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BANKABLE POWER, UNBANKABLE POLITICS: POWER PURCHASE AGREEMENTS, DEMOCRATIC RISK, AND THE POLITICAL ECONOMY OF ENERGY FINANCE IN GHANA

Martin Waana-Ang[1*]

Abstract

This paper contends that in Ghana, Power purchase agreements (PPAs) operate as quasi-constitutional governance documents that allocate political risk, shape tariff trajectories, and bind future governments in legitimacy eroding ways. I argue that because bankability is achieved by shifting currency, offtake, and demand risk from private capital to the public through tariffs, guarantees, and termination payments, PPAs have not only created debt level crises that constrain government, they have also created a mismatch between our generation capacity and transmission infrastructure. I draw on Grossman and Hart's incomplete contract theory and, connecting it to Guasch et al's model of concession renegotiation, show that the frequent renegotiations of PPAs across Latin America and Africa is a quintessential and inherent part of the nature of project finance itself. Renegotiations of PPAs should thus be considered and expressly provided for in PPAs. Ghana ought to rethink her mechanisms for developing her electricity infrastructure.

1 * LLB (Ghana), LLM, (Yale), Doctoral student, Yale Law School. This paper was originally submitted in fulfilment of the requirements of the International Business Transactions Course. I am grateful to Professor Amy Chua for her invaluable guidance and delivery during the course of the semester. Nevertheless, all mistakes or errors remain solely my responsibility.

Introduction

Access to electricity, coupled with sustained industrialisation, constitutes a foundational pillar of modern economic development.[2] Reliable power underwrites not only the production of goods and services, but also the functioning of essential state institutions, including the maintenance of law and order, public security, and broader social stability.[3] From a developmental perspective, electricity serves as both a critical input and enabling infrastructure: it drives industrial activity, supports the expansion of economic systems, and facilitates the effective delivery of public services.[4] For this reason, universal access to reliable and affordable energy is embedded in the core of the United Nations Sustainable Development Goals.[5]

For Ghana, however, the aspiration to attain reliable electricity supply has remained, somewhat, elusive over the years despite moderate efforts by governments to increase generation capacity. Power instability has, over the years, constrained productive sectors, undermined industrial output, and imposed measurable costs on economic

2 Paul A David and Gavin Wright, 'General Purpose Technologies and Surges in Productivity: Historical Reflections on the Future of the ICT Revolution' in Paul A David and Mark Thomas (eds), *The Economic Future in Historical Perspective* (OUP 2003); Vivien Foster and Cecilia Briceño-Garmendia, *Africa's Infrastructure: A Time for Transformation* (World Bank 2010) 6–9, 177–82; World Bank, *World Development Report 1994: Infrastructure for Development* (World Bank 1994) 14–24.

3 World Bank, *Linking Up: Public-Private Partnerships in Power Transmission in Africa* (World Bank 2017) 1–3 (linking electricity reliability to the functioning of public services and institutional performance); UNDP, *Human Development Report 2014: Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience* (UNDP 2014) 8, 17–19, 117 (tracing the relationship between energy access, human security, and institutional resilience). For the connection between energy reliability and the operation of basic state functions in low- and middle-income jurisdictions, see Akshay Mathur and Vivien Foster, *Rethinking Power Sector Reform in the Developing World* (World Bank 2019) 1–4.

4 Mary Esi Eshun and Joe Amoako-Tuffour, 'A Review of the Trends in Ghana's Power Sector' (2016) 6 Energy, Sustainability & Society art 9, 2–3.

5 UNGA Res 70/1, *Transforming Our World: The 2030 Agenda for Sustainable Development* (25 September 2015) para 7 and Goal 7 (establishing Sustainable Development Goal 7, 'Ensure access to affordable, reliable, sustainable and modern energy for all', and, in Target 7.1, committing States, by 2030, to 'ensure universal access to affordable, reliable and modern energy services'). For the indicator framework operationalising SDG 7, see UN ECOSOC, *Global Indicator Framework for the Sustainable Development Goals and Targets of the 2030 Agenda for Sustainable Development* UN Doc A/RES/71/313, Annex (6 July 2017) (as subsequently revised).

growth and national productivity.[6] Importantly, the persistence of these challenges is not a recent phenomenon.[7] Ghana's power sector difficulties are historically rooted, reflecting longstanding structural constraints in generation capacity, transmission infrastructure, and sectoral governance.[8]

This power sector crisis *became* pronounced between 2012 and 2016. During this period, Ghana experienced what came to be christened *dumsor*, meaning "off and on."[9] The phrase captured a condition of chronic electricity instability, marked by rolling blackouts that paralysed industrial production, shuttered factories, and forced millions of households to organise their daily lives around an unreliable grid.

Confronted with this crisis, successive governments turned urgently to private capital. Driven mostly by the imperative of political survival, an impulse that resonates with *Mushtaq Khan's* theory of political settlements,[10] governments across the partisan divide

6 Eshun and Amoako-Tuffour (n 3) 4 (citing Institute of Statistical, Social and Economic Research (ISSER) estimates that Ghana lost between US$320 million and US$924 million per annum in productivity and economic growth as a result of the energy crisis); Ama Baafra Abeberese, Charles Godfred Ackah and Patrick Opoku Asuming, 'Productivity Losses and Firm Responses to Electricity Shortages: Evidence from Ghana' (2021) 35 World Bank Economic Review 1; World Bank, *Doing Business 2020: Comparing Business Regulation in 190 Economies* (World Bank 2020) 31.

7 Ghana experienced its first power crisis in 1983. This was mainly caused by drought due to unpredictable rainfall patterns. This resulted in low levels of water that hampered the generation of hydroelectric power from the Akosombo Dam. In response, power supply to consumers was curtailed. This crisis reoccurred in 1997–1998 and in 2007–2008, all driven by droughts. The latest electricity crisis started in 2012 and lasted until 2015. It resurfaced in 2022 and has persisted until present.

8 Eshun and Amoako-Tuffour (n 3) 5–9.

9 For accounts of the dumsor crisis and its periodisation, see Ishmael Ackah, Katie Auth, John Kwakye and Todd Moss, *A Case Study of Ghana's Power Purchase Agreements* (Energy for Growth Hub 2021) 1, 4 <https://energyforgrowth.org/wp-content/uploads/2021/03/A-Case-Study-of-Ghanas-Power-Purchase-Agreements.pdf> accessed 1 May 2026; Samuel Asumadu Sarkodie, 'Lessons to Be Learnt from Ghana's Excess Electricity Shambles' *GhanaWeb* (5 August 2019).

10 Mushtaq H Khan, *Political Settlements and the Governance of Growth-Enhancing Institutions* (SOAS Research Online, Working Paper 2010) 4–6 <https://eprints.soas.ac.uk/9968/> accessed 1 May 2026; see also Mushtaq H Khan, 'Political Settlements and the Analysis of Institutions' (2018) 117 African Affairs 636. Briefly, Khan's theory holds that the durability of institutions depends less on their formal design than on whether they are compatible with the

entered into a proliferation of power purchase agreements (PPAs) with independent power producers (IPPs), emergency power providers, and floating power-plant operators.[11] These arrangements were animated, at least in their immediate conception, by the urgent need to restore electricity supply, stabilise economic activity, and reestablish public confidence in the state's capacity to govern the energy sector.[1213]

But what emerged from this rapid resort to private contracting was economically disastrous. Ghana accumulated a dense portfolio of thirty-two PPAs; many negotiated through unsolicited proposals rather than competitive procurement and structured predominantly on take-or-pay terms that insulated investors from demand risk.[14]

By 2019, the fiscal consequences of Ghana's contracting approach had already begun to crystallise at the highest levels of government. Presenting the mid-year budget review, the then Minister of Finance, Mr. Ken Ofori-Atta, lamented the mounting legacy debt in the energy sector, attributing a substantial portion, then estimated at approximately US$1 billion, to obligations arising from unsolicited PPAs executed during the *dumsor* era.[15] The Minister outlined a series

underlying distribution of power among contending elites and organised groups (the 'political settlement'). On this account, governments facing a fragile settlement adopt policies that secure short-term political survival—here, the rapid contracting of emergency generation capacity—even where such policies impose substantial long-term fiscal costs, because the immediate imperative of maintaining the ruling coalition's hold on power dominates the calculus.

11 Ackah and others (n 8).

12 ibid.

13 The urgency of the *dumsor* crisis operated as a species of economic duress on the public side of the bargain: confronted with rolling blackouts and the attendant political and economic costs, government negotiators bargained from a position of acute weakness, with little time for due diligence, competitive tendering, or value-for-money scrutiny. This asymmetry of urgency predictably skewed the resulting contracts in the investors' favor, through inflated capacity charges, take-or-pay terms, and sovereign-backed guarantees, and helps explain why emergency PPAs concluded under crisis conditions tend to embed terms that successor governments later find intolerable. The point is not that such contracts are voidable for duress in the doctrinal sense, but that the conditions of their formation systematically degrade the quality of the bargain the state is able to strike.

14 ibid.

15 Ministry of Finance, *2019 Mid-Year Fiscal Policy Review and Supplementary Estimates* (29 July

of corrective measures aimed at stabilising the sector's finances.[16] Yet, notwithstanding these interventions, the trajectory of indebtedness has proven persistently upward rather than corrective.

By 2023, the scale of the problem had become even more pronounced. The Electricity Company of Ghana had accumulated approximately US$1.4 billion in arrears to IPPs.[17] In the same year, under the conditionalities attached to a US$3 billion Extended Credit Facility with the International Monetary Fund, the government committed to implementing quarterly cost-reflective tariff adjustments.[18] This policy shift revealed, in immediate and distributive terms, the cumulative burden of these contractual arrangements, effectively transmitting the costs of past procurement decisions to ordinary consumers.

In 2025, the Minister of Finance, Dr. Cassiel Ato Forson, presenting the 2025 budget to parliament, noted that the current legacy debt in the energy sector stands at about $1.73 billion.[19] While the minister announced that about $1.47 billion had been paid, recent research indicates that about $707 million of the legacy debt remains outstanding.[20] This is in addition to a projected shortfall in the energy sector, estimated at $12.5 billion for the period of 2023–2026.[21]

The current energy crisis did not, however, arise in a vacuum. Ghana's power sector has long been shaped by structural fragilities. While the

2019) 31–35 <https://www.mofep.gov.gh> accessed 1 May 2026.

16 Some of these measures included the introduction of the energy sector levy, renegotiation of existing PPAs, and the issuance of energy sector bonds, among others.

17 World Bank, *Implementation Completion and Results Report: Ghana Energy Sector Transformation Initiative Project* (Report No ICR00091, 2025) 15 (reporting US$1,624 million in legacy energy-sector debt as of end-2022).

18 IMF, 'IMF Executive Board Approves US$3 Billion Extended Credit Facility Arrangement for Ghana' (Press Release No 23/151, 17 May 2023) <https://www.imf.org/en/news/articles/2023/05/17/pr23151-ghana-imf-executive-board-approves-extended-credit-facility-arrangement-for-ghana> accessed 1 May 2026.

19 Ministry of Finance (Ghana), *The Budget Statement and Economic Policy of the Government of Ghana for the 2025 Financial Year* (11 March 2025) 20.

20 ibid.

21 ibid.

Akosombo hydropower system, commissioned in 1965, provided the backbone for early electrification,[22] generation and transmission infrastructure have not expanded in tandem with rapid demographic growth and industrialisation. For instance, electricity demand grew sharply, averaging over ten percent annually between 2007 and 2014, yet investment in grid capacity remained insufficient.[23] The 2012–2016 crisis, and subsequent episodes of instability, were thus not merely the product of exogenous shocks, such as fuel supply disruptions or hydrological variability, but reflected deeper patterns of institutional underinvestment and reactive policymaking.[24]

Indeed, the crisis-response dynamic itself has proven central to the problem. Periods of acute shortage have propelled governments into emergency procurement, often bypassing competitive processes and long-term planning considerations.[25] The result has been a contracting model that prioritises speed and investor assurance over systemic coherence.[26] In this respect, PPAs in Ghana have functioned less as instruments of coordinated sectoral development and more as mechanisms for crisis containment; mechanisms that, paradoxically, generate new forms of long-term vulnerability and constraints for the government.[27]

This vulnerability is compounded by a broader structural feature of Ghana's electricity markets: the imbalance between investment in generation and investment in transmission infrastructure. Research

22 Stephan F Miescher, 'Ghana's Akosombo Dam, Volta Lake Fisheries & Climate Change' (2021) 150 Daedalus 124, 124–25; *see also* Stephan F Miescher, *A Dam for Africa: Akosombo Stories from Ghana* (Indiana UP 2022).

23 Eshun and Amoako-Tuffour (n 3).

24 Foster and Briceño-Garmendia (n 1) 5–7.

25 See Barnaby Joseph Dye, 'How Costly Political Realities Undercut Ghana's Electricity Reforms' *The Conversation* (25 July 2022) <https://theconversation.com/how-costly-political-realities-undercut-ghanas-electricity-reforms-186148> accessed 1 May 2026 (analysing how electoral pressures in 2016 propelled the signing of thirty-two private generation contracts in disregard of expert and regulatory planning).

