

EnergyWatts

Monthly update on India's energy storage market

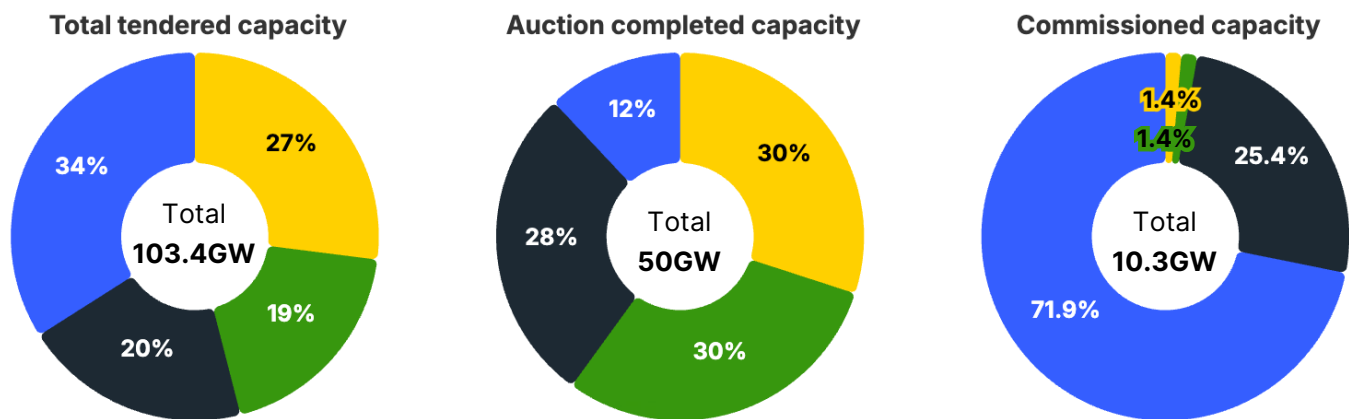
July 2026

1. Market snapshot (as of June 2026)

India's energy storage pipeline has crossed 100 gigawatts (GW), while commissioned capacity has reached 10.3GW. Monthly additions are accelerating as both tender-backed projects and merchant battery energy storage system (BESS) assets led by renewable energy developers and independent power producers (IPPs) begin operation.¹

Figure 1: Energy storage system (ESS) market snapshot

■ Standalone BESS ■ Standalone PHS ■ FDRE ■ Renewable energy + ESS



Source: Central Electricity Authority (CEA), Ministry of New and Renewable Energy (MNRE), JMK Research, IEEFA

Key highlights

- India's energy storage market has seen strong tendering activity over the past few years, pushing the cumulative tendered capacity to over 100GW (Figure 1).
- However, this has not translated into operating capacity, with only about 10.3GW, or under 10% of the tendered volume, commissioned to date.

Capacity awarded

- As of June 2026, around 50GW capacity has been awarded in the energy storage space (Figure 1).
 - Pumped hydro storage accounts for the largest share of tendered capacity, largely because of Rewa Ultra Mega Solar Limited's (RUMSL) 16.4GW Madhya Pradesh tender issued in June 2023, which remains delayed by land- and site-identification constraints, and accounts for much of the segment's gap between capacity issued and awarded.
 - Firm and dispatchable renewable energy (FDRE) and renewable energy + ESS have emerged as the largest awarded segments, reflecting relatively faster conversion of tendered capacity into contracted projects.

Commissioned capacity

- India's commissioned energy storage base stands at approximately 10.3GW, comprising 7.4GW/36 gigawatt-hours (GWh) of pumped hydro storage (PHS) and 2.9GW/8.3GWh of battery energy storage systems (Figure 1).
- Around 5GW of India's pumped hydro storage capacity was commissioned before 2021, while recent storage additions have been driven largely by BESS. Nearly 82% of operational BESS capacity was added in the last three months, underscoring the rapid shift from legacy pumped hydro to battery-led storage deployment.

¹ Capacities in this section are reported in power terms (MW/GW) rather than energy terms (MWh/GWh). Tendering and award documents (specifically for tender types such as FDRE), generally specify capacity on a power basis. Power capacity, therefore, allows for a streamlined and simplified like-for-like comparison.



- Against the CEA's 60.63GW ESS target for financial year (FY) 2030, India will need to aggressively scale commissioned capacity nearly sixfold over the next four years (Table 1).

