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The Interplay of Force Majeure and Change of Circumstances with Dispute Resolution Clauses in Modern Long-term LNG Contracts - What Role for A Price Review Clause?

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The Interplay of *Force Majeure* and Change of Circumstances with Dispute Resolution Clauses in Modern Long-term LNG Contracts – What Role for A Price Review Clause?

Konstantin Christie & Esra Ogut[*]

Executive Summary

This following article introduces the recent developments in the global LNG trade, as relating in particular, to the structure of long-term LNG supply contracts and price formation in different geographic regions. After outlining the most salient clauses of a long-term LNG supply contract, the authors provide an analysis of several ways by which parties to such contracts anticipate and confront some of the risks associated with contracts for the sale and purchase of LNG, based on the price review clause mechanisms and contractual and statutory concepts of force majeure/change of circumstances. The article then scrutinizes these mechanisms and concludes with certain practical considerations for negotiators of such contracts from the perspective of the authors' disputes resolution practice.

I. Introduction

Natural gas in its liquefied form (LNG) can be shipped over long distances, bringing production from remote gas reserves to markets that are not reachable by pipelines. Over the past decades, there has been substantial growth in the use of LNG. In comparison with pipeline gas, LNG is typically transported over longer distances, sometimes across oceans.

The transportation of natural gas in its liquid form requires its cooling at approximately minus 160-161 degrees centigrade, which reduces its volume. While technologically complex and requiring substantial investment into liquefaction facilities, this also creates a greater flexibility in transporting the gas independent of pipelines by specialized tanks on vessels. In the liquid state, the gas is loaded onto specialized vessels at the receiving port, where the LNG is off-loaded into well-insulated storage tanks.[1] Upon delivery at the designated terminal, regasification converts the LNG back into its gaseous form, and then the gas enters the pipeline or other transportation system for ultimate delivery to the end-user.[2] Thus, unlike conventional gas delivered through pipelines, it is possible to direct the deliveries of LNG around the world in response to changing supply and demand conditions.

The latest report of the International Gas Union (IGU) highlights these dynamics in the global LNG industry – with significant growth in LNG supply projects, as well as increases in demand for LNG as a fuel from new and existing markets across the globe.[3] It also underlines

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[1] David E. Harrell, Jr., Derrick B. Carson and A. R. Robertson, "International Arbitration of LNG Disputes" in the Leading Practitioners' Guide to International Oil & Gas Arbitration, ed. James M. Gaitis, August 2015, p. 605.

[2] *Ibid*.

[3] IGU World LNG Report – 2017 Edition, available at http://www.igu.org/sites/default/files/103419-World_IGU_Report_no%20crops.pdf

the increased use of short term LNG contracts (defined as volumes traded under agreements of less than two years) tied to spot market prices.[4]

In 2016, global LNG trade volume reached a new record of 258 million tonnes (MT) – an increase of 5% from 2015, making it as the largest year for LNG trade. The most pronounced increase in demand comes from Asian markets, with China's LNG consumption increasing dramatically by roughly 35% to 27 million tonnes per annum (MTPA). On the other hand, Japan, one of the world's largest markets, shows "signs of satiation" today because of a shift to nuclear restarts and more renewable energy added to the grid.[5]

Alongside all these developments, the number and volume of the LNG projects kept increasing over the last decade and is set to continue in the next. Thus, in 2016, the first shipments from the US Sabine Pass LNG facility were made, mostly to Asian Pacific, and in April 2017, the Alaska Gasline Development Corporation announced its intention to file for permission from the Federal Energy Regulatory Commission to develop a massive pipeline and natural gas liquefaction project that would commercialize Alaska's stranded North Slope gas reserves, estimated to cost approximately $45 billion.[6] In Russia, Yamal LNG – if all goes to plan –will become the largest LNG production site in the country by 2020.[7]

With these economic developments, it is inevitable that differences will arise between relevant parties to LNG supply contracts. In this respect, although not much information is publicly available on disputes related to the LNG supply and purchase agreements, some commentators reported anecdotal evidence that the Asian market participants (responsible for a large share of the global trade in LNG) prefer to negotiate rather than arbitrate price adjustment issues.[8] At the same time, recent reports and experience of the undersigned point to an increasing awareness among the regional participants in the Middle East and Asia of relying on gas price review mechanisms and hardship clauses in their long-term contracts in order to respond to market fluctuations.

The purpose of this article is therefore to discuss how the conventional price review clauses used in oil and gas contracts would fit in the new dynamic of the long-term LNG trade, and to assess if the investment and market risks can be addressed through the use of *force majeure* and change of circumstances provisions in contract and law. Accordingly, Section II provides an overall description of the key features of the LNG sale and purchase agreements, Section III discusses the price review clauses in LNG contracts in light of the issues relating to *force majeure* and change of circumstances, as well as some other potential disputes arising from the LNG industry. Finally, Section IV explores whether there is an alternative approach to handling the issues arising from such change of circumstances under the LNG contracts.

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[4] *Ibid*, p. 15.
[5] *Ibid*.
[6] Margaret Kriz Hobson, Alaska brings ambitious LNG export project to FERC, E&E News available at https://www.eenews.net/stories/1060053123.
[7] James Handerson, Energy Insight: 8, Russian LNG: Progress and delay in 2017 (Oxford Institute for Energy Studies, March 2017).
[8] See Duncan Speller et al., "Oil and Gas Arbitration in the Asia-Pacific Region", in the Asia-Pacific Arbitration Review 2018.

II. Key Features of Long-Term LNG Sale and Purchase Contracts

A. General Description of LNG Contracts

Sale and purchase agreements for LNG (LNG SPAs or LNG contracts) contain several provisions that set the obligations of the parties. Apart from the basic obligations to sell and purchase certain quantities of gas, typically, long-term LNG contracts require significant infrastructure or other commitments (i.e. take or pay provisions, extraction) and oblige each party to share some capital and market risks. Thus, besides the typical sale and purchase provisions (volumes and prices), parties to LNG contracts have to comply with a number of other contractual obligations, such as marketing obligations, restrictions on the destination of the LNG, provisions relating to the allocation of liability in the event of accidents, most favored nation provisions, and *force majeure* provisions.[9]

On the seller's side, the seller has to bear the costs relating to the approval, construction, and development of LNG production facilities, and also has to use all reasonable means and efforts to ensure the timely delivery of cargoes in accordance with the contract schedule. On the other hand, the buyer has to take the quantity or volume risk (often in a form of a take-or-pay provision in an LNG contract).