26 ibid.

27 Samuel Asumadu Sarkodie, 'Lessons to Be Learnt from Ghana's Excess Electricity Shambles' *The Conversation* (5 August 2019) <https://theconversation.com/lessons-to-be-learnt-from-ghanas-excess-electricity-shambles-121257> accessed 1 May 2026.

has shown that private capital has often flowed into generation assets, which can be contractually ring-fenced, while transmission networks, less amenable to project finance structures, remain underdeveloped.[28] What follows from this, then, is a misalignment in Ghana's energy sector: capacity is built but cannot be fully dispatched; governments incur payment obligations for unused electricity; and contractual provisions such as take-or-pay clauses[29] reduce incentives to address the underlying infrastructural constraint.[30]

PPAs have, accordingly, become the legal avenue through which private investment is rendered indifferent to public system fragility. Yet, even as the economic and distributive consequences of these arrangements have become increasingly salient, the contracts themselves remain largely insulated from meaningful public scrutiny.[31]

Accordingly, in this paper, I will advance three principal claims. First, I argue that PPAs in Ghana function not merely as commercial contracts, but as *quasi-constitutional* instruments of economic governance (I use *quasi-constitutional* to mean contractual arrangements that bind successor governments, allocate residual control rights over politically salient policy domains, and operate as institutionally entrenched constraints on democratic revision). Second, the tension between bankability and democratic legitimacy, I will argue, is not uniquely Ghanaian but reflects a broader structural feature of infrastructure finance in developing contexts.[32]

28 World Bank (n 2) 1–7, 12–18; Anton Eberhard, Katharine Gratwick, Elvira Morella and Pedro Antmann, *Independent Power Projects in Sub-Saharan Africa: Lessons from Five Key Countries* (World Bank 2016) xxiii–xxv.

29 A take-or-pay clause is a contractual provision under which the offtaker undertakes to pay for a specified quantity of contracted output (or capacity) whether or not it actually takes delivery, so that the obligation to pay is detached from actual consumption. Its function is to shift demand risk from the project company to the offtaker, thereby securing the stable revenue stream on which the project's lenders rely. The clause is discussed in detail in Part I.B.1 below.

30 Asumadu Sarkodie (n 25).

31 Ackah and others (n 8).

32 *See, generally,* Scott L Hoffman, *The Law and Business of International Project Finance* (3rd edn, CUP 2008); ER Yescombe, *Principles of Project Finance* (2nd edn, Academic Press 2014).

Third, I will argue that, to address these concerns, there is a need to rethink the legal architecture of PPAs and, more fundamentally, the regulatory policy of Ghana's electricity sector. Drawing on incomplete contracts theory[33] and the empirical literature on infrastructure concession renegotiation,[34] I propose a framework for PPA design that incorporates transparency, disciplined procurement, structured renegotiation, and more effective management of contingent liabilities. I also make the case for an epistemic shift towards an industrial policy framework regarding Ghana's electricity infrastructure development.

The paper proceeds in six Parts. Part I examines the architecture of bankability in project finance, focusing on take-or-pay commitments, limited recourse financing, and sovereign support mechanisms. Part II discusses the history of Ghana's PPA regime and the regulatory regime governing the sector. I also discuss the Ameri Energy and Karpowership arrangements, the dynamics of overcapacity, and the politics of tariff adjustment. Part III develops the theoretical framework of the paper, drawing on incomplete contracts' theory and the Guasch–Laffont–Straub literature on renegotiation.[35] Part IV suggests some solutions to addressing the current electricity crisis in Ghana. The last part concludes the paper.

33 *See* Oliver Hart, *Firms, Contracts, and Financial Structure* (OUP 1995); Sanford J Grossman and Oliver D Hart, 'The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration' (1986) 94 Journal of Political Economy 691; Oliver Hart and John Moore, 'Foundations of Incomplete Contracts' (1999) 66 Review of Economic Studies 115; see also Oliver Hart, 'Incomplete Contracts and Control' (2017) 107 American Economic Review 1731.

34 *See* J Luis Guasch, *Granting and Renegotiating Infrastructure Concessions: Doing It Right* (World Bank 2004) 11–32, 81–100; J Luis Guasch, Daniel Benitez, Irene Portabales and Lincoln Flor, *The Renegotiation of PPP Contracts: An Overview of Its Recent Evolution in Latin America* (OECD Discussion Paper No 2014-18, 2014).

35 J Luis Guasch, Jean-Jacques Laffont and Stéphane Straub, 'Renegotiation of Concession Contracts in Latin America: Evidence from the Water and Transport Sectors' (2008) 26 International Journal of Industrial Organization 421; J Luis Guasch, Jean-Jacques Laffont and Stéphane Straub, 'Renegotiation of Concession Contracts: A Theoretical Approach' (2006) 29 Review of Industrial Organization 55; see also Eduardo Engel, Ronald Fischer and Alexander Galetovic, *The Economics of Public-Private Partnerships: A Basic Guide* (CUP 2014) 121–58.

PART 1: THE ARCHITECTURE OF BANKABILITY IN POWER GENERATION PROJECTS

Project finance, limited recourse, and the single-purpose vehicle

Electricity projects, given their capital-intensive nature, require special forms of financing typical of those applicable to highways, railways, tunnels, airports, or telecommunications grid equipment.[36] Accordingly, for most power generation projects, project finance is the dominant mode of development.[37] But it is worth noting that the term is not amenable to a simple definition.[38] Be that as it may, project finance may be said to involves a complex web of relationships and actors, all of which are designed to ensure the project's success.[39] The project is normally operated through a special or single-purpose vehicle(SPV), although, of course, the project sponsor is responsible for the development of the project to make it attractive to investors and lenders.[40]

Therefore, project finance is, in its technical description, a mode of investment organisation under which an SPV owns a single productive asset, borrows against the cash flows that the asset will generate, and provides recourse to its lenders limited to the asset itself and the revenue it produces.[41] The SPV is incorporated solely for the project and all contracts, transactions among others, related to the project are fronted through the SPV. The SPV does not, mostly, own any previous assets nor is it previously creditworthy. The assets of the SPV, for example, in energy infrastructure is the PPA with the

36 Farid Mohamadi, *Introduction to Project Finance in Renewable Energy Infrastructure: Including Public-Private Investments and Non-Mature Markets* (Springer Nature Switzerland AG 2021) 35.
37 ibid.
38 See Scott L Hoffman, 'A Practical Guide to Transactional Project Finance: Basic Concepts, Risk Identification, and Contractual Considerations' (1989) 45 The Business Lawyer 181, 181–83.
39 ibid; Andrew Fight (ed), *Introduction to Project Finance* (Butterworth-Heinemann 2006) 8–10.
40 ER Yescombe, *Principles of Project Finance* (Academic Press 2002) 1.
41 John Dewar and others, *International Project Finance: Law and Practice* (2nd edn, OUP 2015) 3–4; see also Phillip Fletcher, 'Rules for Negotiating Project Finance Deals' (2005) IFLR 1.

offtaker.[42] It also includes licenses and other concession agreements executed to ensure the smooth execution of the project.

Projects invariably face risks; and like all commercial endeavors, are exposed to a wide range of political, social, environmental, and other regulatory challenges that potentially impact the viability of the project.[43] This is mostly because the project sponsor has no direct obligation to repay the debt if the cash flows fall short. Thus, the contractual framework allocating risks among participants becomes the foundation of the entire transaction.[44] While some risks can be insured, structured, or contracted away, others are inherent in the nature of the project itself, since the project company is mostly new, thinly capitalised, and has no creditworthiness.[45] Indeed, Hoffman posits that 82% of project financings encounter trouble, making risk allocation essential.[46] Given the wide range of risks often considered, the nature of which differ depending on the nature of each project, it will be impossible to dovetail all here. The most important consideration, for present purposes, is the extent to which the project would be able to cover its fixed cost (i.e., debt service, equity return, and fixed operations and maintenance).[47]

The project's future cash flows serve as the basis and security for lenders to invest or otherwise lend money for the project's construction.[48] This is because the sponsors of the project would normally write the project off their balance sheet, which implies that the sponsors cannot be held liable for the debts of the project company.[49] This

42 Evangelos Gavriil, 'The Risks in Power Purchase Agreements (PPAs) for Utilities & Corporate Offtakers' (MSc thesis, University of Piraeus, Department of International and European Studies 2022) 43.

43 Dewar and others (n 38) 5.

44 Hoffman (n 35) 204–11.

45 Dewar and others (n 38) 5.

46 Hoffman (n 35) 193–203.

47 World Bank, 'Power Purchase Agreements (PPAs) and Energy Purchase Agreements (EPAs)' (Public-Private Partnership Legal Resource Center) <https://ppp.worldbank.org> accessed 1 May 2026.

48 ibid.

49 See, for example, Matt Bull, *Bankability in Highway PPP Projects* (Public-Private Infrastructure

kind of arrangement is usually designed through non-recourse or limited recourse agreements.[50] Whereas non-recourse agreements protects the project sponsor's assets for the debts and liabilities of the individual project, limited recourse allows some assets of the project sponsor to be used as security for the debts of the individual project.[51]

Investors and lenders will naturally be interested in the assets of the individual project, especially without any previous knowledge or records of the creditworthiness of the SPV. In this case, they are normally limited to the contracts the project company has signed, or the licenses, concessions, or other regulatory approvals for the individual projects.[52] In regulated industries, and particularly in the African context, the setting of consumer tariffs and the granting of regulatory approvals for electricity generation are highly politically salient and frequently subject to political manipulation.[53] Because of this volatility, project companies and their lenders rationally insist on contractual and institutional safeguards—sovereign guarantees, escrow arrangements, indexed tariff formulas, and stabilisation provisions—designed to preserve revenue certainty and sustain capital flows across political cycles, and resist the temptation of institutional intervention.[54]

Advisory Facility (PPIAF), World Bank Group 2015) <https://ppiaf.org> accessed 1 May 2026.

50 Dewar and others (n 38) 3–4.

51 ibid. That is, in non-recourse agreements, the project sponsor's assets are insulated or immune from liability and lenders cannot put a claim or charge on them as guarantee for repayment of their debts. Limited recourse, however, allows, in a limited sense, some assets of the project sponsor to be used as guarantee in this regard.

52 See, for example, Benjamin C Esty, *When Do Foreign Banks Finance Domestic Investment? New Evidence on the Importance of Legal and Financial Systems* (Harvard Business School, Working Paper, 19 December 2002) 2.

53 See Chris Trimble and others, *Financial Viability of Electricity Sectors in Sub-Saharan Africa: Quasi-Fiscal Deficits and Hidden Costs* (World Bank Policy Research Working Paper No 7788, 2016) 24–37 (documenting persistent below-cost-recovery tariff-setting across sub-Saharan Africa and tracing the pattern to the political costs of upward adjustment); Brian Levy and Pablo T Spiller, 'The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation' (1994) 10 Journal of Law, Economics & Organization 201, 202–05; see also Cyrille Ndayishimiye and others, 'Power Generation Overcapacity in Selected Sub-Saharan African Countries: Political-Economic Drivers and Grid Infrastructure Challenges' (2025) 2–3 Frontiers in Energy Research art 1549844.

54 On the architecture of bankability and the role of sovereign and quasi-sovereign credit support,

Project finance has, despite the risks, emerged as the preferred structure for energy-sector investment in developing economies for reasons that are not difficult to elaborate. It enables host governments to avoid mobilising the substantial up-front capital that conventional public investment in generation infrastructure would require and, through the use of an SPV and limited-recourse lending, permits the resulting liabilities to remain off the sovereign balance sheet, at least under conventional public accounting conventions.[55] Although host governments are, in principle, capable of financing such projects directly, the scale of capital required, combined with sovereign debt constraints and the conditionalities attached to multilateral lending, has typically made direct public investment politically and fiscally unattractive.[56]

These technical preferences, however, did not emerge in a neutral policy environment. Following the end of the Cold War and the consolidation of what came to be known as the Washington Consensus, privatisation, deregulation, and private-sector participation in infrastructure became prescriptive components of development orthodoxy, propagated through the conditionalities of the International Monetary Fund, the World Bank, and bilateral development assistance.[57] For the energy sector, specifically, this shift translated into a sustained wave of unbundling, corporatisation, and private participation: between 1990 and 1999 alone, some 700

see Yescombe (n 29) 7–14, 173–96, 296–308; Hoffman (n 29) 4–9, 213–48.

55 See Nagla Nassar, 'Project Finance, Public Utilities, and Public Concerns: A Practitioner's Perspective' (2000) 23 Fordham International Law Journal 60.

56 See Antonio Estache and Marianne Fay, *Current Debates on Infrastructure Policy* (World Bank Policy Research Working Paper No 4410, 2007) 20–22.

