

# September did not just get expensive. The market got tighter.

From midday relief to evening scarcity: India's emerging flexibility premium

A 32-day IEX comparison shows that September represented more than one extreme trading day. Purchase bids doubled, sell-side liquidity fell, cleared volumes contracted and prices reset higher.



Illustrative Firstgreen magazine image

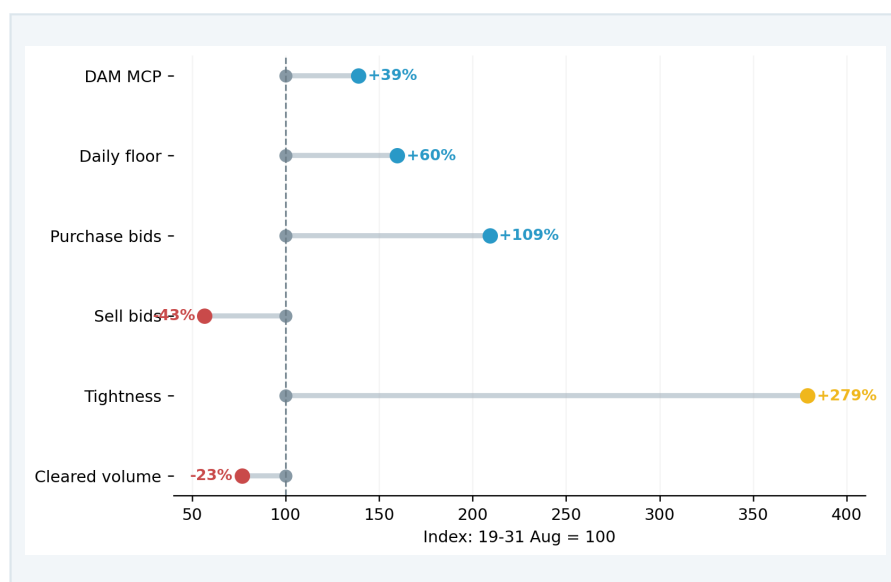
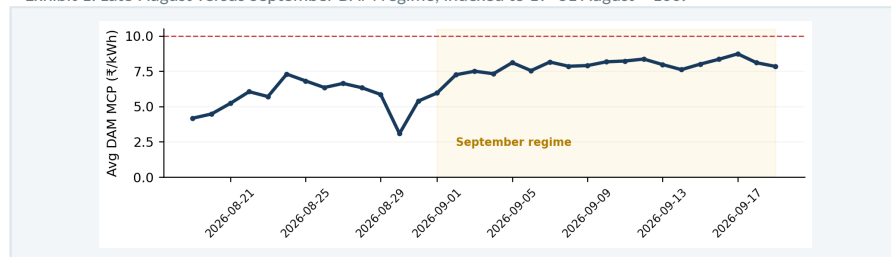


Exhibit 1. Late-August versus September DAM regime, indexed to 19-31 August = 100.



Daily average DAM MCP, 19 August-19 September 2026.

The September shift is visible without selecting the most dramatic hour. Compared with 19-31 August, average purchase bids increased by roughly 109% while average sell bids fell by about 43%. The purchase/sell tightness ratio moved from 1.3× to 4.9×. Average market-cleared volume fell about 23% even as the average DAM price rose 39%.

That combination matters. A higher price by itself can reflect many factors. Higher buying interest, falling offered supply and lower cleared volume together point to a market that had become structurally tighter. This is a stronger foundation for analysing flexibility value than the headline ₹20/kWh scarcity price alone.

## +39%

Average DAM MCP, 1-19 Sep vs 19-31 Aug

## +109%

Average purchase bids

## -43%

Average sell bids

“September was not one exceptional stress day. It was a tighter market regime.”

The flexibility premium appears first as a **liquidity problem** - more buyers competing for fewer offered MWh.

# The low-price window lasted **only five hours**

On 17 September, the regular DAM ceiling dominated most of the day.

Daily averages hide the feature storage cares about most: when the cheap and expensive hours occur, and how long the scarcity persists.

## 01 / THE ARITHMETIC

### Daily average $\neq$ hourly system stress

The same daily average can be produced by a smooth market or by a few low-cost hours surrounded by scarcity. Storage economics depend on the shape, not simply the mean.

