying risk return profile associated with long-term incentive schemes, financial leverage, construction/technology risks and input/output price volatility.

Typically, when valuing renewable energy projects, an income approach is utilised. Sometimes, valuers use the capital asset pricing model ('CAPM') in determining the appropriate cost of equity and in turn the weighted average cost of capital ('WACC'). Because some of the risks associated with equities

are not present in renewable energy assets, the CAPM model may not always be the most appropriate method to rely on when deriving the appropriate discount rate.

As the pricing for renewable assets is competitive and unique to the specific aspects of the asset, the implied cost of capital (or IRR) from comparable transactions can be a strong indicator for valuing projects. This data is not readily available so Grant Thornton has surveyed investors in trying to obtain the latest view on where cost of capital is across various technologies globally.

We hope you find this report insightful. If you have any questions or feedback, please contact:

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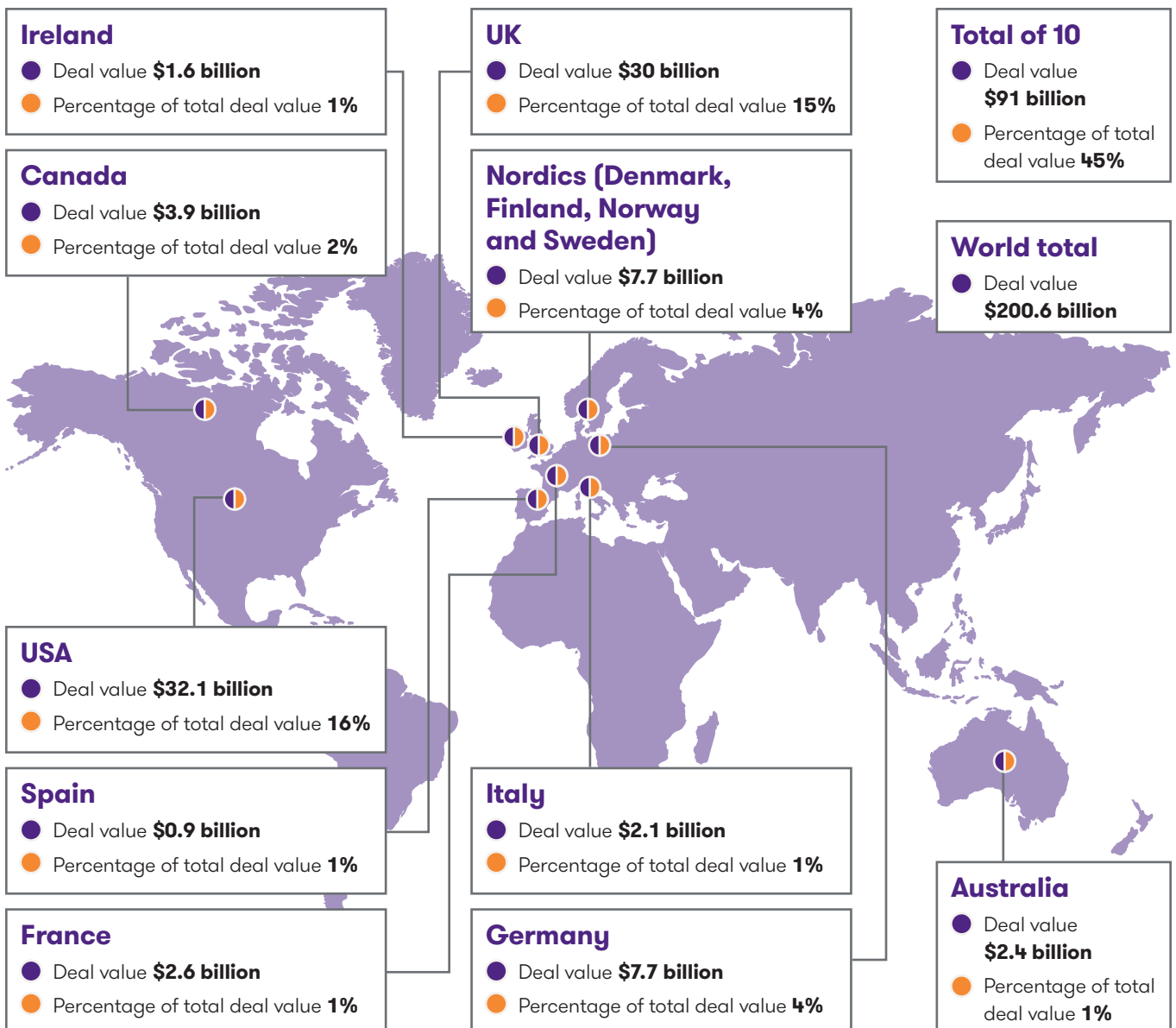


# Global renewable energy sector overview

Renewable energy is at the forefront in the fight against climate change. This has translated into rapid renewable energy commercialisation and industry expansion, therefore leading to an increase in the number of deals in the sector. Some \$201 billion has been invested in utility-scale renewable

energy projects alone in 2016<sup>1</sup>, with wind and solar leading the industry in terms of MW deployment and deal value. The market is expected to see high growth in investments over the coming decades as project costs continue to decrease and grid parity is achieved in more and more geographies.

## 2016 utility-scale project finance volume



<sup>1</sup>Clean Energy Market Review Q3.2017 – Clean Energy Pipeline (2017)



# Country profiles

## Australia

### Renewable energy regulatory landscape and incentives

- Australia has set its federal policy to meet its Renewable Energy Target (RET) for 33,000 GWh by 2020. Approximately 17,500 GWh of renewable energy was generated in 2016, rendering the target achievable<sup>2</sup>. In October 2017, the Australian Government announced intentions to develop a National Energy Guarantee, comprising a reliability guarantee and an emissions guarantee. As part of the National Energy Guarantee, the RET will not be extended beyond 2020.
- Federal support for large-scale projects is being delivered through the creation of large-scale generation certificates that are created based on the amount of eligible renewable electricity produced. They can be sold or traded to Renewable Energy Target liable entities (generally electricity retailers), which must source large-scale generation certificates to meet their renewable energy obligations.
- The Australian Government has also ratified the country's commitment to reduce carbon emissions by 26-28% below the 2005 levels by 2030 as part of the Paris Agreement on climate change in 2016<sup>3</sup>.
- While industry criticism has been levelled at Australia's federal government over the lack of perceived support for renewables over two successive administrations, state support for clean technology has remained robust over the years with many state governments implementing ambitious individual renewables targets as well as holding competitive auctions for green capacity.



