THE Investment Treaty Arbitration Review

Sixth Edition

Editor
Barton Legum

THE LAWREVIEWS

THE INVESTMENT TREATY ARBITRATION REVIEW

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PREFACE

This year's edition of *The Investment Treaty Arbitration Review*, like that of last year, goes to press under particular circumstances. Measures to contain the covid-19 pandemic around the world have confined many authors to quarters. Despite these constraints, the authors of this volume have delivered their chapters. The result is a new edition providing an up-to-date panorama of the field. This is no small feat given the constant flow of new awards, decisions and other developments over the past year.

Many useful treatises on investment treaty arbitration have been written. The relentless rate of change in the field rapidly leaves them out of date.

In this environment of constant change, *The Investment Treaty Arbitration Review* fulfils an essential function. Updated every year, it provides a current perspective on a quickly evolving topic. Organised by topic rather than by jurisdiction, it allows readers to access rapidly not only the most recent developments on a given subject, but also the debate that led to and the context behind those developments.

This sixth edition adds new topics to the *Review*, increasing its scope and utility to practitioners. It represents an important achievement in the field of investment treaty arbitration. I thank the contributors for their fine work in developing the content for this volume under the difficult conditions that continue to prevail today.

Barton Legum
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Part VIII

Industries

Chapter 41

EXPERT ROLE IN CAUSATION ANALYSIS FOR ENERGY TRANSITION RELATED ARBITRATION

Christopher J Goncalves and Alayna Tria[1]

I INTRODUCTION

In this chapter, we evaluate the importance of causation in investment arbitration for the natural gas and power sectors, and the critical role industry and quantum experts play in causation analysis. This includes expert assessment of the policy and regulatory causes of the alleged harm and isolation of these factors from ongoing market and economic changes that are unrelated to the alleged violations. We evaluate the critical two steps of causation analysis: first, evaluating whether or not the alleged breaches or violations are connected to the claimed harm, and second, assessing whether or not the harm has led to damages. We then assess recent examples from climate change-related investment arbitrations to illustrate these concepts. We conclude with observations regarding the increased importance of expert causation analysis as a result of investment arbitrations wrought of climate change policy and the energy transition.

II NATURAL GAS AND POWER SECTOR ARBITRATION

Historically, energy sector disputes have dominated investment treaty arbitrations both in terms of claim volume and the amount of claimed damages. Out of the 803 cases registered at ICSID since 1972,[2] 24 per cent have been arbitrations within the oil, gas and mining sector, and 17 per cent have been arbitrations within the electric power and other energy sector.[3] Additionally, arbitrations filed under the Energy Charter Treaty (ECT) have risen from 7 per cent of all International Centre for Settlement of Investment Disputes (ICSID) cases in 2009 to 16 per cent in 2020.[4]

The claimed amounts in investor–state energy sector arbitrations have also vastly exceeded that of other industry segments. With over US$27 billion in total claimed damages

1 Christopher J Goncalves is a managing director and Alayna Tria is an associate director at Berkeley Research Group, LLC. The authors would also like to thank Rebecca Yim, an associate with Berkeley Research Group, for her research assistance on this chapter.

2 Between 1972 and 31 December 2020, ICSID registered 803 cases under the ICSID Convention and Additional Facility Rules.

3 ICSID, *The ICSID Caseload – Statistics*, Issue 2021-1, p. 12.

4 ICSID, *The ICSID Caseload – Statistics*, Issue 2010-1, p. 20; ICSID, *The ICSID Caseload – Statistics*, Issue 2020-2, p. 23.

between 2000 and 2017, the energy sector dwarfs the next-highest industry segment – mining – at US$13 billion in claimed amounts, with other industry segments ranging from US$1.2 billion to US$2.8 billion over the same time period.[5]

It is unsurprising that natural gas and power disputes have featured prominently within energy sector investment arbitration given the extent of private and cross-border investment in these highly capital-intensive industries. For liberalised natural gas and power markets in the United States, United Kingdom and European Union (EU), increased market competition has opened the floodgates for private investment in these sectors. For example, investor-owned utilities served 72 per cent of US electricity customers in 2017.[6] While emerging markets may continue to be only partially liberalised or may still retain state-owned or monopolistic structures, they also rely upon foreign direct investment to meet critical energy infrastructure needs. Investment claims have proliferated (and will likely continue to do so) under bilateral treaties, multilateral treaties like the ECT, and other free-trade agreements (FTAs) as emerging markets have wrestled with various forms of market liberalisation as well as policy retrenchment.

