Why Tackling Energy Governance in Developing Countries Needs a Different Approach

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CONTENTS

A. Introduction

Global efforts to improve energy access and quality and to tackle climate change need a different approach to addressing poor energy governance.

In 2015, leaders from around the world agreed to 17 Sustainable Development Goals (SDGs) to be achieved by 2030.[1] The seventh goal (SDG7) is "Ensure access to affordable, reliable, sustainable and modern energy for all." In the same year, the world's leaders concluded the Paris Agreement to tackle climate change, which will require a global transition of the energy sector away from the use of fossil fuels. Yet, in many developing countries, despite growing investments in clean energy, the transition is happening much more slowly than needed to achieve SDG7 and avert damaging climate change. The central reason for this is poor energy governance.

This paper outlines the size and nature of the energy challenge, with a focus on electricity. It describes the investments that are currently being made to improve the quality of power and access to electricity — and the growing evidence that investments often fail due to poor energy governance. The paper then delves more deeply into how bad governance influences the quality of and access to electricity, with specific country examples. It shows the importance of understanding how electricity fits into the political settlement of a country and how this affects the incentives of key actors in the sector. Unfortunately, donor projects designed to widen electricity access or to support reform of the power sector in developing countries often pay too little attention to the problem's political nature; the same is true of measures to improve energy efficiency or to promote renewables. The paper outlines a new way of thinking about energy governance and shows how interventions can be better matched to the different governance challenges that they face. It concludes with recommendations for donors on how energy programs can be better designed and procured — as well as recommendations for implementors on how to improve the chances of successful implementation by adapting to the political realities of the contexts in which they operate.

B. The Nature of the Challenge

Electricity access in many developing countries is low, and the quality of supply is poor.

A key part of achieving SDG7 is ensuring access to electricity and, more broadly, improving the sector's quality and sustainability. Significant progress on electrification has been made over the past decade, with the number of 1.2 billion unelectrified people in 2010 reduced to 789 million in 2018, thanks to major improvements in Central and Southern Asia. The major electricity access challenge remains heavily concentrated in sub-Saharan Africa, where 548 million people continued to lack electricity access in 2018 (SE4ALL, 2020). Valickova and Elms (2021) estimate that only 45 percent of the population of sub-Saharan Africa currently have access to electricity; at the current rate of progress, fewer than 60 percent will have access by 2030.

There are two ways in which access to electricity can be achieved: through the extension and densification of the grid or through off-grid solutions, including mini-grids and solar home systems. The least-cost way of achieving access depends on the specific context, including the extent of the existing grid network, the location and density of population centres and the size and topography of the country. For Africa, the IEA estimate that grid extension and densification is the least cost option for nearly 45 percent of the population gaining access by 2030, mini-grids for 30 percent and stand-alone systems for around a quarter (IEA 2019).

The rapid expansion of both grid and off-grid electricity poses huge challenges. Consider off-grid solutions, which have seen an explosion of interest. In 2018, renewable off-grid technologies were

[1] For more on the SDGs, see here.

providing basic[2] electricity services to 136 million people worldwide, compared with about 1 million in 2010 (IEA, et al. 2020). Much of this has been propelled by the private sector, which has used innovative business models to reach rural households with simple electrification solutions. However, the off-grid sector faces major challenges, including access to finance; difficulties in importation of equipment; poor regulation of product standards; and the fact that, for many poor households, off-grid solutions remain unaffordable without significant subsidies (Mitra and Buluswar 2015; SE4ALL, E3 Analytics, and Catalyst 2019).

Similarly, expanding the grid and providing more connections in areas it already serves faces major challenges. Grid expansion can be extremely costly, particularly if newly connected customers are poor and consume relatively little electricity.[3] The capital available to utilities in many developing countries is extremely limited. Often, this reflects their financial position; Trimble et al. (2016) show that only two utilities in sub-Saharan Africa even manage to cover their operating costs.

The challenges of expanding access are mirrored by the difficulties in improving quality. The poor financial state of many utilities in developing countries, sometimes accompanied by poor governance, makes it difficult for them to adequately maintain existing energy assets. As a result, electricity is unreliable in many countries around the world. The World Bank's Doing Business survey collects information from utilities on the quality of supply in the largest cities in 192 countries, as well as the second-largest cities in 11 countries.[4] When measuring the frequency and duration of outages, 86 of the 203 cities receive the worst possible score of 0 (out of 3), meaning extremely unreliable supply.[5] However, this probably hugely *overestimates* the quality of supply. Taneja (2017) shows that data from the enterprise surveys that ask firms about their actual experience, rather than collating data from utilities, suggests a level of reliability seven times worse than that reported by the Doing Business surveys. The IFC estimates that more than 2 billion people live with blackouts for more than 100 hours a year and 1 billion people live with blackouts for more than 1,000 hours a year (IFC 2019).

Low access rates and unreliable supply are highly damaging for growth and development. Numerous studies show unreliable supply results in lower sales and productivity (Cole et al. 2018) and slower growth. Rentschler et al. (2019) estimate outages caused sales losses of $82 billion a year for businesses in developing countries. They also disrupt the essential service provision, such as hospitals and schools (Chen, Chindarkar, and Xiao 2019).

Shifting the mix of electricity generation in developing countries towards renewables is also challenging.

Around three-quarters of greenhouse gas emissions come from the energy sector, and almost one-third come from electricity production. Tackling climate change must entail a rapid energy transition from fossil-fuel based sources of electricity to renewables. Although some developing countries rely largely on hydroelectricity, many exploit reserves of coal, oil, or gas — or they import large quantities of fossil fuels to generate electricity. There is enormous diversity in the mix of sources used for electricity generation in developing countries. Exhibit 1 (next page) shows the share of electricity generated by source for a selection of low- and middle-income countries and regions. It shows an extraordinary range of energy mixes from primarily hydro-driven systems in Angola, Eastern Africa, Kyrgyzstan, Mozambique and Uganda to systems dominated by gas in Bolivia, Libya and Nigeria; coal in Indonesia, Mongolia and the Philippines; and oil in the Gambia, Sri Lanka and Yemen. Aside from hydro, modern renewables such as

[2] The Multi-Tier Framework provides a five-tier classification of energy access; basic electricity services here refers to Tier 1 — a low level of provision. See https://mtfenergyaccess.esmap.org/ for more details.
[3] One analysis of World Bank-funded grid extension and power projects between 2000-2014 found an average cost of $2500 per connection — see https://www.greentechmedia.com/articles/read/grid-extension-done-right-for-sub-saharan-africas-utilities.
[4] See https://www.doingbusiness.org/en/methodology/getting-electricity.
[5] Or even that the utility doesn't collect data of sufficient quality to measure reliability.

solar, wind, and biogas do not feature significantly in electricity generation in many countries.[6] The share of renewables is increasing globally, particularly in power generation. Installed renewable energy capacity was enough to provide an estimated 27.3 percent of global electricity generation by the end of 2019 (REN21 2019). Although investment in renewable energy grew three times faster than fossil fuels and nuclear between 2013 and 2018, it accounted for less than one-third of the increase in total final energy demand (REN21, 2019). Despite rapid increases, renewable energy still represents only 17.1 percent of total final energy consumption globally.[7]

C. The Current Approach

The challenge of meeting SDG7 and tackling climate change has resulted in an increase of funding to support low-income countries to access modern, reliable, and sustainable electricity.

