

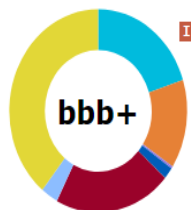
Credit and Legal

PPA credit risk 2019



Traditional credit assessment

CONTRIBUTION ANALYSIS



Prior Score | Change

OBSERVED DEFAULT RATES

1 Year PD	0.1100%
2 Year PD	0.3200%
3 Year PD	0.5400%
4 Year PD	0.7600%
5 Year PD	0.9900%

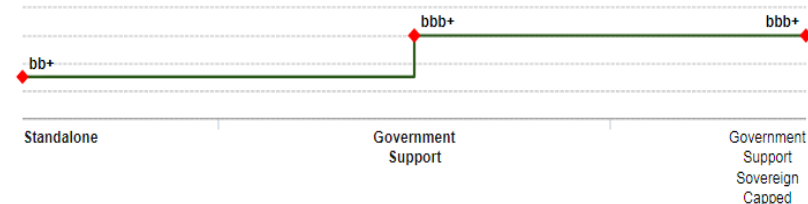
[View Full Term Structure](#)

FINANCIAL INPUT RATIOS

- Asset Turnover
- Cash from Operations Interest Co...
- Debt / (Debt + Equity)
- Free Operating Cash Flow / Debt
- Gearing Ratio
- Operating Income (bef. D&A) / Re...
- Return on Capital
- Total Assets

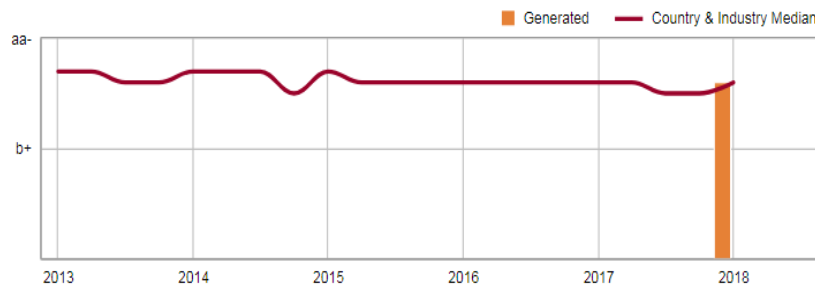
	RATIO VALUE	MEDIAN	CONTRIBUTION		SENSITIVITY	
			RELATIVE	ABSOLUTE	VALUE	RANK
Asset Turnover	0.41x	0.29x	(0.6594%)	20.0943%	0.0177	■
Cash from Operations Interest Co...	I 6.80x	6.90x	0.0746%	14.1025%	0.0301	■
Debt / (Debt + Equity)	I 19.71%	58.67%	(0.0070%)	0.0571%	0.0001	■
Free Operating Cash Flow / Debt	I 9.64%	13.00%	0.0002%	0.3284%	0.0001	■
Gearing Ratio	I 15.45%	107.64%	(3.3406%)	1.8814%	0.0024	■
Operating Income (bef. D&A) / Re...	26.26%	26.17%	(0.0154%)	21.2496%	0.0274	■
Return on Capital	I 8.23%	6.17%	(0.3268%)	3.1261%	0.0020	■
Total Assets	1,672.3*	58,044.9*	85.4565%	39.1602%	0.0041	■

SCORE BREAKDOWN



BENCHMARK ANALYSIS

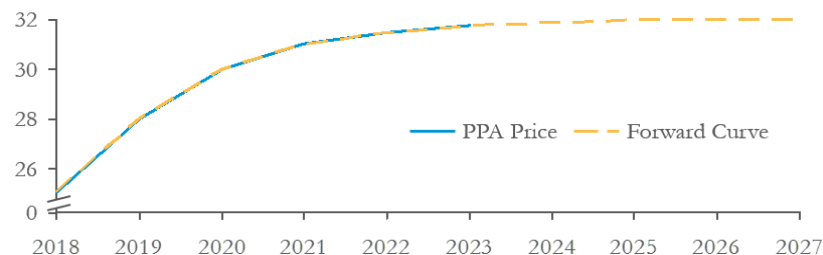
Country & In... Sweden Electric Utili... Median P&G 1Y 3Y 5Y Max