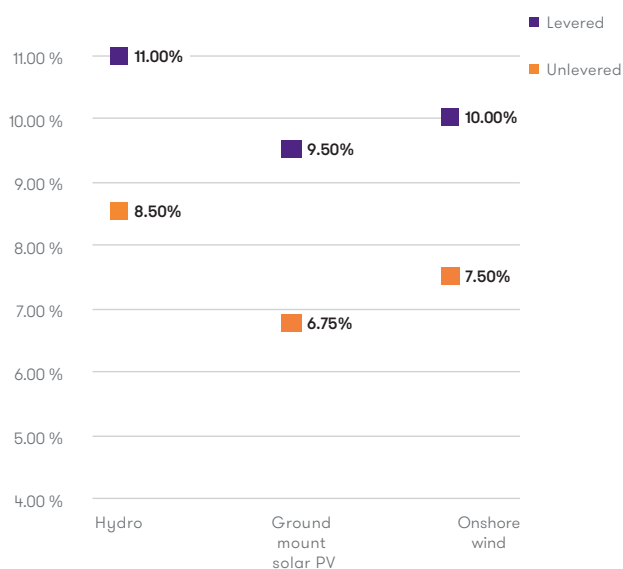
### Notable secondary M&A deals in the first nine months of 2017

Date	Target	Acquirer	Target country/ Acquirer country	Deal value
August 2017	150 MW Daydream and 50 MW Hayman Solar Plants	BlackRock	Australia/USA	Undisclosed
May 2017	125 MW Clare Solar Plant	Lighthouse Capital Partners and DIF BV	Australia/USA and Netherlands	Undisclosed
May 2017	530 MW Stockyard Hill Wind Farm	Goldwind Science & Technology Co. Ltd	Australia/China	A\$110 million (\$82 million)
May 2017	110 MW Darling Downs Solar Farm	APA Group	Australia/Australia	A\$220 million (\$164 million)
February 2017	107 MW Bald Hills Wind Farm	Infrastructure Capital Group	Australia/Australia	Undisclosed

### Discount rates

Please find beside the results of our survey for Australia.

It should be noted that, in addition to cost of capital, the key driver for returns is 'the proportion of contracted versus merchant revenue', according to the survey responses.



<sup>2</sup>Renewable Energy Target - Clean Energy Council (2017)

<sup>3</sup>The Australian Government's action on climate change - Australian Government (2017)

# Canada

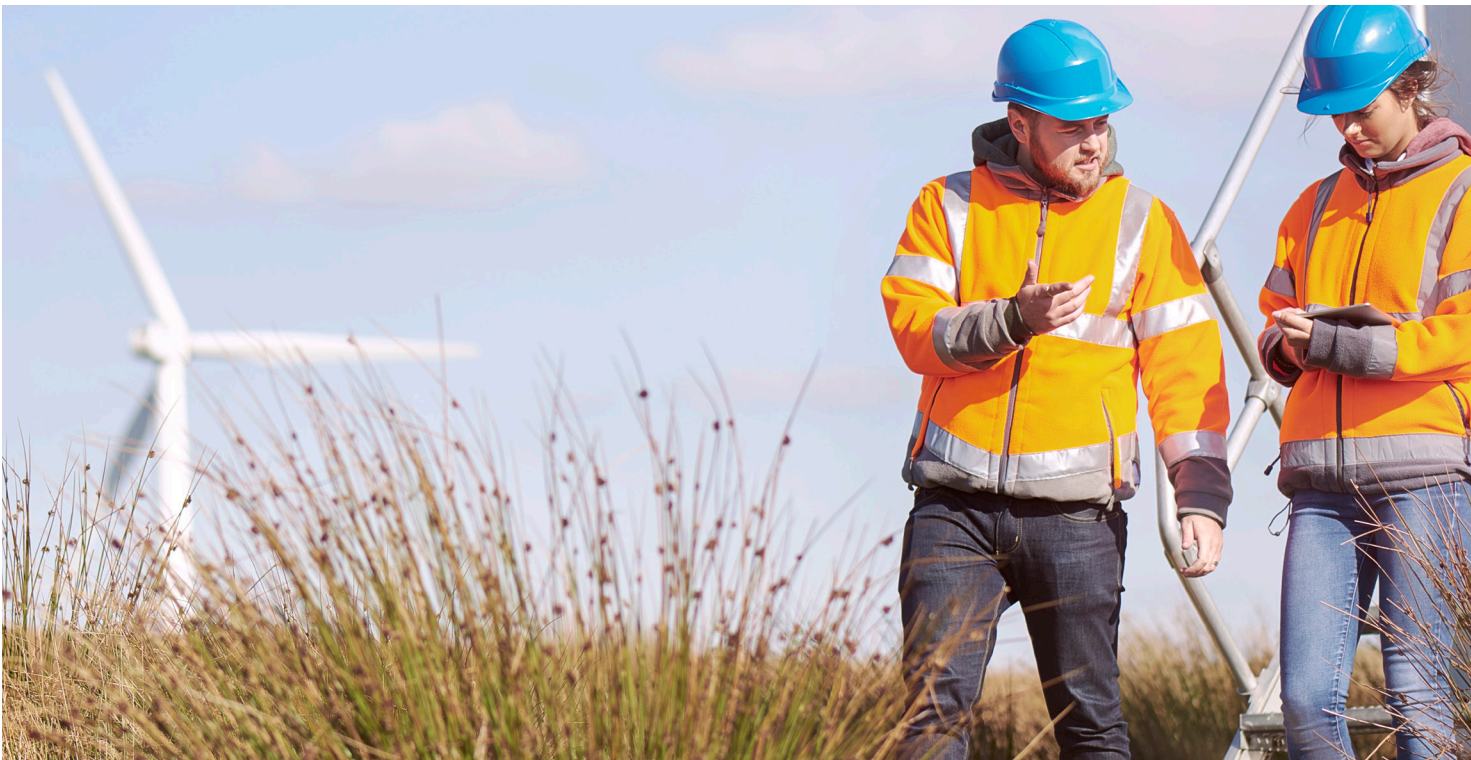
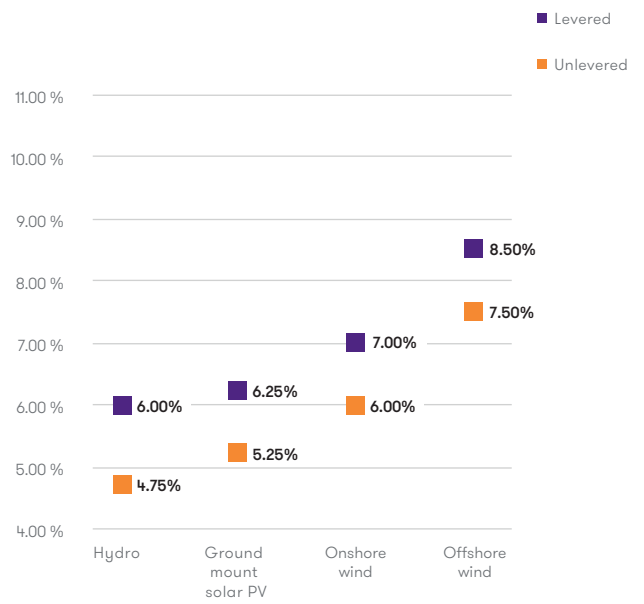
## Renewable energy regulatory landscape and incentives