B. Loading and Delivery Terms

LNG SPAs determine which party is responsible for shipping the LNG, as part of the sellers' and buyers' performance obligations. These provisions generally determine the point of transfer of the title, i.e. where the risk and ownership of LNG will be passed on from the seller to the buyer. The most common delivery terms used in LNG SPAs are the deliveries with free on board (FOB) or delivered ex-ship (DES).[10]

In the LNG contracts with DES basis, the seller is responsible for delivering LNG within the agreed period of time at the designated port/terminal of the buyer. However, if the vessel does not arrive in the agreed period, the seller will bear the risk and the buyer will usually be entitled to refuse delivery of cargo and the seller will be obliged to compensate the buyer for the losses it has incurred as a result of the seller's failure to comply with the delivery schedule.[11] Similarly, in the LNG contracts on a FOB basis, the buyer should provide its vessel in a ready to load condition[12] within the specified time, and if it is unable to do so, it will be obliged to pay the seller for the LNG it agreed to purchase. Therefore, the title and risk will only pass

[9] Lisa M. Bohmer, "Arbitrating International LNG Disputes" in the Journal of World Energy Law and Business, 2015, Vol. 8, No. 5, p. 491.

[10] Steven P. Finizio, "Destination Restrictions and Diversion Provisions in LNG Sale and Purchase Agreements" in the Guide to Energy Arbitrations, 2015, p. 186.

[11] David Gardner, "LNG Shipping" in Liquefied Natural Gas: The Law and Business of LNG, 2012, pp. 80-81.

[12] It is not enough for the vessel to simply arrive; but it must be also ready to load. Although there are several requirements that must be satisfied before a valid notice of readiness can be tendered, the most crucial is that the vessel should be in a physical and legal condition of readiness to load. "In particular, its tanks must be cooled down to the relevant temperature to permit loading. If the vessel is not ready and the cancellation date passes, the charterer has the option to cancel the charter." David Gardner, "LNG Shipping" in Liquefied Natural Gas: The Law and Business of LNG, 2012, pp. 80-81.

to the buyer when LNG is loaded on the ship and then, the buyer becomes responsible for transporting LNG to the destination terminal and bears the risk of loss.[13]

In practice, the buyers have a preference towards contracts with FOB delivery basis,[14] where the buyer has the freedom to control several contractual issues, including the ability to divert cargoes, if the buyer is unable to unload the LNG at the anticipated destination or if there is a more favourable price at a different receiving terminal. On the other hand, if LNG is delivered on DES basis, the buyer may not have such a destination freedom, unless there is a diversion provision under the contract allowing the buyer to deliver the cargoes to a different destination, as will be described further below.

C. Take-or-Pay Provisions

Traditionally, long-term contracts for the sale and purchase of LNG have been entered into for a long period of time (generally 20 or 25 years in length). As LNG production and transport is highly capital intensive, the scale of these investments also tends to be very large. Therefore, it is commonplace that the long-term LNG contracts include a take-or-pay provision requiring the buyer to buy a minimum annual quantity, giving comfort to investors that they would be able to recover the significant amounts of capital invested for the construction and operation of gas production plans.

However, loading, transporting, unloading and shipping of a full cargo of LNG usually takes time and deliveries can sometimes be interrupted. As a result, LNG volumes delivered may not exactly match the demands of the buyer's customers during the year and there may be limited capacity available for the buyer to store excess amount.[15] Therefore, the parties may prefer to include provisions in a long-term LNG contract that would allow the buyer to shape this obligation in line with the market demand for gas. Further, the parties also include destination flexibility provisions in their LNG SPA which would allow the LNG to be delivered to alternative destinations. This often allows the buyers to manage their take-or-pay risks arising from their commitment to buy a certain quantity of LNG by enabling them to sell to additional markets, since buyers purchasing under long-term LNG contracts are naturally concerned about the possibility of being compelled to make take-or-pay payments.

D. Destination Restrictions in LNG Contracts

Historically, many long-term LNG contracts had contained destination restriction clauses. Under these clauses, a seller usually aims to prevent a buyer from being able to deliver cargoes to other destinations as the seller does not want the buyer to compete with it in other markets or potentially compete with its other buyers.[16] The main reasons for sellers to support such

[13] David E. Harrell, Jr., Derrick B. Carson and A. R. Robertson, "International Arbitration of LNG Disputes" in the Leading Practitioners' Guide to International Oil & Gas Arbitration, ed. James M. Gaitis, August 2015, pp. 626-628; Steven P. Finizio, "Destination Restrictions and Diversion Provisions in LNG Sale and Purchase Agreements" in the Guide to Energy Arbitrations, 2015, pp. 186-187.
[14] Howard Rogers, Does the Portfolio Business Model Spell the End of Long-Term Oil-Indexed LNG Contracts? Oxford Institute for Energy Studies, Energy Insight No. 10, April 2017, p. 10.
[15] Steven P. Finizio, "Destination Restrictions and Diversion Provisions in LNG Sale and Purchase Agreements" in the Guide to Energy Arbitrations, 2015, p. 185.
[16] *Id.*, p. 188.

restrictions are mainly because of regional pricing of LNG and to avoid that the sellers find themselves competing for "a spot LNG cargo sale" with their own long-term customers.[17]

Most US purchase agreements are free of such restrictions given their structure and general pricing on the Henry Hub basis.[18] The EU competition law also restricts the ability of the contracting parties to agree to limit cargo destinations within the European Union (EU).[19] The European Commission has interpreted such clauses that prevent onward sales within the EU as "territorial restriction clauses". Pursuant to the European Commission, such destination restrictions constitute "*a serious breach of European competition law as they prevent cross border trade and undermine the on-going creation of a European single gas market*".[20] The Commission also considers the profit split mechanisms found in some LNG SPAs to be in violation of the EU competition rules since they have been used as an alternative to territorial restriction clauses and these mechanisms oblige "*buyer/importer to share a certain part of the profit with the supplier/producer if the gas is sold on by the importer to a customer outside the agreed territory or to a customer using the gas for another purpose than the one agreed upon.*"[21]

Other markets, in particular Asian markets that represent almost two thirds of the global LNG imports,[22] do not have the same restrictions, although this may change in the future. There has been significant speculation in particular regarding the Japanese market (which accounted for 34% of the global LNG in 2015-2016) that the Japanese Fair Trade Commission (JFTC) will restrict the use of the destination restriction clause.[23]

