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When the means become the ends: Ghana's 'good governance' electricity reform overwhelmed by the politics of power crises

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ABSTRACT

The 1990s good governance agenda created the 'standard reform model' for the electricity sector but after widespread adoption of its market and institutional policies, many developing countries' electricity systems continue to suffer numerous crises. This article, using Ghana as a case study, analyses key drivers producing such crises. In the last decade, Ghana lurched from unprecedented shortages to electricity over-abundance, entailing spiralling debt. Rather than understand this through neo-classical approaches focusing on formal institutions and democratic pressures, this detailed empirical research outlines an alternative heterodox approach focused on political power and ideology. It demonstrates how intense competition entailed an all-consuming short-termist focus on elections. Alongside high modernist ideological beliefs in the power of megawatts to produce industrialisation, this created Ghana's crises of absence and abundance. The article, therefore, finds that focusing on democratic institutions, the formal separation of policymaking and market motivations appears misplaced given the strength of countervailing political and ideological rationales that overwhelmed reforms. Alongside demonstrating the crucial importance of focusing on informal political power and policymaking beyond de jure institutions, this case study evidences flaws in the standard reform model, refuting its political compatibility and pointing to how it can increase opportunities for distorting the electricity-system.

KEYWORDS

Electricity; political economy; Ghana; standard reform model; development

Introduction

On the 27 August 2012, a small group of pirates triggered the first of two major power crises in Ghana. Attempting to escape from the Togolese Navy on a captured oil tanker, the pirates left the ship's anchor trailing. It snagged and broke the West African Gas Pipeline, which transports Nigerian gas to Ghana, sparking a major fuel shortage. When combined with drought and fiscal issues, this incident plunged the country into four years of electricity shortage. However, this crisis of electricity shortage was quickly replaced with one of overabundance: Ghana went into a power-plant construction overdrive, resulting in electricity-generation capacity equalling twice the country's demand by 2018. This increase is particularly problematic as it came from 'take-or-pay' contracts that involve the government's distribution utility, the Electricity Company of Ghana (ECG), promising to pay private electricity companies for typically 90 per cent of the power they make available, regardless of whether it is used. Ghana's large imbalance in supply and demand left a costly bill, reaching 4–5 per cent of GDP in 2018 (World Bank 2018).

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From the perspective of the good governance agenda, these crises might be surprising. Both of Ghana's ruling parties have, relatively enthusiastically, adopted the 'standard reform model', the set of policies applying the good governance agenda to the electricity sector. Furthermore, as Figure 1 shows, Ghana has diversified from hydropower to fossil fuels (gas and imported oil), something that helps avoid electricity-generation crises. Additionally, Ghana meets many of the conditions identified by Foster and Rana (2019) as enabling the standard reform model. Namely, Ghana has democratic norms, competitive elections, middle-income status, ideological support for a market-led economy and the rule of law. Furthermore, Ghana has one of the continent's larger grids, with an 86 per cent electrification rate, and well-developed utilities with arguably the best regional technical capacity.[1] Ghana, therefore, works as a key case study to analyse good governance reform; if the standard reform model is to work in Africa, surely it should be here? However, this article demonstrates that Ghana's underlying short-termist, election-driven, competitive politics prevented these formal institutional reforms from functioning as intended and created two electricity crises: individual and party-political interests, alongside ideological rationales, trumped long-term strategies and market logics whilst reducing the influence of professional planning. The Standard Reform Model, therefore, appears flawed, unlikely to ever function given that it is designed for a political context that does not exist.

This empirical evidence, therefore, calls for an alternative theoretical underpinning. 'New institutional economics', which grounded the good governance agenda, has been widely critiqued for its one-size fits all approach and its inadequate attention to how political power shapes institutions' functioning. This prompted the emergence of a new mainstream, 'new' new institutional economics, illustrated by Acemoglu and Robinson (2013) and North et.al. (2013), that involves greater emphasis on politics. This theoretical advance is also reflected in the electricity sector by academics (Ahlborg et al. 2015, Gore et al. 2019) and policy makers (Lee and Usman 2018, Foster and Rana 2019) who assert the importance of politics and the failings of past reforms. However, amidst this new assertion of politics, research and policy prescriptions have continued to focus on democratic institutions, legal regulation, formal organisational separation and market mechanisms. It is not that these policy reforms are irrelevant, but rather that a primary focus on them leaves a gap concerning informal political power and processes of policymaking that evidence below suggests have overriding importance. Without an alternative, a number of donors and sectoral experts[2] argue that to address Ghana's electricity crises, and ensure financial stability, further reform is required with privatisation, unbundling and tariff-changes; to paraphrase Rodrik (2006), they still just need to 'get the prices and institutions right'.

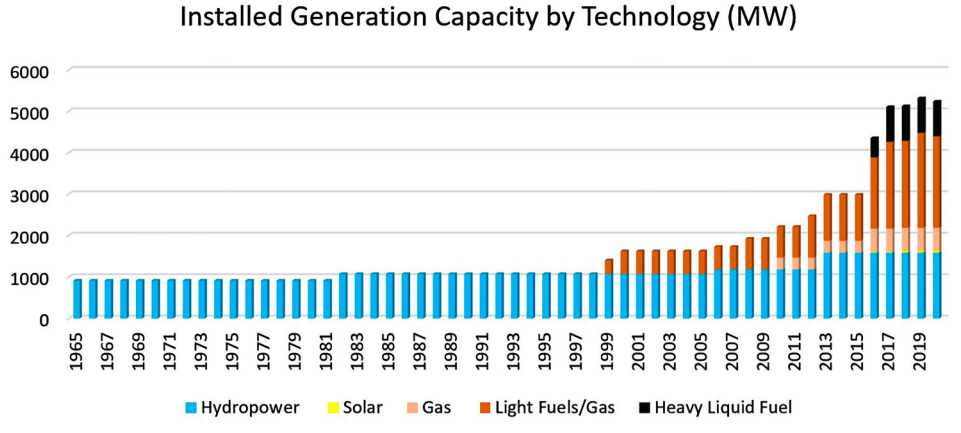

Figure 1. Depicting Ghana's power surge and diversification. Source: Author using Energy Commission statistics.

The article proceeds to ask, what caused the two crises of under and over-supply, using this empirical evidence to outline an alternative theoretical understanding of *how* politics matters. It demonstrates how both crises were driven by the informal and concentrated way in which political power manifests. Ghana's competitive status quo, the instability of politicians' and political parties' positions, drove short-termist, clientelist strategies aimed at maintaining or winning power. These strategies easily overcame the formal institutional arrangements introduced by standard reform. This demonstrates that factors like 'corruption', 'political interference' or 'leadership' can distract from deeper drivers around who has power in society, of its distribution and stability which are fundamental to understanding the politics of policymaking in the electricity sector. They determine the possibility of independent regulation, the influence of market rationales and inclusion of expertise in decision-making processes. Additionally, ideology is key, with this article demonstrating its importance in rationalising over-optimistic megawatt targets. The combination of both rationales, in a context of informal political power, meant that the institutions created by the standard reform model, intended to be a depoliticised set of reforms, were inevitably politicised and prevented from functioning as envisioned. The standard reform model's application in Ghana appears impossible given the country's political status quo. Critiques can be taken further, with the introduction of IPPs in Ghana demonstrating how standard reforms opened additional opportunities to distort the electricity system, with private power plants used to raise election campaign finance and pay-off party-political backers.

This article thereby pushes the literature on the electricity sector to engage in underlying theories conceptualising the strategic drivers and structural pressures behind the politics of policymaking. Centrally, it asserts the importance of tracing how these work through informal processes as well as through the formal edifice of the state and its legal structures. Here, the article draws on Khan's (2010, 2018) framework of political settlements. However, analysis here does not follow a strict political settlements approach, which would take a historical method, tracing shifts in societal power and ruling coalitions. Moreover, unlike the more materialist tendencies of political settlements analysis, the article takes the influence of ideas seriously. This article advances the literature on the politics of development as electricity reform has itself been rarely linked to ongoing debates about the evolution of good governance, or new 'new' institutional economics (excepting Gore et al., 2019).

