Gulf Data Centers: What Will Make The AI Infrastructure Build-Out Bankable?

October 12, 2026

*(**Editor's Note:** This report is part of a series, which discusses the key considerations for data centers in the Gulf Cooperation Council region. This installment explores what will make the region's AI infrastructure build-out bankable.)*

This report does not constitute a rating action.

Key Takeaways

- Data center capacity in the Gulf Cooperation Council (GCC) region is expanding rapidly, with the region's low-cost power and infrastructure advantages supporting large-scale development.
- Geopolitical risk is becoming an increasingly important consideration for GCC data center infrastructure, with resilience, redundancy, and site diversification shaping project design and economics.
- As access to advanced graphics processing units (GPUs) improves, the availability and sequencing of power, grid connectivity, water, and cooling infrastructure will increasingly determine which projects can be delivered at scale.
- As the market scales, bringing new capacity online will require speed to market to be matched by execution discipline, including credible delivery plans and clear risk allocation.

Data centers are becoming critical to the GCC region's digital and AI ambitions, as governments and businesses seek to build the computing infrastructure needed to support the rapid growth of AI and cloud services. In just a few years, GCC countries have moved from hosting relatively small enterprise colocation facilities to announcing some of the world's largest AI-focused data center campuses.

Rather than mere IT or real estate assets, data centers are increasingly being treated as a critical part of national infrastructure, alongside power, water, transport, and industrial infrastructure. Digital sovereignty, including the growing need to keep data within national borders and to develop local capacities in the required infrastructure, compute, and talent are reinforcing this trend, particularly in Saudi Arabia and the UAE.

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The scale and speed of recent announcements underscore how quickly the market is evolving. The result is a more dynamic data center market in the GCC, with growth led by Saudi Arabia and the UAE. Sovereign wealth funds, national champions, and global hyperscalers are increasingly focusing on these two markets. At the same time, Qatar, Bahrain, Kuwait, and Oman are increasingly coming together as a single market, supported by cloud adoption and national AI strategies, as high-density computing and subsea cable infrastructure expand across the region.

In S&P Global Ratings' view, GCC countries are well positioned to support the next phase of data center development. The region's low-cost power and infrastructure advantages provide a supportive environment for large-scale data center development. Despite heightened regional geopolitical tensions, continued investment across the broader enabling ecosystem and supportive policy frameworks are underpinning the GCC region's role as a key hub for digital and AI infrastructure.

But as the scale and pace of deployment accelerate, data centers are becoming increasingly infrastructure-intensive assets. This makes reliable access to power and connectivity, efficient cooling, and resilient infrastructure critical to their development and execution.

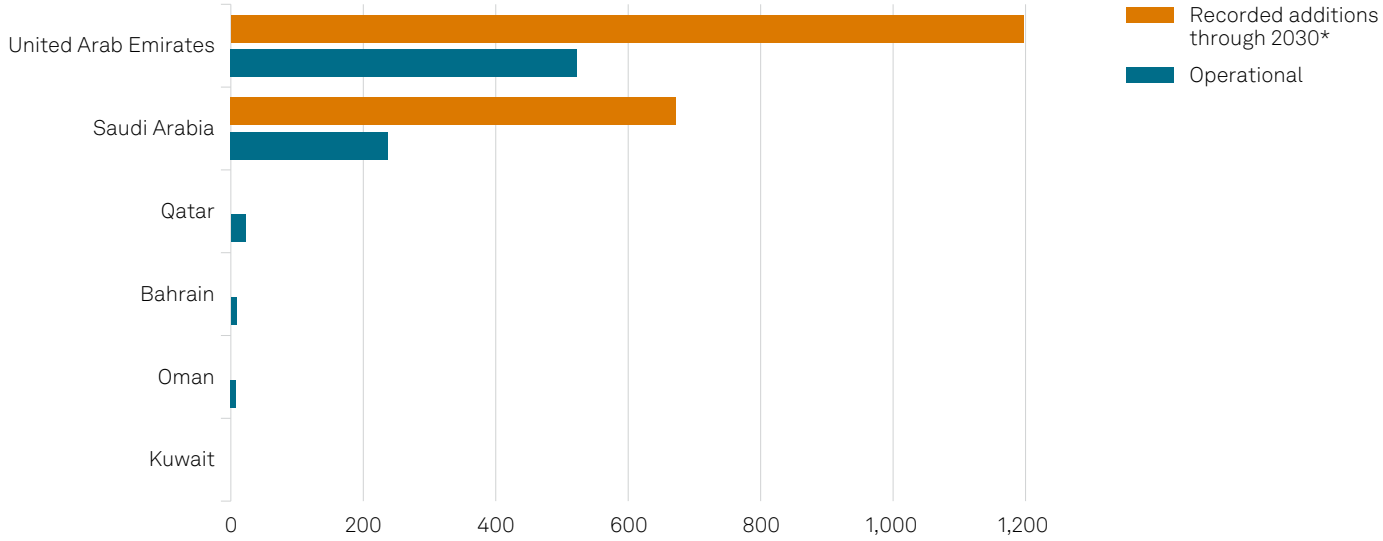
National AI Strategies And Ambitions Create Structural Demand For Data Centers

Saudi Arabia and the UAE are at the forefront of the GCC region's data center build-out. Together, they account for more than 80% of the Middle East's expected data center capacity additions through 2030, supported by national AI strategies and data sovereignty requirements, as well as GCC governments' increasing involvement in digital infrastructure and their objective to diversify their economies beyond oil and gas.