Following its investigation, on 28 June 2017, the director of the JFTC made a finding and recommendation that the LNG sellers should no longer include competition-restraining clauses, such as destination restrictions, when negotiating new contracts.[24] As part of its investigation, the JFTC found that destination restriction clauses appeared in 48% of long-term FOB contracts.[25] However, although JFTC also stated that LNG sellers should review and relax similar restrictive clauses in already-existing LNG contracts and commentators were

[17] Susan H. Farmer, Harry W. Sullivan, Jr, "LNG Sale and Purchase Agreements" in Liquefied Natural Gas: The Law and Business of LNG, 2012, pp. 50-51.
[18] See Andrey Konoplyanik, "Are there good prospects for American LNG"? Oil of Russia magazine, 5-6/2016, p. 16: "*American producers concluded long-term supply agreements not only with Asian, but also European and South-American trading companies (for example, the first shipments of American LNG were destined to Latin America). Since these contracts do not contain the "take-and/or-pay" and "destination restriction" clauses, it is difficult to predict, at this stage, which volumes will be destined to Asia, Europe and countries of South America in the future*".
[19] *Ibid*.
[20] European Commission Press Release, "Commission settles investigation into territorial sales restrictions with Nigerian gas company NLNG", dated 12 December 2002, IP/02/1869.
[21] European Commission Press Release, "Commission and Algeria reach agreement on territorial restrictions and alternative clauses in gas supply contracts", dated 11 July 2007, IP/07/1074. Also, European Commission Press Release, "Commission settles investigation into territorial sales restrictions with Nigerian gas company NLNG", dated 12 December 2002, IP/02/1869.
[22] See IGU World LNG Report – 2017 Edition, p. 16, available at http://www.igu.org/sites/default/files/103419-World_IGU_Report_no%20crops.pdf; p. 8: "*Asia-Pacific and Asia markets […] continued to represent the most activity in LNG imports, recording a small increase in combined market share from 71.7% in 2015 to 72.4% in 2016.*"
[23] See "LNG contract in Japan", Research Analysis by Credit Suisse dated 21 July 2016; see also IGU World LNG Report, supra note 3 above.
[24] Robin Harding and David Sheppard, "Japan outlaws restrictions on resale of LNG cargoes", Financial Times, dated 28 June 2017.
[25] *Ibid*, see also Credit Suisse Report, supra note 23 above.

quick to conclude that, as a result of the JFTC statement, the LNG market in Japan will become less restricted and more spot-driven, others noted that the JFTC recommendations and findings remain unclear and far from the wide-reaching EU regulation on the subject, as described above.[26]

Therefore, while the future of destination restriction clauses in Asia Pacific is uncertain, such clauses are not included in the LNG SPAs with European buyers, with provisions allowing profit sharing mechanisms in LNG contracts on the European market only acceptable if "the title of the gas remains with the seller until the ship is unloaded."[27]

E. Diversion Provisions in LNG Contracts

Similar to oil sales, where before reaching a buyer a tanker can be sold several times, LNG provides buyers with the flexibility to divert gas to more profitable destinations. Increasingly, on reverse side of destination restrictions, LNG contracts include diversion provisions, which allow the cargoes to be diverted to higher-priced gas markets at the election of the buyer or the seller upon notification.

Diversion rights have proven important in recent years with the LNG price fluctuations in particular destinations, and especially in light of the Asian premium, that can lead to either savings in shipping costs or premium for the importer of the LNG. A buyer may also prefer to divert a cargo to another destination, because it may not be able to take that cargo at the destination agreed under the contract (i.e. due to technical issues or capacity constraints). Thus, the flexibility to divert additional cargoes to alternative destinations in case of a change in circumstances enables the buyers to manage their storage constraints (in the event of a decrease in demand) without the need to exercise any downward flexibility in their LNG contracts and without violating their obligations to take the contracted volume of LNG.[28]

F. Price Review Provisions in LNG Contracts

Similar to other long-term gas supply contracts, LNG contracts usually include price review or price reopener provisions, which, as will be demonstrated below, generally provide for periodic dates when either party may request a price revision or adjustment, in case of occurrence of certain events (typically on the buyer's market) within a defined period of time.[29]

The main objective of the price review provisions is to protect the parties to an LNG SPA (or any other long-term energy supply contract) against the risk that the pricing agreed upon at signing will not reflect future market conditions. There are different mechanisms as to how a price review is triggered. Although sometimes the parties may prefer to include an automatic price adjustment clause at regular periods based on the levels of published fuel prices or tax rates, most of the LNG SPAs, similar to other long-term gas supply contracts, include price

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[26] See R. Harding and D. Sheppard, supra note 23 above, see also Brian Pipes, "Japan FTC tales softer approach on LNG destination clauses", ICIS, dated 28 June 2017.
[27] European Commission Press Release, "Commission and Algeria reach agreement on territorial restrictions and alternative clauses in gas supply contracts", dated 11 July 2007, IP/07/1074.
[28] Steven P. Finizio, "Destination Restrictions and Diversion Provisions in LNG Sale and Purchase Agreements" in the Guide to Energy Arbitrations, 2015, pp. 189-190.
[29] *Id.*, p. 184.

review provisions that require the parties to show the existence of a significant and unforeseen change in circumstances that was beyond the control of the parties.

Such clauses are particularly important and remain relevant for LNG contracts, because of their long-term nature, significant take-or-pay obligations and historically more prevalent reliance on oil price indexation. Thus, while trends for each market are different, globally almost half of gas purchase agreements (LNG and conventional) is priced by reference to oil or oil-product indexation.[30] For LNG contracts, the role of oil-indexation is greater, with some 70% of contracts being based on one form of oil or competing fuel price index.[31]

Today, it has been reported that oil linked LNG contracts represent more than 50% of all LNG imports in continental Europe, 50% in the Middle East, 70% in Asia, and almost 80% in Asia Pacific.[32]

Although the need for a price review provision in an LNG SPA is largely accepted in the industry today, and whilst many price review clauses will share common features, there is no "standard" form of price review clauses. Thus, the scope and effect of different provisions can vary enormously depending on the wording adopted.[33] Additionally, given the specifics of the LNG contracts and the challenges that may arise in delivering of the product, the interplay of price review provisions with other clauses should be considered when assessing the parties' balance of risks.

