Global Arbitration Review

The Guide to Energy Arbitrations

General Editor
J William Rowley QC

Editors
Doak Bishop and Gordon Kaiser

Third Edition

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Editor's Preface to the Third Edition

Economic liberalisation and technological change over the past several decades have altered the global economy profoundly. Businesses, and particularly those involved in the energy sector, have responded to reduced trade barriers and advancement of technology through international expansion, cross-border investments, partnerships and joint ventures of every description.

The move to today's 'internationality' of business and trade patterns alone would have been sufficient to jet-propel the growth of international arbitration. But when coupled with the uncertainties and distrust of 'foreign' court systems and procedures, the stage was set for a move to processes and institutions more suited to the resolution of a new world of transborder disputes.

Not surprisingly, the concept and number of international commercial arbitrations have grown enormously over the past 25 years. Bolstered by the advantages of party autonomy (particularly over access to a neutral forum and the ability to choose expert arbitrators), confidentiality, relative speed and cost-effectiveness, as well as near worldwide enforceability of awards, the system is flourishing. And if a single industry sector can lay claim to parental responsibility for the present universality of international arbitration as the go-to choice for the resolution of commercial and investor-state disputes, it must be the energy business. It is the poster boy of arbitral globalisation.

Led by oil and gas, the energy sector is marked by enormously complex, capital-intensive international deals and projects, frequently involving prominent parties and state interests. Transactions and partnerships are often long-term in nature, and involve 'foreign' places and players. Political instability and different cultural backgrounds characterise many of the sector's investments. In short, the energy sector is a natural incubator for disputes best suited to resolution through international arbitrations.

Indeed, over the past 50 years or so, following a rash of nationalisations in North Africa, the Gulf States and in parts of Latin America, and the lessons learned in 'foreign courts', there is scarcely a major energy sector contract (whether oil, gas, electric, nuclear, wind or

solar) that does not call for disputes to be resolved before an independent and neutral arbitral tribunal, seated, where possible, in a neutral, arbitration-friendly place.

The experience and statistics of the major arbitral institutions bear out the claim that the energy sector has driven, and continues to account for, major growth in international arbitration. ICSID is illustrative, where 42 per cent of its caseload in 2017 involved the energy sector. At the LCIA, case statistics for 2017 revealed that some 34 per cent of respondents were from the energy and resources sector. Between 2014 and 2015, the Stockholm Chamber of Commerce Arbitration Institute saw a 100 per cent increase in the number of its energy-related cases.

Although much of the evidence of the energy sector's arbitral demand is anecdotal, those arbitrators who are known in the field report growing demand and a steady increase in enquiries as to availability. And having regard to the multifaceted fallout from the oil price crash of 2014, a revival of resource nationalism (which exacerbates the natural tension between energy investors and host states), together with Russia's continuing economic difficulties and a world where sanctions imperil contractual performance, the only realistic expectation is for further reliance on arbitrators and arbitral institutions to cope with the disputes that are surfacing daily.

Another driver towards arbitration is the fact that the number of substantive players in the sector is relatively limited. These parties will invariably have multiple agreements, partnerships and joint ventures with each other at the same time, many of which are long term. These dynamics call for disputes to be resolved by decision makers who are known to and trusted by all, and whose decisions are final. The simple fact about business is that the economic uncertainty associated with an unresolved dispute overhanging a long-term partnership is often considered to be more problematic than getting to its quick and definitive resolution, even if the resolution is unfavourable in the context of the particular deal.

Against this backdrop, when Gordon Kaiser raised the question with me in the summer of 2014 of producing a book that gathered together the thinking and recent experiences of some of the leading counsel in the sector, it resonated immediately. Gordon was also more than pleased when I suggested that we might try to interest Doak Bishop as a partner in the project.

With Doak's acceptance of the challenge, we have tried, in the first two editions, to produce a coherent and comprehensive coverage of many of the most obvious, recurring or new issues that are now faced by those who do business in the energy sector and by their legal and expert advisers.

Before agreeing to take on the role of general editor and devoting serious time to the project, we needed to find a publisher. Because of my long-standing relationship with Law Business Research, the publisher of Global Arbitration Review, we decided that I should discuss the concept and structure of our proposed work with David Samuels, GAR's publisher, and Richard Davey, then managing director of LBR. To our delight, the shared view was that the work could prove to be a valuable addition to the resource material now available. On the assumption that we could persuade a sufficient number of those we had provisionally identified as potential contributors, the project was under way.

Having taken on the task, my aim as general editor has been to achieve a substantive quality consistent with *The Guide to Energy Arbitration*s being seen as an essential desktop reference work in our field. To ensure the high quality of the content, I agreed to go

forward only if we could attract as contributors colleagues who were among the internationally recognised leaders in the field. The book is now in its third edition, and Doak, Gordon and I feel blessed to have been able to enlist the support of such an extraordinarily capable list of contributors over the years.

The third edition of *The Guide to Energy Arbitrations* has been expanded with a new chapter on upstream oil and gas disputes. The remaining chapters have all been updated to reflect developments since 2017.

In future editions, we hope to fill in important omissions, such as the changing dynamics of investment cases under the Energy Charter Treaty, including the consequences of the *Achmea* decision of the European Court of Justice; the contours of fair and equitable treatment; injunctions against and the setting aside of awards; bribery and corruption; sovereign immunity and enforcement issues; *force majeure* and contractual allocations; and intellectual property and insurance disputes in the energy sector.

Without the tireless efforts of the GAR/LBR team this work never would have been completed within the very tight schedule we allowed ourselves. David Samuels and I are greatly indebted to them. Finally, I am enormously grateful to Doris Hutton Smith (my long-suffering PA), who has managed endless correspondence with our contributors with skill, grace and patience.

I hope that all of my friends and colleagues who have helped with this project have saved us from error – but it is I alone who should be charged with the responsibility for such errors as may appear.

Although it should go without saying, this third edition will obviously benefit from the thoughts and suggestions of our readers, for which we will be extremely grateful, on how we might be able to improve the next edition.

J William Rowley QC
September 2018
London

Part II

Commercial Disputes in the Energy Sector

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Construction Arbitrations Involving Energy Facilities: Power Plants, Offshore Platforms, LNG Terminals, Refineries and Pipelines

Doug Jones AO[1]

The mounting need for energy in a modern technologised and industrialised world has led to a rapid rise in the construction of energy infrastructure. Between 1971 and 2015, total energy consumption across the globe has more than doubled.[2] This has been driven by both organic growth in developed countries and new developments in emerging regions.[3] Asia is one area that has seen significant growth in demand and usage, particularly given the industrial boom in China since the turn of the 21st century.[4] Indeed, between 1973 and 2015 the share of total energy production from Non-OECD Asia has also grown from 5.5 per cent to 13 per cent,[5] while total energy production from OECD Asia has grown by 5.7 per cent between 1973 and 2016.[6] This reflects an increase in supply within the region alongside this surge in demand. The relative use of different energy sources has also evolved, often cyclically, but over the long term it has witnessed the primacy of oil, rise of natural gas, and the stagnation and decline of coal. Regardless of which fuel source is utilised, there

1 Doug Jones AO is an independent international arbitrator. The author gratefully acknowledges the assistance provided in the preparation of this paper by his legal assistants, Jason Corbett and William Stefanidis.