Many major development agencies have large programs focused on supporting developing countries to improve access to and quality of electricity. USAID, for example, has a set of global programs on scaling up renewables, policy and planning, energy efficiency, ensuring greater involvement of women in utilities and throughout the value chain, commercialization, powering agriculture, development innovations, utilities partnerships, and private financing.

USAID also has a series of regional and country programs that focus on improving access to and quality of electricity.[8] The UK's Foreign, Commonwealth and Development Office (FCDO) has a similarly wide range of energy programming, with a focus on Africa and South Asia.[9] Japan has also traditionally invested heavily in infrastructure projects in developing countries, including in the energy sector. Germany's Gesellschaft für Internationale Zusammenarbeit (GIZ) and France's Agence Française de Développement have likewise invested in energy sector technical assistance, with a focus on renewables and efficiency. China is another major funder of energy infrastructure in developing countries through its Belt and Road initiative; this has received significant criticism for promoting Chinese-funded fossil fuel-based generation in developing countries, but it also includes significant funding for investment in renewables.

In addition to bilateral funders, the major multilateral development banks place a strong emphasis on energy infrastructure. The World Bank has long played a major role in funding energy infrastructure in poor countries. In the last five years, it committed $6.2 billion in funding for energy access programs and $9.4 billion for renewable energy and energy efficiency programs in low- and middle-income countries.[10] The Asian Development Bank also has a strong emphasis on energy infrastructure, while the relatively new Asian Infrastructure Investment Bank has a major focus on green infrastructure. In 2018, 5.8 percent of total bilateral aid from Development Assistance Committee donors went to energy; 15.8 percent of the development finance from the World Bank focused on the sector (13.8 percent for regional development banks).[11]

The private sector has also played a major complementary role in increasing investment in the power sector. The renewables sector (excluding hydro) was the world's third biggest industry for foreign direct investment (FDI) attraction between December 2013 and November 2018, garnering $307 billion for

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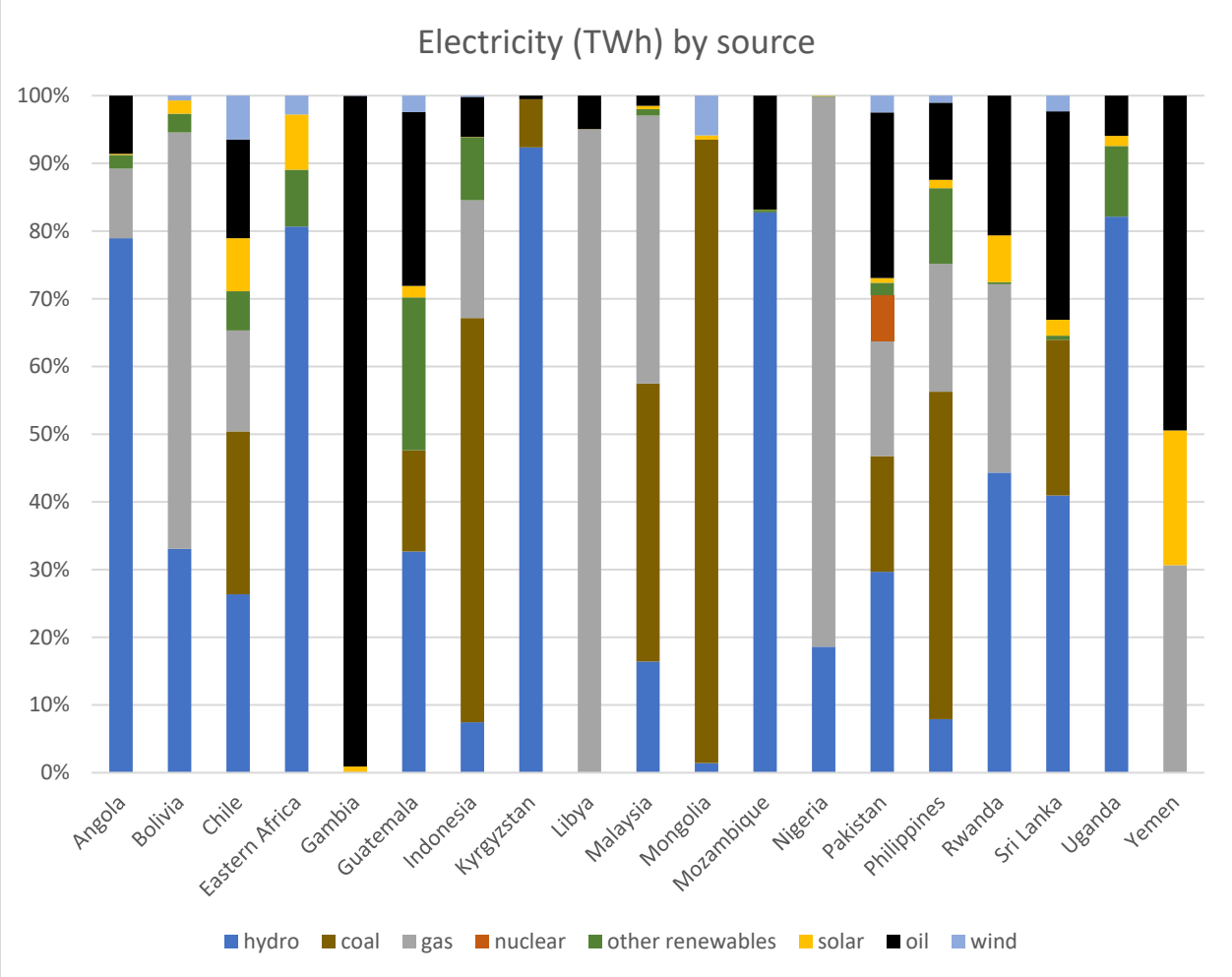
[6] And sometimes where they do — as in Yemen — this reflects the collapse of the normal electricity grid due to war, leaving households reliant on solar systems and diesel generators for electricity.
[7] See https://www.iea.org/reports/world-energy-investment-2020/power-sector for more details on energy investment. Energy investment was estimated to fall by 20 percent in 2020 due to the COVID-19 pandemic.
[8] See https://www.usaid.gov/energy/programs for details.
[9] See https://devtracker.fcdo.gov.uk/search?query=energy&includeClosed=0#page-4 for details.
[10] https://www.worldbank.org/en/topic/energy/overview#3.
[11] See https://www.oecd.org/dac/financing-sustainable-development/development-finance-data/statisticsonresourceflowstodevelopingcountries.htm for details.

1,417 projects (dwarfing aid from donors).[12] However, the challenge of achieving the energy transition is illustrated by the fact that the second largest industry for FDI was coal, oil, and gas (at $491 billion). A key challenge is therefore to support countries to establish an attractive environment for private investment in renewable power generation.

EXHIBIT 1. ELECTRICITY GENERATION BY SOURCE FOR SELECTED COUNTRIES AND REGIONS: 2019



Source: Author's analysis based on Our World in Data https://ourworldindata.org/electricity-mix

However, the performance of programs to reform the power sector in developing countries has been rather mixed.

Starting in the 1990s, development agencies around the world encouraged developing countries to adopt the "standard model" of power sector reform. The adoption of the standard model included reforms such as[13]:

[12] See fDiIntelligence (2019).
[13] See Gratwick and Eberhard (2008) for a detailed discussion of the standard model of reform.

