

POWER INFRASTRUCTURE FOR

DATA CENTRES

IN INDIA & THE TRANSITION TO

GREEN ENERGY

Better never settles

EXECUTIVE SUMMARY

Power will be a defining factor in the next phase of India's data centre growth. India's operational data centre capacity reached approximately 1.8 GW in H1 2026 and is poised for substantial expansion over the coming years. The critical challenge is no longer limited to securing land, fibre and customer demand. Developers must also obtain sanctioned load, achieve energisation within project timelines and build sufficient redundancy. Infrastructure must support phased expansion without compromising uptime.

India enters this growth cycle from a stronger position. National supply conditions have improved, while the renewable-energy base has expanded. Operators now have access to a wider range of sourcing options. These include green open access, captive and group-captive structures, utility green tariffs, hybrid projects and storage-backed arrangements. However, renewable capacity alone does not guarantee viable supply. Each procurement model must be assessed against landed cost, grid reliability, state regulations, renewable-attribute ownership and firming requirements.

India's opportunity lies in translating national progress in power availability and renewable deployment into reliable, timely and bankable supply for large-scale and campus-level data centres. Projects that provide phased energisation, AI readiness, renewable power optionality and storage-backed resilience will be better positioned to attract hyperscale, enterprise and AI demand. The green-energy transition is therefore central to site strategy, customer value and long-term competitiveness.

FOREWORD

The global data centre build-out is increasingly running into a power constraint. Already in Europe's FLAP-D markets grid connection timelines are stretching to 7-10 years, pushing data centre projects to secondary markets like Spain & Nordics. As Artificial Intelligence and High-Performance Computing reshape global digital infrastructure driving demand for larger power blocks, access to reliable, round-the-clock power will increasingly determine not only where data centres are built, but how competitively they scale.

India has an opportunity to build ahead of this constraint. As global Data Centre electricity consumption is projected to more than double from 565 TWh in 2026 to exceed 1,200 TWh by 2030, India is expected to grow even faster, with data centres' share of national electricity demand projected to rise from 0.8% to 2.6% over the same period. Few countries are better positioned to absorb growth of this magnitude.

With Data Centre capacity reaching 1.8 GW in 2026, up from 0.4 MW in 2020, India's power ecosystem provides a strong foundation. In FY2025-26, the country met a record peak demand of 243 GW, while keeping energy shortage to just 0.03%. Non-fossil sources now account for approximately 53% of installed capacity, supported by 275 GW of renewable energy. At the same time, India's transmission backbone is expanding rapidly: with transmission network surpassing 5 lakh circuit kilometres in January 2026 and targeted to reach 6.48 lakh kilometres by 2032.

For Data Centre Operators, the opportunity extends beyond conventional power procurement. Green Open Access, group captive models are creating increasingly flexible pathways to secure clean and reliable power.

Data centres are among the largest and most predictable new sources of electricity demand, giving them a unique role in shaping India's energy transition. Their growth can create the demand certainty needed to bring forward new generation, transmission and storage, while requiring faster grid connections, access to clean and firm power, and greater resilience at the project level. Rising digital demand can, in turn, catalyse investment across the power ecosystem.

India's focus should be to plan power and digital infrastructure as two sides of the same growth story. If India can build the connectivity, capacity and resilience required ahead of demand, it can turn power from a potential bottleneck into a competitive advantage and position itself to capture the next wave of global digital infrastructure investment.



Ms. Nivruti Rai
Managing Director & CEO,
Invest India

FOREWORD

India's digital economy is entering a period of accelerated growth, with cloud adoption, artificial intelligence and digital services driving substantial demand for data centre capacity. Capturing this opportunity will require more than strong demand, capital and technology; the sector must also secure reliable, timely and sustainable power.

Within Asia Pacific, India shows a synergistic combination of large demand, a substantial pipeline, competitive construction costs and an expanding renewable energy base. With 3.8 GW of data centre capacity in the pipeline and average construction costs of US\$7.4 million per MW, substantially below several established Asia Pacific markets, India is well positioned to capture a growing share of regional investment.

Power has therefore become a critical consideration in data centre investment, site selection and development. The availability of sanctioned load, substation capacity, connection timelines, redundancy and provisions for phased expansion increasingly determines project feasibility and operational resilience. At the same time, operators and occupiers are seeking practical pathways to reduce the carbon intensity of their operations while maintaining reliability, cost efficiency and long-term viability.

Against this backdrop, I am pleased to present ***Power Infrastructure for Data Centres in India & the Transition to Green Energy***, developed in collaboration with Invest India. The whitepaper examines India's power landscape, renewable energy procurement mechanisms, enabling policies and state-level incentives, while highlighting the practical considerations that influence data centre development and operations.