Chart 1

The UAE and Saudi Arabia lead the GCC region's large-scale data center build-out

Net IT power (megawatts)



*Recorded additions reflect capacity with tangible evidence of development or execution, such as land acquisition, site development, construction activity, or power procurement, rather than capacity based solely on announcements or long-term targets. Data exclude additions that have been announced but have not substantively begun development.
Source: 451 Research.

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The region also offers a combination of attributes that are difficult to replicate elsewhere, including abundant and low-cost power, available land, strong connectivity, and significant investment in power and grid infrastructure. These advantages enable governments and private-sector operators to translate ambitious digital and AI objectives into large-scale physical infrastructure.

National strategies are increasingly turning data and computing capacity into strategic infrastructure. In Saudi Arabia, Vision 2030 and the National Strategy for Data and AI provide a framework for cloud adoption, data localization, and the development of local AI capabilities, while data governance requirements reinforce the importance of keeping sensitive data and workloads within the Kingdom.

In the UAE, the National Strategy for AI 2031 and cloud policies--together with a free zone environment, regulatory clarity, and a strong innovation agenda--have helped develop one of the Middle East's most advanced digital ecosystems. Cloud-first strategies, public sector digitalization, and sovereign investment platforms also create structural demand for domestic digital infrastructure.

In our view, the combination of national ambition, regulatory support and active government involvement support data center investment. Gulf governments facilitate development through providing land access, permitting and infrastructure coordination, deploying sovereign capital, and establishing regulatory frameworks that increase international investment.

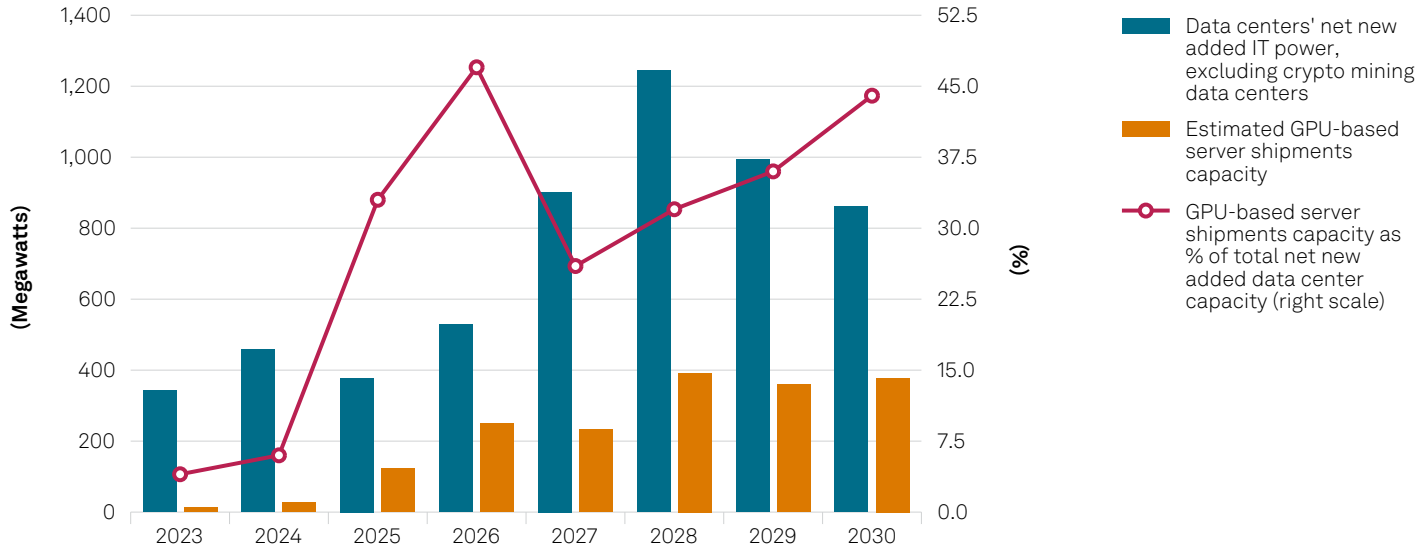
The GCC Region Is Turning AI Ambition Into Physical Capacity

We expect data center capacity across the GCC region will roughly triple to more than 3 gigawatt (GW) over the next five years. This underscores the scale of the infrastructure build-out already underway. The market entry of global cloud providers, such as Microsoft and Amazon, also accelerates investment in data center capacity and raises expectations for service quality, and performance. The GCC build-out is taking place against a much broader global investment cycle, with the six largest hyperscalers globally expected to spend more than $7 trillion on data centers and AI-related capital expenditure over 2025-2030.

Meanwhile, GCC operators are moving beyond traditional wholesale colocation models toward high-density computing and scaling-up facilities to meet hyperscale requirements. The broader regional shift toward AI infrastructure is also reflected in the growing share of GPU-based server shipments in new data center capacity across the Middle Est and Africa.

Chart 2

Impact of GPU shipments on data centers in the Middle East



GPU--Graphics processing unit. Source: 451 Research.

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In our view, this shift supports the case for continued GCC data center investment, but it also makes execution and customer visibility increasingly important differentiators. To turn announced capacity into operational AI workloads, we think it's critical that infrastructure investors and lenders in the region consider the following key factors:

- How far announced capacity has progressed toward a credible path to power and grid connectivity;
- Access to GPUs;
- Construction counterparties, progress and commissioning; and
- Contracted revenues from creditworthy tenants.