- Unbundling generation, transmission, and distribution activities into different organizations
- Privatizing generation or encouraging much greater private sector participation (e.g., through independent power producers, or IPPs)
- Privatizing distribution to encourage efficiency in the retail market
- Encouraging competition in generation and distribution and in the development of wholesale and eventually retail markets for electricity
- Establishing independent regulators for tariffs and service quality

There is a large volume of literature on the performance of the "standard model" of power sector reforms throughout the world[14], as well as the successes and failures of various reform elements in different contexts (e.g., the introduction of IPPs,[15] , privatization.[16]

The World Bank recently undertook a comprehensive analysis of the experience of power sector reform in developing countries.[17] It found that power sectors' performance across the world ranged widely in terms of access, affordability, reliability, and sustainability — and that power sector reform had been undertaken in a huge diversity of ways (see box, next page, on the World Bank's Rethinking Power Sector Reform project). Remarkably, although there are some clear lessons emerging, there is surprisingly little correlation between adherence to the standard reform package and actual power sector performance. The World Bank's findings about its own efforts to support power sector reform are consistent with the experience of other major donors such as USAID and the FCDO. In some countries and during certain periods, rapid progress has been made in implementing market-oriented power sector reforms. However, such reforms are often subsequently negated or reversed. Conversely, sometimes progress in implementing reforms has been slow or negligible, but the sector's actual performance, including access and service quality, has improved. It is not that reform does not work — rather, it appears that the right kinds of reforms for that country's specific context, implemented at the right time, are key to success.

[14] See Jamasb, Nepal, and Timilsina (2017) for an overview; Kapika and Eberhard (2013) describe reforms in Africa; Sen, Nepal, and Jamasb (2016) provide evidence for Asia; Eberhard and Godinho (2017) discuss reforms in sub-Saharan Africa, South Asia, and Latin America.
[15] Eberhard et al. (2016) reviews the experience of IPPs in African countries.
[16] Bacon and Besant-Jones (2002; Jamasb (2006) examine the experience of privatization.
[17] Foster and Rana (2020). See also McCulloch and Barnett (2021) for a commentary and critique of the World Bank's report.

WORLD BANK'S RETHINKING POWER SECTOR REFORM PROJECT: KEY FINDINGS

1. Uptake of the model did not follow the textbook model.
2. Power sector reforms were more likely to gain traction if they were consistent with the country's political system and ideology and were led by champions enjoying broad stakeholder support.
3. The private sector made big contributions to generation.
4. Wholesale power markets improved efficiency in a minority of countries that were ready for them, but others were stuck in transition.
5. Good human resources and financial practices were key to utility performance and were generally (but not always) better in private utilities.
6. Private sector participation in transmission and distribution worked well in favorable settings, but elsewhere, it suffered reversals.
7. Regulatory frameworks were often adopted, but implementation is weak (particularly with state utilities).
8. Cost recovery has proven to be very hard, and gains come mostly from efficiency improvements, not tariff increases.
9. The outcome of power sector reform depended on the starting conditions — those with better starting conditions performed better.
10. Good outcomes happened in countries that were strong reformers and also limited reformers — with remarkably little difference between them.

Source: Author's notes on Foster and Rana (2020).

D. How Energy Governance Affects Performance

The core reason for poor performance is poor energy sector governance.

Although explaining success is hard, one factor, above all, explains why some countries have power sectors that perform poorly — the poor quality of governance in the sector. Despite the ongoing debate on the subject, which makes a comprehensive definition of energy governance somewhat elusive, there are some key elements of effective energy sector governance. The table on the next page identifies elements of good power sector governance and how energy governance in many countries fails to meet these standards. The examples given are illustrative.

EXHIBIT 2. IDEAL ENERGY GOVERNANCE — AND THE REALITY IN MANY COUNTRIES

Aspect of Energy Governance	The Ideal Is …	Too Often, the Reality Is …	Examples
Planning	Planning is designed to minimize long-run costs of energy generation, transmission, and distribution	Planning is often not based on reliable data or models and is biased by political considerations	Pakistan Lebanon Mongolia
Procurement	Procurement of generation capacity and transmission infrastructure is undertaken through transparent auctions	Procurement is non-transparent, allowing preferred bidders to win lucrative contracts and	Ghana Lebanon

Aspect of Energy Governance	The Ideal Is …	Too Often, the Reality Is …	Examples
		raising the long-term cost of electricity	
Dispatch	Dispatch ensures that power is taken from the lowest-cost sources[18]	Dispatch is influenced by the fact that existing investments have to be paid for often through "take or pay" contracts	Pakistan Nigeria Indonesia Mongolia
Human resources	Employment in utilities and other sector organizations is based on merit and is effectively managed	Jobs in utilities are frequently provided to supporters of the government, resulting in overstaffing and inefficiency	Almost all countries with state-owned electricity utilities, to varying degrees
Metering, billing, and collection	All customers are metered; billing and bills are collected in a timely and efficient way	Many customers are not metered; electricity is stolen; billing either omits politically connected customers (including the government and the military) or such bills are not collected	Lebanon Pakistan Nigeria Tunisia
Tariffs	Tariffs are independently set to recover costs, encourage efficiency, and promote equitable access; rates are adjusted regularly as needed	Tariffs are kept low for some customers (often households) for political reasons, while others (often industry) are charged high rates. Rate adjustment is highly political and infrequent	Pakistan India Lebanon Nigeria Indonesia Sri Lanka Mongolia Ghana
Fuel pricing	Fuels are supplied at international prices to ensure that their use reflects their relative scarcity and cost	Collusion in fuel supply extracts rents and increases costs, pushing governments to subsidize certain fuels to maximize their use	Pakistan Lebanon Nigeria Ukraine
Policy	Policies, legislation, and regulations are put in place to encourage energy efficiency and demand management	Politics, legislation, and regulations are either incomplete, inconsistent or simply ignored; energy efficiency is not encouraged because utilities earn by kWh sold	Pakistan Nigeria Indonesia

Different countries vary enormously in where they lie on the spectrum of energy governance. We highlight below the experience of a selection of countries to illustrate that challenges with energy governance affect different issues and different countries in different ways.

[18] Of course, there may be technical reasons why it is sometimes not optimal to take power from the lowest-cost sources (e.g., minimum capacity factors for certain facilities or water management functions in hydro schemes).

- In **Pakistan**, poor planning contributed to overinvestment, and the resulting excess capacity saddled the government with unsustainable costs that cannot be passed along to end-users, who have limited ability to pay. Beginning in the 1990s, the power sector added 4500 MW of oil- and gas-fired generation, supplied by underpriced domestic natural gas. In recent years, dwindling gas supplies have required the government to supplement with expensive imports, raising costs. At the same time, subsidized investment from China has expanded high-cost coal power, while the powerful National Transmission and Despatch Company has resisted government plans to ramp up solar and wind generation, which is now cheaper than gas-fired power, due to deep-seated concerns about the national system's ability to manage variable resources. Electricity tariffs are high by regional standards, but they still do not reflect costs.

- The combined effect of drought and insufficient gas-fired generation in the mid-2010s forced load-shedding in **Ghana,** where the government has kept tariffs below cost, leaving the national utility dependent on subsidies and suffering chronic financial weakness. After attracting investment in new gas-fired capacity, supplemented by expensive barge-mounted emergency power, the country shifted to having unaffordable excess capacity. Meanwhile, in areas not served by the grid, the government has insisted that the financially weak national power sector companies control any mini-grid development, making it hard to expand access to the roughly 5.4 million Ghanaians lacking access to the grid.