This article is the product of extensive research carried out between 2018 and 2020. Ethics procedures involved explaining the purpose of the research by email and in-person, obtaining prior informed consent of interviewees and the anonymization of interviewees under Chatham House conventions. The article is primarily based on qualitative research including 49 semi-structured interviews but also draws on a new statistical database collected by Dr Simon Bawakyillenuo. Inductive analysis was underpinned by triangulation of different types of sources and data and rigorous process tracing of key actors, decisions, interests and ideas. Analysis assumed equifinality in the role of ideology, that is the equal intersection of ideology with materialist, strategic rationales for policymaking (Freeden 1994, 2008, Goodwin 2014). The article proceeds by outlining the good governance agenda and its application to the electricity sector, the standard reform model. It then reviews critiques of these and the mainstream evolution of policy thinking and research to include politics, before outlining an alternative framework to understand the politics of electricity-sector policymaking. Following these literature sections, the empirical case of Ghana's two electricity crises are analysed, with conclusions drawn out.

The history of structural reforms in development: reimagining the role of politics?

Good governance and its application to the standard reform model

The good governance agenda took shape in reaction to Structural Adjustment Programmes (SAPs) of the 1980s. With the assumption that profit motives could better allocate capital and increase economic efficiency, the SAPs centred on government austerity, monetarist policies and the expansion of

markets through decreased regulation and privatisation. However, by the 1990s, new institutional economics, particularly associated with North (1990), called for change. Critiquing the state's potential for inefficiency, North used a rational-actor model to argue that individuals are invariably aiming to maximise personal returns and/or maintain power. To achieve development requires alignment of these rational interests to long-term goals. This evolution shifted the SAPs' focus from 'getting the prices right' by introducing market reforms, to 'getting the institutions right' by additionally building supporting governance structures (Rodrik 2006). Crucial here was the disruption of patron-client relations through the creation of markets ruled by profit motives rather than state-monopolies and the separation and devolution of power. Democracy, the rule-of-law and accountability were the new watchwords.

This institutional turn in development also occurred in the electricity-sector. Having been largely overlooked in the 1980s' SAPs, donors, especially the World Bank, began advocating sectoral restructuring in the 1990s (e.g. World Bank, 1993). This became known as the 'standard reform model', involving seven policy themes (see Figure 2): regulated, transparent tariff setting; independent power producers (IPPs); corporatizing, commercialising and ultimately privatising utility companies; the unbundling of generation, transmission, distribution and retail roles; the creation of wholesale, retail and generation markets; independent regulation; and underpinning legislation. The model, therefore, closely followed good governance rationales: it decreases the role of the state, introduces market competition and supposedly creates accountability through independent regulation whilst disrupting patron-client relations through the separation of powers and for-profit rationales. Competition and the 'right' institutions supposedly create efficiency, effectively allocating capital and bringing down power-production costs whilst meeting consumer needs. The end-point in the model is akin to the UK's electricity sector, among the most unbundled and privatised in the world. Typically, the reforms have prioritised setting-up independent regulation and unbundling (separating-out) the functions of generation, transmission and distribution into utility companies. For example, Ghana has four state-owned utilities: generators -the Volta River Authority[3] [VRA] and Bui Power Authority-, the transmission company GRIDCo and a distributor the Electricity Company of Ghana (ECG). Private electricity generators were introduced from 1998 and two regulators formed: the Energy Commission, an arms-length regulator for licensing IPPs and advising government, and the Public Utilities Regulatory Commission (PURC), supposedly completely independent and charged with approving Power Purchase Agreements and setting tariffs. This

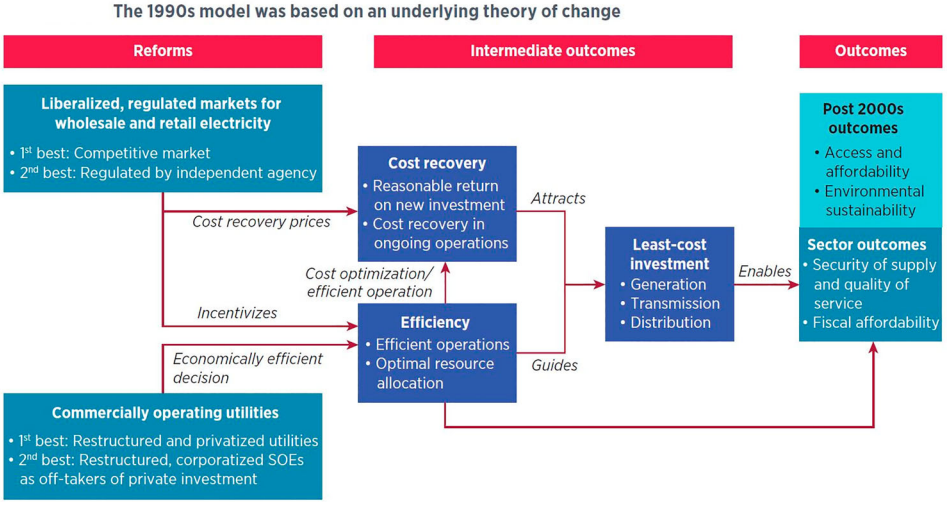

Figure 2. Depicting the standard reform model's theory of change. Source: Foster and Rana (2019, p. 5).

formal separation is designed to improve legal oversight, accountability and market competition given that the state utilities would compete with companies to generate, transmit and distribute electricity.

Appreciating the 'politics' of electricity sector reforms

In contrast to the SAPs and good-governance reforms, the largest economic rise in the last 50 years has been engineered by state-led and, often authoritarian, political economy models adopted by East and South-East Asian states ranging from Korea to Vietnam and Malaysia (e.g. Gray 2018). These countries' success, alongside the good governance agenda's limited achievements, prompted further evaluation of politics' role in development. A particularly influential illustration of this is Acemoglu and Robinson (2013). They identify the 'political equilibrium' underpinning[4] development and assert the importance of inclusive institutions, those that defend universal rights under the rule of law and which offer property security, as oppose to extractive institutions; those preventing new market entrants and creating unequal 'rules of the game' around property rights or the rule of law. North et.al. (2013) present a similar 'access orders' theory. It categorises states on whether they allow new market entrants through established, universally-applicable, market rules (e.g. guarantees around property rights and equal treatment of companies by the state) and whether the ruling elite has a sufficient monopoly on violence to enforce this status quo. Gray (2018) argues that this represents 'new' new institutional economics, intellectually adapting to evidence about the state's role in creating development whilst continuing assumptions about the value of formal liberal-democratic institutions, rational-actors and market-mechanisms' benefits. A more nuanced approach is evidenced by Cheeseman, who argues that we should not confuse the fact that certain institutions are strong with the presumption they matter universally. For instance, whilst Ghana may have strong rules and norms around elections, unions, term limits and political-party selections, formal policy reforms, as we shall see, are not central to policymaking in all sectors. Thus, research should move 'beyond studying formal institutions in isolation in order to consider the ways in which formal and informal institutions interact' (Cheeseman 2018, p. 30).

Some of this intellectual advance is reflected in the electricity sector. A relatively extensive body of literature discusses the empirics of reform, detailing the struggles around the adoption and the failure of the standard reform model to meet its acclaimed benefits.(Xu 2004, Kapika and Eberhard 2013, Eberhard et al. 2016, Dubash et al. 2018). For instance, one of the most complete adopters in Africa (more than Ghana) is Uganda, with fully unbundled utilities under private management. Although Uganda's electricity system is financially-sustainable, with tariffs covering system-costs, this entails a relatively-high consumer tariff and limited investment in increasing electricity access (MacLean, Bob-Milliar, et al. 2016a, Gore et al. 2019). Evidence of standard reform's failure led to the rejection of the idea of a universal model and calls to study the politics shaping varied adoption and performance. Recent World-Bank policy studies, alongside identifying technical factors such as grid size, middle-income economy status and institutional capacity, state that a series of democratic institutions and norms are key basic requirements for successful reform (Lee and Usman 2018, Foster and Rana 2019): namely, pre-existing political competition, decentralised government and market ideology was found to create reform by generating trust in the benefits, and safety, of handing policymaking power to independent institutions and private companies. This report also retains a focus on formal rules and institutions, whilst continuing to assume that privatised, unbundled and transparent electricity markets represent *the* solution for sectoral financial sustainability, reliable power supply and low energy costs.[5] For example, despite detailing the significant failures of the standard reform model and need to adopt tailored approaches relevant to domestic politics, the World Bank's Foster and Rana (2019) also contrarily continue to assume an ultimate UK-style reform endpoint and to argue that all countries should aim for full cost recovery using transparent tariff-setting processes, economically-based power-generation dispatch, corporatized utilities and competitively tendered IPPs.