Table 1: Cumulative ESS capacity commissioned versus CEA's FY2030 target

Technology	Cumulative commissioned capacity, as of June 2026 (GW)	CEA target, FY2030 (GW)
BESS	2.9	41.65
Pumped hydro	7.4	18.98
Total	10.3	60.63

Source: CEA, JMK Research

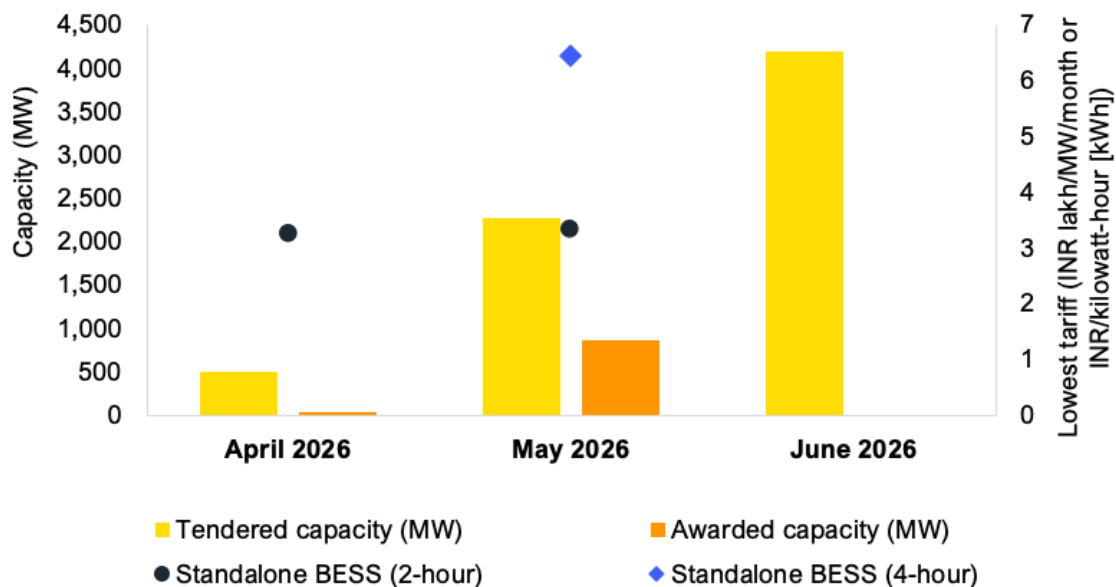
2. ESS tendering trends

India tendered 4.2GW of energy storage capacity in June 2026, with standalone BESS accounting for the largest share at 2.9GW, followed by FDRE projects at 1.2GW and renewable energy + ESS projects at 100MW.

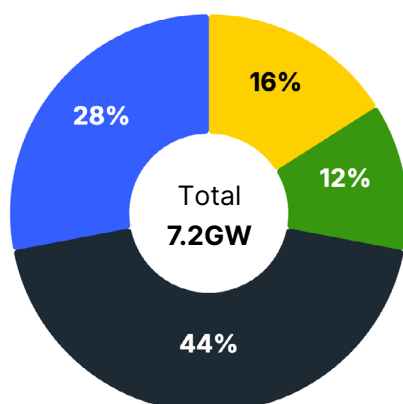
ESS tendering trends, FY2027 year-to-date (YTD)

- India tendered 7,232MW of energy storage capacity in the first three months of FY2027. Standalone BESS maintained its dominance in the ESS tendering space, accounting for 3,182.5MW, or approximately 44%, of the total tendered capacity during this period. Meanwhile, FDRE tendering rose to 1,200MW (Figures 2 and 3).
- The 2-hour configuration continued to dominate the tenders, with around 3,000MW capacity. The 4-hour configuration is gaining momentum post the Ministry of Power's clarification allowing minimum discharge hours of 4 hours per day in a single- or double-cycle format (Figure 4).

