



We are delighted to share the September edition of TopTier. The newsletter will focus on hot topics and legal development impacting on various aspects of the data centre industry.

This issue has been edited by [Laura Sánchez](#) with contributions from the Data Centre's team.

In this edition, we explore a range of topics, including regulations, legal requirements and investment opportunities across various European countries. We also delve into data centre management in Singapore and the burgeoning data centre market in Brazil.

Please [get in touch](#) if you would like to discuss any of the issues raised in these articles, or [visit our webpage](#) for more information about Bird & Bird's International Data Centre Group.

Click on the links below to jump to the respective article:

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The EU Digital Services Act & the Terrorist Content Online Regulation?

Why should data centres, cloud services and other hosting providers care about these laws?

Digital infrastructure may not be the first sector that comes to mind when considering two of the new EU content laws, the Digital Services Act ("DSA") and Regulation 2021/784 on addressing the dissemination of terrorist content online (the "TCOR"); most people will think of social media platforms or large marketplaces. However, data centre operators, cloud services and other hosting services providers fulfil an important function in their hosting of data and content used in the EU, and many of their customers and partners are also within the scope of the DSA and the TCOR. Consequently they have direct and indirect legal obligations under these laws and need to take account of them in their compliance programmes and business models.

What are the aims of the DSA and the TCOR?

The primary aim of the DSA is to upgrade and further harmonise rules across the EU regarding the identification, management and takedown of illegal content. The DSA provides for enhanced user rights, such as the requirement to provide users with a statement of reasons when their content is restricted, and access to a notice and action mechanism through which they can report what they consider to be illegal content. The DSA also provides for new rules on transparency on content moderation activities and content management. Along with these new rules comes an enhanced enforcement and sanctions regime.

The TCOR addresses the dissemination of terrorist content online. This law includes rules requiring the removal of specified content. It also imposes transparency obligations, such as the obligation to set out clearly in terms and conditions the policy for addressing the dissemination of terrorist content, including where appropriate a meaningful explanation of the functioning of specific measures, such as the use of automated tools.

Are data centres, cloud providers and other hosting providers regulated by these laws?

Yes, The DSA applies to a wide range of services, including caching, mere conduit, and hosting services. As storage of information is at the heart of the data centre and hosting services commercial model, providers will find that their services are in scope and action is necessary to comply. Some of these entities will also provide enhanced service features and so will need to consider if they also operate an 'online platform' under the DSA, which is a type of service which attracts more legal obligations than other hosting services. An online platform under the DSA essentially consists of a hosting service which allows for the storage of information and facilitates dissemination of that content to the public at the request of a service recipient.

Increasingly we see companies introducing additional and more sophisticated service offerings at infrastructure level, with services described as

- "Infrastructure as a Service" (IaaS), namely hosting hardware, software, data, and other infrastructure for customers;
- "Platform as a Service" (PaaS), namely hosting platforms for customers, on which the customers can develop, operate and manage content and software on the provider's cloud service;

- “Software as a Service” (SaaS), which in these sectors often means the hosting provider introducing ‘value add’ cloud, data or software managed services to customers, usually via a web browser; and
- ‘Managed Services’ (MS) which usually means the hosting provider (MSP) assuming monitoring, cybersecurity and maintenance responsibilities.

Providers of these types of services will need to take particular care to ensure that they have properly considered what obligations they have under the DSA, as the DSA takes a layer approach to obligations, with compliance requirements increasing depending on the category of content intermediary services provided by the provider.

The TCOR applies to ‘hosting service providers’ offering services in the EU, irrespective of their place of main establishment. A hosting service provider is essentially a provider of services consisting of the storage of information provided by and at the request of a content provider (i.e. a user that has provided information that is stored and disseminated to the public).

These laws specify operational, technical, governance and legal steps which must be complied with. Service providers in scope of the DSA and the TCOR are subject to onerous obligations, and are potentially open to significant penalties if they fail to recognise this, and infringe these laws. Companies operating from outside of the EU, but servicing customers with the EU will also need to consider the scope of the DSA and TCOR, which will have extraterritorial effect in some cases.