Looking forward, the sheer scale of energy policy and market change, investment and fossil fuel asset decommissioning is likely to unleash a tidal wave of investment disputes. As climate change imperatives and policies intensify and the energy transition gains momentum, the development and deployment of renewable energy and clean-fuel technologies will require massive additional investment in new infrastructure and the decommissioning or conversion of older greenhouse gas (GHG)-intensive infrastructure, with recent research estimating that the global cost of the energy transition for all economic sectors will reach US$73 trillion by 2050.[7] As governments begin to enact energy transition policies to reduce carbon emissions, phase out fossil fuel generation, and implement or modify incentives for investment in renewable energy, this may provide fertile ground for investment disputes by raising questions of fair and equitable treatment (FET), most-favoured nation treatment, indirect expropriation, and diminution in the value of existing assets.

While natural gas and power investments are highly subject to both state policy and regulatory actions, on the one hand, they are also influenced by global market developments, on the other. As demonstrated during 2020, global oil and natural gas price fluctuations can send tidal waves through national and regional markets, destroy market and investor sentiment, and send project economics nose-diving into negative territory. Therefore, because investment claims are often complex and multi-faceted with market, policy and regulatory elements at play, a critical challenge that often arises in international investment arbitration regards the isolation of the causal effects of either factor on the alleged harm to an investor as well as determination of whether and how that harm directly causes the alleged damages. We refer to these together as 'causation analysis'.

5 Credibility International, *Study of Damages Awards in Investor-State Cases*, 2nd edn, January 2021, p. 21. The US$27 billion for the energy sector excludes two outlier cases: *Yukos v. Russia* and *Conoco v. Venezuela*, which had a combined claim amount of US$144 billion. If these cases had been included, total claimed damages for energy sector investor–state arbitrations between 2000 and 2017 would equal nearly US$172 billion.

6 US Energy Information Administration (EIA), 'Investor-owned utilities served 72% of U.S. electricity customers in 2017', *Today in Energy*, 15 August 2019.

7 Jacobson et al., 2019, Impacts of Green New Deal energy plans on grid stability, costs, jobs, health, and climate in 143 countries, *One Earth* 1, 449–463, https://doi.org/10.1016/j.oneear.2019.12.003.

III THE EXPERT'S ROLE IN EVALUATING CAUSATION

Causation refers to the tribunal's imperative to assess whether the alleged breach has actually caused the alleged harm suffered by an investor and is considered the necessary 'bridge' between the violations and damages.[8] Or, in other words, 'causation analysis helps to disentangle the losses caused by the wrongful act and de-attribute loss caused by other factors'.[9]

Causation analysis involves evaluation of the linkage between the breaches and the harm (often assigned to the industry expert) or the linkage between the harm and the damages (often requested of the quantum expert), which may be evaluated separately or in combination. However, in our experience, many claimants, respondents and experts do not carefully evaluate both steps in a coherent fashion, or they skip causation altogether, based on legal instruction or implicit assumptions that both linkages are true. Sometimes this is the result of intentional legal instruction and strategy, such as may be the case for counsel who do not wish for a quantum expert to become entangled on the merits of a case. Occasionally, however, lack of causation analysis may be the result of expert oversight. In such a circumstance, the tribunal may not have the tools needed to properly evaluate the actual cause of harm and damages claimed by the investor.

In our experience, the first step of causation analysis is commonly omitted. In this case, a claimant might convincingly establish that it has suffered loss but fails to prove that the loss was indeed caused by the alleged breach rather than by one or more of unrelated market and economic factors, the actions of the claimant itself, or third parties unrelated to the host state.[10]

Alternatively, by skipping the second step of causation, a claimant might fail to precisely analyse or link the investor's claimed damages to the alleged harm or breaches.[11] In this instance, the claimant's quantum expert might focus on the quantification of damages in a vacuum, leading to a situation in which the damages are detached from the breaches determined in the merits phase of a case and reducing damages calculations to a valuation exercise.[12] This may leave the tribunal without a solid evidentiary base upon which to evaluate the causal links. In other circumstances, and sometimes as the result of specific legal strategy

8 Patrick W Pearsall and J Benton Heath, 'Causation and Injury in Investor-State Arbitration', *Contemporary and Emerging Issues on the Law of Damages and Valuation in International Investment Arbitration*, 2018.