Meanwhile the academic literature on developing-countries' electricity-sectors contains an increasing consensus that politics matters in dictating the adoption of reform, but is more divided on the *how*, on the mechanisms causing electricity crises and the success and failure of reform. Although many are critical of the one-size-fits all approach of standard reforms, the focus of much of the literature is on the empirics of reform, or on particular identifiable factors that matter to its successful adoption. The international level is often emphasised, as are economic identifiers, like the role of capital, presence of private companies or financial dependence on multilateral and/or Western donors. For instance, Williams and Ghanadan (2006), or Eberhard's (2015) have produced comprehensive empirically-led articles that demonstrate barriers to adoption and the travails of standard reform at global and regional levels, where it has advanced and where its implementation has struggled, testing the relevance of specific characteristics like the degree of donor dependence or private investment. In the Ghanaian case, a narrow appreciation of politics is demonstrated by Sackeyfio (2018), who rightly recognises the use of electricity access as an electioneering strategy, but does not link this to underlying policymaking processes in the state, or the structure of political power. For example, the limited functioning of formal reforms are described, and partially linked to the ideological status of electricity as a public good, not to characteristics of Ghana's political system and state. Overall, this leaves few tools to understand the informal and structural political pressures on policymaking systems, the underlying theory for how *politics matters* at the domestic level and how politicians work around and through the formal standard reform policies. At its worst, this literature can have the effect of essentially treating politics as a large, but opaque, black box with only its outcomes, not internal processes, observable (Chineke and Ezike 2010, Banful 2011).

Much of the literature examining standard reforms in this institutional turn explicitly, or implicitly, adopts a 'new' new institutional economics framework. One prominent strand of scholarship takes a fundamentally positive assumption about the value of markets, democratic institutions and the rule of law (Ahlborg and Hammar 2014, Ahlborg et al. 2015). Others, adopting a more critical approach, do not espouse policies of standard reform model (Gore 2017, Sackeyfio, 2018, Gore et al. 2019), but maintain a focus on the reforms themselves and interference with, and contestation of, their formal institutions. Although certainly valuable scholarship, this approach does not tend to nest these findings in deeper national politics, or the wider structure of political power outside the electricity sector, which fundamentally shape policymaking processes. This is, therefore, where this article's contribution sits, with analysis demonstrating that such reforms aren't just undermined by 'politics' but that their underlying theory is incompatible with the structure of Ghana's political power and its consistent impact on policymaking. Therefore, it is not that formal organisations and rules are irrelevant to the functioning of the sector and policymaking process, but more that their influence pales in comparison to informal networks of political power. We now turn to this alternative theoretical foundation and the demonstration of its usefulness. It advances a longstanding, often marginalised, critical strand of scholarship on the electricity sector in Africa.

The missing gap in the understanding of politics

Heterodox political economy can fill the gap in how to understand the politics of electricity-sector policymaking and particularly the informal institutions and processes missed by in the mainstream new institutional economics literature.[6] Over the last decade's Khan's (2010, 2018) 'political settlements approach' represents the most influential advance. It examines the distribution of power in society and the way this manifests to form a ruling business-politician coalition. The heterodox literature here is premised on the idea that clientelism, and informal institutions and political processes, are ubiquitous in developing countries and yet are not necessarily detrimental to development. Patron-client relations and rent seeking were central to the economic growth of many East Asian countries. Thus, a growing body of work has developed tools and conceptual frameworks to assess the different types of politics and how they shape possibilities for economic growth (e.g. Kohli 2004, Doner et al. 2005, Slater 2010, Haggard 2018). Khan's political settlement's approach

has gained traction because of the parsimony of two underpinning axes of power that are central to the approach.[7] The vertical assesses ruling groups' cohesion, pertaining to the challenge posed by a coalition's junior levels. The horizontal assesses the ruling coalition's societal dominance and how powerful excluded factions are (how likely/able they are to take power).

This article focuses on the influence of these axes of political power on policymaking.[8] Coalitions that dominate society, that have weak competitors and that are internally cohesive, have certain advantages. Their position of strength can incentivise a focus on longer-term developmental and statebuilding goals in order to maintain power, build legitimacy and benefit coalition members. This position also provides a degree of stability that can enable a longer policymaking-horizon. Cohesion within the ruling coalition also entails the disempowerment of lower-level coalition members. This can increase implementation capabilities by reducing the need to make concessions to particular interest groups and because it makes enforcing policy discipline amongst key state and non-state actors easier. Additionally, dominant, cohesive coalitions can more simply centralise rent-seeking, directing money towards 'productive' economic activity. Weaker, clientelist ruling coalitions, such as in Ghana, contrast in many ways. The plausible threat of being usurped from political power by an excluded rival faction requires a short-term focus on winning and maintaining support. In democracies like Ghana, this means winning four-year elections. Additionally political coalitions' frequently worry about internal contestation, with lower echelons able to usurp or obstruct those at the coalition's top. Again, this focuses rulers' on immediate priorities that maintain coalitions. Typically, this involves using governmental power and rents to fight elections and to maintain the support of businesspersons, political financiers and the coalition's junior members. These pressures, and the political weakness of the incumbent faction, can also supress technical advice in policymaking. Short-term goals that facilitate strategic personal and/or factional objectives will likely trump explicit consideration of longer-term economically-productive investments, adherence to fiscal rules and merit-based recruitment (Abdulai and Hickey 2016, Whitfield 2018).

However, using these concepts, political settlements analysis often tends towards the simple placement of countries in descriptive boxes (e.g. competitive clientelist vs. vulnerable authoritarian coalition) (Lavers and Hickey 2016). Such analysis is too reductive and mistakenly assumes that a political settlement generates inevitable outcomes. This article, conversely, starts with the premise that every political settlement has advantages and disadvantages. It follows Behuria et al. (2017) by using political settlement research as a tool for assessing how particular manifestations of political power incentivise, or hamper, a long-term development focus, generate political pressures and influence the policymaking dynamic. This approach also allows critical treatment of Khan's work, particularly concerning the narrowness of 'holding power' and its presumption that ruling elites know the policy choices that are in their strategic interest. As Lavers and Hickey (2016) point out, this presumption relegates ideas and ideology to the status of tools to win support, or as merely determining a coalition's perceived legitimacy (Gray 2019). This article, argues that ideologies can also explain why some policies are chosen over others when all might conceivably support the ruling coalition, and demonstrates that in Ghana high-modernist-like ideas about the power of electricity to create economic growth and industrialisation mattered in rationalising the oversupply crisis and the creation of a specific, excessive megawatt target.[9] This article, therefore, assumes that ideas are intertwined with strategic rationales. As Freeden (1994) explains, ideologies are a related set of beliefs, principals and ideas which are inherently applied to policy and are made up of a set of core underlying idea-practices, and more operational, applied idea-practices that are varyingly held by the ideology's proponents. Both sets of idea-practices are observable through either discourse or action but an ideology is rarely systematically theorised and coherently and consistently applied by individuals. Rather they morph over time. Moreover, ideologies' core underlying idea-practices might not be consciously held or expressed. Additionally, as individuals draw on multiple influences, the boundary between materialist reasoning and the ideational, is difficult to tease apart (Goodwin

2014). With this analytical understanding combining political settlements with an appreciation of ideas we turn to Ghana.

Ghana's political settlement: competitive, clientelist and short-termist

Broadly, Ghana has the features of a clientelist, intensely competitive political settlement (Abdulai and Hickey 2016, Mohan et al. 2018, Whitfield 2018). It is characterised by competition between two long-standing political traditions that, although changing their identity, have exchanged political power through elections and coups since independence. Today's settlement emerged from earlier periods of greater dominance by one of these political traditions, often under one-party or military rule. This ended when President Jerry Rawlings (1981–2001) introduced multiparty elections in 1992. The present-day political settlement is defined by competition between the two major traditions, now formalised in two political parties, the National Democratic Congress (NDC) and New Patriotic Party (NPP). Competition is kept relatively peaceful with the 'rules of the game' worked-out by extra-judicial institutions such as the Inter-Party Advisory Committee (Nugent 1999, Whitfield 2009). The focus is on winning the presidency, given the centralisation of power in Ghana's winner-takes-all form of government. Those excluded have a strong incentive to throw all-resources into competing. This creates a status quo of fiercely fought elections both within and between political parties. Nationally, elections since 2000 have been won with small margins, with the winner only getting between 0.2 and 3 per cent over the 50 per cent threshold. Moreover, competition is also fierce within the parties (Whitfield 2018). With limited decentralisation, status as an MP is highly desired given the informal power it holds to influence the geography of state spending and provision of public-sector jobs.[10]

The result, according to Whitfield's comprehensive political-settlement inspired research (2018), is an unstable status-quo defined by short-termism, regardless of who is in power. Without security in office, needing to finance elections and support patronage networks, attention is overwhelmingly placed on immediate policies delivering financial and electoral advantage. The steep rise of elections' cost only adds to the short-term pressure. Research on the 2016 parliamentary elections (CDD and WFD 2018), for example, found a 58per cent increase, with MPs spending US$85,000 on average to secure selection and election. This only redoubled the pressure to recoup money, and reward financial backers, once in office. The state is used to reward party foot soldiers with jobs and financial backers with contracts, subsidies and other special treatment (Abdulai and Hickey 2016, Mohan et al. 2018). Presidents and incumbent MPs also maintain and increase support by bringing physical development or handing out benefits. Banful (2011) finds more governmental spending on the most contentious districts, which often takes the form of directly delivered services and infrastructure, as demonstrated by Nugent's (1999) analysis of roads. Another example is incumbent President Akufo-Addo's one village pledges (e.g. one village … one dam/one factory/one ambulance) which acts to centralise small development projects otherwise under the remit of local government.