III. Key Issues Surrounding the Price Review Clauses

A. The Increase of LNG Pricing Disputes

As outlined above, oil prices continue to be particularly important for the LNG market. In the last decade, however, a record divergence in regional gas prices can be observed, driven by both supply and demand factors, including the European financial crisis, the Fukushima nuclear crisis and the growth of shale gas in the United States.[34] In addition to regional price differences for natural gas, the oil and natural gas price differential has dramatically decoupled.[35] The progression of diverse potential new supply sources is also challenging the LNG price formation status quo, especially in Asia Pacific, with the availability of cheaper fuels and excessive LNG supply in the market. In addition to market-driven factors, LNG

[30] IGU Wholesale Gas Price Survey 2016 Edition, pp. 11, 16 and 55 which states that in 2015, 49% of total imports were based on oil price escalation, defined as the formula under which "The price is linked, usually through a base price and an escalation clause, to competing fuels, typically crude oil, gas oil and/or fuel oil. In some cases coal prices can be used as can electricity prices."
[31] *Ibid*, p. 15.
[32] *Ibid*. In the report, "Asia" is represented by China and India and "Asia-Pacific" by Japan, South Korea and Taiwan.
[33] S. Sparling, J. Magnin, P. Morton, J. Gilbert and A. Farren, Taming Price Review Clauses: Lessons from the Transactional and Arbitration Battlefields, 18th International Conference & Exhibition on Liquefied Natural Gas 11-15 April 2016, Perth, Australia.
[34] IGU World LNG Report – 2017 Edition, pp. 7-18, available at http://www.igu.org/sites/default/files/103419-World_IGU_Report_no%20crops.pdf.
[35] James Baily and Rachel Lidgate, "LNG Price Reviews: A Sign of the Times", in the Journal of World Energy Law and Business, 2014, Vol. 7, No. 2, pp. 147-149; Lisa M. Bohmer, "Arbitrating International LNG Disputes" in the Journal of World Energy Law and Business, 2015, Vol. 8, No. 5, pp. 489-490.

pricing and deliveries can be affected by regulatory challenges/changes, by regional conflicts as well as natural disasters and work-place accidents.

It is no surprise then that price review disputes will likely remain an important feature of LNG contracts and that an increasing number of cases relating to complex legal and factual disputes (i.e. those involving *force majeure* or change of circumstances issues) and economic and technical issues (i.e. price reviews), will be referred to arbitration. LNG pricing disputes are not the sole source of claims that trigger arbitration proceedings. As mentioned by some scholars, overall disputes in the LNG may be on the rise. Greater state involvement in LNG infrastructures due to higher demand and favourable pricing, legislative changes - with the EU implementing its Third energy package for example -, and some forms of State protectionism - are all different elements that can and will trigger LNG disputes[36].

It is therefore necessary to consider the utility and limitations of a price review clause as part of other contractual and statutory mechanisms available to one or both parties to an LNG contract.

B. Force Majeure / Change of Circumstances Provisions

Force majeure provisions are quite common in the long-term LNG contracts and their scope is often at the centre of disputes. For discussion purposes, given the implications of both provisions, change of circumstances and *force majeure* provisions will be used interchangeably in this article. Additionally, since many legal systems recognize similar concepts under the doctrine of hardship (*clausula rebus sic stantibus*), sometimes reference will be made to the concept of hardship as well.

The purpose of a *force majeure* clause in an LNG contract is to excuse the parties from performance of their obligations, or to suspend performance of one party upon the occurrence of an event beyond their control.[37] Although *force majeure* is a widely recognized concept in many civil law jurisdictions, it does not have a precise common definition and is not recognized as such under common law. It is for this reason that *force majeure* and also hardship clauses are often extensively drafted using general contractual industry language which seeks to describe the circumstances or categories that can trigger the provision.[38]

The scope of *force majeure* clauses therefore varies from contract to contract. Generally, *force majeure* clauses list examples of events that can be considered as *force majeure* for purposes of the contract. Acts of God such as fire, flooding, hurricanes, or acts of war, riots,

[36] Carol Mulcahy, "The changing face of disputes in the liquefied natural gas market" in: The changing face of disputes in the liquidized natural gas market, 2015, pp. 281 -283.
[37] James Baily, Paula Hodges, "LNG – a minefield for disputes?" in Liquefied Natural Gas: The Law and Business of LNG, 2012, p. 248.
[38] George M. von Mehren and Ben Holland, "Beyond Price Reviews: Adjudicating Claims of Financial Hardship" in the Leading Practitioners' Guide to International Oil & Gas Arbitration, ed. James M. Gaitis, August 2015, p. 564. The concept of hardship has been considered as a particular case of the *force majeure* by some scholars. See Christoph Brunner, *Force majeure and Hardship under General Contract Principles: Exemption for Non-Performance in International Arbitration*, 2009, p. 533. The requirements of the *force majeure* and hardship exemptions are essentially the same. In fact, the main difference between the two concepts lies in the legal effects of changed circumstances. While "hardship refers to the performance of the disadvantaged party that has become much more burdensome, but not impossible", "*force majeure* refers to contractual requirements that have become impossible to fulfill." Michael Polkinghorne, Stabilization Clauses and Periodic Review Outline, available at http://www.energycharter.org/fileadmin/DocumentsMedia/Events/CCNG_2015_Michael_Polkinghorne.pdf.

armed hostilities, terrorism, and government action or decree[39] are common illustrative events of *force majeure*.[40] Other examples specific to LNG contracts include loss or failure of or serious accidental damage to the seller's facilities or the buyer's unloading facilities; the breakdown or unavailability of marine services,[41] or loss thereof; accidental damage to or inoperability of the LNG tanker. On the other hand, changes in market conditions or financial circumstances are rarely considered as events of *force majeure*. Thus, currency fluctuations or failure of payments or changes in law that do not prevent performance of the contract, but merely render the performance more costly are usually not considered as *force majeure* events.[42] Accordingly, in case of *force majeure*, the supervening event should render the contractual performance not only onerous, but also impossible to perform.[43]

Traditional *force majeure* clauses require "*unforeseeability, unavoidability and the effect of rendering the performance impossible*".[44] The notion of what is foreseeable, especially with regard to natural disasters or extreme weather events may change from case to case, and from jurisdiction to jurisdiction. For instance, in countries such as the Philippines or India, where the threat of natural disasters such as tropical cyclones are part of regular life, occurrence of such natural events can be considered as foreseeable. On the other side of the spectrum would be the LNG liquefaction and shipping facilities that are based in the extreme cold, such as the Yamal LNG terminal or the planned Alaska LNG. Presumably in such cases, a contracting party that operates in these countries may not be discharged of its contractual duties based on *force majeure*, if the non-performance has been caused merely due to such tropical cyclones or extreme cold conditions. In other words, what can be interpreted as a *force majeure* event may become subject of a debate of what is "foreseeable" in a particular country. Hence, the definition section of a *force majeure* provision would have to be carefully considered in the drafting stage for such contracts. Importantly, most international arbitrators and judges have a tendency to construe *force majeure* clauses very narrowly.

