

Green Evaluation

Brookfield White Pine Hydro Senior Secured Notes

Transaction Overview

Brookfield White Pine Hydro LLC (BWPH) is planning to issue US\$475 million of senior secured notes in July 2017. Proceeds of the offering will be used in part to refinance existing indebtedness (74% of the funds raised) for a portfolio of 21 hydroelectric facilities with an installed capacity of 380 MW primarily located in Maine. The remaining proceeds (less minor amounts for financing fees) will be used to offset funding of capital expenditure and development activities at a number of renewable projects within the Brookfield Infrastructure Fund II (BIF II). Brookfield Renewable Partners L.P. (Brookfield Renewable) retains a 50% controlling interest in BWPH with the remaining interest held by third party investors in BIF II. The notes are expected to have a 15-year bullet maturity in 2032. The notes are callable at any time in whole or part. Given that BWPH generates 100% of its electricity through hydro resources and the remainder of the proceeds will be used to offset the funding of renewable projects, we consider the entire offering to be applied to green energy projects.

Entity: Brookfield White Pine Hydro LLC
ICB subsectors: Alternative Electricity (7537)
Location (HQ): U.S.A.
Financing value: US\$ 475 mil.
Amount evaluated: 100%
Evaluation date: July 10, 2017
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Green Evaluation Overview

Transparency

- Use of proceeds reporting
- Reporting comprehensiveness

83

Governance

- Management of proceeds
- Impact Assessment Structure

83

Mitigation

Sector	→ Net Benefit Ranking	→ Hierarchy overlay	94
Green energy	Supplying the grid with low-carbon electricity		

Adaptation

NA



Project Description

About three-quarters of the funds raised will be used to refinance the BWPH portfolio, which consists of 68 generating units across 21 hydroelectric facilities located primarily in the state of Maine with a total installed capacity of 380 MW and forecast generation of 1,751 GWh/year with an average portfolio capacity factor of 53%.

The remaining proceeds will be used to offset funding of renewable projects in BIF II. The majority of renewable projects in BIF II are hydro with the remainder largely wind. BIF II's renewable projects are located primarily in the U.S. with some hydro and wind assets in Brazil and some wind assets in Europe, primarily in Ireland. We have assumed that the proceeds used to offset funding within BIF II will largely mirror the existing renewable assets within the fund for purposes of our evaluation. We have therefore allocated about one-quarter of the proceeds to small and large hydro and wind in proportion and geography to that in BIF II (detailed in the table below).

Scoring Summary

This transaction received the strongest Green Evaluation score – E1 on our scale of E1 (highest) to E4 (lowest). The strong score reflects the excellent Mitigation score of 94 which is largely reflective of the fact that the majority of the proceeds are associated with renewable electricity generation—hydro (both large and small) and wind. The E1 score also reflects the strong Transparency and Governance scores, both of which are strong at 83. The Transparency score is assisted in part from the intended reporting with respect to the proceeds of the issuance. The Governance score reflects the commitment to renewable generation and environmental stewardship.

Rationale

- The excellent Mitigation score is supported by a focus on renewable energy contributing to systemic decarbonization and located in areas of moderate carbon intensity. US\$350 million (or 74% of the funds raised) will be used to refinance existing debt for green energy (large and small hydroelectric facilities) primarily located in Maine. The remaining funds less financing fees are also allocated to green energy projects.

- The strong Transparency score reflects the intention of Brookfield Renewable to annually report on annual greenhouse gas (GHG) emissions reduced or avoided for the overall BWPH portfolio and with respect to the proceeds which offset capital expenditure on renewable projects in BIF II.
- The robust Governance score reflects the certainty of the sector in which the funds will be spent supported by Brookfield Renewable's strategic commitment to renewable power and the intention of the company to track the proceeds that offset capital expenditure in BIF II.

Key Strengths And Weaknesses

Proceeds of the debt offering will be used partly to refinance existing debt for projects at BWPH and partly to offset capital expenditure at renewable projects within BIF II (various renewable projects located in the U.S., Europe and Brazil). We believe a key strength is that about three-quarters of the proceeds are associated with small hydro (less than 30 MW) with a net benefit ranking of 86 and large hydro with a net benefit ranking of 76 within BWPH. These are further supplemented by our assumption that about half of the offset capital to be spent within BIF II will also be allocated to small hydro assets located in the U.S. with a net benefit ranking of 87. Hydro assets tend to achieve a higher net benefit ranking than other renewables such as wind and solar given, on average, that they operate at a higher capacity factor and have a longer asset life and therefore displace more carbon.

