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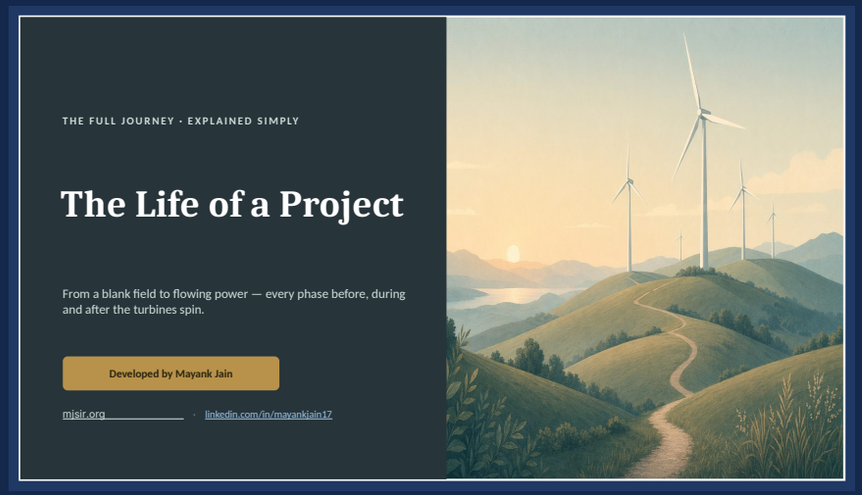
PRESENTATION · 27 PAGES

The Life of a Project

From a blank field to flowing power — every phase of a renewable project, the people involved and the money behind it.



Mayank Jain
Project finance · renewables · platform management
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THE FULL JOURNEY · EXPLAINED SIMPLY

The Life of a Project

From a blank field to flowing power — every phase before, during and after the turbines spin.

Developed by Mayank Jain

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PROJECT DEVELOPMENT TIMELINE

What Most People Think — vs What Really Happens

Ask around, and most people picture a short, simple story.

The common belief

Pre-FC › Financial Close › Construction › Operation › Post-Op

What actually happens

Pre-Development › Development › FID › RTB › **Financial Close** › Construction › Operation › Post-Operation

Most people know the pre-FC bit exists — but there's a whole world of work (and risk) before the money ever shows up.

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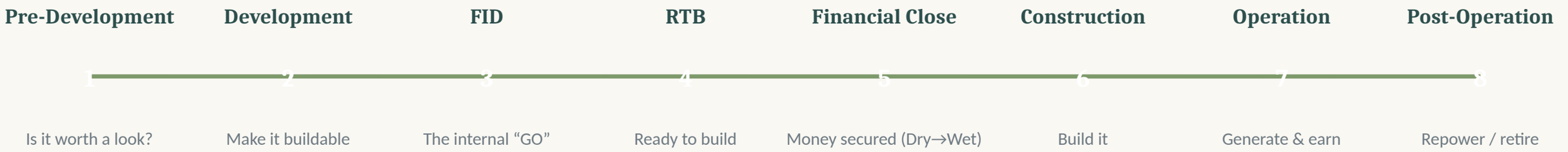
PROJECT DEVELOPMENT TIMELINE

The Full Journey, End to End

Eight phases take a project from an idea to a working, earning asset.



Financial Close is the dividing line: before it, the sponsor’s own equity is at risk · after it, lenders fund the build.

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Phase 1 · Pre-Development (Initial Assessment)

The “is this even worth chasing?” phase.

What happens

- Spot the opportunity — a promising site or market.
- Screen the basics: wind/solar resource, land availability, grid access.
- High-level feasibility — rough yield, cost and returns.
- Hunt for “fatal flaws” that would kill the project early.

Who pays?

The developer / sponsor — from their own pocket (equity). No bank will touch it yet.

The decision

Is this worth real development money? If yes → proceed to full Development.

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Phase 2 · Development

Turning a "maybe" into a fully buildable project — the busiest phase of all.