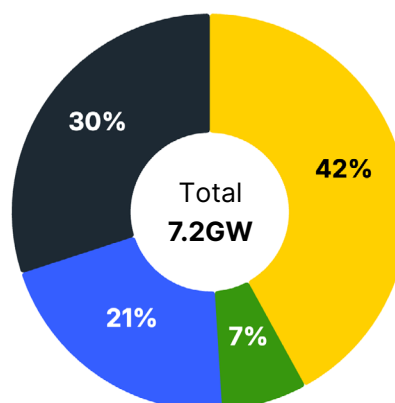
Figure 2: Monthly progress of build-own-operate/build-own-operate-transfer (BOO/BOOT) ESS tenders in first three months of FY2027



Source: Tendering authorities, JMK Research; note: The figure includes only project development tenders. Standalone BESS tariffs are reported in INR/lakh/MW/month, except for the four-hour standalone BESS tender issued in May, where the tariff is denominated in INR/kWh.

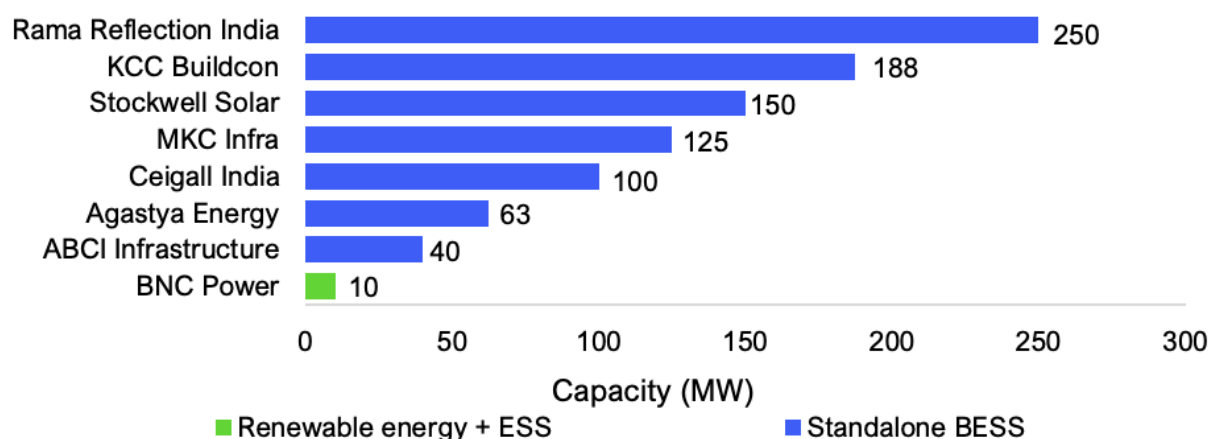
**Figure 3: Tendered capacity by technology, FY2027 (April–June)**■ Standalone BESS ■ Standalone PHS ■ FDRE
■ Renewable energy + ESS**Figure 4: Tendered capacity by discharge/delivery duration, FY2027 (April–June)**

■ 6-hour ■ 4-hour ■ 2-hour ■ 3-hour



Source: Tendering authorities, JMK Research; note: The trends depicted in the above charts only include project development tenders; include 100MW of rooftop + BESS; this is for PHS projects.

ESS tender winners

Figure 5: Leading winners in ESS segment by capacity awarded (FY2027, until June)

Source: Tendering authorities, JMK Research; note: The trends depicted in the above charts only include project development tenders.

- In Q1 FY2027, ESS awarded capacity declined around 78% year-on-year to around 920MW despite higher tender issuance. Rama Reflection India, KCC Buildcon, and Stockwell Solar emerged as the leading capacity award winners in the standalone BESS segment in Q1 FY2027, together accounting for around 64% of the quarter's total ESS capacity awarded.

ESS tendering in June 2026

- Tendering authorities issued 4,200MW of grid-scale energy storage capacity in June 2026, an increase of 85% month-on-month. Standalone BESS was the dominant segment, comprising more than 69% of the storage tendered capacity in June 2026 (Table 2).
- Standalone BESS tenders from MSEDCL, GUVNL and KREDL were all floated under the viability gap funding (VGF) scheme, which offers support of up to INR18 lakh/megawatt-hours (USD18,955/MWh) towards standalone BESS projects with a total capacity of 2,900MW under VGF.
- MAHAPREIT issued a tender for rooftop + BESS complying with Maharashtra's BESS policy. The slabs for the tender are given in four categories: 20–100 kilowatts (kW) and 101–250kW of solar without BESS, and the same slabs with BESS of 30% and 50% the solar capacity, respectively.
- Shorter storage durations dominated, with 70.7% of project development tenders specifying a 2-hour discharge under the two-cycle-per-day operating pattern that targets both morning and evening demand peaks.


