



RE & STORAGE ADVISORY · STEP 02 · CONCEPT, SIZING & RTC/FDRE MODELLING · MODEL

RTC/FDRE Hybrid Dispatch Model

8760-hour simulation of solar-wind-storage dispatch against RTC obligation, with sensitivity grid on capacity mix and compliance probability.

Worked example (anonymised): Hybrid RTC Supply Portfolio · 300 MW solar + 150 MW wind + 300 MW/1,200 MWh BESS · Western India. Illustrative round-the-clock supply portfolio modelled for a state DISCOM tender requiring 85% annual availability against a flat RTC schedule.



Illustrative sample image

Sample excerpt · Portfolio Mix Sensitivity Grid (illustrative)

Solar (MW)	Wind (MW)	BESS (MW/MWh)	Annual CUF (%)	RTC Compliance (%)	Peak Shortfall (hrs/yr)
300	150	300/1,200	44	92	38
320	130	300/1,200	43	89	52
280	170	300/1,200	45	94	29
300	150	250/1,000	44	86	71
300	150	350/1,400	44	96	18

Notes

- Compliance % measured against a flat RTC schedule net of forecast curtailment
- Model is delivered in editable form for the client's internal use post-engagement

What happens in this step

1. Translate Step 01 resource/load outputs into candidate technical configurations (solar:wind:BESS ratios, power-to-energy ratios)
2. Run BESS power/duration optimisation across tariff, ancillary and contract structures to find the least-cost MW/MWh combination



3. Build 8760-hour hybrid RTC/FDRE dispatch model incorporating curtailment, forecasting error and peak-shortfall penalties
4. Layer in degradation curves (solar, wind, cell) and RTE fade over project life to test 25-year energy delivery
5. Stress-test the configuration against low-RTE, high-degradation, and adverse-weather-year scenarios
6. Benchmark augmentation strategies (capacity top-up years, replacement cost timing) against contract penalty exposure
7. Issue sizing recommendation with sensitivity grid, LCOE/LCOS and compliance-probability outputs for investment decision

Outcomes

- A financially optimised BESS power/duration and hybrid capacity mix, backed by scenario and sensitivity analysis
- Quantified RTC/FDRE compliance probability and penalty-risk exposure ahead of PPA signing or financial close
- A degradation- and RTE-tested 25-year energy delivery profile accepted by lenders and internal investment committees
- A clear, costed augmentation roadmap that protects contracted output without over-sizing capex upfront

Want this for your project? Write to info@growthifye.com or use the Contact page — we will scope the real deliverable set for your capacity, state and lender requirements.

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