What does this mean for customer relationships?

Not only will these laws apply to MSPs, data centre, cloud and hosting service providers directly, as the offer services that are in scope, but many of their customers will also be in scope as the services hosted are also covered by the DSA and TSR. As a result, service providers should look to manage the legal and regulatory risks involved with their services at a customer contract level, including by considering their current obligations, risk allocation and liability provisions in light of these new requirements. Contracts should also be adjusted to address the increased administrative and compliance burdens associated with these laws, such as response times to requests for information and access requests, regulatory audit and inspection rights, and the potential consequent associated costs.

In turn, customers receiving MSP, data centre, cloud, routing, transmission and hosting services will need to consider their own obligations under the DSA or the TCOR in respect of the content transferred to the provider, and their dependencies on those that are in the content management supply chain. As they currently do with regards to GDPR or the DSM Directive compliance regimes, customers may need to expressly address in contracts the dependencies which they have on service providers in fulfilling their compliance requirements.

The EU has introduced a considerable volume of new laws in relation to content and data which adjust the risk profiles and regulatory burdens place upon those who must comply with applicable laws. Many of those hosting data will be considering these DSA and TCOR contract changes alongside the changes required to address NIS2 (dealing with cybersecurity laws aimed at protecting networks on which the hosted content resides), the Data Act (which deals with requirements around allowing customer to move their content from provider to provider more easily) and other new laws impacting relationships in the EU.

For more information, please contact [Deirdre Kilroy](#).

The rise of data centres in Spain

An opportunity for Power Purchase Agreements (PPAs) and price cannibalisation mitigation

The exponential growth in global data consumption, driven by the eruption of artificial intelligence, has brought data centres into the focus of investors. In this context, Spain is emerging as a relevant market for data centre investments. This is primarily attributed to its strategic geographical location, offering substantially lower energy and land costs compared to other major cities like Frankfurt, London, Amsterdam, Paris or Dublin.

This burgeoning sector has attracted the attention of technology giants such as Amazon, Microsoft, Google and Meta, which have announced millions of euros in infrastructure investments in Spain, reflecting the potential of the Spanish market. The data centre industry is growing exponentially, with figures of 150 MW of installed power in 2022, 200 MW of installed power in 2023 and with a forecast of well over 900 MW of installed power in the next five years. Currently, Madrid is the leader in colocation projects, while Aragon is the leader in hyperscale projects, with projects such as those of Amazon Web Services and Microsoft. Aragon has become the trendy destination for large technology companies to build hyperscale data centres due to its strategic location which ensures low latency and energy needs.

In this context, data centres are becoming one of the main alternatives for securing financing for renewable projects and providing an outlet for a renewable energy market that generates much more energy than the current demand, and for which supply is expected to keep growing exponentially by 2030 according to the National Integrated Energy and Climate Plan (PNIEC). The consolidation of the data centre sector and its commitment to green energy through PPAs could play a key role in mitigating the price cannibalisation caused by the penetration of renewables, mainly solar, in a market facing the current lack of demand, which is currently leading to negative prices in the Spanish electricity market during much of the middle hours of the day. Some examples illustrating the successful growth of the PPA market in the booming data centre industry are the recent PPAs signed in the Spanish market between Apple and Ib Vogt (105 MW), Repsol and Microsoft (230 MW), Equinix and Ignis (225 MW), Digital Realty and BRUC (five PPAs to cover around 347 GWh), or Amazon and Grenergy (469 MW).

However, the journey to become Spain as a leader in the data centre market is fraught with challenges. The success of this industry hinges largely on the development of energy transport network infrastructures. Spanish data centre associations have voiced concerns about the current state of these infrastructures. In response, the Spanish government is considering revising the limits on network investment. In June, the Spanish government launched a public consultation on this matter, proposing several measures including increasing investment in distribution and/or transmission networks, raising the maximum investment volume as a percentage of Gross Domestic Product (GDP), modifying the conditions under which the investment volume could be increased, and establishing a new procedure for authorising investments above the maximum volume in force.