Saudi Arabia is already turning its ambitions into physical capacity at scale. Data center capacity increased more than sixfold to above 467 megawatts (MW) in first-quarter 2026 from 68 MW in 2021. Investment in data centers and digital infrastructure totaled Saudi riyal (SAR) 56.2 billion over the same period. Microsoft's Saudi Arabia East cloud region, which includes three

availability zones and will likely become available in November 2026, is another important step in bringing hyperscale cloud and AI workloads onshore.

Saudi Arabia is also developing a broader ecosystem of operators, rather than relying solely on hyperscaler-owned infrastructure. This includes local data center companies as well as government-backed platforms developing partnerships across the data center infrastructure ecosystem.

For example, Quantum Switch Tamasuk has an operational 9 MW Dammam facility serving a global hyperscale client, with a further site planned, while its broader agreement with the Saudi government envisages up to 300 MW in capacity.

HUMAIN--which was launched by the Saudi Public Investment Fund (PIF) in May 2025 to build capabilities across the AI value chain, including data centers, cloud infrastructure, and AI models--and DataVolt are developing an initial 100 MW of AI-ready data center capacity as part of the first 360 MW phase of their Oxagon campus.

The groundbreaking in August 2026 marked the project's move from planning into execution, with the broader campus set to reach 1.5 GW and the initial capacity expected to be commissioned in 2028. However, the project has not publicly identified a lead hyperscaler or anchor tenant.

The UAE is further ahead than Saudi Arabia in attracting hyperscalers and global AI infrastructure investors. Demand is increasingly being driven by the adoption of hybrid cloud computing, AI inference workloads, and the need for low-latency connectivity to East Africa and West Asia.

Microsoft's planned investment of $15.2 billion in the UAE through 2029, including more than $5.5 billion in capital expenditure on AI and cloud infrastructure between 2026 and 2029, further underscores the scale of hyperscaler investment in the market. G42 and Khazna are central to this build-out.

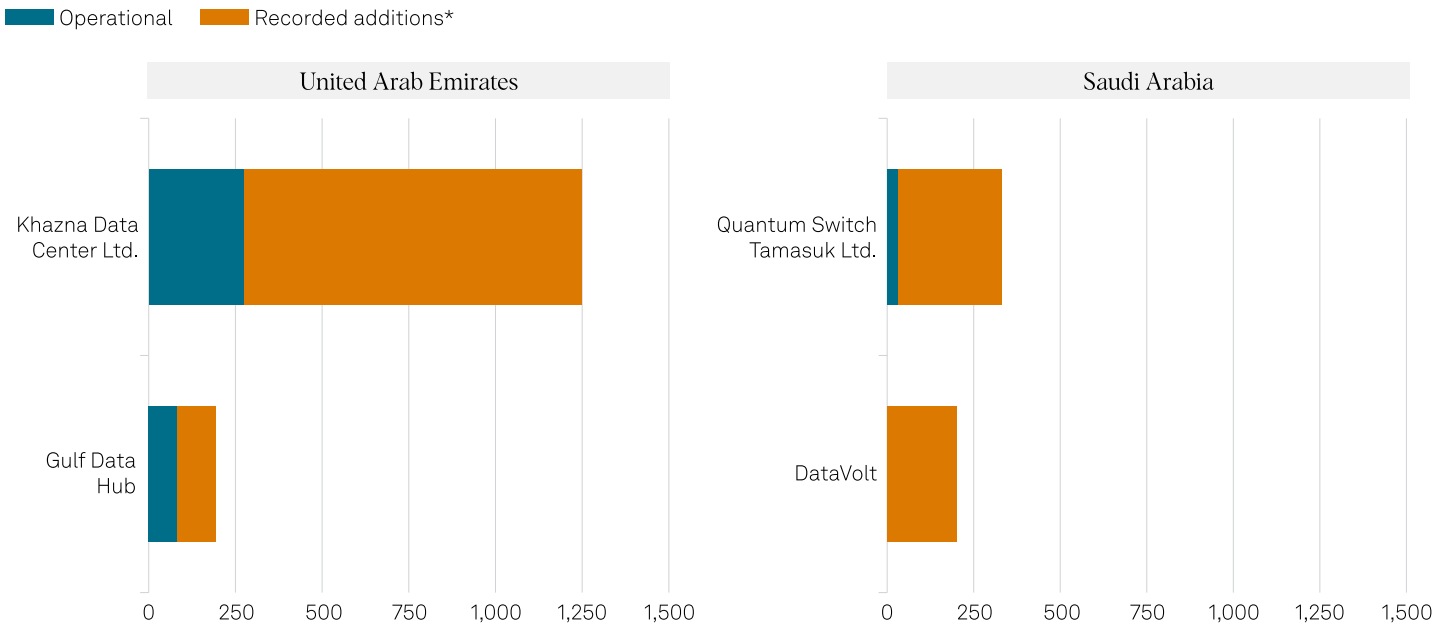
Flagship project Stargate UAE brings together G42, OpenAI, Oracle, NVIDIA, Cisco, and SoftBank to develop an initial 1 GW AI cluster as part of the wider 5 GW UAE-US AI Campus in Abu Dhabi. The first 200 MW phase is already under construction and scheduled to come online later this year.

Abu Dhabi's role is also reinforced by MGX. The investment firm, whose $49 billion Fund I closed in July 2026, has invested across AI infrastructure globally, including through its support for Stargate UAE via Khazna. Operators in Dubai and elsewhere in the UAE--including Gulf Data Hub (GDH), Pure Data Centers, and Du--are also expanding, with Du's approximately UAE dirham (AED) 2 billion hyperscale facility being developed with Microsoft as its main tenant.

