Lincoln Clean Energy
Cost of Capital Survey Results
Summer 2016

A Lincoln International and
Clean Energy Pipeline initiative

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Lincoln International, in collaboration with Clean Energy Pipeline, is pleased to present the first Lincoln Clean Energy Cost of Capital Survey Report.

The cost of capital for secondary market renewable energy M&A deals is a vitally important piece of information for investors across Europe. 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, Lincoln International launched a survey to gauge investors' perception of the cost of capital. We asked one simple question: What most closely matches the cost of capital 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 biomass deals. The survey was distributed across five major geographies: the UK, Germany, France, the Nordics and The Republic of Ireland. Where relevant, it's important to note that the results were based on Pöyry Central, P50 forecasts and inflation of 2%.

25 parties responded to the survey, representing billions of pounds of capital under management. The results are shown in the following pages.

"High quality renewable brownfield portfolios that are well structured continue to be in strong demand given their solid base cash yield and return and upside potential from a maturing O&M service market and a wider range of debt finance options."

Joost Bergsma, CEO and Managing Partner at Glennmont Partners.

How to value renewable energy projects

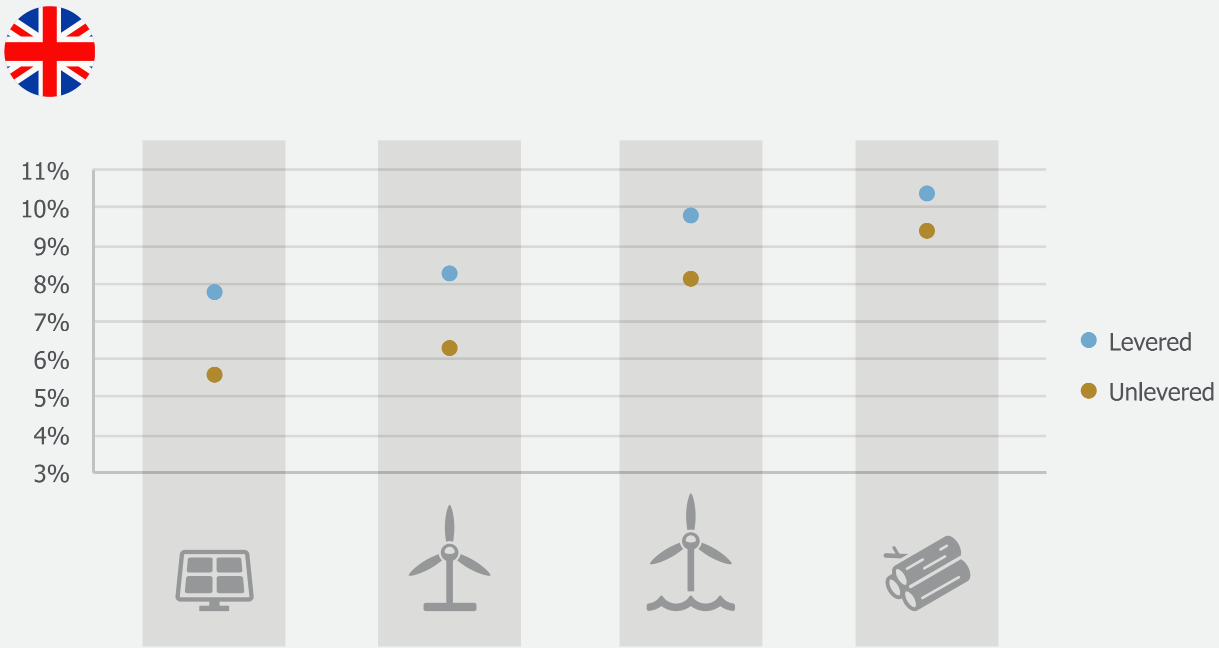
Renewable energy represents a niche segment of the overall infrastructure asset class. These assets need to be approached slightly differently due to the varying risk return profile associated with long-term incentive schemes, financial leverage, construction / technology risks and input / output price 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 is likely not 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 is a better indicator for valuing projects. This data is not readily available so Lincoln International has surveyed various funds in trying to obtain the latest view on where cost of capital is across various European markets.