At Cushman & Wakefield, we view data centres as a vital component of India's digital infrastructure. Through our integrated capabilities in Advisory & Transactions, Project Development Services and Managed Service, we guide investors and operators across the data centre development lifecycle, from strategic decision-making to project execution.

We hope this whitepaper provides developers, investors, operators and energy-sector stakeholders with a practical framework for informed decision-making and sustained collaboration. Building India's next generation of data centres will require coordinated action across the real estate, power, technology and policy ecosystems.



Mr. Gautam Saraf

Executive Managing Director, Mumbai and New Business
Cushman & Wakefield

GLOSSARY OF ABBREVIATIONS

Abbreviation	Full form
ACC	Advanced Chemistry Cell
AI	Artificial Intelligence
ALMM	Approved List of Models and Manufacturers
BESS	Battery Energy Storage System
BFSI	Banking, Financial Services and Insurance
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CSS	Cross-Subsidy Surcharge
DISCOM	Distribution Company
DPIIT	Department for Promotion of Industry and Internal Trade
ESS	Energy Storage System
GDAM	Green Day-Ahead Market
GOAR	Green Open Access Registry
GTAM	Green Term-Ahead Market
GW / GWh	Gigawatt / Gigawatt-hour
IPP	Independent Power Producer
IRENA	International Renewable Energy Agency
ISTS	Inter-State Transmission System
IT	Information Technology
kW / kWh	Kilowatt / Kilowatt-hour
LSS	Large Scale Solar (Malaysia)
MNRE	Ministry of New and Renewable Energy
MVA	Megavolt-ampere
MW	Megawatt
PLI	Production Linked Incentive
PPA	Power Purchase Agreement
PPP	Public-Private Partnership
RCO	Renewable Consumption Obligation
REC	Renewable Energy Certificate
SaaS	Software as a Service
SGST	State Goods and Services Tax
UPS	Uninterruptible Power Supply
VGF	Viability Gap Funding
VPPA	Virtual Power Purchase Agreement

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01 The power imperative for India's data centre growth

India's data centre expansion is entering a phase in which access to scalable and deliverable power will influence investment viability as directly as land, fibre and customer demand. A campus's energy proposition is therefore becoming central to its commercial positioning and long-term scalability. Its strength rests on three dimensions: capacity and connection timelines; resilience and efficiency; and access to clean energy.

This is reflected in a wider structural shift. Global data centre electricity consumption is projected to reach approximately 565 TWh in 2026, up 26% from 2025, and to exceed 1,200 TWh by 2030.¹ Across Asia Pacific, the ability to add data centre capacity is becoming increasingly dependent on the depth and deliverability of the surrounding power system. Several established hubs face tighter land, grid or interconnection constraints, while smaller emerging markets may offer growth but have narrower procurement ecosystems. India is comparatively well positioned because its large and geographically diverse renewable base can support expansion across multiple data centre clusters rather than concentrating growth within a single constrained power market.

Demand growth is reshaping both the scale and technical profile of data centre development. Cushman & Wakefield's H1 2026 analysis indicates that Asia Pacific's development pipeline reached approximately 26.5 GW after expanding by 7.1 GW during the first half of the year, comprising 4.8 GW in under construction stage and 21.7 GW in planning stage.² Cloud adoption, digital infrastructure investment and AI remain the principal demand drivers, while power availability is increasingly determining where and how quickly capacity can be delivered.

In India, demand is broad-based, spanning hyperscale cloud, BFSI, telecom, SaaS, public-sector platforms and AI. Data centres' share of India's electricity demand is expected to rise from 0.8% in FY2025 to 2.6% by FY2030.³ Continued cloud migration, enterprise digitalisation and the expansion of digital public infrastructure provide a diversified foundation for growth. At the same time, AI-ready facilities require larger power blocks, higher rack densities and more energy-intensive cooling, making forward power and campus planning essential.⁴

As this requirement grows, access to reliable, scalable and especially green electricity will be critical to converting the development pipeline into operational capacity.



India accounts for approximately 12% of APAC's operational data centre capacity, underscoring its growing regional significance. The corresponding scale of renewable energy needed is massive and is being supported by significant investments in the same.

However, converting this potential into investible capacity will depend on regulation improvements, reliable power delivery, flexible procurement frameworks, transmission access, effective firming solutions and storage capacity.