#### Method

Midday = 11:00–15:00. Evening = 18:00–23:00. These are market time windows, not measured solar-generation intervals.

## 02 / THE HOURLY PRICE CURVE

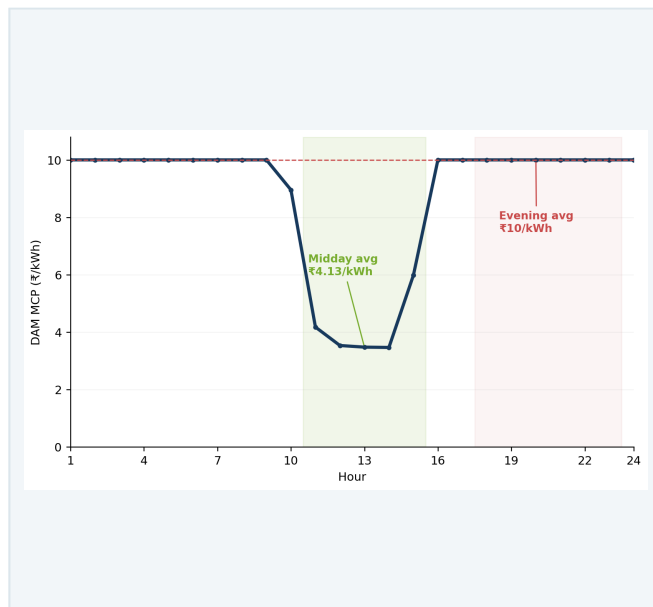
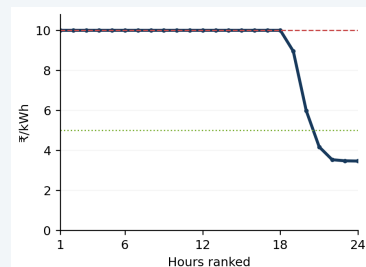


Exhibit 2. Regular DAM MCP on 17 September 2026.

## 03 / DURATION



Price-duration curve.

# 18 / 24

Hours at the ₹10/kWh regular DAM ceiling

# 9 h

Longest continuous ceiling run

“The duck curve is becoming a price curve.”

#### Midday

Liquidity improves and the regular DAM price falls to roughly ₹3.5–6/kWh.

#### Ramp

From 16:00 the price snaps back to the ceiling as the low-price window closes.

#### Evening

The average regular DAM price is ₹10/kWh from 18:00–23:00, 142% above midday.

A daily average conceals the feature storage cares about most: **when the cheap and expensive hours occur.**

# The real evening shock was a collapse in offered supply

Price rose because buying demand increased at the same time that sell-side liquidity disappeared.

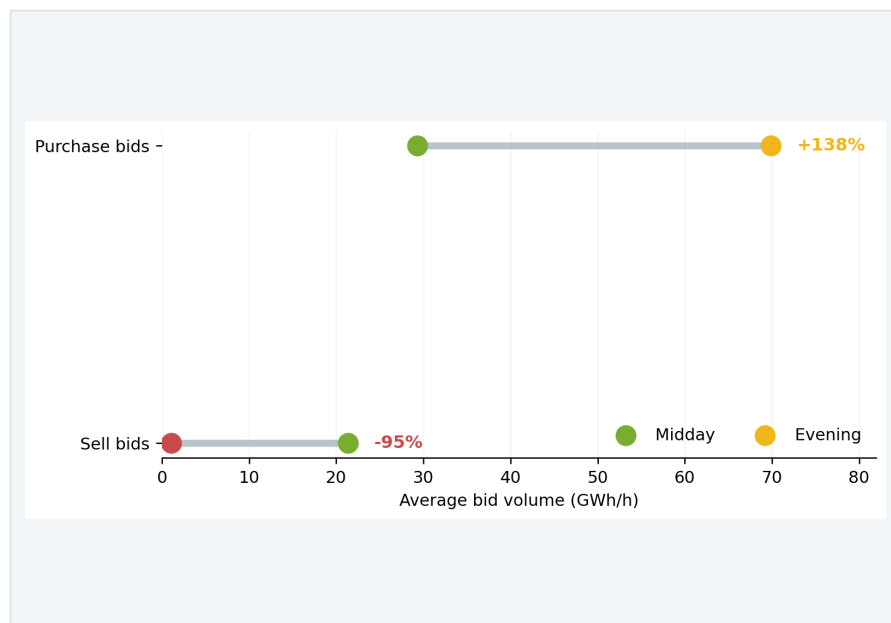
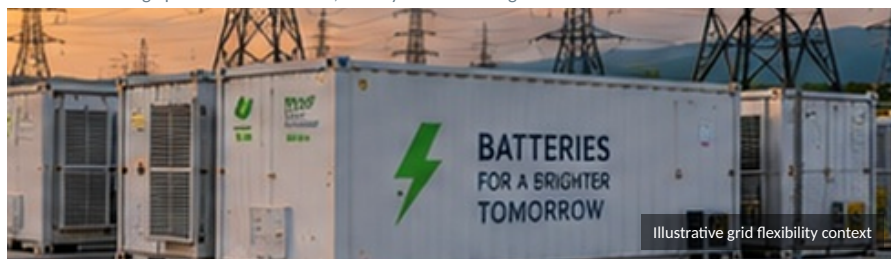


