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CO_2 Exports in Asia Pacific: Japan's Approval of the 2009 Amendment to the London Protocol

INTRODUCTION

In this Alert, we review the impact of the recent acceptance by the Japan Diet of the 2009 Amendment to the London Protocol. Acceptance of the Amendment provides a critical enabler for the export of CO_2 from Japan for sequestration in sub-seabed geological formations in Asia Pacific. Such activities are otherwise illegal under international law for signatories to the London Protocol, the principal international treaty governing disposal of CO_2 into the maritime environment.

We also discuss the implications of the Diet's acceptance of the 2009 Amendment on Japan's objectives to achieve net zero carbon emissions by 2050 and the remaining measures required to begin CO_2 exports from Japan.

BACKGROUND

In October of 2020, the Government of Japan joined the ranks of countries working together across the globe to lower greenhouse gas ("**GHG**") emissions by announcing its own plans to reduce its GHG emissions in FY2030 by 46% (from 2013 levels) and to achieve net zero carbon emissions by 2050 through various measures, including energy conservation; reduced reliance on fossil fuels; increased use of renewable sources of energy such as solar and offshore wind; manufacture or import of low-emissions fuels, such as hydrogen and its derivatives; and the use of a "necessary amount of nuclear power".[i]

Another important option to help achieve net zero emissions by 2050 is carbon capture, utilization, and storage ("**CCS**" or "**CCUS**"). In short, CCS and CCUS involve the capture of CO_2 from industrial and energy-related

processes (or directly from the atmosphere) that is then utilized in other industrial processes or injected into geological formations either onshore or offshore for storage.

The Ministry of Economy, Trade and Industry ("**METI**") issued Japan's Long-Term Roadmap for CCS ("**Roadmap**") in March 2023 to "promote the sound development of CCS business in Japan with minimal social costs … and the achievement of carbon neutrality".[ii] A key element of the Roadmap is the development of a robust CCS business environment by 2030 to help address the anticipated increase of net carbon emissions and geological limitations on domestic storage capacity in Japan. The Roadmap contemplates both domestic and international CO_2 storage solutions, beginning with the introduction of seven initial projects identified in the *Advanced CCS Projects* for study and potential support by the Japanese government, which was announced by JOGMEC on June 22, 2023;[iii] five projects were located within the territory of Japan and two were located overseas – in Malaysia and Australia. On June 28, 2024, after a close examination of the project concept, as well as the status of studies on the entire CCS value chain in Japan, nine projects were selected.[iv] Of these, seven are continuations of the study projects selected in 2023; four of the nine projects involve CO_2 storage overseas (three in Malaysia and one in Asia Pacific generally).

THE LONDON PROTOCOL

To export CO_2 from Japan for cross-border storage in sub-seabed geological formations, Japan must overcome the prohibition on CO_2 export imposed by the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 ("**London Protocol**"). The Protocol entered into force in March 2006 and is today the principal international treaty governing the disposal of waste in the maritime environment.[v] The recent approval by the Diet of the 2009 Amendment to the London Protocol is a critical step toward overcoming this prohibition.

When first adopted, the London Protocol served to prohibit the "dumping or incineration at sea of waste or other matter".[vi] Dumping covered, among other activities, the storage of "waste or other matter in the seabed and the subsoil" where the source was from "vessels, aircraft, platforms or other man-made structures at sea".[vii] The London Protocol also provided examples of substances in its Annex 1 that could be dumped provided a permit had been issued but there was no mention of CO_2 either in the definition of waste or the list of wastes that required a permit for dumping. In addition, Article 6 of the London Protocol expressly prohibited the export of CO_2 for sequestration in sub-seabed geological formations across international borders.

2006 Amendment to London Protocol

The Protocol was amended in 2006 to add CO_2 to the Annex 1 list of substances that could be dumped into the maritime environment with a permit, but this was limited to "disposal … into a sub-seabed geological formation". The 2006 amendment did not amend the Article 6 prohibition on export for sequestration in sub-seabed geological formations across international borders.