2 International Energy Agency, Key World Energy Statistics (2017), 34.

3 See, e.g., OECD and Internationals Energy Agency, Comparative Study on Rural Electrification Policies in Emerging Economies (2010), reporting at p. 11: 'Since the G8 Gleneagles Summit in 2005, the International Energy Agency's (IEA) Networks of Expertise in Energy Technology (NEET) Initiative1 has sought to encourage further involvement of major emerging economies in the IEA Technology Network comprising international energy technology and R&D collaborative programmes. Missions and workshops when feasible have been organised in the so-called 'Plus-Five' countries, namely Brazil, China, India, Mexico and South Africa. These outreach efforts have been geared towards identifying areas of mutually desirable and potential future collaboration between experts of these major emerging economies and the IEA Technology Network including the Committee on Energy Research and Technology (CERT), Working Parties (WP) and Implementing Agreements (IA).'

4 International Energy Agency, Key World Energy Statistics (2017), 36.

5 International Energy Agency, Key World Energy Statistics (2017), 8.

6 International Energy Agency, Key World Energy Statistics (2017), 11.

is a constant need to construct new energy facilities capable of extracting fuel sources, converting them into energy and distributing them to the end user. Mentioned in the title of this chapter are power plants, offshore platforms, LNG terminals refineries and pipelines. By this I would not wish to so confine the relevance of this chapter. Recent times have seen the rise of renewable energies and the construction of new types of solar, wind and hydropower infrastructure. Much of this development has been seen in Europe, and also in Asia, which in 2017 accounted for close to two-thirds of the global growth in renewable energy capacity (with China accounting for the lion's share of that growth).[7]

There is no question that commercial arbitration has emerged as the primary forum for the resolution of disputes in projects for the construction of energy facilities. International enforceability provides a key advantage in an industry that frequently brings together for each project a vendor and a range of specialist contractors from different parts of the world. Procuring the expertise of an experienced energy industry practitioner to preside over a dispute neutralises the risks associated with resolving highly technical disputes in fora that are unsophisticated in international commercial matters. Its prevalence has increased also owing to the inclusion of arbitration clauses in leading standard form contracts, including the FIDIC Conditions of Contract for Construction (Red Book), Contract for EPC/Turnkey Projects (Silver Book) and Contract for Plant and Design-Build (Yellow Book) (parts of the FIDIC Suite),[8] and the New Engineering Contract.[9]

There are unique commercial considerations that apply to energy projects. These include pre-construction considerations and post-construction uses and demands that are unique to energy facilities. These considerations also encompass political factors that can influence legal and economic policy, such as terms of trade, subsidies and taxes. What these projects all have in common, however, is the core need for the mobilisation of resources and expertise for the design and construction of facilities, albeit with risk-allocation provisions that account for these additional risks.

Accordingly, when disputes arise, they are concerned with the usual array of contractual clauses and legal principles that are common to construction disputes. The purpose of this chapter is to provide a broad overview of these issues of risk and the laws and issues of contract that underline disputes between energy project participants when they do arise. It is hoped that this will serve as a guide that familiarises readers with the landscape in this area.

The issues that arise in construction arbitrations involving energy projects are explored across five key themes: (1) time; (2) cost; (3) quality; (4) scope; and (5) political, economic and social risk. For each theme, this chapter firstly explores issues of risk and the manner in which these can be addressed through contract drafting, and secondly explores the issues of legal and contractual principle that frequently arise in contentious arbitration disputes.

This paper is concerned with commercial arbitrations between participants in construction projects for energy facilities, as opposed to investor–state claims arising from such projects, which are covered comprehensively in other chapters in this book.

7 International Renewable Energy Agency, Renewable Capacity Statistics (2018), 2.

8 See clause 20.6 of these contract forms.

9 See, e.g., Option W3 of the NEC4 contract forms.

Time

Time-related risk

It is often said that time is everything in construction. The adverse effects and losses that flow from delay in a project's completion are often wide-ranging and severe. They can include an increase in costs for the contractor; lost production and revenue for the owner; adverse effects on the payback of loans to financiers; cash flow and subsequent solvency issues of the project; knock-on delays in multi-phase projects; negative publicity, particularly in government funded public projects; and breaches of ancillary arrangements to the original contract upon which the project's viability depends (e.g., offtake agreements, contracts for inputs). This final category is highly significant in construction projects for energy facilities. Facility owners will more often than not have entered into a binding offtake agreement to supply energy at a specified level to an offtake partner from the date of project completion, and will become liable to liquidated damages and other claims in the event that they are unable to timely meet this commitment. The resulting liability is often sizeable.

Time-related risks are generally allocated to the contractor. A detailed project schedule will establish the milestones that a contractor must meet (in addition to a more general project schedule that is developed at an earlier stage of the project).[10] The detailed project schedule will encompass key milestones, including a 'notice to proceed' date, phase milestones, a 'practical completion' date, dates and targets for commissioning activities, and ultimately 'final completion'. The critical path of activities will be evident from this schedule, as will be the level of float available to absorb some delay in the project's performance. Where critical delay to a project occurs, the contractor will find itself subject to an owner's claim for general and liquidated damages.

Despite this default position, delay to a project can equally be a result of neutral events or events that are the responsibility of the owner. A contractor may find themselves aggrieved, and the project hindered, as a result of an owner's acts of prevention, which may include active obstruction of the site; failure to provide designs, materials or other obligations that a contractor needs to perform its scope of works; or imposing contractually valid variations or change orders on the contractor. The contractor may seek a range of remedies against the owner, including extensions of time and damages.

Finally, neutral delays in the form of force majeure fall to the contract in accordance with the default position under the common law. By contrast, the FIDIC Suite confers upon the contractor a right to seek an extension of time in respect of neutral delay events (clause 19). The characterisation of an event as 'force majeure' can form the subject of heated contention.