- **Regulatory Targets or Renewable Portfolio Standards (RPS)**, being adopted in Canada mandate that a certain portion of electricity should be generated from renewables by a certain date. Revenue support and cost reduction policies in Canada aim to incentivise the investment in renewable energy.
- **Power Purchase Agreements (PPAs)** underpin the construction of most renewable projects in Canada. Contracts can be awarded to investors through different mechanisms which vary in terms of objectives, level of support and overall design, below are the four main mechanisms adopted by many Canadian jurisdictions:
  - **Requests for Proposals (RFPs)** specifically for renewables power projects with specified capacity targets. RFPs often favour major developers in the market who can meet stringent requirements.
  - **Feed-In Tariffs (FITs)** offer standardized long-term contracts and administratively set payments, often specific to a particular technology. Standard terms make it easier for small projects and new players in the market to qualify.
  - **Standing Offer Programs (SOPs)** allow investors to apply at any time the program is in effect and provide guaranteed payments, however in contrast to FITs, these are typically the same for all renewable energy technologies.
  - **Contracts for differences** contracts in which the sellers and buyers agree to a fixed price, but the producer sells electricity in an open market and receives whatever price the market is offering. Subsequently, payment is made by either party to the contract to compensate for differences between the fixed price and the market price.
- The government is supporting other mechanisms to support the growth of renewables from tradeable Renewable Energy Credits (RECs), to cost reduction policies. These include tax breaks and government loan guarantees aiming to reduce lender risk and lower project finance costs.
- This regulatory landscape has helped Canada rank fourth in the world in renewable power generation and second in the world in hydroelectric generation, which is the dominant source of electricity in the country, and accounts for nearly 60% of installed capacity and generation.
- Despite impressive growth in wind and solar capacity in the last decade, non-hydro renewables account for only 7% of total generation capacity in Canada. Also, new capacity additions in Canada have been limited as a result of low growth in electricity demand and the long operating life of existing facilities. Cost concerns and local opposition have also limited growth opportunities.



### Discount rate results

Please find beside the results of our survey for Canada.



## France

### Renewable energy regulatory landscape and incentives

- The French clean energy sector has largely been characterised by its drive to hit its 23% EU renewables directive by 2020<sup>4</sup>.
- Given the fact that France has historically leaned towards nuclear power, the French government has set aside billions of euros with the backing of public support to boost its renewables capacity by the end of the decade. The French government may grant state aid to help companies finance their research and development programs and to support their industrial and commercial developments.
- In terms of incentives for renewables, France is switching from the current 20-year (15-year for onshore wind) feed-in-tariff scheme to a market premium system through competitive bidding processes.
- The solar sector is expected to be the biggest beneficiary, with capacity estimated to hit 10.2 GW in 2018 and between 18 GW and 20 GW by 2023<sup>5</sup>. Three tenders for solar PV have been launched since 2014, bringing in over €1 billion of investments.
- In May 2017, the French Government confirmed a tendering system for up to 3GW of onshore wind over the next three years. Six bidding rounds of 500MW capacity each will start from December 2017, and then every six months until June 2020<sup>6</sup>.
- The tendering system is also being used to realise its target of 3 GW of free-standing offshore wind energy by 2023<sup>7</sup>.
- Two completed tenders in 2012 and 2013 resulted in the award of six offshore wind farm projects with an aggregate capacity of 2.9 GW located across six sites along the Atlantic coastline to three consortia.
- At the time of this report publication, a third tender is being implemented for up to 750 MW of offshore wind capacity off the coast of Dunkirk in northern France and another project of up to 500 MW off the coast of Oleron island, near La Rochelle.

### Notable secondary M&A deals in the first nine months of 2017

Date	Target	Acquirer	Target country/ Acquirer country	Deal value
July 2017	DIF II renewables portfolio	APG Asset Management NV	France and five other European countries/ Netherlands	€125 million (\$143 million)
May 2017	Futeren portfolio	EDF Energies Nouvelles SA	France/France	Undisclosed
May 2017	24 MW Groix offshore wind farm	Meridiam and CDC Group	France/France and UK	€200 million (\$219 million)
May 2017	Rougemont-1, Rougemont-2, & Vaite wind farms (120 MW)	Innergex Renewable Energy Inc. and Desjardins	France/Canada	€51.4 million (\$52.1 million)
March 2017	Haut-Dourdou & Croix de Bor wind farms (84MW)	EDF Energies Nouvelles SA, Arkolia Energies	France/France	Undisclosed

<sup>4</sup> State aid: Commission endorses three French initiatives to produce more than 2600 megawatts in renewable energy – European Commission (2017)

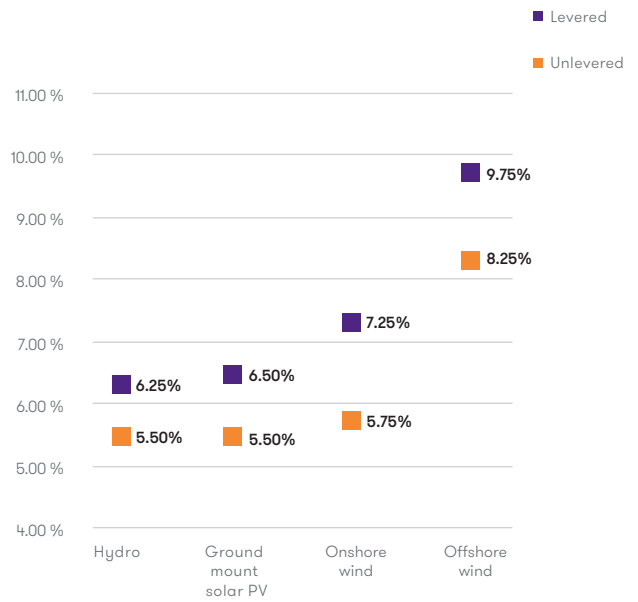
<sup>5</sup> France to install 20 GW by 2023 – Solar Power Europe (2016)

<sup>6</sup> France launches 3GW onshore tender – Windpower Monthly (2017)

<sup>7</sup> France Pre-Selects 10 Dunkerque Offshore Wind Bidders – Offshore Wind (2017)

### Discount rate results

Please find beside the results of our survey for France.