- Although it is legally bound to ensure cost-reflective tariffs, the government of **Sri Lanka** has prevented any tariff increases since 2014 and has been slow in delivering subsidies, despite rising generation costs at thermal facilities using imported coal and fuel oil. Even now, with solar and wind generation demonstrably lower in cost than thermal generation, utility planners have resisted a government renewable energy generation target because of concerns about the grid's capacity to absorb higher levels of wind and solar generation. In the last three years, the only renewable capacity additions came from rooftop solar, supported by an attractive feed-in tariff that the utility would like to see eliminated. In early 2021, the national utility issued a tender for a privately financed natural gas import terminal, which would lock it into levels of generation that would preclude expanding the achievement of the renewable energy generation target.

- In **Tunisia**, where more than 90 percent of generation comes from gas imported from Algeria, efforts to add solar and wind generation capacity to the grid have been stymied by resistance from the national utility's union, which has viewed privately financed renewable energy development as a prelude to expanded private sector involvement and ultimately, privatization. Because of its weak financial condition, the utility is limited in its ability to develop new capacity on its own. All these difficulties notwithstanding, the national gas and power utility, the Tunisian Company of Electricity and Gas, has previously played a part in the implementation of innovative programs for residential solar water heaters and rooftop solar, which have fostered private investment through the provision of subsidies.

- The long-standing inability of **Lebanon**'s national utility to deliver service for more than a few hours a day, combined with the chronic weakness of the Lebanese state, has created an opening for a handful of municipal concessionaires and community-led energy supply businesses to deliver reliable service based on a mix of solar photovoltaic (PV) and diesel generation. These initiatives exhibit different business structures, and in some instances, they have benefited from subsidies from the national government — but they have also largely avoided effective tariff regulation.

- Although **India** has achieved a dramatic increase in distributed solar generation and grid-scale renewable energy and can report some notable success stories from among its more

than 40 distribution companies, a recent assessment[19] identified 16 utilities with "below average operational and financial capability." The national government is pressing coal-fired generators to increase their flexibility as more renewable energy is added to the grid, but the plants' diminished utilization is causing financial difficulties for the power sector and the politically powerful coal and railroad sectors that keep them fueled.

- In the 2010s, **Mexico** was a darling of the international renewable energy sector as it implemented structural reforms to increase the scale of wind and solar generation through competitive auctions and drove technical and operational changes to force the fossil-heavy state-owned utility, Federal Electricity Commission (CFE), to embrace renewables. Since 2019, however, a new administration has sought to reverse these changes and restore CFE's primacy and the reliance on oil-fired generation; the administration and its allies in Congress are now promoting legislation[20] that would give CFE priority dispatch for its majority fossil-fired generators, despite the availability of lower-cost private wind and solar generators.

- In 2019, **Vietnam** added more than 5,000 MW of grid-scale solar capacity as part of a strategy to build capacity in the industrializing south, where demand growth is exploding; this addition roughly doubled the total renewable energy capacity installed. The country is poised to augment this solar expansion with flexible gas-fired capacity while capping new coal-fired facilities due to public opposition. Although Vietnam's Communist Party is guiding the solar- and liquefied natural gas-oriented strategy, the private sector has delivered most of the investment.

It was precisely the kinds of energy governance issues illustrated above that led to the promotion of the "standard model" of reform in the first place. The idea was that unbundling should separate the interests of generators from those of system operators and distributors, enabling them to operate more efficiently. The intention was that independent regulation would ensure transparent procurement and tariff setting based on cost recovery, while competition would ensure efficiency. In some cases, these benefits were realized. But more often, reforms were partial and incomplete, with the result that most power sectors in developing countries represent a complex hybrid of state and private ownership, monopoly and competition, and independent and non-independent regulation, often coupled with onerous subsidies intended for poor households, but which primarily benefit the better-off.[21] To understand why reforms are sometimes successful and other times they are not, it is necessary to understand the complex political economy of power sector systems in each country.

E. The Political Economy of Power

Tackling poor energy governance requires understanding the political economy of power supply in each country.

Consider the following model of the political economy of power supply in many countries. A country's political elite want to provide power to their people. However, they also wish to remain popular, particularly in urban areas with a large and young population. As a result, they may use various sector instruments for political purposes, including:

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[19] See https://pfcindia.com/DocumentRepository/ckfinder/files/GoI_Initiatives/Annual_Integrated_Ratings_of_State_DISCOMs/7th_Rating_Booklet_Final_13-10-2019.pdf

[20] https://www.reuters.com/article/us-mexico-energy-electricity-analysis/analysis-mexican-power-bill-seeks-legal-compromise-for-bruised-investors-idUSKBN2A91JL

[21] See Eberhard and Godinho (2017).

- Controlling the price of electricity so that it can be kept as low as possible, particularly in the run-up to elections
- Awarding jobs to supporters, particularly in the public utility and various parts of the energy supply chain
- Ensuring that power remains as reliable as possible in areas that support them, even at the expense of other areas
- Skewing the planning process to ensure the roll-out of access to electricity to benefit their supporters or backers

At the same time, the elite need to fund their own political machine if they wish to remain in power. In many countries, the power sector is an important source of "economic rent." Such resources are typically captured through the procurement process. Specifically, private sector backers of the elite will often expect "repayment" through winning large capital contracts, which can include those for power generation and transmission, emergency power services, and myriad others. For this reason, elites sometimes have little interest in genuine transparency and accountability in public procurement.

The consequence of the above set of incentives is that the utility — whether private or public — may be required to sell electricity below its cost of supply, either because its tariffs are held down or because its costs are raised through inefficient planning, procurement, and staffing. This damages the utility's finances, increasing dependence on subsidies from the Treasury. It also makes it difficult for the utility to invest, because it must rely on capital from the central government as private investors do not deem it creditworthy. The Treasury, in turn, attempts to minimize the subsidies that it must provide, resulting in a build-up of the utility's debt, further worsening its financial sustainability.

In such a context, reform is extremely difficult, but some changes are much more likely to succeed than others. For example, a shift to private sector solutions for generation (IPPs) may well succeed, in part, because it provides opportunities for the capture of economic rents from such contracts, with the cost borne by the utility (and, eventually, the ratepayer through higher tariffs). Conversely, genuinely independent regulation is frequently resisted precisely because it might raise tariffs (courting unpopularity) or penalize utilities for poor performance or management (causing embarrassment and the potential loss of sources of rent or patronage).

The precise constellation of stakeholders and their interests varies from country to country and determines the nature of energy governance in each country and therefore the performance of the sector in terms of access, reliability, affordability and sustainability (see the table starting on page 15). The key point is that it is necessary to have a detailed understanding of the underlying political economy of the country — and how it relates to the power sector — to appreciate the kinds of reforms which are more, or less, likely to succeed.

EXHIBIT 3. POWER SECTOR STAKEHOLDERS AND THEIR INTERESTS

Stakeholder	Interests
Top political leaders	Energy is a critically important interest for most political leaders, but different facets of energy may matter more in different contexts. For example, energy security concerns feature strongly in countries dependent on fossil fuel imports, maintaining low tariffs is important where there is a large urban poor population using electricity, and access issues may be particularly salient in countries where coverage is poor. Above all, the electricity system is often part of a political narrative about the construction of an effective and modern state.