Time-related disputes

Owner claim for liquidated delay damages

Construction contracts often include a liquidated damages clause as the principal (or exclusive) remedy available to compensate an owner for a contractor's failure to achieve timely completion. Such a remedy levies from the contractor an agreed monetary sum that scales per daily/weekly period, subject to an agreed cap fixed at a percentage of the contract price

10 FIDIC Suite clause 8.2; NEC3 clause 30.1.

(often 10 per cent to 20 per cent). This sum represents a genuine pre-estimate of the losses that an owner will suffer as a result of delayed completion, and is compensatory rather than punitive in nature. The main rationale behind liquidated damages clauses is to avoid the complex and costly task of proving losses resulting from delay individually in accordance with general principles of contract recovery.

The categories of loss that may be compensable through a liquidated damages clause include those listed in the immediately preceding section of this chapter. In a number of recent landmark decisions, there has been judicial recognition of a broad range of losses, both monetary and non-monetary in nature, that may be taken into account when calculating the rate of liquidated damages payable for delay. The concept of protectable 'legitimate interests' was introduced in *Cavendish*.[11] The approach of the Australian High Court in *Paciocco*[12] was broadly consistent with this.

Penalties and prevention

Claims for liquidated delay damages are, however, subject to two key limitations; the doctrine of penalties and the prevention principle.

Under the common law, the doctrine of penalties dictates that where a liquidated damages clause stipulates an amount wholly disproportionate to the value of the construction contract such that it takes the form of a payment *in terrorem*, courts will not enforce the clause.[13] The test for what constitutes an *in terrorem* clause differs substantially across each common law jurisdiction.[14] The fundamental proposition of law is that a liquidated damages clause must be compensatory and not punitive. By contrast, in civil law jurisdictions, a liquidated damages clause that is disproportionate to actual losses suffered is not struck out as void, but rather, civil courts will adjust the sum stipulated in the clause to accord with the actual losses suffered. This position is perhaps less arbitrary, though it circumvents to some degree the objective of liquidated damages clauses, being to avoid having to calculate actual losses.

The prevention principle states that an owner will not be entitled to claim liquidated damages against a contractor for a period of delay infected with delays that are the responsibility of the owner. For instance, where a project falls 10 days behind schedule, seven of which fall to causes that are the responsibility of the contractor, and three to causes that are the responsibility of the owner, the owner will lose altogether the right to claim liquidated damages in respect of the full 10-day period. Any apportionment of this delay is inimical to the common law prevention principle. The results of this principle may at times seem arbitrary, and contrast with the approach taken by civil courts that apportion delay losses. The severe consequences for an owner are further magnified where the parties' agreement

11 *Cavendish Square Holding BV v. Talal El Makdessi; ParkingEye Limited v. Beavis* [2015] UKSC 67.

12 *Paciocco & Anor v. Australia and New Zealand Banking Group Limited* [2016] HCA 28.

13 *Clydebank Engineering and Shipbuilding Co v. Don Jose Ramos Yzquirdo y Castaneda* [1905] AC 6; *Dunlop Pneumatic Tyre Co Ltd v. New Garage Motor Co Ltd* [1915] AC 79.

14 For an in-depth consideration of the penalties doctrine across jurisdictions, see my paper 'The Penalties Doctrine in International Construction Contracting: Where to from here?' accessible on my website at <http://www.dougjones.info/wp-content/uploads/2006/10/Penalties-Lecture-New-Zealand-SCL-Final-Website-Version.pdf>.

specifies that liquidated damages are an exclusive remedy for delay, which may preclude a party from claiming general damages in the alternative.[15]

This scenario is frequently overcome by an owner by granting an 'extension of time' to the contractor in respect of periods of owner-caused delay. Such an extension must be sourced within the contract documentation, and will often involve a regime that requires a contractor to give notice of owner-caused delays, often within specified time limits, which are then assessed and granted or declined by the relevant umpire (either the project owner, or a site engineer). However, these extension of time provisions can create further issues that may interfere with an owner's right to claim liquidated damages. This particularly arises where a contractor fails to comply with notice provisions that are a condition precedent to the contractor's extension of time claim. In situations of concurrent delay, authority has been divided on whether the prevention principle will apply to prevent the owner from claiming liquidated damages where the contractor has not complied with these notice requirements.[16] In Australia, this has resulted in many contracts including provisions that allow owners to unilaterally provide extensions of time, regardless of any compliance with notice provisions by the contractor. In these circumstances, courts in Australia have held that where such a unilateral extension of time clause exists, 'there is an implied duty of good faith in exercising the discretion' on the part of the owner.[17] It therefore seems that in common law jurisdictions where unilateral extension of time clauses are agreed, owners may be unable to withhold extensions of time merely to invoke the operation of the prevention principle.

In civil law jurisdictions, there is no explicit equivalent of the prevention principle. Instead civil courts rely on the principles of good faith and fair dealing to give effect to the universal principle that one shall not benefit from their own wrongdoing. Some countries, such as China and South Korea, provide codified authority for courts to better apportion any liquidated damages amounts between the loss caused by the owner's preventing conduct and the contractor's delay.[18] Others, such as Germany and France, provide authority that a party will not be liable for non-performance or delay where it resulted from an external cause not attributable to that party.[19] Any failure to do so may disentitle the contractor to an extension entirely or permit the contract administrator to reduce the period of extension accordingly.[20]

15 *Baese Pty Ltd v. RA Bracken Building Pty Ltd* (2989) 52 BLR 130, 139 (Giles J).

16 *Multiplex Constructions (UK) Ltd v. Honeywell Control Systems Ltd* (No. 2) [2007] BLR 195; *Gaymark Investments Pty Ltd v. Walter Construction Group Ltd* [1999] NTSC 143. For an in-depth consideration of these issues, see my article, Doug Jones, 'Can Prevention Be Cured by Timebars' (2009) *International Construction Law Review* 57.

17 *Probuild Constructions (Aust) Pty Ltd v. DDI Group Pty Ltd* [2017] NSWCA 151.

18 Contract Law of the People's Republic of China (Adopted at the Second Session of the Ninth National People's Congress on 15 March 1999 and promulgated by Order No. 15 of the President of the People's Republic of China on 15 March 1999) Art. 114; Korean Civil Code Art. 398-2.

19 German Civil Code (BGB) s. 280(1); French Civil Code art. 1147.

20 *Buildability Ltd v. O'Donnell Developments Ltd* [2010] BLR 122; *Ho Pak Kim realty Co Pte Ltd v. Revitech Pte Ltd* [2010] SGHC 106.

