

Bankable Solar Project Model

A simple guide to assumptions, cash flow and model checks

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What makes a model bankable?

A model that can be understood, challenged and tested.

1

TRACEABLE

Output back to assumption

2

CHALLENGEABLE

Inputs can be changed

3

TESTABLE

Downside cases are easy

4

CONTROLLED

Checks expose errors

Bankability is confidence in the model's logic, assumptions, risks and controls.

Illustrative case: Surya 100 MW Solar Project

Figures are illustrative and used only to explain model design.



Capacity

100 MWp

PPA term

20 years

Construction

12 months

Tariff

US\$ 0.060/kWh

Total cost

US\$ 70m

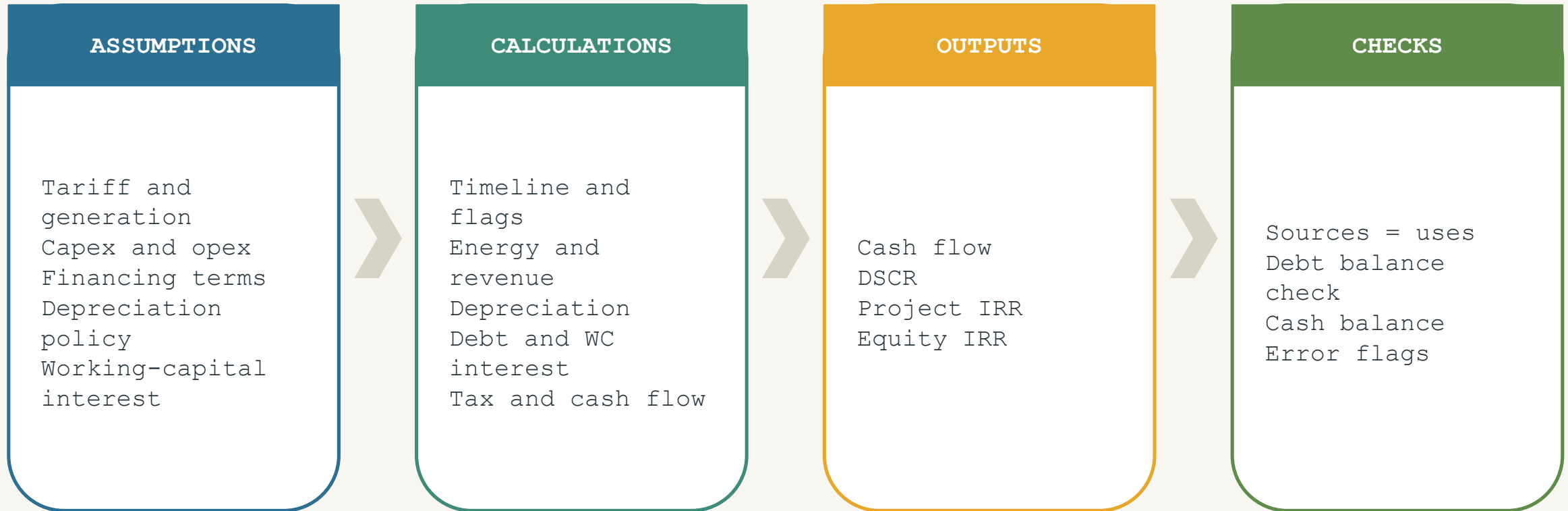
Funding

**70% debt / 30%
equity**

Model purpose: estimate cash flow, debt-service capacity and investor returns under base and downside cases.

Keep the workbook architecture simple

Assumptions come first, followed by calculations, outputs and checks.



Suggested tabs: Assumptions | Timeline | Construction | Generation | Revenue | Opex | Depreciation | Working Capital | Financing | Tax | Cash Flow | Returns | Sensitivities | Checks

Assumptions: make uncertainty visible

Show the commercial, technical and country drivers clearly.

RESOURCE

Irradiation
Degradation and losses

CONSTRUCTION

EPC cost and timing
Grid connection

REVENUE

Tariff and indexation
Curtailment

OPERATIONS

Availability
O&M and insurance

FINANCING

Interest and tenor
Loan repayment reserve

COUNTRY / MACRO

FX and inflation
Off-taker risk

Rule: do not hide uncertainty inside formulas. Put uncertain items in assumptions and test them.

Timeline and flags: one clock for the whole model

Each flag switches the relevant calculation on or off.

	Y0	Y1	Y2	Y3	Y4	Y5
Construction	1	0	0	0	0	0
Construction cost = flag × capex schedule						
Operations	0	1	1	1	1	1
Revenue = flag × energy × tariff						
PPA active	0	1	1	1	1	1
PPA revenue = flag × billed energy × tariff						
Debt outstanding	1	1	1	1	1	0
Interest = flag × opening debt × rate						

From sunlight to cash flow

Convert physical performance into cash available for lenders and investors.