9 Wolfgang Alschner, 'Aligning Loss and Liability – Towards an Integrated Assessment of Damages in Investment Arbitration', 24 February 2015, in Theresa Carpenter, Marion Jansen and Joost Pauwelyn (eds), *The Use of Economics in International Trade Disputes: Lessons Learned and Challenges Ahead*, Forthcoming, available at SSRN https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2569426.

10 Pearsall and Heath, (see footnote 8), p. 1: '[F]or the respondent, causation is key to enforcing what it perceives to be the limits on investment treaty obligations, ensuring that States are not held liable for the attenuated economic ripple effects of a generally application regulation, or for the independent actions of the claimant or third parties'.

11 This notably occurred in *Victor Pey Casado and Foundation Presidente Allende v. The Republic of Chile* (ICSID Case No. ARB/98/2) where the tribunal did not make an award of damages because 'the Claimants have failed to prove any material injury caused to either of them as the sufficiently direct result of the Respondent's breach of Article 4 of the BIT'. Rather, the tribunal noted that the claimants 'focused their submissions on the evaluation of damage, without undertaking the prior step of showing the precise nature of the injury, causation, and damage itself'. See *Victor Pey Casado and Foundation Presidente Allende v. The Republic of Chile* (ICSID Case No. ARB/98/2), Award, 13 September 2016, paras 232 and 234.

12 Alschner (see footnote 9), pp. 6, 8. Alschner also notes that, 'Especially in cases where the investment has been made worthless, it is tempting to match the amount of damages awarded with the value of the asset

or instruction, an expert may lump together the damage caused by each individual breach in a case with multiple established breaches, but this too may provide limited assistance to a tribunal considering whether to award damages to only some of the alleged breaches.

Indeed, causation analysis presents a formidable challenge to legal counsel and arbitrators alike because investment value is rarely driven by a single factor. Particularly within the natural gas and power sectors, asset value is driven not just by levers controlled by the host state, such as policy, regulation and fiscal terms, but also by a multitude of national and international market factors, such as supply, demand, pricing, access to capital, and so forth.

Practitioners often describe causation analysis as having both 'factual' and 'legal' elements,[13] and observe that 'factual causation is one of the areas where the cooperation between lawyers and economists can be most fruitful'.[14] We heartily agree with this statement.

a Factual causation concerns the question of whether or not the alleged harm would have occurred but-for the alleged wrongful conduct. Here, the tribunal typically must decide whether the host state's alleged breach caused the investor's loss, and if so, whether it did so in full or only in part (i.e., to the extent there were exogenous factors at play). Industry and quantum experts can play a fundamental role in assessing factual causation.

b Legal causation evaluates whether the investor's alleged harm is 'too remote' from (or 'not proximate' to) the alleged breach as well as issues of foreseeability.[15] These topics are typically the exclusive remit of legal counsel.

Natural gas and power sector arbitrations often require and benefit from expert elucidation of the market, economic, industry, regulatory and technical drivers of value – often the remit of the 'industry expert', who can play an essential role in isolating the effect of the breaches on asset value from value drivers unrelated to the state's behaviour. To accurately quantify damages, the quantum expert must evaluate the link between the harm and the claimed sums by carefully constructing and assessing the 'but-for' (or, 'counterfactual') scenario. The counterfactual must remove the breaches but not the effects of exogenous value drivers, such as general economic or market trends.

Therefore, while industry experts must consider how to test and isolate the harmful effect of the alleged breach on investment value, quantum experts must possess deep and cross-functional understanding of how damages flow directly from the cause of harm. Because it is critical that industry and quantum expert analysis is fully aligned and integrated both with each other and with the facts and legal theory of the case, it is often effective when industry and quantum expertise on causation is embodied within the same expert or expert team.

Finally, in our experience, experts are best deployed in the early stages of arbitration to assist legal counsel in holistically assessing the merits of the claim (pre-dispute analysis) and

as if a formal expropriation had taken place . . . [A]lthough tribunals carefully differentiate in their legal analysis between expropriation and a violation of fair and equitable treatment (FET), they typically award the same amount of damages equivalent to the full market value of the investment at the damage stage'.

13 Alschner (see footnote 9), p. 18; Pearsall and Heath, (see footnote 8), p. 10. Also see Ilias Plakokefalos, 'Causation in the Law of State Responsibility and the Problem of Overdetermination: In Search of Clarity', *European Journal of International Law* Vol. 26, no. 2., 2015, p. 475.

