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Talus, Kim

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Adapting international natural gas and LNG agreements in the light of the energy transition

Kim Talus*

ABSTRACT

This article will examine the bidirectional relationship between private energy contracts and the transition towards a net-zero world. It will focus on long-term take-or-pay natural gas and liquefied natural gas sale and purchase agreements (natural gas and LNG SPAs) that are commonly used in the natural gas sector. These agreements often contain highly restrictive clauses that are designed to ensure stability of supply and demand, which makes them suitable for acquiring the project financing necessary for large capital-intensive energy projects. At the same time, these agreements create an important lock-in effect for the contracting parties. This article will examine the details of gas SPAs from the perspective of this lock-in effect. It will show that current contractual formulations do not provide an adequate solution in the context of the energy transition. Because of this lock-in effect, there is an urgent need to adapt existing contract forms for future use, and to modify the continued application of existing executory contracts to accommodate new realities.

1. INTRODUCTION

Most energy transition studies focus on public sector regulation driving the transition towards net-zero. The focus of studies in this area has been on legal and regulatory frameworks driving the sustainable energy transition or the impact of these frameworks on markets and market impact of emission reduction policies and related regulation.[1]

Adopting a different approach,[2] this article will focus on the private law elements of energy transition and the relationship between the commercial efforts to reach net-zero and the existing and future private energy commodity supply and purchase contracts. In particular, it will focus on natural gas supply and purchase agreements, liquefied natural gas sale and purchase agreements (LNG SPAs), but the concepts discussed should apply analogously to other types of energy supply,

* Kim Talus is a Professor of European Energy Law at UEF Law School (University of Eastern Finland), Finland and a Professor of Energy Law at Helsinki University, Finland. Kim Talus is also a partner in a Swiss-based energy law-focused firm, Energy and Regulation Partners (www.erpartners.eu), as well as the Editor-in-Chief for OGEL (www.ogel.org). The author gratefully acknowledges the public financing of Business Finland for the 'HYGCEL' project. Email: ktalus@uef.fi

[1] Among many others, Geert Van Calster, Geert Vandenberghe and Leonie Reins (eds), *Research Handbook on Climate Change Mitigation Law* (Edward Elgar 2015); Tade Oyewunmi and others, (eds), *Decarbonisation and the Energy Industry: Law, Policy and Regulation in Low-Carbon Energy Markets* (Hart Publishing 2020); Ruven Fleming, 'Clean or Renewable – Hydrogen and Power-to-gas in EU Energy Law' (2021) 39(1) Journal of Energy & Natural Resources Law 43.

[2] It appears that this private law and private contractual aspect has only been examined in Anatole Boute, 'Environmental Force Majeure: Relief from Fossil Energy Contracts in the Decarbonisation Era' (2021) 33(2) Journal of Environmental Law 339.

purchase and offtake arrangements generally, as they relate to the carbon content of the energy commodity being sold and delivered between the commercial parties.

International gas supply and purchase agreements and LNG SPAs share common features regardless of the nationality of the seller and the buyer. The applicable law chosen in such agreements varies but common choice of law is, among others, the laws of New York, England and Wales, Hong Kong, and Singapore. While this article does not focus on a specific country or region, it frequently uses the European Union (EU) legislation as an example. This is because of the advanced nature of the transition towards net-zero in the EU. Similarly, because the laws of New York are often chosen as the applicable law in these agreements, it will use the laws of New York as an example of the impact of various contract law doctrines.

The relationship between private energy supply and purchase contracts and the sustainable energy transition generally, and carbon content in particular, has largely been left unaddressed in energy transition studies to date. With gas sector decarbonization becoming more urgent and hydrogen uptake moving to centre stage with respect to public sector decarbonization policies globally, there is an urgent need to understand this relationship. We need to understand not only the negative impact of private energy contracts on the transition towards net-zero, but also how these contracts need to be adapted in light of the transition. In the past, innovation in contract forms has been important for the success of other energy transitions. Examples include take-or-pay provisions for gas penetration and World Bank power purchase agreement models to back new investment in transitional markets when single monopolistic buyers faded away due to privatization and liberalization, as well as the reformation of long-term take-or-pay and deliver-or-pay provisions to facilitate unbundling of gas commodity and service arrangements in natural gas markets. In a similar manner, we need to understand how these private energy contracts impact the national and international regulatory systems designed to create or accelerate the energy transition and how they should be adapted to ensure a successful transition.

The transition to a carbon-neutral energy system is currently taking place globally and an increasing number of countries have introduced net-zero targets.[3] In this transition, fossil fuels are being replaced by clean and renewable energy sources and the sun is slowly setting on industries that produce the most polluting types of primary energy sources. There is no shortage of examples. This is already taking place for coal-fired power generation in the EU with national bans being introduced in a growing number of Member States (France, Italy, Finland, Netherlands, Denmark and many others).[4] Even if the Russian attack on Ukraine has now temporarily made coal-fired power generation more prevalent in the EU, this is likely to be temporary as the EU moves towards its 2050 targets.[5] Even without a binding end date being set by the legislator in the USA, the use of coal as an energy source for power generation in the USA has declined dramatically and permanently. Of the major coal-producing countries, China has already imposed a ban on financing new coal-mining projects overseas,[6] and there is increasing public pressure to ban new coal projects in Australia.[7] Similar bans on new oil exploration and production projects have been put into place in a range of countries and territories (France, Denmark, Greenland, Spain and others).[8]

[3] To date, 85 Parties to the Paris Agreement have communicated a net-zero target through their nationally determined contributions (NDCs), long-term low greenhouse gas emissions development strategy, domestic law, policy or high-level political pledge such as head of state commitment. They represent 89 countries and 75.3 per cent of global greenhouse gas emissions: Climate Watch, 'Net-Zero Tracker' <https://www.climatewatchdata.org/netzero-tracker> accessed 6 February 2023.

[4] An overview of plans to phaseout coal-fired power generation in Europe is available at <https://beyond-coal.eu/europes-coal-exit/> accessed 6 February 2023. This trend is not restricted to EU. For the ban of coal-fired power generation in Alberta (Canada) and related litigation, see *Westmoreland Mining Holdings v Canada*, ICSID Case No UNCT/20/3.

[5] Initially presented in European Commission, The European Green Deal, 11 December 2019, COM(2019) 640 final. Now made legally binding in art 2 of the Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law'), (OJ L 243, 9 July 2021, 1–17).

[6] <https://www.reuters.com/world/china/chinas-overseas-coal-ban-sees-15-projects-cancelled-research-2022-04-22/> accessed 6 February 2023.