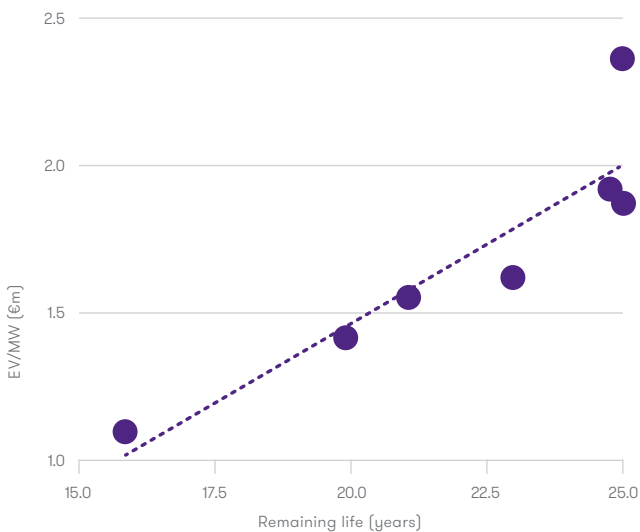


### EV/MW analysis

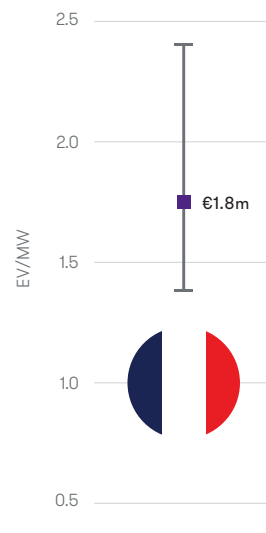
We analysed 14 transactions across France since 2015 illustrating how value changes depending on how old the project is and which regulatory regime it relies on. As set out below, EV/MW is c. €2.0m/MW for newly constructed

onshore wind projects, falling to €1.0m/MW for projects with 15 years of project life remaining. Ground mount solar PV assets have been trading at an average of €1.8m/MW for projects with 20-25 years of project life remaining.

#### EV/MW versus Remaining Life of Onshore Wind Targets in France



#### EV/MW of Ground-mounted Solar PV Transactions in France since 2015 (Remaining life: 20-25 years)



## Germany

### Renewable energy regulatory landscape and incentives

- In 2016, Germany reformed its Renewable Energy Act (EEG), introducing a new system of auctions for renewable energy project development to monitor new renewables capacity being added each year. The new competitive tender model replaces a highly successful feed-in-tariff scheme that has contributed significantly to Germany's renewable energy sector build-out since 1990. To receive the market premium, which is still paid for 20 years, project developers must bid and compete in technology-specific auctions for certain tender volumes.
- Fierce competition for limited market premiums has meant the overall federal support level is likely to decrease, in turn increasing the risk-return profile for investors and developers alike. However, the secondary market for existing projects benefiting from legacy feed-in tariff schemes may gain from the uncertainties caused by the tendering scheme.

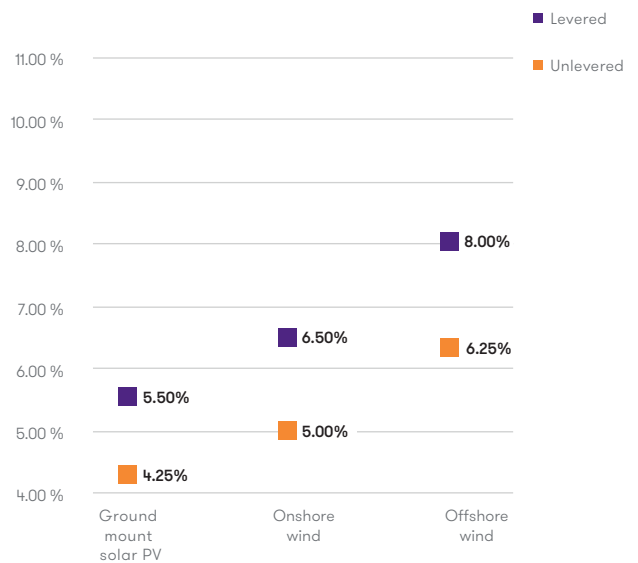
### Notable secondary M&A deals in the first nine months of 2017

Date	Target	Acquirer	Target country/ Acquirer country	Deal value
August 2017	450 MW Borkum Riffgrund 2 offshore wind farm	Global Infrastructure Partners	Germany/USA	Undisclosed
June 2017	48 MW Gagelwind onshore wind farm	GLS Bank	Germany/ Germany	Undisclosed
June 2017	35.4 MW Lettweiler Höhe onshore wind farm	CEZ Group	Germany/ Czech Republic	Undisclosed
March 2017	252 MW Deutsche Bucht offshore wind farm	Northland Power Inc.	Germany/ Canada	C\$400 million (\$305 million)
January 2017	584 MW Atlantis 1 offshore wind farm	Vattenfall	Germany/Sweden	Undisclosed



### Discount rate results

- Please find beside the results of our survey for Germany.