UK

On average, survey respondents stated that the unlevered cost of capital for ground mount solar PV secondary market deals is 5.6%. The average levered cost of capital for these assets based on survey responses is 7.8%. The average unlevered cost of capital for onshore and offshore wind farms is 6.3% and 8.1% respectively. This rises to 8.3% and 9.8% for levered onshore and offshore wind assets according to the survey data. Finally, the average unlevered and levered cost of capital for biomass secondary market deals is 9.4% and 10.4% respectively.



The most notable secondary market M&A deal in the UK in 2Q16 was Cubico Sustainable Investments' acquisition of a 65 MW portfolio of ten operating solar projects from British Solar Renewables. Most of the assets are located in south-west England although the portfolio also includes Scotland's largest solar park in County Angus. Cubico is jointly owned by two Canadian pension funds, The Public Sector Pension Investment Board and the Ontario Teachers' Pension Plan, following Santander's exit from the company in July 2016.

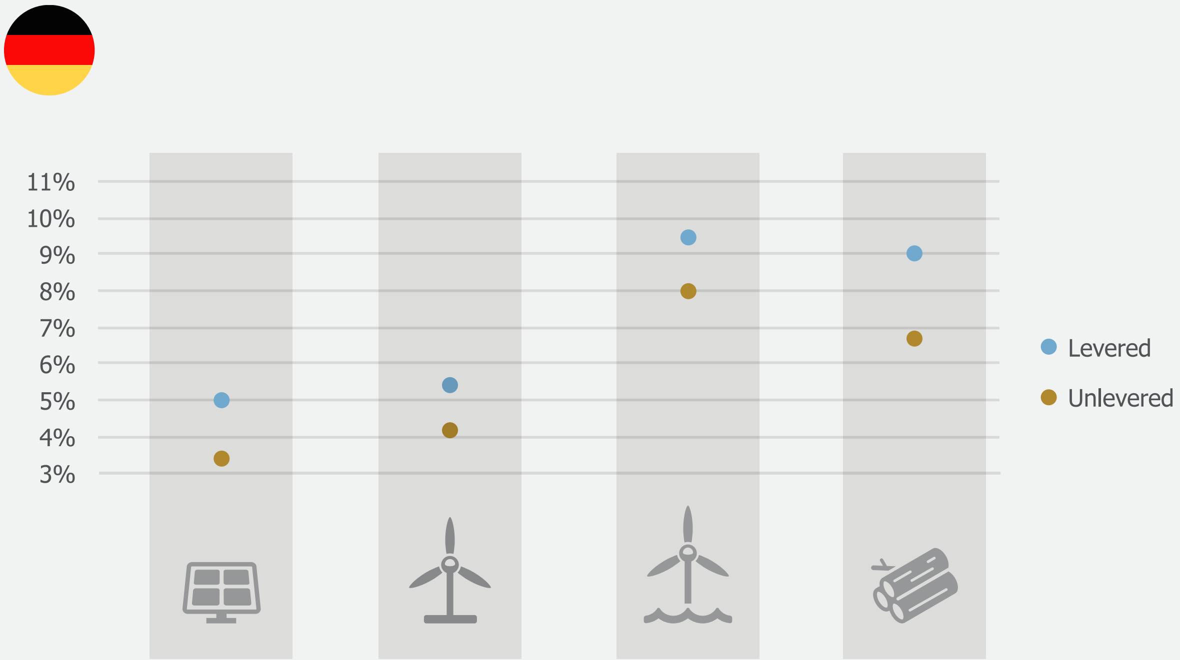
Other notable deals last quarter included NextEnergy Solar Fund's acquisition of an 84.2 MW portfolio of five operating solar farms for £97.9 million ($139 million) and John Laing's acquisition of the 26 MW Dungavel onshore wind farm.

