BUSINESS RENEWABLES CENTRE CANADA

POWER BY DESIGN



How government policy is dictating the electricity choices of new data centres

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Executive Summary

Data centres built to run large language models are driving one of the largest increases in electricity demand in generations, and decisions made now about how to power them will shape electricity systems and their emissions for decades. Governments and system operators worldwide are racing to connect these loads while keeping electricity clean, affordable and reliable. To assess how the sector is responding in this first phase of the buildout, Business Renewables Centre-Canada compiled the largest known cross-jurisdictional dataset of 175 announced power procurement deals across 25 countries, totaling about 126 GW of capacity.

The scan reveals no single winner among technologies, though renewable energy remains the most common procurement pathway in 2026, accounting for just over two-thirds (69 per cent) of all deals by count and appearing in every jurisdiction studied; hyperscalers are also signing gigawatt-scale agreements for solar, wind and storage. Hyperscalers account for 92 per cent of the renewable energy capacity announced so far in 2026. At the same time, buyers are increasingly assembling portfolios that blend renewables with utility supply, storage, on-site generation and, in some cases, nuclear, geothermal and gas. Gas-fired deals have also surged and now make up close to half of announced capacity, concentrated in the United States and Canada. If all that capacity were built, it would add at least 160 megatonnes of greenhouse gas emissions ($MtCO_2e$) annually, roughly a quarter of Canada's 2023 total emissions and over three times those of Canada's electricity sector.

Why do some places turn to gas while others contract for clean power? Resource availability is only part of the answer. Texas and Alberta both have abundant wind and solar resources, yet developers there are turning to gas because interconnection queues have swelled, policy changes have discouraged wind and solar investment, and market rules leave few other options. Outside Canada and the United States, data centres are predominantly planned to run on renewable energy. In short, renewable energy is often the cleanest and most cost-competitive option, but many markets are not set up to let data centres use it. The North American rush to gas is a choice that governments and system operators are making, not a technical necessity, and perhaps not intentionally.

Hyperscalers account for 92% of the renewable energy capacity announced so far in 2026.

For Canada, the findings highlight both opportunity and challenge. Provinces possess significant clean electricity resources and considerable potential for new renewable energy development. However, attracting and supporting future investment will increasingly depend on the ability to provide timely access to electricity, facilitate diverse procurement options, and proactively plan the infrastructure needed to accommodate large-load growth. The experiences documented in this report suggest that jurisdictions that align energy policy, infrastructure planning, and market design will be best positioned to capture the economic benefits of the rapid expansion of the digital economy.

For Canada, the stakes are high. Canada has just over 6 GW of announced data centre energy deals, almost all of it gas-fired self-supply, despite the country's abundant clean energy resources. That is not a technology problem. It reflects market signals, in both policy and regulation, that steer developers toward gas, and it risks locking in emissions for decades. BRC-Canada recommends that governments and system operators in Canada and globally compete on power readiness, treat renewable energy as a competitive advantage, enable energy portfolios and set clear rules on cost allocation.

Data centres are only the first of many new large electricity customers. Jurisdictions that get procurement and cost rules right now will be best placed to attract investment, protect ratepayers, and keep the clean economy on track.

126 GW

25 COUNTRIES

175 DEALS

Data Centre Energy Deals
2015-2026

OTHER/GRID (8.0 GW)

NUCLEAR
34.7 GW

RENEWABLES
27.7 GW

GAS
55.0 GW

92%
of 2026 deals by capacity
Mostly hyperscalers (Meta, Microsoft, Google, Amazon)

2/3
of all deals

160
$MtCO_2e$/YEAR
of emissions

Mostly 2025 and 2026
55 GW
and only in Canada and the U.S.

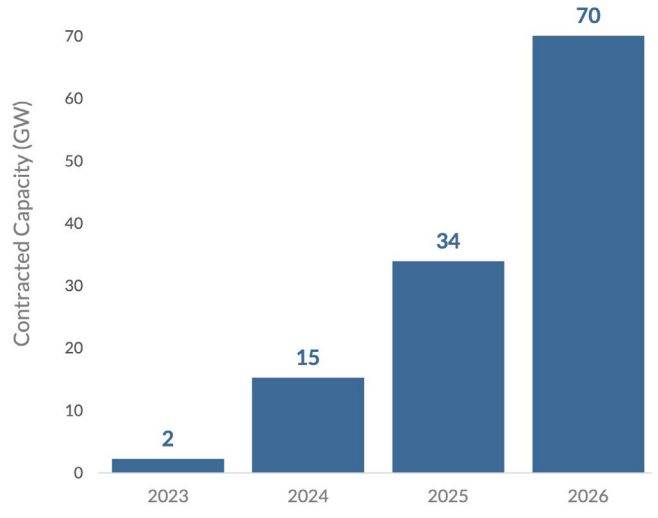
METHODOLOGY

- Deals were found through search engines and LLMs.
- All deals were verified by humans.
- Searches were done in English.

KEY TAKEAWAYS

1. **Unprecedented growth.** 126 GW would be the 13th-largest grid in the world.
2. **Renewables are still key**, at 2/3 of all deals.
3. **Portfolios are emerging**, mixing in storage and new deal structures.
4. **Gas is growing** in the U.S. and Canada.
5. **Markets shape outcomes**.

NEW CAPACITY OF TRACKED DATA CENTRE ENERGY DEALS
(FROM 2023 TO 2026)



BUSINESS RENEWABLES CENTRE CANADA

Introduction

Data centres have become a major source of new electricity demand worldwide. Their meteoric growth means that, electricity infrastructure, markets, and government policies now determine where, when, and how data centres get built. How that growth unfolds will have lasting effects on electricity systems, host jurisdictions, ratepayers, and decarbonization.

Every new facility raises questions about how it will be powered: what new generation, transmission, substations, backup service, and grid capacity it will need. These projects, many of them multibillion-dollar investments, have also sparked debate about whether the local economic benefits they promise will outweigh their effects on ratepayer bills and emissions long after the investment announcement.

The International Energy Agency estimates that unless grid constraints are addressed, around one-fifth of planned data centre projects could be delayed.[1] A credible electricity strategy for new data centres now both a development need and a matter of public interest. Jurisdictions that can predictably connect new loads and clarify who pays for the necessary infrastructure will be better placed to attract projects that create lasting value. Data centres are also only part of rapidly growing electricity demand, as electrification of transportation, heating, and industrial processes is becoming increasingly economical. Getting the rules right for data centres now will also pay off for the coming energy transition.

Business Renewables Centre Canada (BRC-Canada) compiled the world's largest known cross-jurisdictional assessment of announced data centre electricity deals, totalling 126 GW in capacity. We wanted to understand how developers, chiefly hyperscalers[2] and other data centre operators, are securing electricity, and to help jurisdictions support this emerging sector in a way that creates durable economic and system benefits without leaving a legacy of locked-in emissions. Data centres now planned and under construction should deliver the best possible outcomes for jurisdictions and ratepayers alike.

A credible electricity strategy is now both a development need and a matter of public interest.

1 https://www.iea.org/reports/energy-and-ai

2 In general, hyperscalers refer to companies involved in massively expanding cloud-based services such as compute that requires substantially more energy and footprint than previous generations of data centres. These companies may use those services directly or offer them commercially.

This report refers to Amazon (AWS), Google, Meta, and Microsoft as key examples of hyperscalers based on several factors including repeated procurement activity, large load capacity, the use of multiple technologies, sustained participation over several years, publicly disclosed deals, facilities in operation, and more. According to Forbes, AWS, Microsoft, and Google represented over 63% of the world's cloud compute power in Q2 2026. https://www.forbes.com/sites/technology/article/what-is-a-hyperscaler/

Due to the absence of some or all these factors, companies such as Anthropic, Fermi, OpenAI, and xAI are not included in this definition.

Scope and methodology

This report examines 175 individual announced transactions across 25 jurisdictions,[3] representing 126,335 MW (126.3 GW) of planned capacity recorded through the end of September 2026. The scan is not exhaustive, as new deals are announced frequently, and the data collection approach was conducted in English, which likely limited the reach of the scan from regions where English is not the primary language of business or news.

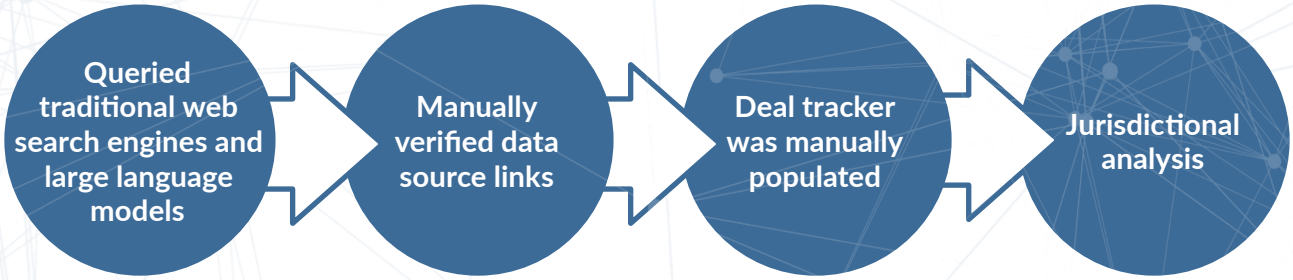
We queried traditional web search engines (Google, DuckDuckGo) **and large language models** (LLM; Claude Sonnet 5, Claude Opus 5.5, Microsoft CoPilot) to retrieve information on data centre deals. The LLM search prompts logged data source links, which were then **manually verified** and added too. Wherever possible, the dataset cited government regulatory filings, company releases or trade press directly. We avoided aggregator and third-party links to prevent later information loss and other reliability issues. Additional data centre deals were populated through manual search and while verifying deals already identified.

The **dataset was then manually populated** with buyer, deal type, capacity, year, technology type, primary energy type, location, country, mechanism, commercial status, attribution, source links, and any additional notable deal features based on company releases or other publicly available information. Where a facility contracted multiple energy types, even if the same developer provided the assets, each was considered a separate deal.

Deals with gaps in key data like energy type, capacity, or project timeline or details were removed. In some instances, we marked deals as framework agreements or memoranda of understanding rather than discrete, facility-specific disclosures. Where information was ambiguous or conflicting, we took a conservative approach, such as using the lower reported capacity figure so as not to overstate the volume in the dataset.

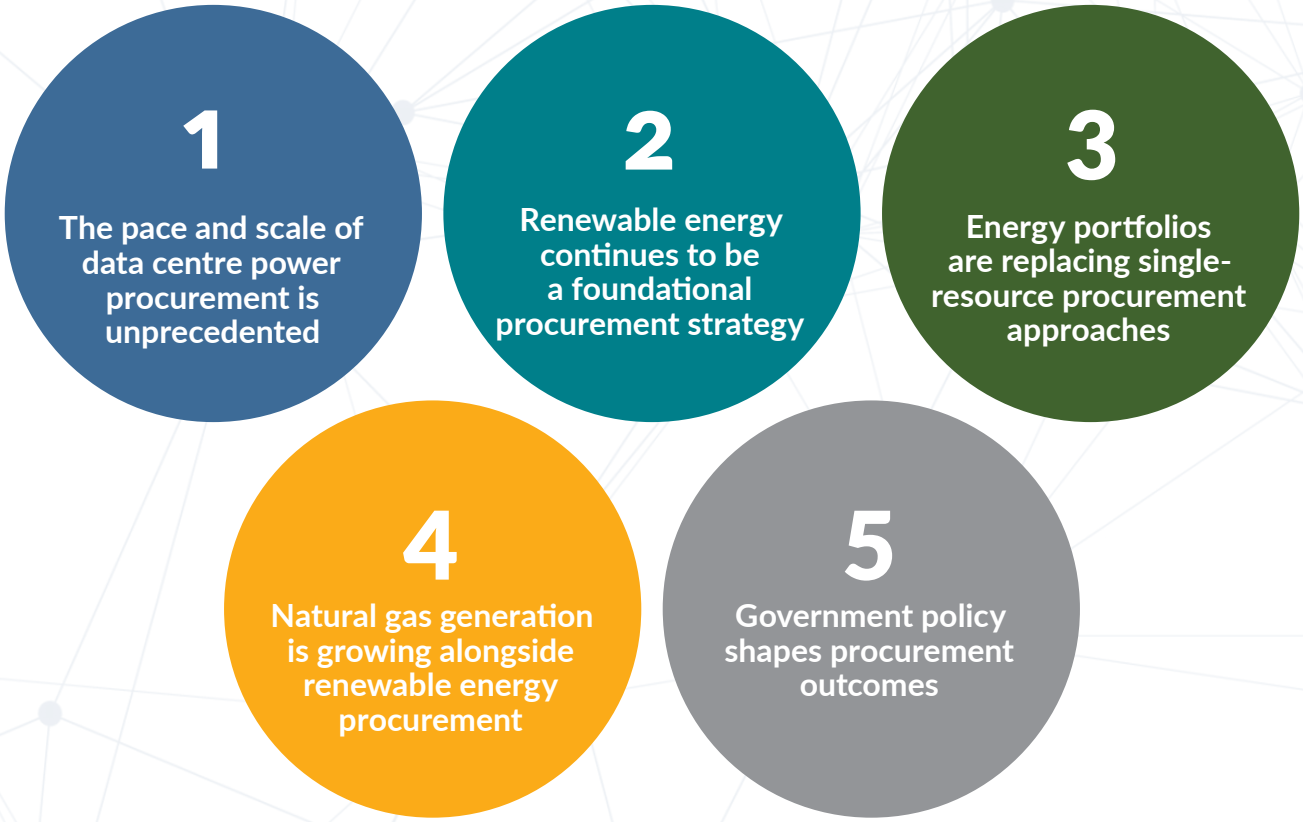
The scan shows a widening gap between ambition and delivery. It records 143 deals with a commercial status of signed, executed, reached first investment decision or approved, and 32 deals that are announced or have a framework, MOU, or letter of intent in place. Of these 175 total deals, only 50 deals are related to projects that are fully operational.