Consequently, governmental finances face significant pressure. The World Bank (2018, p. 2) concludes that 'the state plays the role of rent-seeker and distributer' in order to capture resources and direct them to party-political ends. Spending reaches a peak in election years, causing a recently-predictable post-election financial crisis. The 2012 election saw a fiscal deficit of 11.5 per cent of GDP, for example (World Bank Group 2018, p. 32). This also matters for state agencies given their role in providing public services. The formal rules governing their spending and sectoral regulation are frequently overridden in order to enable the targeted provision of contracts, jobs and public goods, such as water and electricity (Hirvi and Whitfield 2015). Moreover, as demonstrated by the electricity sector, the state attempts to cut corners, not paying bills or meeting funding pledges, given pressures to reorient spending on election-winning investments. Overtime, this increases state agencies' debts whilst harming their ability to run efficient systems and infrastructure. With this understanding of Ghana's broader political economy, we turn to the state's electricity sector.

Electricity's importance and Ghana's historically-embedded modernist ideology

Electricity has a particularly important historic status in Ghana. Founding President Nkrumah's flagship development scheme was the Volta River Project, whose centrepiece was the hydroelectric Akosombo Dam, that would power the inaugural national grid and an aluminium smelter; VALCO (Hoag 2013, Miescher 2022). Designed by technocrats, Nkrumah's scheme planned to re-engineer the Volta valley's population through a top-down process and use electricity to generate economic development, regardless of international conditions, operational costs or domestic limitations (e.g. education levels and political opposition). This included housing displaced populations in 'modern', concentrated villages and replacing their traditional farming with technology and electricity (Miescher 2012, 2022). Nkrumah's hailing of Akosombo Dam as modernity, and his apparent faith that it would linearly bring a developmental leap, fits Scott's description of high modernist ideology (Miescher and Tsikata 2009, Hoag 2013, Dye 2018, 2020b). Scott described it involving: (1) a confidence in technological progress and scientific expertise, (2) attempts to master nature and human society, (3) the rendering of complex socio-environmental systems legible and ordered and (4) disregard for historical, geographic and social context. Nevertheless, Nkrumah's beliefs about the dam and its electricity were widely accepted and embedded through continued national celebration of Akosombo, which schoolchildren from across the country are still organised to visit. This era in-turn seeded the principle that electricity is a citizenship right (MacLean, Bob-Milliar, et al. 2016a, MacLean, Gore, et al. 2016b, Cuesta-Fernández 2018).

President Rawlings (1979; 1981–2001) enhanced this principle. His administration used the extension of services, crucially including electricity, to build legitimacy for his authoritarian rule and popularity after the introduction of elections (MacLean, Gore, et al. 2016b, Cuesta-Fernández 2018, Miescher 2022). MacLean et.al. (2016a) and Sackeyfio (2018) argue that by 2010, this resulted in a norm that providing electricity was an unquestionable governmental responsibility, a basic test of competence. Miescher and Tsikata (2009) also argue that high modernist ideas persisted into the twenty-first century. They analyse high modernist elements in Bui Dam's policymaking and particularly assumptions about its developmental impact. Given the project spanned NPP and NDC rule, this again indicates the embeddedness of modernist development ideas in Ghanaian society.

Electricity's important status gives it added significance in the highly competitive political system in which governments simply can't afford to anger voters or fail to meet their expectations. Consequently, governments have intervened in the generation of power, in electrification decisions and tariff pricing. Statistical and qualitative analysis demonstrates that the incumbent influences the timings and geography of electrification (Briggs 2012, Cuesta-Fernández 2018, Sackeyfio 2018). Although the standard reform model in Ghana mandates an independent regulator, the Public Utilities Regulatory Commission (PURC) – created in 1998 – was supposed to prevent such manipulation. However, the presidency's informal power and ability to appoint PURC's board, stymies this. Consistent tariff increases were automatically applied by PURC using a pre-decided formula between 2003–06 and 2010–2012 but these have been too contentious to sustain (Edjekumhene and Dubash 2002, Cuesta-Fernández 2018). PURC's lack of de facto power is signified by the President or Ministry of Energy overriding announced tariff increases, promising to pay the difference.[11] In 2017, for instance, the new NPP government, in line with campaign promises announced decreases of 18 per cent,[12] leaving a 9 per cent gap between prices in 2016 and those in 2019.[13] Similarly the NDC stopped an automatic tariff increase in the 2012 election year (World Bank 2012). Such, changing, non-standardised tariff setting practices lead many to regard the process as 'a black box'.[14] As a former minister explained, the head of PURC 'goes to see the President beforehand',[15] they 'don't want to upset their friend the President'.[16] Ghana is one of the few countries in Africa subsidising household tariffs with those from businesses; in 2019, average household tariffs were US$0.064 per-kWh against US$0.138 for businesses.[17] Formal separation of powers and *de jure* PURC transparency in are usurped by the *de facto* power of the presidency and its attachment to appeasing voters.

The societal importance and developmental status ascribed to electricity, therefore, drives governments to intervene in the key decisions that most directly concern voters. Additionally, where possible, revenue, investment and jobs in the electricity sector will be bent towards obtaining an electoral advantage, whether through clientelism or in the direction of spending. Thus, accountability mechanisms and formal institutional separations are trumped by short-termist policy rationales, the presidency's concentration of power, the status of politicians and parallel, informal processes of policymaking. Whitfield (2018) argues that the persistence of this political settlement means that ideological differences between self-professed centre-left NDC and centre-right NPP matter only in rhetoric and in galvanising the base, not in policymaking. Whilst not contesting a left-right ideological absence, this article argues that underlying high modernism does matter. This ideology, widely held at a societal level and amongst both political parties, generally plays a secondary role to strategic interests but was important in rationalising particular policy decisions, as demonstrated by the oversupply crisis below. We now turn to Ghana's two electricity crises, comparing their political drivers with the prognosis of the standard reform model and its recent appreciation of politics.

Ghana's two electricity crises: from absence to abundance

The triple whammy behind 'Dumsor'

Ghana experienced previous power shortages[18] but the 2012–2016 episode represented a new low, inflicting major economic damage (a) GDP loss of $320-$924 million or 2–6 per cent of Ghana's GDP [Eshun and Amoako-Tuffour 2016, Kemausuor and Ackom 2017, p. 4] and earning the Akan nickname *Dum-Sor* meaning off and on, or even *Dum-Dum* (off and off). The immediate trigger for *dumsor* was the West African gas-pipeline's rupture, narrated above, which knocked out the exclusively gas-fuelled plant Sunon Asolgi (200MW) until the pipeline was fixed by 2014 (Eshun and Amoako-Tuffour 2016, Kemausuor and Ackom 2017)[19] given the absence of liquefied natural gas infrastructure. A compounding factor was below-average rainfall in 2012. Hydropower's contribution fell, particularly after 2014, due to a five year period of reservoir overuse and heavy reliance on hydropower (Oxford Business Group 2017).[20] The result, illustrated by Figure 3, was a stagnation and fall in generation, which was unable to meet gradually-rising demand.