For such situations, the inclusion of a detailed list of events that could constitute a *force majeure* event in a contract, including "*a number of foreseeable or previously experienced events*"[45] may be useful to reduce the scope and uncertainty of future disputes. Similarly, the drafters of such contracts may consider the exclusion of some specific events from a *force*

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[39] Government acts or decisions may require a careful consideration and may not be recognized as *force majeure* events, especially in cases where the seller or the buyer is a government owned or controlled entity. See Susan H. Farmer, Harry W. Sullivan, Jr, "LNG Sale and Purchase Agreements" in Liquefied Natural Gas: The Law and Business of LNG, 2012, p. 36; James Baily, Paula Hodges, "LNG – a minefield for disputes?" in Liquefied Natural Gas: The Law and Business of LNG, 2012, p. 248.

[40] James Baily, Paula Hodges, "LNG – a minefield for disputes?" in Liquefied Natural Gas: The Law and Business of LNG, 2012, p. 248; Susan H. Farmer, Harry W. Sullivan, Jr, "LNG Sale and Purchase Agreements" in Liquefied Natural Gas: The Law and Business of LNG, 2012, p. 36.

[41] Steven Paul Barra, "LNG master sale and purchase agreements" in Liquefied Natural Gas: The Law and Business of LNG, 2012, p. 195.

[42] James Baily, Paula Hodges, "LNG – a minefield for disputes?" in Liquefied Natural Gas: The Law and Business of LNG, 2012, p. 248; Steven Paul Barra, "LNG master sale and purchase agreements" in Liquefied Natural Gas: The Law and Business of LNG, 2012, p. 196.

[43] Michael Polkinghorne, Change of Circumstances as a Price Modifier in A Practical Handbook: Gas Price Arbitrations, 2014, p. 66.

[44] Michael Polkinghorne and Charles Rosenberg, "Expecting the Unexpected: The *Force majeure* Clause", Paris Energy Series 9, February 2015, p. 3.

[45] Mahmoud Reza Firoozmand, "*Force majeure* Clause in Long-Term Petroleum Contracts: Key Issues in Drafting" in Journal or Energy & Natural Resources Law Vol 24 No 3 August 2006, pp. 315-493.

majeure clause to add to the predictability of the outcome of any dispute regarding a particular event.

Although it is always better to include an express provision relating to a change of circumstances or *force majeure*, the parties may also address the issue by making a choice of law that recognizes the *force majeure* or hardship remedies[46], or refer to codifications of generally accepted principles, such as UNIDROIT[47]. The choice of applicable law may add to or supplement the interpretation of the *force majeure* or change of circumstances. As briefly mentioned above, most civil law systems recognize the concepts of *force majeure* and hardship under their national laws. [48] On the other hand, under many common law systems, such as English and New York, *force majeure* is not a recognized legal concept and instead the courts consider doctrines of frustration or commercial impracticality.[49]

Importantly, however, different legal systems may consider distinct conditions as part of the evaluation of whether or not a *force majeure* or a change of circumstances event occurred and may reach unexpected conclusions as to the contract's destiny following a positive finding. For instance, as described above, most civil law courts recognize *force majeure* and require that an event in question was unforeseeable, such as the case in South Korea, for example.[50] Therefore, under South Korean law, a party may not be able to rely on a *force majeure* event that has been specifically listed under the contract in the relevant *force majeure* clause. In another example, in Japan, which is an important market for LNG imports, courts do not recognize the concept of *force majeure* per se. However, if a judge finds that unforeseeable and substantially changed circumstances occurred, he or she may adapt the contract, as opposed to being limited to a recognition of suspension of performance or termination of the contract.[51] In Switzerland, *force majeure* events are recognized in case law as extraordinary events, described as impossibility of performance or economic impossibility, in particular in cases of economic hardship, (as understood in most civil law systems under the doctrine of *clausula rebus sic stantibus*).[52]

Therefore, the difference of approach between legal systems can lead to unexpected and divergent results.

C. Price Review Provisions

In the natural gas and LNG industry, majority of the arbitration disputes today are related to the determination of the price of gas in the LNG contracts. Parties to the long-term LNG SPAs usually include price review or price opener provisions, since both parties recognize

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[46] George M. von Mehren and Ben Holland, "Beyond Price Reviews: Adjudicating Claims of Financial Hardship" in the Leading Practitioners' Guide to International Oil & Gas Arbitration, ed. James M. Gaitis, August 2015, p. 571.
[47] For example, by referring to Art. 6 of the UNIDROIT Principles of Commercial Contracts, 2010.
[48] See Christoph Brunner, *Force majeure* and Hardship under General Contract Principles: Exemption for Non-Performance in International Arbitration, 2009, p. 77.
[49] Michael Polkinghorne, Change of Circumstances as a Price Modifier in A Practical Handbook: Gas Price Arbitrations, 2014, pp. 65 and 66.
[50] Decision of the Supreme Court No. 2004Da31302 dated March 2007.
[51] Such adaptation of the contract cannot take place in the absence of consent by the other party, see Michael Polkinghorne, *Change of Circumstances as a Price Modifier in A Practical Handbook: Gas Price Arbitrations*, 2014, pp. 69.
[52] For a more general discussion, see Christoph Brunner, *Force majeure* and Hardship under General Contract Principles: Exemption for Non-Performance in International Arbitration, 2009, p. 403 and fn. 2020.

that economic conditions under which the parties conduct their business today may change during the duration of the contract. Accordingly, the purpose of a price review clause is to adapt the contract to market changes.

As discussed above, although the need for a price review provision in an LNG contract is largely accepted in the energy industry today, there is no standard form of a price review provision. Further, a general price review provision should be distinguished from other types of provisions. For instance, hardship clauses provide for a review mechanism not only for the price, but also for all terms of the contract, in case that the requesting party experiences a substantial hardship as result of significant and particular changes in circumstances (e.g. delivery of a certain volume of LNG). On the other hand, price review provisions are of more general nature, and consider the overall changes in the relevant energy markets (macroeconomics level) while also assessing a need for a price review of one of the parties (microeconomics level).

The price review provisions establish conditions and procedures under which either party (or both) may notify the other of their claim for a price adjustment. Generally, the buyer and seller are then contractually required to attempt to negotiate the price dispute for a defined period of time. If an agreement is not reached, either or both parties may initiate arbitration.[53] Price review provisions usually include three key elements:[54]

(i) A 'trigger' event;
(ii) Requirements for giving notice and a process for negotiation of a revision of the contract price;
(iii) A procedure for revising the price, in case that negotiations fail.