This report examines 175 individual announced transactions across 25 jurisdictions, representing 126.3 GW of planned capacity recorded through the end of September 2026.



3 This report refers to deals from the EU. Specifically, deals were found in Germany, Finland, Sweden, Ireland, Spain, Greece, the Netherlands, Belgium, France, Portugal, Italy, and Denmark.

Key Findings



1. The pace and scale of data centre power procurement is unprecedented

The scan identifies 126 GW of announced procurement across 175 transactions and 25 jurisdictions. Energy procurement deals have accelerated sharply since 2024, driven by AI computing growth, with the number of announced deals up by 179%. If the total capacity for all the deals examined in this analysis were combined, it would be the world's 13th-largest electricity grid[4] (for comparison, Canada ranks eighth in the world in installed electricity capacity at about 160 GW. Italy ranks 12th at 136 GW).

This scale and pace of build-out is forcing governments worldwide to create new rules quickly to manage development, and it will affect the emissions profile of energy systems around the globe. Emissions implications are substantial. Gas-based deals, which are mostly in the U.S. and Canada, total 55 GW of capacity since 2024. If all announced projects in the dataset are built, they would generate at least 160 megatonnes of greenhouse gas emissions annually, or about a quarter of all of Canada's 2023 emissions and more than three times Canada's current electricity sector emissions.

4 https://statbase.org/datasets/electricity/electricity-installed-capacity-by-source/

2. Renewable energy continues to be a foundational procurement strategy, particularly outside of North America

Although proposals to power data centres with fossil fuels are rising, renewable energy remains the most common procurement pathway in the scan, accounting for 112 transactions, or almost two-thirds of all deals, by count. It is also the most geographically widespread pathway, with deals in every jurisdiction analyzed. Leading hyperscalers continue to sign gigawatt-scale agreements for solar, wind, and combined storage and renewables and in 2026 have been responsible for 92 per cent of all tracked renewable energy data centre deals by capacity.

In contrast to jurisdictions like Alberta that have required new gas build-out, 22 of the 25 jurisdictions reviewed have shown that growing data centre demand can be met without leaning harder on new fossil-fuel generation. Several are introducing new procurement models that enable, or even require, new renewable buildout matched to data centre growth.

3. Energy portfolios are replacing single-resource procurement approaches

Globally, no single data centre demand procurement model or electricity generating technology to meet that demand is emerging as dominant. **The largest buyers are moving toward a combined approach that draws on a wide range of available electricity sources,** from renewables and thermal generation to emerging technologies such as small modular reactors and long-duration storage. Data centre developers have also shifted to procurement strategies that deliver round-the-clock power for the new generation of data centres, and some deals set specific terms for drawing on grid electricity, such as making use of demand flexibility technologies.

As project sizes, grid requirements and connection challenges evolve, governments and system operators are creating conditions that bring new power online, commensurate with data centre demand to protect ratepayers from higher costs while allowing data centres and electricity generators to choose to buy or build portfolios that include renewable energy.

4. Natural gas generation is growing alongside renewable energy procurement

Still, new natural gas generation has grown substantially over the last two years and now accounts for 55 GW, or 44 per cent of announced capacity in this analysis. All the new gas buildout is in the United States and Canada, and only in 27, or 15 per cent, of identified deals. **Developers in North America are increasingly turning to fossil fuel resources to avoid grid constraints, meet development timelines, or satisfy regulatory requirements.** Among major hyperscalers that still hold clean energy targets, thermal generation does not appear to be displacing renewable energy; fossil power plants are being added to broaden portfolios instead. Because thermal power is only used in only two countries, the choice seems to be driven by government policy or constraints.

5. Government policy shapes procurement outcomes

Jurisdictions with established renewable procurement pathways, transmission access, and predictable large-load interconnection see different outcomes than those facing constraints. Texas and Alberta show this clearly. In Texas where five projects, totalling 20.6 GW have used behind-the-fence thermal generation to avoid interconnection, and in Alberta, new thermal generation is proposed as the only option for meeting policy requirements. Both systems have abundant renewable energy resources, but in recent years, interconnection queues for generation and large loads have swelled. In Alberta in particular, major policy changes have discouraged wind and solar energy investment and the government's draft policy requires new natural gas to be built to meet data centre demand.

Our analysis suggests that policy and market structures can shape technology choices as much as, or more than, resource availability. **Comparing North America with the rest of the world, market design is increasingly a critical factor in how data centres will be powered.**

The Global Data Centre Power Landscape

Rapid growth in data centre electricity demand

The pace of announcements is unprecedented and accelerating. There were 24 deals in 2024, 48 in 2025, and up to 69 by the end of September 2026, a 179% increase within three years. The key driver is that governments and hyperscalers alike are rushing to build AI capability as a source of economic growth and competitive advantage. Global investment in AI and data centre infrastructure is projected to reach US$31.6 trillion by 2050.[5] In multiple jurisdictions, this sector's growth is outpacing the electricity infrastructure required to support it.

Figure 1 shows contracted capacity and the number of deals climbing sharply since 2023. While the dataset's earliest recorded data centre deal dates to 2015, there are only 34 entries before 2023, when 24 deals were recorded in just one year.

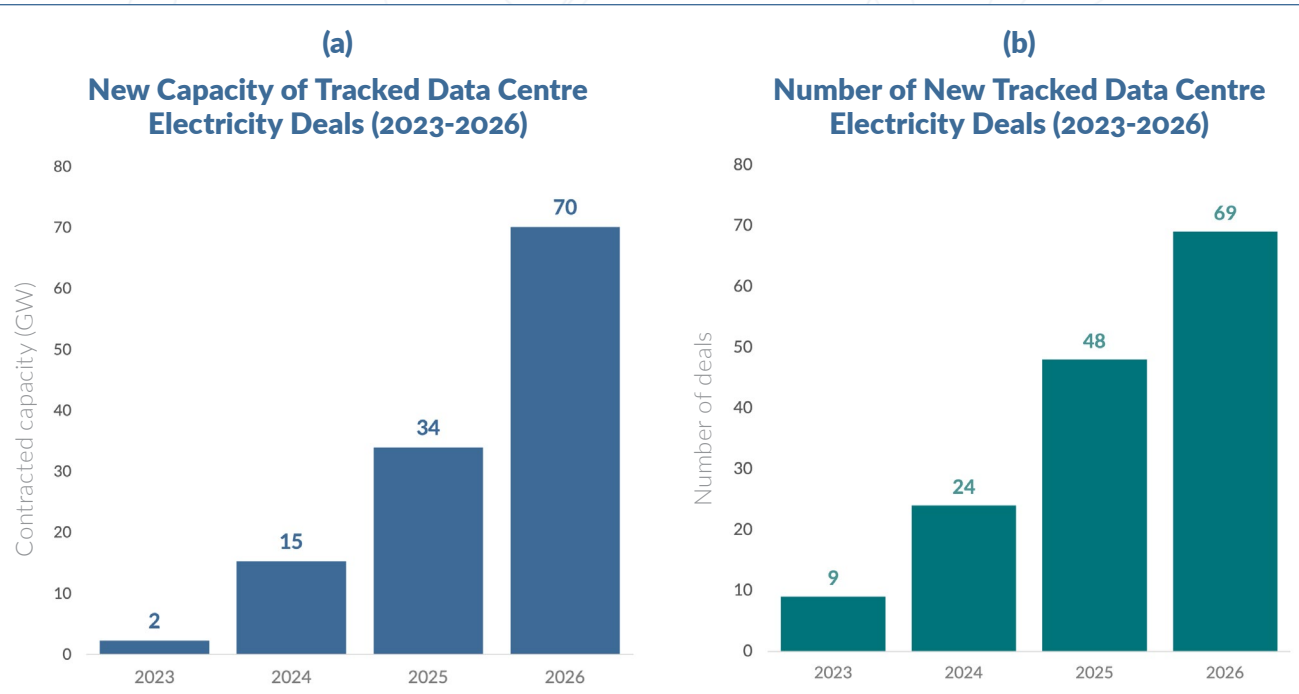


Figure 1. Contracted capacity (a) and number (b) of data centre electricity deals each year have accelerated since 2023.

5 https://www.pwc.com/gx/en/news-room/press-releases/2026/global-investment-in-ai-infrastructure.html

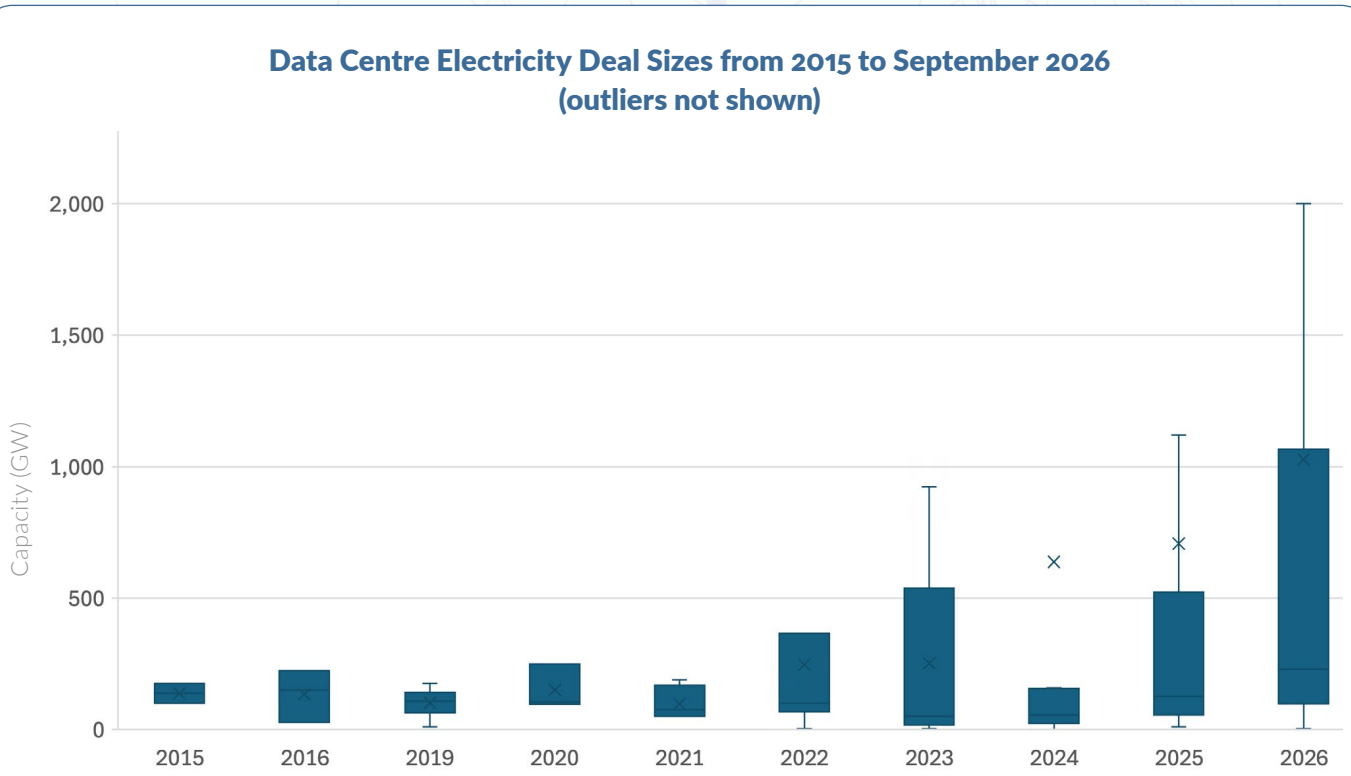


Figure 2. Box and whiskers deal size varied but is now showing an upward trend (with outliers growing rapidly). X notes the mean.