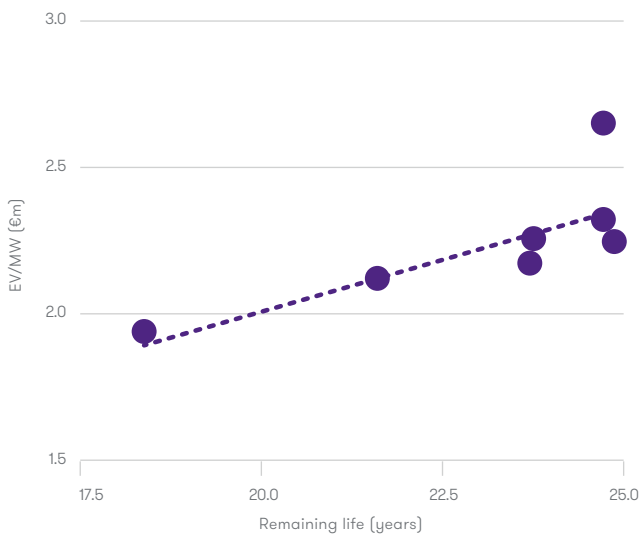


### EV/MW analysis

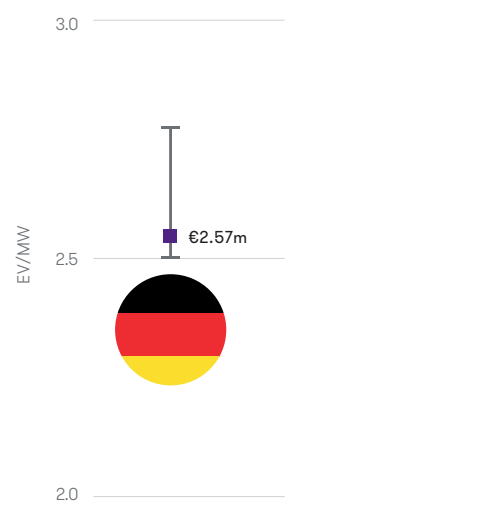
We analysed 10 transactions across Germany since 2015 illustrating how value changes depending on how old the project is and which regulatory regime it relies on. As set out below, the average EV/MW is c. €2.2m/MW for newly constructed onshore wind projects in Germany, falling

to €1.9m/MW for projects with less than 20 years but more than 15 years of project life remaining. Ground mount solar PV assets have been trading at an average of €2.6m/MW for projects with 20-25 years of project life remaining.

#### EV/MW versus Remaining Life of Onshore Wind Targets in Germany



#### EV/MW of Ground-mounted Solar PV Transactions in Germany since 2015 (Remaining life: 20-25 years)



## Ireland

### Renewable energy regulatory landscape and incentives

- The next two years is set to be a defining year for Ireland's energy sector, given the fact the country is only half way towards reaching its binding target of generating 16% of energy from renewable sources by 2020 – only 22.7% of the 40% renewables target has been achieved thus far. Ireland will be liable for a fine between €65 million and €120 million from the EU for every 1% below the target<sup>8</sup>.
- It therefore comes as no surprise that the Irish government's Renewable Energy Support Scheme (RESS) is now being designed to facilitate wider public and citizen participation in the development of utility-scale projects.
- Given Ireland's abundant wind resources, renewables project finance and M&A activity has mainly focused on onshore wind projects. Only three disclosed onshore wind M&A deals have taken place in Ireland in the first three quarters of 2017.



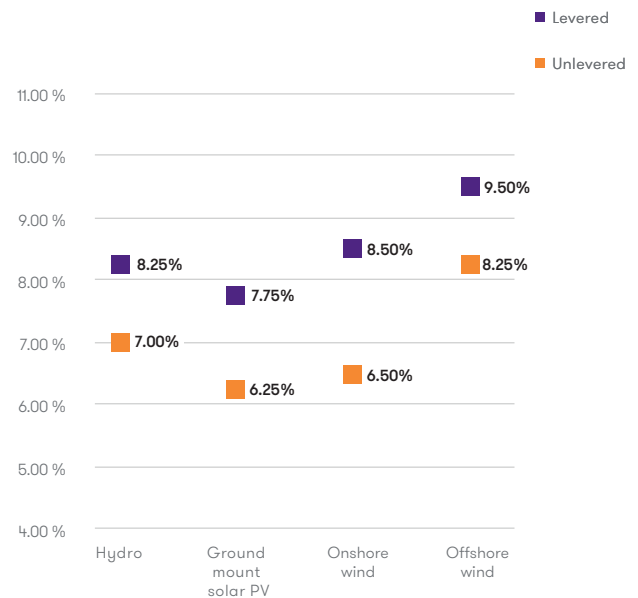
### Notable secondary M&A deals in the first nine months of 2017

Date	Target	Acquirer	Target country/ Acquirer country	Deal value
August 2017	223 MW Irish onshore wind portfolio	Japanese consortium	Ireland/Japan	Undisclosed
March 2017	100 MW Knockacummer wind farm and 37MW Kill Hill wind farm	Greencoat UK Wind	Ireland/UK	Undisclosed
March 2017	25 MW Castlecraig wind farm	NTR Plc	Ireland	€59 million (\$63 million)

### Discount rate results

Please find beside the results of our survey for Ireland.

Survey respondents also note that the Irish renewable energy secondary market is currently dominated by onshore wind, with the other three technologies accounting for a minimal share. Hence, the data presented in the chart represents the views of investors on cost of capital should the projects change hands.



<sup>8</sup>Ireland's race against time to avoid €360m EU renewables fine -Independent.ie (2017)

# Italy

## Renewable energy regulatory landscape and incentives

- Renewables account for 39% of Italy's 284 TWh of electricity generation in 2016, enabling the country to reach in advance its EU objective of at least 20% final energy consumption from renewable sources by 2020<sup>2</sup>.
- By 2005 Italy had introduced an incentives schemes for solar power. By 2011, Italy boasted one of the world's largest solar power sectors which was promoted through a combination of premium tariffs, feed-in tariffs and tender schemes. However, subsequent cuts to the country's renewables subsidy scheme almost ended its greenfield market.
- Italy's renewables market, particularly for solar, now stands highly fragmented as many investors seek to consolidate their holdings in the country through project acquisitions. In fact, notable deals in Italy in the past three years involved significant portfolio consolidation. The consolidation process is still on-going but it is becoming more difficult for investors to find notable portfolios.