- Land & site control — leases, options, easements.
- Permits & environment — construction permit, EIA, bird & bat surveys.
- Grid connection — secure the right to plug in.
- Offtake — lock in revenue via a PPA or CfD tariff.
- Technology & engineering — e.g. selecting the wind turbine model.
- Legal & financial structuring — set up the project company, model returns.



By the end of development, the tariff/offtake, key permits and technology choice should all be locked in.

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Development — What Does It Cost? (DevEx)

All the spend needed to mature the project before any building begins.

Land

Options, leases & easement rights over the site.

Permits & legal

Construction permit, licences, legal & advisory fees.

Environmental & resource

EIA, bird & bat surveys, wind/solar measurement.

Grid connection

Application fees and connection deposits.

Engineering & feasibility

Early design, yield studies, technical advisors.

Development team

The people and overheads carrying it all.

Together, all of this is called DevEx — Development Expenditure. It is risk capital: spent before the project is certain.

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Who Pays for All This? Mostly Equity.

The riskiest money in the whole journey.

Why not a bank loan?

- Too early, too uncertain — no permits, no guarantees yet.
- Lenders only step in once the project is de-risked (around Financial Close).
- So the sponsor funds DevEx with its own equity — “risk capital”.

The risk-capital reality

- Development money is a small slice of total project cost…
- …but it is the money most likely to be lost if the project never gets built.
- Most early-stage projects never reach operation — which is exactly why this capital is so precious.

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Clearing Up the Confusion: DevEx vs CapEx vs Development Fee

Three different things people often mix up.

DevEx

Development Expenditure

Cash spent to MATURE the project before Financial Close — permits, studies, land. At-risk equity.

CapEx

Capital Expenditure

Cash to BUILD the asset — turbines, civils, grid, construction. Mostly after FC, funded by debt + equity.

Dev Fee

Development Fee

The developer's PROFIT for taking a project from blank field to ready-to-build — a reward for de-risking, not a build cost.

DevEx and the Dev Fee are about getting to the starting line. CapEx is the race itself.

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Who’s Around the Table — The Parties Involved

A project is a web of contracts, all centred on the Project Company (SPV).

Sponsors / Shareholders

Provide the equity and own the project; carry development & ownership risk.

Lenders

Banks, ECAs and DFIs that provide the debt from Financial Close.

EPC Contractor

Designs and builds the asset — often on a turnkey basis.

Equipment Supplier (OEM)

Supplies turbines / panels with long-term warranties.

O&M Provider

Operates and maintains the asset once it is running.

Offtaker

Buys the power under a PPA or CfD / market arrangement.

Authorities

Government, regulator and grid operator (TSO / DSO).

Advisors

Legal, technical, financial, insurance, model-audit & market experts.

Everything contracts with the SPV at the centre — that’s what ring-fences the risk inside the project.

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PROJECT DEVELOPMENT TIMELINE

Types of Permits & Consents

A buildable project needs a whole stack of approvals — each one a potential delay.

Land Rights

Leases, options and easements / wayleaves over the site.

Environmental (EIA)

Environmental approval — ecology, noise, bird & bat surveys.

Construction Permit

Approval to build to a specific, finalised design.

Grid Connection

Connection agreement and capacity rights with the grid operator.

Generation Licence

Licence to generate and sell electricity.

Offtake / Tariff Award

CfD / auction award or PPA — the right to revenue.

Aviation & Radar

Clearance for tall structures (critical for wind).

Local & Other

Zoning / planning, water, heritage and road-access consents.

Miss or delay any one of these and the whole timeline slips — permitting is a leading cause of project delay.

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Types of Due Diligence

Before lenders and investors commit, every angle of the project is independently checked.