The main purpose of a price review provision in an LNG contract is to restore the distorted economic balance of the contract. In summary, a party will have to prove that the change in market or economic circumstances (i) has taken place within the review period; (ii) is significant; (iii) is beyond the control of the parties; and (iv) has occurred in the country or market of the buyer.[55] Most price review clauses are confidential and part of carefully negotiated contracts by industry experts and are therefore not available for publishing. An example of a price review provision provided by the Energy Charter Secretariat, set out below, is, in the experience of the authors, indicative of most price review provisions:

"*a) If the circumstances beyond the control of the Parties chance significantly compared to the underlying assumptions in the prevailing price provisions, each Party is entitled to an adjustment of the price provisions reflecting such changes. The price provisions shall in any case allow the gas to be economically marketed based on sound marketing operation.*
b) Either Party shall be entitled to request a review of the price provisions for the first time with effect of dd/mm/yyyy and thereafter every three years.
c) Each Party shall provide the necessary information to substantiate its claim.

[53] George M. von Mehren and Ben Holland, "Beyond Price Reviews: Adjudicating Claims of Financial Hardship" in the Leading Practitioners' Guide to International Oil & Gas Arbitration, ed. James M. Gaitis, August 2015, p. 560.
[54] James Baily and Rachel Lidgate, "LNG Price Reviews: A Sign of the Times", in the Journal of World Energy Law and Business, 2014, Vol. 7, No. 2, p. 142.
[55] Marnix Leijten and Martje de Vries Lentsch, "The Trigger Phase" in A Practical Handbook: Gas Price Arbitrations, 2014, p. 37.

d) *Following a request for a price review the Parties shall meet to examine whether an adjustment of the price provisions is justified. Failing an agreement within 120 days either Party may refer the matter to arbitration in line with the provisions on arbitration of the Contract* […]."[56]

As seen above, a typical price review provision would require the occurrence of a significant change in the economic circumstances in a relevant market compared to the situation during the negotiation and conclusion of the contract and formation of the contract price. At the same time, it has to be noted that most price review clauses also specify the markets that are concerned by the price review – both at the "macro" and the "micro" level, as discussed above. To trigger a price review, the change in economic circumstances must be significant and substantial. Typically, price review provisions do not define when a change can be considered "significant", and the assessment and interpretation of such provisions becomes one of the "battles of the experts" in price review arbitrations. However, it has been said that the requirement of significance does not aim to turn the price review clause into a *force majeure* or change of circumstances clause.[57] Thus, in case of a price adjustment, this requirement should be assessed based on a case-by-case analysis, considering the nature and extent of such change on the relevant market.

Further, the requesting party should prove that these economic changes occurred within the review period and that they are not reflected in the current price provisions. Accordingly, when determining whether there has been a substantial change in the economic circumstances, a comparison must be made between the market as at the moment the price review notice is served and the date on which the price most recently has been revised (previous price review). Thus, the review period plays an essential role in a price review, since it defines the period of assessment of the significant changes in market conditions.[58]

Finally, the party triggering the price review must typically show the effect of significant changes on the value of gas in its own end-user market. Each party is expected to demonstrate that it has been negatively affected by the significant changes on the market and substantiate the price amendment that it is seeking. Some long-term delivery contracts also include a particular threshold level of "significance" of the effect of the change of market conditions for the price review to be triggered.

In a way, the price review clause is meant to anticipate market changes, usually in the buyer's market, that may lead either party to reconsider the original economic balance under the contract. The price review clauses can be said to be dealing with anticipated "unforeseen" changes in that both parties to the contract agree that certain future market events may occur and require an amendment to the contract price.

Importantly, while price review clauses often include broad definition of economic changes in a particular market, the relief that a party may seek pursuant to the clause is extremely limited and concerns the amendment of a contract price. Thus, unlike the *force majeure,*

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[56] Energy Charter Secretariat, "Putting a Price on Energy, International Pricing Mechanisms for Oil and Gas", Chapter 4, 2007, p. 155.
[57] *Id.,* p. 39.
[58] *Id.*, pp. 37-39; Ana Stanic and Graham Weale, "Changes in the European Gas Market and Price Review Arbitrations" in Journal or Energy & Natural Resources Law Vol 25 No 3 August 2007, p. 340.

hardship or change of circumstances clauses provisions, the price review clause may not entitle a party to the suspension of performance or the termination of the contract.

D. Arbitration and Price Review Provisions

In the event that a compromise on price cannot be found, the dispute will be submitted to arbitration. If either party satisfies the necessary conditions of a price review clause described above, the tribunal will apply the mechanism of the price review clause, and in doing so, may use its discretionary powers, the scope of which have been the subject of an intense debate.

Thus, historically arbitral tribunals were considered to have narrowly delineated powers in making an adjustment to the contract, derived from the price review clause specifically negotiated and included by the parties in the contract. Therefore, the predominant view in the industry was that in price review disputes the "*arbitrators themselves were particularly careful not to overstep the limits of the narrowly defined mission with which the parties have entrusted them*"[59].

However, in 2008, the *Gas Natural Approvisionamientos SDG v. Atlantic LNG Company of Trinidad and Tobago* case demonstrated that a different and bolder approach to the scope of tribunals' powers is possible. In that case, the solution proposed by the price review clause, in the opinion of the arbitrators, could not resolve the particular issue at hand. Under the contract in that case, Gas Natural was permitted to request delivery of the gas from Atlantic LNG either to its receiving facilities in Spain or to a facility in New England (USA), although the parties expected that initial shipments will be made to Spain, and tied the pricing of the LNG to the European energy market. However, with the liberalization of the market in Spain, market prices decreased significantly and in response, Gas Natural decided to resell the LNG in New England. After 2002, no further deliveries were made to Spain.

Atlantic LNG initiated an arbitration, seeking an upward revision of the contract price. At the end of the arbitration, the arbitrators, under their discretionary powers, provided a solution that had not been advocated by either party, by determining that the LNG was being sold to New England on a sustained basis and instituted a two-part pricing scheme, preserving the original formula contained in the contract, but adding the New England Market Adjustment.[60] As a result of the new pricing scheme, Atlantic LNG owed Gas Natural more than $ 70 million. Atlantic LNG appealed the award to the United States Federal Court for the Southern District of New York[61] claiming that the arbitral tribunal acted outside of the scope of its authority when opting for a solution that was not in the contract. The court decided that the arbitral tribunal did not excess the scope of its authority, since the parties did not limit it expressly[62], and the revision of the price remained "fair and equitable"[63].