Stakeholder	Interests
Political parties	Before implementing policies on energy (or anything else), political parties must win elections, and for this parties need funding. Campaign and party finance is intimately linked to the energy sector — primarily through corruption in procurement, whereby companies associated with allies of the political leadership win large contracts and recycle some of the captured rents to fund the political machines of these politicians.
Parliament/legislature	Politicians in national legislatures and subnational governments may defend the interests of specific regions and communities associated with local energy resources such as coal. Such politicians may also receive significant funding from energy sector interests. National and local political figures have often exerted their influence to prioritize electrification of communities or regions in exchange for political support.
Ministry of Energy/Power and other government organizations	Agencies in national or state governments exercise power in setting policy, overseeing and enforcing legal and regulatory requirements, and guiding the allocation of subsidies. They may defend their influence over resources, jobs, and access to service. Government institutions also exercise market power as energy consumers (e.g., by fostering the emergence of new business sectors that increase demand, or by harming utilities by failing to pay their bills). Sometimes government-supported research and development agencies play an influential role in fostering the development and deployment of new technologies.
Electricity regulator	Electricity regulators attempt to strike a balance between the needs of the sector for investment — requiring greater efficiency and higher tariffs — and the needs of consumers for affordable and reliable electricity. But regulators are often not entirely independent of political pressure, as reflected in their inability in many countries to adjust tariffs regularly or to impose significant penalties on politically influential utilities.
Monopoly utilities	In many countries, economies of scale mean that utilities are regarded as natural monopolies. This, along with the strategic value of electricity provision, has frequently meant state control. State-owned utilities are often used as a vehicle for patronage through which jobs are reserved for well-connected individuals or supporters of the ruling group. In addition, utilities have been used to bias procurement toward preferred contractors.
Fossil fuel-based generation companies	Fossil fuel generation companies — whether public or private — have a strong interest in securing long-term take-or-pay contracts with offtakers to maximize profits and minimize risk. Such contracts make it more difficult for offtakers to switch to cheaper renewable electricity sources.
Fossil fuel suppliers	Producers, refiners, and distributors of fossil fuels rely on wholesale fuel sales to anchor major investments in distribution infrastructure. This is particularly true of natural gas, whose use in power generation is relatively new and for which the construction of costly pipelines and marine terminals (in the case of imported liquefied natural gas) is needed. These businesses seek to protect their markets by inhibiting a switch away from fossil fuels and by securing revenues to pay for infrastructure investment by locking in sales volumes with take-or-pay provisions in their contracts.
Renewable energy developers	Renewable energy developers seek a business climate that enables them to build and operate facilities easily and to obtain Power Purchase Agreements (PPAs) that are commercially viable. However, regulations sometimes do not allow renewable projects to compete on a level playing field with fossil fuels. Where the regulatory framework and the proposed contractual arrangements are conducive to such investments, developers have demonstrated repeatedly that they can offer attractive prices for generation.

Stakeholder	Interests
Investors	Emerging markets have relied heavily on the mobilization of private investment to support the development of energy and power sectors. As market forces increasingly move against fossil-heavy generation, investors seek stability and mechanisms to decrease risk and are increasingly considering the risk that legacy power system investments will become “stranded assets” due to shifts in policy. This has led some investment groups and lenders to forswear investment in coal-fired generation projects.
Equipment/appliance manufacturers and distributors	Manufacturers and vendors of consumer and industrial equipment ranging from vehicles to refrigeration and air conditioning equipment can influence energy efficiency standards as well as the use of generation technologies like diesel-powered generators, solar PV panels, advanced batteries, or electric vehicles.
Professional organizations	Professional associations sometimes establish barriers to entry into professions and also shape members’ understanding of the technical and economic viability of new technologies. The perspective and mindset of those in leadership positions may be shaped by years of experience with conventional technologies and limited familiarity or openness to new possibilities.
Labor unions	Labor organizations are prominent in the power and fuels sectors. Unions typically protect jobs in utilities and fuel supply industries and may oppose reforms designed to reduce overstaffing and minimize patronage. Unions can also be concerned about the introduction of technologies such as advanced metering infrastructure, because line workers in some countries frequently supplement wages by artificially reducing bills for consumers or extracting payments to enable illegal connections or expedite legal ones. To date, unionization has generally been lower in the renewable energy sector than in the established power systems.
Large businesses	Large, energy-intensive businesses have a strong interest in reliable and low-cost supplies of energy for their facilities. They can exert influence over government policy regarding the role of private actors in the energy sector, the pricing of energy supplies, and the development of critical infrastructure. Companies have advocated for regulatory changes to enable self-supply or purchases of electricity from third parties which can negatively affect utilities. Export-oriented sectors may face pressures to lower the carbon footprint of their operations.
Households and voters	Most households wish electricity to be affordable, and so voters frequently oppose tariff rises. But households also value reliability, because outages drive many households (and small businesses) to invest in small, costly generators. Households frequently do not trust promises that tariff rises will allow increased reliability. Households without electricity have a strong interest in access and often vote for politicians who promise to bring electricity to their location.
Civil society groups	Environmental advocates have successfully opposed the development of some fossil energy projects. But local opposition to non-conventional renewable energy projects, including wind and solar, has also played a role in slowing some developments. Civil society groups advocating for improved energy access have played a relatively minor role in emerging markets and have often been linked with internationally funded efforts to expand off-grid access. However, local civil society organizations, including unions, churches, and youth and women’s associations, often play a role in mobilisation against tariff increases.
International financial institutions and donors	International financial institutions, including the Multilateral Development Banks, as well as bilateral donors have frequently tied financial support to the implementation of specific reforms. However, they also have their own interests. Some continue to support fossil-fuel based projects. Many have to balance a short-term need to lend/disburse against a desire to achieve long-term change.

Unfortunately, many donors' approaches often pay too little attention to political economy considerations.

A review of recent indefinite delivery, indefinite quantity (IDIQ) contract requests for proposals (RFPs) from USAID in a wide variety of countries shows two common features. First, RFPs are generally well-crafted, displaying a detailed knowledge of the sector and the challenges that it faces in the selected country. Second, RFPs are almost always focused on addressing the technical challenges facing the sector and do not address the political economy obstacles to making progress. Specifically, programs are frequently designed to provide three forms of assistance:

- **Technical assistance:** commercial and technical feasibility studies, business plans, legal and regulatory expertise, or cost of service studies, usually supplied to the relevant sectoral ministry, the utility, or the regulator
- **Supporting public and private investment:** facilitating access to financing through advisory services and working with development finance corporations and other lenders or guarantee providers
- **Capacity building:** training on installation and use of smart meter systems, loss reduction programming, and competitive procurements — again, mainly for the relevant ministries or regulators

The same approach is taken by almost all other bilateral and multilateral funders. The reason for this is twofold. First, funders have long-standing capabilities in providing technical assistance, support for financing (and direct, concessional financing in some cases), and capacity development, and so it makes sense for the emphasis to be in this area. But the second reason is that development partners wish to maintain good relations with the governments of the countries with which they work. Taking actions which might disturb — or actions which are interpreted as an attempt to disturb — the political equilibrium in the sector may be seen as insensitive and could damage broader bilateral or multilateral relationships.[22] As a result, development programs tend to shy away from addressing political economy factors directly, treating them as risks to navigate rather than central to the challenge being addressed.