Contractor claim for disruption

Disruption disputes are concerned with a contractor's loss of productivity as a result of some form of disturbance by the employer. These disputes will commonly centre around the 'uneconomic working' of the contractor as a result of the employer's conduct.[21]

A contractor will be entitled to claim damages only in respect of disruption caused by the project owner. The right of claim may be defined by contract or, absent express contractual provisions, as a breach of an implied term of contract that the owner will not prevent or hinder the contractor in the execution of its work.[22] The SCL Protocol comments that '[m]ost standard forms of contract do not deal expressly with disruption';[23] however, while limited in number, there do exist standard form contracts setting out terms that oblige compensation for delaying conduct.[24]

Contractors making disruption claims are required to demonstrate a connection between the alleged disruptive event and the increased costs associated with their loss of productivity or 'uneconomic working'. This will generally require a comparison between the tender schedule and delivery mechanisms, and the adapted schedule and mechanisms as a result of the disruption. There are a variety of methods by which disruption and productivity costs can be calculated, and the law is not prescriptive of any one method over another.

A common approach taken by contractors is the 'measured mile' approach in which the contractor will compare their rate of productivity in an undisrupted part of the project to the rate of productivity in the disrupted part of the project. Productivity in this approach is measured by the number of hours taken to produce a unit of work. This approach may be impracticable where a project has been disrupted from its inception, meaning that there is no baseline productivity from which to measure the disruption. As an alternative, the tender will usually specify an expected level of productivity, and a loss of productivity is realised where the actual productivity rate is less than the planned productivity rate.

Claimants should also be wary that when selecting baseline periods of undisrupted work to compare with disrupted work, there must be a reasonable degree of comparability between the specific work and surrounding circumstances at both ends of the project. The value of any comparison is otherwise substantially diminished. For example, the undisrupted laying of foundation cannot be used a measurement for the disrupted piping fabrication of a project.

Contractor claim for prolongation

Prolongation disputes involve contractor claims for costs associated with delay as a result of owner-based action. They can comprise a broad range of overhead costs, opportunity costs and additional direct costs incurred as a result of the delay. These are often determined by reference to the tender schedule and, importantly, any express provisions contained in the construction contract setting out terms of recovery of prolongation costs.

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21 B*aulderstone Hornibrook Pty Ltd v. Qantas Airways Ltd* [2003] FCA 174, [100]; *Kay Lim Construction & Trading Pte Ltd v. Soon Douglas (Pte) Ltd* [2012] SGHC 186, [72].

22 See The Society of Construction Law, Delay and Disruption Protocol (2002), [1.19.4].

23 Ibid.

24 See, e.g., NEC3, clause 25.3.

A contractor asserting a claim for prolongation costs will need to firstly prove the causation of delay and form of the prolongation. In arbitrations involving energy facilities, this frequently requires the engagement of programming experts to analyse and identify the delay (often through a schedules-analysis approach), and then a quantum expert to particularise the various cost items to substantiate the prolongation claim.

Cost items that are often claimed as prolongation costs include direct costs associated with additional performance days, such as labour costs, utility expenses and security expense; indirect home office overheads incurred by the contractor's corporate management, job site and engineering support personnel costs; idle equipment costs; and mitigation costs.[25]

Suspension of works by contractor

Primacy is given to contract for matters concerning the suspension of works by a contractor. The contractor's right to suspend is generally tied to financial concerns, namely non-payment or a failure by the owner to show evidence of its financial arrangements.[26]

A contractor has no common law right to suspend work.[27] An exception occurs where the non-payment may be characterised as repudiatory conduct or in breach of an essential term of the contract, in which case the contractor may accept the repudiation of the contract and terminate.[28]

In the event of a dispute, there will often be allegations of 'wrongful suspension' and claims for damages to compensate losses flowing therefrom. The liability that may follow may be substantial and can include costs to complete (considered later in this chapter). A contractual right to suspend works must therefore be exercised with caution.

Termination of contract and consequences

The right to terminate arises both contractually[29] and at common law. In general, a party may not unilaterally terminate without lawful reason. The main causes for termination include repudiation, anticipated repudiation, serious breach, frustration, illegality, statutory conferral of the right, or where contractually allowed. The burden of proving lawful termination lies on the party purporting to terminate the contract.[30]

The consequences of termination may be defined by the parties' contract, but will otherwise be subject to the common law principles described below.

Where a contractor accepts termination at common law for the owner's conduct, for example by repudiation, non-payment or serious breach, there are three avenues of recovery available to them: damages, *quantum meruit*, and a debt action for amounts payable at the time of termination. A contractor is entitled to recover losses flowing from termination of the

25 Wiley R Wright III and Mark Baker, 'Damages in Construction Arbitrations' in John A Trenor (ed) *The Guide to Damages in International Arbitration* (Law Business Research, London, 2016).

26 FIDIC Suite, clause 16.1.

27 *Carillion Construction Ltd v. Felix (UK) Ltd* [2001] BLR 1, [34]; *Longyuan-Arrk (Macao) Pte Ltd v. Show and Tell Productions Pte Ltd* [2013] SGHC 160, [75].

28 *Wui Fu Development Co Ltd v. Tak Yuen Construction Co Ltd* [1999] HKCFI 93.

29 See FIDIC Suite, clause 15 (Termination by Employer) and clause 16.2 (Termination by Contractor).

30 *Urban I (Blonk Street) Ltd v. Ayres* [2013] EWCA Civ 816, [55].

contract in order to put the contractor in the position they would be in had the contract been performed, including reliance and expectation losses in accordance with general principles of the recoverability of damages for breach of contract.

Alternatively, a contractor may seek to recover in *quantum meruit*, that is, on restitutionary principles that a contractor is entitled to reasonable payment for work completed to the point of termination.[31] A *quantum meruit* claim is, however, subject to limitations prescribed in the contractual agreement,[32] relinquishes a contractor's ability to claim loss of profits on the remainder of work,[33] and requires the contractor to choose between making a claim for damages or *quantum meruit*.[34]

Where an owner accepts termination at common law for conduct of the contractor, they are usually entitled to recover damages flowing from the termination. For example, if the owner engages a new contractor to complete works, the owner is generally able to claim any increase in project costs associated with the new contractor against the defaulting contractor by way of contractual rights, or first-limb damages under *Hadley v. Baxendale*.[35] The owner is still under a duty to mitigate its losses. A contractual power to terminate will usually dictate the rights of owners and contractors, or where a clause does not prescribe the consequences of termination, claims for direct losses are usually implied into the contract.[36] Insofar as liquidated damages, or second-limb *Hadley v. Baxendale* damages, are concerned, an owner's right to liquidated damages in general is valid until the point of termination.[37] The parties may, of course, alter this right by agreement in the terms of the contract. On restitution grounds, and therefore separate to damages, an owner may be entitled to recover overpayment to the contractor provided the contractor has totally failed to deliver any consideration for such overpayment.[38]

A contract may also be terminated on mutual terms, either by agreement or abandonment. Where a contract is terminated by mutual agreement, the procedure for doing so is dictated by the contractual terms; however, parties may need to evidence some form of deed or consideration.[39] Where a contract is terminated by mutual abandonment, however, it is necessary to show one party has indicated it will not proceed with the contract (in some cases non-performance by both parties over a period is sufficient), with the consent of the other.[40]

As the right to termination appears both in contract and in common law, it is critical that the parties make clear which route of termination is being pursued. While the broad

31 *Heyman v. Darwins Ltd* [1942] AC 356; *Len Lichtnauer Developments Pty Ltd v. James Trowse Constructions Pty Ltd* [2005] QCA 214; *Sopo v. Kane Constructions Pty Ltd (No. 2)* [2009] VSCA 141, [5].