Technical DD

Resource / yield, design, construction & technology risk.

e.g. DNV · Mott MacDonald · Fichtner · Wood · Ramboll · Arup

Legal DD

Permits, land, contracts and the security package.

e.g. A&O Shearman · Clifford Chance · Linklaters · White & Case · Norton Rose Fulbright · Watson Farley & Williams

Model Audit

Independent audit of the financial model & its logic.

e.g. Mazars · Gridlines · Big Four

Tax & Structuring DD

Tax efficiency, withholding and holding structure.

e.g. Deloitte · PwC · EY · KPMG · Baker McKenzie

Environmental & Social

IFC / Equator Principles compliance; community impact.

e.g. ERM · RPS · SLR · Arcadis · WSP · Ramboll

Insurance DD

Insurability and adequacy of the insurance package.

e.g. Marsh · Aon · WTW · Howden · INDECS · Gallagher

Also Market / Commercial DD (e.g. Wood Mackenzie, BloombergNEF, Aurora Energy Research). Lenders run their own DD via lenders' advisors; sponsors run theirs in parallel.

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The Financial Metrics That Get Evaluated

How investors and lenders judge whether a project is worth backing.

Equity IRR

Return to shareholders over the life.

Project IRR

Return of the project, pre-financing.

MOIC

Cash returned ÷ cash invested.

NPV

Value above the cost of capital.

DSCR

Cashflow ÷ debt service.

LLCR / PLCR

Loan- & project-life coverage.

Gearing (D:E)

Debt vs equity — often ~70:30–80:20.

Payback

Time to recover the investment.

LCOE

Levelised cost of energy.

Contracted vs Merchant

Revenue locked (PPA/CfD) vs market-exposed.

CAPM check

Equity return above its risk-based hurdle?

Always stress-tested

Every metric run through downside cases before FID.

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Milestone · FID — Final Investment Decision

The internal "GO" that commits the sponsor's capital.

What FID really is

- A formal decision by the board / Investment Committee to commit equity and proceed.
- An INTERNAL commitment — no external money has moved yet.
- Checked before the "GO": permits, offtake, contracts, the financial model (IRR) and risks.

In one line

"We believe in this project — we're committing our equity to build it."

Everything in the development phase has been building up to this single decision point.

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Milestone · RTB — Ready to Build

The project is technically ready; it just needs the money switched on.

“Ready to Build” means…

- Permits secured.
- Grid connection in place.
- Land rights locked in.
- Key contracts (EPC, equipment supply) signed.
- All set to start construction — just awaiting financing to mobilise.

FID & RTB go hand in hand

These two milestones cluster together at the hand-over from development to construction. The exact order can vary deal to deal.

Many investors prefer to buy in at RtB stage — the heaviest development risk is already behind them.

Milestone · Financial Close — Dry FC vs Wet FC

The moment lenders are locked in and the money is ready to flow.

Financial Close = all financing documents signed and all conditions met, so the project can be funded. (Often "Commercial Close" — signing the project contracts — comes just before.)

Dry Close (Dry FC)

- All financing documents are signed and legally closed…
- …but no funds are drawn yet.
- Conditions precedent may still be pending — or there's simply no need to draw yet.
- "Signed, but the money hasn't moved."

Wet Close (Wet FC)

- Funds actually flow — the first drawdown happens.
- Lenders disburse and construction can be paid for.
- "The money is wet."

Before FC: sponsor's equity is at risk. After FC: lenders fund the build.

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PROJECT DEVELOPMENT TIMELINE

How Development Cost Gets Funded — and the Equity Bridge

Following the money from at-risk equity to a fully-funded build.

1 During Development

Equity funds DevEx — the sponsor's own at-risk capital.

2 At Financial Close

Total project cost (incl. DevEx already spent) is funded by Debt + Equity. The early DevEx is rolled in and reimbursed as part of equity.

3 During Construction

An Equity Bridge Loan (EBL) — a short-term bank loan — funds the equity share instead of cash up front.

4 At COD

Sponsor injects the actual equity, which repays the Equity Bridge Loan.

Why the Equity Bridge?