However, the key underlying reason for *Dumsor's* depth and length was financial. The country's remaining thermal capacity of 1003MW in 2012, increased to 1113MW by 2013, could run on imported light and heavy crude oil.[21] Problematically, both fuels are more expensive than the pipeline's gas; spot market prices were rising until 2014, in-line with the commodities boom (Kemausuor and Ackom 2017).[22] Ghana's Power Purchase Agreements (PPAs) worsened the situation by designating ECG, via VRA, the fuel provider.[23] This reduced investor risk but burdened the utilities ECG and VRA with extra fiscal strain.[24] VRA paid $2.2 billion for light crude over four years (Adam and

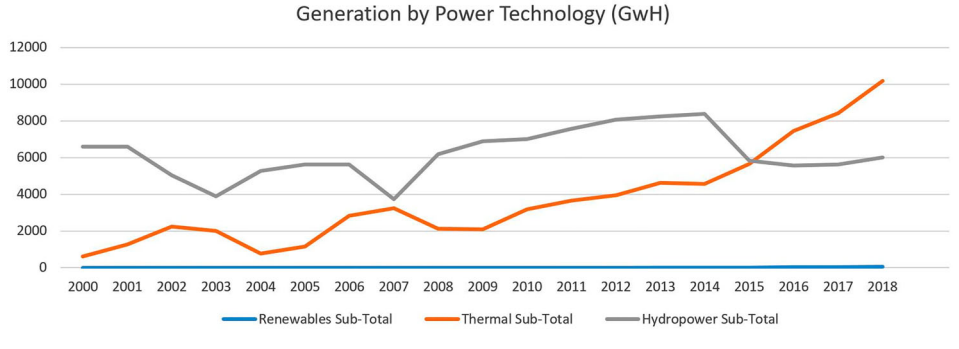

Figure 3. Highlighting the dominance of hydropower until 2014 and 2012–2015 stagnation in thermal-power generation. Source: Author using Energy Commission statistics.

Boakye 2014) and ECG became increasingly indebted to VRA for fuel-delivery.[25] The ministries of energy and finance provided only limited amelioration. For instance, in May 2012, the VRA requested finance for six cargoes of light crude to make-up for the lost pipeline gas supply but the government only provided three.[26] Moreover, only US$107.0 million of the US$937.0 million light crude purchased by VRA between November 2012 and January 2015 came from government promissory notes.[27]

Insufficient finance, therefore, meant that VRA and the IPPs were unable to run their plants at full capacity. Thus, many commentators[28] conclude that *dumsor* was 'baffling' and 'not necessary'[29]; 'if [all the thermal] plants were going [Ghana] would have been ok. The challenge was fuel'[30]; 'it was a capacity constraint too but came a time when they had enough so [the key issue] was fuel'.[31] This argument is reinforced by the additional power plants that came in 2012 (Cennit/TT2PP [126MW]; Takoradi III expansion [132MW]) and in 2013 (TICO [110MW]; Bui Hydropower [404MW]). Figure 4 demonstrates this contrasting rise in capacity against stagnating and falling generated power and consumption. Ghana, therefore, had enough plants to cover gradually rising electricity demand but the utilities and government did not purchase sufficient fuel: '[there was capacity but] not enough money to buy fuel'.[32] This financial problem has deep political roots stemming from Ghana's political settlement.

Dumsor's long-term, exacerbating fiscal problems

In 2012, government and the utilities had significant fiscal issues with ECG having a substantial deficit of around $800million a year.[33] Partly, these stemmed from low tariffs. Additionally, technical and commercial distribution losses, depicted in Figure 5, significantly reduced ECG's revenue. Technical losses are those due to distribution lines' inefficiency and to faulty or old equipment[34] but are heightened by the aforementioned, politically-driven scheme to electrify the vast majority of Ghana. Although developmentally-beneficial, the large grid necessarily decreases the system's efficiency; something worsened by the fact that political rationales, rather than an economic-efficiency model, influenced decisions over electrification's geography. In addition, commercial losses, involving illegal tapping and incomplete bill collection (Kemausuor and Ackom 2017)[35], are mainly attributable to state agencies and ministry non-payment. Although ECG is officially separate and run commercially, government institutions know that 'they don't necessarily have to pay for the electricity as they can't [be taken off-line]'[36] 'you can't cut them'.[37] Despite the ministry of finance's specified electricity bill budget lines,[38] the government's total arrears in 2020 were $2.7billion.[39]

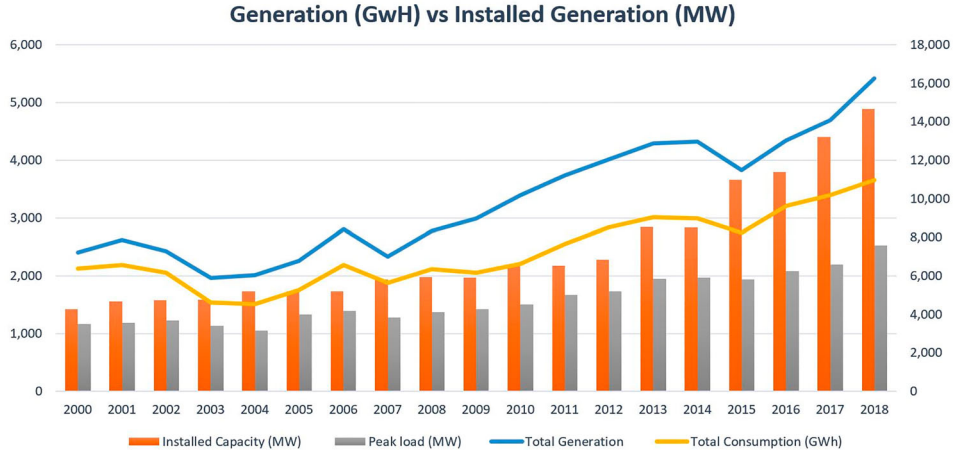

Figure 4. Depicting the 2012–2016 fall in generation against rising power-plant capacity. Source: Author using Energy Commission statistics.

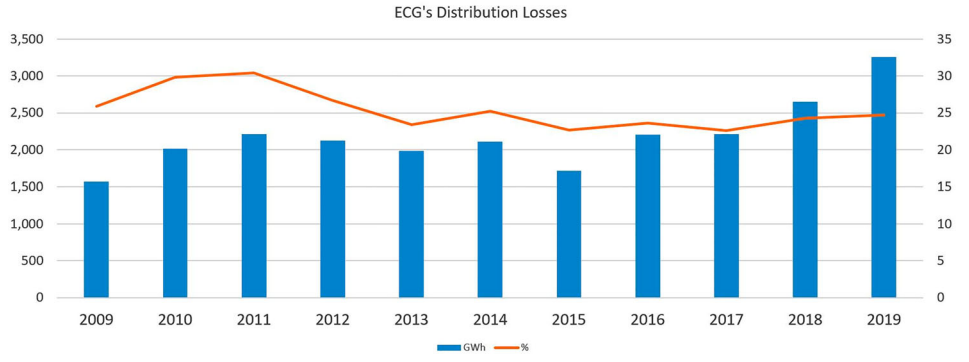

Figure 5. Showing high, consistent ECG's losses. Source: Author using Energy Commission statistics.

Dumsor: the product of competitive politics?

Whilst triggered by specific external events, political factors caused the fiscal problems generating Dumsor's depth and longevity. The pressure on ministerial budgets to divert state resources to electioneering created predictable debt issues, especially after elections. 2012 was no exception and particularly limited government support for fuel purchases (IMF 2013, p. 4). Additionally, analysis above records interventions by government to decrease,[40] or prevent,[41] tariff rises that would otherwise improve ECG's budget, again in order to appeal to voters. The result was insufficient revenue for ECG to pay power producers, particularly harming VRA arguably because as a state agency, it is easier to default on. Additionally, an automatic 'waterfall' payment system, although long proposed, was not implemented.[42] Thus, VRA officials stated that 'we all know that one of the main problems (with our budget) is ECG',[43] ECG 'defaults a lot'[44] and VRA is rarely paid on time.[45] VRA borrows from the market repeatedly (World Bank 2018) and receives money from aid donors to meet short-term costs (Eshun and Amoako-Tuffour 2016).[46] This situation had particular ramifications for the supply of gas: VRA is responsible for paying Nigeria for the West African Pipeline supply but its repeated defaults caused 'erratic supply until 2017/18'[47] as Nigerian authorities cut supply (Table 1).