Mr. Khurshed Gandhi
MD, Strategic Consulting & Sustainability

02 India's clean-power platform creates a strategic opportunity

India's strengthening national power position provides a more robust foundation for digital infrastructure growth. In FY2025-26, the country met a maximum power demand of 242.49 GW, while the national energy shortage declined from 0.1% in FY2024-25 to 0.03%.⁵ Non-fossil sources accounted for 53% of India's installed power capacity in FY2026, comprising 274.68 GW of renewable energy and 8.78 GW of nuclear capacity.⁶ This foundation is expected to strengthen further through planned transmission expansion. India's transmission network is projected to increase from 4.85 lakh circuit km to 6.48 lakh circuit km by 2032, while ISTS (Inter-State Transmission System) infrastructure is being developed to integrate 280 GW of variable renewable capacity by 2030.⁷ This can improve the flow of renewable power from resource-rich states to major data centre clusters.

Along with the availability of power comes the cost of power. The delivered cost of power depends on transmission access, state open-access regulations, banking and wheeling provisions, applicable surcharges, balancing requirements and ownership of renewable attributes.

India's advantage lies in its competitive generation costs that can offer a more favourable clean power sourcing proposition than several Asia Pacific markets. This can strengthen operating-cost competitiveness while supporting occupier decarbonisation goals, although comparisons must ultimately be based on delivered costs after accounting for transmission, wheeling, balancing, storage and state-level charges.⁸



With renewable capacity exceeding 275 GW, non-fossil sources now accounting for over half of installed power, and with the expanding transmission infrastructure, India offers a rare combination of scale and clean-power depth positioning it as a preferred, future-ready destination for data centre investment.

Mr. Vinod Subramanian
SVP, Invest India

Indicative Asia Pacific renewable-power cost comparison

Table 1: Relative positioning of renewable energy cost in key Asia Pacific markets

Asia Pacific market	Relative position	Data centre implication
India	Low	Recent competitively bid utility-scale solar tariffs indicate a strong generation-cost base for long-term renewable procurement. Low-cost renewable energy supports competitive power pricing, enabling cost-effective colocation rentals
Malaysia	Low to Moderate	Competitive large-scale solar auctions place Malaysia among the more cost-effective regional markets, although its renewable scale and resource diversity remain below India's. This indicates that a growing hyperscale demand may place upward pressure on rental rates
Australia	Moderate	Renewables cost remains moderate, but transmission, storage and firming requirements affect delivered power costs
Japan	High	Business-use solar generation costs remain above India, elevating the operating expenses and resulting in one of the highest colocation rental levels in Asia Pacific

Source: Cushman & Wakefield analysis

The strategic value of India's current cost position lies in its potential to support expansion without placing operating economics and decarbonisation objectives in conflict. Maintaining this balance as electricity demand rises will determine whether the advantage remains durable across successive phases of data centre development.

03 Green power procurement for data centres

Different procurement routes offer distinct levels of control, flexibility and complexity. Utility supply and green tariffs provide a relatively straightforward route, while green open access and captive or group-captive structures offer greater control over sourcing and renewable attributes. Hybrid renewable and storage-backed arrangements can further align variable generation with a data centre's continuous power requirement.

Figure 1: Green Energy Procurement Pathways in India



Source: Green Energy Open Access Rules and portal information; Cushman & Wakefield analysis.^{9,10}



Power availability is increasingly becoming a defining factor in data centre site selection and infrastructure investment decisions. As cloud adoption accelerates and AI workloads drive significantly higher power densities, the industry requires scalable, power-ready campuses that can support both current demand and future expansion. This underscores the growing importance of robust power infrastructure in enabling the next phase of digital infrastructure growth in India.

Mr. C.R. Srinivasan
CEO, Digital Connexion

3.1 Policy architecture stack for renewable-ready capacity

India's central green-power framework operates alongside state-level incentives pertaining to capital expenditure, operating expenditure and infrastructure for data centres. The central framework determines access and procurement options, while state provisions influence project economics and delivery conditions.

India's central green-power framework is best understood as an integrated policy stack. Each layer addresses a specific project requirement: access, delivered cost, firming, procurement flexibility and long-term capacity availability. This provides data centre developers with a practical lens for structuring renewable-ready capacity.