GDH's strategic partnership with KKR, which includes a commitment to invest more than $5 billion in data center infrastructure across the UAE and wider GCC region, also reflects the growing scale and internationalization of the region's data center market.

Chart 3

Leading data center operators are driving capacity growth through 2030
(Megawatts)



*Recorded additions reflect capacity with tangible evidence of development or execution, such as land acquisition, site development, construction activity, or power procurement, rather than capacity based solely on announcements or long-term targets. Data exclude additions that have been announced but have not substantively begun development. Source: 451 Research.
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Momentum is also building in other GCC countries. In Qatar, MEEZA recently signed its largest contract to date: an 8 MW long-term lease worth more than Qatari riyal (QAR) 1 billion with an unnamed global hyperscaler. This demonstrates that hyperscaler-backed demand is beginning to support capacity outside the two largest GCC markets.

Geopolitical Risk Is Reshaping The Design And Economics Of GCC Data Center Infrastructure

The Middle East war adds a new dimension to the development of GCC data center infrastructure. The damage to data centers operated by Amazon Web Services (AWS) in the UAE and Bahrain during the war has demonstrated that geopolitical risk can translate directly into physical infrastructure risk, with implications for availability, redundancy, and business continuity.

The prolonged disruption also highlights that physical damage can result in extended service outages and, in some cases, the loss of access to data and resources. In September this year, for example, AWS said it remained unable to restore access to its Bahrain cloud region and one of three data-hosting zones in the UAE. In our view, this underscores the importance of geographic redundancy and recovery capabilities.

We believe physical protection and resilience are becoming more important considerations in project design. This could require greater site dispersion, additional redundancy, and physical hardening. All of this would increase capital, operating, and insurance costs. We understand that physical hardening measures alone could raise costs by about 5%-7%.

The UAE's recent review of the planned 5 GW UAE-US AI campus in Abu Dhabi illustrates how these considerations can reshape the design of large-scale projects. Because of the war, the UAE is now considering underground infrastructure, blast-resistant construction, and a more distributed network of facilities rather than concentrating the full 5 GW on a single site. This may reduce some economies of scale but could improve resilience and reduce concentration risk.

Even though the war has delayed or paused some projects and financing processes, it has not fundamentally altered the region's AI strategies or the broader data center build-out.

For example, the first 200 MW phase of Stargate UAE is still expected to come online later this year and in August, Al Moammar Information Systems in Saudi Arabia expanded its AI data center project with HUMAIN to 250 MW from 50 MW, with the initial project continuing on schedule. This continued momentum is also evident in the recent groundbreaking of HUMAIN and DataVolt's AI data center project at Oxagon, NEOM's industrial zone on Saudi Arabia's Red Sea coast.

Microsoft's latest investment plans provide another indication that the regional build-out is continuing despite the conflict. On Sept. 23, the company announced plans to invest more than $10 billion across the UAE, Saudi Arabia, Qatar, and Kuwait through 2030, including in cloud and AI infrastructure, while committing more than $400 million to subsea and terrestrial connectivity across the Middle East. Microsoft also launched a regional digital resilience initiative focused on continuity, recovery, and protection of critical data.

The continued build-out of AI infrastructure reflects the GCC region's economic advantages. These include low-cost power, rapidly increasing renewable generation, competitive land and construction costs, expanding transmission infrastructure, and proximity to major subsea cable landings.

Electricity tariffs in Saudi Arabia and the UAE are about $0.05-$0.06 per kilowatt hour (kWh), compared with roughly $0.09/kWh-$0.15/kWh in the U.S. Additionally, industrial land for data centers in Saudi Arabia is significantly cheaper, at about $10-$50 per square meter, compared with $150-$600 in established U.S. data center markets, such as Northern Virginia.

For hyperscalers, the economics extend well beyond the cost of leasing data center capacity, with power, connectivity, computing hardware, and other operating costs all shaping the cost of deploying AI workloads. In our view, the combination of these factors supports a highly competitive total cost of ownership for hyperscalers and increases the region's attractiveness. National AI strategies and continued government investment across the infrastructure ecosystem further support the region's data center build-out.