[7] <https://theconversation.com/majority-of-australians-in-favour-of-banning-new-coal-mines-lowy-poll-161513> accessed 6 February 2023.

[8] <https://www.euronews.com/green/2021/08/12/the-end-of-fossil-fuels-which-countries-have-banned-exploration-and-extraction> accessed 6 February 2023.

Of course, these countries do not include major producers but serve as an indication of direction the world is moving towards.

Even with the least polluting fossil fuel, natural gas, changes are taking place. European Commission has tabled a legislative proposal for the gas sector that includes a 2049 cut-off date for long-term natural gas agreements.[9] Shipments of carbon-neutral LNG have started to be made across international waters[10] and the first shipments of liquid hydrogen from Australia (2021)[11] and from Brunei (2020, hydrogen converted into methylcyclohexane) to Japan[12] have taken place. A significant wave of investment in replacement fuels for natural gas in the pipeline lies behind these shipments. In this wave, the chief future competitor is clean hydrogen produced either through renewable energy or by using carbon capture mechanisms if the production of hydrogen is linked with emissions. Like other policies globally,[13] already the EU's Green Deal identified clean hydrogen as a priority area in which the EU needs climate and resource frontrunners to develop relevant technologies and commercial applications.[14] More recently, the Russian attack on Ukraine and the REPowerEU[15] plan is providing further impetus for hydrogen and hydrogen trade.

The public sector is supporting this development through regulatory innovations that support increasing production of renewable energy and carbon neutral gases, as well as new policies and regulatory frameworks that restrict international trade in products with high greenhouse gas (GHG) emissions (such as the Carbon Border Adjustment Mechanism (CBAM) and emission trading schemes (ETS) or even restricting or preventing the use of long-term natural gas contracts[16]). Over time, progress in regulating to eliminate these negative externalities will be made and there is little doubt that the era of hydrocarbon fuels is approaching its end. This transformation will not be easy and it will take time.

Significant changes are needed. As illustrated above, the current policy initiatives combined with the scale of ongoing or planned hydrogen projects globally suggest that the gas sector transformation will end with hydrogen replacing natural gas.[17] However, one solution does not fit all, and all solutions have their merits and shortcomings. National and regional solutions will also vary depending on the more general approach to the energy sector transformation and the progress achieved in this respect. In all cases, the transition from natural gas to hydrogen requires that the details of numerous laws are amended. For example, an Australian study has identified over 730 different legislative acts that have an impact on the hydrogen value chain and need to be considered.[18]

This article focuses on long-term natural gas and LNG SPAs. Certain features of the natural gas sector make it an interesting research subject from the perspective of the bi-directional relationship between net-zero plans and private agreements. This will be explained next.

2. WHY FOCUS ON NATURAL GAS AND LNG AGREEMENTS?

This article will focus specifically on private energy contracts used in the natural gas sector—long-term natural gas sale and purchase agreements and LNG supply and purchase agreements (LNG SPA) specifically—and their relationship with the energy transition internationally. Sale and

[9] Proposal for a Directive of the European Parliament and of the Council on common rules for the internal markets in renewable and natural gases and in hydrogen (COM/2021/803 final).

[10] For details, see Jonathan Stern, 'Greenhouse Gas Emissions from LNG Trade: From Carbon Neutral to GHG-verified' OIES Insight no 124, September 2022.

[11] <https://www.dcceew.gov.au/about/news/worlds-first-liquid-hydrogen-shipment-to-set-sail-for-japan> accessed 6 February 2023.

[12] <https://www.chiyodacorp.com/en/media/2020/04/> accessed 6 February 2023.

[13] See, for instance, Cameron Kelly and others (eds), 'The Hydrogen Economy' (2021) *OGEL* 2.

[14] European Commission, The European Green Deal (COM(2019) 640 final, Brussels, 11 December 2019).

[15] REPowerEU Plan (COM(2022) 230 final, Brussels, 18 May 2022).

[16] Proposal for a Directive of the European Parliament and of the Council on common rules for the internal markets in renewable and natural gases and in hydrogen (COM/2021/803 final).

[17] Biogases are unlikely to reach the scale necessary to make a significant contribution to the global energy mix.

[18] <https://energyministers.gov.au/sites/prod.energycouncil/files/publications/documents/nhs-hydrogen-industry-legislation-report-2019.docx> accessed 6 February 2023.

purchase agreements commonly used in the natural gas sector are long-term take-or-pay agreements that lock the parties to the transaction for long periods, ranging often from 10 to 25 years. In order to support project financing necessary for large capital-intensive natural gas projects, these contracts contain restrictive clauses that are designed to ensure stability of supply and demand. Because of such clauses and long durations, these agreements have the effect of locking in the supply of natural gas (pipeline gas or LNG) for significant periods of time, unless both parties agree otherwise, or one party is willing to pay for cancellation of the contract. The lock-in effect becomes a concern when the buyer, transporter or seller are endeavouring or obligated to transition to more sustainable energy supplies. Where a government-mandated change is imposed upon a party to the contract, the likely arguments would circle around legal doctrines such as frustration, force majeure, fait du prince, government compulsion and so on. This question connects with the details of the contracts involved and how change of law risk is allocated.

The acceleration of the transition and the uncertainty this can create make it necessary to adapt these agreements to new realities frequently not contemplated by the contracting parties. There is a clear need to continue the trend towards increasing flexibility for the contracting parties and also a need to better understand the contextual reality and the details of the necessary conceptual changes. This requires constant monitoring and prediction of changes taking place in various jurisdictions.

Another reason for choosing natural gas contracts as the area of study is the importance of natural gas value chains in terms of investment, contracting and market regulation. The natural gas sector can be seen as a closely interlinked value chain that starts from the production of natural gas in the upstream segment of the market, continues to gas transportation in the midstream market and ends in gas utilization in the downstream market. Due to this interlinkage, significant policy and regulatory changes will have an impact across the entire value chain. Traditionally, legal research has focused on the regulation of one market segment (upstream, downstream or midstream) with little consideration of the impact on the overall value chain and on stakeholders in other parts of the value chain. A segmented approach may be suitable for other sectors in which the interlinkages are not as strong but would fail to represent reality in the natural gas sector.

