WEBINAR: FINANCIAL MODELLING FOR RENEWABLES

17 December 2019

OBJECTIVES

- Understanding the financial model
- Optimising for the lender at P90
- Assessing the impact on equity at P50

P50 vs P90

P90 – a pessimistic view of power generation. There is a 90 per cent chance that more power will be generated. Used to size the debt in the project.

P50 – a more optimistic view of power generation. There is a 50 per cent chance that more power will be generated. Used to assess the equity return in the project.

Switch from one scenario to the other on the Scen worksheet.

P90 OPTIMISATION SEQUENCE

1. Assess optimisation inputs

% funding requirement financed with debt	80.00%	%	<< start at maximum allowed gearing / leverage
Target ADSCR	1.1000	ratio	<< start at minimum allowed ratio
Senior term debt principal repayment profile selection	1	(1=live; 2=fixed)	
[Initial Electricity Price ("IEP") / minimum acceptable price]	39.00	USD / MWh	<< start at PPA value / bank specified value

2. Assess impact on optimisation outputs

Ratios and term		
Maximum ADSCR	3.0115	ratio
Minimum ADSCR	1.1000	ratio
Minimum allowed ADSCR in P90	1.1000	ratio
CHECK: Minimum ADSCR error	-	check
Senior debt repayment term	18.0000	years
Senior term debt loan life	9.3176	years

3. **Poll #1: would gearing / leverage need to go up or down to restore level ratios of 1.1000?**

4. Use trial and error (for now) to find the gearing / leverage %.

5. Observe impact on error checks.

Gearing

Maximum allowed gearing	80.00%	%
% funding requirement financed with debt	89.16%	%
Gearing > maximum allowed gearing - difference	9.16%	%
CHECK: Gearing not exceeded maximum allowed gearing?	1	check

Run circularity break to size senior debt commitment / facility amount

Scenario name	P90	scenario
Senior debt draw down - sum DC	36,289	USD 000s
Senior debt commitment / facility amount	32,452	USD 000s
Senior debt: draw downs vs commitment - difference	3,837.1378	USD 000s
CHECK: Senior debt draw downs = commitment?	1	check

6. Solve so senior debt commitment / facility amount matches the draw downs. VBA coding for a paste special values routine:

```
Sub SeniorDebtSol()

Range("SDCommit").Value = Range("SDDraws").Value

Application.CalculateFull

End Sub
```

7. Reset for gearing / leverage at 80 per cent (including repeating the SeniorDebtSol() routine).

8. Poll #2: would target ratio need to go up or down to restore level ratios (noting that the new level ratio would no longer be 1.1000)?

9. Use trial and error (for now) to find the target ratio

   Note: Goal seek may be used here. Compare the sum of the senior debt draw downs with the sum of the sculpted senior debt principal repayments. The target ratio is that which generates a difference (delta) of zero. VBA coding for a goal seek routine:

DSCRSol()

Range("SDDelta").GoalSeek Goal:=0, ChangingCell:=Range("TargetDSCR")

Application.CalculateFull

End Sub

P50 OPTIMISATION SEQUENCE

1. Fix the sculpted senior debt principal repayment profile

Repayment summary											
Senior term debt principal repayment profile selection	1	(1=live; 2=fixed)									
Model period ending	-	date	-	-	31 Mar 18	30 Sep 18	31 Mar 19	30 Sep 19	31 Mar 20	30 Sep 20	31 Mar 21
Senior debt sculpted repayment profile (LIVE)	-	%	100.00%	-	-	-	-	-	-	1.09%	1.92%
Senior debt sculpted repayment profile (FIXED)		%	100.00%		-	-	-	-	-	1.09%	1.92%
Insert new rows above											
Active senior term debt principal rpymt profile		%	100.00%		-	-	-	-	-	1.09%	1.92%
SD sculpted repayment profile: live vs fixed		%	-		-	-	-	-	-	-	-
SD sculpted repayment profile: live vs fixed - sum	-	%									

And set the senior term debt principal repayment profile selection to fixed.

2. Change scenario from P90 to P50. Assess impact on equity returns.