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ESG Initiatives in Data Center Investments

~The Challenge of Green Data Centers, in Light of New Trends in the Development of Renewable Energy Power Sources~

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I. ESG Issues in Data Centers

The increasing demand for data centers in response to the accelerating pace of digitalization has led to a rise in the number of new data center construction and investment projects in Japan. The Japanese government is also promoting the development of data centers, especially in rural areas. However, there are concerns about the environmental impact of data centers, which consume large amounts of energy, and some countries outside of Japan are regulating the construction of new data centers. Data center operators and owners are expected to provide services as green data centers not only for their own decarbonization efforts and those of their investors, but also to contribute to the ESG management of their data center customers. In addition, under the current circumstances of rising electricity prices in Japan, energy-saving and environmentally friendly initiatives are essential to improve profitability. In this report, we will introduce recent examples of ESG challenges in data center investment and business in Japan, particularly focusing on approaches related to E (environment) among the three aspects of ESG.

II. Approach

1. Carbon-neutral

Data centers operate 24 hours a day, 365 days a year, and consume large amounts of electricity for their cooling facilities and ICT equipment, such as servers. Since their power consumption is one of the largest among all industries and power consumers in Japan, and they emit a large amount of

CO2, they are expected to use renewable energy sources to cover their power needs. In response to the growing awareness of the need to go carbon neutral, it is important to combine various measures, including the following:

(1) Procurement of environmental value

This method involves acquiring environmental value and offsetting CO2 emissions from the electricity used in data centers. This essentially allows data center operators and owners to use renewable energy for the power used in their data centers and provide their data center customers with electricity derived from renewable energy.

There are three types of environmental value trading systems in the electric power sector: "Non-Fossil Certificates", "Green Certificates", and "J-Credits". Non-Fossil Certificates are for grid electricity, while Green Certificates and J-Credits are for non-grid electricity (mainly for in-house power generation and consumption).

As a data center operator or owner, it is possible to install solar power generation equipment on the roof of the data center for in-house power generation and consumption and to obtain a Green Power Certificate for such power. However, it should be noted that, if a TMK[1] is used as the investment vehicle of a data center, the TMK may be restricted from obtaining these environmental values under the Asset Liquidation Law, which prohibits the conduct of business other than as expected under the law.

Additionally, data center operators and owners may purchase environmental value certificates in the market, especially Non-Fossil Certificates which are for grid power and have a higher supply volume than other certificates. There are currently three types of Non-Fossil Certificates: "FIT Non-Fossil Certificate", "Non-FIT Non-Fossil Certificate (with Renewable Energy Designation)", and "Non-FIT Non-Fossil Certificate (without Renewable Energy Designation)". While only electricity retailers were allowed to trade Non-Fossil Certificates before, with the establishment of the "Renewable Energy Value Trading Market" for FIT Non-Fossil Certificates, it has become possible for electricity consumers, such as data center operators and owners, to directly purchase the certificates.

[1] TMK is a type of vehicle which is commonly used for real property investment, including data center development, in Japan.

(2) Procurement of renewable electricity - Roof-mounted solar power generation (on-site PPA)

Roof-mounted solar power generation is a method of generating renewable electricity by installing solar panels on the roof of a building, including data center facilities. While it may be difficult to cover all of the electricity demand of a data center with a roof-mounted solar power generator alone, this method is being adopted as a way to contribute to ESG, in combination with the acquisition of the environmental values mentioned above.

There are two methods for installing photovoltaic power generation equipment on a roof: (1) the building owner owns and operates the equipment and generates the electricity, and (2) the building owner leases the roof to a power generation company, which owns and operates the equipment and supplies electricity. Under the Asset Liquidation Law, a TMK may own a data center building as a specified asset, lease the roof to a third party, and have a third party own the solar power generation facilities and conduct a power generation business (case (2)). However, if the TMK owns the data center building and the photovoltaic power generation facility, the TMK is not allowed to conduct a power generation business and sell electricity under the Asset Liquidation Law. Additionally, the disposal of photovoltaic power generation equipment might be also subject to certain restrictions under the law. Therefore, when considering case (1), it is necessary to devise a structure and contract to address the issues.

(3) Procurement of renewable electricity - Corporate PPA (off-site PPA)

Corporate power purchase agreements (PPAs) refer to agreements for consumers, such as companies and municipalities, to purchase renewable energy directly from power generation companies. By concluding PPAs with power generators, data center operators and owners can procure clean, stable, renewable energy over the long term, and a long-term PPA facilitates development of new renewable energy power plants with “additionality” by power generators. When trying to cover the power consumption of a data center with renewable energy, it is conceivable to develop a renewable energy power plant based on a Corporate PPA in parallel with the construction of the data center with the cooperation with a power generation company.