The main emerging competitor for natural gas in terms of international trade is hydrogen. The International Energy Agency (IEA) analysis suggests that for Japan and the EU, for example, importing green hydrogen could be a cost-competitive replacement for domestic hydrogen production as early as 2030, assuming production cost reductions and deployment of import-enabling infrastructure.[19] This suggests that while international trade in hydrogen has already started, it will grow significantly over the coming years.[20] This growth will take place on the back of significant new investments in hydrogen projects globally (significant multi-billion dollar investment projects have already been started in Australia, Asia, Europe, the Middle East, Latin America, the USA, etc.). Given that hydrogen will be extracted, produced, marketed and transported internationally, often onboard specially outfitted marine carriers similar to those used in the transport of LNG, it is likely that the long-term supply and purchase agreements for hydrogen will resemble today's LNG SPAs.[21]

All these factors make the natural gas and LNG-related contracts a good prototypical case study on the bi-directional relationship between the net-zero plans and private agreements. The next section will now examine and discuss the relationship between the energy transition and natural gas contracts at a more detailed level. It will focus on the need to consider details of private agreements, LNG SPAs, in the context of the transition to net-zero. As has been discussed above, the energy transition creates more regulatory compliance and demand-side risk for the existing contractual relationships. At the same time, it also creates new competitive parameters such as low-

[19] IEA, *The Future of Hydrogen – Seizing Today's Opportunities* (IEA June 2019).

[20] IRENA (2022), 'Geopolitics of the Energy Transformation: The Hydrogen Factor' (January 2022) <https://irena.org/publications/2022/Jan/Geopolitics-of-the-Energy-Transformation-Hydrogen> accessed 6 February 2023.

[21] James Atkin, Drake Hernandez and Nicole Cheung, 'Hydrogen Market Development: Lessons from the LNG Sector' (2023) 16(1) Journal of World Energy Law & Business 18–28.

carbon LNG or pipeline gas deliveries. The section will examine three possible future scenarios: (i) Government measures that increase the import price of natural gas, (ii) Government measures that lead to significant reduction of demand for natural gas and (iii) Government measures that ban the imports of natural gas either generally or (as in trade sanction regimes) from certain proscribed supply sources.

Contracts and their details cannot be examined in the abstract but must of course be evaluated in the context of the law applicable to the contract. It is therefore clear that the discussion below is but a general overview of the issues at stake.

3. NET-ZERO AND LNG SPAS: THREE SCENARIOS

Government measures that increase import price

With governments focusing on GHG emissions in their energy and climate policies, the natural gas industry is increasingly exposed to the measures enacted to combat emissions. This is so both in terms of transparency relating to GHG emissions and in terms of pricing of such GHG emissions. Looking at the recent developments and the general net-zero targets of governments, it is easy to predict that the prices, including import costs, of GHG-intensive products will increase and that this will also apply to energy products such as natural gas. While the progress with legislative developments towards this is far from uniform and will vary across the world, this may happen already in short- or mid-term in the EU where there are already developments towards this.

As a part of the 'fit-for-55' package, the European Commission has proposed the establishment of a methane intensity standard for domestically produced and imported fossil fuels, including imported natural gas.[22] The proposed Regulation on methane emission reductions lays down rules for the accurate measurement, reporting and verification of methane emissions in the energy sector in the EU, as well as the abatement of those emissions, including through leak detection and repair surveys and restrictions on venting and flaring. Importantly, the Regulation also lays down rules on tools ensuring transparency of methane emissions from imports of fossil energy into the Union.[23]

The Regulation would apply to all segments of the oil and fossil gas industry from upstream exploration and production, fossil gas gathering and processing to transmission, distribution, underground storage and LNG terminals.[24]

As a part of the same 'fit-for-55' package, the Commission also proposed a Carbon Border Adjustment Mechanism that would impose the EU emission standards on imported products with GHG emissions that are otherwise not internalized in the sales price in the EU area. Although the proposal emphasizes as its objective 'addressing the risk of carbon leakage in order to fight climate change by reducing [greenhouse gas] emissions in the Union and globally',[25] its intention is clearly also to create a level playing field for EU produced and imported products.

While the proposed CBAM does not apply to natural gas imports, it is an example directionally of changes that could be on the horizon for natural gas imports and contains elements that could be included in a future methane standard for imported energy goods, such as natural gas.[26]

In order to respond to this, a number of contractual adaptations are likely to be necessary. These range from turning to carbon-neutral LNG, through carbon offsets or carbon capture, utilization and storage (CCUS) to destination flexibility allowing the buyer to redirect the cargo to

[22] Proposal for a Regulation of the European Parliament and of the Council on Methane Emissions Reduction in the Energy Sector and amending Regulation (EU) 2019/942, COM (2021) 805 final, Brussels, 15 December 2021.

[23] art 1 of the Regulation on methane emission reductions.

[24] art 1 of the Regulation on methane emission reductions. Creation of accurate data on the emissions throughout the natural gas supply chain is far from simple as it requires monitoring of upstream production which may take place offshore as well as detection of leakage through a pipeline system, not a single pipeline. See Jonathan Stern, 'Measurement, Reporting, and Verification of Methane Emissions from Natural Gas and LNG Trade: Creating Transparent and Credible Frameworks' (January 2022, OIES Paper ET06).

[25] European Commission, 'Proposal for a Regulation of the European Parliament and of the Council Establishing a Carbon Border Adjustment Mechanism' COM(2021) 564 final, 14 July 2021, 15 (CBAM Regulation) For discussion, see for instance, Ilaria Espa, Joseph Francois and Harro van Asselt; 'The EU Proposal for a Carbon Border Adjustment Mechanism (CBAM): An Analysis under WTO and Climate Change Law' (2022) OGEL 1.

[26] Stern (n 24) 12.

other markets as well as pricing of LNG. These will be discussed next. In addition, this section will briefly touch on the role of hardship provisions.

Carbon-neutral LNG and related uncertainties

Carbon-neutral LNG refers to LNG where the GHG emissions have been reduced using a range of methods, including CCUS or carbon offsets for emissions that cannot be otherwise eliminated. In all cases, the intention is to reduce the harmful effects of methane emissions either from a specific part of the natural gas value chain or throughout the entire chain. While many US-based export projects are looking into CCUS to cut the carbon footprint of their LNG, CCUS has been slow to develop and most carbon-neutral cargos are based on carbon offsets.[27]

In July 2022, there were reports of around 50 carbon-neutral cargoes being contracted for, with most of the trades taking place in Japan and China.[28] While the Russian attack on Ukraine and the scramble for available natural gas and increased spot prices, and term contracts with price linkage to spot prices, has meant that the question of GHG emissions is now in many cases less of a consideration for the buyers than overall security of supply, the trend is likely to continue when the markets become more balanced and prices normalize.[29]

While the concept of carbon-neutral LNG today relates primarily to spot transactions involving a cargo of LNG, it is likely to become increasingly relevant in the context of long-term contracts. These are two very different types of transaction, as a spot or single-cargo transaction does not require clarity over time of price, minimum volumes, contract stabilization and other factors in the long term. However, in both cases, it is crucial to clarify the impact of emissions transparency, reductions, and offsets on the rights and obligations of the contractual parties.