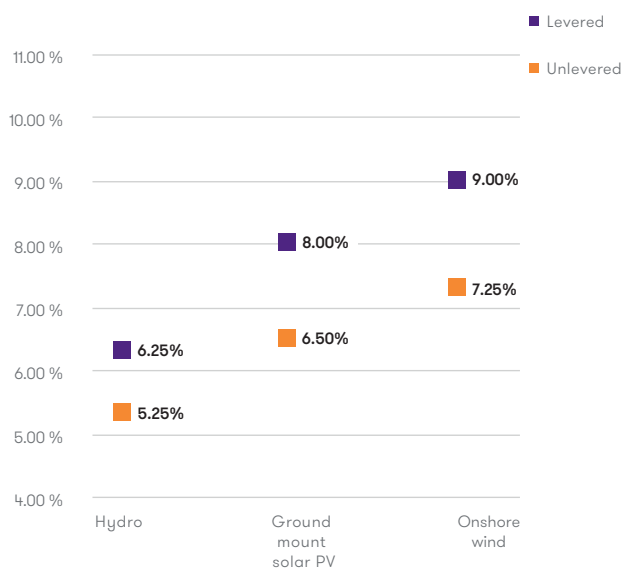


### Notable secondary M&A deals in the first nine months of 2017

Date	Target	Acquirer	Target country/ Acquirer country	Deal value
June 2017	30MW Matera 2 onshore wind farm	Macquarie	Italy/Australia	Undisclosed
June 2017	Seven wind farms in Sicily and Calabria (282MW)	F2i Fondi Italiani per le Infrastrutture	Italy/Italy	Undisclosed
April 2017	106 MW solar portfolio in Apulia, Lazio and Sicily	Cubico Sustainable Investments	Italy/UK	Undisclosed
March 2017	22 MW Grape solar portfolio	Sonnedix Management Services	Italy/Netherlands	Undisclosed
February 2017	40 MW wind and solar portfolio in Puglia, Piedmont and Sardinia	EOS Investment Management	Italy/UK	€140 million (\$151 million)

### Discount rate results

Please find beside the results of our survey for Italy.



## Nordics

### Renewable energy regulatory landscape and incentives

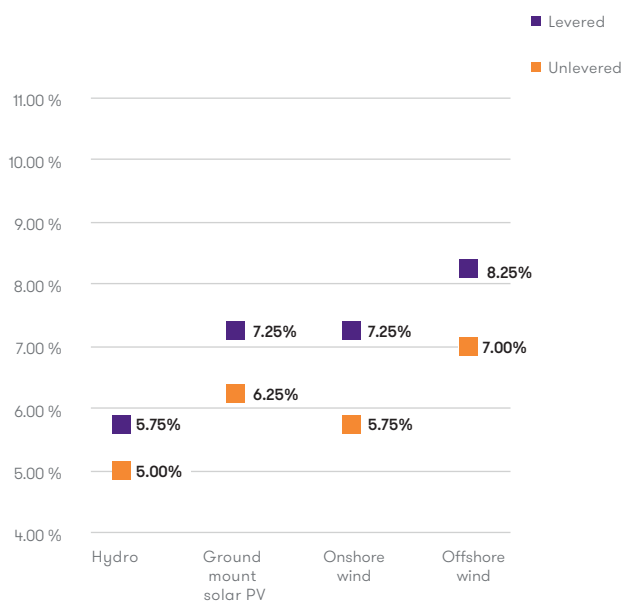
- The Nordics – defined as Denmark, Finland, Norway and Sweden – is at the frontier for renewable energy generation, having built up a reputation over recent years for harbouring market conditions favourable for new project development. As such, some 75% of the total primary energy supply in the Nordic region now comes from renewable sources, including hydro power. The share is expected to rise to nearly 80% by 2040, with hydro remaining the dominant source of energy<sup>10</sup>. In promoting the development of new renewable energy production, each country has differing approaches to greening their policies.
- Norway, where 99% of electricity production is from hydro power, promotes renewable energy through a quota system including a certificate trading scheme. Each megawatt-hour produced from approved sources receives a tradeable certificate. Utilities are obliged to buy permits every year to match sales of electricity.
- Similar to Norway, Sweden promotes renewable energy through the quota system which is based on a certificate trading system. Tax exemptions and subsidy schemes have also played a significant role in driving investors towards the renewables sector, especially onshore wind.
- In Denmark, electricity generation from renewable sources is primarily promoted through a premium tariff and net-metering. The premium tariff for offshore wind farms is awarded through tenders while renewable energy is given priority over conventional sources when brought to the grid.
- Compared with other countries in the region, Finland has witnessed significant policy changes for the past few years. In November 2016, the Finnish Government announced the National Energy and Climate Strategy for 2030, which aims to scrap the current premium tariff system for onshore wind in favour of a tendering system. The Strategy has also set a target of 50% renewable energy consumption by 2030 while the use of coal will be phased out<sup>11</sup>.

### Notable secondary M&A deals in the first nine months of 2017

Date	Target	Acquirer	Target country/ Acquirer country	Deal value
August 2017	650 MW Markbygden 1 wind complex	General Electric Company and Macquarie	Sweden/USA and Australia	Undisclosed
July 2017	23 MW Haapajarvi II wind farm	ABO Wind	Finland/Germany	€60 million (\$70 million)
June 2017	100 MW Svartnäs wind farm	BlackRock	Sweden/USA	Undisclosed
May 2017	263 MW wind portfolio in Southern Norway	Luxcara	Norway/Germany	Undisclosed
May 2017	79 MW Jenåsen wind farm	Munich Re	Sweden/Germany	€106 million (\$121 million)

### Discount rate results

Please find beside the results of our survey for the Nordics.



<sup>10</sup>Beyond the Tipping Point – Bloomberg (2017)

<sup>11</sup>Strategy outlines energy and climate actions to 2030 and beyond – Ministry of Economic Affairs and Employment of Finland (2017)

# Spain

## Renewable energy regulatory landscape and incentives

- Spain's renewable energy market has seen very modest growth for years following retroactive cuts made to its subsidy regime through Royal Decree-Act 1/2012.
- However, long-awaited competitive auctions in 2017 have since sparked a renaissance of interest in the market with developers and investors flocking to take a share of Spain's future renewables capacity, though problems still persist.
- The results of the first auction in May 2017 was criticised after the Ministry of Energy, Tourism and the Digital Agenda awarded wind developers the entirety of the 3 GW tendered capacity; split between only four bidders<sup>12</sup>.
- In its most recent auction in July, however, over 3.9 GW of new solar PV and approx. 1.1 GW of onshore wind were allocated, well above the 3 GW capacity initially up for grabs. A total of 40 companies secured the capacity after putting forward bids at the 'maximum discount', which the Spanish government said would mean the new capacity would be secured 'at no cost to the electric consumers'<sup>13</sup>.
- In both auctions, strong interest from local and international investors meant Spain was forced to allocate capacity beyond the 3 GW of renewable energy originally on offer.
- All-in-all, Spain has now awarded a total of 8 GW of renewable energy capacity, which comprises 3.9 GW for solar PV, 4.1 GW for wind power and 20 MW for other technologies.