Table 2: Project development tenders (BOO/BOOT) issued in June 2026

Tender name	Location	MW	MWh	Commissioning timeline (in months)	Classification	Per day cycles	Operating tenure (years)	Scope
KREDL 200MW/400 MWh BESS	Karnataka	200	400	18	Standalone	2	12	• BOO model with VGF support (INR18 lakh/MWh, or USD18,955/MWh) • Developer must self-procure all project land • KREDL provides energy for charging system • Grid connection within scope of developer
KREDL 250MW/500 MWh BESS	Karnataka	250	500	18	Standalone	2	12	• BOO model with VGF support (INR18 lakh/MWh, or USD18,955/MWh) • Developer must self-procure all project land • KREDL provides energy for charging system • Grid connection within scope of developer
GUVNL 450MW/900 MWh	Gujarat	450	900	18	Standalone	2	12	• BOO model with VGF support (INR18 lakh/MWh, or USD18,955/MWh) • Developer must self-procure all project land • GUVNL provides energy for charging system • Grid connection within scope of developer
MSEDCL	Maharashtra	2,000	4,000	18	Standalone	1	15	• BOO model with VGF support (INR18 lakh/MWh, or USD18,955/MWh) • MSEDCL provides land or developer self-procures • MSEDCL provides energy for charging system • Grid connection within scope of developer
MAHAPREIT 100MW with 20MW/40MWh rooftop solar with BESS	Maharashtra	20*	40	12	Rooftop + BESS	-	25	• Rooftop RESCO model including design, engineering, supply, financing, installation, testing and commissioning at multiple locations • Grid connection limited to low-tension (LT) panel of consumers • Four slabs for rooftop, two of them with BESS capped at 30% for 20–100kW and 50% for 101–250kW categories
SECI 1,200MW/ 4,800MWh FDRE	Pan India	1,200	4,800	-	FDRE assured peak power	1	25	• Procurer selects four hours during non-solar period • Developer delivers continuous supply in peak hours • 10% monthly supply shortfall permitted • 5% energy can be stored from open markets annually • Developer operates storage for market operations outside peak hours



Storage EPC tenders in June 2026²

- In June 2026, 1,260MW of EPC tenders were issued, with NTPC Renewable Energy Limited's (NTPC REL's) 1,140MW of 4-hour standalone BESS tenders making up 90.47% of the total capacity. The systems are being procured alongside NTPC REL's solar projects in Gujarat, Rajasthan and Uttar Pradesh, with the 4-hour duration designed to shift a larger share of daytime solar generation into the extended evening peak.