57 The canonical formulation of the Washington Consensus appears in John Williamson, 'What Washington Means by Policy Reform' in John Williamson (ed), *Latin American Adjustment: How Much Has Happened?* (Institute for International Economics 1990) 7. For the Consensus's evolution and its critics, *see* John Williamson, 'A Short History of the Washington Consensus' in Narcís Serra and Joseph E Stiglitz (eds), *The Washington Consensus Reconsidered: Towards a New Global Governance* (OUP 2008) 14; Joseph E Stiglitz, *Globalization and Its Discontents* (WW Norton 2002); Dani Rodrik, 'Goodbye Washington Consensus, Hello Washington Confusion? A Review of the World Bank's "Economic Growth in the 1990s: Learning from a Decade of Reform"' (2006) 44 Journal of Economic Literature 973.

energy projects involving private participation reached financial closure in developing countries, attracting close to US$190 billion in investment commitments.[58] Power generation, which in most developing economies had previously been the exclusive province of vertically integrated state utilities, was in this period progressively reconstituted as a domain of private contractual ordering.[59]

The governance character of project finance, in this regard, can be likened to Katharina Pistor's analysis in *The Code of Capital,* where she identifies the modular legal structures through which private-law instruments do constitutional-type work.[60] They are spearheaded by international organisations, institutions, or companies; protected by international economic law, and designed to withstand political pressure, while constraining or otherwise maneuvering against regulatory discretion.[61] Tim Büthe and Walter Mattli's work on private regulation addresses related dynamics in transnational contexts.[62] They argue that the privatisation of regulation generates serious legitimacy and distributive concerns. As I will show, the structure of project finance agreements within the African energy sector, particularly in Ghana, confirms this claim.

B. The PPA as a linchpin: take-or-pay, capacity charges, and hell-or-high-water

Hoffman describes PPAs as the linchpin of project finance in the energy sector.[63] This can also be classified as the off-take contract,

58 Ada Karina Izaguirre, *Private Participation in Energy* (World Bank, Public Policy for the Private Sector, Note No 208, May 2000) 1–4.

59 World Bank, *Reforming Power Markets in Developing Countries: What Have We Learned?* (World Bank 2006); Stephen Karekezi and John Kimani, 'Status of Power Sector Reform in Africa: Impact on the Poor' (2002) 30 Energy Policy 923.

60 See generally Katharina Pistor, *The Code of Capital: How the Law Creates Wealth and Inequality* (Princeton UP 2019).

61 ibid.

62 Tim Büthe and Walter Mattli, *The New Global Rulers: The Privatization of Regulation in the World Economy* (Princeton UP 2011).

63 Hoffman (n 29) 345–46.

which Yescombe describes as a contract under which the project company produces a product and sells it to the offtaker.[64] In the electricity sector, one of the principal mechanisms used to induce equity investors and lenders to support a power-generation project is a long-term commitment from the off-taker to purchase the project's output on terms designed to ensure revenue stability over the life of the financing.[65] While the project's contractual architecture typically comprises several interlocking instruments, including engineering, procurement, and construction (EPC) contracts, operations and maintenance (O&M) agreements, fuel-supply agreements, and direct agreements with lenders, for present purposes, the instrument of central interest is the power purchase agreement (PPA).[66]

A PPA is a long-term contract between the project company (as seller) and an off-taker, typically a state-owned utility enterprise, in jurisdictions where the electricity sector remains predominantly publicly owned, under which the offtaker undertakes to purchase the electricity generated by the project company at a pre-negotiated price.[67] Hoffman states that it is from the PPA that funds to defray the debts of operating costs and an equity return of the project

64 *See* Yescombe (n 29) 69. For some standard forms of Project Agreements and their legal framework, cf UNIDO, *Guidelines for Infrastructure Development through Build-Operate-Transfer (BOT) Projects* (UNIDO, Vienna 1996); UNECE, *Negotiation Platform for Public-Private Partnerships in Infrastructure Projects* (UNECE, Geneva 2000); UNCITRAL, *UNCITRAL Legislative Guide on Privately Financed Infrastructure Projects* (United Nations, New York 2001); UK Treasury Taskforce, *Standardisation of PFI Contracts* (Butterworths, London 1999).

65 *See* Yescombe (n 29); Hoffman (n 29) 323–26; Jeffrey Delmon, *Private Sector Investment in Infrastructure: Project Finance, PPP Projects and PPP Frameworks* (3rd edn, Wolters Kluwer 2015) 277–303.

66 On the typical project-finance contractual matrix, see Yescombe (n 28) 173–238 (cataloguing the EPC contract, O&M agreement, fuel-supply agreement, offtake contract, and direct agreement as the standard project-document suite); Hoffman (n 28) 213–48; Delmon (n 63) 21.

67 For a working definition of the PPA in the project-finance context, see World Bank (n 41) (defining the PPA as the primary contract between a typically state-owned offtaker and a privately-owned power producer, providing 'the primary revenue stream which underwrites the PPP project'); Yescombe (n 28) 538, 568; Eberhard and others (n 25) 47; see also Africa Legal Support Facility (ALSF), *Understanding Power Purchase Agreements* (African Legal Support Facility (ALSF) and US Department of Commerce, Commercial Law Development Program (CLDP), Version 1.3).

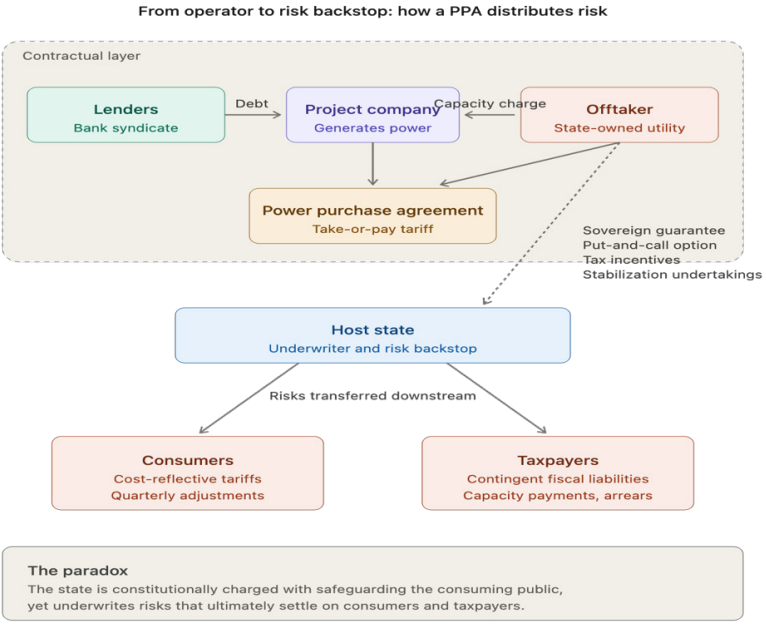
company are derived.[68] For this reason, the World Bank Group states that 'the structure and risk allocation regime under the PPA is central to the private sector participant's ability to raise finance for the project, recover its capital costs and earn a return on equity.'[69] This presupposes that the offtaker must be creditworthy to purchase the product and, correspondingly, pay the contract sum under the agreement.[70] If the offtaker is not creditworthy, the project company and lenders would want a sovereign guarantee from the government or multilateral entity before committing to sponsoring the project.[71]

In Ghana, while PPAs are either signed by the Electricity Company of Ghana (ECG) or the Volta River Authority (VRA), sovereign guarantees are normally provided by the government, including governmental institutions (such as the Ghana National Petroleum Authority), with implications for the state's fiscal coverage. These guarantees bind future governments who must commit to honor them. Accordingly, while PPAs are framed as contractual or private, they often depend heavily on state support, including sovereign guarantees, tax incentives, and regulatory commitments.[72] It follows, on this account, that the state does not withdraw; rather, it reconfigures its role from operator to risk backstop.[73] The paradox is that the state, as the constitutional representative of the consuming public, is formally charged with safeguarding the interests of the citizenry; yet PPAs and their associated sovereign-support instruments are calibrated, by the logic of bankability, to insulate private investors and their lenders from the very categories of risk that, in a publicly owned system, the state would otherwise absorb in its capacity as service provider. The consequence is that the risks

68 Hoffman (n 29) 345.
69 World Bank (n 44).
70 Hoffman (n 29) 346.
71 ibid.
72 *See* William M Stelwagon, 'Financing Private Energy Projects in the Third World' (1996) 37 Catholic Lawyer 45.
73 ibid; *see also* John G Manuel, 'Common Contractual Risk Allocations in International Power Projects' (1996) Columbia Business Law Review 37.

do not disappear; they are re-allocated, ultimately, to consumers (through cost-reflective tariffs) and to taxpayers.

Fig 1. Shows the operation of PPAs[74]



The most common clauses that characterise PPAs include *take-or-pay clauses*, limited recourse, and the logic of contractual risk transfer, hell-or-high-water obligations, force majeure, change in law, and the sovereign guarantee edifice, among others.

Take-or-pay obligations

The central revenue-certainty mechanism in PPAs is the take-or-pay provision.[75] Under a take-or-pay PPA, the offtaker commits to pay

74 Author's illustration.

75 Patrick J Ryan and Brian K Fife, 'Take-Or-Pay Contracts: Alive and Well in California' (1987)

for a specified quantity of electricity capacity (known as the tariff) whether or not it actually takes delivery of the electricity produced. The tariff is the most important component of the take-or-pay PPA.[76] In its conventional take-or-pay form, the offtaker's payment obligation is structured as a two-part tariff: a capacity charge, paid for the availability of the plant regardless of whether electricity is actually dispatched, and an energy charge, paid for kilowatt-hours actually delivered.[77]

The capacity charge enables the project company to service its debt and recover fixed costs even where, for reasons unrelated to the plant's performance, the offtaker does not in fact draw on the contracted output.[78] The energy charge relates to the production of the fuel generated that is actually delivered and utilised by the offtaker.[79] Thus, the base capacity charges components comprise (the project loan, interest on the loan, redemption and returns on equity, Fixed Operation and Management Cost, corporate taxes etc).[80] The energy charge, on the other hand, comprises (fuel, variable operation and management costs, cost for ancillary services, and cost for any force majeure event that the offtaker has agreed to take responsibility under the PPA).[81]

19 Urban Lawyer 233; John R Nolan, '"Take-Or-Pay" Contracts: Are They Necessary for Municipal Project Financing?' (1983) 4 Municipal Finance Journal 111.

76 ALSF (n 64) 50.

77 On the two-part-tariff structure characteristic of capacity-based PPAs, *see* US Department of Energy, Office of Energy Efficiency & Renewable Energy, *Sample: 10 Important Features of Bankable Power Purchase Agreements for Renewable Energy Projects* (US DoE, n.d.) (defining take-or-pay as a tariff 'comprising a capacity charge (a fixed amount that is paid for available capacity, no dispatch required) and an output charge (an amount paid in respect of energy actually delivered)'); Stefano Gatti, *Project Finance in Theory and Practice: Designing, Structuring, and Financing Private and Public Projects* (3rd edn, Academic Press 2018) 66–70.

78 *See* Yescombe (n 29) 74–77; Hoffman (n 29) 325; *see also* Cyrille Ndayishimiye and others, 'Power Generation Overcapacity in Selected Sub-Saharan African Countries: Political-Economic Drivers and Grid Infrastructure Challenges' (2025) 13 Frontiers in Energy Research art 1549844.

79 ALSF (n 64) 54–55.

80 ibid.

81 ibid.

The logic behind take-or-pay clauses seems to be, as is the case with most project finance deals, that it allocates demand risk to the party better positioned to bear it. The SPA, it is assumed, cannot efficiently bear demand risk in a project-finance context because its debt-service obligations are fixed (principal and interest on dollar-denominated loans), and because it has no control over demand. The state, by contrast, can bear demand risk because it can adjust consumption patterns through tariff policy; it has access to multiple sources of revenue; and its obligations are expressed in a currency (the local currency) that the state itself can, at the margin, create. The premise is that the state's capacity to bear demand risk is greater than the SPA's even though this assumption is not a universal truth. For many African countries, the government is mostly already in debt, and so is the offtaker. With already huge debt burdens, the underlying effect is that these contractual obligations operate to add more to the public debt than alleviate it.

Hell-or-high-water clauses

The mechanics of revenue certainty are reinforced by what project-finance practice calls 'hell-or-high-water' clauses. These are provisions that obligate the offtaker to pay for capacity charges even if performance under the contract becomes materially more expensive or the purpose of the contract is substantially frustrated.[82] These clauses systematically exclude the defences that commercial contract law ordinarily makes available to a party facing unforeseen circumstances: frustration of purpose, commercial impracticability, force majeure (except where narrowly specified), and change-in-law (except where the change-in-law clause itself provides compensation).[83] The clauses' effect is to convert the contract into something closer to an unconditional payment obligation than to a conventional bilateral exchange.

82 *See* Yescombe (n 29) 28; Fight (n 36) 187.
83 Delmon (n 62) 603; Dewar and others (n 38) 491.

In ordinary commercial contract law, a party facing unforeseeable and fundamental changes in the circumstances of performance may invoke doctrines of frustration or impracticability to excuse performance.[84] The project-finance PPA drafting practice excludes those doctrines through clear contractual language.