14 Alschner (see footnote 9), p. 18.

15 Pearsall and Heath (see footnote 8), p. 11.

working in tandem with legal counsel to ensure that the commercial, economic and market aspects of the claim line up with the legal requirements for the analysis of causes of harm and damages.

IV CAUSATION IN ENERGY TRANSITION RELATED ARBITRATION

We expect that the connection between assessing the causation of harm and the quantum of damages will become ever more relevant in the context of natural gas and power disputes in the years to come as investor–state arbitrations increasingly arise because of regulatory and political developments related to climate change. Urgent action on climate change at both the national and regional levels charts a course towards full decarbonisation of many global economies by 2050 with substantial milestones in the interim; notably, net-zero power sector emissions by 2035 under the Biden administration's ambitious climate change agenda, and under the EU's Green Deal, a 55 per cent reduction of carbon emissions below 1990 levels by 2030.

The government-mandated phase-out of fossil fuels and heavily CO2 emitting energy infrastructure runs the risk of creating substantial stranded assets in both the natural gas and power sectors. In the power sector, the phase-out of coal-fired and oil-fired power generation has created, and will likely continue to create, power generation assets that are either underutilised or economically unviable well before the end of their economic life, such that investors are no longer able to earn an economic return on their investment. In the longer term, natural gas may also come under threat of stranding or early retirement, as natural gas's role as a 'bridge fuel' wanes as a result of the increasing efficiency and scalability of wind and solar generation, as well as even cleaner fuels such as hydrogen.

Approximately 70 per cent of global coal-fired generation capacity is greater than 10 years old,[16] and it is these units that will face the greatest and most imminent risk of stranding because of lower efficiency and higher emissions rates. Much of the world's operational and under-construction coal generation capacity is concentrated within Organisation for Economic Co-operation and Development countries with not only aggressive decarbonisation policies but also robust protections for foreign investment (i.e., bilateral investment treaties, FTAs and multilateral treaties).

Recent evidence suggests that the energy transition is increasingly being driven by favourable renewable energy economics, which are now on a course to outcompete fossil fuels on their own merits, rather than by policy alone. In some regions, the cost of clean energy, even without subsidies, has declined to the point where utility-scale solar and onshore wind-generation produce electricity for prices that beat even the lowest-cost coal-fired generation,[17] and there continue to be vast improvements in the technological efficiency and scalability of renewable energy generation as well as battery storage technology. The recent economic momentum away from fossil fuels and toward clean energy sources will only be accelerated and massified by the growing array of national and multinational policy initiatives that aim to achieve net-zero economies within the coming few decades.

For these reasons, we expect that investment arbitrations centered around the reduced economic viability of power generation and natural gas infrastructure assets are poised to

16 Berkeley Research Group analysis.

17 Christopher Goncalves, Matt Tanner, Alayna Tria and Tristan Van Kote, 'From Resource Scarcity to Energy Abundance and Infinite Supply', *Transition Economist*, January 2021.

become increasingly common as the energy transition accelerates. We further expect that causation will become a particularly salient point for fair and equitable treatment and indirect expropriation claims of assets with extremely long useful lives, as is almost always the case for natural gas and power sector investments. Indeed, coal-fired power plants have a median lifespan of 32 years.[18] Because fossil fuel assets may face significant market and economic headwinds over the course of their lifetimes that could impair their economic value – even 'but-for' the state's alleged breaches – expert causation analysis may consequently become a critical issue in these claims.

That is, in cases where a claimant alleges lost revenues or lost profits for a stranded asset, and the assumed useful life of that asset extends well into the future, the counterfactual cash-flow performance of that asset must be evaluated in the context of the ongoing energy transition to avoid overcompensating investors and penalising states for actions outside their control. Indeed, disputes arising as a result of state environmental protection and climate change measures are already emerging in both Europe and North America, under the ECT and North American Free Trade Agreement (NAFTA), respectively. While most of these cases are still pending and early stage, there are claim elements regarding the projection of future asset performance where the effect on asset value of increasingly unfavourable economic headwinds is intertwined with the alleged breaches themselves.