However, the evidence from the last 30 years is that these factors are central to the success, or failure, of such support programs.[23] Technical assistance in the power sector is only of value if the systems, processes, and procedures designed will actually be implemented. Concessional finance may be welcomed — but often, the assets that it finances will only be effective if reforms are undertaken[24]. Capacity building, while often needed, is not likely to make a significant difference if a lack of capacity is not the real constraint in implementing reforms (see Millennium Challenge Corporation and the Electricity Corporation of Ghana box). In short, such interventions are effective where they address a binding constraint to improving sector performance — as they sometimes do. But where the binding constraints are primarily of a political nature, a different approach may be needed.

[22] See McCulloch, Sindou, and Ward (2017) for more on the incentives facing donors in the power sector.
[23] See Deloitte (2015) for a rare public description of how a U.K. Department for International Development (now FCDO) power sector reform program in India was affected by such considerations.
[24] Indeed, grants or concessional finance, while often welcomed by recipients, can delay reforms that might lead to greater longer-term sustainability of the sector.

THE MILLENNIUM CHALLENGE CORPORATION AND THE ELECTRICITY CORPORATION OF GHANA

A recent example of how political economy factors can be critical in determining the success or failure of reform initiatives comes from Ghana. In 2014, the Government of Ghana signed the second Millennium Challenge Corporation Compact for $498.2 million to support the transformation of Ghana's electricity sector and stimulate private sector investment. These funds were to be distributed in two tranches — an initial sum of $308.2 million to put the main distribution company, Electricity Company of Ghana (ECG), on a sustainable path and a further $190 million conditional on the accomplishment of a set of reform targets.

Among these targets was the improvement of the governance of ECG through the introduction of a private concession model. After a lengthy and contentious tendering process, a firm was finally chosen to operate the concession. However, in October 2019, the Government of Ghana cancelled the concession, claiming problems with the payment securities submitted by the concessionaire. As a result, MCC cancelled the second tranche of the Compact (for more details, see media accounts here).

Reform of incumbent utilities is almost always highly politically contentious. In some cases, direct attempts with substantial financial support can be successful. In others, this approach clashes with the nature of the underlying political settlement of the country (see page 22 for more on "political settlements"). A deep understanding of context, as well as a flexible set of interventions, are needed to navigate sensitive reforms to energy governance of this kind.

F. A New Approach to Energy Governance

There is a new way of thinking about tackling problems of energy sector governance.

Over the last 20 years, a new approach to development programming has arisen, which has come to be known as "thinking and working politically" (TWP).[25] This approach has grown out of a sense of disappointment with much traditional technical programming for failing to achieve the desired results in a range of sectors. There is increasing recognition about how political economy considerations often lie at the root of many of the most difficult development challenges and that externally funded development projects frequently have relatively little influence on the deep-rooted, informal rules that determine how change happens in any given country.[26] In response, many development agencies have embraced political economy analysis (PEA) as a means of understanding the underlying factors that block progress and the potential coalitions of support that might promote it.[27] Because the nature of the political economy problems in the power sector varies widely by country and context, such analysis can be helpful in more clearly identifying what kind of problem is hindering progress and then tailoring the approach accordingly (see the table on the next page for more).

More recently, donors have recognized a need to go beyond analysis, to "work politically," including by designing programs to reflect the nature of the local politics and incorporating flexibility and adaptability into program design and implementation.[28] Several programs now attempt to apply a problem-driven

[25] In the United States, this is sometimes known as "Doing Development Differently"; see https://www.odi.org/sites/odi.org.uk/files/odi-assets/events-documents/5149.pdf
[26] See Booth and Unsworth (2014) and Unsworth (2010) for the origins of this approach.
[27] See Whaites (2017) for an introduction to PEA. Chemonics' own work on politically informed programming can be found at https://www.chemonics.com/technical-areas/cpip/
[28] See McGregor, Frazer, and Brinkerhoff (2020) for more on PEA and TWP in programming; Teskey describes the new thinking here: https://www.abtassociates.com/insights/publications/white-paper/thinking-and-working-politically-are-we-seeing-the-emergence-of

iterative adaptation (PDIA)[29] approach to problem-solving. This entails identifying a problem (e.g., poor reliability in the power sector) and then iteratively exploring the underlying reasons for the problem's persistence. It also entails an exploratory and adaptive approach to identifying solutions, with a focus on supporting pre-existing and/or locally led reform processes rather than implementing an external "best-practice" approach.[30]

This new thinking recognizes that different countries have different kinds of "political settlement." Kelsall and Hickey define a political settlement as "… a tacit agreement among powerful groups about the rules of the political and economic game, that keeps the peace by providing opportunities for those groups to secure a distribution of benefits (such as resources, rights, and status) they find acceptable."[31] Countries whose political settlement has a broad social foundation (meaning that many different groups are included in the overall settlement) are likely to have a very different approach to power sector reform than those where the settlement is more narrow. Similarly, power sector reform is likely to progress quite differently in countries where political power is concentrated (regardless of whether they are democracies or autocracies) than in places where power is more dispersed and competitive. For example, Levy and Palale (2014)'s work on power sector reform in Zambia showed how the World Bank's programming changed after analyzing the nature of the political settlement. They realized that Zambia's clientelist politics made application of the "standard model" of power sector reform impossible. Instead, they identified a key set of actors — the mining sector — that was interested in paying for new generation and used this to leverage new investment. The World Bank worked with the state-owned utility to communicate the link between higher tariffs and improvements in electricity access to the public.[32]

EXHIBIT 4. MATCHING INTERVENTIONS TO THE NATURE OF THE PROBLEM

Type of Problem	Example	Possible Approach
Mismatched mindsets	Sometimes the fundamental problem is ideological. For example, in Mexico, AMLO not only does not wish international private investment in the sector, but also does not wish for the state-owned enterprise to face domestic competition	Providing neutral evidence about the relative merits of different approaches can influence some stakeholders. However, it is also important to recognize that the ownership structure of the sector is a political choice; if it is not possible to shift mindsets, it may be better to work to improve the structure that has been chosen.
Information asymmetries	Differences in the knowledge and the information available to actors in the sector can result in inefficiencies. For example, officials in the Indonesian state utility Perusahaan Listrik Negara have relatively little knowledge about how the cost of renewables has fallen or about new technologies for grid management, making them reluctant to adopt them.	If a problem is genuinely caused by information asymmetries, then the provision and communication of information can help to solve the problem. But often, there is a reason why such information doesn't get used, suggesting that the problem is something else.
Coordination failures	Coordination failures arise when the incentives of individual actors do not align with the common good. For example, it is	Coordination failures can be solved in one of two ways: alignment or coercion. Alignment means making the costs and benefits for

[29] See Andrews, Woolcock, and Pritchett (2012) for details of this approach.
[30] Menocal et al. (2018) provide USAID's guidance on the application of PEA, and it links to USAID's similar collaboration, learning, and adaptation approach.
[31] See https://www.effective-states.org/what-is-political-settlements-analysis/ for more details.
[32] For more on this approach, see Levy's book on Working with the Grain (Levy 2014).