Table 2: Policy architecture stack for renewable-ready capacity

Layer	Key instruments / points	Relevance to data centres
Access layer	Green Energy Open Access Rules, Green Open Access Registry (GOAR), 100 kW aggregate threshold for non-captive consumers across connections within the same electricity division; no minimum threshold for captive consumers; and a 15-day approval framework, subject to technical feasibility.	Enables eligible data centres to procure renewable electricity through third-party or captive arrangements.
Cost layer	ISTS charge waivers, CSS cap and surcharge rules, transmission and wheeling economics.	Determines landed cost and the viability of long-distance renewable procurement.
Firming layer	VGF support for approximately 43 GWh of battery energy storage systems (as of 2025); policy support for co-locating BESS with solar projects; solar-hour and non-solar-hour connectivity under CERC's General Network Access framework; pumped-storage development; and hybrid renewable-plus-storage procurement.	Strengthens the power system's ability to shift and balance variable renewable generation, improving alignment with round-the-clock data centre demand.
Procurement layer	Utility green-power offerings; third-party open-access PPAs; captive and group-captive PPAs; green power-market products; renewable energy certificates; CERC-regulated virtual PPAs; and Renewable Consumption Obligation compliance mechanisms, where applicable.	Provides physical-delivery and certificate-based routes for renewable procurement and RCO compliance, including options where direct physical supply is constrained. Renewable-energy claims remain dependent on valid ownership, transfer and extinguishment of the associated attributes.
Capacity layer	CEA's National Electricity Plan for generation and transmission; the Long-Term National Resource Adequacy Plan for 2026–27 to 2035–36; Green Energy Corridors; Renewable Energy Management Centres; and MNRE's 50 GW annual renewable-energy bidding trajectory through FY2027–28.	Provides a national planning framework for generation adequacy, transmission expansion, renewable-energy evacuation, forecasting and grid integration. It strengthens long-term supply visibility but does not, by itself, guarantee site-specific substation capacity, connection timelines or delivered reliability.

Source: Cushman & Wakefield analysis

Sources: Green Energy Open Access Rules, GOAR, CERC, BEE, CEA and MNRE. ^{9, 11, 7, 12-15}

3.2 State-level incentives

State-level incentives should be assessed as part of the delivered cost and reliability evaluation alongside green open access, captive procurement and storage. States are using power-tariff classification, tariff reimbursements, electricity-duty exemptions, concessional open-access charges, transmission and wheeling support, dual-grid or feeder provisions and sustainability incentives to attract data centre investment. For hyperscale and AI-ready campuses, these incentives reinforce the value of evaluating power policy early in site selection.

Table 3: State-level incentives relevant to data centre power strategy.

Key State	Relevant incentive / provision
Gujarat	Under the Viksit Gujarat Data Center Policy 2026–29, qualifying projects with at least 150 MW of installed IT load may receive an INR 1/kWh power-tariff subsidy and 100% electricity-duty reimbursement for 20 years. The policy also facilitates open access and dual independent feeders and requires at least 51% renewable electricity for core operations.
Madhya Pradesh	Power-tariff reimbursement of INR 2/kWh for the first five eligible data centres of at least 5 MW and INR 1/kWh for subsequent projects, for five years. It also provides electricity-duty reimbursement based on voltage level, 50% reimbursement of transmission and wheeling charges on intrastate sale for five years, dual-grid supply on demand and renewable-energy procurement through open access.
Karnataka	Industrial tariff treatment is available to data centres sourcing at least 30% green energy. Facilities sourcing more than 50% renewable energy may receive INR 0.50/kWh reimbursement for five years, capped at INR 1.25 crore, together with a 100% electricity-duty exemption for five years. The earlier 5 MW eligibility cap was approved for removal in March 2025.
Maharashtra	Under the Green Integrated Data Centre Park framework amended in June 2026, parks with at least 500 MW capacity and INR 30,000 crore investment may receive an INR 1/kWh subsidy for 10 years, extending to 20 years for investments of at least INR 60,000 crore. The minimum green-energy requirement is 51%, and eligible parks may be developed across the state.
Tamil Nadu	The Tamil Nadu Data Centre Policy 2021 provided industrial tariffs, a 100% electricity-tax subsidy for five years, concessional open-access and cross-subsidy charges, dual power for projects of at least 50 MW and an additional feeder above 100 MW. Eligibility required investment above INR 500 crore and at least 30% renewable-energy consumption.
Uttar Pradesh	The Uttar Pradesh Data Centre Policy 2026 provides a 100% electricity-duty exemption for 10 years, transmission and wheeling-charge exemptions of up to 100% depending on the source of renewable power and a dual-grid subsidy for eligible data centre parks. It also promotes 50% renewable-energy adoption in new data centres by 2030.
Andhra Pradesh	The Andhra Pradesh Data Center Policy 4.0, 2024–29 provides industrial tariff treatment. Dual-grid infrastructure through PPP/VGF and support relating to transmission and wheeling charges may be considered on a case-by-case basis. Projects exceeding 50 MW or INR 5,000 crore of plant-and-equipment investment may qualify for tailor-made incentives.

Key State	Relevant incentive / provision
Odisha	Eligible data centre units may receive a 100% exemption from electricity duty and electrical-inspection fees for 10 years up to 5 MVA, a 30% power-bill subsidy for five years capped at INR 2 crore and 100% reimbursement of transmission and wheeling charges for electricity sourced from captive renewable plants established in Odisha.
Rajasthan	The Rajasthan Data Centre Policy 2025 provides a 100% electricity-duty exemption for seven years for eligible data centres and captive renewable-energy plants, alongside exemptions relating to banking, transmission and wheeling charges. It also offers reimbursement of 50% of eligible green-solution expenditure, capped at INR 12.5 crore.
Haryana	The Haryana State Data Center Policy 2022 provides a 100% electricity-duty exemption for grid and captive consumption for 20 years and facilitates dual-grid power supply. Power-bill reimbursement is available for three years, linked to 25% of net SGST and subject to providing hosting services of equivalent value to Haryana government entities.