2009 Amendment to London Protocol

Recognizing the importance of CCS as an interim solution to reduce atmospheric CO_2 and noting that not all countries have "suitable sub-seabed geological formations for the sequestration of CO_2 streams",[viii] the contracting parties to the London Protocol ("**Contracting Parties**") adopted an amendment to Article 6 in 2009 to allow for export of CO_2 for sequestration in sub-seabed geological formations. The Contracting Parties conditioned CO_2 export on the entry into an "agreement" or "arrangement" by the exporting and receiving countries to ensure the export and sequestration of CO_2 in sub-seabed geological structures followed the environmental objectives of the London Protocol.[ix]

Declaration on Provisional Application of 2009 Amendment

For the 2009 Amendment to be effective, it must be ratified by two-thirds of the 53 Contracting Parties. Ratification by the requisite number of Contracting Parties was slow and the prohibition on CO_2 export was perceived to be taking a toll on cross-border CCS projects in Europe. In response, the Contracting Parties adopted a resolution in 2019 allowing Contracting Parties that approved the 2009 Amendment to file a Declaration on Provisional Application of the Amendment with the International Maritime Organization ("**IMO**"), which would allow these Contracting Parties to export CO_2 pending ratification of the 2009 Amendment by two-thirds of the Contracting Parties.[x]

IMPACT OF LONDON PROTOCOL ON JAPAN

So, what does the London Protocol have to do with Japan and how does it affect the numerous CO_2 export projects that are on the drawing boards of energy companies in Japan? Under the circumstances, because Japan is a Contracting Party to the London Protocol, no CO_2 exports for transborder sequestration may be authorized by the Japanese government until the prohibition under the London Protocol is overcome. To overcome this hurdle, the government is required to:

(1) Accept the 2009 Amendment to the London Protocol and deposit an instrument of acceptance with the IMO;

(2) Deposit a Declaration on Provisional Application of the 2009 Amendment with the IMO; and

(3) Enter and file with the IMO bi-lateral "agreements" or "arrangements" with the countries to which CO_2 is proposed to be exported for sequestration in sub-seabed geological structures of the receiving country.

APPROVAL OF 2009 AMENDMENT BY THE DIET

With the foregoing requirements in mind, on March 8, 2024, the Japanese Cabinet submitted a motion for approval of the 2009 Amendment to the Diet. The motion for approval of the 2009 Amendment to the London Protocol was adopted by the Japan House of Representatives on April 26, 2024, and approved by the House of Councillors on May 24, 2024. The government is expected to deposit the "instrument of acceptance" to the 2009 Amendment with the IMO once the Cabinet amends the Export Trade Control Order to specifically accommodate CO_2 export.

The motion to approve the 2009 Amendment coincided with a Bill on Carbon Dioxide Storage Business ("**CCS Business Bill**") to establish a new domestic regulatory regime to govern and develop pipeline transmission and underground (including sub-seabed geological) storage of CO_2 captured in Japan. (The CCS Business Bill was limited to the storage of CO_2 within the boundaries of Japan and does not address the export of CO_2.) The CCS Business Bill was passed by the Japan House of Representatives on April 9, 2024, and by the House of Councillors on May 17, 2024. The Act was promulgated on May 24, 2024, although the effective dates of each chapter are staggered to occur once related regulations are issued by METI.

DECLARATION ON PROVISIONAL APPLICATION OF 2009 AMENDMENT

As mentioned, approval of the 2009 Amendment *per se* will not serve to authorize exports of CO_2 until the Japanese government files a Declaration on Provisional Application of the 2009 Amendment with the IMO. It is expected that the government will deposit the Declaration with the IMO following its deposit of the "instrument of acceptance" to the 2009 Amendment with the IMO.

BI-LATERAL "AGREEMENTS" AND "ARRANGEMENTS"

Overview of requirement

In addition to the IMO filings and the anticipated Export Trade Control Order amendment, the government will need to enter into bilateral "agreements" or "arrangements" with each country receiving CO_2 from Japan before it is authorized to permit exports of CO_2 to that country. The contents of the agreement or arrangement are broadly described in Article 6.2 of the 2009 Amendment and more particularly specified in the *Guidance on Implementation of Article 6.2 on the Export of* CO_2 *Streams for Disposal in Sub-seabed Geological Formations for the Purpose of Sequestration* ("**Guidance**") adopted by the Contracting Parties in 2013. As its title implies, the Guidance includes recommendations regarding how the 2009 Amendment may be implemented by a Contracting Party, including suggested provisions for inclusion in the requisite agreement or arrangement.