GPU Access Is Enabling The AI Data Center Build-Out

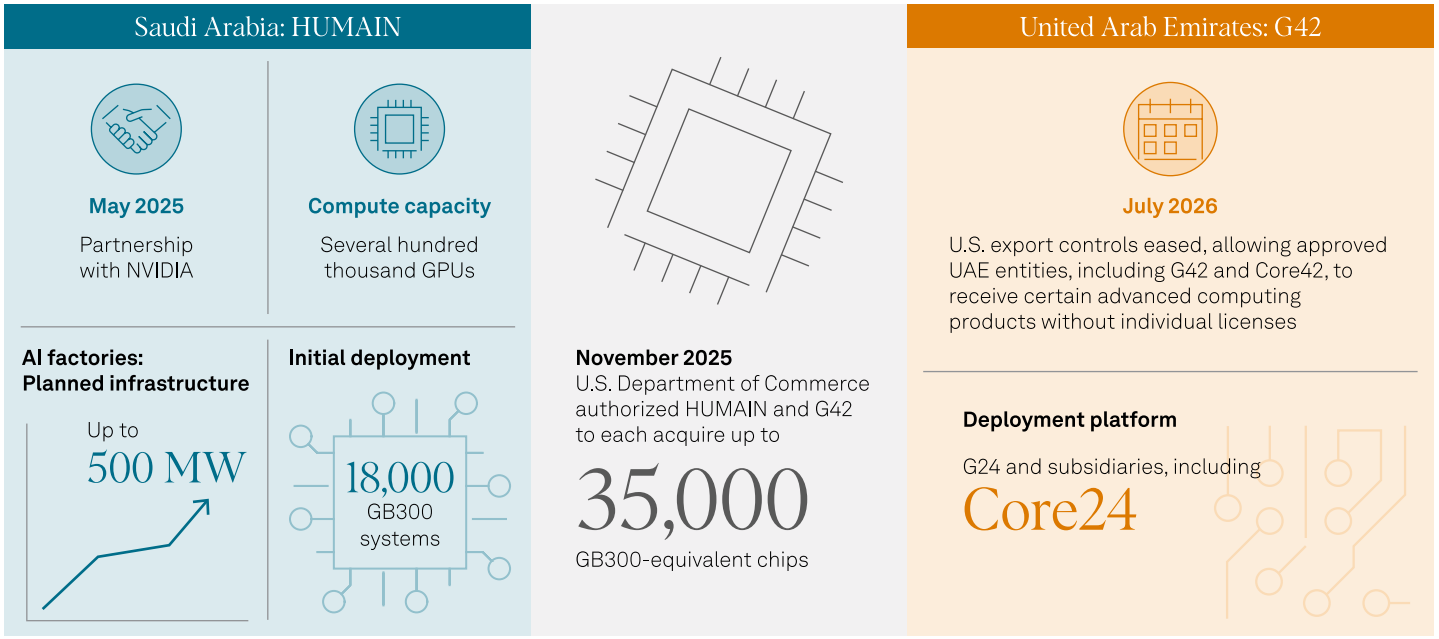
Access to advanced GPUs and AI-optimized servers has been a key gating factor for AI data center development in the GCC region. GPU availability has been shaped as much by US export control policy as by commercial demand. Concretely, the U.S. rescinded the AI Diffusion Rule in May 2025 and eased restrictions on the supply of advanced AI chips to the Gulf. Subsequent changes in the U.S. regulatory framework have further improved access to advanced AI accelerators for approved operators in the region.

As GPU availability improves, we expect the constraint to increasingly shift toward the physical infrastructure required to deploy advanced compute at scale, including power, grid connectivity, and cooling. From our perspective, the ability to deliver this supporting infrastructure at scale will increasingly determine the pace of the GCC region's data center build-out.

GCC operators are also forging strategic partnerships with international technology and hardware providers to secure access to advanced compute--computer systems that can tackle tasks beyond the capabilities of everyday computers.

Chart 4

HUMAIN and G42 drive the data center build-out in Saudi Arabia and the United Arab Emirates



MW--Megawatts. Source: S&P Global Ratings.
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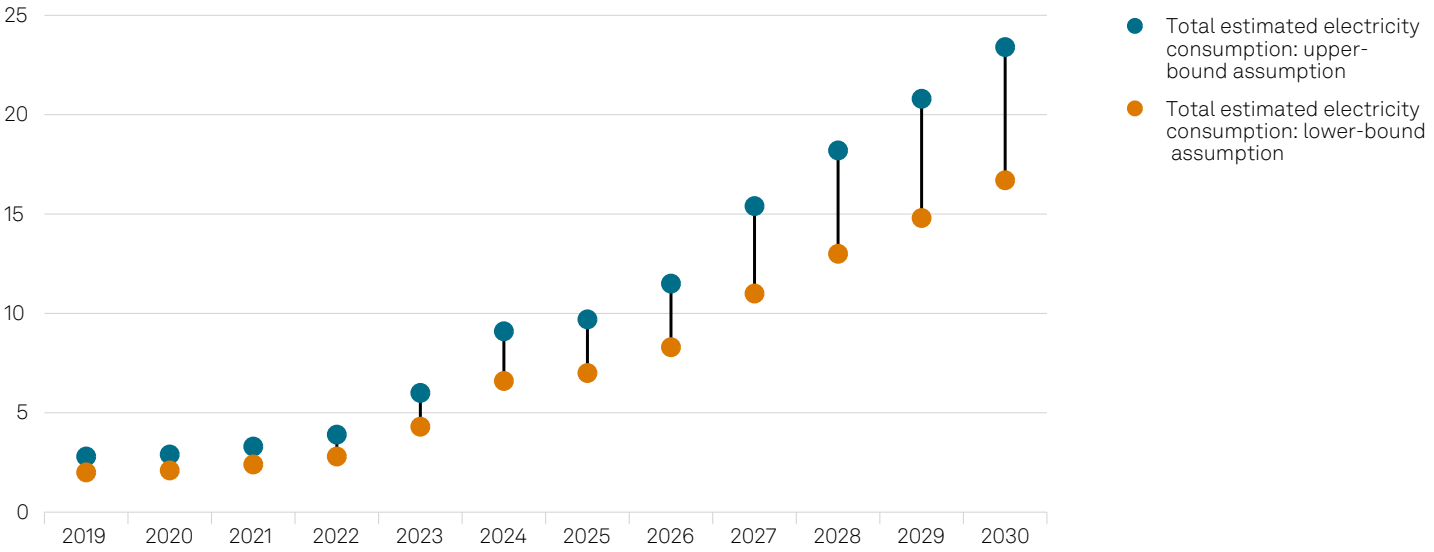
In our view, these developments mark an important shift from securing access to advanced compute toward deploying it at scale. For example, DataVolt and U.S.-based Supermicro have partnered to develop ultra-dense GPU platforms, storage, and rack systems for gigawatt-scale AI campuses in Saudi Arabia. This illustrates that the GCC region is creating the supply chain that's necessary to support the region's AI deployment.