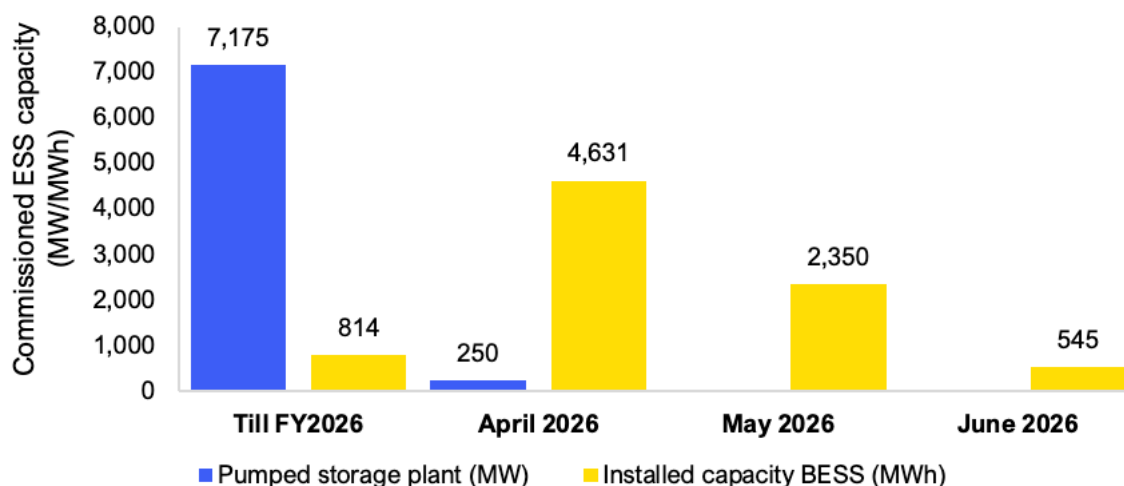
Auctions completed

- EPC contracts covering 250MW of renewable energy and 1,200MWh of BESS capacity were awarded in June 2026.
 - Bondada Engineers won an INR1,338 crore (USD140.9 million) EPC award from NTPC REL for a 250MW of solar capacity paired with 50MW/200MWh BESS project at Sitapur, Uttar Pradesh. NTPC REL issued the tender in December 2025, and the project is scheduled for completion within 18 months.
 - Ganesh Green Bharat also secured a 1,000MWh BESS EPC order from NTPC REL.

3. New projects commissioned

Approximately 215MW/545MWh of ESS capacity was commissioned in June 2026, with the entire addition made up by BESS.

Figure 6: Monthly ESS commissioned capacity trend for FY2027 (till June)



Source: CEA, Stock Exchange filings, JMK Research

- BESS commissioning in FY2027 (till June) has reached around 2,440MW/7,526MWh, alongside 250MW of pumped hydro storage (Figure 6).
- Following significant tendering activity over the past two to three years, standalone BESS projects are now beginning to move into operation, with commissioning expected to accelerate as the awarded pipeline progresses towards completion.

Table 3: ESS projects commissioned in June 2026

Developer/owner	Location, state	Project type	MW/MWh	Business model
ACME Solar Holdings Limited	Phalodi and Jodhpur, Rajasthan	Standalone	33/120	Merchant
ACME Solar Holdings Limited	Jaisalmer, Rajasthan	Standalone	120/240*	Merchant
Adani Green Energy Limited	Khavda	Standalone	62/185**	Merchant

Source: BSE/NSE filings, press releases, JMK Research; note: Estimated MW component based on previous commissioned capacities of ACME under the same SPV; MW component calculated assuming three hours of storage; approximate figures for MW component.

² In EPC tenders, the contractor doesn't own the project and is only responsible for its engineering, procurement and construction.

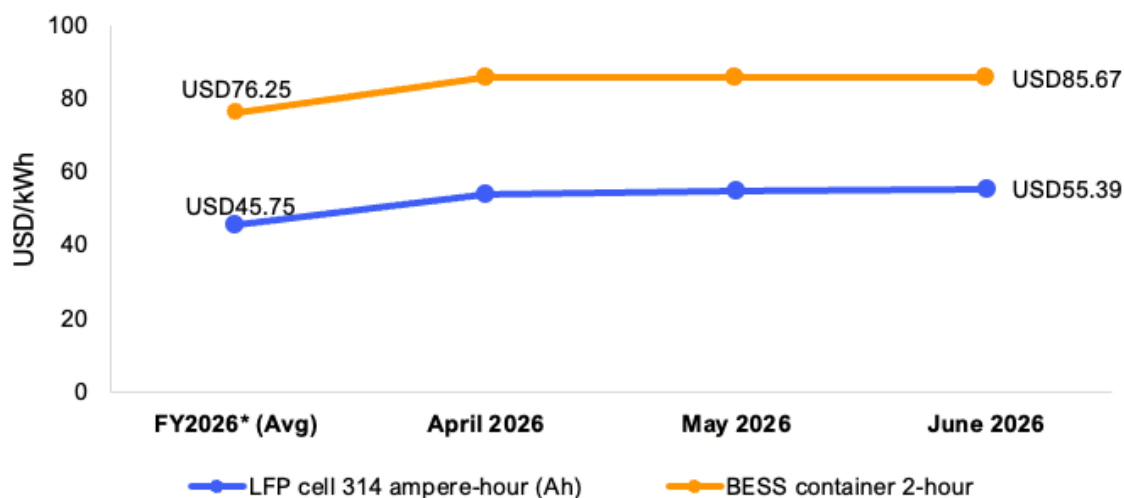


- India commissioned approximately 215MW/545MWh of energy storage system (ESS) capacity in June 2026, accounting for ~8% of the total capacity commissioned in FY2027 so far, with the entire addition comprising standalone BESS, underscoring its dominance in current grid-scale storage commissioning (Table 3).
- Adani Green Energy and ACME Solar Holdings lead India's operational grid-scale battery storage fleet, with approximately 3.5GWh and 3.34GWh commissioned, respectively. Their June capacity additions were made within ISTS-connected merchant portfolios in Gujarat and Rajasthan.