In conclusion, the rise of data centres in Spain presents a unique opportunity for PPAs, as well as a great solution to mitigate price cannibalisation. However, it is critical to address the challenges and ensure the development of robust energy transport network infrastructures to fully realise this potential.

For more information, please contact [José de Santiago](#) and [Jorge Gómez](#).

Challenges to the development of new data centres in Germany

Energy supply shortages and urban planning requirements

Finding of suitable locations for the development of new data centres in or around the metropolitan areas of Germany is becoming increasingly challenging for data centre developers, due to two main reasons: a shortage of available electrical energy and hurdles in obtaining relevant permits.

1. Energy supply

Against the backdrop of the energy transition, Germany's energy supply is currently being fundamentally transformed from fossil fuels to renewable energies. Germany has set the goal for renewable energies to cover at least 80% of its electricity consumption by 2030 (section 1 sub-section 2 of the Act for the Expansion of Renewable Energies).

The energy transition set in motion a vast expansion of renewable energy production facilities. However, these will need to increase very substantially to achieve the formulated goals and ensure a sufficient and reliable electricity supply. In addition to the creation of renewable energy production capacities, a massive expansion of the electricity infrastructure (e.g. high and medium-voltage lines, substations) is required and conducted by transmission and distribution grid operators to ensure that the electricity generated from renewable energy sources can be made available to customers.

Multiple legislations have been passed to promote this undertaking, such as the "Act on the Improvement of Climate Protection in Immission Control, Acceleration of Immission Control Approval Procedures and Implementation of EU Law", which was recently adopted in July 2024 and aims at the acceleration and reduction of bureaucracy in approval procedures.

These fundamental changes in the German energy supply and infrastructure represent an important challenge for the rapidly growing data centre industry. As a significant user of electricity, a sufficient and reliable power supply is the most important criterion when inspecting locations for new data centres. Therefore, almost every new data centre development project includes the conduct of feasibility studies by the respective distribution grid operators. In recent times these studies often show that the existing electricity infrastructure and capacities are not sufficient for the contemplated project and/or long waiting time for the construction of the required infrastructure.

In some cases, data centre developers have decided to build some of the required infrastructure themselves to ensure the necessary and timely power supply. For example, they may construct substations on site, install their own regional power supply lines, or even produce their own electricity. Such projects however are associated with considerable costs, the need for availability of additional land and various legal issues, such as the need of agreeing with potentially multiple third parties on rights of use and passage or regulatory aspects with regard to power distribution.

2. Urban planning requirements

As a principle, and depending on their nominal rated power load, data centres are considered "not significantly disturbing commercial businesses" and are permitted in commercial and industrial areas, unless special provisions have been implemented in the local planning regulations. Data centres are thus in direct competition for space with other commercial businesses and industries.

In the light of the rapidly increasing number of data centre development projects, certain municipalities have started to issue specific urban planning regulations to steer the development of data centres within their boundaries.

The city of Frankfurt am Main and Offenbach for example, enacted urban development concepts that provide that construction of new data centres shall only be approvable in certain dedicated suitable areas or restricted suitable areas, thus limiting the space for new developments.

The concepts do not have a direct legal impact but their content need to be considered by the municipalities when preparing or amending binding development plans, on the bases of which building permits are then applied for and issued.

Until new binding building plans are established, municipalities can issue a so-called “interdiction of change” (*Veränderungssperre*) (section 14 German Building Code) to safeguard the planning. Projects that are part of the area concerned by the interdiction of change can then no longer be approved from this point onwards.

3. Outlook

The overall combined impact of the shortage of available power and augmented regulations to steer the location of new data centres development projects is yet to be seen.

The two issues are often connected: data centres are driven to the peripheries due to site shortages and urban planning restrictions but face a lack of adequate power infrastructure in the designated areas, resulting in delays and costly infrastructural measures. Therefore, any new development project should include an upfront examination of the creation of the required building law and a feasibility study on the capacity and timing for adequate power supply.

