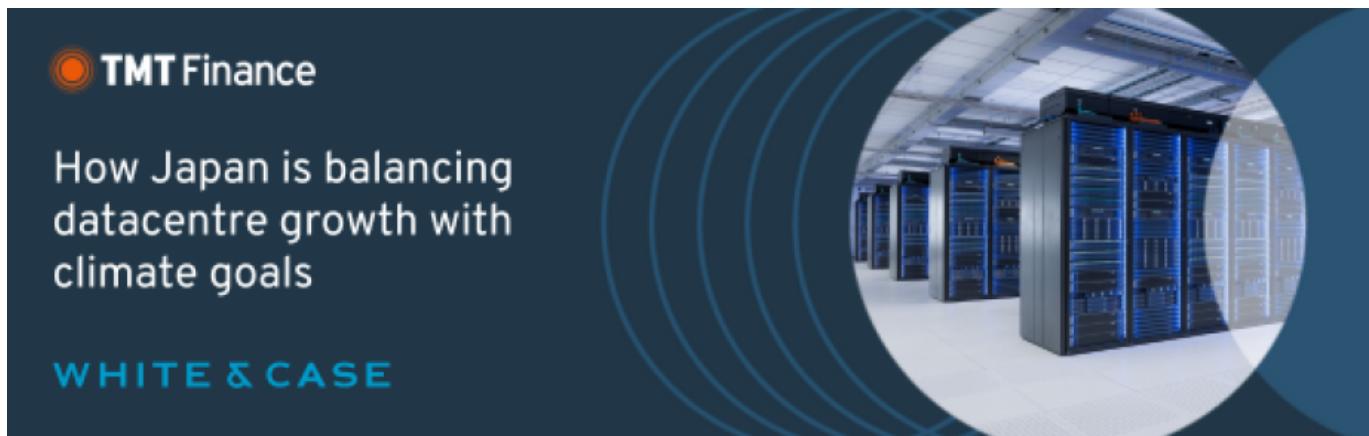


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# How Japan is balancing datacentre growth with climate goals



**Tim Fourteau, Paul Harrison and Dominic Oben** of White & Case examine how Japan's rapidly expanding datacentre sector is forcing a recalibration of energy policy, grid resilience and decarbonisation ambitions.

Japan's fast-growing datacentre industry is reshaping not only the country's digital infrastructure but also its energy strategy, linking digital expansion with the challenge of securing sufficient reliable, low-carbon power. Forecasts by IDC Japan suggest that the country's datacentre services market will more than double to over JPY 5.08 trillion by 2028, up from JPY 2.7 trillion in 2023. That growth is being driven by the twin imperatives of data sovereignty and AI deployment, both of which require servers to be located close to domestic users.

Yet this boom brings a pressing question: can Japan meet surging electricity demand without undermining its decarbonisation goals?

Datacentres are among the most energy-intensive industrial facilities. Industry reports project that digital and semiconductor demand could nearly triple electricity consumption by the mid-2030s, with Organization for Cross-regional Coordination of Transmission Operators, Japan (OCCTO), Japan's grid coordinator moving to higher long-term demand scenarios as a result. To counter this, energy efficiency is paramount, with the government in 2022 revising the Act on Rationalization of Energy Use and Shift to Non-fossil Energy to widen reporting requirements and the Ministry of Economy, Trade and Industry (METI) establishing clearer efficiency benchmarks for datacentres. The facilities that underpin Japan's digital economy risk straining the grid precisely when the country is attempting to phase down fossil-fuel use and expand renewables.

While datacentres are increasing overall power demand, both hyperscale cloud providers and colocation operators are beginning to procure renewable energy, most notably through long-term corporate PPAs that support bankable low-carbon generation. In 2024, for example, Google agreed two solar PPAs totalling about 60 MW to supply its Inzai (Chiba) data centre. In 2025, Equinix secured its first 30 MW, 20-year solar PPA in Hokkaido – early but meaningful steps in Japan's emerging corporate PPA market.