There also may be a need to have more specific remedies for breach of representations as to carbon content that does not necessitate termination of a long-term supply contract, which shifts the ultimate benefit of the bargain on the purchaser in terms of security of supply. Should such breaches give rise to reformation or termination or trigger a price renegotiation or redetermination provision, or should they give rise to indemnities by the supplier for failure to accurately disclose the carbon content of the commodity being delivered (ie, a damage recovery versus a loss of the contract).

Key requirements in contracts relating to carbon-neutral LNG (or for that matter pipeline natural gas[30]) are the clarity of the GHG definition and accounting criteria,[31] pricing (especially in long-term contracts), representations, warranties, covenants and indemnifications regarding GHG emissions and management as well as the overall liability and remedy regime. In terms of the possible liability and remedy regime, where the carbon intensity of LNG (or pipeline gas) would become part of the specification of the product, the remedy regime could be linked to the costs incurred by the buyer if the product does not meet the quoted 'green' specification.

Before there is a global industry or governmental agreement on standards for definitions and accounting is in place, GHG mitigation agreements between parties are bound to be quite general and open-ended in some respects. This means that parties will need to find ways to protect themselves contractually in light of likely future regulatory developments in this area.

Destination flexibility to enable diversion

Historically many natural gas contracts, both pipeline gas and LNG, included destination clauses that prevented the buyer from diverting gas volumes or a cargo to any destination (or terminal)

[27] James Atkin and others, 'Greenhouse Gas (GHG) Neutral LNG, An Essential Evolution' (2022) OGEL 4.

[28] Stern (n 10). An explanation for the lack of interest from the European buyers could be the fact that the gas delivered and used in Europe is in any case subject to the EU ETS scheme.

[29] At the time of writing, the spot prices for LNG were down to low levels compared to 2022. However, the winter 2023–2024 may see a rise again, especially if Russian gas flows to the EU are further reduced or eliminated.

[30] Carbon-neutral pipeline gas may refer to carbon-neutrality in relation to their operational emissions. For an example, see <https://www.eenews.net/articles/pipeline-goes-co2-neutral-innovative-or-green-washing/> accessed 6 February 2023.

[31] See, for instance, GIIGNL MRV and GHG Neutral Framework https://giignl.org/framework/; SGE, *The SGE Methodology: GHG Methodology for Delivered LNG Cargoes*, 1st ed. (*Pavilion Energy*, 2021). There are reports that this framework has been used for carbon-neutral LNG cargoes. See eg, <https://www.naturalgasintel.com/shell-delivers-first-carbon-neutral-lng-cargo-to-taiwan-under-international-framework/> accessed 6 February 2023.

other than the original contractual destination (or terminal). Other similar clauses used in both historical contracts and more recent contracts would include other types of restriction, such as consent clauses, requiring the consent of the seller prior to any diversion and profit-sharing clauses, enabling the seller to participate in any additional net profit generated by the buyer at the new destination.

While these clauses still appear in LNG and natural gas contracts across the world, the trend has been towards increased destination flexibility. The entry of the US LNG sellers to the international markets have been particularly important in this respect, as US-based LNG is mostly shipped on FOB bases and comes with full destination flexibility.

In addition to strong buyer preference, this trend is also partially driven by antitrust considerations. With increasing LNG trade and growing liquidity of international LNG markets such traditional clauses have in many cases been viewed as anticompetitive and have the potential to violate various national or regional antitrust laws. Both the European Commission and Japanese antitrust authorities have already restricted the use of these type of contractual clauses that limit the buyer's ability to divert natural gas to other locations. EU competition law investigations focusing on various pipeline and LNG contracts and practices in the early and mid-2000s[32] and the more recent antitrust report by the Japan Fair Trade Commission (JFTC) in 2017[33] focusing on international LNG trade have reached partially similar negative conclusions on the antitrust compatibility of various diversion-related restrictions. While the concerns of the EU Commission were primarily related to the liquidity of the EU internal gas markets and while the JFTC focused on free trade in LNG and liquidity of international LNG markets, it is possible to see common elements and common concerns.[34]

Given the clear risk of regulatory changes such as Carbon Border Adjustment Mechanisms or changes in a given destination that cause even more profound limitations on a party's ability to import (or export) carbon-intensive energy products, the buyer-side destination flexibility is pertinent. In the event that the buyer cannot import the contractual gas volumes under conditions that make economic sense, they have to be able to redirect gas volumes to markets where the conditions are better. As the energy transition is happening at different speeds in different jurisdictions, diversion to other markets may prove to be meaningful and significant. This is supported by today's practices relating to pipeline gas and LNG cargoes, which are moving towards more and more destination flexibility.

Pricing of natural gas to include the price of sustainability

There is neither universal natural gas pricing model nor a universal agreement on key commercial terms. While oil price indexation is still widely used, other reference points, such as coal[35] and Henry Hub or other gas trading hubs (physical and futures), have been developed based on conditions in specific markets. UK NBP, the Dutch TTF are just a few examples, and despite the fact that they comprise a very small fraction of the global gas market, these and other even smaller hubs are used as key indicators of gas prices in much wider regions, sometimes with tenuous linkages.

While there is movement towards more gas market-specific pricing, these gas price reference points do not take into account carbon emission reductions, which are becoming an increasingly

[32] An overview of these cases is provided in Kim Talus, 'Long-term Natural Gas Contracts and Antitrust Law in the European Union and the United States' (2011) 4(3) Journal of World Energy Law and Business 1. For an analysis of destination clauses in LNG contracts under EU competition law, see: Eleonora Wäktare, 'Territorial Restrictions and Profit Sharing Mechanisms in the Gas Sector: The Algerian Case' (2007) 3 Competition Policy Newsletter 19 and Harold Nyssen and Iain Osborne, 'Profit splitting Mechanism in a Liberalised Gas Market: The Devil Lies in the Detail' (2005) 1 Competition Policy Newsletter 25.

[33] <https://www.jftc.go.jp/en/pressreleases/yearly-2017/June/170628.html> accessed 6 February 2023.

[34] EU and the Japanese government also initiated a working group for the creation of an antitrust-compliant model diversion clause. See Kim Talus; 'Contribution of Law and Lawyers to LNG Market Developments: Model Diversion Clause for LNG Sale and Purchase Contracts' (2018) OGEL 4.