Ghana's political settlement means that market mechanisms, democratic norms, organisational separation and corporatisation have little effect on these issues. Rather, fiscal problems stem from different governments intervening to keep tariffs low, redirecting ministerial budgets and pressuring decisions for short-term political objectives. The dynamics of Ghana's political settlement, therefore, undercuts ministerial and utility company finances, in-turn, meaning that they were in a poor fiscal position at the moment when they needed to stump-up for light-crude fuel. Unpopular policies like tariff increases have proven near-impossible to sustain, even when they might slowly work to build a financially-resilient electricity system; the slow grind of achieving long-term fiscal sustainability was ditched, overriding formal institutional separations and market mechanisms. Therefore, the pressures created by Ghana's competitive, unstable political settlement created a short-termism and electoral-focus that undermined the government's financial position and that of its state agencies, thereby transforming an initial fuel shortage into the four-year *dumsor*. Deeper political objectives

Table 1. List of incumbent presidents and parties.

Incumbent president	Party	Years
President Jerry J. Rawlings	NDC	1979;1980–2000 democratically elected: 1996
President John A. Kufuor	NPP	2000–2008
President john E. Atta Mills	NDC	2008–2011 (died in office)
President John D. Mahama	NDC	2011–2016
President Nana A. Akufo-Addo	NPP	2016

overrode policies supposedly creating the 'right prices and institutions', demonstrating the impossibility of achieving the standard reform model.

Oversupply

Following Dumsor, President Mahama's administration inadvertently set another crisis in motion. Between 2014 and 2016, the government orchestrated 43 new PPA deals (World Bank 2018),[48] taking total power capacity to over 5000MW (see Figures 1 and 5). The procurement process was government-led, by-passing official procedures. Interviewees described how the newly-created Ministry of Power usurped the normal IPP contracting process in 2014,[49] excluding the energy commission, GRIDCo and ECG despite the latter officially signing the PPAs.[50] First, existing IPPs such as Sunon Asolgi were asked to increase installed capacity. Next, the ministry negotiated with new companies,[51] although reports[52] and interviewees[53] indicate little to no due diligence was carried out. Ostensibly, this dramatic contracting of generation plants fitted an official target for 5000MW in the National Energy Act 2010 (Ministry of Energy 2010). However, the contracting did not follow the act's projects or timeline: the 2010 act features hydropower plants including the Brazilian-government backed Juale Dam (90MW) and the Micro-Hydro Western Rivers Scheme (625MW). In contrast, the new PPAs were almost all thermal plants. Thus, although reaching a pre-determined ministerial target, the official, technician-led planning process had not occurred. The 'independent' regulatory agencies and technical utilities had different demand predictions. The energy commission's long-term 2006–2020 plan calculated demand of 3000–4000MW by 2020 (Energy Commission 2006) whilst more accurate and recent forecasts by VRA and GRIDCo agreed demand nearing 3000MW by 2020.[54] However, the ministry usurped VRA and GRIDCo's officially-mandated planning role and the Energy Commission's independent vetting and approval function; as one official stated 'some (PPAs) not official but in the system anyway'.[55] Thus, the ministry rapidly implemented the politically-decided 2010 target against advice and planners' demand-forecasts, overriding their formally assigned roles.

Figure 6 demonstrates how electricity supply fell widely out of step with demand. In 2014, capacity was under 3000MW against roughly 2000MW in demand,[56] but this grew to over 4398MW by 2017. Conversely, peak load only reached ~ 2192.00MW that year, rising to 2881MW in 2019, against 5314.5MW of installed generation. This gap presents an especially great challenge as the supply increases came almost universally through private sector deals where the African industry standard is to de-risk investments using take-or-pay deals involving ECG guaranteeing

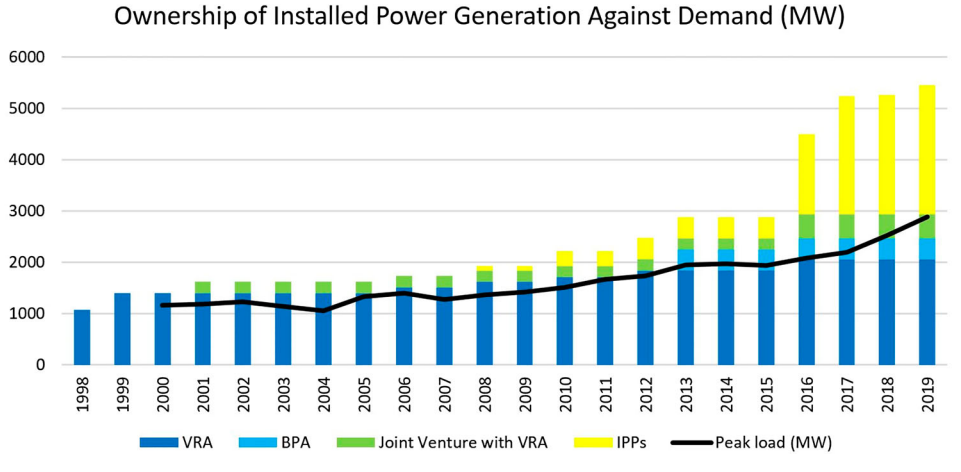

Figure 6. Contrasting the IPP surge with electricity demand. Source: Author using Energy Commission statistics.

the purchase of 90 per cent of available power. The Ministry of Finance underwrote the deals with sovereign guarantees, rushed through parliament.[57] The easiest mitigation for electricity oversupply, and an aim of the 2010 plan, is for Ghana to become a power exporter across regional transmission lines. However, this hasn't materialised, because of a lack of infrastructure[58] and because neighbouring countries want energy independence, not least given high tariffs[59] and past experiences of being cut-off during Ghana's power shortfalls (World Bank 2013):[60] The government 'did not do due diligence on other countries who were building plants'.[61] The result is deepening debt in Ghana's energy utilities. Interviewees[62] and reports (Dzawu 2020) put ECG's annual deficit at $580million whilst the World Bank (2018: 13) recorded that in 2018 overcapacity payments reached $680 m, 4–5 per cent of GDP, for the roughly 1,900 MW of spare capacity. Reportedly, by July 2020, unpaid bills to the IPPs reached $1.4billion (Dzawu 2020). What drove this costly splurge of power plants? The answer lies in a combination of short-term election-focused policymaking and ideological conviction in the power of electricity to create development and energy demand.

Oversupply: the expectation to deliver?

Given the historic status of electricity in Ghana, *dumsor* crashed the incumbent NDC's popularity: News coverage ('the first middle class revolution [in Ghana]'[63]), protests and popular slogans like 'no power, no vote' captured the public mood (Destrée 2019). Interviewees reported that most diagnoses for *dumsor* blamed generation capacity. Consequently, fear particularly grew within the NDC when, by 2014, addition of new plants and restoration of the Nigerian gas pipeline did not stop power cuts. With the approaching 2016 election, politicians pushed rapid implementation of the aspirational 5000MW target, wanting to demonstrate to the electorate that they were acting to solve the crisis by increasing the number of power plants: 'central government was hot, the election was approaching',[64] 'panic' buying followed.[65] 'Emergency decisions',[66] followed that suspended official procurement processes, side-lining the Energy Commission, ECG and PURC. GRIDCo, the agency mandated to coordinate generation expansion and ensure stability, was also excluded. Unlike the previous orderly commissioning of IPPs featuring lower tariffs,[67] deals were rushed, even through parliament (Kasapa 2015).[68] Thus, Ghana's competitive political settlement involving the incumbent's need to maintain power by winning elections drove a rash boom in unnecessary IPP contracts, pushing the sector into a future debt crisis.

However, the choice to attempt to solve Dumsor through increasing capacity, rather than a focus on systemic fiscal and reliability issues, is not only explained by election tactics. One particularly controversial deal involved the Ameri plant, which a newspaper investigation claimed was overpriced by US$290 million (Bakke Foss et al. 2016). Many interviewees in the sector reported that the IPPs had political connections;[69] 'every minister in the cabinet had their own pet project'.[70] Indeed rent seeking from IPPs continued post-2016,[71] with one scandal tied to incumbent President Akufo-Addo (Antwi 2019). As established above, this practice is strongly incentivised by Ghana's political settlement, unlocking electioneering costs and the support of key coalition members, whether business people or community-leaders. Short-term political interventions, therefore, overrode the good governance model and its institutional fixes and market mechanisms that were supposed to generate expert, demand-driven modelling and impartial regulatory scrutiny in Ghana.