Power Infrastructure Will Shape The Scale Of Data Center Growth

The availability of power is clearly becoming one of the most important factors in the development of the GCC data center market. We expect data center electricity consumption in the UAE will more than double by 2030. AI workloads are significantly more power-intensive than traditional data center applications, while the scale of announced projects is creating a material source of incremental electricity demand.

Chart 5

Total UAE data center power demand is set to increase significantly
(Terawatt-hours)



Total data center power demand includes power used for IT equipment, cooling, lighting, and security systems. Estimates are based on net utilized IT power, average power usage effectiveness, and data center running-time assumptions. Data as of second-quarter 2026. UAE--United Arab Emirates.
Sources: Datacenter Services & Infrastructure Market Monitor & Forecast, 451 Research, S&P Energy.

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In Saudi Arabia, HUMAIN's targeted 1.9 GW in AI capacity alone could, if fully loaded, add roughly 17 TWh in annual electricity demand. This is equivalent to about 6% of the country's current electricity consumption and illustrates the potential magnitude of the additional load.

In our view, the combination of gas-fired generation, nuclear power, and rapidly expanding renewables--including gigawatt-scale solar--provides the region with a diversified power base. This will be capable of supporting the continuous and growing requirements of AI infrastructure, while creating a pathway to low-carbon compute that is difficult to match elsewhere.

Concretely, Saudi Arabia is targeting about 50% of electricity generation from renewables by 2030, with the balance coming from high-efficiency gas-fired generation. Domestic gas prices of about $2 per one million British thermal units support the competitiveness of gas-fired power. Saudi Electricity has 23.4 GW in gas-fired capacity under development, highlighting the continued role of thermal generation alongside the country's rapidly expanding renewable pipeline.

In the UAE, the government has raised its target for clean power to about 35% by 2031, supported by nuclear and large-scale solar generation. The region's exceptional solar resources and abundant land further support the economics of large-scale renewable generation. For example, Al Dhafra Solar PV in Abu Dhabi secured a tariff of $0.0135/kWh that was subsequently reduced to $0.0132/kWh at financial close, among the lowest tariffs achieved for utility-scale solar globally (see "Dhafra PV2 Energy Co. LLC's Issuance Assigned 'A' Long-Term Rating; Outlook Stable," March 30, 2026).

The rapid expansion of solar power generation contributes to the region's power advantage. The growing share of intermittent renewable generation is increasing the need for flexibility and storage, particularly as data centers require reliable power around the clock (see "CreditWeek:

How Can Battery Storage Charge Up Gulf Nations' Renewable Energy Push?," April 23, 2026). As solar and wind generation scales up, battery energy storage systems are also becoming increasingly integrated into the region's power infrastructure, supporting grid resilience and the GCC region's decarbonization objectives.

The transition from policy ambition to large-scale infrastructure investment benefits from established procurement frameworks, experienced developers, and an expanding pool of local and international lenders. Saudi Arabia is targeting up to 48 gigawatt-hours (GWh) of battery storage by 2030, with 26 GWh of projects already tendered, while a further 3 GWh-12 GWh of storage capacity entered the qualification process in April 2026.

Abu Dhabi is also scaling up battery storage alongside its expansion of solar power, with EWEC targeting up to 15 GW of storage capacity by 2035. This is already translating into large-scale projects: Masdar's $6.1 billion round-the-clock clean energy project combines 5.2 GW of solar photovoltaic with 19 GWh of battery storage to deliver 1 GW of continuous clean power (see "Abu Dhabi Future Energy Co. PJSC - Masdar," July 29, 2026). The project reached financial close in July 2026, backed by a $5.1 billion financing package from 13 local and international banks, demonstrating that large-scale solar-plus-storage is increasingly being financed as utility-scale infrastructure.

These investments are also becoming increasingly relevant for data center infrastructure as power requirements continue to rise. We expect battery storage to play a growing role in data center power supply beyond its function in integrating solar. AI training workloads are synchronous, producing rapid power swings that must be buffered, while high around-the-clock grid utilization increases the value of flexible power resources.

We believe competitive generation economics, storage, and established infrastructure financing frameworks will support the continued build-out of reliable power for AI infrastructure. Ultra-low-cost solar and increasingly scalable storage makes lower-carbon power more cost-effective for energy-intensive operations (see "GCC Energy Transition: Utility-Scale Batteries Are The Next Big Move," Oct. 6, 2025). Solar-plus-storage is increasingly matching conventional power generation in both cost and reliability, while the region's established power procurement frameworks and track record in financing large-scale infrastructure provide a familiar structure for developers and lenders.

Power Procurement And Grid Access Will Be Critical To Execution

The GCC region manages the rising electricity demand from data centers through centralized power procurement and broader investment in generation and network capacity. The region's single-buyer model means that--unlike in some mature markets where hyperscalers can secure power directly through corporate or virtual power purchase agreements (PPAs)--utilities and government-backed procurement programs play a central role in matching new generation with rapidly growing data center loads.

Abu Dhabi's 1 GW Al Dhafra open-cycle gas project, which reached financial close in December 2025, illustrates this approach: procured by TAQA and EWEC under a long-term PPA, the project is explicitly linked to supporting the emirate's AI strategy. From our perspective, this model places greater responsibility on utilities and government-led planning to anticipate the timing and scale of future demand and deliver capacity in line with it. However, it can also facilitate

coordinated investment as data centers become an increasingly strategic component of the national infrastructure.