Source: Official policies for Gujarat, Madhya Pradesh, Karnataka, Maharashtra, Tamil Nadu, Uttar Pradesh, Andhra Pradesh, Odisha, Rajasthan and Haryana¹⁶

3.3 Utility supply and green open access

Utility supply will remain the base layer of power strategy for most data centre campuses, providing the primary grid connection and anchoring operational reliability. The strategic question is how this foundation can be complemented with cleaner procurement routes as occupiers place greater weight on lower-carbon hosting.

Green open access is one of the most relevant routes. The Green Energy Open Access Rules reduced the transaction threshold for green energy from 1 MW to 100 kW, while captive consumers can procure green power without a minimum threshold. Consumers with multiple connections within one distribution company (DISCOM) area may aggregate demand to meet the 100 kW floor.⁹ This widens renewable-procurement access for campuses seeking to increase the share of clean power in their electricity mix.

A single-window process is available through the Green Open Access Registry portal operated by Grid-India. Applications submitted through the portal are routed to the relevant nodal agencies. Approval is deemed granted if a DISCOM does not respond within 15 days, and Grid-India serves as the central nodal agency for the system.^{9, 10}

The economics of green open access are shaped by transmission charges, wheeling charges, cross-subsidy surcharge (CSS) and standby charges. CSS is capped at 20% of the average cost of supply and cannot rise by more than 50% of the initial rate for 12 years, improving cost visibility during the early life of a green power purchase agreement (PPA). CSS and additional surcharges are fully waived for electricity used in green hydrogen and green ammonia production, which may be relevant for data centres evaluating hydrogen-based backup power.⁹

3.4 Cost layer: Inter-State Transmission System waivers and landed-cost optimisation

Renewable procurement is best evaluated on a delivered or landed-cost basis rather than on generation tariff alone. Under the Central Electricity Regulatory Commission’s 2025 Fourth Amendment, eligible renewable-energy projects may receive graded ISTS-charge waivers, reducing the landed cost of inter-state procurement.¹⁷ This is particularly relevant for data centres, where energy accounts for approximately 65% of operating expenditure.³

The lowest generation tariff does not necessarily produce the lowest delivered cost. Transmission, wheeling, surcharges, banking, balancing and firming must be assessed together to determine whether an inter-state renewable-power arrangement is commercially viable.