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[59] Lisa M. Bohmer, "Arbitrating International LNG Disputes" in the Journal of World Energy Law and Business, 2015, Vol. 8, No. 5, p. 489.

[60] James Baily and Rachel Lidgate, "LNG Price Reviews: A Sign of the Times", in the Journal of World Energy Law and Business, 2014, Vol. 7, No. 2, p. 150; Lisa M. Bohmer, "Arbitrating International LNG Disputes" in the Journal of World Energy Law and Business, 2015, Vol. 8, No. 5, p. 489.

[61] *Gas Natural Approvisionamientos, SDG and others v. Atlantic LNG Company of Trinidad and Tobago (Trinidad and Tobago)*, United States District Court, Southern District of New York, US No. 655, 08 Civ. 1109 (DLC), 16 September 2008.

[62] *Ibid*, p. 972.

[63] James Baily and Rachel Lidgate, "LNG Price Reviews: A Sign of the Times", in the Journal of World Energy Law and Business, 2014, Vol. 7, No. 2, p. 150.

This was one of the first cases where parties to a price-adjustment dispute were faced with a decision of an arbitral tribunal that neither party advocated for or expected, and although most of the arbitrations are confidential, anecdotal evidence and news reports suggest that further decisions of the same character have been made in the past 10 years.[64] More recently, in a widely reported decision of an arbitral tribunal in July 2016 in a dispute between Eni (Italy) and GasTerra (Netherlands), both parties had divergent views on the meaning of the tribunal's decision – suggesting that at least part of the decision was not anticipated by either party.[65]

Similarly, in the context of the conventional gas supply, on 31 May 2017 a notable development has been reported in the long-running arbitration between Gazprom and Naftogaz (Ukrainian gas supplier). Although not an LNG supply case, the decision of the arbitral tribunal in that case is very significant since it allegedly cancelled the take or pay obligation for Naftogaz and lifted a ban on re-export, which was part of the contract.[66] Although the details of the decision are scarce, market players in all of the gas supply industry will certainly view the decision with interest, as it would appear that in this case an arbitral tribunal used its discretionary powers and struck out a part of the contract, over and above its powers under the price review clause.

The fact that such "revolutionary" approaches were developed in the context of gas price reviews is a testament to the complex economic factors underlying such contracts and forward-looking nature of gas pricing disputes. Unlike ordinary commercial arbitration where the arbitral tribunal must adopt a backward-looking stance and only take into account the events leading to the contractual breach to assess damages, the arbitrators, when faced with a price review provision, will be influenced by potential variations in the market price between the review date and the hearing-date[67]. Further, hardship and changed circumstances provisions may lead tribunals to conclude that certain restrictive clauses under the agreements must be annulled, as was perhaps the case in the Gazprom/Naftogaz arbitration.

E. Non-Price Review Disputes

In the sections above, we have touched upon some of the interactions between the *force majeure*-change of circumstances provisions and the price-review arbitrations, but the LNG shipments, as any trade, which is grounded in complex technology and transportation mechanisms, often result in other types of disputes as well.

Some relate to the financing of the project[68], especially as project-financing agreements (with the buyer or a third party) typically do not have the same price-adjustment mechanisms available to the sellers and buyers of the LNG in case of the falls in the price of the LNG traded (allowing for recuperation of past losses and a change in price going forward). Others

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[64] See David E. Harrell, Jr., Derrick B. Carson and A. R. Robertson, "International Arbitration of LNG Disputes", supra note 1, at p. 622.

[65] See Press release by Eni of 20 July 2016 at https://www.eni.com/en_IT/media/2016/07/eni-statement-on-the-arbitration-with-gasterra-and-following-measures-taken-by-the-company#.

[66] "*Stockholm court revokes Gazprom's obligation under gas supplies deal with Kiev — Naftogaz*" 31 May 2017, at http://tass.com/economy/948733.

[67] Mark Levy and Rishab Gupta, "Gas Price Review Arbitrations: Certain Distinctive Characteristics", in "The Guide to Energy Arbitrations", 2016, pp. 6-7.

[68] Sophia Ruester, "Financing LNG projects and the role of long-term sales-and-purchase agreements", DIW Discussion Paper, 2015, pp. 4 -8.

relate to the technical malfunctions within the liquefaction plant or the LNG carriers (such as moss spherical tankers or the membrane tankers)[69].

Disputes unrelated to price-adjustment are also typically subject to dispute resolution by arbitration, and may involve issues of *force majeure* or changed circumstances – such as issues related to increased safety requirements for the liquefaction plant and the vessel, or weather-based events such as fires, floods, or hurricanes.

As with the price review disputes, the more detailed the agreement on the *force majeure* events and changed circumstances adjustment – the greater the likelihood that the arbitrators will have the right tools with which to address the particular event and adjudicate the responsibility for such event to one party or decide that both parties must bear an economic burden to some degree.[70]

In particular, the parties would be well served by specific terms with respect to interruptions of production/delivery/shipments that may be caused by any particular event, whether caused by a party or through unforeseen events. Often, the continuation of the relationship is of outmost importance to both parties, and therefore a tiered arbitration clause may be advisable[71]. These "escalation" clauses can take a diverse number of forms, but all have the objective to help de-escalate the conflict.

IV. A More Comprehensive Approach as A Solution

As seen in the introductory part of this article, almost all markets around the globe are experiencing an increase in the number and volume of active LNG Projects and LNG trading. Considering the typically extended nature of such contracts, there are a number of risks that may occur during the life of the projects, including project risks (increase of investment costs or regulatory interventions in the standard of operation/safety), market risks (change in the oil prices, increase of new renewable energy supplies in the relevant country of sale) and also operational risks (costs of production, maintenance and any breakdowns/interruptions in the liquefaction facilities or vessels). These risks, which can be anticipated or forecasted at least to a degree, may be addressed through specific contractual provisions that determine a party's responsibility and/or the way in which a contract can accommodate such changes.

Other changes, such as natural calamities, terrorist acts/armed conflicts and severe regulatory interventions can be addressed through the *force majeure* clauses or by choosing the most appropriate law to govern the contract, in order to provide an opportunity to a party to claim hardship, frustration or impossibility of performance (depending on the type of law applicable). *Force majeure* and change of circumstances clauses can also be used to address some of the project and operational risks, discussed above.

