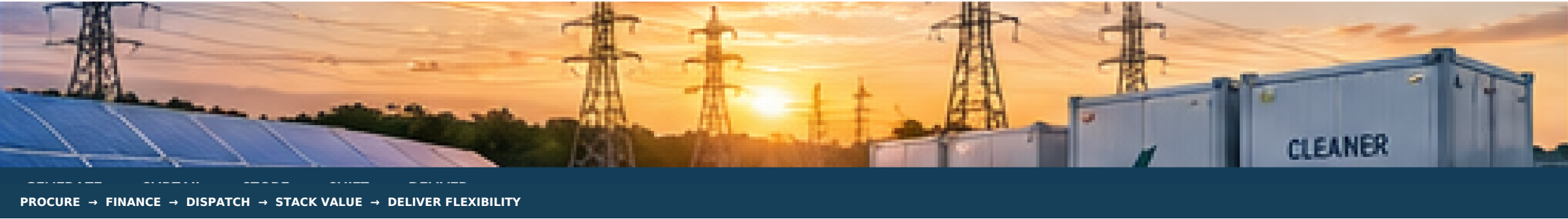


India's Storage Inflection



PROCURE → FINANCE → DISPATCH → STACK VALUE → DELIVER FLEXIBILITY

FIRSTGREEN THESIS

India's storage market is moving from a procurement-led first phase into a differentiated flexibility market. Around 9.6 GWh of BESS is commissioned, while the gross development pipeline is many times larger. Pipeline capacity and planning requirement are not directly comparable: projects at tender, award and construction stages carry different execution probabilities, durations and commercial structures. The investment question is therefore not simply how many GWh will be built, but which assets can secure enough utilisation and revenue certainty to recover lifecycle cost.

9.6 GWh

COMMISSIONED BESS

Approx. commissioned energy capacity by Aug 2026.

148.5 GWh

GROSS VISIBLE PIPELINE

Under construction + awarded + under tendering.

95 GWh

CEA FY2029-30 NEED

System-planning requirement; not a pipeline forecast.

“Storage is becoming a flexibility market - not simply an equipment market.”

UTILITY

System flexibility

MERCHANT

Market volatility

C&I

Customer flexibility

Why 148.5 GWh can exceed a 95 GWh system requirement
The pipeline is a gross development inventory. It is not risk-adjusted for cancellations, financial close, commissioning year, project duration or contract viability.

Sources: CEA LT-NRAP; Ministry of Power / PIB; IEEFA/JMK; Firstgreen calculations. Figures are snapshots, not forecasts.

The next storage cycle will be won by the clearest paid service - not by the largest battery pipeline.

From Pipeline to Asset Class

Stock, development pipeline and system requirement answer different questions.