4. ESS pricing trends

Lithium iron phosphate (LFP) cell prices rose marginally for a fourth straight month to around USD55/kWh (INR5,223/kWh) in China. In India, the landed costs of cells and containers are 10–25% above China ex-works prices, reinforcing the case for local manufacturing.

Figure 7: BESS pricing trends: Cells and containers (USD/kWh, ex-works China)



Source: InfoLink, Intercalation, JMK Research, industry consultation; note: The FY2026 value is an annual average drawn from prices published by intercalation and prevailing market prices over the financial year. Ex-works is the price at the factory gate (including VAT) in China, before inland transport, shipping and import costs are added. A 2-hour AC container is a fully assembled, grid-ready unit containing the cells with the power conversion system (PCS), BMS, liquid cooling, enclosure and other balance-of-plant equipment, sized to discharge at rated power for two hours.

- The 314Ah LFP cell, India's most imported energy-storage battery cell, rose for the fourth consecutive month to approximately USD55/kWh (INR5,223/kWh) on an ex-works China basis in June 2026, 0.7% higher than in May (Figure 7).
- Prices for integrated 2-hour AC container systems moved in parallel, reaching USD85.7/kWh (INR8,138/kWh) on an ex-works China basis in June 2026. Both benchmarks were nearly 4-5% above their March 2026 levels, indicating that the recent increase has extended beyond cells to the broader system integration level.
- The roughly USD30/kWh (INR2,849/kWh) difference between the LFP cell and an assembled AC container reflects the additional equipment required to make the battery ready for grid use. This includes the PCS, BMS, thermal management and cooling equipment, enclosure, fire-safety systems, cabling and other balance-of-plant components.
- India's landed LFP cell price stood at approximately USD60–USD68/kWh (INR5,698–INR6,457/kWh) in June 2026, around 10–25% above the China ex-works free on board (FOB) level, representing a premium of roughly USD5–USD13/kWh (INR475–INR1,234/kWh). The same premium is also observed for an assembled AC container. The gap reflects freight, duties and other import-related costs. Localising cell and pack manufacturing would let developers avoid this import premium and reduce their reliance on Chinese supply.
- This reliance runs across the battery value chain. Nearly all containerised BESS units deployed in recently commissioned projects were imported directly from China, and India's domestic BESS manufacturers, likewise, depend on imported Chinese cells to assemble their packs. Until upstream cell capacity scales materially (see Section 5), both developers and manufacturers will remain exposed to Chinese supply and pricing.



5. ESS manufacturing updates

- India's manufacturing footprint remains concentrated at the downstream end of the value chain, with roughly 60GWh of battery-pack assembly capacity already in place.
- The success of India's push to deepen localisation in the battery segment will hinge on moving upstream into cell and related component manufacturing, where domestic capability is still nascent.
- India's cell manufacturing continues to lag pack assembly. Ola Electric is the only manufacturer currently operating a 2.5GWh cell manufacturing plant against roughly 60GWh of cumulative installed pack-assembly capacity in India.
- Domestic cells, therefore, cover barely 4% of pack-level capacity, leaving a gap of around 57.5GWh that keeps India's fast-growing battery demand dependent upon imported cells, primarily from China.

Table 4: Key manufacturing updates in June 2026

Company name	Type of update	Manufacturing capacity	Other details
iNVERGY	Manufacturing facility commencement	3GWh	iNVERGY inaugurated its BESS plant with an annual production capacity of 3GWh and an investment of INR200 crore (USD21.1 million). The plant will be manufacturing LFP battery packs, solar inverters and ESS units
Ola Electric	Certificate of approval	-	Ola secured Bureau of Indian Standards (BIS) certification for their indigenously developed LFP 46100 cylindrical cell
PACE Digitek	Cell supply agreement	-	Lineage Power, PACE Digitek's subsidiary has signed a 3GWh battery cell supply agreement with China's Rongjie Energy Tech to manufacture their BESS systems in India

Source: JMK Research

6. Storage deals and partnerships in June 2026

Storage offtake agreements in June 2026 covered around 630MW/1,950MWh across three battery energy storage purchase agreements and power purchase agreements, alongside two joint ventures (Table 5).