The sovereign-guarantee backstop

Take-or-pay capacity charges and hell-or-high-water clauses produce revenue certainty at the contractual level, but they do not, necessarily, produce revenue certainty at the project-finance level. As noted earlier, the project's lenders require assurance that the capacity charges will actually be paid—that is, that the offtaker utility has the fiscal capacity to honor the commitments the contract specifies.

In the African context, the offtaker utility is mostly a state-owned distribution or single-buyer entity whose creditworthiness is marginal at best. Kenya Power and Lighting Company (KPLC), Nigeria's Nigerian Bulk Electricity Trading Plc (NBET), and Ghana's Electricity Company of Ghana (ECG) all operate with chronic revenue-collection challenges, heavy subsidy dependence, and accumulated arrears.[85] KPLC has reported sustained net losses and a negative working capital position for seven consecutive years, with customer-side arrears reaching approximately KSh 35 billion by mid-2023 and IPP arrears of comparable scale accruing in dollar-denominated obligations under foreign-currency-indexed PPAs.[86]

84 *See,* e.g, *Restatement (Second) of Contracts* ss 261, 265 (1981); UCC s 2-615 (1977); *Transatlantic Financing Corp v United States* 363 F 2d 312 (DC Cir 1966) (Wright J). For comparative treatment, see Larry A DiMatteo and Lucia Ostapenko, *International Sales Law: A Global Challenge* (CUP 2014).

85 Trimble (n 50); Eberhard (n 26).

86 On KPLC's financial position and IPP arrears, see Office of the Auditor-General of Kenya, *Report of the Auditor-General on the Kenya Power and Lighting Company PLC for the Year Ended 30 June 2023* (2024) (recording a seventh consecutive year of negative working capital, totalling approximately KSh 51 billion, and noting 'material uncertainty on the company's ability to meet its obligations as they fall due'); John Mutua, 'Kenya Power Customer Defaults Hit Sh35bn' *Business Daily Africa* (8 January 2024).

NBET, although established as a credit-enhanced bulk trader and capitalised through a partial risk guarantee from the World Bank, has never been adequately capitalised in practice; its monthly remittances to GenCos have rarely settled invoiced amounts in full, and aggregate technical, commercial, and collection losses across the Nigerian distribution segment have remained at approximately 40 percent.[87] The ECG, as discussed, had accumulated approximately US$1.4 billion in arrears to IPPs by 2023. The common structural feature underlying all three cases is that PPAs and gas-supply contracts are typically denominated in U.S. dollars, while consumer tariffs are collected in local currency at politically constrained levels. This, in essence, produces a structural mismatch that, absent sovereign credit support, renders the offtaker unbankable as a standalone counterparty. Given this scenario, without something more, project-finance lenders would not accept utility credit as the ultimate guarantor of capacity-charge payment. The "something more" is the sovereign backstop. It takes several forms.

Sovereign guarantee is a commitment by the central government that if the offtaker utility defaults on its payment obligations under the PPA, the central government will stand in its place. The guarantee is typically express, drafted into a separate "Government Consent and Support Agreement" or similar instrument, and includes specific provisions about notice, cure periods, and currency.[88]

A more sophisticated variant of a sovereign guarantee is the Put and Call Option Agreement (PCOA). Under a PCOA, the sovereign does not merely guarantee payment; it commits to a formula-based termination payment that accelerates decades of unpaid capacity charges into an immediate lump-sum obligation, in exchange for which the sovereign acquires ownership of the project. The

87 On NBET's structural under-capitalisation and the broader Nigerian distribution-side losses, see Odion Omonfoman, 'An Analysis of the Nigerian Bulk Electricity Trading Plc (NBET) Trading License' *BusinessDay* (17 September 2021).

88 For typical drafting, see ALSF (n 64).

termination formula is designed to make the lender whole on its outstanding debt and, depending on the specific drafting, to provide varying levels of return to the equity investor.

In some jurisdictions, particularly those with constitutional or statutory constraints on the issuance of formal sovereign guarantees, the sovereign backstop takes the form of a "letter of support" that expresses the government's commitment to stand behind the offtaker's obligations without formally assuming them. While the letter's legal status is contested in the literature; some tribunals and courts have treated such letters as binding, others as merely declaratory.[89] In any case, letters of support function economically as guarantees, even if their legal status is more ambiguous.

The cumulative effect of these instruments, as already noted, is to convert ordinary commercial-contract risks into fully backed sovereign obligations, with the fiscal consequences that follow.

On account of the foregoing, I argue that bankability in the contemporary African articulation is designed to achieve the systematic absorption of political and fiscal risk by the host state, its utility, and its taxpayers. This mechanism converts what would otherwise be commercial risks, borne by the investor and priced into the return, into public risks, borne by the state and paid for through tariffs, taxes, or (when those prove inadequate) sovereign debt.

PART 2: GHANA'S PPA REGIME AND THE POLITICAL ECONOMY OF CRISIS

Ghana's PPA experience, from 2012 to the present, is not a recent phenomenon. This Part examines the Ghanaian record in six sections. Section A situates the 2012–2016 *dumsor* crisis within a four-decade pattern of recurrent supply crises dating to the construction of the

89 *Kleinwort Benson Ltd v Malaysia Mining Corp Berhad* [1989] 1 WLR 379 (CA); *Banque Brussels Lambert SA v Australian National Industries Ltd* (1989) 21 NSWLR 502 (SC NSW).

Akosombo Dam. Section B discusses the legal regime of Ghana's electricity sector. Section C analyses the Ameri Energy contract as an illustration of sole-source procurement pathologies. Section D examines the Karpowership arrangement as an illustration of emergency-contracting pathologies. Section E addresses the system-level effects of the resulting PPAs. Section F examines the system level effects of the emergency contracting pathologies and traces its implications for the framework the subsequent Parts develop.

Crisis as recurrence: from Akosombo to dumsor

The 2012–2016 *dumsor* crisis was not, in any meaningful historical sense, novel. Ghana's electricity sector has cycled through major supply crises at roughly 10-to-15-year intervals since the construction of the Akosombo Dam, and the architecture of the contractual response that this paper examines can be understood only against that recurrent pattern. A brief reconstruction, in this regard, is necessary.

The foundation of Ghana's modern electricity sector was the Akosombo hydroelectric scheme, conceived in colonial planning of the 1920s but reshaped by Kwame Nkrumah after independence into the centrepiece of his Pan-African industrial vision.[90] The idea of a dam construction was first conceived in 1915 by Albert Kitson, during a canoe ride down the Volta.[91] Albert, a geologist, considered damming the Akosombo to generate electricity for processing the country's bauxite.[92] But it was not until 1952, when a British white paper rallied support for the project. Nationalist leaders, with Nkrumah at the forefront, immediately took an interest in the

90 For the foundational historical scholarship on Akosombo's place in Nkrumah's industrial vision, *see* Stephan F Miescher, *A Dam for Africa: Akosombo Stories from Ghana* (Indiana UP 2022); *see also* Stephan F Miescher and Dzodzi Tsikata, 'Hydro-Power and the Promise of Modernity and Development in Ghana: Comparing the Akosombo and Bui Dam Projects' (2009/10) 12 Ghana Studies 15.

91 ibid 18.

92 ibid.

project.[93] In 1952, a preparatory Commission established by the British administration to explore the project's viability laid out the detailed plan for its implementation. But due to funding constraints, the project was to be delayed until after independence.[94]

Construction proceeded between 1961 and 1965; the dam was formally inaugurated on 22 January 1966, four weeks before Nkrumah's overthrow.[95] Akosombo's installed capacity of 912 megawatts was, at completion, expected to provide Ghana's electricity needs through at least the mid-1970s and to supply a regional aluminium-smelting industry with surplus available for export.[96] The Kpong Dam (160 megawatts) added incremental capacity in 1982; the Bui Dam (400 megawatts), *Chinese-financed*, completed in 2013, completed the country's hydroelectric architecture. The three dams together account for approximately fifty-four percent of contemporary installed capacity and remain the foundation of the system.[97]

The pattern of recurrent crisis began in 1983–1984. A severe drought reduced Lake Volta's level to its operational floor, forcing the Volta River Authority to suspend power deliveries to VALCO, the country's principal aluminium smelter, and to ration supply to ordinary consumers.[98] Similar episodes followed in 1997–1998[99] and in 2006–2007, each precipitated by drought conditions affecting

93 ibid 19.

94 ibid 19.

95 Miescher, *A Dam for Africa* (n 86) 92–95; Volta River Authority, *The Volta River Project: A Brief History* (VRA 2003) 8–14.

96 Miescher (n 86) 297.

97 Energy Commission of Ghana, *2017 Energy Outlook for Ghana* (Energy Commission 2017) 1. On Bui specifically, *see* Robert Gocking, 'Ghana's Bui Dam and the Contestation Over Hydro Power in Africa' (2021) 64 African Studies Review 339.

98 Miescher and Tsikata (n 86) 31–35. The 1983–84 crisis coincided with broader economic distress under the Provisional National Defence Council government and contributed to Ghana's adoption of the IMF Economic Recovery Programme. This led to a devaluation of the cedi and the adoption of IMF-directed policies.

99 Theo Acheampong, 'The Implications of Changing Power Generation Mix on Energy Pricing and Security in Ghana' (2016) SSRN 3.

hydroelectric output, each compounded by demand growth that had outpaced the addition of new capacity, and each producing legislative inquiries, donor engagement, and emergency-procurement initiatives whose details vary but whose structure has remained substantially constant.[100] President John Mahama, addressing Parliament in February 2015 during the height of the *dumsor* crisis, noted, with remarkable precision, the reason for the recurrent crisis: prior episodes in 1983, 1998, 2002, and 2006–2007 had been managed rather than resolved, and what was required was a structural fix rather than continued management.[101]

The 2012–2016 *dumsor* was, in this perspective, the fourth iteration of a four-decade-old pattern. Its precipitating causes were not novel but had been with us since the 1980s: drought and demand growth outpacing capacity additions.[102] Besides drought, however, which reduced Akosombo's output, the disruption of the West African Gas Pipeline was another major factor for the 2012 *dumsor* crisis.[103]

Desirous of ending the power crisis, and anxious to mitigate its remarkable impact on his government, several emergency contracts were signed to increase power generation capacity. Over thirty-two (32) PPAs were concluded between 2012 and 2016, many of which were sole-sourced without competitive bidding. The contracts converted a recurrent supply crisis, one that the historical record

100 For the sequence and its economic costs, *see* World Bank, *Energy Crisis and Economic Loss in Ghana* (World Bank 2007) (estimating losses of approximately 1.8 per cent of GDP in the 2007 crisis); Miescher (n 86) 31–35; Theo Acheampong, 'The Implications of Changing Power Generation Mix on Energy Pricing and Security in Ghana' (2016, unpublished manuscript) <https://ssrn.com/abstract=2763284> accessed 1 May 2026.

101 'SONA 2015: Past Gov'ts Managed "Dumsor" but I Will Fix It: President Mahama' *MyJoyOnline* (26 February 2015) <https://www.myjoyonline.com/news/politics/sona-2015-past-govts-managed-dumsor-but-i-will-fix-it-president-mahama/> accessed 1 May 2026.

102 During the 1983 crisis, some commentators questioned why the VRA had failed to anticipate the power crisis given the unreliability of rainfall patterns during the period. This raises legitimate questions about the proactiveness of government institutions in taking measures to address social issues affecting the country.

103 Ama Achiaa Amankwah-Amoah, 'The Technopolitics of Infrastructure Breakdowns: A Historical Overview of Dumsor' (2024) 24 Africa Studies Quarterly 17.

made entirely foreseeable, into a series of binding fiscal commitments extending across decades and across political administrations. In other words, the crisis was solved by creating another crisis (in this case, long-term PPAs without proper sectoral planning; these contracts have turned out to impose immense fiscal constraints on the state) that would haunt successive governments in years to come.

A return of *dumsor* in 2023–2024, and now in 2026, confirms the recurrence of the pattern.[104] What this iteration demonstrates, beyond the empirical point that supply crises continue to recur, is that the contractual response of 2012–2016 did not, despite committed payment obligations exceeding US$11 billion across the contracts' twenty-year tenor, secure electricity supply through the next cycle. The architecture had instead embedded a fiscal obligation that survived the supply crisis it was nominally designed to address. The historical record suggests that the recurrence will continue: the conditions that have produced supply crises across four decades have not been resolved by any iteration of contractual response. It has rather created fiscal obligations that have plunged the state into cyclical debts for years to come.