Some operators are also beginning to integrate Battery Energy Storage Systems (BESS) into their facilities. BESS supports energy-management strategies such as peak shaving and load shifting, and is becoming increasingly important for enhancing grid stability and enabling more reliable 24/7 supply when paired with intermittent renewable sources, including through emerging microgrid models.

This shift is reinforced at the national level. METI's carbon-neutral 2050 roadmap promotes wider use of non-fossil certificates and corporate PPAs, giving large electricity users – including datacentre operators – greater ability to secure verifiable renewable power directly from generators. These contracts help renewable developers raise project finance and are beginning to shift investment decisions toward new capacity that would not otherwise be viable.

At the regional level, policy is increasingly geared towards steering datacentre development beyond the Tokyo-Osaka corridor. Rising land and grid constraints in the major metros prompted the government to introduce the Subsidy for Development of Regional Data Centres, which covers part of site-preparation and infrastructure costs. The aim is to encourage operators to locate new facilities in areas such as Chiba, Ibaraki, Hokkaido, and Kyushu. This approach reduces pressure on urban grids while also stimulating local investment and spreading the economic benefits of digital infrastructure.

## **Building resilience through decentralisation**

Regional development is only part of the picture. Distributed siting is also a resilience imperative. Japan's concentration of computing assets in the Tokyo-Osaka corridor heightens exposure to seismic and grid-stability risks – vulnerabilities widely acknowledged in policy discussions. Analyses from both METI and the World Bank identify decentralisation as a core element of disaster-resilient infrastructure, linking regional siting and diversified networks with stronger operational continuity. Expanding datacentre capacity across multiple regions therefore reduces systemic risk while supporting regional economic growth.

Hokkaido illustrates how this decentralisation is taking shape. With its cool climate and strong wind potential, the prefecture has become an attractive location for new facilities. OCCTO is advancing the Hokkaido-Honshu interconnection upgrade, which will raise transmission capacity from about 900 MW to 1.2 GW by fiscal 2028 – a crucial step for linking renewable supply with new digital demand. The prefectoral government also promotes datacentre development through location incentives and designated industrial zones such as Ishikari and Sapporo, where subsidies of up to 2.5 billion yen per project are available for new or expanded facilities.

Unlocking the full potential of Japan's datacentre build-out will, however, require addressing

regulatory and procedural bottlenecks. Although revisions to the Electricity Business Act and the expansion of non-fossil certificate trading have given corporate consumers greater ability to procure and certify renewable electricity, environmental and land-use approvals remain slow and often require coordination across multiple levels of government. Even where regional subsidies exist, overlapping permitting requirements can extend timelines and add uncertainty for operators seeking to deliver capacity quickly.

### **The grid fragmentation challenge**

Structural challenges in the power system add another layer of constraint. Japan's grid remains fragmented across regional utilities with limited interconnection, making it difficult to move renewable electricity from resource-rich areas such as Hokkaido and Kyushu to major load centres. OCCTO's efforts to strengthen wide-area transmission are progressing, but expanding interregional capacity is a multi-year process. Grid constraints, curtailment risks, and storage costs continue to complicate access to reliable, low-carbon power for new datacentre clusters.

Despite these challenges, investment momentum remains strong. Global funds continue to acquire stakes in Japanese datacentre platforms, viewing the sector as a long-term play on both digitalisation and decarbonisation. Government initiatives such as the Green Transformation (GX) programme and the Digital Garden City Nation vision reinforce that alignment, linking emissions reduction with regional digital development.

Japan's datacentre boom is reshaping investment priorities and energy policy. Its success will depend on whether grid upgrades and planning reforms can keep pace with demand, allowing datacentre growth to reinforce energy security and climate goals rather than strain them. The outcome will show how far Japan can turn digital expansion into a foundation for sustainable industrial growth.