Type of Problem	Example	Possible Approach
	best to plan generation to match demand growth at minimum cost. This requires coordination so that different parts of governments do not offer PPAs independently of one another, which can result in excess commissioning and high electricity bills, as in Rwanda and Uganda. Similarly, there can be poor coordination between transmission and generation planning, leading to suboptimal outcomes, as in Sri Lanka.	each actor clear and attempting to align them so that actors are not rewarded for doing things against the common interest. Coercion requires a central political authority to restrict the behavior of individuals so that they must behave in a way conducive to the common good (e.g., by authorizing only one body to issue PPAs or manage procurement, banning unsolicited generation proposals to the single buyer).
Vested interests	The power sector is replete with vested interests. For example, politically powerful businesspeople may influence the allocation of generation contracts, while influential large consumers such as the government or the military may refuse to pay their bills, as has happened in Pakistan. Utilities and the government agencies that oversee them also have their own interests. The same is true of unions, who have played a key role in Mexico, Tunisia, and Sri Lanka, among other places.	Tackling vested interests is one of the most difficult challenges. A first step is to explicitly map out the interests of the different sector actors and how politically influential they are. Strategies can then be based on persuading powerful interests to become more supportive of reform or on empowering actors that are already supportive of reform. However, it is important to be realistic about what can and cannot be achieved.
Capacity limitations	Regulators may lack capacity in how to calculate and set tariffs.	Building capacity is one of the easiest interventions and therefore one of the most common. But it is important to ask why capacity is low in the first place to see whether capacity is really the problem.

One practical implication of a TWP approach is that “second-best’’ solutions may often be preferable to applying global “best practice” where they are more consistent with the nature of the local political settlement. Khan et al.'s (2020) analysis of the political incentives in Bangladesh shows that seemingly second-best approaches to de-risking power projects in Bangladesh outperform a best-practice approach. Subsidized finance from international financial institutions and access to government land encouraged competition and investment in the power sector in Bangladesh. But when reforms removed these subsidies, the resulting collapse in investment led the government to conduct closed-door negotiations with individual investors, leading to much higher costs in the sector. Thus, a reform designed to improve efficiency failed because it did not consider the political opportunity that it would offer to vested interests. Similarly, Roy's (2020) detailed analysis of the political economy of the power sector in Nigeria identifies significant unexploited reform opportunities for distributed electricity provision to small and medium enterprises in a highly dysfunctional sectoral environment. Ahmad et al. (2020) show how progress in delivering 24/7 power in one region of Lebanon was possible only by exploiting a mechanism that aligned with the country’s complex political system.

Of course, in some instances, reform is driven by the mindset or ideological position of a political leader. There is no doubt that India’s rapid progress on solar has been influenced by Prime Minister Modi’s commitment to the issue. Conversely, Mexico’s rapid progress with expanding wind and solar generation during the Peña-Nieto administration has come to an abrupt halt under President López Obrador due to his different ideological position on reform. However, the point of a TWP approach is to move beyond individuals to understand the nature of the political system in which they are embedded. For example, rural Indians are a major constituency for the BJP, the political party that Modi leads, and so electrifying

every village has significant political benefits for him and his party.[33] Similarly, Modi has cleverly associated solar energy with the religious identity attached to his party by engaging the support of religious institutions to advance solarization. Similarly, although President López Obrador's shift in position may be ideological, it is also influenced by the desire to protect the state-owned monopoly utility, CFE, in keeping with the state-driven development model supported by many of his allies in Congress. Although individual leaders matter because they can create a vision and build coalitions around their chosen direction, all political leaders are constrained by the characteristics of the political systems in which they operate. This shapes the nature of what is, and what is not, possible. Understanding these characteristics is critical if programs of support are to be effective.

PROJECTS TRYING TO THINK AND WORK POLITICALLY ON ENERGY

- **World Bank in Zambia:** Identified politically feasible pathways to providing additional capacity in a financially viable way.
- **USAID Partnership to Advance Clean Energy Deployment (PACE-D) in India:** PACE-D (2014 to 2018) built understanding of the potential advantages of renewables by providing technical assistance to Indian Railways for solar rooftop development throughout its network.
- **GIZ in Mexico:** Embedded technical assistance to key ministries over a long period helped to create support for reforms in the energy sector that would boost efficiency and diversify supplies to increase renewables; these reforms occurred during the market-oriented Calderón and Peña Nieto administrations (2006 to 2018), but the current statist López Obrador government has sought to halt or even reverse them to protect the national utility.
- **USAID Clean Power Asia:** Helps countries to plan for and develop renewable energy zones that synchronize the critical power generation and transmission planning processes (2016 to 2021).

In practice, adopting a TWP approach to power sector reform entails a rather different way of working than traditional energy sector programs. This will include undertaking regular PEA to understand the underlying political economy challenges and provide honest assessments of which aspects of governance are amenable to change and which are not. It also involves analyzing the nature of the specific failings in the sector — are they problems of information asymmetries or coordination failures, or do they result from the behavior of vested interests? Diagnosing the nature of the problem enables interventions to be better tailored to context. Information problems can be addressed through traditional tools of research and technical assistance, coordination problems may require the program to actively facilitate coordination and absorb the costs of doing so, and issues of vested interest may be best addressed through building coalitions of actors in favour of reforms. This suggests an approach that can work with policymakers, legislators, government utilities, and regulators, as well as with consumer groups, civil society organizations, lawyers, engineers, finance professionals, and international and local businesses.

Several implementing organizations are applying a TWP approach in other domains … but the structure of many RFPs currently makes it difficult to do so in the energy sector.

Implementing organizations such as Chemonics, RTI, Abt Associates, DAI, OPM, Palladium, and many others have built significant capacity in implementing a TWP approach in programming and have done so in several different domains, including health, education, and governance. This has been stimulated by

[33] Although the Indian government claims to have electrified every village, it has not electrified every household; see https://thewire.in/government/narendra-modi-government-rural-electrification-power

donor agencies explicitly demanding such capabilities in RFPs in these sectors.[34] However, the approach is still rarely applied in energy sector programming.[35] In part, this is because energy sector projects are seen as technical interventions. However, as noted above, energy sector governance and performance — and challenges to improving them — are explained at least as well by political and economic relationships among stakeholders as by gaps in technical capacity or financing. In this light, the energy sector support programs could benefit from the adoption of innovations in PEA and TWP that have been successful in other sectors.

As countries try to chart a path out of the COVID-19 pandemic and create a green recovery, TWP will be even more important.

The COVID-19 pandemic has done huge harm to economies around the world, including many developing countries, which lack the fiscal space to respond in the same way as richer countries. In many countries, collapsing demand for electricity has put pressure on utilities already facing financial difficulties. As the world hopefully begins to emerge from the pandemic, the choices made by policymakers in developing countries will shape their energy sectors for a generation. Notwithstanding global calls for a "green recovery," most notably the exhortations of world leaders to increase the ambition of goals on climate change, there is strong political pressure to return the energy and energy-intensive sectors to their situations before the pandemic. This explains why, of all public money committed to energy-producing and consuming activities in 31 major economies, $292 billion was pledged to fossil fuel-intensive sectors, or 41 percent of the total (and more than committed explicitly to clean energy).36 Efforts to support developing countries to achieve their own green recovery will require more than finance and technical assistance. It will be important to understand the complex, country-specific politics associated with COVID-19 recovery if programs designed to help countries achieve a green recovery and a just energy transition are to be successful (see Energy Governance, Climate Change, and the Energy Transition box).[37]

[34] For example, the United Kingdom's FCDO Governance Position Paper explicitly requires the adoption of a TWP approach.
[35] A notable exception is the Incubating Policy for Economic Transformation project in Nepal — see Booth (2018).
[36] See https://www.energypolicytracker.org/ for details. In addition, the Biden Administration in the United States is proposing to spend around $2 trillion on infrastructure, which includes significant proposals on clean energy.
[37] For more on the challenges and opportunities created by COVID-19, see https://www.devex.com/news/sponsored/opinion-power-revolution-a-new-way-forward-in-the-global-power-sector-98686

ENERGY GOVERNANCE, CLIMATE CHANGE, AND THE ENERGY TRANSITION

Energy governance matters because good governance of the sector enables resources to be allocated efficiently, lowering costs and improving reliability. However, the imperative of addressing climate change makes improving energy governance even more important – and more challenging.