Agreement v. arrangement

What is the difference between an "agreement" and "arrangement"? The 2009 Amendment and the Guidance are flexible on this issue. According to Article 3.2 of the Guidance, an "agreement" refers to a "legally binding agreement," which could take the form of a "memorandum of agreement or a treaty," while an "arrangement" refers to "something non-binding, such as a memorandum of understanding (MoU)." Neither the Protocol nor the Guidance mandates a particular format for the agreement or arrangement; each agreement or arrangement is negotiated on an *ad hoc* basis. Still, there are some minimum requirements, depending on the status of the receiving country.

Requirements of "agreement" or "arrangement" regardless of the Contracting Party's role

Regardless of whether CO_2 export is to a Contracting Party or a non-Contracting Party, Article 6.2.1 of the 2009 Amendment requires that the agreement or arrangement confirm and allocate "permitting responsibilities between the exporting and receiving countries, consistent with the provisions of the London Protocol and other applicable international law."[xi] Since Japan is a Contracting Party, where the receiving country is another Contracting Party, an agreement or arrangement between them should satisfy Article 6.2.1 of the 2009 Amendment by confirming and allocating permitting responsibilities covering the matters set out in the London Protocol for the sequestration project and other applicable international law (such as the United Nations Convention on the Law of the Sea (UNCLOS)). The Guidance also recommends additional provisions for inclusion in an agreement or arrangement regardless of the role of the Contracting Party.[xii]

Additional requirements of "agreement" or "arrangement" where receiving country is NOT a Contracting Party

Where the receiving country is NOT a Contracting Party to the London Protocol, the agreement or arrangement is more complex. Article 6.2.2 of the 2009 Amendment requires the agreement or arrangement to include, "at a minimum", provisions that are "equivalent to those contained in [the] Protocol, including those relating to the issuance of permits and permit conditions for complying with the provisions of annex 2, to ensure that the agreement or arrangement does not derogate from the obligations of Contracting Parties under [the] Protocol to protect and preserve the marine environment."[xiii] The Guidance adds several clarifications and recommendations regarding conformance of the agreement or arrangement with Article 6.2.2.[xiv]

Agreements or arrangements entered to date

To date, a handful of MOUs have been entered pursuant to Article 6.2.1. All the MOUs involve Contracting Parties as both exporting and receiving countries within Europe and confirm that the MOU applies to cross-border transportation of CO_2 between the territories of the signatory parties for the purpose of permanent geological storage. Because these

Contracting Parties have already agreed to observe the permitting requirements and allocations set out in the London Protocol, these MOUs are predictably short and similar in content, and nearly all include an acknowledgement that all permitting procedures for export and sequestration are in place and all permitting obligations will be allocated in accordance with the London Protocol.

GOING FORWARD

The Japanese and international press are regularly reporting announcements of commercial MOUs between Japanese companies and their counterparties in receiving countries to export and sequester CO_2 captured in Japan. In addition, as mentioned, JOGMEC has approved nine CCS projects for government support, which include four cross-border storage projects. Taken together, the anticipated receiving countries involve a combination of Contracting Parties (Australia) and non-Contracting Parties (Malaysia and Indonesia). The next stage in the regulatory process for CO_2 export – the negotiation of agreements or arrangements between Japan and the receiving countries – will bring into sharp focus the different challenges Japan faces before any commercial CO_2 project may proceed.

Australia

Australia is a Contracting Party to the London Protocol and has approved the 2009 Amendment. It also has amended the Environment Protection (Sea Dumping) Act 1981 to transform and give effect to Australia's international obligations under the 2009 Amendment in domestic law. The process of Japan reaching an agreement or arrangement with Australia should be straightforward since Australia, as a party to the London Protocol, has agreed to the principal objectives of the Protocol, which the 2009 Amendment requires to be addressed in their bi-lateral agreement or arrangement.