For more information, please contact [Dr. Dirk Barcaba](#) and [Elie Kaufman, LL.M.](#)

Data centres & waste heat

An overview of the legal requirements for waste heat utilisation

Data centres consume a lot of electricity, accounting for almost 3% of total electricity demand across the EU, and this proportion is likely to increase further. The amended Energy Efficiency Directive now also focuses on the energy efficiency of data centres, among other things. As part of the assessment and improvement of their energy efficiency, waste heat and its utilisation are also at the forefront. This is because the IT infrastructure in data centres produces a lot of waste heat. Up to now, this waste heat has essentially been released into the environment unchanged, but this is set to change.

The waste heat potential should be utilised - ideally on the company's own premises, by feeding it into the local heating network or by using it to heat neighbouring buildings. Monitoring and improving energy efficiency not only involves bureaucratic effort, but above all the search for suitable customers and this has not yet been so easy.

We provide an overview of the key legal regulations, particularly for data centres and regarding the use of waste heat.

Legal basis

Germany passed the Energy Efficiency Act (EnEfG) at the end of November 2023. While this contains rather unspecific requirements for most companies, the implementation and monitoring of which requires further elaboration, specific requirements on energy efficiency and reused energy are set for data centres.

The Energy Efficiency Directive 2023/1791 is important at European level. This was last amended in September 2023. In addition, on 14 March 2024, the European Commission adopted a delegated regulation on the first phase of the establishment of a common Union assessment scheme for data centres (C(2024) 1639). This is still in the 2-month review phase at the Council of the European Union and the European Parliament.

Who is obliged?

Germany has the highest number of data centres in Europe and ranks third worldwide behind the USA and China. According to the Federal Ministry for Economic Affairs and Climate Action (BMWK), there are more than 3,000 data centres in Germany, 90 of which have a capacity of more than 50 MW (so-called "hyperscale" data centres).

However, not all data centres are subject to the obligations of the EnEFG, but only data centres with a non-redundant nominal connected load of 300 kW or more. According to the BMWK, this means that around 1,000 data centres in Germany are covered by the scope of the EnEFG and therefore, also by the waste heat requirements.

Specifications for waste heat utilisation

The energy efficiency specifications for data centres are divided into specifications for energy consumption effectiveness and specifications for the proportion of reused energy.

For data centres that go or went into operation before 1 July 2026, there is no requirement for the proportion of reused energy, i.e. no requirements for waste heat utilisation.

Data centres that go into operation after 1 July 2026 must achieve an energy efficiency value of no more than 1.2 and meet the following requirements for waste heat utilisation (Section 11 (2) EnEFG):

- Commissioning from 1 July 2026: 10%
- Commissioning from 1 July 2027: 15%
- Commissioning from 1 July 2028: 20%

The targets must be achieved on a permanent basis no later than two years after commissioning on an annual average (Section 11 (2) sentence 2 EnEFG).

The following exceptions and deadline extensions apply to the requirements for waste heat utilisation (Section 11 (3) sentence 1 EnEFG):

- The proportion of reused waste heat no longer meets the requirements after commissioning due to subsequent events and through no fault of the operator.
- An agreement on waste heat utilisation with a neighbouring municipality or a heating network operator with a concrete intention to fulfil the requirements for waste heat utilisation within ten years is available.
- The operator of the local heating network has not accepted an offer to use waste heat within six months, even though the data centre operator has the necessary infrastructure in place.

If a data centre operator submits an offer for waste heat utilisation to a heating network operator, the heating network operator must provide information about the capacities of the heating network (Section 11 (3) sentence 2 EnEFG).