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[69] For more information on the subject, see the International Gas Union, World Report, 2017, pp. 35 - 44. For a case which concerns *Floating* LNG (FLNG), see. Timor-Leste v. Australia, PCA, Case N° 2016-10.

[70] In this respect, in financing contracts some changes are sometimes specifically addressed through material adverse change (MAC) clauses. For more information see Wolfgang Peter, Material Adverse Change Clauses: Some Practical Thoughts, in Contemporary Issues in International Arbitration: The Fordham Papers, 2015.

[71] Mediation – Arbitration (Med-Arb) being the most common form of tiered arbitration clause. For more information on tiered clauses in the Swiss arbitration context, see. Domitille Baizeau and Anne-Marie Loong, "Chapter 13, Part X: Multi-tiered and Hybrid Arbitration Clauses", in "Arbitration in Switzerland: The Practitioner's Guide", 2013. For an example of a Med-Arb clause, LCIA, http://www.lcia.org/ – ADR services – recommended clauses.

The price review provisions therefore aim to respond to unforeseen market/economic changes. This is also one of the reasons why parties to the LNG or other gas delivery contracts often tend to use relatively broad language in their contracts with respect to changes to a party's competitive standing in the relevant market. However, such broad wordings in price review provisions can also lead to different interpretations and cause uncertainty in the next steps of the dispute resolution process.[72]

Even with the most sophisticated and exhaustive price review clauses, which define the relevant market event/change, the relevant market, as well as the threshold of a change necessary to trigger a price review, a party may not have a mechanism for dealing with other issues that can arise during the life of the long-term LNG contract. For instance, non-price issues, such as the total volume delivered and quality, shipping expense and logistics, or diversion rights to other markets may give rise to substantial issues, which are not covered by the price review provisions.[73] As seen above, some of these issues can be addressed through diversion provisions. Generally, however, while most of the price review clauses consider mainly the events affecting the buyer's market, there may be cases where the relevant events arise in areas such as the supply chain.[74] Thus, it is often necessary to look beyond contractual price review provisions and consider other means by which the LNG contracts might be adjusted to include such events.[75] In sum, while price review provisions can be considered as a principle means of protection against market risks in the LNG contracts, the role of the *force majeure* and change of circumstances provisions can also be extremely relevant, especially when the contract becomes so onerous as a result of the market changes, as to require its termination or suspension.

As mentioned above, typical *force majeure* and hardship clauses, and most civil law systems require demonstration of "unforeseeability", and thus, mostly relate to events beyond the control of the parties, such as armed conflicts, strikes, and natural disasters. On the other hand, "unforeseeability" of an event is a relative concept that can change from case to case or from jurisdiction to jurisdiction. Accordingly, the parties may be advised to enumerate in the contract those events which may be disruptive of their performance obligations, as most courts or arbitral tribunals evaluating the nature of the event and its consequence on the parties' contractual relationship, will likely take heed of the parties' agreement and accept that an event was "unforeseen", if it was specifically listed by the parties in their contract. For instance, in the particular circumstances of a country experiencing political instability or operating under a state of emergency for a number of years, it may be hard to interpret events connected to such instability (such as riots, armed hostilities or any government action or decrees causing significant interruptions to a party's operations) as "unforeseen" events, if

[72] James Baily and Rachel Lidgate, "LNG Price Reviews: A Sign of the Times", in the Journal of World Energy Law and Business, 2014, Vol. 7, No. 2, p. 142, ("….price review clauses are often open to different contractual interpretations when unforeseen situations do arise. This often leads to disputes as to the proper construction of a clause and the relevance of particular facts or market data sets.").
[73] George M. von Mehren and Ben Holland, "Beyond Price Reviews: Adjudicating Claims of Financial Hardship" in the Leading Practitioners' Guide to International Oil & Gas Arbitration, ed. James M. Gaitis, August 2015, p. 561; Michael Polkinghorne, Change of Circumstances as a Price Modifier in A Practical Handbook: Gas Price Arbitrations, 2014, p. 78.
[74] Michael Polkinghorne, Change of Circumstances as a Price Modifier in A Practical Handbook: Gas Price Arbitrations, 2014, p. 78.
[75] George M. von Mehren and Ben Holland, "Beyond Price Reviews: Adjudicating Claims of Financial Hardship" in the Leading Practitioners' Guide to International Oil & Gas Arbitration, ed. James M. Gaitis, August 2015, p. 561.

they are not explicitly listed under a *force majeure* or change of circumstances clause. Thus, a party requesting relief based on a *force majeure* or hardship provision that does not specify "political instability" or the type of government action or decree that is likely to effect a party's performance, may have to face a higher standard in order to trigger the *force majeure* process under the contract. Conversely, for parties dealing with state-owned companies, it may be in their interest to explicitly exclude certain type of government decrees from events that can constitute changed circumstances or *force majeure*, similar to the stabilization clauses found in some investment agreements.

It can be concluded that both *force majeure*/change of circumstances clauses and price review provisions are relevant and useful tools for dealing with change of circumstances in an LNG contract, but the aim of these two types of provisions is different and the relief granted by courts or arbitral tribunal varies. As has been commented, while hardship provisions can be likened to a "means of sharing the pain" without ensuring that the requesting party will cover its costs,[76] the price review provision mainly aim to re-establish the distorted contractual balance between the parties, while keeping the contract in force. Further, some commentators believe that the price review provisions and *force majeure* or hardship provisions cannot coexist.[77] For LNG contracts in particular, however, it would appear that there is sufficient room for both types of clauses, which, together with diversion provisions and take-or-pay provisions, can become a kind of a matrix of anticipatory mechanisms to diminish or safeguard the parties from various types of risks – including, project, operational, political and even market risks.

For such clauses to be effective, however, they must be specifically drafted for each set of facts, and accompanied with the appropriate analysis of the applicable law on the concepts of *force majeure*, hardship and/or change of circumstances. Considering that a large majority of all LNG contracts is still linked to oil-indexation, this remains a prudent way forward.

[76] Michael Polkinghorne, Change of Circumstances as a Price Modifier in A Practical Handbook: Gas Price Arbitrations, 2014, p. 78.

[77] Marco Lorefice, "Crossroads in Gas Price Review Arbitrations" in the Guide to Energy Arbitrations, 2015, p. 165, ("…price review is a unique process that cannot be likened to *force majeure* or economic hardship."). For the opposite view, see Michael Polkinghorne, Change of Circumstances as a Price Modifier in A Practical Handbook: Gas Price Arbitrations, 2014.