Credit risk related to the SPV

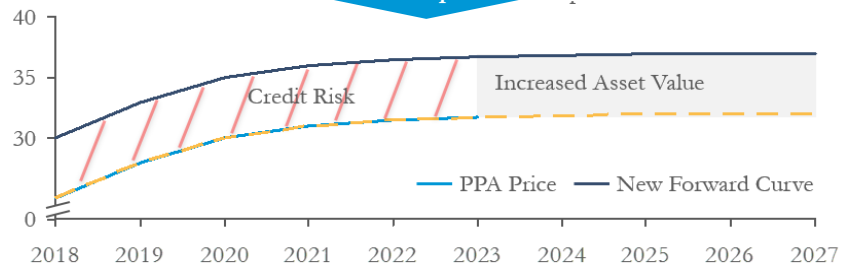
- The **risk of a MtM loss** to the PPA provider (Centrica) in case of a SPV default **is considered low** as the PPA provider only incurs a loss of the MtM value of the power and certificates, in **case the markets prices have increased since the signing of the PPA contract**
- As the PPAs are signed for typically 2-10 years, and the wind farm lifetime is 25 years at least, a high MtM exposure as a result of **increased market prices would imply** that the assets in the SPV would receive a high price for the remaining years of its lifetime, and thereby **increasing the assets value**
- It is therefore considered **very unlikely that a wind farm SPV would default in the event of market price increases**, post the PPA signing
- If a wind farm SPV would **default, it is expected to be in scenarios, where the market prices have dropped** significantly since the PPA signing, reducing the asset values for the years beyond the PPA period
- **In such situations, the MtM value is negative for PPA provider to the SPV**, and hence no credit exposure applies to the PPA provider

Illustration of credit risk on the SPV versus SPV asset value



The forward curve and the PPA price are at the same level at time of the PPA signing

5 EUR/MWh increase in forward prices



Forward curve has lifted 5 EUR/MWh imposing the PPA provider credit risk on the SPV, but at the same time increases asset value of SPV after the PPA period

Legal - chances and opportunities

- Smooth transition >> nahtloser Übergang Direktvermarktung zu Post-EEG Vermarktung
- Festpreis-PPA von Anfang an >> Fixed price PPA from the very beginning
- Herkunftsnachweise (GoO)
- Festpreise oder Variable Vergütung >> FP or flexible remuneration
- Tailormade solutions – legally tailormade, reflecting market standards

Legal – contractual matters/assessment

- Service and maintenance concept? Technikkonzept?
- Permission/Betriebsgenehmigung
- Weiterbetriebsgutachten (expertise for the time after the *usual* lifecycle)
- Duration? Laufzeit?
- Insurances? Versicherungen?
- Online-data/Lieferung von Online-Daten
- Remote control/Fernsteuerbarkeit?
- Curtailment/Einspeisemanagement?
- Compensation/Entschädigungsregelungen

Credit risk in relation to power price development



DEAL 1

Volume/Unit: Buy MW (Base)

Currency: EUR Price Per Unit:

Contract Period: Y2022 Start: End:

Deal Type: Power Physical DE

Agreement: No Agreement

Contract Value: 9206400

Settlement: Monthly Calendar days after: End of Delivery Month

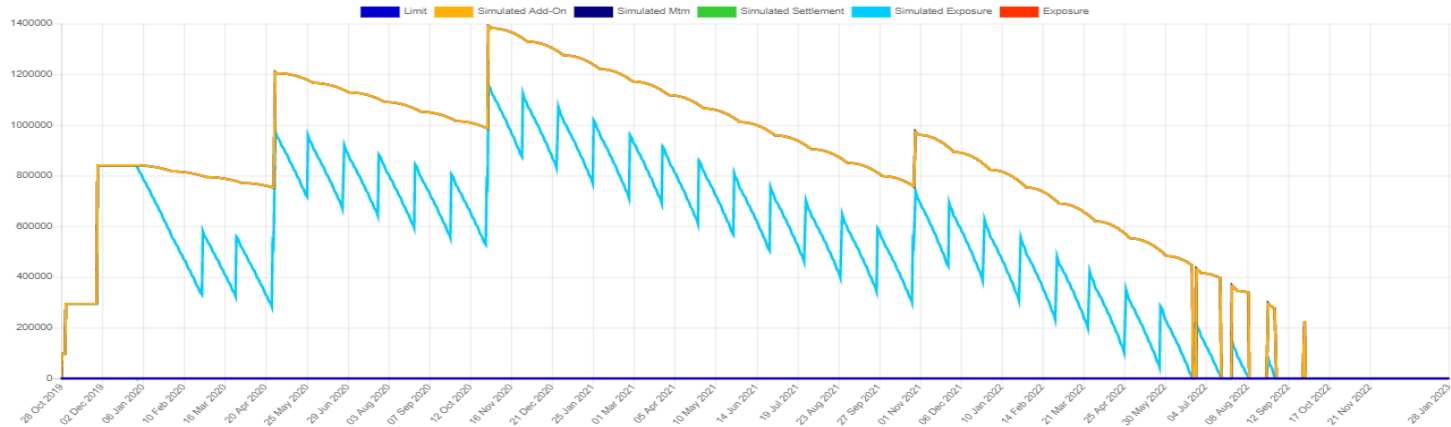
Simulation finished (Elapsed Time: 1.762 seconds)