In addition, the EnEFG also contains provisions on heat utilisation for other companies, which are also applicable to data centres unless more specific provisions apply (Section 16 (4) EnEFG). § Section 16 para. 1 sentence 1 EnEFG obliges companies to avoid the waste heat generated in accordance with the state of the art and to reduce the waste heat generated to the proportion of technically unavoidable waste heat, insofar as this is possible and reasonable. If waste heat cannot be avoided, as is the case with data centres, the waste heat generated must be reused by means of measures and technologies to save energy through waste heat recovery, insofar as this is possible and reasonable (Section 16 (2) sentence 1 EnEFG). This should also explicitly include potential utilisation of waste heat on the company premises and by external third parties (Section 16 (2) sentence 2 EnEFG). As data centre

operators generally have little or no opportunity to use waste heat on their own premises, the use by external third parties plays an overriding role.

To obtain data on waste heat utilisation and to link supply and demand, the Federal Agency for Energy Efficiency has set up a waste heat platform. By 31 March of each year, data centre operators must also provide the following data for the previous calendar year (Section 17 (1), (2) EnEFG):

- Name of the company;
- Address of the location or locations where the waste heat is generated;
- The annual heat quantity and maximum thermal output;
- Availability over time in the form of performance profiles over the course of the year;
- The available options for controlling temperature, pressure and feed; and
- The average temperature level in degrees Celsius.

The first reporting deadline on 1 January 2024 (Section 20 (4) EnEFG) was suspended by the BMWK until 1 January 2025, due to the EnEFG, which had only recently come into force. This means that the data must be submitted for the first time on 1 January 2025 and then annually on 31 March.

Irrespective of the data transfer for the waste heat platform, Section 17 (1) EnEFG stipulates that companies are obliged to provide data on waste heat generated at the request of operators of heating networks or district heating supply companies and other potential heat-consuming companies.

Energy efficiency register

In addition to the waste heat platform, a central data centre register has been or will be introduced at both European and German level. These are used to assess the energy efficiency of data centres. Data centre operators must submit certain data for the purposes of this register. This data is listed in Exhibit 3 of the EnEFG and in the Delegated Regulation on the first phase of the establishment of a common Union assessment scheme for data centres (C(2024) 1639).

In Germany, the energy efficiency register for data centres (data centre register) was launched in April 2024. Operators of data centres with a non-redundant nominal connected load of 300 kW or higher must register and publish certain data on energy consumption and energy efficiency for the previous year by 31 March each year (Section 13 (1) EnEFG). This deadline has been changed for 2024. Operators of data centres with a redundant nominal connected load of 500 kW or higher must submit the data by 15.08.2024. For smaller data centres with a nominal connected load of between 300 kW and 500 kW, the deadline is 01.07.2025. The Federal Office for Energy Efficiency (BfEE) of the BAFA is responsible for maintaining and evaluating the register.

The European Data Centre Database will be introduced at European level. Here, operators must submit their data for the first time by 15 September 2024 and then annually by 15 May. However, only data centres with an electricity requirement for the installed information technology of at least 500 kW fall under the scope of application (Directive 2023/1791, Art. 12 (1)). However, in Germany, data transmission is carried out centrally by BAFA so that data centre operators do not have to enter their data twice.

Challenges in waste heat utilisation

While the efficiency targets for data centres are generally to be welcomed, the energy efficiency requirements and their feasibility are sometimes viewed critically in industry circles. Apart from the already high price of electricity in Germany, the location for new data centres must now also be chosen in such a way that suitable waste heat users are as close as possible.

This is because it is often problematic to find suitable waste heat consumers for existing data centres or the expansion of a data centre campus. While feeding into a suitable district heating network may be an option if it is available, this is not feasible locally everywhere or requires high levels of investment.

Although it is basically a good idea not to release waste heat from data centres unused into the environment, but to use it for the local heating network, it remains to be seen how many operators will be able to comply with the requirements or will have to rely on the existing exceptions. The waste heat platform, albeit associated with administrative effort, should help to implement the requirements and find suitable customers.

For more information, please contact [Anja Holtermann, LL.M.](#) and [Dr. Matthias Lang](#).

Investing in data centres: understanding Permanent Establishment issues

Corporate Income Tax

Before investing in data centres, it is crucial to understand the concept of Permanent Establishment (PE) as interpreted by the tax authorities where the data centres have to be located, especially in the context of the digital economy.