At the same time, deal sizes have increased significantly as illustrated in **Figure 2**. The median deal size has risen from 50 MW in 2023 to 230 MW in 2026. While the median does not directly translate to the size of a typical operating data centre, it does indicate that much larger deals are entering the development pool. Meanwhile, a handful of outliers has pulled the mean capacity from 252 MW in 2023 to just over 1.0 GW in 2026. The largest procurement in the 2026 data is Fermi America's Project Matador (HyperGrid), a behind-the-meter AI campus in Texas with 16.2 GW of capacity. The top ten deals overall (six of which are from 2026, three from 2025, and one from 2024) alone represent 72 GW of new demand, averaging 7.2 GW each.

A small group of companies has outsized influence on this market. Amazon, Google, Meta, and Microsoft are on track to spend nearly US$700 billion in 2026 alone, making them the strongest drivers of data centre development worldwide.[6] **Figure 3** shows the distribution of projects' deal sizes from the top four hyperscalers in the dataset.

These deals account for almost 61 GW, nearly half of total recorded deal capacity. These four companies are behind 110, or almost two-thirds (63 per cent), of all deals since 2015. Notably, Meta has expanded rapidly recently, going from almost no deals in 2023 to 8 GW in 2026. Amazon/AWS currently leads with a cumulative 19.7 GW of deals.

6 https://finance.yahoo.com/sectors/technology/articles/big-tech-spend-nearly-700-182921276.html

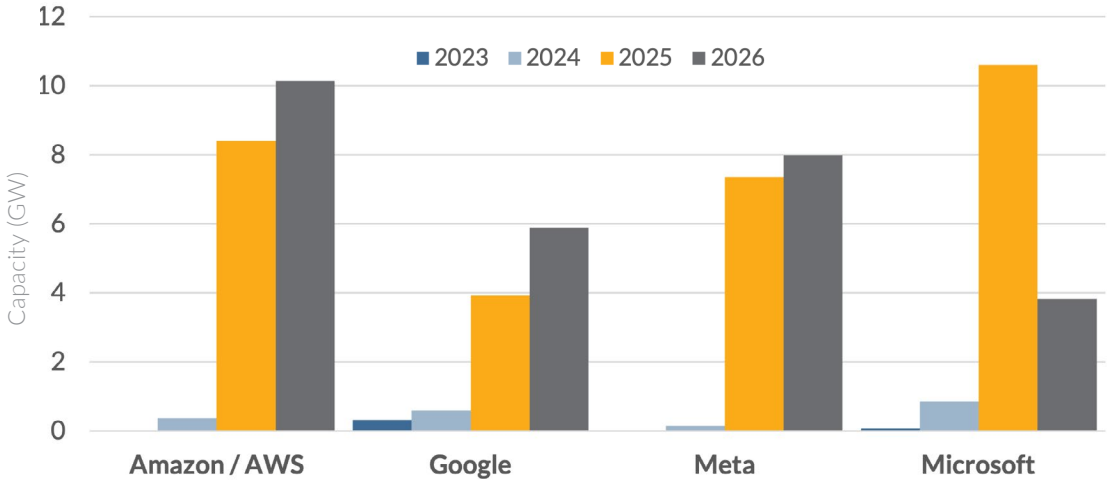


Figure 3. Hyperscaler electricity deals highlighting increased contribution.

Geographical context of procurement activity

Data centre growth is global, with 3,875 projects currently proposed worldwide. The geographic dispersion of data centre development is concentrated in North America, with 2,122 projects currently proposed. In contrast, all other regions combined have 1,757 announced projects.[7]

REGION	CAPACITY (GW)	NUMBER OF DEALS
US	99.2	78
EU	6.0	42
Canada	6.4	10
UAE	1.0	1
India	0.9	8
Australia	1.0	14
Japan	0.2	6
UK	0.3	2
South Africa	0.2	3
Rest of the World	11.0	11
Total	**126.3**	**175**

Table 1. Cumulative capacity and number of data centre electricity deals across various regions

Similar to the overall development trend, our dataset covers 25 jurisdictions across Europe, Asia, Australia, South America, and Africa, but North America dominates announced deal count and capacity. Average deal sizes vary widely: 1.2 GW in the US versus only 16 MW in Malaysia.

There is a total of 42 recorded deals totalling 6.0 GW in the EU, with seven deals in Germany and four in Spain (**Table 1**). The largest deal in the EU is in Germany, a 774 MW offshore wind project PPA between Amazon/AWS and Iberdrola. Renewable energy power purchase agreements are the preferred procurement pathway in most EU jurisdictions, accounting for 38 out of the 42 deals. Of those, 32 belong to hyperscalers.

Similarly, in Australia, Amazon/AWS signed 14 deals totalling 909 MW of solar, 97 MW of wind and 339 MW of battery storage, most of which are onsite at those solar and wind facilities. India's PPA deals are all solar and wind and total 898 MW, while all PPAs in Japan are solar-based and total 236 MW.

7 https://datacenterprojecttracker.com/

Overall, the US leads the dataset in deals and capacity, with around 99.2 GW, or 79% of everything tracked. The U.S.'s share of new capacity jumped from 57% in 2025 to 87% in 2026, and Texas alone holds 23 of those deals (35.7 GW) (**Table 2**).

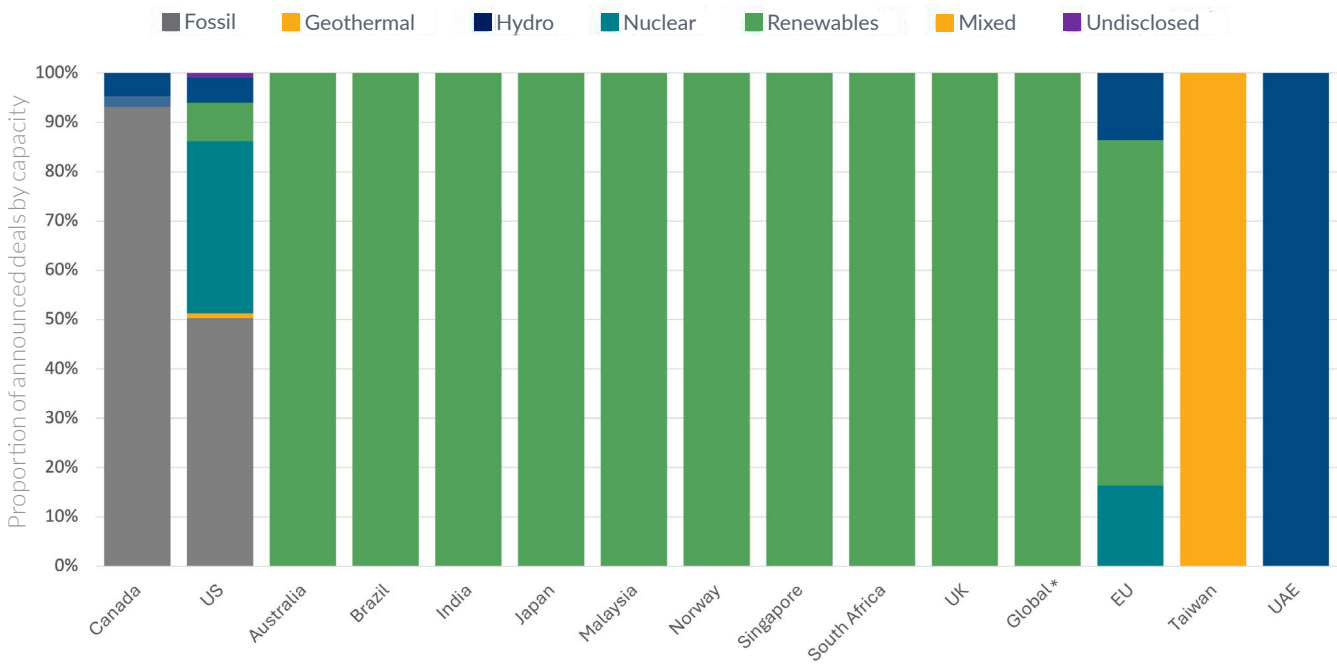
Canada ranks third by deals (and second by capacity), with 10 deals totalling 6.4 GW, almost all gas-fired facilities. Specifically, 6.0 GW of dedicated thermal power is proposed across eight deals, with limited access to open renewable procurement, a 300 MW deal in Saskatchewan for grid electricity (which is predominantly coal-based), and a 142 MW hydro deal in Quebec. The rest of the world combined accounts for 20.7 GW of identified projects.

REGION	CAPACITY (GW)	NUMBER OF DEALS
Texas	35.7	23
Ohio	14.0	5
Pennsylvania	10.3	7
Georgia	3.2	1
Oregon	1.2	1
Louisiana	5.2	1
Minnesota	1.6	2
Rest of US	28.1	38
Total	**99.2**	**78**

Table 2. States with highest number of deals within the US (cumulative)

Increasing use of fossil power for data centres

Figure 4 outlines the supply mix choices announced in deals by capacity by region and year. While supply diversity has increased and emerging technologies such as geothermal and nuclear have been added, this trend is concentrated in North American jurisdictions. The rest of the world, especially the EU and Asia-Pacific, has shown a preference for renewables and renewable hybrids. Similarly, the use of fossil fuel for data centres is disproportionately concentrated in the United States and Canada.



* Global refers to deals that are announced to span several jurisdictions without specifying a regional breakdown.

Figure 4. Proportion of announced capacity by supply mix in various jurisdictions from 2023 to 2026.

Fossil energy deals for data centres went from none before 2024 to 0.4 GW in 2024, 12.5 GW in 2025, and 42 GW in 2026, a more than three-fold jump in the last year alone. **Figure 5** provides an overall count of all data centres' announced energy deal choices. At 55 GW in total, these fossil deals nearly equal the combined size of all other energy types' deals between 2025 and 2026. Once operational, they would lead to at least 160 MtCO2e of emissions annually, which would be larger than Canada's second-most emitting province of Ontario at 153 MtCO2e and 3.3 times larger than Canada's electricity sector (49 MtCO2e).[8]

Several factors have driven the rapid rise in fossil deals, and the main one is speed-to-power. Some 20.6 GW, more than a third of the fossil energy deals in total, are behind-the-meter (BTM) proposals in Texas, where the interconnection queue is severely bottlenecked for both new generation and large loads. By connecting behind-the-meter, Texas facilities avoid waiting for the normal interconnection process before they can operate.

A dedicated BTM plant may help a developer control one part of its schedule, but it also creates long-term exposure to construction costs, fuel prices, slower-than-forecast data centre growth and locked-in emissions. Gas turbines also face cost and delivery pressures. And if a facility later needs grid backup, or if generation or network infrastructure is built for load that never arrives, the crucial question becomes how much of the cost falls on ratepayers. These challenges are discussed further in later sections.