The legal regime of Ghana's electricity sector

I must state at the outset that Ghana's electricity sector is regulated by a patchwork of laws that govern it. I will attempt to provide a brief overview of how the sector works, albeit this might not. Ghana's electricity sector operates in an unbundled framework. The Volta River Authority (VRA) and the Northern Development Corporation (NEDCo), alongside Independent Power Producers (IPPs), are responsible for power generation. VRA was established

104 'Ghana's Electricity Crisis Is Holding the Country Back: How It Got Here' *The Conversation* (22 October 2023); see also Public Utilities Regulatory Commission (Ghana), *Quarterly Tariff Review Determinations* (2023–2025) (documenting tariff-pass-through pressures associated with the renewed crisis).

in 1961, with the mandate to generate, transmit, and distribute electricity.[105] Accordingly, until 1987, VRA generated, transmitted, and distributed power to the whole country. However, with the establishment of the Northern Electricity Department (NED) in 1987, VRA's role was limited to the southern part of the country, while NED remained responsible for generating power for the northern parts of the country. NED has now been replaced with NEDCo with the construction of the Bui dam in 2007.[106] Currently, generation is shared among VRA, NEDCo, and IPPs.

Transmission of power is done under the exclusive authority of Ghana Grid Company Ltd. (GRIDCo). GRIDCo was established as a private limited liability company owned wholly by the state pursuant to the Energy Commission Act, 1997 (Act 740) and the Volta River Development Authority (Amendment) Act.[107] GRIDCo's establishment was intended to develop and promote competition in Ghana's wholesale power market.[108] Thus, GRIDCo is mandated to provide transparent, non-discriminatory, and open access to the National Interconnected Transmission System (NITS) for all the participants in the power market, including power generators and bulk consumers and thus bring about efficiency in power delivery.[109] The Energy Commission Act also established the Energy Commission as the technical regulator and licensing authority for generation, transmission, wholesale supply, distribution, and sale.

On distribution, ECG in the south and NEDCo in the north, the latter a subsidiary of VRA distribute power from power substations to consumers, whether industrial, commercial, or residential. The two companies operate under distribution licences issued by the

105 Volta River Development Act 1961, Act 46.
106 Bui Power Authority Act 2007, Act 740.
107 Volta River Development Authority (Amendment) Act 2005, Act 692.
108 GRIDCo, 'Overview – Ghana Grid Company Ltd' (Ghana Grid Company (GRIDCo)) <https://gridcogh.com/about-us/> accessed 1 May 2026.
109 ibid.

Energy Commission under Act 541 and the Electricity Regulations, 2008 (LI 1937).[110] Quality of service obligations are prescribed by the Electricity Supply and Distribution (Standards of Performance) Regulations, 2008 (LI 1935), and end-user tariffs are approved by the Public Utilities Regulatory Commission (PURC).[111] Technical interconnection at the distribution level is governed by the Distribution Code, supplemented by the Renewable Energy Sub-Code for the Distribution Network and the Net Metering Sub-Code of 2015, which together regulate the integration of distributed renewable generation.

The distribution segment has historically been the financial weak link of the value chain. High commercial and technical losses at ECG have driven much of the sector's debt accumulation. ECG was initially established as a state corporation, but in 1997, in the wake of mismanagement and mounting losses, combined with a wave of market liberalisation, it was converted into a private company limited by shares, wholly owned by the state. ECG continues to incur losses to date, owing mostly to administrative inefficiencies, political interference, illegal connections, and transmission loss.[112] Recent attempts have been made to privatise the sector, but an initial agreement which was executed in 2019 was subsequently terminated by the government.[113]

110 Energy Commission Act 1997, Act 541, s 2; Electricity Regulations 2008, LI 1937.

111 Public Utilities Regulatory Commission Act 1997, Act 538, long title and s 18 (providing for the establishment of a Commission charged with the determination of rates and tariffs charged or proposed to be charged by utilities for services rendered to consumers).

112 Franklin Asare-Donkoh, 'ECG: An Albatross on National Development, or Can It Contribute More Resources?' *Modern Ghana* (26 June 2025) <https://www.modernghana.com/news/1408382/ecg-an-albatross-on-national-development-or.html> accessed 1 May 2026.

113 'Ghana: Government Terminates PDS Contract with ECG' *Africa Energy Portal* (22 October 2019) <https://africa-energy-portal.org/news/ghana-government-terminates-pds-contract-ecg> accessed 1 May 2026.

Figure 2. The Structure of Ghana's Electricity Sector

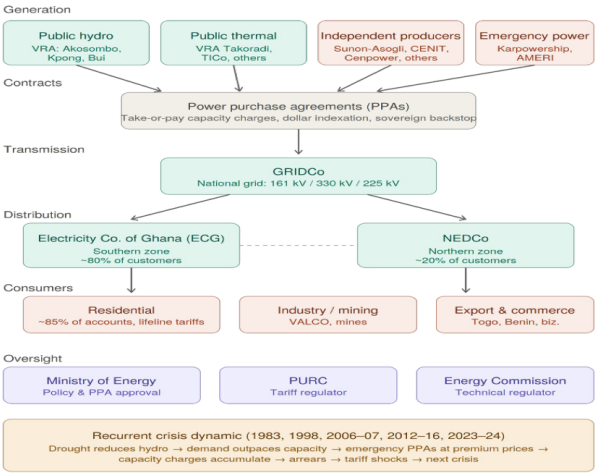


Figure 2. *The figure depicts Ghana's electricity sector as it has operated since the post-1997 unbundling. Generation is divided between public assets (Volta River Authority's hydroelectric and thermal capacity) and private assets (independent power producers and emergency-power providers including Karpowership and AMERI). The contractual layer is the focus of this Article: power purchase agreements with take-or-pay capacity charges, dollar indexation, and sovereign-guarantee architecture. GRIDCo operates the national transmission grid; the Electricity*

Emergency procurement and institutional weakness

Ghana's PPA regime is difficult to understand without attention to the procurement mechanism through which most of the portfolio was assembled. Three features of the mechanism warrant attention.

(i) Unsolicited proposals. In the wake of the power crisis of 2012, a substantial majority of the thirty-two PPAs in Ghana's portfolio were concluded on the basis of unsolicited proposals submitted by prospective investors rather than through government-initiated procurement processes, even

though this is required by the Public Procurement Act.[114] The unsolicited-proposal model is quite antithetical to public procurement in general, and project finance specifically. The model of unsolicited contracting tends to stifle competition, compromise quality, and, above all, inflate the price of the service rendered. Moreover, it tends to produce negotiated outcomes favourable to the proposing investor and makes it difficult to reproduce the price discovery that competitive bidding would generate.[115]

In Ghana, for instance, the unsolicited-proposal model resulted in the execution of contracts that have had disastrous consequences for the country. Proposals were typically submitted under classifications of urgency.[116] But then, the political impetus to respond to the *dumsor* crisis generated pressure to accept proposals on terms favourable to the investor.[117]

(ii) Absence of competitive tendering. Since most of the PPAs signed were unsolicited, there was no competitive tendering.[118] Many of the contracts were also signed on a closed-book basis, which meant that project companies were not under an obligation to disclose to the government the expected expenses or profits the project company stood to make under the contract. As a matter of principle, competitive tender

114 Ackah and others (n 8); *see also* Public Procurement Act 2003, Act 663 (as amended), s 14.

115 *See* OECD, *Principles for Private Sector Participation in Infrastructure* (OECD 2007) 1–26; John T Hodges and Georgina Dellacha, *Unsolicited Infrastructure Proposals: How Some Countries Introduce Competition and Transparency* (World Bank 2007).

116 Barnaby Joseph Dye, 'How Costly Political Realities Undercut Ghana's Electricity Reforms' *The Conversation* (25 July 2022); see also Africa Centre for Energy Policy, 'ACEP Demands More Explanation on Emergency Power Contract' *News Ghana* (3 March 2015) (criticising, contemporaneously, the procurement and value-for-money characteristics of the AMERI, Karpowership, and General Electric emergency-power transactions).

117 Ackah and others (n 8).

118 It is important to state that under section 41 of the Public Procurement Act 2003, Act 663, single sourcing or procurement is permitted under certain exceptional circumstances, including when goods or services are in urgent demand.

generates price discovery: the procurement process reveals what the market will accept, and the resulting contract prices reflect market pressure rather than negotiated positions. Sole-source procurement, by contrast, yields prices that reflect the parties' negotiating leverage and the information asymmetries the procurement process creates.[119] Consequently, it came as a little surprise when the PPAs incurred capacity charges that, upon subsequent review, were substantially above the levels at which comparable generation could have been procured through competitive tender.[120]

(iii) Executive dominance and parliamentary acquiescence. Ghana's constitutional structure requires parliamentary ratification for international commercial agreements exceeding specified thresholds, and PPAs typically require such ratification as established by the Supreme Court.[121] In theory, this ratification mechanism is intended to operate as a democratic safeguard: even where agreements are negotiated outside competitive procurement processes, parliamentary scrutiny is expected to ensure that the terms of such arrangements serve the public interest and do not unduly compromise the state's fiscal or regulatory autonomy.

In practice, however, parliamentary approval has functioned less as a meaningful mechanism of oversight than as a formalistic rubber stamp. The parliamentary consideration of the Ameri Energy agreement (discussed below), for instance, was notably cursory, with limited interrogation of the commercial terms, pricing structure, contingent liabilities, or long-term fiscal

119 The argument is developed at length in Guasch (n 32) 42–78, with detailed Latin American evidence.

120 Ackah and others (n 8).

121 Constitution of the Republic of Ghana 1992, art 181(5); *Balkan Energy (Ghana) Ltd v Attorney-General* [1997] DLSC 17828.

implications of the transaction.[122] Parliament's failure to discharge its constitutional responsibility with the requisite diligence represents not merely an institutional deficiency in democratic representation, but a deeper governance failure with significant constitutional implications. By approving opaque and financially burdensome agreements without rigorous scrutiny, parliament effectively enabled the entrenchment of contractual arrangements that bind successive governments while constraining the state's fiscal capacity to undertake broader social and developmental obligations.[123]

Indeed, the weaknesses of this oversight process became even more troubling in light of subsequent revelations concerning the Ameri transaction itself, including allegations that the individual who purportedly represented the Ameri Group was, at the material time, wanted in connection with fraud-related matters.[124]

The AMERI energy deal

In February 2015, the Government of Ghana concluded a Build-Own-Operate-Transfer agreement with Africa and Middle East Resources Investment Group ("AMERI"), a Dubai-registered entity, for the provision of ten General Electric TM2500+ aeroderivative gas turbines totaling 250 megawatts of emergency power capacity.[125] The agreement was to run for five years, after which the assets would transfer to the Government. The total cost was US$510 million.[126]

122 Marian Ansah, 'Addison C'ttee Should've Rejected AMERI's Offer – Vitus Azeem' *CitiFMOnline* (20 April 2017), reproduced in *GhHeadlines* <https://ghheadlines.com> accessed 1 May 2026.

123 ibid.

124 'Ghana's Minister of Power Signed a US$510 Million Deal With an Alleged International Criminal Wanted By Interpol' *Accra Report* reprinted in *AllAfrica* (12 December 2015) <https://allafrica.com> accessed 1 May 2026.

125 'How Parliament Discussed and Approved the AMERI Deal: Transcript' *Ghana Business News* (16 December 2015) <https://www.ghanabusinessnews.com/2015/12/16/how-parliament-discussed-and-approved-the-ameri-deal-transcript/> accessed 1 May 2026.

126 ibid.

The procurement was conducted on a sole-source basis. Investigative reporting in Norway, published in late 2015, revealed that AMERI's principals included individuals subsequently convicted of unrelated fraud in Norway, that AMERI itself appeared to be a thinly-capitalised intermediary, and that the substantive work of the project had been subcontracted to a Turkish firm, METKA, for approximately US$360 million.[127] The structure generated a substantial intermediation markup, approximately US$150 million on a US$360 million underlying project, or approximately 42 percent, which AMERI retained.

A subsequent government, taking office in January 2017, commissioned a review of the arrangement.[128] The Addison Committee report, released in April 2017, confirmed the intermediation markup and concluded that the original contract had been overpriced. In 2018, the Government proposed a renegotiation of the arrangement through a Novation and Amendment Agreement that would have extended the term to fifteen years and replaced AMERI as operator with a different entity, Mytilineos International Trading Company AG. Civil-society analysis by the Africa Centre for Energy Policy demonstrated that the proposed renegotiation was worse than the original: the novation would have required additional payments of approximately US$1.3 billion, against an existing post-payments obligation of approximately US$339 million.[129] The novation was withdrawn after public criticism; the energy minister responsible was subsequently dismissed.[130]

Three analytical observations follow from the Ameri sequence. First, the intermediation markup illustrates a specific form of

127 Kjetil Magne Sørenes and Gøran Skaalmo, 'Ghana's Power Minister Signed a $510 Million Deal With a Norwegian Fraud Suspect' *Verdens Gang* (Oslo, 13 December 2015).

128 Government of Ghana, *Report of the AMERI Energy Project Review Committee* (2017) (Addison Report).

129 Africa Centre for Energy Policy, *ACEP's Comments on the Ameri Renegotiated Contract* (ACEP 2018).

130 'Ghanaian President Sacks Energy Minister' *The Punch* (21 February 2019).

sole-source-procurement pathology: the extraction of rents by politically connected intermediaries who add no substantive value to the transaction. The markup was not compensation for project development risk (the project was executed entirely by METKA), for engineering, procurement, and construction expertise (AMERI lacked the capacity), or for financing (AMERI provided none). It was compensation for access—for facilitating the transaction's political passage in Ghana. The international project-finance literature has documented similar patterns elsewhere;[131] what Ameri supplies is a particularly well-documented instance.