Recently, Italian authorities have adopted an innovative approach to challenging the presence of a PE for foreign companies, as witnessed by the recent Google or Netflix cases.

Indeed, tax authorities may argue that the availability of a network of servers used for providing services to local customers may constitute a PE under the concept of a fixed place of business. This approach marks a shift in the interpretation of PE, reflecting an evolving and increasingly fluid definition. Traditionally, PE has been understood through the lens of physical presence, such as offices or branches. However, the digital economy's growth necessitates new interpretations.

Historically, the definition of PE has been governed by tax treaties between countries, guided by the OECD Tax Treaty Model. With initiatives like BEPS (Base Erosion and Profit Shifting) Actions 1 and 7, the EU Directive Proposal 147 of 2018, and amendments to Article 162 of the Italian legislation, the scope of what constitutes a PE has expanded. The OECD Model Convention now includes exemptions for specific activities, a new definition of dependent agent PE, and an "anti-fragmentation" rule. Furthermore, the concept of Significant Economic Presence (SEP) has emerged, proposing that businesses can have a PE based on their digital and economic presence, even without a physical office.

Despite these changes, the new definitions are not immediately enforceable. They require renegotiation of existing tax treaties and the ratification of the Multilateral Convention (MLI) to implement BEPS measures. This process allows countries to make reservations or opt out of certain provisions, meaning full global consensus is still lacking.

SEP, designed to address tax challenges posed by digital businesses, aims to create a nexus between foreign entities and revenues generated within a country. This concept considers factors such as a user base, local billing, and after-sales services.

Investors must be aware that while SEP and other new PE definitions aim to tax profits of non-resident digital enterprises, these interpretations can significantly impact business operations and tax obligations.

The recent Italian cases exemplify the need for companies to carefully evaluate their business models and the potential for PE establishment when investing in a foreign country.

In conclusion, understanding the evolving definitions of PE and SEP is vital for foreign companies, especially in the digital economy, when considering investments in data centres. These changes reflect a broader trend of tax authorities adapting to modern business practices, but they also bring uncertainty and the need for diligent planning and compliance.

For more information, please contact [Giuliana Polacco](#) and [Andy van Esdonk](#).

Management of Data Centres in Singapore – Key Legal Issues Part 1 – Energy Use

Data centres are the bedrock for the global digital economy and are built to run ceaselessly 365 days a year, 7 days a week, 24 hours a day. The operation of a data centre (DC) in Singapore involves a fusion of workflows and processes spanning for instance:

- Leasing of real estate
- Construction and maintenance of DC infrastructure,
- Procurement of power to serve the DC
- IT systems architecture design and security
- Day to day regulatory compliance
- Storage of data and backup policies
- Management of services

In Part 1 of this series of articles, we provide an overview of the key legal issues that centre around the all-too-critical energy usage for the operation of DCs in Singapore.

Energy Management

According to the International Energy Agency (IEA), data centres consumed 460 TWh of electricity in 2022, which represents 2% of all global electricity usage. This figure could rise to more than 1,000TWh by 2026 in a worst-case scenario. To get on track with Singapore's Net Zero ambitions, the national emissions must halve by 2030. This will be a challenge, given that DCs are big consumers of electricity. DC emissions can be however curbed with well-considered energy management strategies.

Modern day energy management involves innovative and integrated digital services where technologies are interlinked to enable not just automation but clever customization to meet a DC's need for uninterrupted power. DC energy management systems incorporate smart technology solutions that make use of AI, data analytics and IoT. The legal documentation we see in this area revolves around long term energy savings and energy performance contracts with customised variations. As energy management solutions may be capital-intensive and a burden to DCs already grappling with an high energy prices and inflationary pressures, energy as a service (EaaS) is another attractive option for DCs. Under an EaaS agreement, the energy service provider (ESP) secures third-party funding to pay for all project costs, so the DC operator has no upfront expenses or internal capital and the DC operator pays-for-performance so the ESP bears the performance risks and is constantly seeking operational efficiencies. ESPs can bundle energy consultancy, financing, asset installation and energy management solutions all-in-one for customers.