[35] Yuka Obayashi and Jessica Jaganathan, 'Tokyo Gas, Shell Sign LNG Deal Linked to Coal Pricing in Rare Move' (*Reuters*, 5 April 2019) ('As far as Tokyo Gas and Shell know, this is the first time a pricing formula linked with a coal index has been used with LNG contracts.'). Also referred to and explained in Steven Finizio, John Trenor and Jared Tan, 'Trends in LNG Supply Contracts and Pricing Disputes in the Asia Pacific Region' (2020) OGEL 3.

important factor in the international trade for natural gas. In order for the market for carbon-neutral LNG to grow, it is necessary to include climate considerations into the pricing mix for LNG.[36] This may require that the price formula under the contract for natural gas and LNG include a new price element reflecting a discreet price element for carbon content or carbon neutrality.

Issues around the pricing of carbon-neutral LNG differ depending on whether the reference is to a single cargo, where the price of carbon-neutrality is negotiated separately for each cargo, or whether pricing is intended to be part of a long-term contract. In this second case, the clarity of the contract price and the development of that price are central for both parties. Here, the long-term price of the offsets becomes important. In such contracts, the price could be based on costs (similar to shipping costs of LNG) or value (price of a traded carbon credit) of the offset. In both cases, there are challenges that need to be overcome.[37]

In addition to incorporating carbon neutrality into the price formula, there may be a need to ensure that changes in prices attributable to carbon neutrality are adequately considered and reflected in the price review and adjustment provisions of long-term supply and purchase agreements, both in terms of impact on price and frequency of the price review.

The role of force majeure and hardship provisions

In most basic terms, a force majeure clause can be general and open-ended or it can include specific items. Typically, a force majeure clause will refer to 'acts of god', such as earthquakes, hurricanes or other events. In order to qualify, events must be unforeseeable and unavoidable, must make performance impossible and must be beyond the control of the party requesting relief based on force majeure. The burden of proof is on the party claiming relief that it is unable to perform its contractual obligations. If successfully invoked, force majeure excuses the non-performance of the contractual obligations by the claiming party that is precluded from performance by force majeure, subject to the general obligation on both parties to reasonably mitigate damages to the extent possible.

Force majeure relief would not easily be available in circumstances where costs merely rise due to government measures[38] as the buyer would have to show that import price increases lead to the actual inability to both take and pay. Given that a force majeure clause is not intended to buffer a party against the normal risks of a contract,[39] changes in prices are often not seen as a force majeure event and the requirement on the inability to pay has typically been applied restrictively.[40] In addition to this, force majeure would require that the event was not reasonably foreseeable by the party claiming force majeure, which in the case of carbon content restrictions would arguably be increasingly difficult since the development of more and more stringent and intrusive emission-related regulation has been in progress over the last two decades.

However, unlike a standard force majeure provision, where the contracting parties have included a hardship provision in their contract, the provision would be applicable in a situation where one of the parties to the agreement cannot perform without substantial economic hardship (or similar qualitative or quantitative test) due to unforeseen circumstances.[41] This new level of relief can be provided for, if included specifically, but would make the relief requested different from that sought in a more traditional force majeure clause. In a way, it could provide for an array of new remedies that provide a safety net for the contracting parties and allow for renegotiation of the

[36] Peter Roberts, 'tCO_2e—A New Pricing Model for LNG?' (2020) 13(1) Journal of World Energy Law & Business 83.
[37] Luis Agosti and Boaz Moselle, 'Carbon Neutral LNG: Price and Prejudice' (2022) OGEL 4.
[38] Boute (n 2).
[39] *N Indiana Pub Serv Co v Carbon Cty Coal Co*, 799 F2d 265, 275 (7th Cir 1986).
[40] See, for US courts, *Drummond Coal Sales, Inc v Norfolk S Ry Co*, 2018 US Dist LEXIS 143047 (WD Va 22 August 2018). *International Minerals and Chemical Corp v Llano, Inc*, 770 F2d 879, 886 (10th Cir 1985). See, however, *Sabine Corp v ONG Western, Inc*, 725 F Supp 1157 (WD Okla 1989). In this case, the court noted that inability to pay could in some circumstances amount to force majeure but even in this case, the ability to take only at an economic loss did not amount to force majeure.
[41] Paul Griffin, *Liquefied Natural Gas* (3rd edn, Globe Law and Business 2017) 96. This was clearly suggested in *United States v Panhandle E Corp*, 693 F Supp 88, 92 (D Del 1988), aff'd, 868 F2d 1363 (3d Cir 1989). Similarly, this approach is reflected in *Total Direct Energie SA and Association Française Indépendente de l'Electricité et du Gaz v Electricité de France SA, Tribunal de Commerce de Paris, 20 mai 2020, case no 2020016407.*

agreement where unforeseen circumstances change the economic equilibrium established by the original agreement. This may, for example, lead to contract termination or contract adaptation as traditionally adheres to an event of force majeure, but may also lead to price review and price adjustment as more conventionally adhere to other types of hardship clauses or to a claim for contractual reformation based on an alleged 'unforeseen circumstance' of 'economic disequilibrium' under the contract law in many civil law jurisdictions.[42]

One of the main questions in relation to a hardship provision is the unforeseeability or the inability to reasonably foresee climate-related rules and their potential impacts. Even with existing long-term agreements, the party relying on a hardship provision would find it difficult to show that it was not foreseeable that governments around the world could be enacting more and more stringent requirements relating to GHG emissions. Instead of relying on a general hardship provision, parties should introduce specific wording in the clause or create a separate dedicated climate change/emission reduction-related provision.

Significant demand reduction for natural gas

As governments are creating policies and laws that aim at a transition, IEA predicts that the demand for natural gas will decline significantly as the world moves towards net-zero, declining 55 per cent by 2050 (from 2021 levels) in the net-zero scenario.[43] This will likely have a significant impact on long-term natural gas contracts. Generally speaking, it seems logical that the further the transition moves and accelerates, the shorter the contract term will be. From a buyer's perspective, there would be a naturally increased hesitation to enter into long-term contracts with traditional terms and conditions. This would not only be true where these contractual models have an end date, like the current EU Commission proposal,[44] making long-term contracts impossible to sign, but also simply because of the increased uncertainty and shorter time horizons within the oil and gas industry. From the seller's perspective, this might mean we will see shorter cycle projects that aim to capitalize on the investment much faster than in traditional oil and gas investments today. This may mean smaller scale infrastructure investments.