32 *Heyman v. Darwins Ltd* [1942] AC 356.

33 As a *quantum meruit* claim acts as an alternative to a damages claim.

34 *United Australia Ltd v. Barclays Bank Ltd* [1941] AC 1, 29-30.

35 [1854] EWHC J70.

36 *McNab NQ Pty Ltd v. Walkrete Pte Ltd* [2013] QSC 128, [29].

37 *Bluewater Energy services BV v. Mercon Steel Structures BV* [2014] EWHC 2132 (TCC), [526].

38 *DO Ferguson & Associates v. Sohl* (1992) 62 BLR 95.

39 *Commodore Homes WA Pty Ltd v. Goldenland Australia Property Pty Ltd* [2007] WASC 146 [32].

40 *Eastgate Properties Pty Ltd v. J Hutchinson Pty Ltd* [2005] QSC 196, [52]; *Letizia Building Co Pty Ltd v. Redglow Asset Pty Ltd* [2013] WASC 171, [116].

effect of termination under both routes will align, the legal consequences and procedures that accompany the termination will invariably differ.

Relief for force majeure

A contractor may seek an extension of time on the grounds of force majeure[41] under most standard form contracts for major construction works. The elements for a successful claim for relief will include that an event occurred that was unforeseeable and beyond the reasonable control of either party. The threshold for a force majeure claim will, however, usually be lower than that required to invoke the doctrine of frustration in common law. The party seeking relief will often be required to comply with notice requirements, and mitigate the impact of the neutral delay events on the project. Specific examples of force majeure events that may impact energy projects include sudden shortages in the supply of labour or materials, labour strikes, weather conditions, economic events and government actions. As mentioned earlier, a contractor's entitlement to relief for force majeure is founded solely in contract. The default allocation of neutral risks at common law falls against the contractor.[42]

Cost

Cost-related risk

The need to complete work within budget is known as the cost risk. Projects for the construction of energy facilities generally adopt a lump-sum fixed price contract structure, which naturally places cost risk on the shoulders of the contractor. This fee will be based on careful negotiation and cost-assessment. Nonetheless, cost overruns will eat directly into the contractor's profit margin.

There are two categories of exceptions to this default position. The first category comprises cost overruns that the law mandates will not be borne by the contractor. This may include costs overruns flowing from an owner's acts of prevention or breach of contract. The second category comprises cost overruns arising from neutral events for which the contractor is not responsible according to the terms of the relevant contract. The parties are free during the negotiation of the terms of the contract to allocate risk for neutral delays in whatever manner they see fit.

Additional costs incurred as a result of increases in the scope of works are dealt with separately further below. Leaving scope changes aside, there are a multitude of issues that can arise over the course of the project that result in inflated costs, some of which arise from intentional conduct, others from factors that were completely unforeseeable. Explored immediately below are some of the common claims and issues that arise in this context.

41 A supervening act or event beyond the control of the parties, also referred to as an 'Act of God'.

42 See foundational case of *Company of Proprietors of the Brecknock and Abergavenny Canal Navigation Co v. Pritchard* (1796) 6 TR 750.

Cost-related disputes

General damages

General damages seek to restore an aggrieved contractual party to the position he or she would have been in had the contract been properly performed.[43] They are compensatory in nature.

The seminal case of the modern understanding of general damages is the English High Court case of *Hadley v. Baxendale*.[44] So far as calculating damages are concerned, the court established what is today referred to as the 'two limbs' of damages; direct losses, or those that arise naturally out of the breach, and indirect losses, or those losses as a result of breach that are said to be within the contemplation of both parties at the time of the contract's inception.

These foundational principles provide the basis for a range of claim types, including for costs of 'disruption', 'acceleration', 'prolongation' as well as costs to correct or complete the works, or both. They are, however, subject to the aggrieved party's obligation to take reasonable measures to mitigate its losses.[45]

Contractor global and total cost claims

A contractor who suffers cost overruns as a result of events that are the responsibility of the owner may seek to recover these costs using the total-cost method.[46] This allows causation of the various heads of loss to be proved collectively, where it would otherwise be impracticable to disentangle them.[47] The principles of law governing total cost claims as espoused by the courts are many.[48] There have emerged four elements in Canadian jurisprudence:[49]

- the contractor's tender was reasonable;
- the actual cost is fair and reasonable;
- the overruns resulted from the changes or overruns; and
- lack of another practical method available to quantify the damages.

Formulations of the requirements in Australia,[50] the US[51] and the UK[52] are broadly consistent with this position. In all these jurisdictions there is also an extremely high threshold to be met before a total-cost claim will succeed. Accordingly, it will be preferable in the majority of cases for a contractor to particularise and separately prove its heads of loss.

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43 *Robinson v. Harman* (1848) 154 ER 363, 365; Clark v. Macourt [2013] HCA 56, [7]; *Bunge SA v. Nidera BV* [2015] UKSC 43, [14]; *MFM Restaurants Pte Ltd v. Fish & Co Restaurants Pte Ltd* [2010] SGCA 36, [54]-[56].

44 [1854] EWHC J70.

45 *Lagden v. O'Connor* [2004] 1 AC 1067, 1077-1088.

46 For a detailed analysis of total cost claims see Steven Stein and Yelena Archyan, 'the Total Cost Method: Is it Dead Yet? A Cross-Jurisdictional Comparative Analysis' [2016] ICLR 430.

47 *Golden Hill Ventures Ltd. v. Kemess Mines Inc.* [2002] BCSC 1460.

48 *Walter Lilly and Company Ltd v. Giles Patrick Cyril Mackay* [2012] EWHC 1773 (TCC).

49 *Eco-Zone Engineering Ltd v. Grand Falls-Windsor (Town)* [2005] NLTD 197, [238].

50 *DM Drainage & Constructions Pty Ltd v. Karara Mining Ltd* [2014] WASC 170, [99].

51 *Baldi Bros Constructors* 50 Fed CL, 80.

52 *Walter Lilly and Company Ltd v. Giles Patrick Cyril Mackay* [2012] EWHC 1773 (TCC); *William Clark Partnership Ltd v. Dock St PCT Ltd* [2015] EWHC 2923 (TCC).