The overlooked influence: high modernist ideology

However, explanations exclusively focusing on strategic interests in maintaining power are also, not wholly satisfactory. The power-plant boom, although not following the 2010 electricity act's timeline or projects, did meet its target for 5000MW. This figure arose before the above electoral and rent-seeking rationales came to fruition. The explanation for 5000MW appears to be ideological. The first proof comes from the rejection of evidence-based forecasts. As established above, the 2010 act's planning process occurred in parallel to the utilities formally-mandated role and disagreed with their conclusions. Thus, officials in the Energy Commission, VRA and GRIDCo concluded that the 5000MW figure was 'a matter of politics';[72] it 'was done without recourse to analysis. We

(VRA) know demand on the grid (and this was) far above any realistic reserve margin'.[73] Rather than stemming from evidence of demand, interviewees reported the target came from the NDC's manifesto which 'included a lot of industrial activity'[74], export-orientated industrial growth and universal electrification.[75] The National Development Planning Commission helped turn this into an updated national growth plan (NDPC 2010, p. 61),[76] describing their role as: 'you want to build a skyscraper-we will give the projections'.[77] However, rather than waiting for industrialisation to manifest or to respond to economic signals, the act stated that electricity should come regardless. This reportedly rested on an assumption that electricity could produce its own demand, linearly creating development.[78] One economist, for example, expressed this sentiment by arguing that despite the oversupply fiscal issues, '5000MW is not enough, there are still plants off and Valco is not operating at full capacity'.[79] The NDC envisioned the VALCO aluminium smelter returning to full capacity and the reopening of factories closed in the 1990s, (e.g. a juice plant and glass smelter).[80] Interviewees stated that the government saw increasing power plants as a way to deliver this, supply should supersede demand. This determination overruled the formal planning process and key sectoral experts, creating a target regardless of demand.

Research on Ghana's history of industrialisation underlines the unrealism of these plans. Since the 1980s, manufacturing in Ghana fell as a percentage of GDP, from 11.5 per cent in 1985 to 5.6 per cent by 2012.[81] Moreover, Whitfield's (2018) extensive research records numerous opportunities for industrial growth, for example in Pineapple and Coca agro-processing, which were systematically stymied by Ghana's political settlement. Whitfield finds that neither party has significantly supported manufacturing or allied with nascent industrialists, principally because powerful entrepreneurs and new industries threatened both political coalitions and the existing rent system. Given such failures, the lack of government action, the absence of significant investment and challenges of cheaper competitors in East Asia, predictions of rapid economic growth seem wholly unrealistic. Thus, the politicians and officials writing and implementing the 2010 act demonstrate an assumption that electricity would overcome structural constraints, animating industrialisation; power-generation should come before signs of demand. According to Dye (2020a, 2020b) this type of linear, technologically-centric thinking in the electricity sector has roots in high modernist logics coined by Scott (1998): It suggests an overriding belief in technology to create socio-economic change and a self-confidence in top-down planning expertise. Although ideological conviction does not always influence policy, Ghana's historically-rooted high modernist ideology was an influential factor here, rationalising a doubling of installed generation. How does this analysis of Ghana's electricity crises compare to conventional analyses of the sector's politics?

The conventional understanding of Ghana's electricity crises

The most common approach to understanding Ghana's electricity issues follows the standard reform model and approach of 'new' new institutional economics. The most frequently touted solutions argue for further reform, getting *the prices* (the tariffs) and *the institutions* right. The first frequently-cited prescription argues that changes to tariffs will bring the necessary cash-flow to ensure the sector's fiscal sustainability. Many argue[82] that tariffs should be cost reflective, covering maintenance and operation (Edjekumhene and Dubash 2002).[83] However, with the overcapacity crisis and ECG's losses, the full cost reflective tariff in 2019 would be around $0.4 per-kWh, over double the present non-subsidised household rate of $0.18 per-kWh.[84] Therefore, some call for a degree of state subsidy. Both, however, agree that the Public Utilities Regulatory Commission should independently set tariffs. Another advocated element of the standard reform model is the privatising of ECG, or at least its placement under a management contract. This introduction of market rationales is supposed to insulate decision making from party politics: Commercial, for-profit motives supposedly translate into better revenue collection, organisational efficiencies and on-time payments to generators; as one interviewee summarised 'modernise ECG' and the sectors problems are solved.[85] These ideas are not new with a collaborative performance-concession deal

in 1983 with the Ireland Electricity Supply Board and a full concessional performance-management contract in 1994 with Électricité de France (Edjekumhene and Dubash 2002). Between 2014 and 2019, the USA's Millennium Challenge Cooperation orchestrated another management concession agreement but it collapsed over rent-seeking squabbles that go beyond this article's scope. Nevertheless these attempts illustrate the ongoing belief amongst many international and Ghanaian actors that for-profit motives and performance-based contracts will resolve the sector's fiscal issues. This same logic rationalises proposals to split VRA into hydropower and thermal operations. Spinning-off, and potentially-privatising, the latter will supposedly increase sectoral competition and thereby operational efficiency.[86]

Collectively, these solutions propose further adoption of the standard reform model, whether through independent, cost-reflective tariff setting, further unbundling or privatisation. According to this logic, formal institutional separation and market logics create a fiscally-solvent ECG, fixing the sector's underlying financial issues whilst simultaneously ensuring independent regulation which would prevent overly-costly, un-evidenced surges in power generation. This understanding is, therefore, rooted in the 'good governance' school of thought, which seeks to separate political influence through the devolution of policymaking, the separation of governmental functions, increase in formal rules and introduction of the private sector. This article evidences the incompatibility of such efforts with Ghana's deep political drivers, demonstrating that the understanding of policymaking contained in the standard reform model cannot account for the electricity crises that have happened. Such incompatibility demonstrates a flaw in the reform model, suggesting the political context it was designed for simply does not exist. The reform policies undermine key political priorities. For instance, if adopted, it would likely inhibit further extension of electricity access, given that that would entail increased technical losses, and would curtail electricity provision to poorer communities with little energy demand. Additionally, independent, cost-reflective tariff setting would be electorally unpopular and could price-out poorer voters.

Alongside incompatibility with many real-world political contexts, this analysis suggests flaws in the standard reform model given the way unbundling and privatisation offered additional opportunities to bend the electricity system towards political-finance objectives. This is most evident in the way IPPs enabled the overabundance of power plants as these companies could overcome the limitations of governmental finance and the VRA's opposition. Additionally, rather than increasing efficiency within the sector or reducing costs, IPPs offered new chances for rent-seeking and increased the costs of generation. Thus, imperatives created by Ghana's political settlement, accompanied by widespread modernist ideological beliefs, overrode the formal institutions and rules created by the standard reform model and there is no evidence to suggest further reform would change this.

Conclusion: the standard reform model and the undermining of electricity planning

Analyses of two crises, one of power shortage and the other of excessive electricity generation, demonstrates that the standard reform model is simply incompatible with Ghana's election-focused, short-termist and clientelist political status quo. The *dumsor* crisis' immediate triggers were external, (a drought and gas-pipeline break) but its depth and length were caused by deep fiscal issues driven by electorally-focused decision making over tariffs, infrastructure and ministerial budgets. This left VRA and ECG unable to purchase the fuel to run power plants. Similarly, pre-election panic, alongside a dose of high-modernist ideology and opportunities for rent seeking, led to a costly boom in power plants. This pattern of electorally-focused political pressure overruling technical expertise and operational independence is also evident across other utilities in Ghana such as in the water sector (Hirvi and Whitfield 2015). *De facto* state powers render formal rules and the honouring of contracts relatively insignificant.

This article, therefore, refutes some of the assumptions within recent iterations in New Institutional Economics and their application to the electricity sector. Such analyses tend to focus on formal processes and organisations and/or the presence of generic liberal-democratic factors such as elections, political competition or 'market-economic norms'. For understanding the political economy of Ghana's electricity sector, such approaches are inadequate. This article, in contrast, demonstrates the influence of ideas and of the societal manifestation of informal power. High-modernist beliefs were important in rationalising the Ghanaian government's oversupply crisis. Partially-echoing Dye's (2020a) analysis of IPP-enabled oversupply in Rwanda, this demonstrates the importance of considering ideological rationales and the way they interweave with more strategic justifications in the study of the politics of policymaking. This finding of influential historically-rooted, societally-widespread, ideology is significant as it contrasts with other heterodox analyses of the electricity sector and Ghana's political economy. For instance, whilst not refuting Whitfield's assertion that left/right ideologies are largely rhetorical in Ghana, the evidence above demonstrates that some ideas can matter.