As if the transition to net-zero would not be complicated enough, the Russian attack on Ukraine has further complicated the picture. As the IEA has highlighted, 'a key dilemma for investors considering large, capital-intensive LNG projects: how to reconcile strong near-term demand growth with uncertain but possibly declining longer term demand'.[45] New LNG projects, as well as significant investments in other parts of the natural gas supply chain, require(s) significant long-term capital investments. These investments have typically been facilitated through long-term firm take-or-pay agreements. Such long-term commitments from European buyers may not be easily compatible with the 2050 net-zero target, which would require reducing or eliminating natural gas from the portfolios of European buyers.

Next sections will examine and explain specific contractual clauses and examine their relationship with a future demand reduction in the buyer's market. From this perspective, key clauses appear to be those relating to contract volumes, take-or-pay, force majeure and hardship. In addition, the section will discuss the impact of frustration under the laws of New York.

Accelerating transition and contract volumes and take-or-pay

Globally, most large natural gas and LNG projects are financed on, or economically dependent on, the existence of long-term offtake contracts with creditworthy counterparties containing take-or-

[42] 'ICC Force Majeure and Hardship Clauses 2020' <https://iccwbo.org/publication/icc-force-majeure-and-hardship-clauses/> This clause is not widely used in gas supply agreements but provides nevertheless an example of how such a clause may be formulated and operated. (Peter Roberts, *Gas and LNG Sales and Transportation Agreements: Principles and Practice* (5th edn, Sweet & Maxwell 2017) 119.)

[43] <https://www.iea.org/reports/net-zero-by-2050> accessed 6 February 2023.

[44] Proposal for a Directive of the European Parliament and of the Council on common rules for the internal markets in renewable and natural gases and in hydrogen (COM/2021/803 final).

[45] IEA, *World Energy Outlook 2022* (IEA 2022) 366. Discussion on the role of long-term take-or-pay contracts, Kim Talus, Scott Looper and Luke Burns, 'Long-term Take-or-pay Agreements in Natural Gas: Past, Present and Future' (2020) *Oil, Gas and Energy Law (OGEL)* 3.

pay provisions. At a global level, the market share of natural gas offtake contracts of a duration of over 10 years is approximately 75 per cent.[46] Even in the USA, where long-term contracts largely disappeared following the 'take-or-pay' wars of the 1980s,[47] these types of contracts have reappeared and remained a constant for LNG export projects. In essence, these contracts provide the backbone for equity and project financing structures in projects with high capital costs and long payback periods where financing is tied solely to future project revenues because the promise of de-risked long-term revenues on the basis of such take-or-pay provisions provides necessary comfort to investors in the absence of a liquid LNG market downstream of the project. The take-or-pay provisions in these long-term contracts are intended to mitigate pricing and demand volatility as well as other market risks by setting a 'floor'—both in terms of prices and volumes—for the offtake of product (whether gas or LNG) by the counterparty-customer.

While take-or-pay clauses are typically not absolute and may include flexibility mechanisms that allow the buyer to adjust the contracted volume or quantity downward over time, future demand reductions place an emphasis on volume flexibilities under long-term contracts.

Similarly, contract durations continue to be an important hedging tool for buyers. Already in today's natural gas and LNG markets, the contract durations on long-term offtake contracts have dropped from 20–25 years to 10–15 years[48] and this trend is likely to continue with the move towards net-zero.

From the seller's perspective, it is arguable that as long as markets remain liquid and resembling other commodity markets, there should be less need economically for take-or-pay contracts. A more liquid market should mean that the seller can have more confidence in its ability to sell its product at a prevailing international market price. However, when demand starts to decline, the situation changes. Downward demand generally puts pressure on sellers to find alternative ways to finance their investments.

Destination flexibility

As a rule, demand-side reductions will not affect all markets for natural gas and LNG in the same way and to the same extent. Instead, regional markets in which the energy transition is moving more rapidly, such as the EU, will be affected first, while those markets where the transition is more gradual will remain more static and predictable. This means that gas volumes contracted into Europe will be diverted to other markets and this again puts the spotlight on destination flexibility, addressed above.

In this situation, the ability of the buyer to redirect the cargo to alternative markets without a restrictive diversion clause preventing this becomes important. The current dichotomy between cargoes subject to FOB/DES conditions[49] should be reconsidered in the light of the energy transition. Without wide diversion rights, the buyer's options are more restricted and other contractual clauses like take-or-pay, force majeure and hardship clauses become important. These will be discussed next.

[46] GIIGNL Annual Report 2020, 7. See also International Gas Union, 2020 World LNG Report, 27 ('Out of the 362 MTPA sold through SPAs during the past 10 years, 271 MTPA [75%] was sold with a contract duration of more than 10 years.').

[47] Kim Talus, 'Long-term Natural Gas Contracts and Antitrust Law in the European Union and the United States' (2011) 4(3) Journal of World Energy Law and Business 1.

[48] See eg, <https://www.spglobal.com/platts/plattscontent/_assets/_files/en/specialreports/lng/lng-market-new-horizons-report.pdf> (accessed 6 February 2023).

[49] Under a FOB contract, the seller delivers when the goods are loaded into the ship at the named port of shipment. The title and risk relating to the cargo is transferred to the buyer at that moment and the buyer has to bear all costs and risks of loss of or damage to the goods from that point. Under a DES contract, the seller delivers the contract goods when goods are placed at the disposal of the buyer on board at the named port of destination. In LNG trading that would be when the LNG is delivered into a tank at the unloading terminal. The seller has to bear all the costs and risks to the goods until that point. It appears that under the guidance from the European Commission and the Japanese JTFC, a diversion restriction or profit-sharing clause used in a FOB contract is always prohibited under antitrust law. A profit-sharing mechanism under a DES cargo is allowed under the EU Commission guidance. It is also prohibited under the JTFC guidance unless its objective is to account for additional unquantifiable costs and risks taken by the seller.

The role of force majeure and hardship

Demand reductions and the connected price fluctuations are common in international energy markets. Because of the foreseeability of such fluctuations, parties to the contract include flexibility in the take-or-pay provision. For the event of demand reduction in the buyers' market, the contract will allow for reduction in buyers' annual contract quantities. However, this provision is not suitable for addressing a permanent and significant demand reduction. One of the relevant questions in this situation would be the recourse to force majeure provisions in the natural gas or LNG SPA.