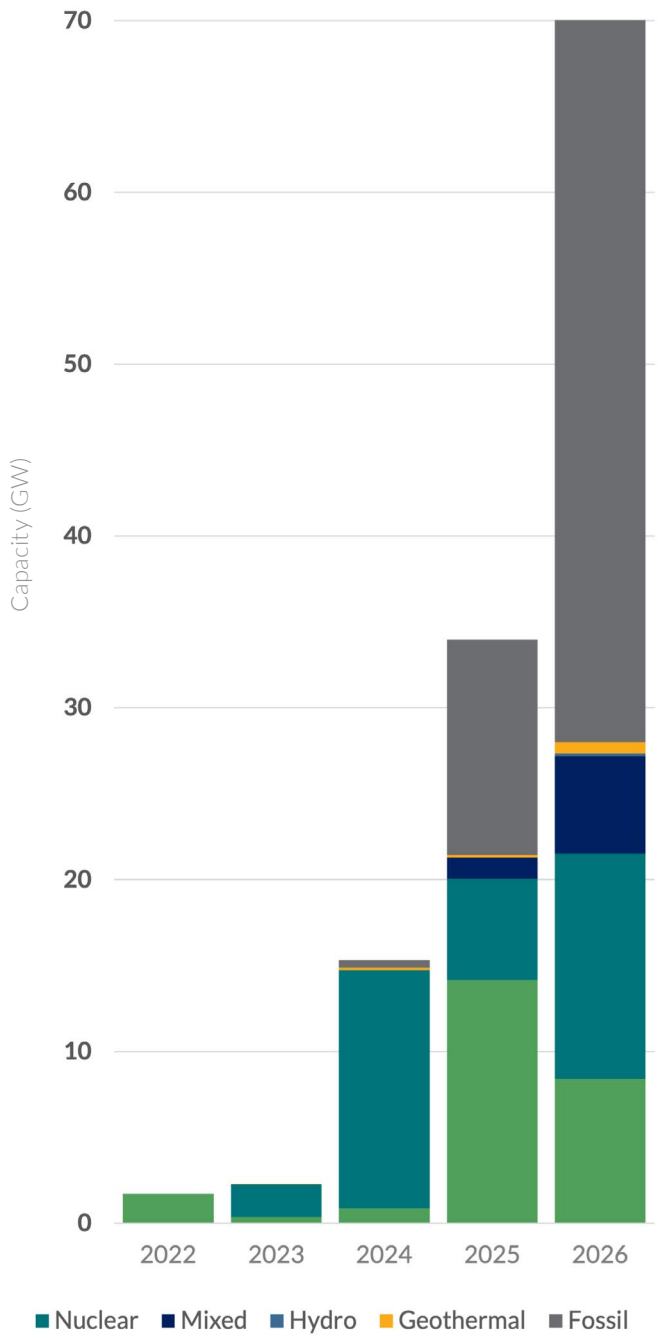


Figure 5. Data centre electricity deal capacity (in GW) by energy type from 2022 to 2026

8 Calculated conservatively based on a combined cycle gas turbine (CCGT) emission factor of 0.37 t/MWh (considered best-in-class in Alberta) and capacity factor of 90%. Upstream methane emissions during natural gas extraction are not included. Canada's National Inventory (2023) values were used for emission profile comparison. [https://publications.gc.ca/collections/collection_2025/eccc/En81-4-2023-1-eng.pdf]

Renewables at Scale

Data centres procuring wind and solar energy remains widespread, which is unsurprising given that both are highly cost-competitive, save fuel and are supported by resilient, distributed supply chains.

Although year-to-year price declines have stalled or even reversed,[9] these advantages have helped renewable energy become a primary choice for data centre developers.

Renewable energy deals are the most common procurement strategy, accounting for almost two-thirds of all tracked transactions. As **Figure 6** illustrates, renewables deals so far in 2026 still total close to 10 GW, almost the size of Alberta's average electricity demand.

Both the capacity and the number of renewables deals have stayed high so far this year. For wind and solar specifically, capacity has dropped to 8.4 GW, but the number of deals has risen to 37. If the market were moving away from renewables, we would expect deals to fall sharply. Instead, renewable procurement remains the main contracting method for data centre operators globally.

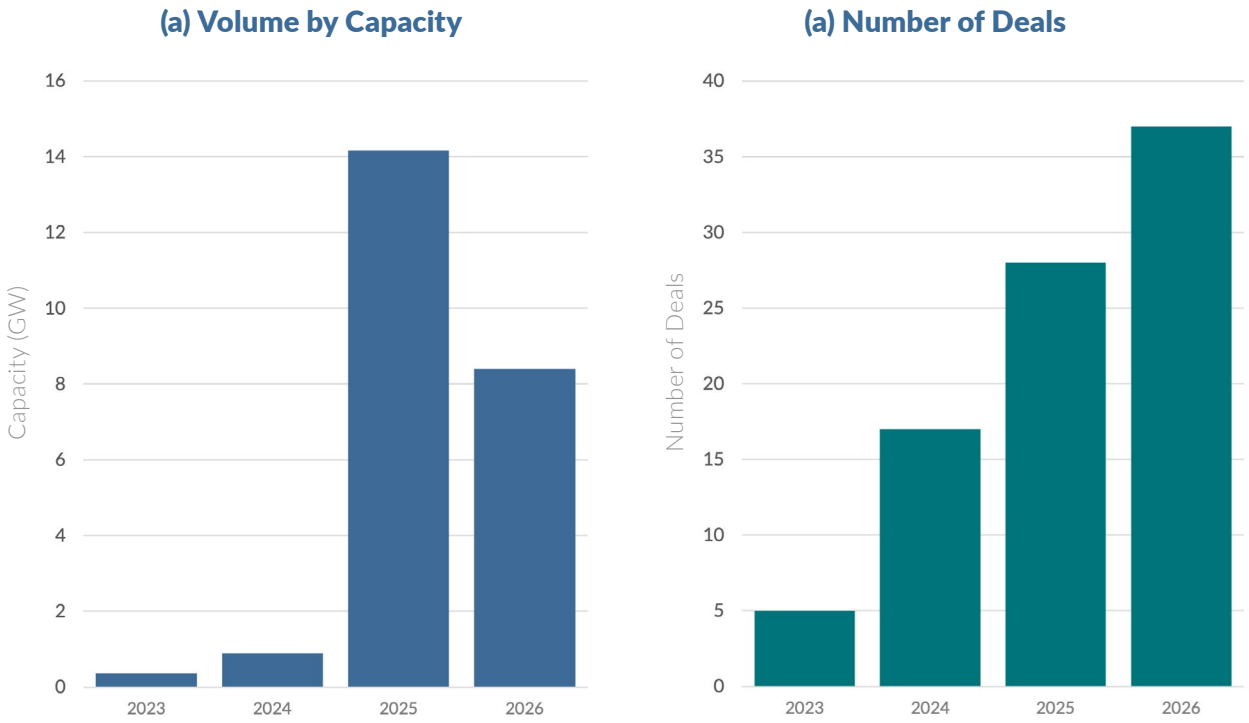


Figure 6. Absolute volume by capacity (a) and number of deals (b) for renewable energy in data centre deals between 2023 and 2026 YTD

9 https://www.lazard.com/news-announcements/lazard-releases-2026-levelized-cost-of-energyplus-report-pr/ Slide 23, https://ember-energy.org/latest-insights/the-age-of-power

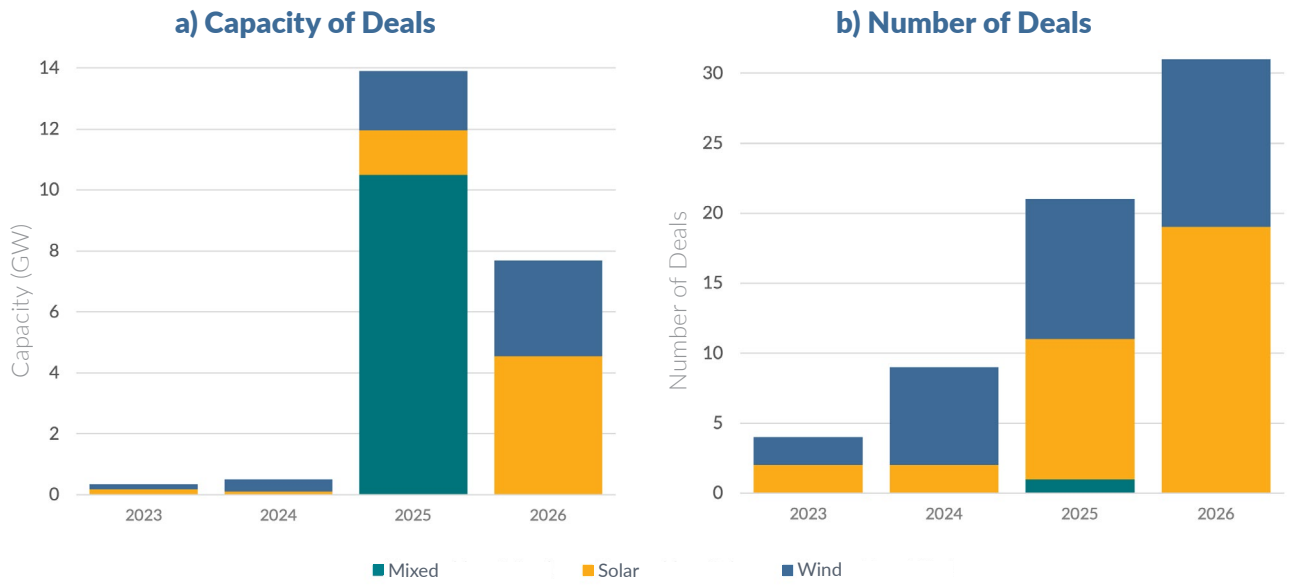


Figure 7. Capacity (a) and number of (b) renewable energy deals for hyperscaler data centres (2023 to 2026)

Among hyperscalers alone (**Figure 7**), the number and capacity of renewable energy deals continue to rise. After two to seven deals a year between 2022 and 2024, there were 21 deals in 2025 and 31 already in 2026. Their capacity has grown sharply, reaching almost 7.7 GW so far in 2026, which is 92 per cent of all 2026 renewable energy deals. One framework deal in 2025 stands out at 10.5 GW between Microsoft and Brookfield Renewable, intended to power Microsoft data centres in several global jurisdictions and will inevitably become several deals. However, because no further information is available on project sizes across these regions, they are currently treated as just one deal. This growth indicates that renewable procurement is scaling alongside data centre growth.

Projects that pair renewables with storage are also growing, reaching 3.1 GW in 2026 to date. This is unsurprising: storage costs have continued to fall and the technology has matured, demonstrating that storage can contribute to reliability while preserving the development flexibility that renewables offer.

The continued use of renewables and hybrid projects does not mean the recent shift toward fossil energy proposals is any less real. Fossil deals across all data centre developers increased from two in 2024 to 16 so far in 2026, a capacity rise from 0.42 GW to 42 GW, shown in **Figure 8**.