Acceleration damages

Acceleration claims arise where the contractor has incurred additional costs for expediting construction pursuant to the owner's instruction. The question of whether the contractor is entitled to acceleration costs is ultimately one of contract interpretation, and depends on whether the contractor or the owner is responsible for the need to accelerate.

In general, acceleration costs claim the total cost of performing the work in the 'accelerated' manner, less the costs of performing the work at the rate specified in the contract. It has been recognised that the specific costs that may be incurred by a contractor accelerating construction may include premium pay, costs of additional tools, equipment, labour, and overtime.[53] Therefore it is critical that the contractor record all relevant costs incurred during the 'accelerated' period, such as the cost of additional resources and amount of overtime worked.

There is currently no consensus among relevant consultants, contractors and employers concerning how acceleration claims should be calculated. Possible methods include a global- or total-cost approach, a time–impact methodology; and formulaic approaches (as specified in the contract).[54]

Contractor claims for latent conditions

A range of neutral issues lead to cost overruns (and delay). A few include unforeseen physical ground conditions that are common given the exotic locations where energy facilities are often built.

The time- and cost-risk associated with hidden ground conditions falls by default to the contractor. However, the allocation of risk for latent defects under several standard forms, including the FIDIC suite, will instead be subject to an objective test of whether the condition was reasonably foreseeable by an 'experienced contractor'.[55] This is a complex question that may require the expertise of an arbiter with an astute technical understanding to resolve.[56]

Limitation, exclusion and indemnity clauses

Limitation and exclusion of liability clauses are often featured in construction contracts in order to protect a party from incurring excessive liability for delayed or defective performance.

A popular limitation or exclusion clause is one that limits or excludes the recoverability of indirect or consequential losses.[57] An aggrieved contractor may thereby be limited to claiming direct losses.[58] The characterisation of losses as 'direct' or 'indirect' will often form

53 Overton Currie, 'Avoiding, Managing and Winning Construction Disputes' [1991] ICLR 344, 369.

54 Davison, P.R. 2008. 'Evaluating Contract Claims'. Oxford (Blackwell).

55 For a detailed discussion of latent conditions, see *Gordon Smith, Latent Conditions and the Experienced Contractor Test* [2016] ICLR 390

56 Recent UK cases on latent conditions include *Obrascon Huate Lain SA v. Her Majesty's Attorney General for Gibraltar* [2014] EWHC 1028 (TCC); *Van Oord UK Ltd and SICIM Roadbridge Ltd v. Allseas UK Ltd* [2015] EWHC 3074.

57 FIDIC Suite, clause 17.6.

58 *Aquatec-Maxcon Pty Ltd v. Barwon Region Water Authority* [2006] VSC 117 [103].

a point of contention between disputing parties, and so astute contract drafters will often be explicit in what type of loss is not recoverable, for example, by listing 'loss of earnings' as an excluded or limited loss.

In a similar vein, construction contracts may also feature indemnity clauses that oblige a party to reimburse the other in circumstances where the latter suffers losses arising from a specific event, usually third-party actions. These indemnity clauses will often be present in contracts between owner and contractor or in contracts between the head-contractor and sub-contractors and, like limitation or exclusion clauses, assist with risk allocation in the contract. For example, indemnity clauses may be used to indemnify the owner for claims by third parties against the owner arising out of the contractor's construction of the asset. It follows that when designing indemnity clauses it is crucial that the parties clearly stipulate the scope and the extent of the indemnity that is intended.

Exclusion-of-liability and indemnity clauses will be given the ordinary meaning, but in the event of ambiguity, will be interpreted *contra proferentem*.[59]

Quality

Quality risk

A further fundamental risk in construction relates to defects in the contractor's performance or in the ultimate facility under construction. The risks associated with quality fall broadly into two categories: (1) the risk that performance does not comply with express contractual stipulations for materials and workmanship (commonly by reference to accepted industry standards, for example the internationally recognised ISO standards); and (2) the risk that the ultimate facility is not fit for purpose (i.e., suitable to meet targets and earn revenue upon completion). These involve technical inquiries that are often within the purview of an independent 'project engineer'.

Underlying these risks most commonly are issues in design, materials and workmanship. More subtle factors that are also relevant to consider include the risk that a poorly conceived delivery structure will cause challenges in delivering a compliant facility; as well as cultural differences between the parties that can have an impact from the time of parties meeting at the negotiating table, through to activities at the site and thereafter (language barriers, business culture clashes, legal customs and heritage).

The adverse consequences of sub-quality construction of energy facilities are wide-ranging. Where defects result in output falling short of production targets, this can result in third-party liability on the part of the project owner to an offtake-partner or financier. Where major projects for national infrastructure are involved, the risks can be magnified and shortfalls in power or water supply may have repercussions for local industry and communities. The owner may seek indemnities from the contractor, or otherwise pursue a claim for damages against him or her in respect of third-party liabilities.

59 *Elvanite Full Circle Ltd v. AMEC Earth & Environmental (UK) Ltd* [2013] EWHC 1191 (TCC), [297]; *Erect Scaffolding (Australia) Pty Ltd v. Sutton* [2008] NSWCA 114, [87].

Quality-related disputes

Breach of contractual standards or 'fitness for purpose'

Where a contract includes a fitness-for-purpose obligation, the contractor must ensure that the completed works will be fit for their intended purpose. In construction projects where the contractor was also procured to undertake the design phase, such a quality standard is usually implied into the contract.[60] To avoid ambiguity, best practice dictates that the owner should specify expressly in clear terms the essential requirements for the ultimate project facility. Some desired purposes are capable of definite assessment – examples being having a 'design life' of a certain number of years,[61] or particular outputs from the construction of a power plant. In other cases, however, the contract may require the project to have the capacity to achieve certain results in a range of conditions. Determinations that materials or workmanship breach specified contractual standards, on the other hand, entail a comparison against a fixed baseline. This is a technical inquiry of fact in the first instance, but the issue of remedies for breaches of building and design standards involves additional questions of contract and law that are addressed below.

A particular source of tension that may arise in this area is in the conflict between design life and design standards where these two requirements are not strictly aligned (for example, where the design life requirement obliges the contractor to go beyond the design standards specifications). This is of pertinence in energy construction projects where design requirements and specific purposes will often be stipulated. Indeed, a conflict between such design specifications and design life provisions seemed to arise in *MT Højgaard A/S v. E.ON Climate & Renewables*,[62] wherein a specified design for the foundation of a wind turbine was unable to fulfil (unbeknown to the contractor) a stipulated design life of 20 years. In that case, it was held these requirements were not incompatible but additional. Nevertheless, the interplay of design requirements and purpose obligations must be considered by parties when allocating risk within the contract, bearing in mind that performance obligations will often be prioritised in conflicts with design specification obligations.