Second, the proposed 2018 renegotiation illustrates that emergency-procurement arrangements tend to become permanent through subsequent renegotiation. The reason is simple: governments in most African countries, for instance, will default. With this default turning into debt burdens, they will then request a renegotiation of the initial agreement. Take the Ameri case, for instance: the original Ameri contract ran for five years and contemplated the transfer of assets to the Government upon completion. However, when the government ran into debt and attempted to renegotiate the agreement, the proposed renegotiation would have extended the arrangement to 15 years and correspondingly delayed the asset transfer to the government.[132] The renegotiation's purpose, as the ACEP analysis demonstrated, was not to reduce the Government's obligation but to restructure it (even if unintentionally) in ways favourable to the incoming operator. The dynamic is that renegotiations of emergency PPAs tend to extend rather than terminate them, a recurring feature of the African PPA record. The implications of renegotiating PPAs are examined further in Part III's treatment of the Guasch-Laffont-Straub model.

131 For general treatment, see Fredrik Galtung, 'Measuring the Immeasurable: Boundaries and Functions of (Macro) Corruption Indices' in Charles Sampford and others (eds), *Measuring Corruption* (Ashgate 2006) 101; Paolo Mauro, 'Corruption and Growth' (1995) 110 Quarterly Journal of Economics 681.

132 Africa Centre for Energy Policy (n 125).

Third, the Ameri sequence illustrates the limits of ordinary contract-law analysis in the PPA context. If the original 2015 contract was procured through corruption—through the intermediation markup, inadequate due diligence, and the emergency-procurement bypass—then it may be voidable on grounds recognised in international investment arbitration through the *World Duty Free v. Kenya* and *Metal-Tech Ltd. v. Uzbekistan line of authority*.[133] Accordingly, if the government was convinced, especially from the investigative report submitted by the Committee set up by the Minister of Energy, the contract ought to have been avoided rather than renegotiated on terms worse than the previous contracts. In any event, if termination was too drastic an action to take, the government, having discovered the wrongdoing, could use it as leverage to negotiate favourable terms for its benefit and that of the Ghanaian people.

The Karpowership deal

In June 2014, during the acute phase of the *dumsor* crisis, the government again concluded a ten-year PPA with Karpowership Ghana Co. Ltd., a Turkish subsidiary of Karadeniz Holding, for the supply of 450 megawatts of capacity from a floating gas-fired powership.[134] The agreement was concluded under emergency procurement classification, without a competitive tender process. The first powership vessel, the Aysegul Sultan, arrived in December 2015. In August 2017, it was replaced by the larger Osman Khan, a 470 MW vessel, then the world's largest of its kind.[135] The agreement was executed without parliamentary approval as required by the Constitution. This prompted the Minority caucus in parliament at the time to invoke the Supreme Court's original jurisdiction to declare

133 *World Duty Free Co v Republic of Kenya* ICSID Case No ARB/00/7, Award (4 October 2006); *Metal-Tech Ltd v Republic of Uzbekistan* ICSID Case No ARB/10/3, Award (4 October 2013).

134 Umaru Sanda Amadu, 'Turkish Power Ships to Generate 21% of Ghana's Electricity' *Anadolu Agency* (10 October 2014) <https://www.aa.com.tr> accessed 1 May 2026.

135 Sonal Patel, 'The 470-MW Floating Powership That Buoyed Ghana' *Power Magazine* (1 October 2020).

that the transaction was unconstitutional.[136] The Supreme Court, however, in an uncharacteristic analysis, dismissed the claims on the ground that the agreement was not executed directly with the central government.[137] The Court, referencing its earlier decisions, concluded that the parties to the agreement (ECG and the Ghana National Petroleum Authority (GNPC) were limited liability companies and thus, were not the *alter ego* of the government.[138] A simple study of the enabling Acts of these institutions, however, would reveal that their boards are appointed by the President upon the Minister's advice.[139] This implies that the board, acting as agents of ECG, at the same time owes allegiance to the appointing authority—the President. While, in theory, the board can be expected to demonstrate good faith and act in the best interests of ECG, in practice, they tend to act at the pleasure of the appointing authority. In any event, debt incurred by ECG becomes the responsibility of the central government when ECG is unable to defray those debts, which has been the case over the years. These debts are sometimes charged on the consolidated fund. The passage of the Energy Sector Levy Act to raise revenue to defray the sector's debts is but an illustration of this.[140]

Since the signing of the Agreement, it has been restructured twice. In December 2019, Ghana and Karpowership agreed to convert the vessel's fuel from heavy fuel oil to natural gas supplied from Ghana's domestic Sankofa field. It has been claimed that the conversion reduced take-or-pay fuel costs by an estimated US$170 million annually.[141] The conversion did not, however, modify the capacity-charge structure; it reduced one dimension of cost without modifying the dimension that produced the underlying fiscal pressure. Indeed,

136 *Yeboah v Electricity Company of Ghana* [2016] GHASC 42 (28 July 2016).
137 ibid.
138 ibid.
139 *See* Ghana National Petroleum Corporation Act 1983, PNDCL 64, s 5.
140 Energy Sector Levies Act 2015 (as amended).
141 Government of Ghana, 'President Akufo-Addo Commissions First Gas for Karpowership' (Press Release, 7 December 2019).

as of May 2025, government debt obligation to the company stood at $400 million.[142] In view of that, Karpowership threatened to halt operations if the debts were not settled, proposing terms that would not only require ECG's involvement, but that of the central government. This consequently led to negotiations that have now restructured and extended the debt well beyond 2027.

Two observations follow from the above discussions: First, the Karpowership arrangement illustrates the conversion of temporary instruments into permanent fiscal fixtures. In other words, it demonstrates that the government did not have any long-term structural plans to address the systemic structural issues confronting Ghana's electricity sector, other than improvising a temporary solution to the sector's current crisis, perhaps for immediate and expedient political gains. The 2014 contract was conceived as a ten-year arrangement to address a specific electricity crisis. A decade later, the crisis that prompted the contract is far from over and is still very much in place, but the contractual obligation persists in modified form, through the 2024–2026 restructuring that effectively extends the arrangement further. The temporary-to-permanent conversion demonstrates that emergency procurement produces contractual structures that, once established, are difficult to terminate, because termination generates contractual-penalty exposure and potentially treaty-claims exposure that the state cannot afford. This reinforces my central claim that PPAs, while technically contractual in nature, have, at least in Ghana, proven to impose sovereign burdens on successive governments, with the cost consequently borne by the citizenry. What's more, these sovereign debts hinder the government's efficient executive performance. At the same time, it serves as a flashpoint for political contestation between the two main political parties (the National Democratic Congress and the New Patriotic Party), while citizens ultimately bear the cost of these political decisions.

142 'Karpowership Reverses Shutdown Decision After Reaching Debt Settlement Deal – Jinapor' *MyJoyOnline* <https://www.myjoyonline.com> accessed 1 May 2026.

Second, the Karpowership financial record illustrates the *ex post* surplus that emergency contracting often produces. Whatever the contract's terms were designed to achieve, they produced operational returns substantially above what competitive procurement would plausibly have yielded: in 2019 alone, Karpowership's Ghanaian operation generated approximately US$197 million in gross profit, accounting for roughly half of the parent group's total gross profit and approximately 24 percent of its global rental income.[143] Returns of that magnitude, sustained year-over-year, are difficult to defend as a risk-adjusted return on capital. They are better understood, I argue, as a rent generated by the absence of competitive pressure in the procurement process and by the structural insulation of the project's revenue stream behind take-or-pay obligations and sovereign credit support. Similar patterns of post-award contractual surplus have been documented in Latin American infrastructure concessions by Guasch and his collaborators,[144] and in African PPAs specifically by Eberhard and Gratwick.[145]

System-level effects

The system-level effects of the Ghanaian PPA portfolio, examined in aggregate, illustrate the broader political-economy consequences of the contracting architecture.

By 2018, Ghana had contracted generation capacity of approximately 6,932 megawatts against peak demand of approximately 2,400

143 Stefaans Brümmer and Susan Comrie, 'Powerships: Inside the Karadeniz Money-Spinning Global Empire' *Daily Maverick* (11 July 2021) <https://www.dailymaverick.co.za/article/2021-07-11-powerships-inside-the-karadeniz-money-spinning-global-empire/> accessed 1 May 2026; see also AmaBhungane Team, 'Powerships: Inside the Karadeniz Money-Spinning Global Empire' *AmaBhungane Centre for Investigative Journalism* (12 July 2021) <https://amabhungane.org> accessed 1 May 2026.

144 J Luis Guasch, *Granting and Renegotiating Infrastructure Concessions: Doing It Right* (World Bank 2004); J Luis Guasch, Daniel Benitez, Irene Portabales and Lincoln Flor, *The Renegotiation of PPP Contracts: An Overview of Its Recent Evolution in Latin America* (OECD Discussion Paper No 2014-18, 2014).

145 Eberhard (n 25).

megawatts. This meant the contracted-to-peak ratio was approximately 2.9:1. This was twice the international adequate reserve margin of approximately 1.2 to 1.[146] The implication of this is that the government was obliged to continue paying capacity charges, more than twice what was actually needed to meet peak demand. During this same period, aggregate capacity-charge obligations totaled approximately US$320 million annually.[147] In 2019, the figure rose to approximately US$620 million.[148] By 2025, aggregate sectoral arrears exceeded US$1.4 billion.[149] These are figures comparable in scale to the annual debt-service obligations on Ghana's conventional sovereign borrowing. Under current circumstances, and with these agreements still in place, government debt is doomed to continue to increase in successive years. But ultimately, the burden of this debt crisis is borne by citizens, either through tariff increases or the imposition of taxes on petroleum products, as seen with the introduction of the Energy Sector Levy.

For instance, from January 2023 through *Q3* 2025, aggregate residential tariffs roughly doubled in nominal terms.[150] The increases, according to the PURC, were necessary to close the gap between the costs the sector was incurring (including capacity charges to generators) and the revenues the sector was collecting from consumers. Among the reasons cited by the regulator for the increase in tariffs were, the depreciation of the Ghana cedi, exchange rate volatility, inflation, and rising fuel costs.[151]

146 On the adequate reserve margin, see North American Electric Reliability Corporation, *2022 Long-Term Reliability Assessment* (NERC 2022); 'Reserve Margins: By ISO and Over Time?' *Thunder Said Energy* (26 March 2026) <https://thundersaidenergy.com> accessed 1 May 2026.

147 Ackah and others (n 8) 3.

148 ibid.

149 'How Parliament Discussed and Approved the AMERI Deal: Transcript' *Ghana Business News* (16 December 2015) <https://www.ghanabusinessnews.com> accessed 1 May 2026.

150 Public Utilities Regulatory Commission (Ghana), *Quarterly Tariff Review Determinations* (2023–2025).

151 ibid.

These increases impose substantial welfare costs on households, particularly those at the lower end of the income distribution, whose electricity expenditures consume a higher proportion of their incomes. This precarious situation motivates most households to resort to illegal connections to escape the rising cost of electricity. This is one reason: accounting for annual commercial transmission losses, a factor that continues to contribute to the revenue losses incurred by ECG.

Thus, from the foregoing, I argue that the PPA architecture, especially the emergency PPAs successive governments signed in the wake of the power crisis, given their design, the manner of procurement, execution, and their structural obligations, were bound to favour project companies, without fully addressing the crisis of the power sector.

The cumulative effect of these developments has been a legitimacy crisis that extends beyond specific PPA renegotiations to the broader question of whether long-tenor sovereign commitments, negotiated under conditions of institutional weakness and political pressure, can be legitimate commitments of the polity across the decades they govern. If the PPA architecture is structurally productive of fiscal distress, political instability, and distributive injustice, its legitimacy as a mode of governing economic policy over two-decade horizons is, at minimum, contestable. The contestation has been implicit in the Ghanaian politics of the last decade; the subsequent Parts of this Article argue that it should be made doctrinally explicit.

PART 3: TOWARD A PRINCIPLED FRAMEWORK OF RISK ALLOCATION

In this Part, I attempt to develop a theoretical framework for understanding how long-term PPAs in Ghana constrain sovereign power and undermine state interests. The framework draws on

four bodies of scholarship: the classical theory of efficient risk allocation; the incomplete-contracts theory developed by Oliver Hart and Sanford Grossman; and the empirical theory of concession renegotiation developed by J. Luis Guasch, Jean-Jacques Laffont, and Stéphane Straub.

A. Efficient risk allocation revisited

As discussed above, the basic premise of every project theory, in contemporary times, is the principle of efficient risk allocation. That is, risks should be borne by the party best positioned to bear them.[152] Under the principle, demand risk is allocated to the offtaker because the offtaker has more information about and influence over demand; currency risk is allocated between the parties according to whose costs and revenues are in which currencies; political risk is allocated to the state because the state controls the political environment; construction risk is allocated to the generator (typically through EPC contracting) because the generator has expertise in construction management; and so on.