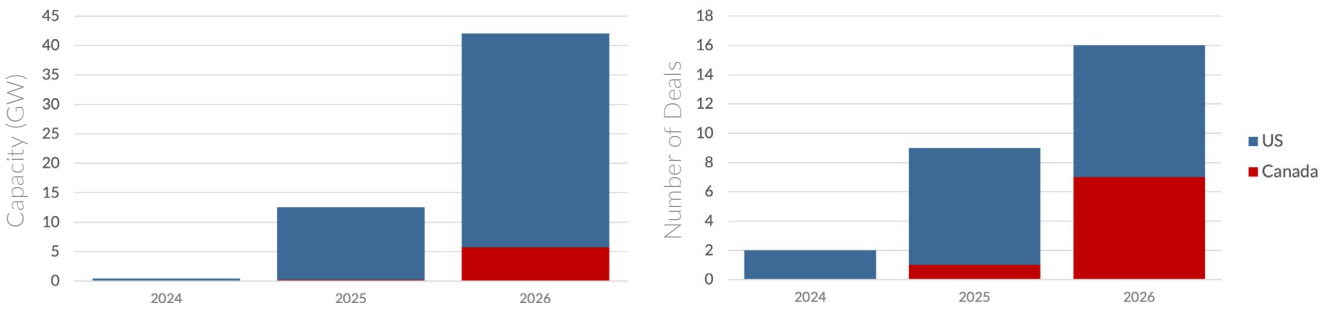


Figure 8. Capacity (a) and number of deals (b) of data centre fossil electricity deals by region (2024 to 2026)

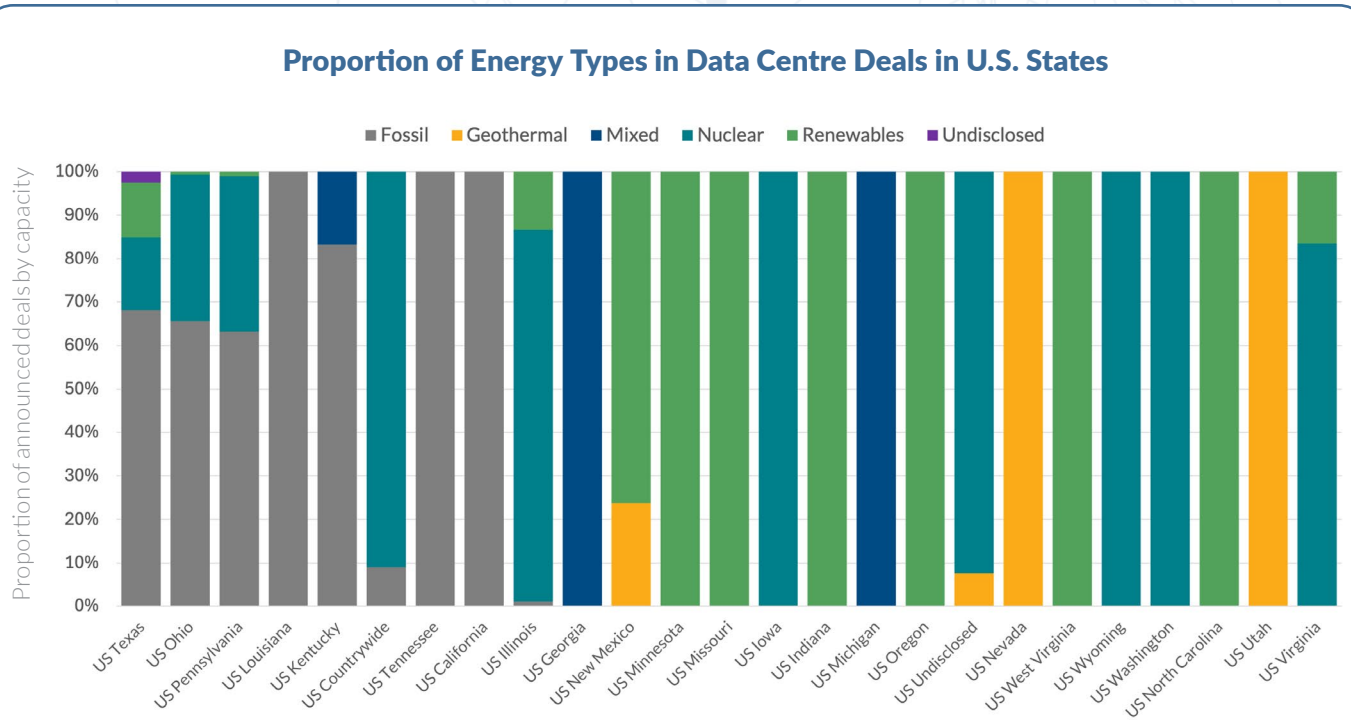


Figure 9. Proportions of energy types in data centre deals announced in the U.S. by state

The rise of fossil-powered data centres is striking, but the fossil deals BRC-Canada confirmed are exclusively within Canada and the U.S. Many of these facilities will still need additional electricity sources like renewable, batteries and the grid to balance supply.

U.S. development is not limited to fossil fuels, wind and solar energy. **Figure 9** shows how several deals include nuclear, either repowering existing facilities or using new technologies like small modular reactors (SMRs), as well as geothermal energy, both of which are emerging technologies yet to reach full commercialization. However, every state's data centres deals are primarily dominated by one type of strategy; only Pennsylvania and Ohio have a second energy source reaching near a one-third share.

Data centres outside of Canada and the U.S. are predominantly planned to be powered by renewable energy sources.

The homogeneity of energy choices suggests that market context greatly influences fuel choice, whether through regulatory design, geography (including infrastructure) or the volume of development interest. In most U.S. states with a concentration of fossil energy deals, a clear renewable energy option is also available. Solar energy is abundant in California, New Mexico, Nevada and even Louisiana, and wind availability is most prominent east of the Rockies, including in New Mexico, Michigan and Ohio. Texas has some of the best wind and solar availability in the U.S. and has accordingly led deployment to date, yet 68% of the capacity of announced data centre deals are fossil-based.

Meanwhile, data centres outside of Canada and the U.S. are predominantly planned to be powered by renewable energy sources. The following sections explore potential limiting factors for energy choice, including market rules and infrastructure or procedural limitations.

The Emergence of Energy Portfolios

Energy deals for data centres are typically power purchase agreements in which a data centre operator buys energy from a utility or, in deregulated competitive markets, from a specific energy supplier.

With a utility, rates may be fixed or floating; with a supplier, rates are generally fixed and based on the technology's capital and operating costs.

Buyers and sellers generally de-risk each other's projects by agreeing on a fixed price for electricity (and environmental attributes) over many years. For the developer, the known contract reduces financing costs, and for the buyer, a known energy cost manages a key cost for data centre operators. If the grid price rises above the fixed contract price, the buyer has hedged that risk, and the energy supplier forgoes the extra revenue. If the grid price falls below the contract price, the buyer backstops revenue for the seller.

Virtual power purchase agreements (vPPAs) have been the backbone of most renewable deals, but operators increasingly combine them with utility supply, co-located generation, storage and behind-the-meter capacity, often spanning several technologies within a single arrangement. This is known as a portfolio approach that also exists outside of data centre procurements: a mix of contract types and physical arrangements (hybrid projects, on-site generation, grid supply). A portfolio approach lets buyers meet speed-to-power, reliability, cost, and emissions objectives through a flexible set of complementary resources rather than relying on a single supply option.

A portfolio approach lets buyers meet speed-to-power, reliability, cost, and emissions objectives through a flexible set of complementary resources rather than relying on a single supply option.

Energy Procurement Approaches

Virtual PPAs

In a vPPA, the buyer and seller are not directly connected: the generated electricity must travel through the bulk electricity system before reaching the customer. vPPAs also have an obvious advantage over physical PPAs because they are not geographically constrained, buyers have more flexibility in choosing a seller, for example by looking for sellers that are at the front of the interconnection queue.

Using this pathway helps buyers secure contractual speed and price certainty before interconnection, but it has a drawback: a single-seller facility may not be able to deliver firm capacity or hourly load matching, even as a hybrid project with a battery. PPAs are also not enabled in many jurisdictions. They are common in fully deregulated electricity markets, but vertically integrated or hybrid systems (e.g. most Canadian provinces) would need the utility, whether a crown corporation or investor-owned, like in the U.S., to act as an intermediary market maker and offer sleeved deals.[10]

10 For more information, see https://businessrenewables.ca/sites/default/files/2023-08/FactSheet%203%20-%20DesigningPrograms.pdf or https://businessrenewables.ca/resource/powering-corporate-choice

On-site or Behind-the-Meter

Energy suppliers that are physically connected to a load, whether co-located, adjacent, or on the same site, are typically contracted through a physical PPA. Most loads, including data centre companies, do not want to mix electricity generation with their core business, so they seek a partner to generate electricity.

Grid planners have historically been cautious about on-site or BTM generation that remains tied to the bulk electricity grid, wary of grid defection. In their view, users of the bulk grid should contribute to the shared costs of infrastructure (e.g., transmission lines and substations) in proportion to the electricity they consume. If customers instead rely mostly on their own generation and only occasionally draw on the grid, the costs of the infrastructure that serves that facility would be spread disproportionately onto other customers.

On the other hand, enabling more on-site or BTM generation could reduce grid costs, because new supply and load can share one interconnection to the bulk grid. If the generation is a hybrid facility, the connection could even be smaller than it would otherwise need to be, saving still more on grid needs.

MOU or Framework

Memoranda of understanding (MOU) and other framework agreements blend the approaches above. For example, a data centre might sign a subscription-based contract with its utility and contract with other energy suppliers through a vPPA (or sleeve deal).

These can be especially attractive to hyperscalers looking to minimize the number of transactions needed to secure gigawatts of energy. For example, Google and NextEra Energy's multi-campus, multi-GW December 2025 agreement is a general agreement to work together on the full stack of energy project development.[11]

MOUs and frameworks have also been used on several nuclear energy deals, including for fusion energy technology that is not yet operational or commercial.

	Deal Type	Energy Supplier	System Operator or Utility	Data Centre (Buyer)
Off-site generation	Virtual PPA or System Operator Procurement (Subscription- or Sleeved Deals)	Develops anywhere in the jurisdiction	Manages grid parameters such as resource adequacy, transmission planning, interconnection approvals	Buys electricity from either the energy supplier or the system operator/utility
On-site generation	Physical PPA	Co-locates next to data centre	Handles interconnection process unless project is off-grid	Buys electricity from the supplier, might use the grid as a backup
Behind-the-meter (BTM) generation	Physical PPA	Builds on-site in the data centre	Handles interconnection process unless project is off-grid	Buys electricity from the supplier, might use the grid as a backup
MOU/Framework	Mix of the above or an aspirational commitment	Mix of the above	Mix of the above	Mix of the above

Table 3. Types of Energy Procurement for Data Centres and Roles for the Buyer, Seller, and System Operator or Utility

11 https://newsroom.nexteraenergy.com/2025-12-08-NextEra-Energy-and-Google-Cloud-Announce-Landmark-Strategic-Energy-and-Technology-Partnership-to-Accelerate-AI-Growth-and-Transform-the-Energy-Industry?l=12

Trends in Energy Procurement

In 2026, data centre operators are pursuing a wide range of approaches. Some sign PPAs with wind, solar, and storage projects (several examples shown in **Figure 10**). Others are investing directly in emerging technologies such as nuclear and advanced geothermal, arranging dedicated utility service, acquiring generation, or proposing co-located behind-the-meter facilities.

Data centre deals started as virtual power purchase agreements (PPAs) but have evolved into several structures, including physical PPAs, a portfolio of virtual and physical deals, and other arrangements.

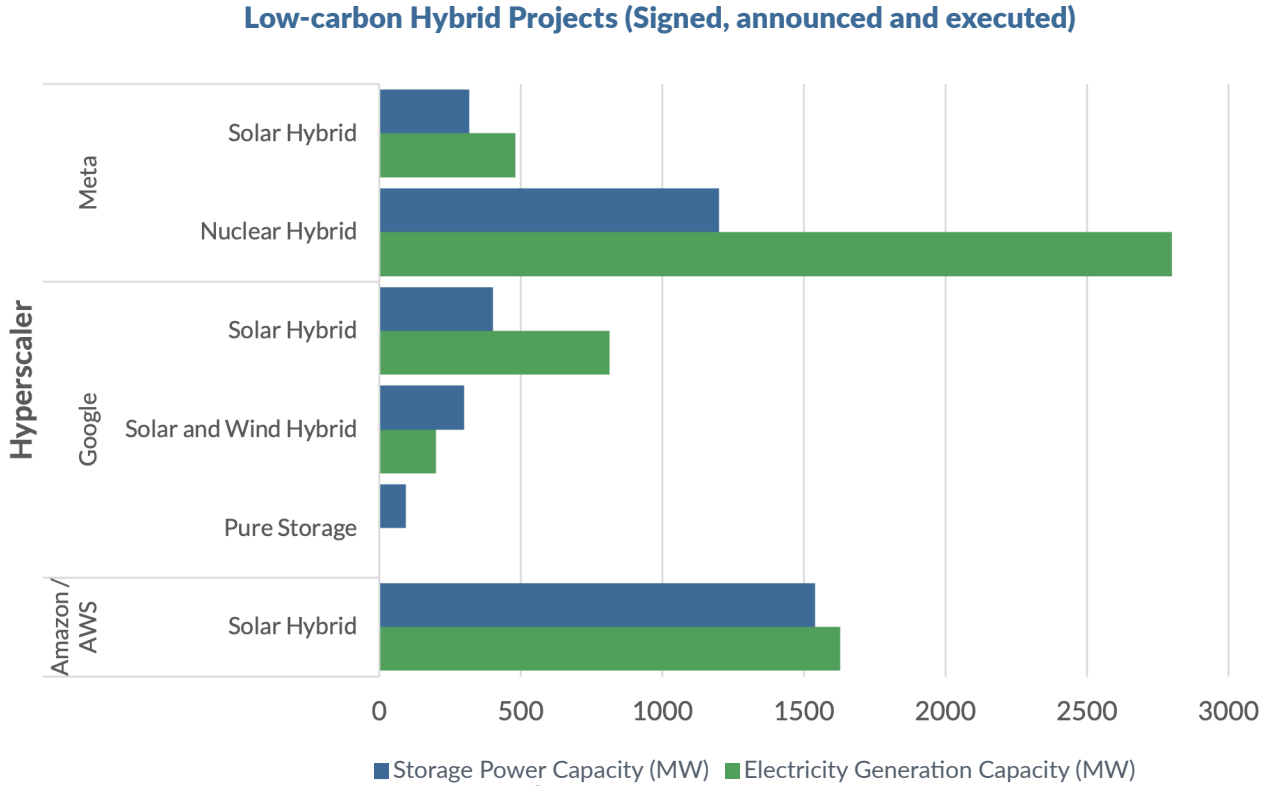


Figure 10. Electricity and storage power capacities of low-carbon hybrid project deals with hyperscalers