It bridges the timing of equity — the sponsor delays putting in cash, backed by an equity commitment / parent guarantee. Holding equity back until later lifts the equity return (IRR).

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The Other Money: Bonds, Guarantees & LCs

Beyond cash equity, investors must post security that backs their promises.

Bid / Auction Guarantee

Posted when bidding for a tariff or auction — called if you win but fail to deliver the project on time.

Grid Connection Bond

Posted to the grid operator to hold your connection slot — called if you miss connection deadlines.

Performance Bond

Backs on-time, on-spec delivery under the construction (EPC) contract.

Letters of Credit (LCs)

Bank guarantees behind obligations — e.g. an equity LC to lenders, or a debt-service reserve LC instead of cash.

Parent Company Guarantee

The sponsor's parent stands behind the project company's commitments.

Completion & Overrun Support

Sponsor undertakes to fund cost overruns and guarantee the project reaches completion.

Contingent, not cash: these carry only a small annual fee to keep in place — the full amount is paid out only if a promise is broken.

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Equity Invested vs Equity Exposure

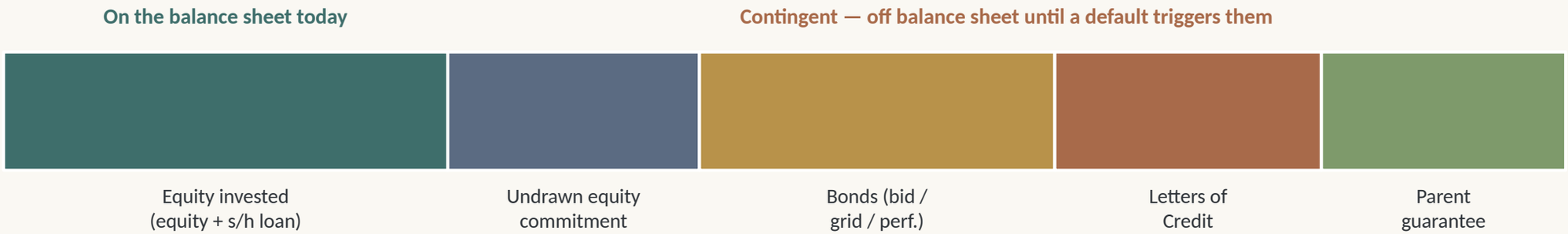
If the project fails, you can lose far more than the cash you put in.

Equity Invested

The cash you actually put in — usually a mix of **pure equity + shareholder loan** — sitting on your balance sheet.

Equity Exposure

The most you could lose if it all goes wrong — your cash PLUS every guarantee that can be called.



The trap: bonds and LCs cost only a fee while things go well, so they're easy to forget. On a default they're drawn at once and the bank reclaims from you — so size your risk by the whole stack, not just the cheque you wrote.