The principle is internally coherent but depends on assumptions that may or may not hold in any particular contracting environment. Three assumptions are particularly relevant for the analysis that follows.

First, the principle assumes that the parties have adequate information about the risks at the time of contracting, but this, of course, is not always the case.[153] If the offtaker underestimates its demand or overestimates its capacity to adjust tariffs, the allocation of demand

152 The canonical statement is Oliver Williamson, *Markets and Hierarchies: Analysis and Antitrust Implications* (Free Press 1975) 20–40; Oliver Williamson, *The Economic Institutions of Capitalism* (Free Press 1985) 79–114. For application to infrastructure contracting, see Jean-Jacques Laffont and Jean Tirole, *A Theory of Incentives in Procurement and Regulation* (MIT Press 1993) 56–98; Eduardo Engel and others, *The Economics of Public-Private Partnerships* (CUP 2014).

153 Guasch (n 141) 71.

risk will be *ex ante* rational but *ex post* suboptimal. Information asymmetries, biases in forecasting, and political-economy pressures on governmental parties can produce systematic departures from the assumption.[154] Even if information about all future events surrounding the contract could be anticipated, it could not reasonably be supposed that market actors would always act rationally, even though conventional law and economics assume as much.

Second, the principle assumes that the parties' capacity to bear the risks they agree to bear remains stable over the contract's term. For a twenty-year contract, this assumption is demanding and specifically unrealistic. Parties may become more or less capable of bearing risk over time: the offtaker's fiscal capacity may deteriorate; the generator's balance sheet may strengthen or weaken; currencies may depreciate more than anticipated; political environments may change. *Ex ante* risk allocation, in these circumstances, becomes *ex post* misallocation when conditions change materially. In principle, therefore, this complicates clauses such as hell or high water in PPA agreements, which impose unconditional obligations on the offtaker even where future circumstances make it impossible to perform or otherwise execute the agreement.

Third, the principle assumes that the allocations are enforceable on the terms agreed. In jurisdictions with weak institutional capacity, enforceability is problematic. The domestic legal system may not produce rulings that reliably enforce allocations against powerful local parties. At the same time, the international legal system may enforce allocations in ways that are politically unsustainable; renegotiation under duress may unwind allocations that were well specified on the original terms.

154 See Bent Flyvbjerg and others, 'How (In)Accurate Are Demand Forecasts in Public Works Projects?' (2005) 71 Journal of the American Planning Association 131; Atif Ansar and others, 'Big Is Fragile: An Attempt at Theorizing Scale' in Bent Flyvbjerg (ed), *The Oxford Handbook of Megaproject Management* (OUP 2017) 60.

It follows, on this account, that contracts, in themselves, are never complete and therefore, risk allocation should not be considered immutable for all purposes. The theoretical implication is that efficient risk allocation, as a foundation for long-tenor contracting in institutionally weak environments, is an inadequate framework. It explains contracting behavior *ex ante* but does not explain, or accommodate, the renegotiation behavior that predictably follows *ex post*. A more complete framework must incorporate both.

Incomplete-contracts theory

The inadequacy of efficient-risk-allocation theory in explaining long-tenor infrastructure contracts necessitates engagement with theories that account for parties' conduct under conditions of future uncertainty and contractual incompleteness. In this regard, I will draw on the incomplete-contracts literature, particularly the foundational work of Oliver Hart and Sanford Grossman on ownership and vertical integration. Grossman and Hart argue that, in complex economic and political environments, contracts are necessarily incomplete because parties cannot anticipate, specify, or verify every future contingency *ex ante*.[155] The costs of identifying and drafting contractual provisions for all possible future states of the world are often prohibitively high.[156] As a consequence, contracts inevitably leave gaps, requiring an allocation of what Hart and Grossman describe as "residual rights of control". This basically entails the authority to determine outcomes in circumstances not expressly governed by the contract.

Their theory may be understood, in part, as a response to the limitations of the Coasean framework on transaction costs.[157] On their account, while the Coase theorem assumes that parties will

155 See Grossman and Hart (n 30).
156 See Guasch (n 141) 71–73.
157 Ronald H Coase, 'The Problem of Social Cost' (1960) 3 Journal of Law and Economics 1.

bargain efficiently toward optimal outcomes irrespective of the initial allocation of rights, Hart and Grossman demonstrate that such bargaining is constrained by transaction costs, uncertainty, and the impossibility of complete foresight.[158] In long-term contractual relationships, particularly those involving complex infrastructure assets, future contingencies cannot be exhaustively anticipated or efficiently renegotiated. More fundamentally, in government-led infrastructural projects, the government might have multiple, sometimes incompatible, objectives, given that governments change over time during the life of the project.[159] Consequently, the initial allocation of control rights is critical, as it shapes bargaining power, investment incentives, and the distribution of risks *ex post*.

Viewed through this lens, PPAs, particularly those containing take-or-pay clauses, hell-or-high-water provisions, tariff adjustment mechanisms, fuel-supply commitments, and stringent termination clauses, can be understood as legal instruments for allocating residual control rights between private investors and the constitutional state. These provisions, I argue, do not merely allocate commercial risk. Instead, they structure authority over future political and economic contingencies by constraining the state's capacity to revise policy or respond flexibly to changing fiscal and democratic conditions. This is not to say that the state is thereby, in theory, restrained from undertaking its legitimate policy objectives; in practice, however, any action taken by the state (say, for example, tariff adjustment downwards) will have dire consequences since such actions will affect the state's ability to perform its obligations under the PPA.

In this sense, such clauses operate as mechanisms through which investors secure a degree of residual control over the energy sector and insulate their investments from future political intervention.

158 Grossman and Hart (n 30).
159 ibid.

The significance of this allocation of control rights lies not simply in its commercial consequences, but in its constitutional and democratic implications. Because future contingencies are inherently uncertain and often incapable of precise *ex ante* quantification, host states may assume obligations whose eventual fiscal and political costs substantially exceed original expectations. The very logic of bankability, therefore, requires states to commit themselves to long-term obligations under conditions in which neither the magnitude nor the distribution of future risks can be fully known.

Accordingly, while project finance is conventionally justified on the basis that large-scale infrastructure projects exceed the immediate fiscal and technical capacities of developing states, the present analysis suggests that such arrangements may, paradoxically, constrain rather than expand state capacity over time. This is done by transferring substantial demand, currency, and political risks onto the state. Thus, PPAs can generate long-term fiscal rigidities that undermine the state's future regulatory autonomy and developmental flexibility.

Against this background, when unforeseen contingencies materialise (for example, currency depreciation, energy oversupply, shifts in demand, fuel price volatility, or fiscal crisis), the host state bears the residual burden of adjustment. In some cases, the resulting obligations may exceed the state's *ex ante* capacity to absorb them, rendering continued performance politically, economically, or fiscally unsustainable. At that stage, renegotiation becomes unavoidable. The dynamics of such renegotiation and the structural asymmetries that shape it are examined using the Guasch-Laffont-Straub framework in the following section.

The Guasch–Laffont–Straub model

J. Luis Guasch, in a series of World Bank studies beginning in the late 1990s, and obviously concerned about the frequency of contract renegotiations in Latin America, documented the empirical regularities of concession renegotiation.[160] Guasch sought to understand why renegotiations occur with predictable frequency and on predictable terms, even though such agreements are initially designed to last for long periods. He found that between 1985 and 2000, 78% of long-term concession contracts were renegotiated within the space of 3 years.[161] Surprisingly, this figure is strikingly high for arrangements notionally designed to bind parties over twenty- to thirty-year horizons. This rate of renegotiation is difficult to reconcile with conventional theories of contractual stability. Rather than representing exceptional contractual breakdowns, renegotiation appeared to constitute a predictable phase in the life cycle of long-term infrastructure agreements. On this account, renegotiation is not pathological to the concession model; it is structurally embedded within it. Guasch therefore identified renegotiation as one of the central challenges confronting long-tenor infrastructure contracting. Subsequent work by Guasch, Jean-Jacques Laffont, and Stéphane Straub further developed this insight by demonstrating that the recurrence of renegotiation reflects the underlying logic of infrastructure contracts executed under conditions of incomplete information, political instability, and institutional fragility.[162]

Many of these contingencies arise from weak institutional environments and the inherently unstable character of democratic politics in developing states. What emerges from this literature is a profound tension between the temporal demands of infrastructure finance and the cyclical dynamics of democratic governance.

160 Guasch (n 31); J Luis Guasch and others, 'Concessions of Infrastructure in Latin America: Government-Led Renegotiation' (2007) 22 Journal of Applied Econometrics 1267.

161 Guasch (n 31).

162 Guasch, Laffont and Straub (n 157); Guasch and others (n 31).

Infrastructure concessions and PPAs are typically structured for longer durations, whereas electoral cycles operate over four- or five-year horizons. Governments change, policy priorities shift, fiscal pressures emerge, and geopolitical conditions evolve. Under such circumstances, long-term contractual commitments inevitably confront pressures for revision.[163]

The Guasch-Laffont-Straub framework further demonstrates that renegotiation is normatively ambiguous. In some cases, renegotiation may be socially desirable because it permits contractual adjustment in response to unforeseen contingencies. Renegotiation may also be deployed opportunistically for political purposes, particularly where governments seek short-term electoral gains through tariff suppression or contract revision. Moreover, renegotiation is itself costly.[164] At times, it extends concession durations, alters the original allocation of risks and returns, and may ultimately produce outcomes less favourable than the original bargain.[165]

Importantly, renegotiation does not guarantee that governments will secure more advantageous terms. Because concession contracts remain legally binding agreements between private and public actors, renegotiation ordinarily requires mutual consent. A private investor unwilling to reopen negotiations generally cannot be compelled to do so absent express contractual authority or a governmental willingness to incur the costs of termination, arbitration, or breach. The Ghanaian experience, particularly the Ameri renegotiation discussed above, illustrates this point clearly. Attempts to restructure politically contentious agreements may fail to produce fiscally or commercially superior outcomes and may, in some instances, deepen the state's financial exposure

163 J Luis Guasch, Jean-Jacques Laffont and Stéphane Straub, 'Renegotiation of Concession Contracts: A Theoretical Approach' (2006) 29 Review of Industrial Organization 55.
164 ibid.
165 ibid.

The broader implication is that orthodox claims concerning the efficiency of project finance in long-term infrastructure development are overstated. The Ghanaian PPA experience reveals that such arrangements may generate substantial long-term fiscal burdens, particularly where contracts are negotiated under conditions of informational asymmetry, political urgency, and weak institutional oversight. Moreover, successive governments often attempt renegotiation not solely because of genuine economic necessity, but also because long-term infrastructure commitments become politically unsustainable over time.

Accordingly, I argue that optimal PPA design in African contracting environments should treat renegotiation not as a pathological deviation from contractual performance, but as a structural feature of long-tenor sovereign-counterparty agreements. The question is therefore not whether renegotiation will occur, but how contractual design can channel renegotiation through predictable and institutionally disciplined mechanisms.

To be sure, some scholars or investors might object to my suggested framework. For instance, one concern may be that formal renegotiation clauses may undermine the predictability required for project bankability. On this view, if a PPA contains *ex ante* renegotiation triggers, the investor's revenue stream becomes uncertain, thereby weakening the financial stability upon which project finance depends. While this concern carries some force, it rests on an unrealistic comparison between perfectly stable contracts and those with explicit adjustment mechanisms. The more appropriate comparison is between contracts with transparent renegotiation procedures and those in which renegotiation occurs implicitly and informally under political pressure. Explicit renegotiation mechanisms may, in fact, enhance predictability by specifying in advance the circumstances, procedures, and limits under which contractual adjustments may occur.

A second objection is that formal renegotiation mechanisms may create moral hazard by enabling governments to invoke renegotiation opportunistically whenever contractual performance becomes politically inconvenient. This concern is also significant. Yet carefully drafted mechanisms can constrain governmental discretion by limiting renegotiation to objectively verifiable triggers. Such triggers might include, for instance, a movement in the local-currency exchange rate beyond a defined band; a change in law or in the fiscal or regulatory regime materially affecting project costs; a sustained deviation of actual demand from contractually forecast levels beyond a specified percentage; or a published macroeconomic index (such as the rate of inflation or a benchmark fuel price) crossing a pre-agreed threshold. Because each of these is independently measurable against a public benchmark rather than a matter of governmental assertion, tying the right to renegotiate to their occurrence narrows the space for opportunistic invocation while still allowing adjustment in the face of genuine and quantifiable shocks. Narrow, quantitatively measurable thresholds reduce the scope for arbitrary invocation while preserving the flexibility needed to respond to genuinely unforeseen contingencies.