Buyer	Approaches used	Illustrative deal
Amazon / AWS (42 deals)	PPA + on-site	GW Ranch (announced) 7.7 GW on-site gas campus (2026); 2.4 GW direct project acquisition, solar + battery (2026)
Google (41 deals)	PPA + utility + co-located + storage	Minnesota package — 1.4 GW wind + 0.2 GW solar + 0.3 GW / 30 GWh iron-air battery (1.9 GW, 2026)
Meta (16 deals)	PPA + utility + on-site	2.8 GW nuclear offtake rights (2026) with storage increasing capacity to 4 GW; 2.5 GW dedicated build, solar + battery (2025)
Microsoft (12 deals)	PPA + utility + co-located + on-site	Brookfield Renewable framework/ pathway (10.5 GW, 2025); hourly clean energy credits + planned SMR offtake (2026)

Table 4. Examples of hyperscalers' transforming electricity procurement approaches

Four related pressures are driving the shift towards energy portfolios:

- Securing power quickly;
- Matching supply more closely to hourly loads;
- Navigating interconnection bottlenecks; and
- Improving resilience through multiple complementary resources.

Faced with the twin pressures of speed-to-power and cost optimization, buyers now treat renewable generation as one component of a wider set of energy options. As battery storage and other firming measures become cost-competitive, renewable generation, multi-day storage, grid services, and firm resources can be negotiated as part of a package deal, which may make projects more robust.

Tariffs, connection agreements, and regulatory decisions must determine how infrastructure and reliability costs are allocated so that they are not shifted to other ratepayers. Portfolios that add clean supply, assign infrastructure costs appropriately, and provide system services can support decarbonization while delivering greater value to host communities.

Hyperscalers are leading this transition because their greater investment capacity, creditworthiness and global reach allow them to pursue multiple procurement pathways simultaneously. Their deals also show why energy supply cannot be considered in isolation: contracts, tariffs, and regulatory approvals must address ratepayer cost allocation, firmness obligations, and decarbonization trajectories together.

The examples below highlight how leading buyers combine multiple procurement pathways and resources within broader packages. In **Table 4** power purchase agreements (PPA) refers to a mixture of physical and virtual agreements.

Portfolios that add clean supply, assign infrastructure costs appropriately, and provide system services can support decarbonization while delivering greater value to host communities.

The Role of Market Design

Power procurement agreements reflect the electricity market rules of the region they sit in, so aligning those rules with desired outcomes is paramount, though easier said than done.

In this era of data centre buildout, system operators and regulators across jurisdictions face common challenges, both for the for these new large loads and for their bulk systems:

- securing sufficient electricity supply and service reliability, so that generation and infrastructure are adequate as these large new loads materialize,
- ensuring connections on a suitable schedule while adequately regulating development, and
- ensuring electricity supply does not compromise costs, including rate affordability and emissions outcomes.

Market design should reflect local needs and be adapted quickly to the new data centre buildout landscape. If market rules do not keep pace with development interest, perverse outcomes could follow: development interest that never materializes, development options that become restricted rather than flexible, and projects with outsized rate and emissions impacts. A later section looks at what can go wrong and how other jurisdictions have limited those outcomes.

Market design should reflect local needs and be adapted quickly to the new data centre buildout landscape.

Procurement Pathways

Each procurement option solves a particular set of problems, and combining pathways gives jurisdictions the flexibility to balance data centre buildout and grid management. However, not every market allows every type of procurement, and enabling each of the following requires governments to amend market rules.

- vPPAs: markets must allow energy suppliers and data centres to enter into a direct contract, or the government, system operator, or utility must run a procurement.
- On-site or BTM: some markets restrict these options over concerns about grid defection, so regulations usually need to be amended to allow them.
- MOU/Framework: markets must allow blended access, including clear rules about grid use.

To balance the pace of load growth with grid protection, governments or utilities can run competitive energy procurements for new energy, to allocate surplus energy, or to do both simultaneously. This could help address development scale, firmness requirements, and cost allocation.

The following section describes key challenges that governments, utilities, system operators and regulators face when weighing approaches to new large load growth. The next section, Lessons from Leading Jurisdictions, discusses how these pathways could be enabled and what safeguards they need.

Governments' Infrastructure Concerns

Supply, transmission upgrades, interconnection permits, and compute additions all move at different speeds. Generation is the most visible and most discussed constraint, but coordination and sequencing are the bigger ones. Of all the deals, only 50 projects are generating today, 44 with renewable energy. The others are either announcements or framework/MOUs, but 44 per cent of the announced deals' capacity in the dataset are for fossil energy. The section below discusses some of the infrastructure barriers shaping market design and data centre energy procurement choices.

Transmission constraints

Transmission capacity greatly influences where data centres can be hosted, especially where congestion already exists. New load needs a guarantee that it can be served, and generation needs certainty that its output can reach the market. However, neither party procures transmission, so it can become a major hurdle for a project's schedule.

On the other hand, sites with pre-existing or surplus transmission capacity can be repurposed to add new compute or new supply. For example, a data centre proposal plans to use CPP Investments/Brookfield's TransAlta Keephills campus, a coal-to-gas conversion facility in Alberta.

Interconnection queues

Interconnection is complex and goes beyond matching generation and transmission system capacity; it also considers permitting complexity and system impact studies. Connecting load to the grid and connecting generation to the grid are also separate processes, especially if they are in different locations.

Delays in interconnection have pushed large loads to seek behind-the-meter generation and skip the interconnection queue altogether where it is allowed. In Texas, state permitting for behind-the-meter generation and off-grid microgrids allowed a cluster of major projects to proceed without grid interconnection: Stargate Abilene, VoltaGrid/Frontier, xAI's Colossus, Google and Crusoe's Goodnight campus, and Amazon's 7.7 GW "GW Ranch."

Timing mismatch between load and infrastructure

Compute comes online in months, whereas new generation and transmission could take years. Accelerating data centre addition creates a sequencing problem. If a data centre opens before its intended supply, it may depend more heavily on the existing grid than its development proposal implied. If utilities build around a load forecast that does not materialize, other customers may bear infrastructure costs. The unique challenge is aligning connection rights, construction milestones, financial commitments, and the delivery of new supply.

Cost allocation is a central issue

Every large data centre requires generation, transmission, a substation, and a connection. Who pays for that expensive infrastructure usually comes down to choosing a policy that keeps the public from footing the bill.

If large load connection and standby costs are spread across the customer (rate) base, existing ratepayers fund infrastructure built for a single beneficiary. When utilities build to a load forecast that doesn't materialize because a campus is delayed, downsized, or cancelled, the assets remain in the rate base with no customer to serve, creating stranded assets. Reliability raises a similar problem: a facility that draws on the grid at peak without paying for the capacity that keeps it reliable shifts that obligation to other ratepayers. Clear cost allocation, shaped by the type of procurement deal, is therefore critical to powering data centres properly.

Increasingly, data centre developers are being asked to bear more of the infrastructure costs needed for their project. For example, Quebec is proposing that data centre customers pay about twice the electricity rate of existing large-power customers. This proposal is discussed further under Provincial Progress.

Lessons from Leading Jurisdictions

These challenges are not unique to data centres. As economies electrify, the International Energy Agency and several countries, including Canada, expect electricity use to double by 2050, and more industrial sectors will seek abundant, low-cost electricity. The acute pressure from data centres is only accelerating regulatory and policy adaptations.

Our assessment suggests that jurisdictions must adopt and integrate several key approaches to manage data centre development successfully, including maintaining electricity affordability, reliability, and sustainability. Local context and market structures differ, but these factors should be considered everywhere to enable desirable societal outcomes:

- Systems-level electricity planning,
- Holistic economic development considerations,
- Clear delineation of cost responsibilities,
- Specific ratepayer protections,
- Balanced approach to environmental and other impacts, and
- Transparency in project development and operation.

Integrating these approaches will build both investor confidence and ratepayer support. The examples below show choices available to system operators and regulators to create deals that work for both new large load centres and their hosts.

Factor	Impact on developers, data centre operators, and investors	Impact on ratepayers and communities
Systems-level electricity planning	Provides certainty on process and opportunity	Minimizes disruptions to grid affordability, reliability, and sustainability
Holistic economic development considerations	Provides certainty on process (e.g. siting)	Encourages meaningful engagement opportunities and ensures fair distribution of economic benefits
Clear delineation of cost responsibilities	Provides cost certainty	Minimizes disruptions to affordability
Specific ratepayer protections	Provides cost certainty and risk management	Minimizes disruptions to affordability
Balanced environmental and other impacts	Provides certainty on process (e.g. siting)	Minimizes disruptions to environment and other impacts
Transparency in project development and operation	Provides cost certainty and risk management	Encouraged meaningful engagement

Table 5. Key factors for governments and agencies to improve data centre energy development processes

LESSON 1

Align power planning and economic development by design

Data centres are an emerging economic sector that strains existing regulations with its rapid build-out and uniquely large electricity demands. Aligning power planning and economic development can help jurisdictions attract new load while protecting other electricity ratepayers. This will be especially important as other forms of new clean industrial demand enter the market, such as green steel, various forms of electrolyzers (e.g., for chemicals, sustainable aviation fuels, and cement), heat electrification, and carbon dioxide removal.

Leading jurisdictions are innovating their regulatory instruments. The following practices can help to achieve these outcomes:

- Linking grid interconnection type and volume to system contribution so facilities do not add a net detriment to the grid – and thus other ratepayers – in terms of resource adequacy or in electricity prices (e.g. by requiring a portion of electricity demand be met by low-cost renewable sources),
- Transparently allocating available system capacity to large loads through a rules-based process and, where there is a need for more system capacity, providing clear energy procurement pathways for data centre operators and energy developers, and
- Revisiting rules on self-supply and export to leverage decentralized electricity generation options.

This is a key challenge for jurisdictions with a moratorium on data centre development. As they weigh the trade-offs between different approaches to project development, they must develop a plan that clearly links data centre development to regional economic benefits.

Aligning power planning and economic development can help jurisdictions attract new load while protecting other electricity ratepayers

Ireland

Establishes the clearest link between permission to connect and a contribution to the electricity system. Its December 2025 policy requires qualifying new data centres to meet at least 80% of annual demand through new renewable projects. These generating projects will be required to participate in the wholesale electricity market to support overall system adequacy among other requirements.[1]

Ireland's five deals predate this policy, but they are all wind or solar deals. They total 614 MW in capacity. Notably, there are Microsoft's 366 MW PPA, a multi-counterparty corporate PPA program, and the 15 MW Keppel DC REIT solar project.

Texas

Unlike Ireland, state permitting for behind-the-meter (BTM) generation and off-grid microgrids has allowed projects to skip interconnection entirely. Five deals totalling 20.6 GW are designed this way, the single largest jurisdictional concentration of capacity in the dataset.

Texas's interconnection queue has bottlenecked new development for several years. Its abundant clean and conventional resources and deregulated market structure have attracted developers for both data centres and power plants for years.

However, by not adequately addressing the interconnection bottleneck and allowing BTM generation to skip the interconnection process entirely, Texas has pushed most data centre developers focused on speed-to-power to secure on-site gas generation.

In this case, and potentially in others, speed without alignment to cross-sectoral goals create further problems, such as emissions implications.