Malaysia

In contrast, Malaysia is not a Contracting Party and has no national law on CO_2 storage, although it is in the process of drafting a comprehensive CCUS law that is expected to be enacted in late 2024 or early 2025. At the state level, Malaysia's state of Sarawak, which is the proposed storage destination of CO_2 exports covered by several reported MOUs involving Japanese companies, has an extensive domestic CCUS law. For cross border CO_2 exports with storage locations in Peninsular Malaysia, an agreement or arrangement will need to be entered between Japan and the Malaysia federal government regardless of the adoption of bespoke federal CCUS legislation. For CO_2 export projects with storage locations in Sarawak, an agreement or arrangement also will need to be executed consistent with the requirements of the Malaysia Constitution regarding treaties, agreements, and conventions with other countries.[xv]

Indonesia

In between the regulatory frameworks of Australia and Malaysia sits Indonesia, which is a non-Contracting Party that early this year promulgated Presidential Decree No. 14/2024. The Decree establishes an extensive CCS regulatory framework for onshore and offshore CO_2 storage that requires implementing ministerial regulations for completeness, including criteria for the issuance of "injection licenses."

The process of reaching agreements or arrangements between Japan and countries potentially receiving its CO_2 for sequestration will differ depending on the status of each receiving country as a Contracting Party or non-Contracting Party. In addition, domestic regulatory schemes for sequestration in these countries are in different stages of development and may need to be aligned with the London Protocol before an agreement or arrangement may be inked. Meanwhile, Japanese companies and their partners contemplating CO_2 export will be monitoring the agreements or arrangements under discussion to ensure they provide clear standards for CO_2 export approval and sequestration in receiving countries.

CONCLUSION

Japan's Long-Term CCS Roadmap contemplates that a robust business environment for CCS – including a legal framework for CO_2 exports – be in place by 2030 as part of Japan's overall plan to achieve net zero carbon emissions by 2050. METI has projected that to commence a CCS business by the end of 2030, CCS export project developers will have to take Final Investment Decisions on those projects by 2026.

The Japanese government's approval of the 2009 Amendment to the London Protocol and the Diet's enactment of the CCS Business Bill are major steps to adding CCS to the suite of options available to help Japan achieve its decarbonization targets. Concluding agreements or arrangements with countries to which Japanese companies plan to export and store CO_2 in sub-seabed geological structures will be a crucial legal hurdle to facilitate exports under the 2009 Amendment.

Forming the required regulatory basis for cross-border CCS value chains involves the collective effort of all stakeholders, including private project developers, to both inform and support the bi-lateral agreements or arrangements to be entered as well as the domestic CCS regulatory frameworks underpinning them. This collaboration of public and private sectors is critical to conclude the legal and commercial arrangements required to facilitate the urgent development of domestic and cross-border CCS projects and to provide the necessary benefits and safeguards to government, the public, and private stakeholders alike.

[i] *See Outline of Strategic Energy Plan*, Agency of Natural Resources and Energy, Ministry of Economy, Trade and Industry (October 2021)
[ii] *See Japan's CCS Policy and International Collaboration*, CCS Policy Office, METI
[iii] *See First Step to Launch Japanese CCS Project – JOGMEC selected 7 projects, starting CO_2 storage by FY 2030* (June 22, 2023)
[iv] *See* https://www.jogmec.go.jp/news/release/news_10_00191.html
[v] *See* London Protocol, Art. 23.
[vi] *See* London Protocol, Art. 2.
[vii] *See* London Protocol, Art. 1.4.1.
[viii] *See* Resolution LP .3(4) (Adopted October 30, 2009)
[ix] *See* 2009 Amendment to London Protocol, Art. 6.2.
[x] *See* Resolution LP .5(14) on the Provisional Application of the 2009 Amendment to Article 6 of the London Protocol
[xi] *See* 2009 Amendment to the London Protocol, Article 6.2.1; *see also* Guidance, Art. 3.5.
[xii] *See* Guidance, Art. 3.3.
[xiii] *See* 2009 Amendment to London Protocol, Article 6.2.2.
[xiv] *See generally*, Guidance Art. 3.6
[xv] *See* Ninth Schedule of the Constitution of Malaysia