For example, in 2009, Swedish energy utility Vattenfall submitted an arbitration claim under the ECT against Germany claiming harm from environmental restrictions imposed upon a coal-fired power plant constructed near the Elbe River. Vattenfall claimed that the strict environmental standards imposed by the government in its final construction permit, which governed the plant's impact on the nearby river, went beyond the environmental restrictions in the plant's preliminary construction permit.[19] Specifically, the state restricted the amount of the cooling water that could be used by the power plant, which would, in turn, require the plant to scale back its operations, which Vattenfall argued would make the coal plant impractical and uneconomical, leading to an initial damages claim of €1.4 billion.[20] The case ultimately settled on confidential terms in 2010.

In *Westmoreland v. Canada*, the US coal mining company Westmoreland filed a NAFTA claim in 2018 against Canada as a result of alleged discrimination following Alberta's decision to phase out coal in power generation by 2030. Westmoreland alleged that the province of Alberta paid nearly C$1.4 billion in compensation related to the phase-out to three Albertan coal-consuming power utilities but nothing to Westmoreland, who supplies coal to the majority of the phased-out power plants and purchased its coal mines in 2013–14 on the expectation that they would have a 50-year lifespan.[21] As a result, Westmoreland has claimed nearly US$441 million in revenue that it otherwise expected to earn as a result of the phase-out.[22]

18 Steven J Davis and Robert H Socolow, 2014, *Environmental Research Letters*, 9, 084018.

19 Nathalie Bernasconi, International Institute for Sustainable Development (IISD), Background Paper on Vattenfall v. Germany Arbitration, July 2009, pp. 1–2.

20 Global Arbitration Review, 'Vattenfall Settles Dispute with Germany', 27 August 2010. Nathalie Bernasconi, International Institute for Sustainable Development (IISD), Background Paper on Vattenfall v. Germany Arbitration, July 2009, pp. 1–2. *Vattenfall v. Germany* (I), Investment Dispute Settlement Navigator.

21 *Westmoreland Mining Holdings LLC v. Government of Canada*, Notice of Arbitration and Statement of Claim, 12 August 2019, paras 31, 79.

22 id., para. 86.

Two nearly identical ECT claims have arisen against the Netherlands, one of which was recently filed (*RWE v. Netherlands*) and another of which has been threatened and is still pending (*Uniper v. Netherlands*). As a German investor in two Dutch coal-fired power plants, RWE has claimed for compensation of the financial impact wrought by Dutch legislation that will phase out coal in the country's electricity production by 2030 as part of the country's efforts to meet targets under the Paris Agreement.[23] Uniper appears to be weighing a similar arbitration regarding its Dutch coal-fired plant, which was expected to have a lifespan of 40 years but would need to be prematurely retired or converted to run on alternative fuel fewer than 15 years after opening.[24]

Causation has figured largely in climate change-related cases arising from the withdrawal of investment incentives and other regulatory changes for renewable energy. As part of their climate change strategies, several states have adopted renewable energy incentivisation schemes, such as feed-in tariffs (FITs) whereby the state commits to buying power generated through renewables for a certain period of time (25 years or possibly longer) at a fixed rate, regardless of the actual market price.[25] While these programmes were successful at attracting foreign investment in renewables, as states have amended or terminated these programmes, there has been an upsurge in renewable energy investment arbitration. As of 2019, more than 40 cases concerning renewable energy had been brought by investors against states under the ECT, many of which are levied against Spain, the Czech Republic and Italy.[26]

While many of these cases remain pending, legal scholars note that, of the awards that have been issued, causation has proven to be at least partly determinative of the outcome of the case:[27]

> *[I]f an investor's profitability has remained unaffected, if its losses are not significant, or if they are, but no causal link with the changed policy is demonstrated, the investor is likely to lose its case. The reverse is true when the regulatory changes have destroyed the value of the investment or causes a substantial deprivation.*

For example, in *Blusun v. Italy*, under which solar power investors claimed that the state's reduction in FITs had effectively expropriated their investment, the tribunal ultimately ruled that that the claimants had not discharged their burden of proof by establishing that 'the Italian state's measures were the operative cause of the . . . Project's failure'.[28] On the contrary, the tribunal held that even if some or all the state's actions constituted breaches of the ECT, if they did not cause the failure of the project, then the claimants were not entitled to recover damages.[29]

23 *Global Arbitration Review,* 'Netherlands Faces First ICSID Claim Over Coal Plant Ban', 3 February 2021.

24 Megan Darby, 'Coal Generator Uses Investment Treaty to Fight Netherlands Coal Phaseout', *Climate Change News*, 21 May 2020.