A further objection may be that many African states lack the regulatory and administrative capacity necessary to operate structured renegotiation systems effectively. However, the relevant inquiry is not whether institutional constraints exist, but whether explicit renegotiation frameworks produce superior outcomes relative to the available alternatives. The Guasch-Laffont-Straub literature strongly suggests that implicit and politically improvised renegotiation processes generate greater inefficiency, opportunism, and fiscal instability than structured *ex ante* adjustment mechanisms. The Ghanaian experience similarly indicates that the absence of clearly defined renegotiation procedures often exacerbates uncertainty and weakens the state's bargaining position. On this account, explicit

renegotiation provisions should not be understood as invitations to opportunism, but as institutional devices for disciplining an otherwise inevitable process.

Notwithstanding this argument, I remain less confident that the current institutional structure through which PPAs are procured in Ghana provides an adequate framework for addressing the deeper structural problems identified above. Indeed, the difficulties associated with Ghana's PPA regime raise broader questions concerning the continued reliance on Independent Power Producers (IPPs) as the dominant model for electricity generation procurement. This question is particularly salient at a moment when institutions such as the World Bank, long associated with privatisation and market liberalisation,[166] appear increasingly receptive to forms of industrial policy and state-led developmental coordination.[167] Given this concern, I suggest that a serious reassessment of Ghana's energy procurement strategy may be warranted. Such an assessment would require a comparative evaluation of:

(i) the long-term fiscal and developmental costs of existing PPAs;

(ii) the relative costs and benefits of alternative public-private partnership structures; and

(iii) the feasibility of direct state-led infrastructure development in selected sectors.

Only through such a comparative institutional analysis can the long-term constitutional, fiscal, and developmental implications of Ghana's current energy-finance architecture be properly understood.

166 Ana Margarida Fernandes and Tristan Reed, *Industrial Policy for Development: Approaches in the 21st Century* (World Bank Policy Research Report 2026) <https://doi.org/10.1596/978-1-4648-2276-6> accessed 1 May 2026.

167 ibid xi–xiv.

PART 4: TOWARD REFORM: ADDRESSING GHANA'S ENERGY CRISIS

The present crisis in Ghana's electricity sector, driven in significant part by emergency procurement of PPAs, fiscal overcommitment, and persistent political interference, demonstrates that the incorporation of explicit renegotiation clauses alone might prove insufficient to resolve the deeper structural weaknesses of the sector. Without doubt, it is possible that a carefully designed renegotiation mechanism may improve contractual flexibility and reduce opportunistic bargaining. But the difficult question is whether such flexibility in contractual terms, in itself, can cure the institutional and developmental deficiencies that continue to undermine the sustainability of Ghana's power sector. It is to this difficult question that I turn.

The difficulties confronting the sector, perhaps, require more than contractual reform; they necessitate structural rethinking of the model through which electricity generation is procured and governed. In particular, the current crisis raises a fundamental question as to whether the existing emergency and impulsive PPA-driven framework serves Ghana's long-term developmental and fiscal interests in securing a sustainable electricity supply. But how might this rethink of the sector's structural reform be conceived?

As argued throughout this paper, one of the principal causes of Ghana's over-contracting problem has been the repeated resort to emergency procurement under conditions of inadequate planning and political urgency. Government and energy regulators must, therefore, continuously monitor grid capacity, projected demand growth, reserve margins, and generation adequacy to ensure that procurement decisions are grounded in realistic long-term demand forecasting rather than short-term political pressures. Effective demand planning is essential not merely for operational efficiency, but

for preventing the cycle of rushed procurement that has characterised significant portions of Ghana's recent energy expansion.

Even when emergency procurement becomes unavoidable, it should remain subject to stringent institutional safeguards and clearly defined, rule-based adjustment mechanisms. The absence of such safeguards has contributed to the fiscal opacity and long-term rigidity associated with several Ghanaian PPAs.

More fundamentally, however, the present moment requires a broader reassessment of the continued reliance on IPPs as the dominant mechanism for procuring electricity generation. This reassessment is particularly timely given the renewed global shift toward industrial policy and greater state involvement in strategic sectors of the economy. Indeed, institutions historically associated with privatisation and market liberalisation, including the World Bank, have now acknowledged the importance of state coordination and industrial planning in infrastructure development.[168]

What do I mean by industrial policy though? By this, I do not mean to suggest that private ownership or contracting is bad; nor am I suggesting that the state is the most appropriate entity to ensure the efficient and effective delivery of reliable access to electricity. Any such suggestion, of course, can easily be displaced. The version of industrial policy with which I am concerned here is one that requires integrated electricity planning in which generation, transmission, distribution, and industrial demand are coordinated as components of a unified developmental strategy rather than financed as isolated revenue-generating assets. What this means is that, under this development and enhanced coordination framework, it is possible to have private contracts for electricity generation provided such contracting models align with the framework designed for the sector.

168 ibid.

Under prevailing Ghanaian conditions, PPAs have tended to impose contingent fiscal obligations and long-term payment commitments that ultimately place the state in a weaker financial position than alternative procurement arrangements. In many instances, given the emergency nature of procuring such contracts, substantial risks are transferred to the government at material times when this may not have been preplanned due to a lack of development strategy and planning within the sector. In other words, electricity systems are inherently integrated public systems, whereas project finance fragments infrastructure into isolated contractual units. With this isolation, there is fragmented contracting to address specific instances of the sector's deficiencies, without concrete frameworks for integrated development.

Adopting industrial policy also requires addressing institutional weaknesses within electricity distribution entities. Both the Electricity Company of Ghana (ECG) and the Northern Electricity Distribution Company (NEDCo) have incurred recurring financial losses due to operational inefficiencies, technical losses, revenue collection challenges, and political interference. In particular, excessive political intervention has undermined managerial autonomy, distorted operational decision-making, and weakened institutional accountability within the sector.

The comprehensive coordination, which I advocate for in this paper, also calls for keen attention to the composition of Ghana's current generation mix. Thermal generation presently accounts for approximately two-thirds of electricity generation capacity, much of which was added through emergency thermal PPAs executed during the energy crisis. Yet the very conditions that produced this emergency procurements expose the vulnerability of overreliance on thermal power. The disruption of the West African Gas Pipeline, for example, was itself a major catalyst for emergency contracting and

demonstrated the extent to which Ghana's electricity system remains exposed to external fuel supply disruptions.

Moreover, contemporary geopolitical developments, particularly the Russia-Ukraine conflict, the US-Israeli war against Iran, and broader instability in global energy markets, reveal the long-term volatility associated with fossil-fuel dependence. Thermal generation exposes the electricity sector not only to fluctuating fuel prices and foreign-exchange pressures but also to geopolitical disruptions beyond domestic control.

These developments underscore the need to reconsider Ghana's overall energy generation strategy. Historically, as the discussion has shown, Ghana relied heavily on hydropower generation. However, changing rainfall patterns and climatic variability revealed the limits of excessive dependence on hydroelectricity, contributing to recurrent energy crises in the 1980s, 1990s, and 2000s. The subsequent transition toward thermal power addressed some immediate generation shortfalls but introduced a new set of fiscal, geopolitical, and contractual vulnerabilities. The current difficulties associated with thermal PPAs, therefore, illustrate that merely substituting one dominant generation source for another does not resolve the underlying structural problem.

A more sustainable long-term strategy requires serious integration of renewable energy sources into the national grid. Renewable sources such as solar and wind energy, at least for Ghana, are comparatively less vulnerable to geopolitical supply disruptions because their primary inputs are not internationally traded commodities subject to global political instability. Although substantial upfront capital investment remains necessary for renewable infrastructure development, the long-term operational costs and exposure to fuel-price volatility are significantly lower than under thermal generation models.

A coordinated national strategy to expand renewable generation capacity could therefore strengthen grid resilience, reduce long-term fiscal exposure, and improve energy sustainability. Such a transition, I believe, would also advance Ghana's international climate commitments under the Paris Agreement while positioning the country more favourably within the evolving global energy transition.

Accordingly, any meaningful reform of Ghana's electricity sector must extend beyond contractual restructuring and encompass deeper institutional reform. Sustainable sectoral reform, in my view, requires stronger regulatory capacity. It requires improved technical infrastructure, enhanced transparency, and greater insulation of sector institutions from short-term political control. Without such structural reforms, even well-designed PPAs and renegotiation frameworks will continue to remain insufficient to resolve the underlying governance and fiscal challenges presently confronting Ghana's electricity sector.

Conclusion

In this paper, I have sought to argue that bankability, as a basic component of project finance, in its contemporary articulation, is a choice about political-economy allocation rather than merely a technical requirement of private finance. Accordingly, the crisis confronting Ghana's electricity sector cannot be understood solely as a problem of poor contractual drafting, inefficient regulation, or isolated policy failure. The crisis also reflects a deeper structural tension embedded in the model of long-term infrastructure finance itself, through which electricity generation is carried out. The tension arises because project finance demands long-term stability, predictability, and credible commitment. At the same time, however, democratic governance is inherently dynamic and revisable in

character. This means that with a change in government, and without any permanent governance framework for the sector, priorities will shift.

PPAs and project finance, more broadly, have often rested on the assumption that private capital provides an efficient mechanism for states to overcome fiscal and technical constraints in developing large-scale infrastructure. On this view, risk is, thus, supposedly allocated to the party best positioned to manage it. This, it is believed, maximises efficiency and improves investment outcomes. The discussion in this paper has, however, sought to reveal the limitations of this account. I argued that, beyond efficiently distributing commercial risk, recourse to PPAs in Ghana has served to transfer substantial political, fiscal, currency, and demand risks onto the state while simultaneously constraining the future regulatory and policy autonomy of democratic institutions. As I argued, while this may not be a direct or express constraint from the terms of the PPAs, their application and resultant effects, over the years, as discussed here, justify the present conclusion.

I also drew on the incomplete-contracts literature associated with Hart and Grossman to demonstrate that long-tenor infrastructure agreements, while presented as complete allocation of rights and responsibilities, are necessarily incomplete. This is because, as argued, future political and economic contingencies are difficult to fully anticipate *ex ante*. Under such conditions, contractual arrangements inevitably become mechanisms for allocating residual control rights over uncertain futures. On this consideration, it follows that provisions such as take-or-pay clauses, hell-or-high-water obligations, sovereign guarantees, and arbitration clauses do more than secure investor returns; they structure authority over future political and economic decision-making. On this account, they function as mechanisms through which investors seek to insulate infrastructure assets from democratic uncertainty and sovereign intervention.

I have further shown, through the works of Guasch *et al*., the incomplete nature of PPAs, and that its attempt to insulate itself against democratic uncertainty has instead resulted in a wave of renegotiations of these agreements. This is because these contracts, spanning decades, inevitably collide with electoral cycles, macroeconomic shocks, changing policy priorities, and evolving fiscal realities. I also demonstrated, however, that renegotiation does not constitute a demonstrably self-evident good. In many instances, it merely redistributes risks, extends fiscal obligations, or otherwise intensifies contractual rigidity.

Against this background, the paper has argued that Ghana's continued reliance on fragmented emergency PPAs for power generation has resulted in long-term fiscal exposure, excessive debt burdens, and contractual opacity, while failing to resolve the persistent power-outage crisis in the country.

Given this account, I have, therefore, suggested that meaningful reform requires moving beyond purely contractual solutions toward broader institutional and structural transformation. While explicit renegotiation mechanisms in future PPAs may improve predictability and discipline future adjustment processes, they cannot substitute for sound sectoral planning, institutional independence, transparent procurement practices, and sustainable generation strategies. Effective reform will, therefore, require continuous monitoring of generation adequacy, transparent procurement safeguards, and stronger insulation of sector institutions from short-term political control.

Fundamentally, the current moment presents an opportunity to reconsider whether the existing PPA-centred framework remains the most suitable model for electricity generation procurement in Ghana. The global re-emergence of industrial policy and renewed recognition of the developmental role of the state invite a reassessment of whether

strategic infrastructure sectors can be sustainably governed through highly financialised contractual arrangements that subordinate long-term public flexibility to the imperatives of investor certainty. I am not suggesting that private participation should be abandoned altogether. My contention is that the existing balance between public authority and private contractual protection requires reconsideration in light of Ghana's developmental realities.

The analysis in this paper has also underscored the importance of diversifying Ghana's energy mix by integrating more renewable energy sources. Overdependence first on hydropower, and later, on thermal generation has exposed the electricity sector to climatic, geopolitical, and fiscal vulnerabilities. Renewable energy presents an opportunity not only for environmental sustainability but also for greater long-term resilience and enhanced energy security. A coordinated transition toward renewable generation, supported by coherent industrial and energy policy, may therefore provide a more sustainable foundation for the future development of Ghana's electricity sector.

In the final analysis, this paper has sought to demonstrate that PPAs are not just technical commercial instruments. They are governance structures that allocate authority, distribute risk, and shape the state's future capacity. Ghana's experience, as documented in this paper, reveals that project finance does not eliminate politics; rather, it reorganises politics through legal and financial mechanisms designed to stabilise investor expectations against democratic uncertainty.

Accordingly, the future of Ghana's electricity sector will depend not only on securing investment, but on constructing an energy governance framework capable of reconciling economic sustainability with democratic legitimacy.