

Project Feasibility Modeling

Description

ABOUT THE CLIENT

The client is a leading developer, investor and operator of power generation and desalinated water plants in the Middle East region. With 54 assets in operation, construction or advance development across 11 countries they employ over 3,500 people with ~60% local employment. The client's portfolio, with an investment value in excess of USD 45 billion, can generate 30+ GW of power and produce over 5.3 million m³ /day of desalinated water.

WHAT BUSINESS CHALLENGE WAS THE CLIENT EXPERIENCING?

The client's main dealings is with projects around renewable energy. As a result of the complex technology and heavyweight financial resources which is consumed to execute these projects, senior engineers are expected to collaborate with project finance teams to manage it successfully.

Although these senior engineers were best in their field of expertise, they did not understand the financial implications of the expensive solar technology they recommended for this venture. On the other hand, the finance team could not approve the investment as it resulted in a financially unviable project. As a result of this knowledge gap and conflict in understanding, the project was facing delays.

The client wanted a learning solution that would:

- Ensure team of engineers has the skills and tools they need to understand the implications of their technology recommendations on the project cost and financial feasibility
- Help in aligning engineering and finance teams towards same project goals/outcomes
- Help inculcate the collaborative mindset between two functionally diverse teams in order to attain maximum profitability from the projects

WHAT SOLUTION DID KAPLAN PROVIDE?

A collaboratively customised Project Finance Feasibility Modelling Programme.

HOW DID KAPLAN WORK WITH THE CLIENT TO DEVELOP THE SOLUTION?

- To develop the learning solution, Kaplan used the 'collaborative customization' approach
- The course outline, the content and the learning outcomes were developed by conducting multiple rounds of consultative interviews with key stakeholders of the organization and teams
- It resulted in creation of a highly bespoke programme content which consisted of a hypothetical green field project around solar power (Project Heliac), for which the participants had to analyze a project's financial feasibility using financial modeling

HOW WAS THE TRAINING DELIVERED?

- The training was delivered face-to-face (F2F) over two days
- It was interactive and included working on a hypothetical green field solar power project based in Dubai as a business scenario
- The trainer facilitated and guided the senior engineers in creating a 'Project Feasibility Model' from scratch

WHAT ASPECTS WERE HIGHLY APPRECIATED BY THE CLIENT?

- Collaborative customisation of program and content through consultative approach
- Industry experienced trainer, ex-investment banker conducting the interactive delivery
- Comprehensive material for effective embedding
- Seamless project management geared towards a well-executed programme

SNIPPETS OF 'PROJECT HELIAC' FEASIBILITY ANALYSIS

Input/SC	Constant	Unit	Date	Upside	Downside	Banking	Base
Project Facts							
Name	Rahul		Project Name	Rahul	Asian	Acwa	Upside
Country	UAE		Country	UAE	UAE	UAE	Downside
Type	Solar		Type	Solar	Solar	Solar	Banking
Currency	USD		Currency	USD	USD	USD	
Units	000s		Units	000s	000s	000s	
Conversion Factor	1,000.0	of	Conversion Factor	1,000.0	1,000.0	1,000.0	
Timeline Inputs							
Months Per Year	12.0	months	Months Per Year	12.0	12.0	12.0	
Days Per Month	30.0	days	Days Per Month	30.0	30.0	30.0	
Hours Per Year	8,760.0	hours	Hours Per Year	8,760.0	8,760.0	8,760.0	
Valuation Date	31-Dec-18	date	Valuation Date	31-Dec-18	31-Dec-18	31-Dec-18	
Financial Closure	2.0	months	Financial Closure	2.0	2.0	2.0	
Financial Closure Date	28-Feb-19		Financial Closure Date	28-Feb-19	28-Feb-19	28-Feb-19	
Construction Period	10.0	months	Construction Period	10.0	10.0	10.0	
Early Revenue Start Months	6.00	months	Early Revenue Start Months	6.00	6.00	6.00	
Early Revenue Start Date	01-Sep-19		Early Revenue Start Date	01-Sep-19	01-Sep-19	01-Sep-19	
Construction End Date	31-Dec-19		Construction End Date	31-Dec-19	31-Dec-19	31-Dec-19	
Length of Operating Period	25.00	years	Length of Operating Period	25.0	25.0	25.0	
End of Operations	31-Dec-44		End of Operations	31-Dec-44	31-Dec-44	31-Dec-44	
Plant Inputs							
Plant capacity	200.00	MWac	Plant capacity	200.0	200.0	200.0	
10-yr P50 capacity factor (on MWac)	30.0%		10-yr P50 capacity factor (on MWac)	26.0%	30.0%	26.0%	
Early Start Capacity (% of Plant Capacity)	50.0%		Early Start Capacity (% of Plant Capacity)	50.0%	50.0%	50.0%	
Degradation	0.5%	per 10-yr	Degradation	0.5%	0.5%	0.5%	
Pvectors as % of 10-yr P50			Pvectors as % of 10-yr P50				
10-yr P50 ratio	100.0%		10-yr P50 ratio	100.0%	100.0%	100.0%	
10-yr P90 ratio	93.0%		10-yr P90 ratio	93.0%	93.0%	93.0%	
10-yr P99 ratio	84.8%		10-yr P99 ratio	84.8%	84.8%	84.8%	
1-yr P90 ratio	92.7%		1-yr P90 ratio	92.7%	92.7%	92.7%	
1-yr P99 ratio	84.3%		1-yr P99 ratio	84.3%	84.3%	84.3%	
Seasonality Profile (Months)	92.7%		Seasonality Profile (Months)	92.7%	92.7%	92.7%	