EXHIBIT 01 | Stock, gross development pipeline and planning requirement

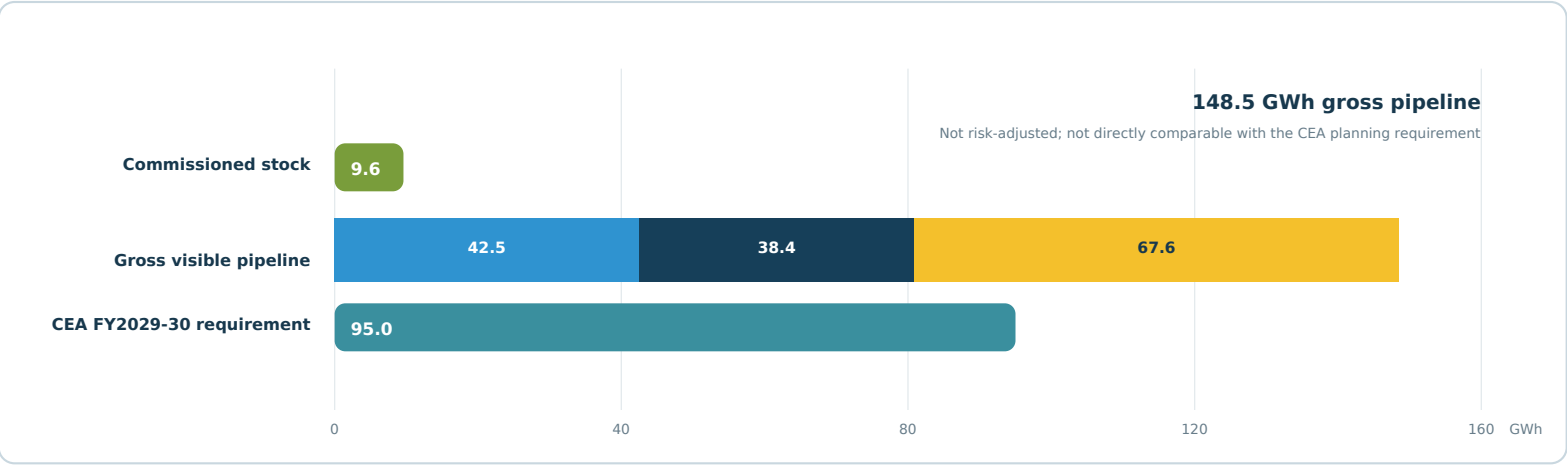


EXHIBIT 02 | The storage market is splitting into four value pools



INVESTMENT INTERPRETATION

The development pipeline should not be interpreted as a forecast of commissioned capacity. Tendered and awarded projects remain exposed to tariff viability, grid connectivity, equipment procurement, financing and contract-execution risk. The CEA resource-adequacy requirement answers a different question: how much storage the power system is expected to require under a generation and demand pathway. The fact that the gross pipeline exceeds the FY2029-30 requirement is therefore evidence of market activity - not proof of oversupply.

~15.5x

PIPELINE / COMMISSIONED

Gross visible pipeline relative to today's fleet.

~9.9x

NEED / COMMISSIONED

CEA FY2029-30 requirement relative to today.

~4.0 h

IMPLIED PLANNING DURATION

95 GWh / 24 GW in CEA FY2029-30 planning.

Pipeline quality matters more than pipeline size

Track conversion from tender → award → financial close → construction → commissioning.

Sources: Ministry of Power / PIB June 2026 status; CEA LT-NRAP; Firstgreen calculations.

Gross pipeline is market activity. Financial close and commissioning are the tests of investability.

What Does Storage Really Cost?

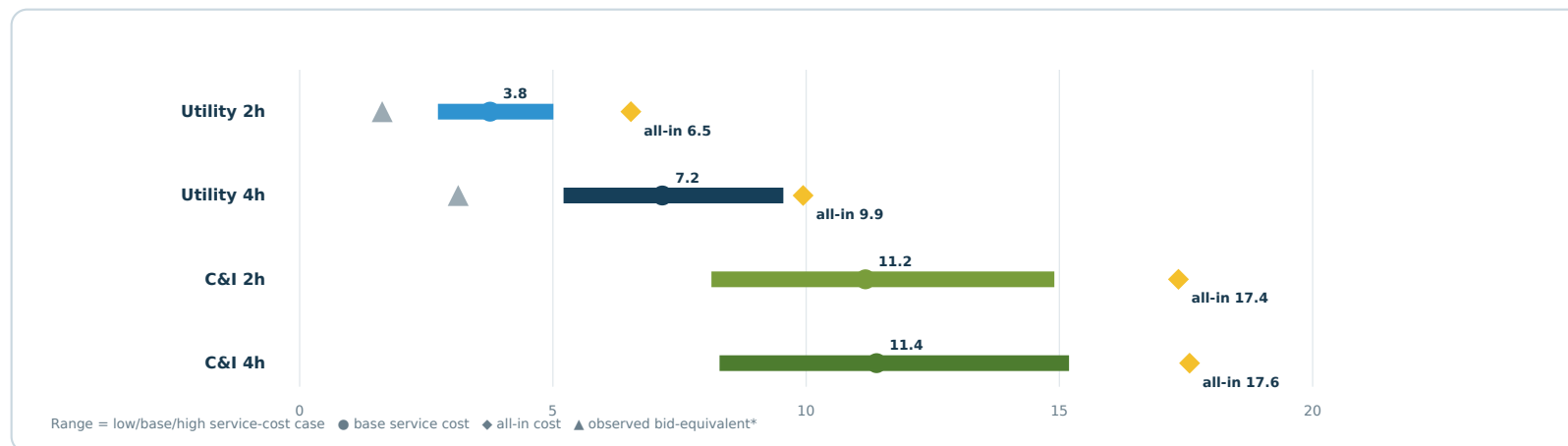
Firstgreen LCOS+ separates storage service, charging energy and financing structure.

MARKET REFERENCE

FIRSTGREEN MODEL

ASSUMPTION

EXHIBIT 03 | Firstgreen LCOS+ - cost range and all-in base case (INR/kWh delivered)


METHOD

Firstgreen LCOS+ solves for the storage-service tariff required to satisfy the project financing structure after accounting for capital cost, debt service, operating expenditure, degradation, augmentation and tax. Charging electricity is then added separately to derive an all-in delivered cost. This matters because utility tolling contracts may allocate charging energy to the buyer, whereas a C&I consumer normally bears the charging cost directly.

Important interpretation

The 2-hour and 4-hour cases are not a universal duration ranking. Their economics reflect different cycling and utilisation assumptions. Duration creates value only when additional stored energy has a paid discharge window.

Sources: IEEFA/JMK standalone BESS benchmarks; Firstgreen LCOS+ model. *Bid-equivalent is a reference and is not directly comparable with LCOS+.