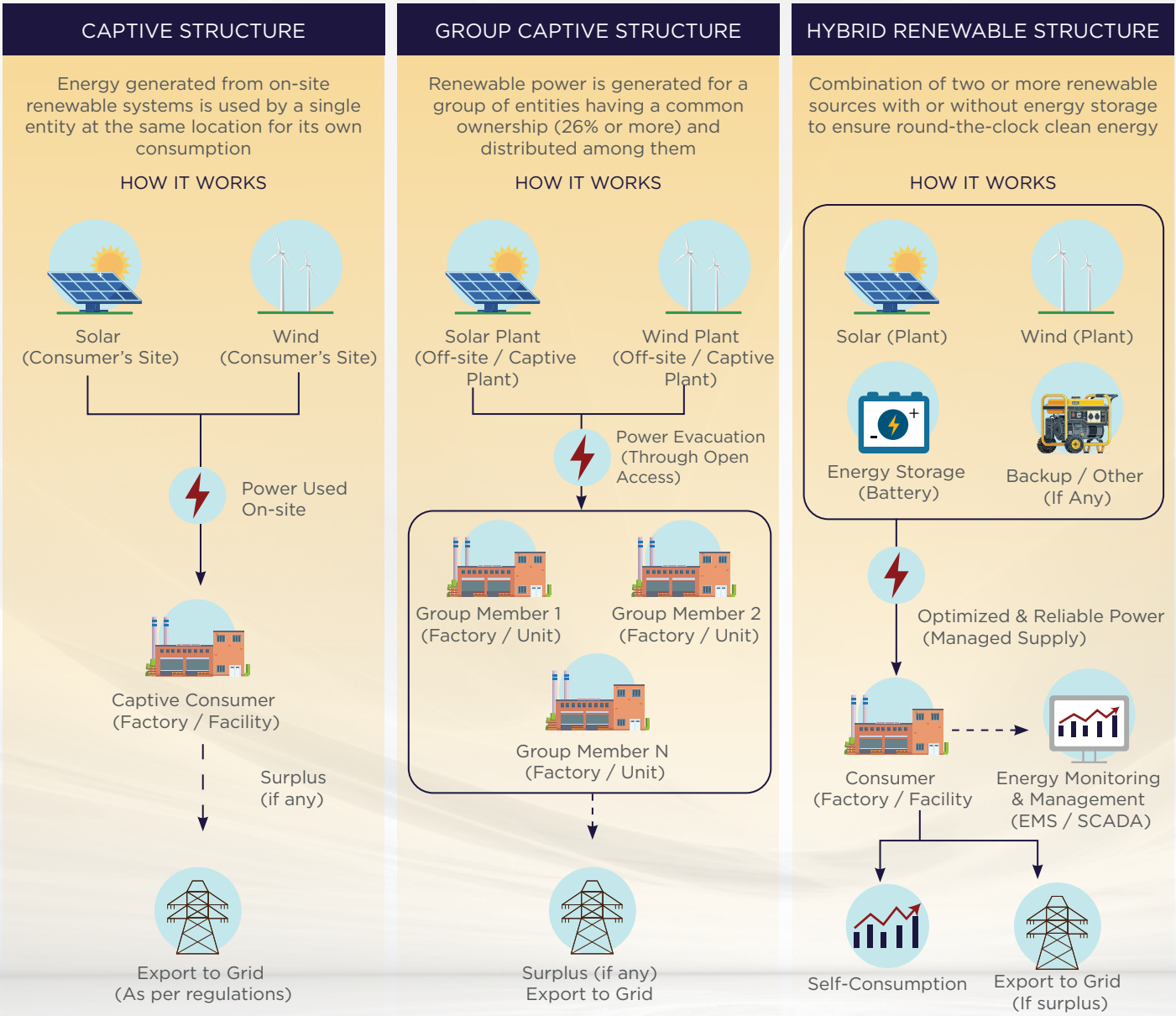
Table 4: ISTS waiver treatment and implications for data centres.

Instrument / asset type	Waivers	Implication for data centres
Solar and wind projects	100% for 25 years for projects commissioned by 30 June 2025. The waiver reduces to 75%, 50% and 25% for projects commissioned in the three successive years ending 30 June 2028; no waiver applies thereafter.	Supports long-distance procurement from resource-rich states where delivered costs remain competitive.
Co-located BESS	100% for 12 years if commissioned by 30 June 2028, connected at the same substation as the renewable generating station and charged from that station. Grid charging during contingencies is permitted up to 10% of annual charging requirements.	Improves the economics of storing and shifting renewable energy to better align supply with continuous data-centre demand.
Other or standalone BESS	100% for 12 years if commissioned by 30 June 2025, reducing to 75%, 50% and 25% across the successive annual commissioning windows ending 30 June 2028; no waiver applies thereafter.	Can support standalone storage economics where open-access delivery and market participation are viable.
Pumped hydro storage	100% for 25 years where construction work is awarded by 30 June 2028, subject to the applicable ESS eligibility conditions, including the renewable-energy charging requirement.	Supports longer-duration firming for renewable-heavy portfolios.
Offshore wind and green hydrogen	100% for 25 years for projects commissioned by 31 December 2032, reducing to 75%, 50% and 25% for projects commissioned during 2033, 2034 and 2035, respectively.	Creates optionality for future clean baseload or hydrogen-linked backup strategies.

Source: Cushman & Wakefield analysis based on CERC regulations.¹⁷

3.5 Captive, group-captive and hybrid renewable structures

Figure 2: Renewable Power Procurement Structures



Source: Green Energy Open Access Rules, Electricity (Amendment) Rules, 2026 and BESS guidance; Cushman & Wakefield analysis. ^{9, 12, 14}

Captive and group-captive structures are particularly relevant for large campuses with predictable long-term loads because they can align electricity procurement more closely with operational requirements. They also require greater commercial, legal and regulatory diligence than conventional utility procurement.

Hybrid structures can reduce dependence on a single renewable-generation profile and improve alignment between clean-energy procurement and continuous load. When appropriately structured, they can improve cost visibility, reduce exposure to short-term market volatility and provide a more credible pathway towards round-the-clock clean-energy consumption.