Corporate PPAs are divided into two types, based on the location of the power generation facilities: (1) “on-site PPAs,” in which the power generation facilities are installed within the customer’s location of demand, such as a

roof-mounted PV, and (2) “off-site PPAs,” in which electricity is supplied from power generation facilities installed outside the customer’s location of demand via a self-owned transmission line or the transmission and distribution network owned by utilities. Off-site PPAs are necessary when attempting to supply all the electricity for facilities that consume large amounts of electricity, such as data centers.

There is also a distinction between “physical PPA”, in which the electricity generated by the power generator is actually supplied to consumers, and “virtual PPA,” in which both the power generator and consumers supply and procure electricity in the market and conduct virtual electricity transactions through differential settlement, without actually supplying electricity. When considering the structure of a Corporate PPA, it is necessary to take into account retail supply regulations under the Electricity Business Act, requirements for the use of transmission and distribution networks (self-wheeling), and derivatives regulations under the Commodity Futures Trading Act.

Typical off-site PPA methods currently under consideration in the Japanese market include: (1) the retail electric utility intermediary type (in which a power generation company installs power generation facilities at a different business site from the customer's place of demand and supplies electricity to the customer through a transmission and distribution network via a retail electric utility), (2) self-wheeling (a power generation company installs power generation facilities at a different business site from the customer's place of demand and supplies electricity to the customer, who is itself or closely related to itself, using the self-wheeling service), and (3) private transmission line supply (a power generation company installs power generation facilities at a different business site from the customer's place of demand and supplies electricity to the customer via a private transmission line). When introducing a corporate PPA to a data center, in addition to the aforementioned regulations, it is necessary to take into account the restrictions imposed by the Asset Liquidation Law and other laws.

2. Green finance

Green finance offers several ways to finance the construction and operation of data centers. Green finance includes green loans, green bonds, and sustainability-linked loans. It requires the development of a financing framework following green finance guidelines, reporting greenhouse gas

emission reductions to lenders and (specified) bondholders, and for sustainability-linked loans, the introduction of a mechanism to adjust interest rates based on KPIs such as PUE (Power Usage Effectiveness) has been seen in Japan.

3. Green lease

A green lease is a voluntary agreement between an owner and tenant to reduce the environmental impact of real estate, such as energy conservation, and to improve the work environment. In the case of data centers, a green lease agreement between the data center operator and the building owner could include measures such as the use of energy-efficient equipment, the installation of renewable energy sources, and the improvement of cooling systems.

4. Benchmark system

Through the revision of the Rationalizing Energy Use Law, the data center industry was added to the list of businesses subject to the benchmark system. Consequently, such businesses must regularly report their PUE as a benchmark indicator. The person who has the power of control over energy management in certain data centers is required to report periodically, and those who achieve a certain threshold are publicly recognized as excellent energy-saving businesses. Note that the obligation to report falls on business operators with a person who has the power of control over energy management in the relevant data center. Data center owners who own data centers and lease data center buildings and server rooms to customers (such as in the case of a housing business and co-location business) may also be subject to this obligation.

III. Future Expectations

Several ESG initiatives on the technological side are emerging, such as power consumption monitoring systems, energy-saving cooling facilities (like immersion cooling), connection to smart grids, and the use of storage batteries. To prevent a large-scale disaster in an urban area from causing a functional shutdown, regional decentralization is being promoted to optimize data center allocation in Japan. In addition to responding to regional demand, initiatives are

leveraging regional characteristics, such as environmentally friendly data centers that use cooling systems utilizing natural energy like outdoor air and ice and snow. To address the energy consumption of large data centers, it will be essential to take on ESG challenges by combining multiple approaches. As the data center market expands, it is expected that cooperation and ESG investment in the renewable energy business will also develop in the future.