The way data center operators access and procure power is also evolving as hyperscaler demand increases. Electricity prices in the GCC region are low by international standards, providing an important cost advantage for power-intensive data centers. Average business electricity prices over 2023-2026 were about $0.07/kWh in Saudi Arabia and $0.11/kWh in the UAE, compared with $0.13/kWh in Spain and $0.15/kWh in the U.S.

As data centers become larger and more power-intensive, electricity pricing structures are also evolving, with tariffs increasingly differentiated by customer type and load. In Abu Dhabi, the development of a dedicated, cost-reflective tariff for AI data centers aims to provide more visibility on power costs. It also intends to support the grid investment needed to accommodate hyperscaler demand, without passing the full cost of upgrades to households and smaller businesses. Similarly, Saudi Arabia has introduced differentiated electricity rates for cloud-computing activities.

In our view, such tariff structures can support the bankability of data center infrastructure by improving cost visibility for large, power-intensive loads, while providing utilities with a framework to recover the costs of the infrastructure required to serve them. We believe the ability of these tariffs to remain sufficiently cost-reflective, without adding material cross-subsidization or shifting infrastructure costs to other customers, will be important to the long-term sustainability of the model.

Beyond the cost and structure of power procurement, access to the grid will determine the pace at which data center capacity can be brought online. A key reason that data center investors are turning to the Middle East is the region's grid. More than half of the Middle East's transmission network is less than 10 years old, the highest share of any region. In the EU, only about one-quarter of transmission lines are that new, and in the U.S., it's just about one-tenth. At the other end of the scale, more than half of Europe's transmission lines and about 70% of those in the U.S. have been in service for more than 20 years.

In our view, the region's relatively young and modern transmission networks provide an important structural advantage compared with markets with more aging infrastructure, which can be more vulnerable to faults. Continued investment in grid infrastructure will nevertheless be important to maintain reliability as demand increases.

The gap reflects different rates of investment. Between 2015 and 2024, the Middle East expanded its grid by about 5% a year, nearly double the global average, while the U.S. and the EU expanded their networks by less than 1% annually. This led to differences in reliability. Dubai's utility DEWA reported that its customers lost just 0.82 minutes of power on average in 2025, compared with about 15 minutes according to leading European utilities.

We believe this modern, fast-growing infrastructure matters even more as established data center markets run out of grid capacity. A new data center in the U.S. typically waits four to five years for a grid connection, and up to seven years in Northern Virginia, the world's largest data center hub. In the U.K. and parts of Europe, average waits have reportedly averaged 8 years, while Dublin has paused new data center connection requests until 2028.

By contrast, the Stargate example in UAE indicates that data centers in the Gulf can secure the medium or high voltage connections they require in as fast as 12-18 months when projects are executed efficiently and with government support. If we conservatively assume 2-3 years as a more typical wait time, it is still years faster than in other major Western data center markets.

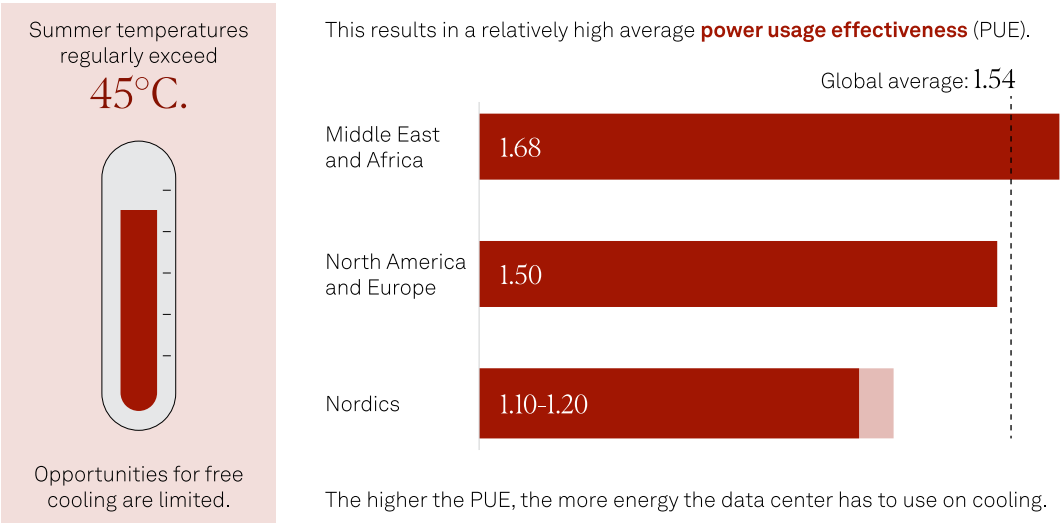
The Gulf sits outside the most congested data center clusters in the U.S., China, and Europe, where much of the new capacity is being built. Gulf states' relatively easy access to power and their comparatively modern, rapidly expanding grids provide a credible advantage as access to power increasingly determines where data centers get built.

We therefore expect the sequencing of power delivery--not simply the availability of generation--to become an increasingly important consideration in the execution of GCC data center projects. This is because we believe the ability to combine abundant generation with continued investment in transmission and grid infrastructure, secure grid connections, and deliver sufficient capacity to the required location will be a key determinant of project timelines--especially as advanced compute increases in scale and power requirements become more concentrated.