25 Freya Baetens, 'Combating climate change through the promotion of green investment: from Kyoto to Paris without regime specific dispute settlement', in: K. Miles (ed.), *Research Handbook on Environment and Investment Law* (Edward Elgar, 2019).

26 Baetens (see footnote 25), p. 20.

27 id., pp. 20, 22–23.

28 *Blusun SA, Jean-Pierre Lecorcier and Michael Stein v. Italy*, ICSID Case No. ARB/14/03, Award, 27 December 2016, para. 394.

29 id., para. 375.

V CONCLUSION

As the energy transition gains global momentum, states enact or revise national climate change strategies and policies, and aging and inefficient infrastructure is decommissioned or retired, we anticipate that energy arbitration will continue to grow significantly. Climate change and energy transition-related investment disputes contain complex issues related to both the passage or revision of climate change and energy transition policies and regulations as well as broader market and economic trends, such as:

- *a* the falling capital expenditures and operating costs of renewables;
- *b* lower borrowing costs for renewables and clean energy;
- *c* investors' rising environmental, social and governance (ESG) standards;
- *d* reduced funding and higher borrowing costs for fossil fuel projects
- *e* falling natural gas production costs (i.e., as a result of ample US shale gas); and
- *f* heightened technical efficiency for gas-fired generators (i.e., for combined cycle gas turbines, or CCGTs) and other clean fuel technologies.

As such, we expect that a formidable task in upcoming natural gas and power sector arbitrations will require isolating the effect of these broader economic factors that are not attributable to the state from the harm caused by state-led policy, regulatory or fiscal actions that form the crux of the alleged breaches. If harm can indeed be linked to the alleged breach, experts may assist the tribunal by determining whether the harm from the alleged breach can be isolated and quantified separately from unrelated economic, commercial or financial causes of harm (i.e., broader macroeconomic and market trends). When both steps of causation analysis are required, it is often effective to seamlessly align and integrate industry and damages expertise on causation within the same expert or expert team.

These are likely to become the critical issues that experts can help tribunals evaluate and understand when deciding causal issues for investment disputes related to climate change and energy transition policies. The experts and legal counsel who can master these issues and challenges will be best positioned to help tribunals to accurately analyse and thoroughly understand increasingly complex issues of liability, causation and damages.

Appendix 1

ABOUT THE AUTHORS

CHRISTOPHER J GONCALVES

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Christopher J Goncalves, chair and managing director of BRG's energy and climate practice, has 30 years of international experience in the energy and financial industries. He provides energy industry and damages expert services for international energy arbitration and litigation matters for law firms and industry clients. He also advises industry and financial sector clients in the areas of business and commercial strategy, commercial negotiation, economic and market analysis, valuation, regulatory assessments, project development and financing, asset acquisitions and divestitures, climate change and international carbon markets and pricing. Mr Goncalves is a seasoned industry and damages expert with independent analysis, reporting and testimony experience for significant international arbitration and litigation matters concerning disputed energy prices, markets, commercial standards, practices, values and financing requirements for energy projects, assets, contracts and transactions. He has provided expert analysis and reports for over 40 pre-dispute and dispute matters under the auspices of ICSID, UNCITRAL, the ICC, ICDR/AAA, the Milan Chamber of Commerce, the Royal Courts of Justice of England and Wales and US federal courts. Of these, Mr Goncalves has provided oral testimony in 16 international investment and commercial disputes. For the last several years, *Who's Who Legal* has recognised Mr Goncalves as a leading energy industry and damages expert.

ALAYNA TRIA

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Alayna Tria, an associate director with BRG's energy and climate practice, specialises in energy industry and quantum analysis for international investment and commercial arbitration. She provides insight and analysis to law firms and industry clients for energy related disputes in oil and natural gas, liquefied natural gas (LNG), power, renewables and electric utilities. Ms Tria brings years of expertise to clients in market and economic analysis, financial modeling, damages quantification, valuation, industry research, due diligence and business advisory. Ms Tria has led a variety of engagements for disputes under the ICC, ICSID, UNCITRAL, LCIA and PCA rules. Her work has involved breach of contract, expropriation, shareholder disputes and LNG price reviews. She has provided consulting services to claimants and respondents in markets across North America, Latin America, South Asia, East Asia, Southeast Asia, Europe, Africa and the Middle East. Ms Tria was previously a consultant at a global expert services and consulting firm, where she specialised in valuation and damages analysis in support of international arbitrations across a wide range of sectors and industries.

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