3.6 Procurement instruments: Renewable Energy Certificates (RECs), Virtual Power Purchase Agreements (VPPAs), Renewable Consumption Obligation (RCO) and market access

Renewable procurement instruments serve distinct purposes. Green open access, captive arrangements, utility green tariffs and exchange products provide physical electricity. RECs convey environmental attributes, while VPPAs combine REC transfer with a bilateral financial settlement without securing physical supply or grid capacity.¹⁵

RCO applies to distribution licensees and notified designated consumers using captive or open-access power. Data centres are not identified as a standalone designated-consumer category. Operators should therefore confirm their regulatory status before treating RCO as a direct obligation. Where applicable, the requirement rises from 29.91% in FY2025 to 43.33% in FY2030.¹³

Consumers with at least 100 kW of contracted demand or sanctioned load can access green power through open access.⁹ Green Day-Ahead Market and Green Term-Ahead Market support shorter-term purchases, while PPAs offer greater price and volume certainty.¹⁸ All arrangements should clearly define REC ownership, extinguishment and customer allocation to prevent double counting.¹⁵



Data centres can serve as anchor consumers for new renewable projects, with their large, predictable and long tenure loads improving revenue certainty and project bankability. Structuring solar, wind, storage and grid supply as a firm power product can align renewable development with the continuous operating requirements of hyperscale, cloud and AI facilities.

Mr. Jogindra Thakur
CEO – Data Center Business
Waaree Green Data Centers Private Limited

04 Storage, firming and clean backup planning

Along with renewable energy procurement, firming becomes of critical importance to the power strategy. Campuses require continuous electricity, while solar and wind output varies by time and season. Storage can bridge part of this gap by aligning clean-power supply more closely with the campus load profile.

The National Electricity Plan projects 208 GWh of BESS requirement by 2030, with 35.8 GWh under construction.¹¹ Co-located storage, domestic battery-manufacturing support and non-solar-hour connectivity can further improve firming economics and transmission utilisation.

Green hydrogen may also become relevant for backup power over time. The National Green Hydrogen Mission targets annual production of 5 million metric tonnes by 2030.¹⁹ Green hydrogen can also contribute towards Renewable Purchase Obligation and RCO compliance under the Green Energy Open Access framework.^{9,19} For Tier III and Tier IV data centres, this creates a potential pathway to cleaner backup power, subject to cost competitiveness, technology maturity, supply availability and logistics readiness.

Storage should therefore be integrated into the broader data centre power architecture. Its value is maximised when combined with utility supply, renewable procurement, UPS systems, emergency generation and clearly defined operating protocols. The objective is to increase clean-power adoption while preserving the reliability required for mission-critical workloads.



Meeting the high, continuous power requirements of AI and high-performance computing facilities will require renewable generation to be supported by a diversified firming strategy. Battery energy storage can provide rapid response flexibility, while pumped-storage hydropower can support longer duration balancing, together enabling more reliable clean energy coverage for round-the-clock operations.

Mr. Navjit Gill
CEO, AM Intelligence

05 Data centres as anchor consumers in India's energy transition

Data centres can support India's broader energy transition by acting as large, long-tenure anchor consumers of renewable power. They represented approximately 15% of corporate renewable-energy announcements in India.³ This positions the sector as a meaningful source of contracted clean-power demand rather than a marginal corporate offtaker.

Procurement strategies are also evolving towards integrated energy architectures that combine direct long-term PPAs, captive power plants and hybrid technology stacks. A facility in Panvel, for example, pairs a natural-gas-based captive plant with rooftop solar to balance reliability and sustainability objectives.³ While natural gas is outside the renewable-energy category, the model illustrates how operators are combining reliability, cost visibility and lower-carbon options within a single power strategy.

Nuclear-based small modular reactors are also being evaluated as a dispatchable, carbon-free baseload option, although commercial deployment at scale remains a medium- to long-term prospect.³ This broadens the clean-energy lens beyond variable renewables to include dispatchable low-carbon sources where they become commercially and operationally viable.



Power is a strategic determinant of sustainable digital infrastructure. At Sify, we have learned that renewable energy, energy efficiency and resilient power architecture are core of the data centre design philosophy, not a parallel sustainability initiative. The next phase will require closer alignment between green power procurement, open access, hybrid energy systems and storage to support round the clock renewable supply. Scaling India's AI and digital infrastructure responsibly will depend on capacity that is reliable, energy efficient and sustainable.

Mr. Sharad Agarwal,
CEO, Sify Infinit Spaces India

06 Adjacent ecosystems supporting green power procurement

The renewable-procurement opportunity for data centres also depends on adjacent ecosystems, including independent power producers, battery storage, power trading, grid infrastructure and equipment manufacturing. India is building capabilities across these areas, improving the feasibility of clean-power procurement for large-load users.

Table 5: Adjacent ecosystems supporting green power procurement.