Energy Procurement

DCs typically sign on to long term onsite Power Purchase Agreements (PPAs). Onsite PPAs contracts between a DC operator (as offtaker) and a renewable energy project developer or independent power producer (as IPP), in which the IPP owns, operates, and maintains a renewable energy system adjoining the DC for a term of 15-25 years. The DC operator-offtaker benefits from securing a fixed energy price for the life of the onsite PPA, ensuring long-term electrical price stability. In most cases, the renewable energy certificates (RECs) generated from the renewable energy project belongs to the DC operator-offtaker as well.

Offsite PPAs (also known as virtual or synthetic PPAs) are also commonplace. No physical sale of electrons occurs between the DC operator (as buyer) and the renewable power producer (as seller). The offsite PPA is a contract for difference for the DC operator to hedge against volatile energy prices. There is a settlement mechanism whereby the buyer pays if the utility price dips below an agreed strike price, and the seller pays if the utility price rises above that agreed strike price. Most offsite PPAs provide that the buyer owns all environmental attributes from the renewable power projects (ie all credits, benefits, emissions reductions, offsets and allowances attributable to the renewable power generation and its displacement of conventional energy generation). However, it should be noted that renewable energy certificates (RECs) may or may not be transferred to the buyer.

Ideally, 100% of a DC's power needs come from renewable energy (solar, waste to energy, etc). Where renewable energy supply is inadequate, DC operators may seek to rely on the purchase of unbundled renewable energy certificates (RECs) to offset their carbon emissions and meet their renewable energy targets. Sale and Purchase of RECs are agreements for the purchase by DCs of unbundled RECs (RECs that aren't paired with the underlying electricity and not tied to a PPA). RECs purchases require careful scrutiny to avoid accusations of greenwashing and to ensure that the RECS do legitimately count towards renewable energy targets. There are available resources to allow DCs to track the RECS serial numbers, generation source and vintage minimally) via blockchain and AI-powered trading platforms.

Many stakeholders consider the market for RECs to be undersupplied and the expectation is that the gap between supply and demand is continue to widen. As such, RECs prices are likely going to stay stubbornly high. Prices notwithstanding, we expect a real tussle amongst the largest DC operators to try to secure a pipeline for the future bulk offtake of RECs, possibly gaining a competitive edge over smaller players.

The energy scene will continue to evolve with more innovations for energy conservation and more creative power procurement arrangements. The DC industry will have to self-monitor, prepare for disclosures, and strive to innovate amidst the increasing regulatory scrutiny on energy consumption of DCs.

For more information, please contact [Sandra Seah](#).

The expansion of the data centre market in Brazil

Current trends and future perspectives

The data centre market has been experiencing rapid global growth, driving the demand for new constructions and ventures with significantly larger storage capacities. This surge is largely attributed to the exponential rise of Artificial Intelligence (AI) and the resulting need for advanced virtual storage solutions.

According to the annual "Global Data Center Trend Report 2024" by CBRE (Global Commercial Real Estate Services), the data centre stock in Latin America increased by approximately 15% in the first quarter compared to the previous year, reaching 650 MW. São Paulo, Brazil's largest market, accounts for nearly two-thirds of this total, absorbing 40.4 MW alone this year (1).

The strong investment in São Paulo is primarily due to its established logistics market, the presence of major companies, technology hubs, and universities that provide a qualified workforce in the technology sector and create new business opportunities in the data centre segment. The increase in investment in clean energy in the region, especially in hydroelectric, solar and wind energy, also plays a fundamental role in the growth of data centers, as it guarantees a stable and constant supply of energy (2).

On the other hand, due to competition for suitable land for data centres and high real estate costs in São Paulo, secondary markets have been gaining ground in Brazil. Rio de Janeiro, in particular, has been consistently growing, contributing significantly to the sector's development and has already established itself as Brazil's second-largest market.