Notable secondary market deals in the UK (2Q16)

Target	Deal value	Acquirer	Date
65 MW portfolio of ten UK solar projects	Undisclosed	Cubico Sustainable Investments	June 2016
84 MW portfolio of five solar projects	£97.9m ($139m)	NextEnergy Solar Fund	April 2016
26 MW Dungavel onshore wind farm	£38.2m ($56m)	John Laing Environmental Assets Group	June 2016

Germany

According to the survey data, the average cost of capital for secondary market unlevered ground mount solar PV deals in Germany is 3.4%, rising to 5% for levered assets. The average unlevered cost of capital for onshore and offshore wind farms is 4.1% and 8% respectively. This rises to 5.4% and 9.5% for levered onshore and offshore wind assets. Based on the survey data the average unlevered cost of capital for biomass plants in Germany is 6.7%, rising to 9% for levered assets.



One of the most notable secondary market M&A deals in the German renewables sector was the acquisition of Chorus Clean Energy by Capital Stage for Eur296 million ($328 million) in May 2016. Under the terms of the agreement Capital Stage acquired 75 operating onshore wind and solar PV projects with a generation capacity of 325 MW. Following the transaction the combined entity has a total generation capacity of 900 MW and a market capitalisation of Eur824 million.

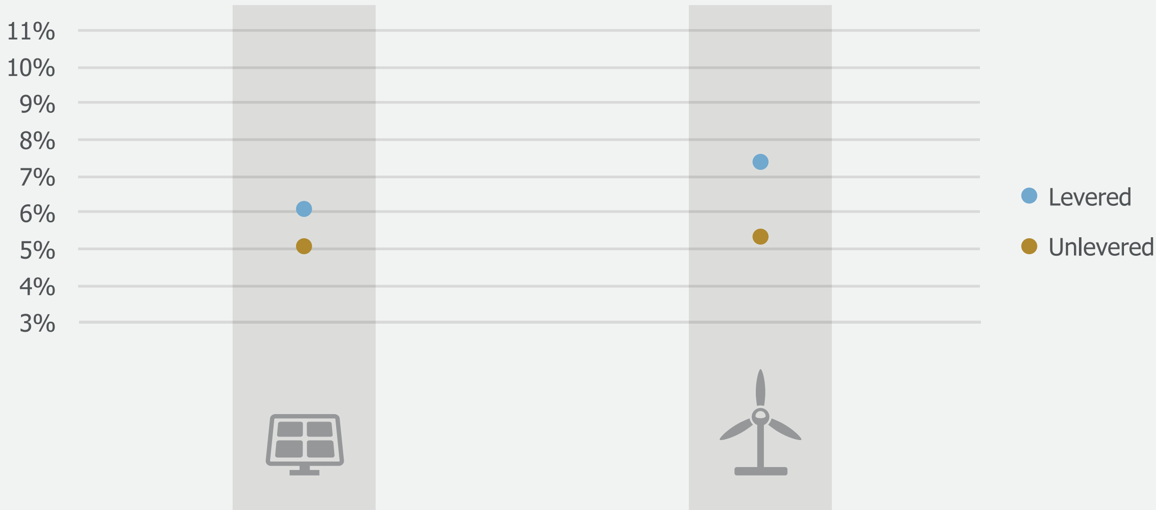
Another significant secondary market M&A deal in 2Q16 was the agreement by Blackstone to sell its majority stake in WindMW, owner of German offshore windfarm Meerwind, to China Three Gorges Corp in June 2016 for an undisclosed sum. The 288 MW wind farm, located off the German coast in the North Sea, is capable of powering 360,000 homes.

Notable secondary market deals in Germany (2Q16)

Target	Deal value	Acquirer	Date
Chorus Clean Energy (325 MW portfolio of 75 projects)	Eur296m ($328m)	Capital Stage	May 2016
WindMW (owner of the 288 MW Meerwind offshore wind farm)	Undisclosed	China Three Gorges	June 2016

France

Based on the survey data the average cost of capital for ground mount solar PV deals in France is 5.1% for unlevered assets, rising to 6.1% for levered projects. The average cost of capital for unlevered onshore wind assets in the secondary renewables market in France is 5.4%, while the average levered cost of capital stands at 7.4%, according to the survey data.