Project engineer or contract administrator

The project engineer is frequently the neutral arbiter called upon to resolve disputes over quality at the project site, armed with the power to issue certificates as to time, cost and quality. The status of that certificate will be determined in the first instance by contract, but also in accordance with applicable rules of law. Important aspects of the project engineer's role include the following:

- First, the duty of independence and impartiality. This manifests both in various standard form contracts, and at common law. It is a quintessential duty of a decision-maker to avoid conflicts of interest and associations that might give rise to bias or the appearance of bias. A breach of these requirements can have the effect of invalidating certificates for

60 *McKone v. Johnson* [1966] 2 NSWR 471, 472-3; *Jurong Towen Corp v. Sembcorp Engineers & Constructors Pte Ltd* [2009] SGHC 93, [7].

61 Although this has been interpreted as an approximate lifetime following *MT Højgaard A/S v. E. On Climate & Renewables UK Robin Rigg East Ltd* [2015] EWCA Civ 407.

62 *MT Højgaard A/S v. E.ON Climate & Renewables* [2017] UKSC 59.

payments, certificates as to the achievement of milestones or certificates as to the quality of works.

- Second, acting in accordance with procedural fairness, by affording due process and a right to be heard to each party interested in the outcome of a decision. This right may, however, be curtailed or eliminated where the contract so provides.
- Third, the potentially final and binding nature of certificates. The character of engineer's certificates is a question of interpretation of the contract terms, and specifically, whether the parties intended the engineer's or administrator's certification to be a final and binding determination of quality of work (or other contractual milestones). If indeed this is found to be the case, grounds for challenging the quality of works will depend on a party's ability to overturn the certificate on one of several narrow grounds of appeal, which may include a manifest error, fraud, bad faith, or gross negligence. Parties may wish to specify in their contracts the grounds on which the certificate may be revoked. Where a final and binding certificate protects the engineer from challenge by the contractor, the owner may still be entitled to claim damages against the engineer for breach of contract or in negligence for careless errors in the certification process.

The above three points provide fertile grounds for challenges to certificates as to the quality of works.

Defects liability period

A common feature in construction contracts is a 'defects liability/notification period',[63] within which the owner can direct the contractor to remedy any defects in the work brought to the contractor's attention. The contractor will need to comply with a properly made request in order to avoid breaching the contract.

The right of an owner to have the contractor cure defects within this period is subject to such notice requirements as may be specified in the contract, and to principles of waiver and estoppel that may preclude an owner from directing the contractor to correct defects to which the owner has previously, by words or conduct, acquiesced.

Latent defects

A latent defect, as the name suggests, is a hidden defect that could not have been discovered at the time of the project's handover with reasonable inspection. Such a defect may manifest itself many years down the track, and thus demonstrate an earlier breach of contract by the contractor. The defects liability period will have concluded and so the owner does not have a right to require the contractor to remedy the works under the relevant contractual clause. The owner may nonetheless pursue a claim for damages in tort or contract, subject to potential time bars under statutes of limitations.

Overview of remedies for defective work

Subject to applicable terms of contract, the following remedies are available to an owner in respect of defective construction services:

63 See for example, FIDIC Suite, clause 11.

- Damages amounting to the cost of rectifying the defective work are the primary remedy available to an owner. An important qualification on this remedy is that awarding damages in the sum of rectification costs would not be unreasonable having regard to the cost and benefit of undertaking the work. This inquiry into reasonableness affords the arbiter a broad discretion to take into account all relevant circumstances, but will require consideration of whether the aggrieved party suffers real loss, and whether the cost of remedial works is disproportionately large compared to the cost of the original works.[64] Importantly, it requires an inquiry into 'reasonableness in relation to the particular contract and not at large'.[65]
- Specific performance, as a remedy reserved for the exceptional circumstances where an award of damages would be inadequate (for example, where urgent repair work is needed and the contractor is the only party capable of performing the work within the required time).[66]
- Other categories of damages may be sought for losses and liabilities incurred as a result of the contractor's defective performance grounded in ordinary principles of recovery for breach of contract. This may include delay claims and claims for additional costs, as covered earlier in this chapter.

Also relevant are the laws of waiver and estoppel as they apply to potential acquiescence by the owner to defects in the contractor's work, by words or conduct.

Scope

Scope risk

The scope of works that the contractor is required to complete is generally conceived prior to the bid-phase of a project. At this stage, the task entails the selection of a procurement methodology and the specification of core functions and performance criteria for the end-use facility. In projects for the construction of energy facilities, this will generally require designation of a design and construct or turnkey methodology, identification of the key features and layout, and specification of required output capacity (e.g., megawattage generated by a power plant; or barrels produced by oil platforms and pipelines). These criteria will then be formalised, in as much detail as the owner desires, in the final contract documentation. In the FIDIC and ICC standard forms, these are known as the 'Employer's Requirements'.

A risk trade-off occurs at this point: more detail in the employer's requirements results in less flexibility for the contractor in performance and therefore a greater risk of change orders. The less detail in the employer's requirements, the less likelihood of change orders but the greater risk that the contractor in performing will produce an ultimate work that does not quite fit the owner's desired facility.[67]

64 *Scott Carver Pty Ltd v. SAS Trustee Corporations* [2005] NSWCA 462, [46].

65 *Ruxley Electronics Ltd v. Forsyth* [1996] AC 344, *per* Lord Jauncey.

66 *Taylor Woodrow Construction (Midlands) Ltd v. Charcon Structures Ltd* (1982) 7 Con LR 1 (CA).

67 For a discussion of the risk trade-off in defining the employer's requirements, see Eric Eggink, 'Correct scoping of Employer's Requirements: the Prevention of Change Orders?' [2017] ICLR 4.

To whom does the risk of changes in work scope fall? A perfunctory response might be that the risk in a fixed-fee turnkey project lies entirely with the contractor to take such steps as are necessary to timely complete the facility for the agreed sum. That might be true in the hypothetical scenario where an employer perfectly defines the scope of work in the technical documents. The position is, however, complicated where there are inconsistencies, shortcomings or deficiencies in the designs or other specifications provided by the owner, as is often the case.