In his study on force majeure and energy contracts, Boute convincingly concludes that standard contractual force majeure relief is not often available for a simple demand reduction that follows increasingly stringent environmental and emission standards. He shows how the international case law is based on a strict interpretation of force majeure and the buyer would have to show an actual inability to both take and pay.[50] There are some examples in international case law where significant demand reduction has qualified as a force majeure event, but these instances must be considered in the context of the specific wording of the force majeure clause.[51]

Generally speaking, in order to provide contractual relief, the force majeure provision needs to include 'economic hardship' or similar wording. Today, energy contracts often exclude these types of considerations as events of 'force majeure'.[52] Some of the impacts of this type of inclusion of economic hardship in the force majeure clause or as a separate provision has been discussed above.

In addition to specific contractual provision, the impact of various contract law doctrines is also of significance. The next section will provide an example of these and discuss the applicability of frustration in a demand reduction scenario. As the application of the frustration doctrine will depend on the applicable law, this section will take the laws of New York as an example. New York law is frequently selected as the applicable law in LNG SPAs and energy contracts more generally.

Frustration (under New York law)

Under New York law, which is frequently used as the applicable law in LNG SPAs, frustration is triggered where there is: (i) a contingency; ie something unanticipated, unforeseeable or unexpected, has occurred; (ii) the risk of the unexpected occurrence has not been allocated between the parties by agreement or otherwise; and (iii) each party can perform the contract but, as a result of the unforeseeable events, performance by one party would no longer give the other party what induced him to make the bargain in the first place. The frustrated party may rescind or be relieved from performance of the contract.[53] Thus, the application of the doctrine of frustration of performance generally involves contractual relief, not contractual reformation.

Change of circumstances may be a relevant and successful argument under New York law and a significant demand reduction may frustrate the contract between the parties and provide relief. An example of this is *Gulf LNG Energy, LLC v Eni USA Gas Mktg* where the issue was the impact of the US shale gas revolution on contracts relating to LNG import terminals. In that case, the arbitral tribunal applying the laws of New York agreed with the claimant that the US shale gas revolution was an unforeseen event that caused a radical change in the US natural gas markets and that made imports of LNG to the US gas market uneconomical. The tribunal held that these changes had substantially frustrated the contract between the parties for the construction of an LNG import terminal in Mississippi and because of this it declared that the contract had been terminated.[54] However, it should be noted that the impact of the shale gas revolution on

[50] Boute (n 2) .

[51] *Kodiak 1981 Drilling P'ship v Delhi Gas Pipeline Corp*, 736 SW2d 715, 724 (Tex. App. 1987), writ refused NRE (7 October 1987). In this case, the force majeure event specifically included demand reduction: 'The term "force majeure" as employed in this agreement shall mean . . . partial or entire failure to gas supply or market or any other cause, whether of the kind herein enumerated or otherwise [. . .]'. See also, *Total Direct Energie SA and Association Française Indépendente de l'Electricité et du Gaz v Electricité de France SA, Tribunal de Commerce de Paris, 20 mai 2020, case no 2020016407.*

[52] Boute (n 2).

[53] *New York State Elec & Gas Corp v Saranac Power Partners LP*, 117 F.Supp.2d 211, 253 (N.D.N.Y. 2000).

[54] The culmination of years of litigation came in 2020 in Gulf LNG Energy LLC and *Gulf LNG Pipeline LLC v ENI USA Gas Marketing LLC* – Supreme Court of the State of Delaware Case No 2019-0460 – 17 November 2020.

the US natural gas import market was not just a demand reduction, but one that was so significant that it made imports completely uneconomical and in practice impossible for the foreseeable future.

Similarly, impossibility to perform was also required under New York law in relation to coronavirus disease 2019 (Covid-19) pandemic-related cases. In a recent case relating to frustration of the purpose of a lease agreement for the operation of a nightclub in the context of the Covid-19 pandemic, the Court in New York accepted frustration and impossibility of performance due to the pandemic and the Governor's executive orders as grounds for exculpation or relief under the lease.[55] In this case, the premises were leased for the sole purpose of operating a nightclub. In another Covid-19-related case the argument on frustration and impossibility was not accepted as the purpose of the lease agreement for a certain luxury boutique was not completely thwarted by the Covid-19 pandemic. In this case, the boutique had operated curbside retail business during the pandemic and the purpose of the agreement was therefore not completely frustrated.[56] The doctrine is not available where the purpose of the transaction is not completely frustrated but simply makes it less profitable or entails losses to one party.[57] By analogy, a party to a gas or LNG sale and purchase contract facing similar frustration and impossibility would not easily be able to find relief under the doctrine. Relevant issues to consider would include the magnitude of the impact, remaining commercial possibilities, possible ability to mitigate and, of course, foreseeability.

Based on this cursory overview of cases, it could be argued that a simple demand reduction is not enough to allow the importer to rely on the frustration doctrine to invalidate its import agreement, even under the laws of New York.[58] Only a radical change in the markets making the activity impossible in practice, would meet the relatively high threshold reflected in these cases.

Government measures that prevent imports

Finally, there is of course the ultimate option that governments would ban imports of natural gas completely. In addition to the contractual issues discussed in this article, this would of course raise significant questions in relation to the international (investment) law obligations of States.

Where a government measure completely bans the imports of certain products or as in the imposition of trade sanctions the importation of products from a particular source subjected to the sanction, force majeure relief or other forms of exculpation based on other legal theories may be available. In the context of force majeure, this would require that the measure clearly prohibits an act that proximately causes the non-performance or breach of a contract[59] and that it is the sole cause for non-performance.[60] This relief is of course to a certain extent connected to the wording of the force majeure clause and is more easily available where government action or regulatory decisions are among specific factors that have been included in a list of force majeure events in the contract.

There are at least two questions that a claim for force majeure relief and a government ban on natural gas imports might well raise. One would be whether the affected party has the obligation to take reasonable measures to mitigate the situation as a condition of taking advantage of force majeure under the contract. It could of course (depending on the wording of the ban in question) be possible for a buyer to take delivery without actually importing into the proscribed country, and to then sell the product to another location or free market not similarly restricted (ie, by either redirecting the cargo or reloading the cargo). A government ban on imports of fossil fuels would not take place uniformly across the world and markets open for deliveries would therefore