1 https://www.cru.ie/about-us/news/the-cru-publishes-its-decision-on-new-electricity-connection-policy-for-data-centres/

LESSON 2
Clarify cost responsibility

Cost allocation is a critical early step in deal development for all parties: developers, investors, regulators, and affected ratepayers and communities. A key risk management and development best practice is to clarify 1) who pays for which part of the infrastructure, and 2) the development timeline.

Clarification ensures that developers have accounted for relevant project components, including risks, and that investors see a clear business case. Cost clarity also ensures that affected stakeholders are involved from the get-go. Project risks like delays, cancellations, and the need for other fees and contracts (e.g., grid upgrades or flexibility services) and their associated settlement should be defined in procurement contracts. Regulators can help by simplifying their own processes and requiring contracts to include certain clauses.

Regulators and system operators can, for example, publish tariff classes and connection conditions to anchor the negotiated service agreements between data centre developers and their energy providers (grid or otherwise). This is especially useful because these new large loads often require more infrastructure than typical electricity customers have in recent decades.

To protect ratepayers and taxpayers from responsibility for stranded assets, regulators can also develop a framework for scenarios where load does not materialize because the customer is delayed, downsized, or cancelled, or draws grid and standby services it has not contracted for. Such frameworks should balance the need for protection with avoiding undue upfront burdens on project development.

Cost clarity ensures that affected stakeholders are involved from the get-go.

Georgia



Georgia Power says that OpenAI, as a service contract customer, will pay the full cost of infrastructure needed to serve it and has committed to up to 1 GW of flexible demand response, showing that a large customer's ability to adjust demand can be required alongside the infrastructure required to meet it.

Louisiana



Entergy Louisiana is slated to construct three combined cycle gas turbine generation facilities and several new transmission facilities to serve Meta data centres. Entergy is also contracted to provide reliability services to the state grid, which should benefit all Entergy Louisiana customers and prepare the system for future energy needs.[1]

1 https://www.entergy.com/news/entergy-louisiana-receives-lpsc-approval-for-major-infrastructure-investments-to-support-metas-data-center-and-improve-reliability

LESSON 3

Encourage diverse procurement pathways

The data centres now requesting to connect are substantially larger, and more numerous, than either supply or other loads have been in generations. Most markets are consequently strained, and existing procurement pathways and technology options are insufficient for the new context of data centre buildout and clean electrification. For example, vertically integrated markets have run utility-led (whether a crown corporation or investor-owned) procurements based on expected demand growth. While these procurements may have run a few gigawatts once every few years, data centre requests now arrive at gigawatt scale per facility.

Jurisdictions that enable multiple procurement pathways for new loads and diverse technology options gain benefits in system value, economic development, jobs, and reliability contributions. For vertically integrated utilities, that may mean larger and more flexible procurements with guardrails to protect against stranded assets. Sleeving deals can match a committed buyer with serious developers.

Jurisdictions that enable multiple procurement pathways for new loads and diverse technology options gain benefits.

Australia



Amazon's fourteen-agreement, 1,005 MW portfolio includes wind, utility-scale solar-and-battery hybrids, distributed solar-battery projects and a battery installation at an existing solar project, illustrating the move beyond buying a single annual quantity of renewable electricity.

Minnesota



Google and Xcel Energy have proposed combining 1.4 GW of wind and 0.2 GW of solar with a 100-hour 0.3 GW long-duration battery system, along with a charge intended to address costs associated with the data centre, treating new supply, storage, and customer cost responsibility as parts of the same decision.

Brazil



Brazil's self-production model combines a long-term PPA with an equity investment, enabling Ascenty and Casa dos Ventos' 0.1 GW project, the largest renewable energy deal for data centres in Latin America.

Japan



Japan's liberalized corporate and virtual PPA market has enabled the country's first data centre PPAs and expanded access for hyperscalers and colocation operators, including projects involving Equinix/ENEOS (0.1 GW), Equinix (30 MW), Microsoft/Shizen (0.1 GW), and Google/JERA (15 MW) between 2024 and 2026.

Malaysia



AirTrunk's 30 MW virtual PPA supports a solar project, while a separate rooftop proposal was signed to generate electricity at its Johor facility. The buyer pursued both off-site and on-site routes and established the market's first data centre virtual PPA under its Corporate Green Power Programme (CGPP).

LESSON 4

Value flexibility and system contributions

Encouraging flexibility for development approaches can help to maintain societal outcomes while sustaining development interest. For example, defining system impact parameters is emerging as a key mechanism for integrating data centre loads. By setting technical performance requirements on new interconnections, system operators and regulators are able to provide both clarity and flexibility for project developers to meet grid requirements with innovative solutions.

For example, developers have started to use storage and supply-contract structures such as multi-day storage, renewables paired with batteries, demand response measures, and agreements defined by hourly rather than annual delivery. While these are not true demand-response and flexibility contributors, they help maintain, or even improve, system adequacy.

However, resilience for an individual facility and flexibility for the grid are not the same: a self-contained campus may protect the customer without providing any benefit to the system. Jurisdictions that want additional system benefits and long-term grid resilience must specify them in connection agreements or tariffs. Benefits could include paying for new infrastructure, improving existing assets, long-term strategic partnerships, and stable revenues.

Defining system impact parameters is emerging as a key mechanism for integrating data centre loads.

The Netherlands



Shows how buyers can make two distinct contributions. Google agreed to extend an existing 108 MW offshore wind farm that was otherwise facing retirement, showing that keeping clean generation alive, not just developing new generation, is also a valuable strategy. In the same market, Equinix's letter of intent for a new small modular nuclear reactor signals that buyers could investigate longer-term supply options. Each option is aligned to fit the individual buyer's requirements.

Spain and Portugal



Iberdrola and Amazon AWS have maintained a strategic partnership since 2022 to expand solar and wind PPAs in these countries and are now considering three projects that would generate 1093 GWh of clean electricity annually. This includes Portugal's largest wind farm.

Germany



Amazon's 0.6 GW offshore wind PPA provides a substantial long-term offtake for the Gennaker project.

LESSON 5

Maintain transparency and market certainty

Market certainty, and therefore investment certainty, comes with clear regulation, transparency around available transmission and generation capacity, easier access for developers and buyers to negotiate, and clearly defined expectations. Sharing data on parameters like system generation, transmission constraints, or nodal pricing behaviour is also critical. The dataset notes announcements with undisclosed deals, technology or project capacity, which affects credibility and limits jurisdictions' ability to evaluate projects seeking to connect.

Sharing data on parameters like system generation, transmission constraints, or nodal pricing behaviour is also critical.

Taiwan



Demonstrates how an available contracting route can evolve. Taiwan amended its Electricity Act, permitting corporate PPAs and opening corporate renewables contracting. This enabled Google's first Asia PPA, a solar deal, in 2019. In 2025, Google signed an agreement with Baseload Capital for initial geothermal projects totalling 10 MW. Together these showed the jurisdiction's intent to give buyers seeking lower-emissions power workable routes to support a range of resources.

India



India's group-captive model gives a buyer a more direct stake in generation. Equinix's 33 MW arrangement with CleanMax combines 27 MW of solar and 6.6 MW of wind for its Mumbai data centres. Equinix reported that the solar portion began operating in November 2025.

A Canadian Lens

In the global data centre buildout, Canada ranks third, behind the US, in the number of announced deals, and second by capacity. Alarmingly, as shown in Figure 4 above, almost all announced deals in Canada, by quantity and capacity, are for gas-powered data centres.

Canada's clean energy advantage has supported its economic development for generations, but the current rush to build gas is creating economic, social, and environmental risks. By ignoring its potential to be a clean energy superpower, Canada risks becoming an example to other middle powers of what not to do, rather than an example of innovation.

Like many other regions, governments face tension between attracting data centres for economic objectives and protecting the reliability and affordability of their electricity systems. While an accelerated pace of development is understandable, the current trajectory toward gas-fired facilities does not sufficiently account for stranded-asset risks.

Our analysis suggests that the gas-dominated queue reflects misaligned market signals, both policy and regulatory. With abundant renewable energy resources and still-effective supply chains, technology is not Canada's bottleneck. Drawing on lessons from leading jurisdictions and a review of ongoing policy discussions and opportunities, BRC-Canada has developed a set of recommendations that Canadian policymakers and electricity system planners should integrate.

By ignoring its potential to be a clean energy superpower, Canada risks becoming an example to other middle powers of what not to do, rather than an example of innovation.

RECOMMENDATION 1
Canada should compete on supply readiness and emissions

As noted above, Canada has abundant clean energy resources that could be unlocked to meet the growing needs of data centres and other clean-economy sectors, such as industrial decarbonization and electrification of transport and heating.

Across the country (and corresponding market structures), governments and their respective electricity authorities are underutilizing renewable energy potential. The massive volume of new demand necessitates early planning at the multi-gigawatt scale.

All jurisdictions can encourage new supply and demand to come together, whether through self-organizing bring-your-own-generation approaches like Alberta's or through a sleeved-deal process, in which the government retains responsibility for power system planning and coordinates between contract participants to manage risks for both parties. Either way, the approach should be technology-agnostic and performance-based.

A development model tested in both Texas and Quebec are to pre-define regions where the government wants to encourage wind energy development. Transmission infrastructure can be pre-built to these areas, permits processed en masse by technology type, and interconnections sold through auction, choosing projects with high upside and low cost.

RECOMMENDATION 2
Renewable energy is a competitive advantage

Globally, wind turbines and solar panels are now the cheapest form of electricity production, and the same is true in many parts of Canada, especially as data centre growth strains the gas turbine supply chain. These assets also save fuel, allowing natural gas or diesel to be reserved for backup on bulk grids and in remote communities.

In the short term, Canadian jurisdictions can make better use of available wind and solar resources by incentivizing more projects. In the medium term, unlocking more transmission capacity within and between provinces can amplify the benefits. For example, the four western provinces have complementary resources: B.C. and Manitoba's hydro resources can act as giant batteries for Alberta and Saskatchewan.

RECOMMENDATION 3
Energy portfolios need to be enabled

Markets should also give developers flexibility, especially blended options that combine on-site generation, demand flexibility, and grid power. Where technical concerns exist, regulators and system operators should use well-defined performance criteria rather than technology-specific rules, which can slow projects and restrict innovation.

Contracts for portfolios can become complicated, but Canada's systems currently face the opposite problem: they oversimplify challenges. Alberta's draft large load integration approach allows large, grid-tied data centres to develop only with thermal generators, which in Alberta would only be gas-fired. Ontario permits data centres to contract only with the system operator, not with energy suppliers. Even if data centres joined the existing Corporate Power Purchase Agreement program, they would be severely restricted, realizing benefits only from peak shaving via supply contracts, not bulk energy.

However, the recent growth in renewable hybrid projects in Alberta, where generators integrate on-site energy storage, demonstrates the economic potential for such projects nationwide. Alberta may soon see PPAs between data centre developers and hybrid facilities, but data centres still have limited options in other jurisdictions.

RECOMMENDATION 4
Cost allocation frameworks are critical

Clarity on who pays which fees is essential for developers to reach a final investment decision. With market structures and government processes differing in each of Canada's provinces, data centre developers are navigating a complex set of rules, and some of these are changing.