These issues are addressed through risk-allocation provisions and contractual clauses that facilitate 'variations' and 'change orders' where necessary. The risk of scope changes arising from shortcomings in the technical information provided by the owner can be allocated in one of three ways:

- strictly against the contractor, as occurs under the FIDIC Silver Book, which requires the contractor to warrant that it has scrutinised the employer's requirements and is responsible for the accuracy of information in them (except for such information as it is not possible for the contractor to verify) (clause 5.1).
- strictly against the owner, who is held responsible for errors in design and data, therefore granting the contractor a right to added time and payment for the scope change (as is the case under the JCT Design and Building Contract, clause 2.1).
- balanced so that a contractor may point out errors in the employer's design and data and will have a contractual mechanism to seek additional time and payment for additional work (as is the case under the FIDIC Yellow Book, clauses 5.1 and 13).[68]

Scope-related disputes

If the owner denies a proper claim by a contractor for additional time and payment for out-of-scope work, an arbitrator may grant the following remedies in the context of a later dispute:

- the contractor may claim sums for the cost of the work and an allowance for profit in *quantum meruit*; and
- where the contract has an extension of time clause, the contractor will be granted an extension in respect of the delay resulting from the out-of-scope works (thereby reducing the contractor's liability for delay-related damages); or
- where the contract does not have an extension of time clause; the variation may be construed as an act of prevention by the owner that will disentitle it altogether from claiming liquidated damages for delay (see earlier discussion regarding the operation of the prevention principle).

The quantum of out-of-scope works and the amount of time required to complete such work can form points of contention in construction disputes. They often need to be resolved with the assistance of evidence from experts in matters of quantum and construction scheduling. The pricing of additional out-of-scope work is generally done by reference to either the agreed rates for work used for tender pricing; or another schedule of

68 A comprehensive work on variations to the scope of works is Michael Sergeant and Max Wieliczko, 'Construction Contract Variations' (Informa Law from Routledge, 2014).

rates agreed between the parties for the works. Alternatively, the contractor may be entitled to a 'fair valuation' of its costs 'if reasonably and properly incurred'.[69]

Political, economic and social

Political, economic and social factors can have a financial impact on parties to energy projects, owner and contractor alike. These factors are closely intertwined. Political decisions are made based on economic and social considerations leading to legal changes. Three manifestations of these risks that arise from time to time in energy projects, and are accordingly considered, are:

- Risk 1 – changes in applicable laws: including changes in subsidies or tax arrangements, local content requirements, local labour laws, tariffs and other terms of trade.
- Risk 2 – contractor price risk arising from changes in the market for supplies needed for construction.
- Risk 3 – owner price risk arising from changes in the market price of the energy commodity to be produced.

Recovery for losses flowing from these risks will only be possible where a contractual right of recovery or contract price adjustment has been negotiated and agreed between the parties. This requires a commercial decision by the parties: whether risk from political, economic and social factors should be left to lie where it falls or be allocated between them.[70]

The parties' interests are best served where the performance of the project remains a viable and profitable endeavour for both. This ensures timely completion to the requisite standard. Over a multi-year period for major projects, there is a substantial risk of adverse changes to local laws that may create an imbalance in a contract that when negotiated, achieved a fair outcome for both sides. Often it will be the wish of the parties that such risk not be left to chance. The risk will be allocated so that a contractor will benefit from an increase in the contract price to account for additional costs resulting from changes in applicable laws. In return, the contractor will account for part of any windfall resulting from a beneficial change in the law. Thus both parties' interests are protected and the uncertainty associated with change of law is hedged. This same approach applies to risks of adverse changes in tax rates, tariffs and subsidies.

This allocation can be achieved in two ways: through a general provision of risk transfer; or a risk-specific clause.

The first type is a general provision protecting against an adverse change in applicable laws. This leaves open to potential dispute whether the change is a change of 'applicable law', which will depend on the definition of 'applicable law'. This often raises questions of whether a change is a change of mere 'policy', a change in a private agreement between a project party and a government agency, or a genuine change in the law. Another element

69 *Weldon Plant Ltd v. Commission for the New Towns* [2001] 1 All ER (Comm) 264, [15].

70 The first and second of these risks arise from express policy decisions by the government of the jurisdiction where the project is located. Accordingly, changes in policy that adversely impact project participants may be the subject of an investor–state claim under an applicable investment treaty. As stated earlier, this chapter is not concerned with the potential investor–state implications, but rather the significance of these issues between contracting parties seeking to achieve an optimal allocation of risk between them.

that can arise is whether the change in law was foreseeable and therefore expected by the parties at the time the contract was negotiated and agreed.

The second type consists of specific provisions that protect against these risks. One example is a change in local content requirements.[71] Local content requirements require international companies to use a minimum level of local labour (or otherwise no more than a maximum percentage of foreign labour). This seeks to preserve local social standards and economies, and achieve sustainability. Local content may be cheaper or more expensive than imported labour. There are a multitude of other risks of legislative change that the parties may specifically wish to include in their allocation of risk. This avoids surprises down the track that may jeopardise the financial viability of the project for one of the parties.

As to risks 2 and 3, price risk will by default lie where it falls. Again, however, if the parties wish to eliminate this element of uncertainty, they can hedge the risk through contract drafting. Part of any windfall or loss to a party can be shifted to the other to maintain a balanced final outcome in a multi-year project. The need for the parties to manage this risk becomes more clearly pronounced in projects whose performance spans many years. The volatility of market prices for materials, equipment and commodities if left unchecked has the potential to throw the commercial terms of the negotiated contract out of balance. There are a number of ways this can be addressed. In some contracts a schedule of prices may be set out with provision made for adjustments in the contract price for movements in excess of a certain limit. Alternatively, a contract may make more general provision for economic rebalancing of a contract at a later date.

Conclusion

As is clear, the issues that arise in construction arbitrations concerning energy facilities consist of the same fundamental claims, contractual issues and legal principles as the broader world of construction disputes. The energy industry brings with it additional complexity in the form of international players and risks, economic and political forces at an international level, and strict production-driven scheduling and performance. This chapter has sought to provide a brief introduction to many of these issues and the associated commercial risks.

71 For a discussion of local content laws in Africa, see e.g., Ibironke T. Odumosu-Ayanu, 'Foreign Direct Investment Catalysts in West Africa: Interactions with Local Content Laws and Industry-Community Agreements' (2012) 35(1) North Carolina Central Law Review 65; Bartrand Montembault, 'State Sovereignty in International Projects Takes on a New Luster' (2013) International Business Journal 288, 299-300.

Appendix 1

About the Authors

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Professor Doug Jones AO is a leading independent international commercial and investor–state arbitrator.

The arbitrations in which he has been involved include infrastructure, energy, commodities, intellectual property, commercial and joint venture, and investor–state disputes spanning over 30 jurisdictions around the world.

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Doug is acknowledged as a leading arbitrator and is highly ranked in a number of leading publications. Most recently, in 2017, *Chambers Asia-Pacific* recognised Doug as 'without question the leading Asia-Pacific-based arbitrator for construction disputes', and he maintained his Band One ranking in the International Arbitration Category for a seventh consecutive year.

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The energy industry shaped international arbitration and – thanks to resource nationalism, changes in the oil price, shifting geopolitics and febrile sanctions lists - remains one of its biggest users.

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