[55] *877 Webster Ave Inc v Tremont Ctr LLC*, 2021 N.Y. Slip Op. 21113 (Sup. Ct., Bronx County 29 March 2021).
[56] *Valentino USA Inc v 693 Fifth Owner LLC*, 2022 N.Y. Slip Op. 01431 (1st Dept. 8 March 2022).
[57] *Rockland Development Associates v Richlou Auto Body*, 173 A.D.2d 690, 691 (2d Dept. 1991).
[58] Michael Polkinghorne offers a large number of examples drawn from civil law countries where the law allows for contracts to be altered by the courts in the event of unforeseen circumstances. Michael Polkinghorne, 'Changes of Circumstances as a Price Modifier' in James Freeman and Mark Levy (eds), *Gas Price Arbitrations: A Practical Handbook* (2nd edn, Globe Law and Business 2020).
[59] *N Illinois Gas Co v Energy Co-op Inc* 122 Ill App. 3d 940, 951 (1984).
[60] *Seadrill Ghana Operations Limited v Tullow Ghana Limited* [2018] EWHC 1640 (Comm).

continue to exist. In such a situation it would of course be beneficial for both parties to agree on adjustments and changes to the original contract and avoid protracted litigation, but the ability to partially perform (without importing proscribed products) would need to be considered.[61]

Another significant question might be how the status of either party as a state-owned entity might play a role in the possible dispute that could arise. Here, one question might be whether a state-owned entity is an integral part of the state and/or could thus influence a state decision on compliance with the contract terms in a manner that is different from other market players, or whether it is genuinely an independent market player, comparable to other independent companies.[62] Events within the control of the affected party do not usually qualify as force majeure events.[63] A situation where a state-owned entity has itself committed to emission reductions is of course a separate situation and may or may not be related to state level commitments and efforts.

The AIEN model joint operating agreement 2023 has a provision that deals with the situation where one of the parties is state-owned or controlled:

> a change of Laws shall not constitute Force Majeure in respect of a Party owned or Controlled by a government unless such change in Laws affects all Parties equally. Further, where a Party owned or Controlled by a government is prevented from performing any obligations under this Agreement due to an action or inaction of that government, then such action or inaction of that government will not constitute Force Majeure for such Party unless such action or inaction by that government is of universal application to all Parties.

For this model clause, one needs to keep in mind that it is designed for joint operations of several investors. Nevertheless, it shows how state ownership or control is treated as a specific situation under a force majeure clause.

In addition to these questions, the foreseeability of an import ban is a factor that would play an important role for the party claiming force majeure. In order to tackle this, a separate change of laws provision could prove to be a more certain alternative.

One possible future challenge may be government-mandated changes in the infrastructure utilization, ranging, for example, from mandatory hydrogen mix for natural gas pipelines or LNG import projects to a full retrofit obligation (from natural gas to hydrogen) imposed on pipeline or LNG import terminal operators.[64] Current agreements do not typically foresee this type of risks, and proactive steps should be taken to ensure that such risks are allocated under long-term agreements.

[61] Because natural gas contracts are long-term contracts that lock parties into long-term relationships, the research will draw on theories of relational contracting. This appears particularly promising as the sustainable energy transition will impact both parties to contracts. In this situation, renegotiation and modifications to the traditional contractual models are beneficial for both parties and will lead to a more optimal solutions and commercial deals. This relational aspect should be further examined against the relevant case law based on the applicable law. There are a number of cases that deal with relational contracting in England and Wales (*MRI Trading AG v Erdenet Mining Corporation LLC* [2013] EWCA Civ 156; *Yam Send PTE v International Trade Corp* [2013] EWHC 111; *Globe Motors Inc v TRW LucasVarity Electric Steering Ltd* [2016] EWCA Civ 396.), Singapore (*HSBC Institutional Trust Services (Singapore) Ltd (trustee of Starhill Global Real Estate Investment Trust) v Toshin Development Singapore Pte Ltd* [2012] SGCA 48) and New York (*Price v Cushman & Wakefield Inc*, 808 F.Supp.2d 670, 704 (S.D.N.Y. 2011); *L-7 Designs Inc v Old Navy, LLC*, 964 F.Supp.2d 299, 314–15 (S.D.N.Y. 2013)). This of course does not mean that a party can unilaterally cause a change into the agreed risk allocation.

[62] Griffin (n 41) 318. See for instance, *Karaha Bodas Company LLC v Perusahaan Pertambangan Minyak Dan Gas Bumi Negara ('Pertamina') and PT.PLN (Persero) ('PLN')*, Final Award, 18 December 2000 or *Mamidoil-Jetoil Greek Petroleum Co SA v Okta Crude Oil Refinery AD*, [2003] EWCA Civ 1031.

[63] Roberts (n 42) 313. On the impact of state ownership, see Boute (n 2).

[64] For instance, EU Taxonomy Regulation (Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088, OJ L 198, 22 June 2020, 13) and related Screening Regulation (Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities (*OJ* L 188, 15 July 2022, 1–45)) provide that for natural gas-fired powerplants to be considered as 'sustainable' the new facilities have to integrate a rapid conversion towards renewables with a clear commitment for a full switch to renewables by 2035.

4. CONCLUSION—TOWARDS ENERGY TRANSITION MODEL CLAUSES

The world is rapidly moving towards a net-zero world. The situation is complicated for the oil and gas industry. Despite the transition and the need to move away from fossil fuels at both state and investor levels, the global economy still depends on the supply of these products and on the private sector to make the necessary investments. However, this article has shown that the reliance on traditional take-or-pay contracts to unlock investments and the inherent rigidity and lock-in effect of such contracts have become much more difficult, and parties are hesitant to enter into such contracts given the surrounding uncertainty. Therefore, there is an urgent need to rethink investment-related contracts and their details.[65]

It is now foreseeable that climate change-related changes in laws will take place and the contractual parties will need to address this. For new contracts, the inclusion of an explicit provision allocating risk for changes in climate or environmental laws can be done proactively but for existing contracts, this will be more complicated and will require a careful analysis on how the risk of new climate change regulations will be allocated under the applicable law. An example of international efforts towards this is the cooperation between the International Bar Association (IBA) Section for Energy, Environment, Natural Resources and Infrastructure Law Section (SEERIL) and the Association of International Energy Negotiators (AIEN), which aims at developing 'standard contractual provisions the oil and gas industry can rely on to implement their emissions reductions and decarbonization goals and that will help enable an energy transition that is timely, just, sustainable, and efficient.'[66]

While these model clauses are intended for general use in a range of agreements and may not be entirely fit for long-term natural gas and LNG agreements, the intention is to fill the gap and provide a model that balances the industry and public needs. As such, they may provide a starting point for contractual negotiations also in the context of long-term natural gas and LNG SPAs.

[65] Talus, Looper and Burns (n 45).

[66] Andrea Forabosco and others, 'The Future is Form: AIEN and IBA Launch Joint Collaboration on New Model Clauses for a Successful Energy Transition' <https://www.ibanet.org/document?id=Megastand-brochure-IBA-Oil-and-gas> accessed 12 May 2023.