Further supporting the excellent Mitigation score is the allocation of all proceeds to green energy projects, which sit at the top of our carbon hierarchy because they contribute to the systemic decarbonization of the economy.

The transaction's Governance score of 83 reflects a strong commitment to monitoring environmental impacts but is modestly tempered by the lack of separate subaccounts for tracking the proceeds. Furthermore, environmental impact assessments reported by Brookfield Renewable will not take into account the full life cycle of the projects.

However, overall, we believe Brookfield Renewable demonstrates a strong commitment to environmental governance. The company's core strategy is the ownership and development of renewable power

with a strong commitment to efficient, sustainable and responsible use of natural resources with policies intended to consider the socioeconomic and environmental expectations of a broad range of stakeholders. For example, BWPH is a member of The Nature Conservancy's Corporate Conservation Council, which helps to preserve natural habitats throughout the state of Maine.

Furthermore, there are 54 hydro facilities owned by Brookfield Renewable across the U.S., (including BWPH's White Pine's North Gorham facility) that have attained certification by the Low Impact Hydropower Institute (LIHI). The LIHI is a nonprofit organization focused on reducing the impacts of hydropower generation. It provides certification to hydropower projects that have eliminated or reduced their environmental impact as defined by LIHI's criteria.

In addition, the strong Transparency score of 83 is supported by Brookfield Renewable's intention to track the amount of capital offset by the proceeds not allocated to refinancing the BWPH portfolio, including the type and location of the project as well as the GHG emissions reduced or avoided on an annual basis. The company has also indicated its intention to report on annual GHG emissions reduced or avoided at the aggregate BWPH portfolio level, which we view as positive.

In the green evaluation process table we blended all the various countries' baseline carbon grid intensity resulting in moderately-low aggregate carbon intensity. The blending approach tracks the proportion of spending in the various geographies of the BWPH portfolio and the renewable energy portfolio in BIF II.

Project level scores

Sector	Location	Project	Use of Proceeds (US\$ Mil.)	Use of Proceeds treatment	Net Benefit Ranking
Green Energy	Maine, U.S.	Small Hydro	188	Actual	86
Green Energy	Maine, U.S.	Large Hydro	162	Actual	76
Green Energy	Brazil	Small Hydro	11.25	Estimated	38
Green Energy	U.S.	Small Hydro	60	Estimated	87
Green Energy	Brazil	Biomass	12.5	Estimated	14
Green Energy	Brazil	Onshore Wind	10	Estimated	31
Green Energy	Portugal	Onshore Wind	7.5	Estimated	40
Green Energy	Ireland	Onshore Wind	23.75	Estimated	49
			\$475.00		

Green Evaluation Process

83

Transparency

83

Governance

94

Mitigation

Weighted aggregate of three
(Transparency + Governance + Mitigation)

E1/90

Overall score

Technology category	Local baseline of carbon intensity	Net Benefit Ranking	Carbon hierarchy adjustment	Environmental Impact Score	Proceeds (US\$ mil.)
	High  Low Various Countries				
Wind power		43	Green energy	86	41.25
Solar power					
Small hydro		84		96	259.25
Large hydro		76		94	162.00
Biomass		14		78	12.5
Energy management and control			Energy efficiency		
Unspecified					
Green transport without fossil fuel combustion			Green transport		
Green buildings – new build			Green buildings		
Unspecified					
Energy efficient projects (industrial efficiencies)			Energy efficiency		
Green transport with fossil fuel combustion			Green transport		
Green buildings refurbishment			Green buildings		
Unspecified					
Nuclear			Nuclear power		
Large hydro in tropical areas			Green energy		
Unspecified					
Coal to natural gas			Fossil fuel power plants		
Cleaner fuel production					
Cleaner use of coal					
Unspecified					
Technology category	Local baseline of water scarcity	Net Benefit Ranking	Water hierarchy adjustment	Environmental Impact Score	Proceeds (US\$ Mil.)
Water			Water		

Scores may vary slightly from the actual due to rounding.

S&P Global Ratings | Green Evaluation

Our Green Evaluation Approach

Weighted aggregate of three:



Common approach used amongst second opinion providers



Final Green Evaluation (E1 - E4 or R1 - R4)

eKPI – Environmental Key Performance Indicator

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