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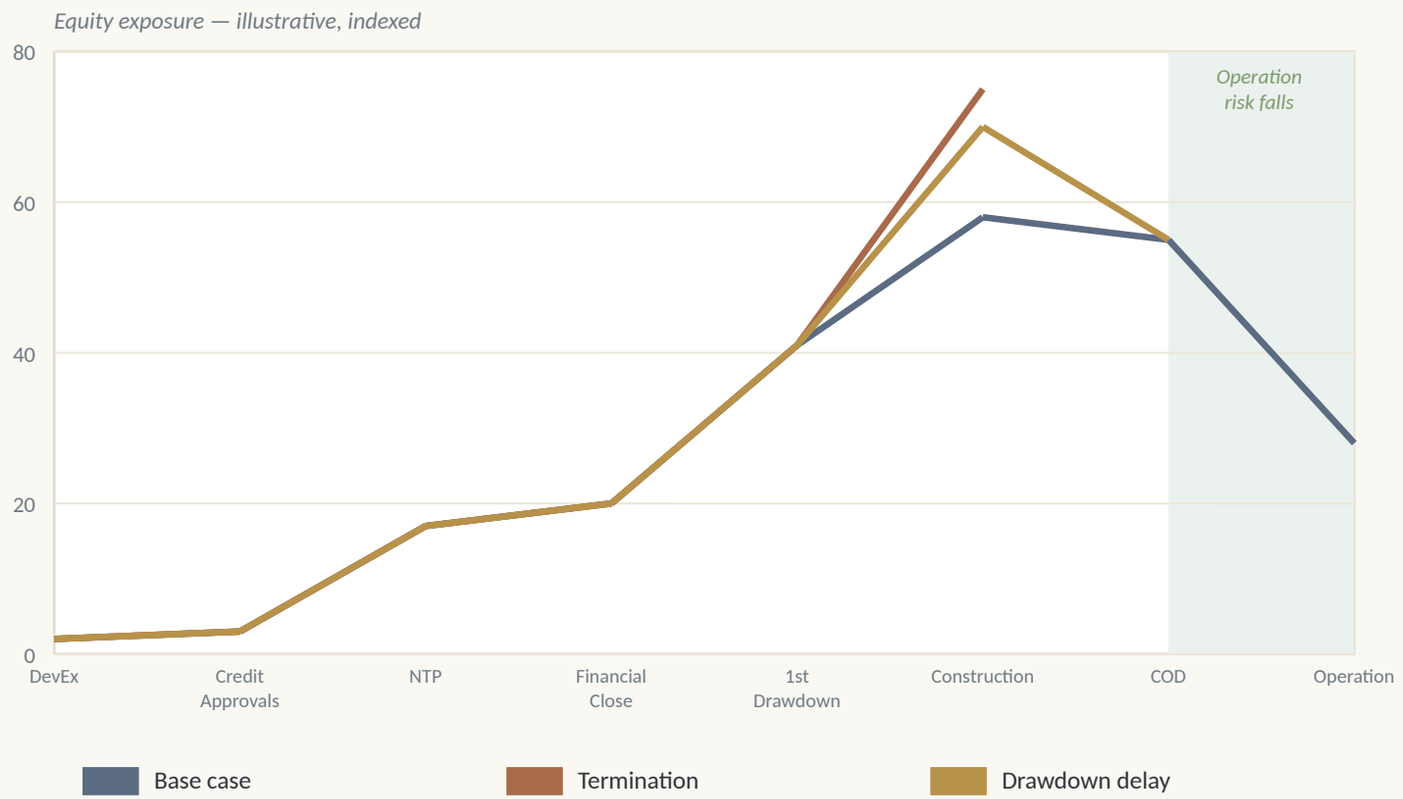
PROJECT DEVELOPMENT TIMELINE

Equity Exposure Over Time

It builds through development, peaks in construction — then falls once the project is operating.



Builds quietly

Through DevEx, due diligence and approvals, exposure creeps up as you commit money and post guarantees.

Peaks in construction

Most equity is in and guarantees are live — the point of maximum exposure.

Then falls in operation

As debt is repaid and cash is distributed back to shareholders, exposure steadily reduces.

Illustrative only — not to scale. Worst cases (termination or a drawdown delay) spike exposure via termination payments + called bank guarantees; a terminated project simply stops.

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Phase 3 · Construction

After Financial Close, the project finally gets built.

- The EPC contractor builds it; debt + (bridged) equity pay for the CapEx.
- Spend piles up in CWIP — Capital Work in Progress (remember our last topic!).
- Progress runs against milestones; an Owner's Engineer checks the work.
- It ends at Mechanical Completion → Commissioning → COD (Commercial Operation Date).



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Phase 4 · Operation

From COD onwards — the asset finally earns its keep.

- The plant generates power and revenue (via its PPA or CfD tariff).
- O&M teams keep it running at peak performance.
- Cash flows repay the project debt over time.
- CWIP has become a Fixed Asset that now depreciates year by year.
- Sometimes refinanced later to cut costs or release equity.