One of the most notable secondary market M&A deals in the French renewables market in 2Q16 was Chorus Clean Energy's Eur120 million ($136 million) acquisition of four wind parks with a total capacity of 62.2 MW in June 2016. Located in Poitou-Charentes in Western France, the portfolio will produce over 148,000 MWh once fully operational. Two of the wind parks are grid connected while the remaining assets will come online in August and September 2016.

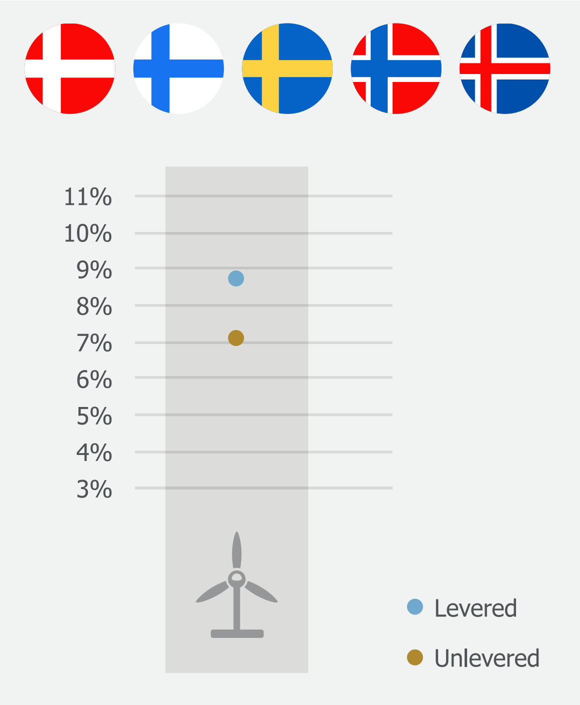
Another key deal in the French secondary renewables market was Allianz Global Investors' acquisition of a 62 MW portfolio from DIF Renewable Energy Fund in May 2016. The portfolio of six French wind farms were commissioned between 2006 and 2009.

Notable secondary market deals in France (2Q16)

Target	Deal value	Acquirer	Date
62.2 MW portfolio of four onshore wind farms	Eur120 million ($136 million)	Chorus Clean Energy	June 2016
62 MW portfolio of six on-shore wind farms	Undisclosed	Allianz Global Investors	May 2016

Nordics

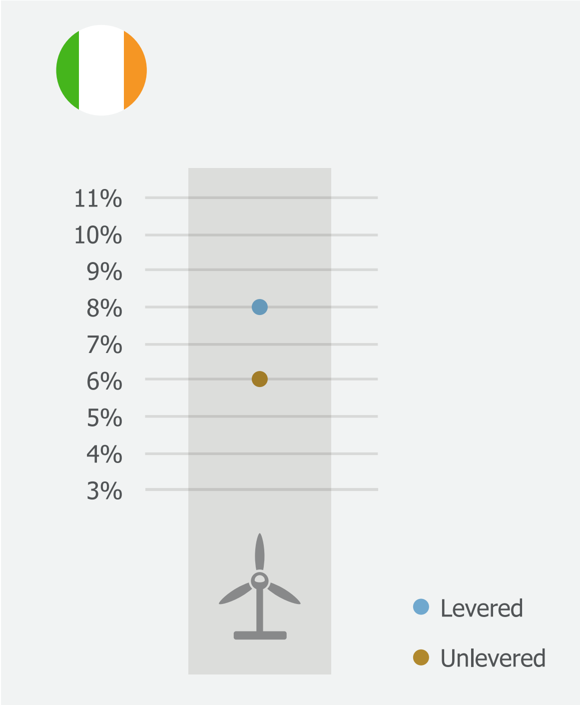
According to the survey data, the average unlevered cost of capital for onshore wind in the secondary market is 7.1%. The levered cost of capital for these assets is 8.7%.



There were no major secondary market M&A deals in the Nordics in 2Q16

Republic of Ireland

The average cost of capital for unlevered secondary market onshore wind projects in Ireland is 6%, according to the survey data. This figure rises to 8% for levered onshore wind assets.



There were no major secondary market M&A deals in the Republic of Ireland in 2Q16

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

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