Key to analysis here, however, were the survivalist strategies generated by Ghana's centralised, competitive political status quo that alternates between rival factions. These overwhelmed formal institutions and rules. In this case, the very competition and democracy identified by Foster and Rana (2019) as an enabler of reform can, conversely, be detrimental to long-term planning and the inclusion of expertise, undermining the assumptions of the good governance model. Crucially this demonstrates the importance of analysing the broader structure of political power in a society and in linking findings on who has power, of its distribution and stability, explicitly to the electricity sector. This type of analysis should then be linked to the international level and its influence on the implementation of standard reforms. Crucially, the article leads to the conclusion that domestic politics, rather than merely distorting standard reforms, can be incompatible with the model of state and politics on which standard reforms are premised. The continued focus on implementing the standard reform model is, therefore, questionable, especially in-light of pressing climate change concerns. Indeed, as seen with the introduction of IPPs in Ghana, the standard reform model, rather than reducing opportunities for electricity-sector distortion can further performance issues and increase costs.

Notes

1. VRA and ECG were founded over 50 years ago while VRA and its off-shoot GRIDCo are particularly well regarded (Ayanoore and Dye Forthcoming; Interviews, Accra 2019–2020).
2. E.g. interviewees including: MCC, MIDA, and Ex-Minister.
3. Noting that VRA also manages a subsidiary distribution company for Ghana's North, the Northern Electricity Distribution Company.
4. Involving informal/forced *de facto* and formally-granted *de jure* power.
5. Albeit that state intervention supports electrification and carbon-emission reductions.
6. This body of work is substantial, including: (Jessop 1990, Cheeseman 2018, Whitfield 2018).
7. Khan's holding power describes control over key economic areas and large-scale organisational capabilities.
8. For Gray's (2019) this roughly fits 'action' political settlements research, focusing on policy outcomes, not long-duree holding power change.
9. Dye (2020) analyses this as a key application of high modernist ideology.
10. Note this is not the same as service provision (see Paller 2019).
11. Interviews, Researcher, Kumasi; Researcher, Kumasi.
12. Interviews, Senior Official, MiDA; World Bank 2018.
13. Interview, Senior Official, MiDA.
14. Interview, Planner, ECG.
15. Interview, Ex-Minister, Ministry of Energy.
16. Interview, Senior Planner 1, Energy Commission.
17. GlobalPetrolPrices.com [Accessed 26 June 2020].
18. 1982–85, 1998–2000, 2006–2007.
19. Interviews, Senior Managers 1&2, VRA; Senior Planner 1, Energy Commission.

20. Interview, Senior Planner 1, Energy Commission.
21. 87MW is exclusively gas-dependent.
22. Interview, ex-CEO, GRIDCo.
23. Interviews, Senior Manager 1, VRA; Senior Planners 1&2 and Planning Team, Energy Commission; ex-CEO, GRIDCo.
24. Interviews, Senior Planners 1&2, Energy Commission; Senior Manager 1, VRA.
25. Interviews, ex-CEO, GRIDCo; Senior Planner 1, VRA.
26. 'Light Crude Oil Support for VRA in 2012', 13th September, 2012.
27. 'Submission of Status Reports of Handing-Over Notes', 19th December, 2014.
28. Interview, Senior Manager 1, VRA.
29. Interview, Planner, ECG.
30. Interview, Senior Planner 1, Energy Commission.
31. Interview, Ex-Minister, Ministry of Energy: Echoed by: Researcher, Accra; Researcher, Kumasi; Senior Planner 1, VRA.
32. Interview, Senior Planner 1, Energy Commission.
33. Interview, Officials, JICA.
34. Interviews, Officials, GIZ; Researchers, Accra; Researcher, Kumasi.
35. Interviews, Researchers, Accra.
36. Interview, Senior Planner 1, VRA.
37. Interview, Ex-Minister, Ministry of Energy; Officials, GIZ; Senior Planners 1&2 and Planning Team, Energy Commission; Senior Manager 2, VRA; Senior Officials 1&2 World Bank; Senior and Junior Planners, ECG.
38. Interview, Senior Official 1, World Bank.
39. Interview, Senior Official 2, World Bank.
40. E.g. in 2016.
41. E.g. in 2012.
42. Until the end of 2020.
43. Interview, Researcher, Energy Think Tank.
44. Interview, Researcher, Energy Think Tank.
45. Interviews, Senior Official, MiDA; ex-CEO, GRIDCo.
46. Interview, Senior Manager 1, VRA.
47. Interview, Senior Manager 1, VRA; Echoed by: Researcher, Accra; Senior Planner 1, VRA; Researcher, Energy Think Tank; Senior Planner 2 and Planning Team, Energy Commission.
48. Additionally, 55 Licences are under review at the Energy Commission (interviews, GIZ; World Bank).
49. 'Ministers acting independently' (Interview, Senior Planner, ECG).
50. Interviews, Senior Planners 1&2 and Planning Team, Energy Commission; Senior and Junior Officials, Renewables, Ministry of Energy.
51. Interviews, Senior& Junior Officials, Renewables, Ministry of Energy; ex-CEO, GRIDCo; Senior Officials 1&2, World Bank. 8 new IPPs have come online.
52. E.g. the BOOT Parliamentary Committee's 2017 reports.
53. E.g. Senior Planner 1, Energy Commission.
54. Interview, Senior Planner 1, VRA.
55. Interviews, Senior Planners 1&2 and Planning Team, Energy Commission.
56. Interview, Senior Manager 2, VRA.
57. Interview, Ex-Minister, Ministry of Energy.
58. Only medium-capacity lines connect to Cote d'Ivore, Burkina Faso and Togo/Benin. A Burkina Faso/Mali high-capacity line is under-construction.
59. Interviews, Senior Planners 1&2 and Planning Team, Energy Commission; Senior Manager 2, VRA.
60. Interview, Ex-Minister, Ministry of Energy.
61. Interview, Senior Planner, ECG.
62. Interviews, ex-CEO, GRIDCo; Officials, GIZ.
63. Interview, Researcher, Accra.
64. Interview, Senior Planner 2, Energy Commission.
65. Interview, Senior Planner 1, Energy Commission.
66. Interview, Ex-Minister, Ministry of Energy.
67. Namely the 1998 TICO (220MW), the 2010 Sunon-Asolgi (200MW) and 2012 CENIT (126W).
68. Interview, Ex-Minister, Ministry of Energy.
69. Interviews, Senior Official, MiDA; Senior Official 1&2, World Bank; Senior Planner 1, Energy Commission.
70. Interview, Anonymous, Accra.
71. Interview, Researcher, IEG.
72. Interview, Senior Planners, GRIDCo.
73. Interview, Senior Planner 1, VRA.

74. Interviews, Senior and Junior Officials, Renewables, Ministry of Energy.
75. Interview, Ex-Minister, Ministry of Energy.
76. Interviews, Senior Planners 1&2 and Planning Team, Energy Commission.
77. Interview, Senior Planner 2, Energy Commission.
78. Interviews, Senior Planners, GRIDCo and VRA.
79. Interview, Researcher, IEG.
80. Interviews, Senior Planners 1&2, Energy Commission.
81. World Bank data.
82. For instance, the World Bank's 2007 advocacy for a $0.1 per-KwH rise for cost-reflectiveness.
83. Interviews, Senior Officials 1&2, World Bank; Officials, GIZ; Officials, JICA.
84. Interview, Senior Official 2, World Bank.
85. Interview, Ex-CEO, GRIDCo.
86. Interview, Ex-Minister, Ministry of Energy.

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Notes on contributor

Barnaby Joseph Dye has developed expertise on the politics of infrastructure, specialising particularly in dams and the electricity sector. Overall, his research relates large-scale trends in infrastructure development, to specific countries policymaking and to individual projects and their impacts. This contributes to theory about the present 21st Century's turn towards state-led, infrastructure focused development. Barnaby's doctorate analysed the actors financing, planning and constructing the 21st Century's electricity and dam boom, assessing changes and continuities in their practices. This led to theorisation of the hybrid form on contemporary high modernism which combines 20th Century ideas with 21st Century reforms to influence the development visions and practices of increasingly interventionist states. Barnaby has pursued these themes further in a post doctorate that involved leading research on the politics of Ghana's electricity sector. Barnaby's research on 21st Century infrastructure trends has also led to the study of India and Brazil's relationships in Africa and their financing of infrastructure on the continent. Currently he leads two further projects on this theme regarding India's latest trends in dam building and engagement around Africa's natural resources.

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