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PROJECT DEVELOPMENT TIMELINE

Phase 5 · Post-Operation

Every asset eventually reaches the end of its working life.

Life Extension

Maintain and upgrade to run the asset beyond its original design life.

Repowering

Replace old turbines with newer, more powerful technology on the same site.

Decommissioning

Dismantle the plant and restore the site to its original condition.

Sale / Exit

Sell the operating asset to a long-term owner and recycle the capital.

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PROJECT DEVELOPMENT TIMELINE

Who Pays for What — and When

The money map: who funds each piece, at which stage, from which pocket.

Cost / Obligation	Who Pays	When	Funded By
Development (DevEx)	Sponsor / developer	Pre-FC — development	Equity (at risk)
Development fee	Earned by the developer	At FC / on sale	Rolled into project cost
Bid, grid & performance bonds	Sponsor (bank-issued)	Bidding → construction	Bank lines (contingent)
CapEx (construction)	Project company (SPV)	After FC — construction	Debt + Equity
IDC (interest during constr.)	SPV	Construction	Capitalised into cost
Equity during construction	Sponsor	Construction → COD	Equity Bridge Loan, then equity
Senior debt	Lenders fund; SPV repays	FC → operations	Project cash flows
O&M & operating costs	SPV	Operations	Revenue
Decommissioning	SPV / sponsor	End of life	Reserves / provisions

Golden rule: equity turns up first and leaves last — debt shows up fashionably late, only once the risky bits are done.

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One-Page Glossary

Every acronym in this deck, in plain English.

DevEx — Development Expenditure — at-risk spend to mature a project before FC.

CapEx — Capital Expenditure — the cost to build the asset.

IDC — Interest During Construction — borrowing cost capitalised into the asset.

CWIP — Capital Work in Progress — spend held on the balance sheet until ready to use.

Dev Fee — The developer's profit for taking a project to ready-to-build.

FID — Final Investment Decision — the internal 'GO' to commit equity.

RtB — Ready to Build — permits & contracts done; just needs financing.

FC — Financial Close — financing signed (Dry) and funded (Wet).

NTP — Notice to Proceed — the instruction to start construction.

EBL — Equity Bridge Loan — short-term loan funding equity during construction.

SPV — Special Purpose Vehicle — the ring-fenced project company.

EPC — Engineering, Procurement & Construction — the build contract / contractor.

OEM — Original Equipment Manufacturer — the turbine / panel supplier.

O&M — Operations & Maintenance.

PPA / CfD — Power Purchase Agreement / Contract for Difference — the revenue contract.

ECA / DFI — Export Credit Agency / Development Finance Institution — types of lender.

PCG — Parent Company Guarantee — parent stands behind the SPV.

LC — Letter of Credit — a bank guarantee behind an obligation.

DSRA — Debt Service Reserve Account — a cash (or LC) buffer for debt payments.

DSCR — Debt Service Coverage Ratio — cashflow divided by debt service.

LCOE — Levelised Cost of Energy — lifetime cost per unit of energy.

COD — Commercial Operation Date — the asset starts operating and earning.

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THE WHOLE JOURNEY, IN ONE BREATH

From Idea to Operating Asset

Pre-Dev | Development | FID | RTB | **Fin. Close** | Construction | Operation | Post-Op

Follow the money

- Equity goes in first — funding development as at-risk capital.
- FID commits that equity; Financial Close brings in the lenders' debt.
- An Equity Bridge covers the equity share during construction.
- In operation, revenue repays the debt — and CWIP becomes an earning Fixed Asset.
- Your true risk is exposure, not just cash — bonds, LCs & guarantees can be called if things go wrong.

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ONE FOR THE FEED

You now understand project finance better than most people at the dinner table.

If this made DevEx, CWIP, FID, RtB, FC and EBL feel a little less scary, consider sharing it — so the next person doesn't have to learn it the hard way (i.e. live, on a real deal).

Equity: "I was here first, and I'm leaving last." **Debt:** "I only show up once the drama is over."

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