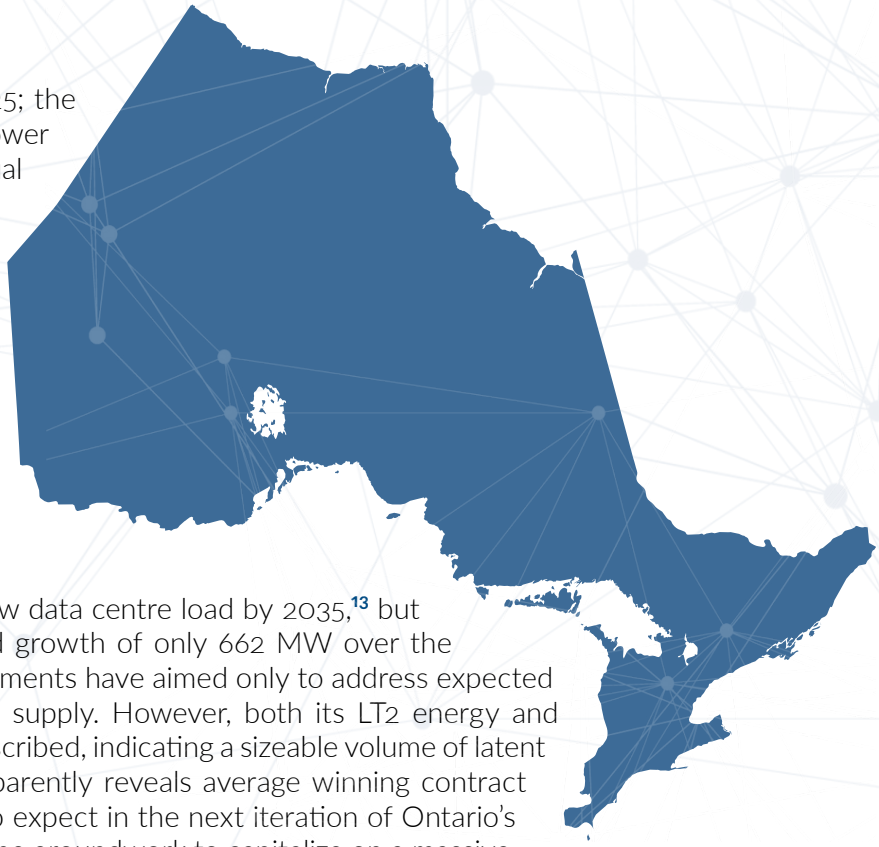
Some jurisdictions are beginning to introduce clear rules, such as Quebec's proposed 13 cents per kWh large-load rate, and Ontario is following suit in its draft data centre framework. However, neither yet addresses other costs, such as stranded assets.

Meta has announced that its Sturgeon County, Alberta, data centre is "fully funding new generation and grid infrastructure in Alberta to support [their] data centre,"[12] though it is not yet known which costs will be included whether the government expects other data centre developers to follow suit.

12 https://datacenters.atmeta.com/2026/07/hello-sturgeon-county/

Provincial Progress

Ontario



Ontario amended O. Reg. 429/04 (June 2025; the C-PPA framework) to enable corporate power purchase agreements, particularly virtual PPAs, for its class A Industrial Conservation Initiative (ICI) customers. This framework is a good step towards unlocking more flexibility, opportunities, and innovation in its electricity system.

However, the C-PPA framework has a narrow scope, essentially serving as a demand response mechanism through supply procurement for eligible ICI participants; therefore, it is poorly suited to data centre development.

Ontario's government expects 6.5 GW of new data centre load by 2035,[13] but the IESO, system operator, expects demand growth of only 662 MW over the same time frame.[14] Its recent energy procurements have aimed only to address expected demand growth, contracting 4 GW of new supply. However, both its LT2 energy and capacity procurement streams were oversubscribed, indicating a sizeable volume of latent supply. Because the LT2 process also transparently reveals average winning contract prices, both buyers and sellers know what to expect in the next iteration of Ontario's procurements. In any case, Ontario has laid the groundwork to capitalize on a massive opportunity but needs further policy work to unlock it.

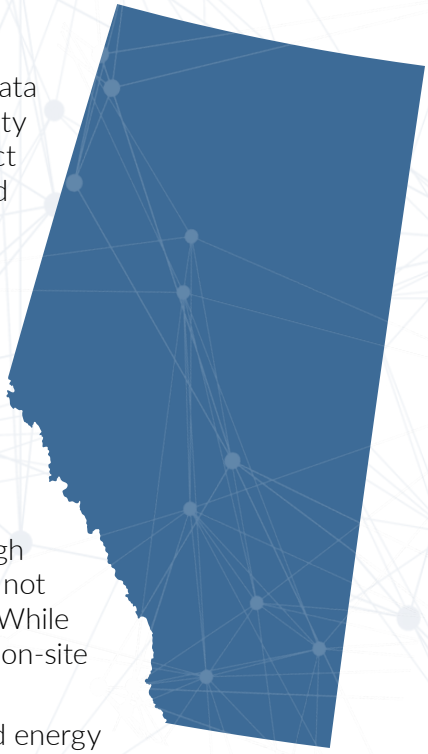
As Ontario finalizes its draft Data Centre Playbook, it should make energy a core pillar; provide a route for data centre operators and other qualifying large customers outside Class A to support new clean supply; examine how paired battery storage can contribute to peak-hour coverage; and require credible plans for grid service and infrastructure costs. Aligning procurement, storage and connection decisions would help Ontario attract investment while protecting other electricity customers from the costs of an incomplete power plan.

Aligning procurement, storage and connection decisions would help Ontario attract investment while protecting other electricity customers from the costs of an incomplete power plan.

13 https://news.ontario.ca/en/release/1006141/ontarios-energy-plan-unlocking-opportunities-in-the-digital-economy

14 https://ieso.ca/-/media/Files/IESO/Document-Library/planning-forecasts/apo/2026/2026-APO-Demand-Forecast-Module-Data.xlsb

Alberta



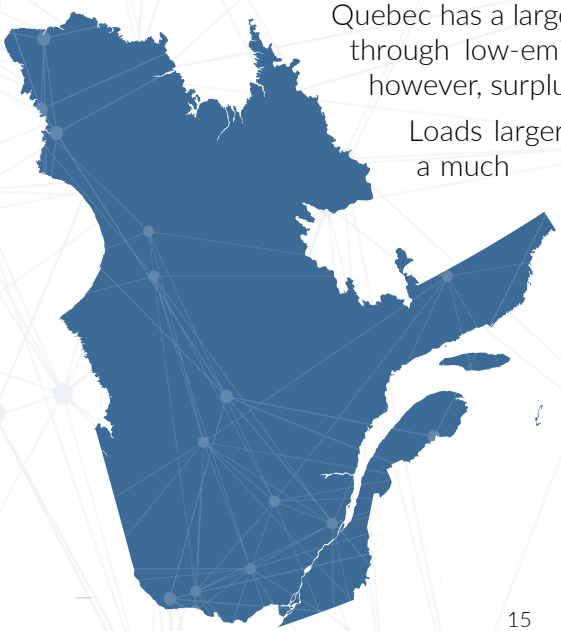
Alberta leads the nation in corporate renewable energy deals,[15] including for data centres already, because of the province's deregulated, competitive electricity market that allows private investment in generation. These investors can contract directly with potential buyers for the projects' environmental attributes and energy value.

Alberta's government data centre strategy and regulation identifies natural gas alongside renewables, storage, and other technologies, enabling a range of development options. However, the Alberta Electric System Operator (AESO) sets the rules for how new large loads connect, and it has allowed one round of data centres to be built to use 1.2 GW of surplus grid supply. It is now set to launch subsequent rounds of procurement for large-load interconnections.[16] At the time of writing, the "Phase 2A" process is requiring new facilities to be virtually tethered to new supply in the interconnection queue, where both demand and supply will be reviewed concurrently. Though this program is referred to as a "bring your own generation" approach, it does not specifically incentivize facilities to bring co-located or on-site generation.[17] While a tax levy incentive exists for on-site generation, other regulations restrict on-site self-supply.

The AESO's Phase 2A process, though not yet fully launched, restricts tethered energy facilities to thermal generators, which would be only gas-fired, rather than setting performance criteria. Given the urgency of market and policy development, Alberta could look to other jurisdictions for guidelines. For example, Minnesota offers a portfolio approach: wind, solar, long-duration storage, and a customer cost mechanism that provides system-wide benefits.

Alberta's clean energy advantage also comes from its abundant wind and solar resource potential and its mature market. At the peak of Alberta's supply interconnection queue in October 2023, there were over 30 GW of wind and solar projects. While many of these projects were early stage, they represented real project proposals that had advanced into at least early engineering studies. With 27 GW of data centre demand on the October 2026 interconnection queue, those resources could have met a sizeable portion of the data centres' demand needs. However, due to market changes, Alberta's total renewable energy queue now sits at only 13 GW of new supply.

Quebec



Quebec has a large hydroelectric supply, which gives data centres an economic advantage through low-emissions electricity. With electrification expected across the economy, however, surplus supply for data centres is limited.

Loads larger than 5 MW seeking connection may require provincial authorization, a much more conservative approach to interconnection than in Alberta, for example, where specific data centre regulations begin at 75 MW. The dataset includes a 142 MW Hydro-Québec allocation for QScale's Lévis campus, a sizeable facility.

Hydro-Québec has also proposed, subject to regulatory approval, a rate for new large data centres averaging about 13 cents per kWh, about twice what existing large-power customers pay. Applying a higher tariff or creating a separate rate class could limit Quebec's attractiveness to investors. The province should explore additional flexibility benefits that data centres could bring to its limited grid capacity.

15 https://businessrenewables.ca/deal-tracker

16 https://www.alberta.ca/artificial-intelligence-data-centres-strategy

17 https://aesoengage.aeso.ca/pre-engagement-phase-ii-large-load-integration

Other Regions

Provinces like Nova Scotia and Saskatchewan have abundant wind resources that are relatively untapped, though there has been recent progress towards new buildout and procurement programs.

For data centre development specifically, Saskatchewan follows Alberta's lead with self-supplied (or co-developed) power generation as one of its six core data centre framework principles. The others include Canadian ownership, data sovereignty, Saskatchewan jobs and partnerships, operator experience, and a centralized provincial intake process. Self-supply is intended to protect affordable, reliable service for existing customers. Proponents should show how combinations of new renewables, storage, and other dependable resources meet that test, rather than letting "bring your own power" become a presumption in favour of gas. This would preserve the framework's protection for existing customers while allowing clean-energy options to compete on reliability and cost.

Recommendation/ Region [1]	1 Power Readiness	2 Leverage Renewable Energy Advantage	3 Enable Energy Portfolios
B.C.	🔴	🟡	🔴
Alberta	🟡	🔴	🔴
Saskatchewan	🔴	🔴	🔴
Manitoba	🔴	🟡	🔴
Ontario	🔴	🟡	🔴
Quebec	🔴	🟡	🔴
Nova Scotia	🟡	🟢	🟡

Table 6. How Canadian provinces compare to BRC-Canada's recommendations

1 Smaller provinces and the territories were not included in this assessment as there are few data centre proposals for these regions.

Conclusions

Data centre buildout is happening at a pace unprecedented in the global economy, and how these facilities are powered will shape electricity systems, ratepayer bills and emissions for decades. This study reviewed how a large set of global data centres are being powered, finding lessons that apply globally but also specifically to Canadian provincial electricity system operators. No single technology is defining the future of data centre electricity use. Leading developers are assembling diverse portfolios that combine renewable energy, storage, utility supply, firm resource, transmission infrastructure and emerging technologies. Renewable energy remains a foundational procurement strategy across much of the market, even as gas-fired deals have surged in a few jurisdictions. What separates one jurisdiction from another is less the resources available than the rules in place. Where connection processes, procurement pathways and cost responsibilities are clear, buyers can contract for clean supply; where they are not, buyers turn to gas.

Canada offers a cautionary example: its jurisdictions have hamstrung themselves on economic competitiveness and in maximizing community benefits (or minimizing community impacts). In contrast to the rest of the world, including the U.S., Canada has limited the ability of data centre developers to use clean power, subjecting projects to gas power generation supply chain constraints and to higher-than-necessary electricity prices. Alberta's draft framework limits grid-tied data centres to thermal generation, Ontario's is not prepared to procure the volume of new energy to serve data centres, and the cost frameworks proposed in Quebec and Ontario do not yet address stranded assets.

Yet, Canada and its provinces have an opportunity to benefit from data centre buildout and it starts with removing barriers to technology-agnostic approaches to powering data centres.

Canada offers a cautionary example: its jurisdictions have hamstrung themselves on economic competitiveness and in maximizing community benefits (or minimizing community impacts).

Yet, Canada and its provinces have an opportunity to benefit from data centre buildout and it starts with removing barriers to technology-agnostic approaches to powering data centres. Canada has abundant wind, solar and hydro resources, complementary provincial systems and an Alberta PPA market that already leads the country in renewable deals. Capturing the opportunity means competing on power readiness, treating renewable energy as a competitive advantage, enabling energy portfolios and setting clear rules on cost allocation.

The question facing governments, utilities, and developers is no longer whether data centre growth will affect electricity systems. That transformation is already underway. The more important question is how electricity systems can evolve to accommodate unprecedented demand growth while maintaining reliability, affordability, and long-term sustainability. The evidence in this report suggests that diversified energy portfolios, supported by proactive infrastructure planning and clear rules on cost, are likely to play a central role in that transition, and that the jurisdictions that plan deliberately, rather than letting speed alone decide, will attract the investment that follows.

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