Exhibit 3: Average purchase and sell bids, midday versus evening.



Average purchase bids increased from about 29.3 GWh/h during 11:00–15:00 to nearly 69.9 GWh/h in the 18:00–23:00 evening window. Over the same comparison, average sell bids fell from about 21.3 GWh/h to just 1.05 GWh/h.

The price outcome is therefore only the surface signal. Underneath it, buyers were competing for an offered pool that had almost disappeared.

## +138%

Purchase bids, evening versus midday

## –95%

Sell bids, evening versus midday

## 1.4× → 66×

Purchase/sell market tightness

“The market was not merely willing to pay more. It was struggling to find enough offered supply.”

### Read carefully

These are IEX bid volumes, not national generation or demand. They measure liquidity inside the exchange.

The purchase/sell ratio moved from near balance at 1.4× to roughly 66×. That is the core flexibility story: scarce dispatchable MWh become disproportionately valuable once the midday relief window closes.

Storage, responsive demand and dispatchable supply all compete to provide that missing hourly capability.

The evening flexibility premium is fundamentally a **market-liquidity premium**.

# Scarcity appeared across markets - but the prices are not interchangeable

DAM, RTM, GDAM and high-price products reveal different dimensions of the same stressed system.

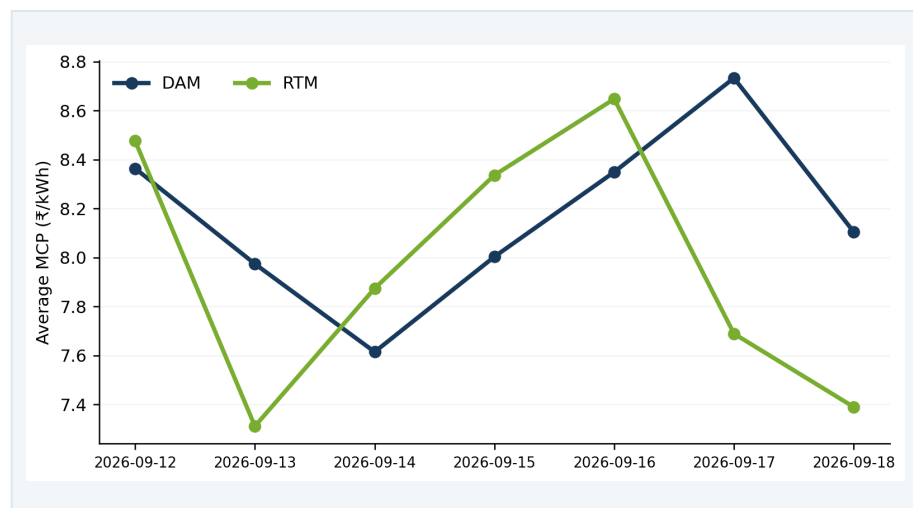


Exhibit 4A. DAM and RTM average MCP, 12–18 September.