What drives the range?

CAPEX

Lower installed cost reduces both service and all-in cost.

CYCLES

Higher repeatable utilisation spreads fixed cost over more MWh.

FINANCING

Debt cost and equity hurdle materially change solved tariff.

RTE

Lower efficiency raises charging energy per delivered kWh.

CHARGING

Charging price determines the gap between service cost and all-in cost.

Required storage tariff

= price that makes Equity NPV = 0

at the target cost of equity, after debt service and tax

Battery pack price is not LCOS. Project cash flows, utilisation and charging allocation determine storage economics.

C&I Storage Is a Value-Stack Business

Energy arbitrage alone rarely carries the investment case.

EXHIBIT 05 | Illustrative 1 MW / 2 MWh C&I value stack - Year 1 (INR lakh/year)

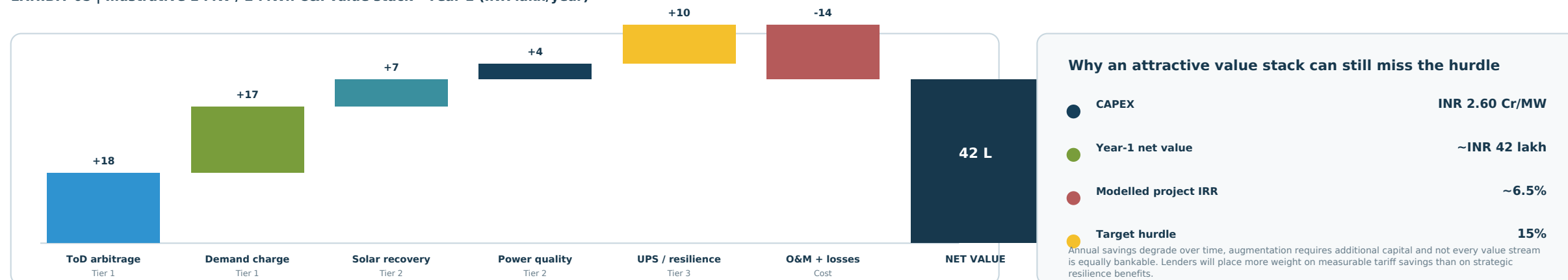
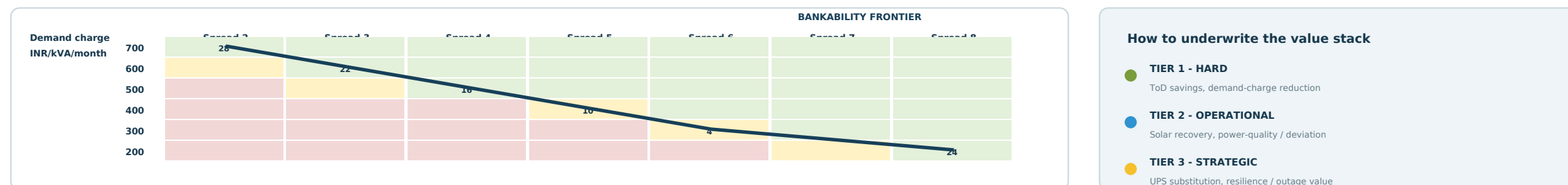


EXHIBIT 06 | C&I NPV sensitivity at a 15% hurdle (INR lakh)



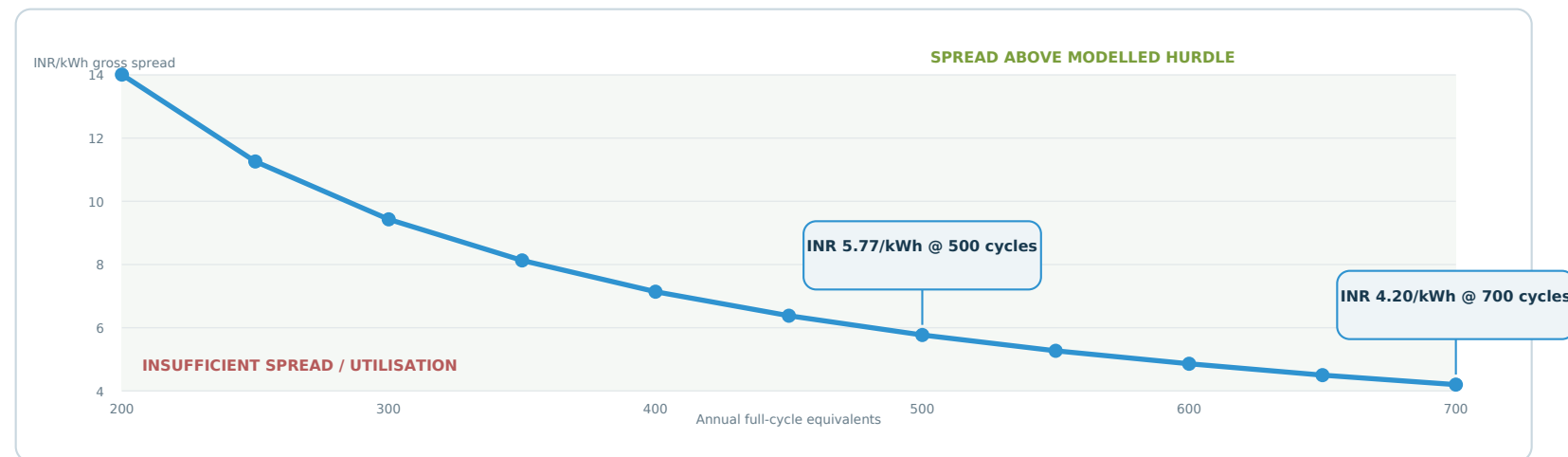
Source: Firstgreen C&I model. Values are illustrative screens; project investment decisions require 15-minute load, tariff and warranty data.