Water Scarcity Is A Regional Constraint

Chart 6

GCC data centers are exposed to water scarcity and extreme temperatures



Data as of 2025. GCC--Gulf Cooperation Council. Source: S&P Global Ratings.
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However, the gap is narrowing as operators adopt more efficient designs. Cooling technology can involve a trade-off between water and energy consumption. Evaporative cooling is more water-intensive, while closed-loop refrigerated cooling can significantly reduce onsite water use but may increase energy requirements and PUE.

This can shift some water consumption to power generation. Where operators can reduce water consumption without materially increasing PUE, the water constraint can therefore be significantly mitigated.

The rapid increase in AI workloads is also changing the cooling requirements of data centers. Average rack density, or kW required per rack, is estimated to have increased to 27 kW in 2026 from about 16 kW in 2025, a 69% year-over-year increase driven by AI workloads. As rack densities rise, traditional air cooling becomes increasingly constrained, accelerating the adoption of liquid cooling for high-density AI workloads that can rise above 100kW per rack.

GCC operators are already adapting to these higher-density requirements. For example, Saudi Arabia's AI Data Center Financing Program requires eligible projects to target a PUE of 1.4 or below on a best-effort basis. In the UAE, hyperscale campuses are increasingly being designed from the outset to accommodate liquid cooling and hybrid cooling models. Khazna Data Centers has deployed cooling technologies suited to the region's warm climate, including adiabatic free cooling and high-temperature chilled-water systems, with a target PUE below 1.5.

Liquid cooling is becoming increasingly common globally, with about 76% of AI servers expected to use liquid cooling in 2026. This shift can improve cooling efficiency while supporting higher-density computing. Khazna's 100 MW AI-optimized facility in Ajman, for example, incorporates advanced liquid cooling for high-density AI workloads. Operators are also exploring dry cooling and alternative water sources, including treated sewage effluent, to reduce reliance on water-intensive evaporative cooling.

Nevertheless, water availability remains a structural constraint. GCC countries are among the world's most water-stressed regions and desalination is a critical part of the region's water supply infrastructure. Saudi Arabia's data centers reportedly consumed about 15 billion liters of water in 2024, illustrating how water demand could become increasingly material as the market expands.

Modern liquid cooling systems can reduce water consumption by up to 91% compared with traditional evaporative cooling approaches, although the impact depends on the cooling configuration and operating environment. In an arid region, such as the GCC, such reductions can materially reduce the water intensity of data center operations.

At the same time, the region is increasingly shifting toward energy-efficient seawater reverse osmosis desalination. In this case, standalone independent water projects provide additional water capacity for cooling and other industrial uses, without relying on co-located thermal power generation (see "Water Scarcity In The Middle East: Is Reverse Osmosis Desalination The Solution?," March 29, 2022).

Even though the higher cooling requirements in the GCC region will add to the operating costs and design complexity of data centers, we do not expect them to undermine the region's overall cost competitiveness. Lower electricity costs can offset part of the additional energy required for cooling, while established desalination infrastructure and increasingly efficient cooling technologies provide flexibility on water supply and consumption.

For hyperscalers, we therefore expect the GCC region's favorable power economics to remain an important contributor to the total cost of ownership, even as water availability, cooling design, PUE, and water usage effectiveness become more important considerations in site selection, project design, and lender due diligence.

Bankability Will Depend On Long-Term Contracts And Disciplined Risk Allocation

Compared with more mature data center markets in the U.S. and Europe, the GCC region is still at an earlier stage of development--but it's expanding rapidly. The region also benefits from the growing presence of international data center operators, hyperscalers, and other experienced industry participants, allowing developers to draw on established approaches to design, construction, and operations as the market scales. We believe this can accelerate

development and prevent some of the execution challenges that have emerged in more mature markets.

We expect speed to market to be an important differentiator, but this should not come at the expense of execution discipline. Modular and prefabricated designs could support faster deployment. As AI workloads and technology evolve rapidly, projects will also need sufficient flexibility in their design to accommodate changes in rack densities, cooling requirements, and future efficiency gains to mitigate obsolescence risk, all while maintaining the uptime and reliability required by hyperscalers.

This is particularly important as developers across the GCC region increasingly build capacity in phases, with some projects supported by pre-leasing or committed demand and others developed speculatively. In our view, projects supported by committed capacity to creditworthy counterparties provide greater visibility on future cash flows, while speculative development leaves developers exposed to changes in demand, execution, and technology risks that can materially erode credit.

Offtake contract tenors that are shorter than amortization profiles, or with onerous SLAs can introduce revenue risk. Many of the larger data centers are designed around the specific requirements of a single customer. Reletting such bespoke assets may prove challenging if the initial tenant doesn't renew.

We therefore expect disciplined financial structures for transactions seeking investment grade. Risk allocation is also important, and contractual arrangements will need to clearly allocate construction-, delivery-, performance-, and technology-related risks among creditworthy contractors, critical service providers, and off-taker tenants, such as hyperscalers.

For the GCC region, building a track record of delivering projects on time and on budget will be critical to attracting global customers and capital as the market scales. In our view, this also places greater importance on forward planning by governments and utilities, because the timely delivery of generation and grid capacity will be critical to converting data center demand into operational capacity.

A stronger delivery track record and mitigation of geopolitical risks will also be important for building investor confidence and establishing the credibility that is necessary to capture a larger share of global AI workloads. From our perspective, announced capacity is meaningful as projects demonstrate a credible path to execution and ultimately contracted cash flows.

Related Research

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