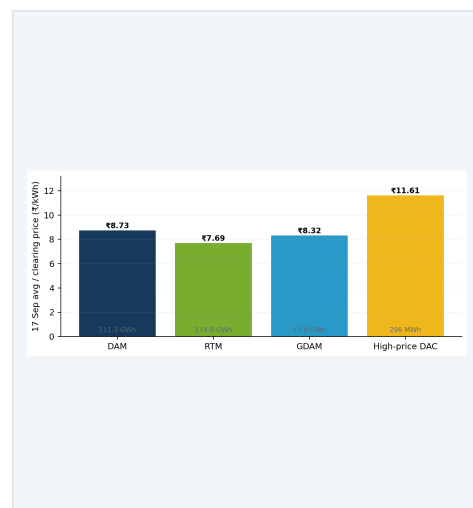


Exhibit 4B. 17 September product snapshot. Prices and volumes are not directly comparable products.

**₹8.73/kWh**

DAM • 111.3 GWh cleared

**₹7.69/kWh**

RTM • 174.9 GWh cleared

**₹8.32/kWh**

GDAM • 17.9 GWh cleared

**₹11.61/kWh**

High-price DAC • 296 MWh • different product

The cross-market evidence confirms that September stress was not confined to one chart or one trading window. DAM and RTM both remained elevated, but the real-time premium changed sign by day. On 17 September, GDAM also cleared above ₹8/kWh.

The high-price product must be separated analytically. It serves a different market segment and cleared very small volumes relative to DAM or RTM. It is evidence of scarcity value, not a continuation of the regular DAM price series.

## How to read the products

**DAM** - day-ahead energy

**RTM** - real-time balancing

**GDAM** - green day-ahead

**High-price** - scarcity-oriented segment

## Key correction:

The ₹20 headline is a scarcity-market signal, not the same regular DAM series as the midday ₹3–4/kWh observations.

Flexibility was being priced in several markets, but **each product must be interpreted on its own terms.**

# More battery duration did not always create more market value

A chronologically feasible dispatch model changes the storage-duration conclusion.

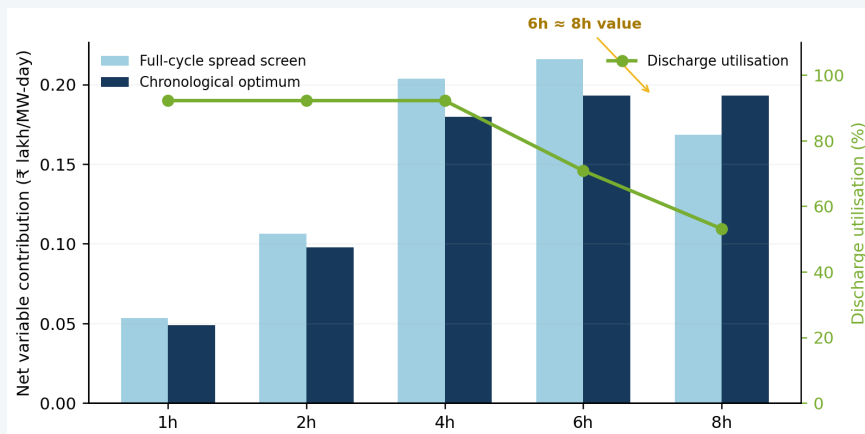


Exhibit 5A. Full-cycle spread screen versus chronologically feasible dispatch.

## Model constraints

- chronology enforced
- 1 MW power limit
- duration-based energy capacity
- 85% round-trip efficiency
- end-of-day SOC = 0
- ₹600/MWh illustrative variable cost

**Important:** one-day market value is not the system-optimal storage duration.

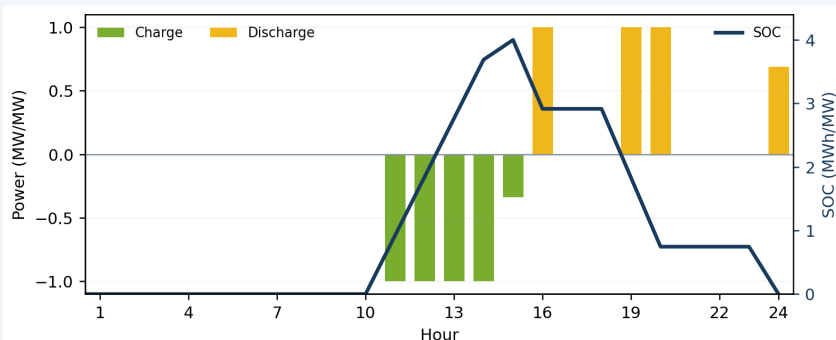


Exhibit 5B. Optimised 4-hour charge/discharge schedule and state of charge on 17 September.