C&I storage becomes investable when hard savings and operational value stack together - without double counting.

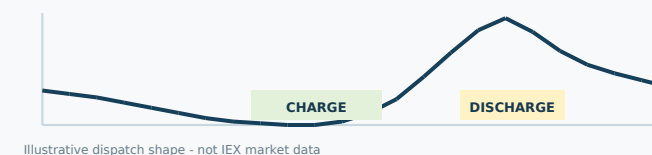
Merchant Storage Monetises Volatility

Returns depend on the persistence of intraday spreads - not the average market price.

EXHIBIT 07 | Required gross spread to achieve a 15% unlevered hurdle



Conceptual 24-hour market shape



Merchant bankability checklist

- **Charging rights** Who can charge and from which source?
- **Dispatch control** Who controls SOC and market offers?
- **Degradation** Who funds cycling and augmentation?
- **Settlement** Spread, capacity payment or hybrid?

INVESTMENT INTERPRETATION

Merchant BESS is not underwritten by the monthly average electricity price; it is underwritten by the frequency and persistence of dispatchable price spreads. A battery earning one exceptional spread every few weeks can perform worse than an asset capturing smaller but repeatable spreads hundreds of times each year. At approximately 500 cycles, the illustrative project requires about INR 5.77/kWh of gross spread to clear a 15% unlevered hurdle; at 700 cycles the requirement falls to roughly INR 4.20/kWh. Higher cycling, however, also raises degradation and augmentation exposure.

Next analytical upgrade

Back-test actual 15-minute IEX DAM / RTM prices to produce P50 and downside merchant revenue cases. Average market price should not be used as a proxy for the storage arbitrage opportunity.

Source: Firstgreen merchant screening model. Gross spread is a project-screening metric; actual market revenues require block-level back-testing.

Merchant storage is underwritten by durable spreads and dispatch rights - not by a single average market price.

From Battery Capacity to Bankable Flexibility

The storage market is not one business model - and the cheapest battery will not necessarily win.

India's BESS market should not be treated as a single technology sector. Utility projects are increasingly priced as flexibility infrastructure; merchant batteries are exposed to price-shape and dispatch risk; and C&I systems depend on tariffs, demand charges, onsite generation and reliability requirements. Across all three models, the discipline is the same: define the paid service first, model lifecycle cost second, and allocate operating and contractual risks before interpreting the headline tariff.



"The winning project has the clearest paid service, the highest sustainable utilisation and bankable risk."

FOUR CONCLUSIONS FROM THE ANALYSIS



01 PIPELINE $\neq$ COMMISSIONED

Execution and financing determine conversion.



02 LOWEST CAPEX $\neq$ LOWEST LCOS

Utilisation and capital structure matter.



03 C&I ARBITRAGE ALONE IS INSUFFICIENT

Hard savings must stack with operating value.



04 MERCHANT VALUE IS VOLATILITY-DEPENDENT

Block-level dispatch analysis is essential.

About Firstgreen

First Green Consulting Private Limited is a renewable-energy and sustainability advisory firm supporting developers, utilities, C&I consumers and investors across solar, BESS, power markets, digital energy and sustainability.

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Selected capabilities

-  **Solar & BESS Advisory**
-  **Power Markets & Commercial Strategy**
-  **TwinPro Digital Energy**
-  **Sustainability Advisory**

Feasibility, DPR, design, storage sizing

PPA, open access, RTC/FDRE, C&I

SCADA, performance, digital twins

LEED, IGBC, TRUE, energy & carbon

Firstgreen Consulting analysis. All financial cases are illustrative screens and require project-level validation.

Firstgreen LCOS+ turns storage from a technology discussion into an investment, dispatch and contract discussion.