Energy

$100 \text{ MW} \times \text{yield} \times \text{availability}$



Revenue

$\text{Energy} \times \text{PPA tariff}$



Operating cash

$\text{Revenue} - \text{operating costs}$



Cash Available for Debt Service (CFADS)

$\text{Cash available for debt service}$



Equity cash

$\text{CFADS} - \text{debt service}$

Illustrative base-case outputs

A small dashboard answers the first lender and investor questions.

Annual generation

185 GWh

Annual revenue

US\$ 11.1m

Minimum DSCR

1.28x

Project IRR

10.8%

Equity IRR

15.2%

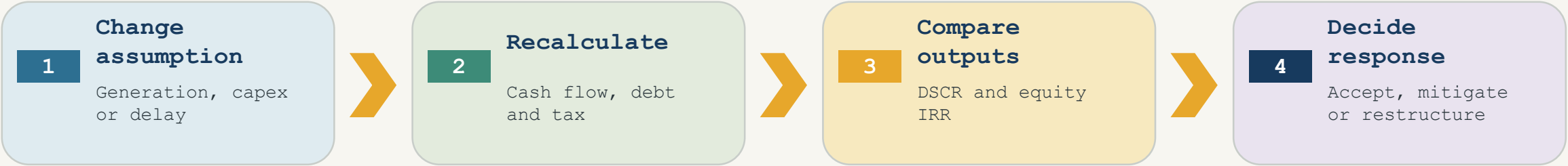
Debt tenor

14 years

Decision question: Do cash flows remain sufficient when generation falls, costs rise or completion is delayed?

Stress test the project, not just the spreadsheet

The flow diagram clarifies the decision process without adding unnecessary detail.



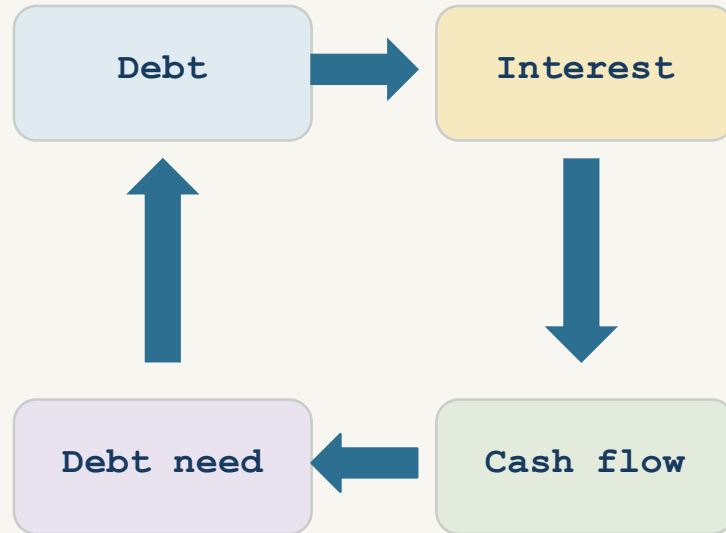
Illustrative scenario comparison

Scenario	Min DSCR	Equity IRR
● Base case	1.28×	15.2%
● Generation -10%	1.12×	11.4%
● Capex +10%	1.20×	12.7%
● 6-month delay	1.08×	9.8%

Circularity and model checks

A flow diagram is useful because debt, interest and cash flow feed back into one another.

Controlled financing loop



Independent integrity checks

- ✓ Sources = uses
- ✓ Cash roll-forward
- ✓ Debt roll-forward
- ✓ Financial statements balance
- ✓ No errors in active periods

Model status: CHECKS = 0

Documentation and version control

Simple discipline makes the model easier to review, update and hand over.

Avoid

SolarModel_Final.xlsx
SolarModel_Final_v2.xlsx
SolarModel_Final_v2_REVISED.xlsx
SolarModel_FINAL_USE_THIS.xlsx

Prefer

Surya_100MW_Model_2026-10-01_v03.xlsx

- Cover sheet with purpose and owner
- Change log: what changed and why
- Assumption sources and dates
- Reviewer and approval status

A model should be usable by someone other than its original author.

Five questions before calling the model bankable

Use each prompt to test whether the question is understood in practical terms.

1 Can I trace it? Pick one output. Can you follow it back to the source assumption?

2 Can I challenge it? Can a reviewer safely change tariff, generation or financing terms?

3 Can I stress it? What happens to DSCR and equity IRR in a realistic downside case?

4 Can I trust it? Which automated checks reveal a broken formula or cash-flow mismatch?

5 Can someone else use it? Could another modeller update the file without asking the original author?

Closing prompt: Which one of these questions is hardest to answer in your current project models?