PUBLICATIONS

- Article "Summary of Issues Concerning Raising Basel Eligible Capital Through SDGs Bonds"
  Publication Weekly Kinzai No.3487
  Author Yoshitaro Tominaga

- Article "New Trends in Renewable Energy Development - FIP, Environmental Value Trading, Corporate PPA"
  Publication The Finance
  Author Hironobu Noma

- Article "Mycal Supermarkets Securitization – True Sale Character Protected despite Attack by Receiver under Corporate Reorganization"
  Publication SFJ Journal Vol.26
  Author Masanori Sato

- Article "Carbon Credits - Regulatory and Practical Issues for Financial Institutions"
  Publication Kinyu Homu Jijo No.2203
  Author Masanori Sato, Takeshi Mukawa and Kensuke Oki

NEWS

- Mori Hamada & Matsumoto to open New York office

  Mori Hamada & Matsumoto is pleased to announce it will be opening an office in New York City. Our new office is aimed to start operations in the fall of 2023.

  Established through the merger of Mori Sogo and Hamada & Matsumoto in 2002, Mori Hamada & Matsumoto (MHM) is a full-service law firm group comprising 720 lawyers (including lawyers registered in jurisdictions outside Japan). With our

vision of being the “Firm of Choice” for our clients, MHM has grown its presence beyond Japan into the broader Asian region, including being the first Japanese law firm to open a Beijing office in 1998 and, more recently, merging with a major Bangkok law firm in 2017.

After many years of advising on cross-border deals and disputes between Asia and the Americas while maintaining close associations with major law firms in the region, MHM has now chosen New York — the center of global commerce and an important bridge between the Americas and Asia — as the firm’s first location outside Asia. Through the New York office, MHM intends to further bolster relationships with local law firms and clients, while also enhancing our ability to serve the many and varied needs for cross-border legal services spanning the two regions.

Our New York office will be headed by Yuto Matsumura, a managing partner of MHM with a wide global contact network. Joining him will be Aruto Kagami and Nobuhiko Suzuki, partners with high levels of expertise, rich experience, and proven results in cross-border matters. Aruto Kagami has specialties in cross-border competition law matters, white collar investigations, crisis management, and disputes, and Nobuhiko Suzuki specializes in cross-border M&A and corporate matters.

We believe that the Americas will continue to be an important market for our clients, and an especially large market from a legal point of view as well. With the opening of its New York office, MHM looks forward to deepening its international presence while further enhancing the legal services delivered by the combined resources of our lawyers throughout the MHM group.

- The Best Lawyers in Japan™ and Best Lawyers: Ones to Watch in Japan™ (2024 edition)

  In the 2024 edition of The Best Lawyers in Japan™ by Best Lawyers®, MHM received the "Law Firm of the Year" award in the categories of Banking and Finance Law and Insolvency and Reorganization Law.

  In addition, Masanori Sato has been selected as "Lawyer of the Year" in the Structured Finance Law.

  Furthermore, 152 lawyers from our firm have been included in The Best Lawyers

in Japan™, and 55 lawyers from our firm have been included in Best Lawyers: Ones to Watch in Japan™.

Best Lawyers

・Banking and Finance Law

Masanori Sato, Hideki Matsui, Akira Marumo, Toshifumi Ueda, Eriko Ozawa
Takahiro Kobayashi, Naoki Ishikawa, Akiko Sueoka, Daisuke Oda, Hiroki Aoyama
Akira Ehira, Shigeki Okatani, Mihoko Shima, Hiroki Kishi, Yoshihito Kuramochi
Yusuke Suehiro, Yusuke Murakami, Kei Shirakawa

・Project Finance and Development Practice

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Yusuke Suehiro, Yusuke Murakami, Hironobu Noma

・Real Estate Law

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Hiroki Aoyama, Ryutaro Kawamura, Susumu Hanawa, Masahito Saeki
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Akira Ehira, Shigeki Okatani, Yusuke Murakami, Satoru Hasumoto

Ones to Watch

・Banking and Finance Law

Sayako Chujo, Ayako Nakamura, Shuhei Takaishi

・Real Estate Law

Fuyuki Uchitsu, Hirokazu Hasegawa

・Structured Finance Law

Hirohiko Tanaka, Keigo Kubo, Hiroto Hayashi

- Report released by the “Study Group on Finance and Restructuring Practice Utilizing All Asset Security” on an investigation commissioned by the Financial Services Agency in which one of the firm’s attorneys-at-law was involved

The Study Group on Finance and Restructuring Practice Utilizing All Asset Security (commissioned party: Japan Institute of Business Law), commissioned to

conduct an investigation by the Financial Services Agency in which one of the firm's attorneys-at-law (Yoshihito Kuramochi) was involved as an investigating member, released a report concerning its investigation on financing systems and practices in the US and the UK utilizing all asset security and a summary of financial practices and the utilization thereof when new systems for providing security are introduced in Japan, based on the features of financing systems and practices in the two countries.

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