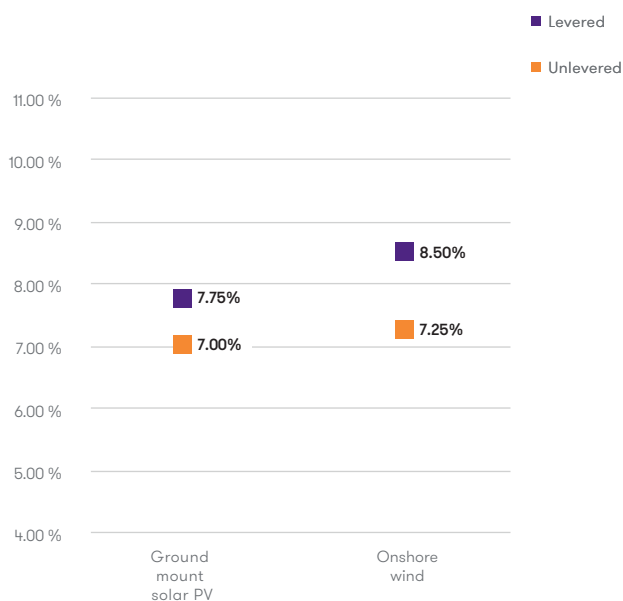


### Notable secondary M&A deals in the first nine months of 2017

Date	Target	Acquirer	Target country/ Acquirer country	Deal value
August 2017	22 MW Extremadura and Castilla-la-Mancha solar portfolio	Sonnedix Management Services	Spain/Netherlands	Undisclosed
July 2017	11 MW Badajoz solar plant	Solaria Corp.	Spain/Spain	€62 million (\$72 million)
July 2017	100 MW Andasol 1-2 solar portfolio	Cubico Sustainable Investments	Spain/UK	Undisclosed
January 2017	Sierra de Aguas & Sierra de Baños wind farms (28MW)	Rive Private Investment and JB Capital Markets	Spain/Switzerland and Spain	Undisclosed
January 2017	136 MW Vela solar portfolio	Sonnedix Management Services	Spain/Netherlands	Undisclosed

### Discount rate results

Please find beside the results of our survey for Spain.



<sup>12</sup> Spain awards 3 GW in competitive renewables auction – Clean Energy Pipeline (2017)

<sup>13</sup> Analysis: Fierce competition drives Spanish renewables auction – Clean Energy Pipeline (2017)

## UK

### Renewable energy regulatory landscape and incentives

- The Renewables Obligation (RO) was introduced by the UK government in 2002 to encourage the uptake of renewable technologies as it encouraged licensed electricity suppliers to source a specific and annually increasing percentage of their electricity from renewable sources.
- Under the Energy Act 2013, the RO was phased out between 2014 and 2017 and replaced with Contracts for Difference (CfDs). Under this new support system for large-scale renewable energy, renewable generators will be guaranteed an agreed 'strike price' for the energy they produce. Each technology will have its own strike price. Technologies such as onshore wind and solar PV were both excluded from the most recent second round auction, and are highly unlikely to feature in any future rounds.
- In October 2017, the UK Government released its much anticipated Clean Growth Strategy which sets out how £2.5 billion will be spent on low carbon innovation from 2015 to 2021<sup>14</sup>. The Clean Growth Strategy continues to support the offshore wind sector and the CfD mechanism. The next CfD allocation round, not due to take place until 2019 will also allow onshore wind projects to be built on Scottish Islands to compete.
- The UK government gave no indication that solar technology would benefit from its financial auspices as it has started to see investment into solar without any subsidy backing.

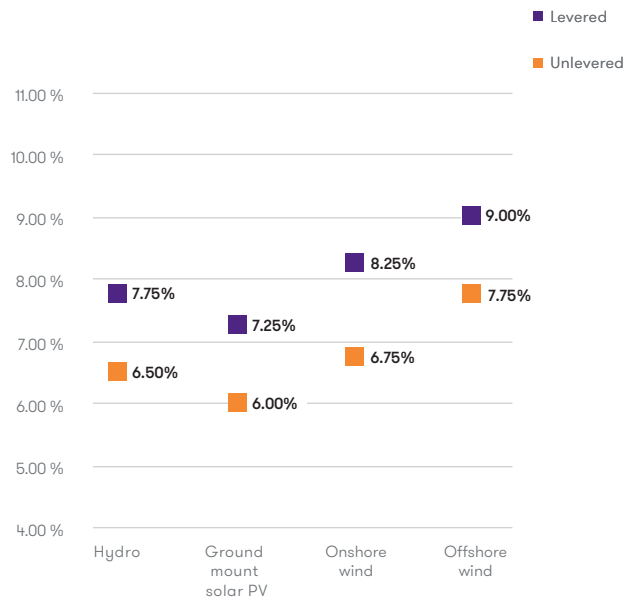
### Notable secondary M&A deals in the first nine months of 2017

Date	Target	Acquirer	Target country/ Acquirer country	Deal value
August 2017	69MW Corriegarth onshore wind farm	Greencoat UK Wind	UK/UK	£181 million (\$233 million)
July 2017	90MW wind portfolio in Scotland, England and Wales	World Wind & Solar, Muirhall Energy	UK/UK	Undisclosed
May 2017	365 MW Terra Form UK solar portfolio	Tenaga Nasional Bhd, EFG Hermes	UK/Malaysia and Egypt	£470 million (\$495 million)
January 2017	270 MW Lincs offshore wind farm	UK Green Investment Bank (now Green Investment Group)	UK/UK	£731 million (\$894 million)
January 2017	100 MW Baywa UK solar portfolio	Allianz Global Investors	UK/Germany	€350 million (\$377 million)

<sup>14</sup> UK's Clean Growth Strategy finally published – Clean Energy Pipeline (2017)

### Discount rate results

Please find beside the results of our survey for the UK.