Chronological optimisation lowers the 1–4 hour values relative to a simple cheapest-hours versus highest-hours screen because charging must precede discharge and the battery is subject to power and energy limits.

The 4-hour system produces about ₹0.180 lakh/MW-day of net variable contribution. The 6-hour system reaches roughly ₹0.193 lakh/MW-day, but the 8-hour system adds no further value on this day.

## Why does 8h not beat 6h?

The optimiser discharged only about 4.25 MWh/MW. The extra nameplate duration was not economically useful at the available 17 September price shape.

## Discharge utilisation

- 4h: ~92%
- 6h: ~71%
- 8h: ~53%

On this day, marginal arbitrage value flattened beyond roughly six hours.

# Storage economics depend on how often scarcity repeats

A single profitable day is not a business case. Frequency determines annual contribution.

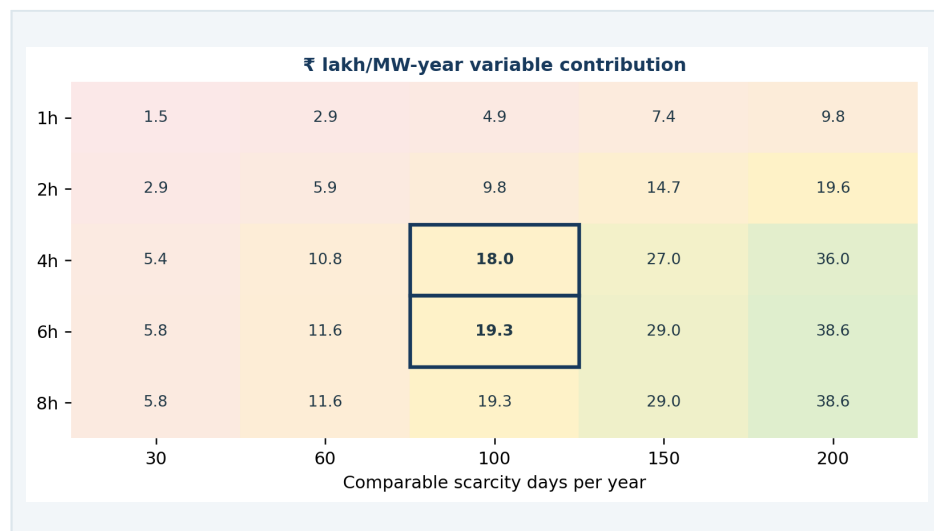


Exhibit 6A. Annual variable contribution under alternative comparable-scarcity-day frequencies.

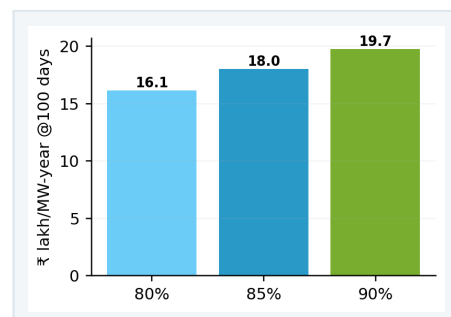


Exhibit 6B. 4-hour case at 100 comparable days.

## What this still excludes

Capex, fixed O&M, augmentation, financing, taxes, market fees, ancillary services and residual value.

**+20.7%**

Demand • Sep 1–9 YoY

**–10.9%**

Hydro • since Apr YoY

**+25.3%**

Coal • Sep 1–9 YoY

**+80.3%**

Gas • Sep 1–9 YoY

**+161.5%**

RTM price • Sep 1–9 YoY



September was a combined demand-and-flexibility shock: demand was unusually high, hydro availability weakened and thermal resources had to work harder. The market response was not merely a higher average price; it was persistent scarcity outside the brief midday relief window.

The next investment question is therefore not only how many MW to add, but how much energy can be shifted across the hours and days when the system is actually short.

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The next ₹1 may create more system value by **moving electricity across hours** than by producing another midday MWh.