Ecosystem	Description	Relevance to data centre renewable procurement
Renewable IPPs	Independent power producers develop solar, wind, hybrid and firm and dispatchable renewable-energy projects. The ecosystem is supported by Green Energy Open Access, competitive bidding and a 50 GW annual renewable-energy bidding trajectory through FY 2027-28. ISTS waivers remain available for specified project categories and commissioning periods. The offshore-wind VGF scheme has an outlay of ₹7,453 crore, including ₹6,853 crore for 1 GW of capacity.	Provides the project pipeline and counterparties required for long-term PPAs and firmed renewable supply. Delivery remains dependent on project commissioning and transmission availability.
Battery storage	CEA projects a BESS requirement of 47.24 GW/236 GWh by FY2031-32. Two VGF schemes support approximately 43.8 GWh. CEA has also recommended that future solar tenders include storage equivalent to at least 10% of solar capacity for two hours. A full ISTS-charge waiver applies to eligible co-located BESS commissioned by June 2028.	Supports 24/7 matching, renewable firming, grid services and potential price arbitrage.
Power trading	Licensed traders and power exchanges facilitate renewable transactions through GDAM and GTAM. Bilateral open-access transactions provide another route to market.	Improves price discovery and allows operators to complement long-term PPAs with market-based procurement and balancing tools.
Utilities, regulators and system operators	Distribution licensees provide grid and standby supply and may offer regulated green tariffs. State regulators determine open-access charges and banking provisions. Transmission and load-despatch institutions manage connectivity, scheduling and settlement. Consumers with at least 100 kW of contracted demand or sanctioned load are eligible for Green Energy Open Access, subject to applicable rules.	Determines whether renewable generation can be moved from resource-rich zones to data centre load centres reliably and economically.
Equipment manufacturing	As of March 2026, the country had approximately 172 GW of ALMM-listed solar-module capacity and 27 GW of listed solar-cell capacity. Domestic wind-turbine manufacturing capacity is approximately 18 GW annually. The ACC PLI programme targets 50 GWh of battery-manufacturing capacity, including 10 GWh earmarked for grid-scale storage	Strengthens domestic supply-chain resilience for renewable generation, storage and clean backup solutions relevant to large electricity consumers.

Source: Cushman & Wakefield analysis based on official policy and market sources MNRE, CEA, PIB and IEX. ^{14, 11, 20, 6, 18}

Procurement should ultimately be tested against three outcomes: landed power cost, uptime resilience and credible carbon accounting supported by clear renewable-attribute ownership and retirement documentation.

07 Strategic outlook and investor-facilitation role

India has the foundations to build a globally competitive data centre market, but national capacity alone will not determine the pace or quality of growth. The decisive test will be whether power can reach the right locations when projects need it, on terms that remain commercially viable and aligned with decarbonisation goals. Meeting this challenge will require energy planning to begin earlier in the investment cycle, supported by sustained coordination between industry and government.

A credible power pathway will increasingly distinguish investible campuses from those exposed to delays, cost escalation and stranded development potential. It can also enable the sector's rising electricity requirement to support India's energy transition. The opportunity is therefore not simply to add digital capacity, but to establish a durable and lower-carbon model for growth.

Translating this outlook into delivered capacity depends as much on institutional facilitation and specialist advisory support as on market fundamentals. Invest India, the Government of India's National Investment Promotion and Facilitation Agency, is a strategic advisor and investment catalyst for global and domestic investors, offering end-to-end facilitation across the investment lifecycle in high-impact sectors including renewable energy and digital infrastructure. Cushman & Wakefield Data Centre Group helps clients navigate their data centre strategies across the entire real estate cycle, offering both the practical services capabilities to provide optimal, end-to-end commercial real estate solutions and deep technical expertise across its three pillars of Advisory & Transactions, Project Development Services and Managed Services.

As India's digital infrastructure sector matures, effective investor facilitation, advisory and execution capabilities will be critical to converting investment interest into commercially viable, long-term data centre developments. Sustaining this momentum would position India as one of the world's fastest growing digital infrastructure markets, with credible clean-energy ecosystem.

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About Cushman & Wakefield

Cushman & Wakefield (NYSE: CWK) is a leading global commercial real estate services firm for occupiers and investors with approximately 53,000 employees in over 350 offices and nearly 60 countries. In 2025, the firm reported revenue of \$10.3 billion across its core service lines of Services, Leasing, Capital markets, and Valuation and other. Built around the belief that Better never settles, the firm receives numerous industry and business accolades for its award-winning culture.

For additional information, visit www.cushmanwakefield.com

About Invest India

Invest India is the National Investment Promotion and Facilitation Agency of India, established as a nonprofit venture under the aegis of the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India. It facilitates and supports investors under the Make in India initiative in establishing, operating and expanding their businesses in India. Envisaged as a one stop shop for attracting and retaining high quality investments, Invest India provides sector and state specific guidance through its team of domain and functional experts. It supports investors throughout the investment cycle, from the pre investment and decision making stages to establishment and aftercare.

For further information, visit www.investindia.gov.in

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