Table 5: Storage updates in June 2026
(power purchase agreement [PPA] and joint ventures [JVs], among others)

Developer	Storage agreement type	Counter party	Project type	Project capacity	Location	Other details
PPAs, and battery energy storage purchase agreements (BESPA)						
- Advait Energy Transitions - Sun Drops Energia - Equentia Natural Resources	BESPA	GUVNL	Stand-alone BESS	335MW/670MWh	Gujarat	- Advait's tariff: INR2.10 lakh/MW/month (USD2,212/MW/month) - Sundrops' tariff: INR2.12 lakh/MW/month (USD2,233/MW/month) - Equentia's tariff: INR2.11 lakh/MW/month (USD2,222/MW/month)
Onward Solar Power	BESPA	GRIDCO	Stand-alone BESS	45MW/180MWh	Odisha	Setup under BOO model, secured from SECI's 500MWh standalone BESS auction
Beheraband North Extension*	PPA	BESCOM	Renewable energy + BESS	250MW solar + 250MW/1,100MWh BESS	Karnataka	KERC adopted an interim tariff of INR5.51/kWh (USD0.058/kWh) for 25 years. Project supported by VGF



Principal entity	Agreement type	Counter party	Project type	Other details
JVs				
NLC India Limited	JV	Indian Oil Corporation Limited (IOCL)	Green energy projects with BESS	The JV will set up renewable energy with storage projects, including BESS and PHS for supply of green power to commercial and industrial consumers and discoms
Belding India	JV	HD Fabcon Private Limited	Renewable energy and BESS	The JV's focus will be on identifying, securing, and managing projects across the storage sectors, with emphasis on developing scalable business opportunities

Source: News articles, JMK Research

7. Policy and regulatory updates

Key development in June 2026 included MNRE's proposed one-time package to unlock around 44.8GW of stranded renewables capacity, alongside state tariff adoptions, draft storage frameworks and Uttar Pradesh Electricity Regulatory Commission's (UPERC) approval of a firm tariff for a 5MW concentrated solar power (CSP) project, an early sign of regulators backing emerging storage technologies.

Table 7: ESS policy and regulatory updates in June 2026

Title	Key provisions
Tariff approvals	
UPERC approves INR4.73/kWh (USD0.050/kWh) firm tariff for a 5MW CSP project in Unnao	UPERC directed UPPCL to sign a PPA with Cosmicwave Technology and Research for a 5MW concentrated solar power project in Unnao at a firm tariff of INR4.73/unit (USD0.050/unit) for the full tenure, without escalation. The UPERC invoked its power to remove difficulties, given the nascent status of CSP technology in the state.
Tender and procurement approvals	
DERC clears BSES Rajdhani to tender 97.5MW/195MWh distribution-embedded BESS across five Delhi grids	DERC granted an in-principle approval for BSES Rajdhani Power to tender a cumulative 97.5MW/195MWh BESS across five 66/11 kilovolts (kV) grid stations under the competitive bidding route. The model carries no utility capex and recovers a single-part capacity charge. The DERC expects annualised benefits of about INR88.35 crore (USD9.3 million) from energy arbitrage, ancillary services and deferred network investment, all passed to consumers, with the discovered tariff subject to further evaluation.
UPERC approves UPPCL-MPPMCL joint procurement of 1,130MWh ISTS-connected BESS under VGF	UPERC approved a 15-year joint procurement of 1,130MWh of BESS energy by UPPCL and MPPMCL under the Ministry of Power's VGF scheme. The selected bidder will supply UPPCL from May to October and MPPMCL from November to April on a 4-hour discharge composite-tariff model.
UPERC clears Noida Power's 80MW/320MWh standalone BESS tender but denies Uttar Pradesh solar-policy subsidy	UPERC cleared NPCL's bidding documents to procure from 4 x 20MW/80MWh of standalone BESS in Greater Noida over 12 years. NPCL had sought the capital subsidy available for solar-charged standalone storage under the UP Solar Energy Policy 2022, but the Commission held that the benefit is reserved for supply to UPPCL and state-owned distribution utilities and does not extend to a private licensee.