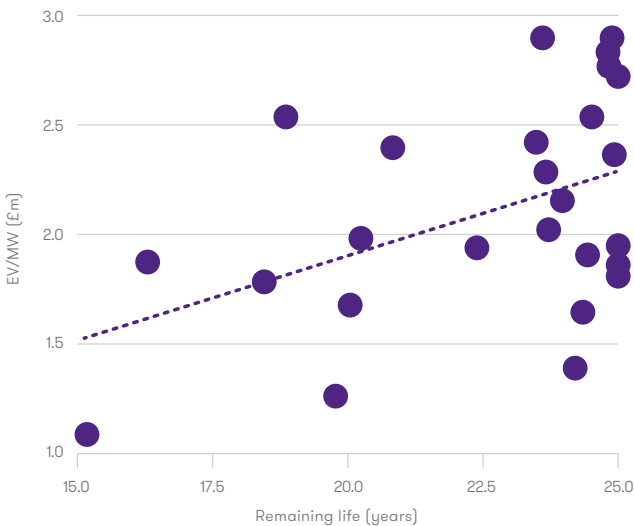


### EV/MW analysis

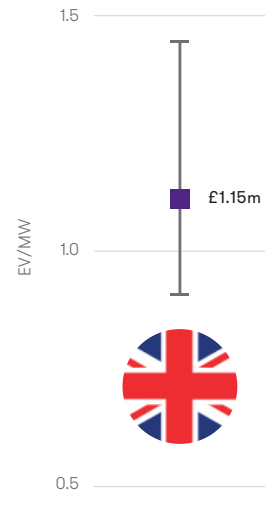
Together with Clean Energy Pipeline, we also analysed 64 transactions across the UK since 2015 illustrating how value changes depending on how old the project is and which regulatory regime it relies on. As set out below, the average EV/MW is c. £2.5m/MW for newly constructed onshore wind

projects in the UK, falling to c. £1.5m/MW for projects with 15 years of project life remaining. Ground mount solar PV has been trading at an average of £1.15m/MW for projects with 20-25 years of project life remaining.

#### EV/MW versus Remaining Life of Onshore Wind Targets in the UK



#### EV/MW of Ground-mounted Solar PV Transactions in the UK since 2015 (Remaining life: 20-25 years)



# USA

## Renewable energy regulatory landscape and incentives

- The US remains the second largest clean energy country market for renewables thanks to strong demand for new solar PV and onshore wind capacity<sup>15</sup>. The combined effect of the federal tax credits, state-level policy incentives and corporate backing has provided investors certainty for clean energy, at least up until the end of the decade.
- Despite the Trump administration appearing to be unfriendly towards clean energy, the US still has a positive investment landscape.
- The main policy-driven incentives at the federal level are the Production Tax Credits (PTC) for onshore wind and the Investment Tax Credits (ITC) for solar PV, covering the equivalent of 30% of the project costs.
- The PTC will phase out and end in 2020, while the ITC for solar will drop gradually from the current 30% level through 2021 and remain at 10% permanently from 2022<sup>16</sup>.
- However, as capital costs for onshore wind and solar PV have fallen significantly over the past five years, even faster than the scheduled reductions in credit values, solar PV and onshore wind installations are forecasted to maintain their growth pace even with reduced tax credit backing.
- At the state level, there remains strong support for renewable energy. In 2016 and the first half of 2017, as many as 31 US states have passed new financial/regulatory incentives and renewables portfolio standards to support higher renewable energy penetration<sup>17</sup>.
- US companies are also playing an increasingly important role in driving renewables generation by increasing renewable energy use in their operations. To date, some 240 Fortune 500 companies have announced respective clean energy corporate initiatives, and many are transitioning to 100% renewable energy use to green their worldwide operations<sup>18</sup>.

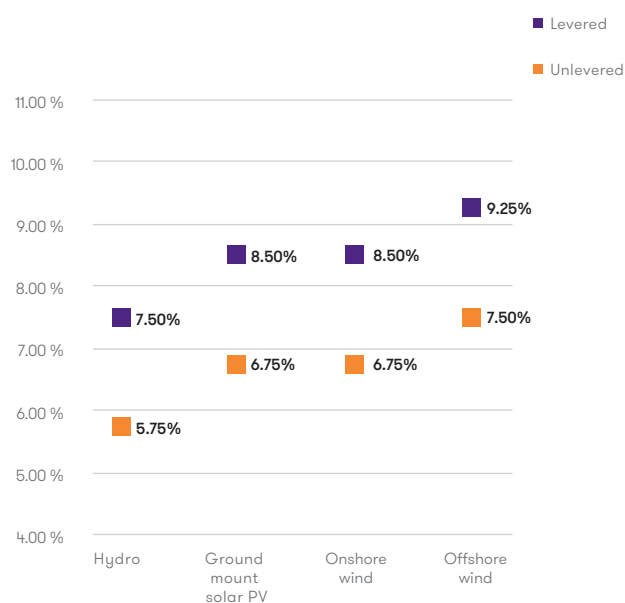


### Notable secondary M&A deals in the first nine months of 2017

Date	Target	Acquirer	Target country/ Acquirer country	Deal value
August 2017	300 MW Red Dirt wind farm	Allianz & MUFG	USA/Germany and Japan	\$340 million
July 2017	200 MW Flat Top wind farm	Citigroup & Berkshire Hathaway Energy	USA/USA	\$221 million
July 2017	EDP Renováveis' 297MW wind portfolio	Bank of New York Mellon	USA/USA	\$370 million
March 2017	250 MW Moapa Southern Paiute solar project	Capital Dynamics	USA/Switzerland	Undisclosed
March 2017	1,296MW ExGen renewables portfolio	John Hancock Life Insurance Company	USA/USA	\$400 million

### Discount rate results

Please find beside the results of our survey for the USA.



<sup>15</sup> Clean Energy Market Review Q3.2017 – Clean Energy Pipeline (2017)

<sup>16</sup> Production Tax Credit – 5 things To know about the extension of the ITC/PTC – Windpower Engineering & Development (2016)

<sup>17</sup> Power Forward 3.0 – Clapper, Lyngsbj & Vlugt (2017)

<sup>18</sup> Trump's 'no friend' of clean energy. Here are 3 reasons to invest anyway – CNBC (2017)



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**Should you wish to share any comments or ideas for questions you would like included in subsequent surveys, please contact Tomas Freyman, Valuations Partner at Grant Thornton UK LLP at [tomas.freyman@uk.gt.com](mailto:tomas.freyman@uk.gt.com) or on +44 (0) 20 7184 4336 or any of our country sector leads below:**

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