Max PFE (28 Oct 2019):	0	Limit:	0	Util:	0%
Simulated Max PFE (28 Oct 2020):	1,156,141.912	Simulated Util:	0%		

STOP! Deal not open for trading on Power Physical DE

Export to Excel

Exposure History & Forecast (Trading)



Mark-to-Market estimation (PFE)

Project participant	Definition
Project Company	Owns and operates the project. Takes on the role as borrower – can be a subsidiary to the Project Sponsor
Project Sponsor	Parent or developer and shareholder to the Project Company
Offtaker(s)	Any entities that are contractual purchasers of the energy or certificates produced from the facility
Debt holder(s)	Lender to Project Company (typically a Bank)
Technology provider	Provider of the turbine technology (and if present, provider of a technology warranty)
Operations and maintenance provider	Provider of the operations and maintenance contract, in order to service the assets over a specified duration of their lifetime.

Credit risk in relation to Renewable SPV's



Factor	A High Quality	CCC Weak
1a) Quality and Diversity of Cash Flow Stream	<ul style="list-style-type: none"> Centrica sole off taker 	<ul style="list-style-type: none"> Average rating of other off takers is not rated
1b) Conditions for Contract Payments or Receipt of Revenues	<ul style="list-style-type: none"> Favourable price environment – prices above floor prices if clawback or floor Volume output from assets >P50 Availability >95% 	<ul style="list-style-type: none"> Previous year and forward prices below floor prices Poor availability and volume output
1c) Debt Holder Strength	<ul style="list-style-type: none"> Direct agreement in place with highly rated debt holder or fully equity financed 	<ul style="list-style-type: none"> Non-rated debt holder with no Direct Agreement
2) Regulatory Support	<ul style="list-style-type: none"> Can only be achieved if project is commercially competitive without subsidies 	<ul style="list-style-type: none"> Jurisdiction with limited or unstable regulatory support
3a) Technology, Operating Track Record and Vendor Profile	<ul style="list-style-type: none"> Highly rated vendor with warranty that covers length of PPA with Centrica 	<ul style="list-style-type: none"> Poorly rated vendor with no warranty
3b) Quality of Operator, Operation & Maintenance (O&M) Contractual Framework	<ul style="list-style-type: none"> Highly rated provider with O&M contract that covers length of PPA with Centrica 	<ul style="list-style-type: none"> Poorly rated provider with no O&M contract in place
3c) Project Sponsor Strength/Commitment	<ul style="list-style-type: none"> Highly rated sponsor with good track record with this type of project 	<ul style="list-style-type: none"> Inexperienced and poorly rated sponsor
4a) Financial Metric: Total Adjusted Debt/Total Capitalisation	<ul style="list-style-type: none"> Fully equity financed or very low debt to equity ratio 	<ul style="list-style-type: none"> Highly geared project
4b) Project Structure Strength	<ul style="list-style-type: none"> Strong financing structure such as debt service reserves for liquidity purposes, no construction risk (assets already commissioned), no debt to be serviced other than that of debt holder/off taker 	<ul style="list-style-type: none"> Absence of strong financing structure

Legal matters we would like to talk about...

- Weiterbetriebsgutachten (expertise for the time after the *usual* lifecycle) – *What can you provide?*
- Technical concept/Technikkonzept – *What do you plan?*
- Insurances? Versicherungen? - *What do you need?*
- What do we **need** to know?

Legal – KYC and know your law

- Know your customer – KYC
- Know your law? Wissen Sie welche Regelungen auf Sie Anwendung finden?

Einspeisemanagement

Fernsteuerbarkeit

Negative Preise

Entschädigung

Abregelung

Weiterbetrieb