TitleKey provisions	
Operating norms	
<u>Rajasthan State Transmission Utility (STU) issues BESS charge-discharge operating procedure for renewable energy-linked open-access storage</u>	The Rajasthan STU set operating norms for BESS paired with open-access renewable energy projects, requiring batteries to charge only from their own generation and to discharge during peak hours. The SLDC may curtail or reschedule operation for grid security, batteries must trip below 49.60 hertz (Hz), and shortfalls against the annual battery obligation attract a charge of INR1.5/kWh (USD0.016/kWh).
BESS development support	
<u>MNRE proposes one-time relief package to resolve around 44.8GW of stranded renewable capacity</u>	MNRE has proposed a one-time, no-subsidy package to clear roughly 44.8GW of renewable energy capacity that holds letters of award but remains without signed PPAs. On the demand side, the package offers a one-time ISTS charge waiver and up to two hours of BESS support for states procuring power from these solar projects. The two hours of power discharged from the BESS during off-peak and night hours would have its tariff determined under Section 62 of The Electricity Act, 2003.

Source: Central Electricity Regulatory Commission (CERC), State Electricity Regulatory Commission (SERC), Appellate Tribunal for Electricity (APTEL), MNRE, JMK Research



Abbreviations

ACC	Advanced chemistry cell	MERC	Maharashtra Electricity Regulatory Commission
AGEL	Adani Green Energy Limited	MNRE	Ministry of New and Renewable Energy
APTEL	Appellate Tribunal for Electricity	MoP	Ministry of Power
BESCOM	Bengaluru Electricity Supply Company	MoU	Memorandum of understanding
BESPA	Battery energy storage purchase agreement	MPPMCL	Madhya Pradesh Power Management Company Limited
BESS	Battery energy storage system	MSEDCL	Maharashtra State Electricity Distribution Company Limited
BIS	Bureau of Indian Standards	NLC	NLC India Limited
BMS	Battery management system	NPCL	Noida Power Company Limited
BOO	Build-own-operate	NTPC	National Thermal Power Corporation
BOOT	Build-own-operate-transfer	OERC	Odisha Electricity Regulatory Commission
CEA	Central Electricity Authority	PPA	Power purchase agreement
CERC	Central Electricity Regulatory Commission	PSDF	Power System Development Fund
CSP	Concentrated solar power	PSPCL	Punjab State Power Corporation Limited
DERC	Delhi Electricity Regulatory Commission	RESCO	Renewable energy service company
DSM	Deviation Settlement Mechanism	RMB	Renminbi (Chinese Yuan)
EPC	Engineering, procurement and construction	RTC	Round-the-clock
ESS	Energy storage system	RTE	Round-trip efficiency
FDRE	Firm and dispatchable renewable energy	RTM	Real-time market
FOB	Free on board	RUMSL	Rewa Ultra Mega Solar Limited
GGBL	Ganesh Green Bharat Limited	RVPN	Rajasthan Rajya Vidyut Prasaran Nigam Limited
GRIDCO	Grid Corporation of Odisha	SECI	Solar Energy Corporation of India
GUVNL	Gujarat Urja Vikas Nigam Limited	SERC	State Electricity Regulatory Commission
IOCL	Indian Oil Corporation Limited	SJVN	Satluj Jal Vidyut Nigam
ISTS	Inter-State Transmission System	SLDC	State Load Despatch Centre
IPP	Independent power producer	STU	State Transmission Utility
JV	Joint venture	TGERC	Telangana State Electricity Regulatory Commission
KERC	Karnataka Electricity Regulatory Commission	TGGenco	Telangana State Power Generation Corporation
KREDL	Karnataka Renewable Energy Development Limited	TNERC	Tamil Nadu Electricity Regulatory Commission
KSEB	Kerala State Electricity Board	UERC	Uttarakhand Electricity Regulatory Commission
KSERC	Kerala State Electricity Regulatory Commission	UPERC	Uttar Pradesh Electricity Regulatory Commission
L1	Lowest bidder	UPPCL	Uttar Pradesh Power Corporation Limited
LFP	Lithium iron phosphate	VGF	Viability gap funding
MAHAP-REIT	Mahatma Phule Renewable Energy and Infrastructure Technology Limited		

About IEEFA

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Charith Konda,
Lead Energy Specialist
South Asia, IEEFA

Prabhakar Sharma,
Senior Consultant,
JMK Research & Analytics

Vasu Mor,
Research Associate,
JMK Research & Analytics

Vansh Kathuria,
Research Associate,
JMK Research & Analytics