Despite this positive development scene, it is important to note that the construction and operation of a data centre is also essentially delicate, both from a contractual and practical point of view.

Experience in the Brazilian market indicates that data centre contracts predominantly occur through the construction management at-risk (CM-at-risk) model, due to the high risks involved. In this model, which has been used in Brazil in recent years for some infrastructure projects, the contractor assumes responsibility for completing the project within a specified timeframe, meeting quality requirements, and adhering to a guaranteed maximum price (GMP) to be borne by the project owner.

From a practical perspective, it must be said that the operation of a data centre is inherently delicate, as it cannot tolerate any instability or interruption, whether in connectivity or power supply. As a consequence, the sites for these centres must be located in regions with robust power availability, continuous connectivity via fiber optic networks and minimal environmental risks, such as earthquakes.

In this context, considering Brazil's experience in risk contracts, coupled with its practical experience, it is possible to state that Brazil is exceptionally well positioned to thrive in the global data centre sector. Brazil's established practices in data centre contracting, together with its substantial land availability and abundant energy resources, provide a solid foundation for growth, as is already occurring.

These factors, combined with Brazil's significant advancements in technology infrastructure and its strategic geographic position, make it an attractive destination for international investment.

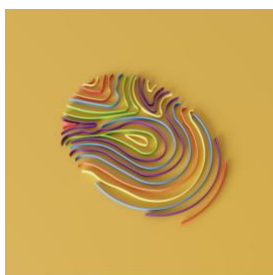
(1) Accessed on: < <https://www.cbre.com/insights/reports/global-data-center-trends-2024>>.

(2) InvestSP, an investment promotion agency linked to the São Paulo State Secretariat for Economic Development, has mapped out 23 ongoing private projects focused on energy transition, which are expected to receive nearly R\$ 25.7 billion in investments over the coming years.

For more information, please contact [Leonardo Toledo da Silva](#) and [Mateus Pires Zottarelli](#).

Leonardo and Mateus are, respectively, partner and associate lawyer at Toledo Marchetti Advogados, based in Brazil.

Events



24 September

09:00 - 10:30 BST

Decrypting Data and AI in Hotels

Bird & Bird, together with our friends at HVS, AlixPartners and EP Business in Hospitality, are pleased to invite you to join us for our 21st webinar together on Tuesday 24 September.

The use of data and technology has been a constant in the hotel world in recent decades but, with the advent of novel applications of AI analytics and targeting to drive growth, it has moved right to the top of the strategic agenda. Whilst the apparent potential for the use of data is growing exponentially, hoteliers and investors are

Webinar

grappling with how to drive practical benefits and create tangible value from this in the real world. In addition, the risks associated with managing and protecting data are only increasing and the regulatory environment becoming more complex.

This webinar aims to help hoteliers and investors to make the most of data to create value and also to manage the associated risks.



14 November

15:30 - 21:00 GMT

In-person

Navigating regulatory and operational challenges in the European data centre industry

We are pleased to invite you to our data centres in-person event, where we will focus on the entire value chain from equity investment to the day-to-day operation of data centre and how to overcome challenges to keep the industry moving forward at pace. You will receive:

- A keynote talk from leading industry figure.
- Analysis of major trends in the sector.
- A snapshot of the new and upcoming major regulations.
- A chance to discuss with our panellists and presenters.

Please join us at our London office on Thursday 14 November for an afternoon of interesting discussions. The meeting will be followed by networking drinks.



10 December

09:00 - 20:00 GMT

In-person

Bird & Bird's TechLaw Day 2024

This year, we are hosting our 18th annual TechLaw Day event at the iconic St Pancras Renaissance Hotel on 10 December from 9:00 – 17:00 GMT. It promises to be a day filled with updates, insights, and conversations about significant technology trends and their interplay with legal developments.

As always, we will be looking forward to bringing together a community of legal, technology and business experts to share their insights.

We look forward to welcoming you!

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