To address climate change, all countries — including those in the developing world — are having to think about how to shift their entire energy systems toward low-carbon ways of generating and consuming energy. Because developing countries bear virtually none of the responsibility for historical emissions of greenhouse gases, the Paris Agreement allows for "common but differentiated responsibilities" across countries. This allows a degree of leeway for developing countries to balance their legitimate development objectives with the need to transition away from fossil fuels. However, all countries will ultimately need to transition to net-zero emissions over the next few decades if dangerous climate change is to be averted. Developing countries vary dramatically in their dependence on fossil fuels. Some have large hydroelectric resources and a very small carbon footprint; others are almost entirely reliant on generation from coal, heavy fuel oil, and diesel. As in wealthier countries, shifting to low-carbon electricity will entail systematically moving away from fossil fuel generation assets to renewable ones, as well as shifting energy consumption — in power, transportation, heating and cooling, and cooking — from fossil fuel to electricity.

Such a transformation will require major public and private investment, and, notwithstanding the benefits of transition, it may entail significant costs that will vary markedly across countries. This change will also threaten the interests of key groups (e.g., fossil fuel producers, fossil power generators, sellers of goods that run on fossil fuel) while creating opportunities for others (e.g., renewable developers, the owners of businesses that make and sell renewable technologies and associated appliances). Experience suggests that losers from such transitions often obstruct or delay the change. Understanding the interests of the key players in each context is therefore critical for achieving a successful transition. The transition also requires changes in the laws, regulations, and procedures that govern the energy sector. Because such changes are likely to result in both winners and losers, they are inherently political. Technical assistance is unlikely to be effective if it does not recognize this.

Finally, although it is true that politics affects the energy transition, it is also true that the energy transition will shift the politics in many developing countries. In particular, new renewable technologies make decentralized energy solutions possible, such as rooftop solar, mini-grids, micro-grids, and solar home systems. The increasing commercial viability of battery storage will tend to reinforce the trend toward solar PV by overcoming the problem of intermittence and mismatch between daylight hours and peak loads. The ability to provide energy at the local level is likely to shift the relative influence of local political actors relative to central ones. Now, mayors, municipalities, and village heads all have an influence over the energy system that they did not before. Commercial decentralized systems may also shift the balance of actors in the energy system between the public and the private sector. Some of these changes will also be resisted. Understanding how the opportunities created by the energy transition affect local and national politics will also be key to ensuring that such changes are successful in meeting the needs of people and the climate.

Note: For much more on the political economy of clean energy transitions see Arent et al. (2017).

G. Recommendations

How, then, should interventions in power sector reform be done differently? We put forward five key recommendations.

1. Ensure PEA is done when designing energy projects and implementing them.

PEA of the power sector is increasingly common, and many funders require implementing organizations to undertake such work, at least at the outset of a program. However, this is far from universal. Many programs adopt an entirely technical approach. As a senior official from one major funder in the sector put

it, “We are technicians, we provide advice and resources, the government does the politics.” Unfortunately, this technocratic mindset can result in an inability to systematically anticipate and interpret the politics, with the result that seemingly “neutral” technical approaches may fail for reasons that might have been clear with a better understanding of context.

2. Use PEA to guide efforts.

Although PEA is relatively common, using PEA effectively to guide policy and the design of interventions is much less so (Piron 2016). Often, PEAs will point to the sector’s complex politics and indicate the types of approaches that are more or less likely to be successful, but this does not necessarily influence what is done. A recent exchange between two staff at another major funder illustrates this:

> **Person A:** We did a PEA and identified three options and ranked them by their risk of failure given our understanding of the politics of the situation.
>
> **Person B:** So which did you choose?
>
> **Person A:** We actually went for the riskiest option.
>
> **Person B:** Why?
>
> **Person A:** Because it had already been decided that that is what we were going to do.

This is a common situation, yet one of PEA’s benefits is that it provides guidance about the likely risks of failure of different approaches given the political context. Although other considerations may mean that risky options are still occasionally selected, it is wise to sequence PEAs in a way that enables serious consideration of the implications of the analysis for programs, such that project teams can reflect and adapt accordingly.

3. Match the intervention to the type of problem.

As the Energy Governance, Climate Change, and the Energy Transition box on page 26 indicates, it is important that interventions should be matched to the nature of the problem. Too often this is not the case: vested interest problems associated with consumers not paying bills are addressed by the provision of metering technology, coordination failures are addressed by providing models for how coordination should be done without proper consideration of why such coordination does not take place, governments whose political settlement is based on extracting rents from state-owned enterprises are told to promote competition, or tariffs which haven’t been adjusted for years are met with yet another comprehensive plan for tariff adjustment. Such assistance is not merely ineffective; it can be harmful — for example, when governments, utilities, or agencies reluctantly implement the façade of reform while undermining its functionality, making similar reforms harder in the future. The key is to be honest about the nature of the underlying problem and ensure that interventions are well-matched to the type of problem faced.

4. Nurture demand for change as well as its supply.

The overwhelming majority of interventions in the energy sector focus on providing technical assistance, finance, or capacity building to actors within the sector. However, achieving politically sensitive improvements in governance in the sector requires the support of a much broader set of stakeholders. Alas, engaging non-specialist stakeholders — whether households, small and medium enterprises, unions, women’s groups, and other parts of civil society — in energy sector policymaking is rare, particularly in developing countries.[38] A failure to understand and engage with such stakeholders makes it hard for political leaders to gain broad acceptance of reform measures and therefore discourages them from attempting reforms in the first place. Development partners can facilitate neutral, evidence-based dialogue with diverse stakeholders and ensure that their voices are heard in policy circles. They can

[38] This is one of the main findings of the Demanding Power research program at the Institute of Development Studies in the United Kingdom: https://www.ids.ac.uk/projects/demanding-power-struggles-over-energy-access-in-fragile-settings-a4ea/.

support building new functional alliances and help partners to mobilize these actors around the issues. Engaging in this way can both help to achieve reforms and also ensure that reform programs are designed to meet the concerns of key groups. Of equal importance, it can signal to such groups that the government is listening to their concerns and taking their views into account. Because many reforms in the sector fail due to a lack of trust, creating dialogue and building demand for reform should be critical components of most energy sector support programs.

5. Embed TWP into the way programs work.

Undertaking a PEA and using the results to guide the design of the program is only the very first step in ensuring that energy programs are politically informed. The context in which such programs operate frequently changes during implementation — often repeatedly. It is therefore important that programs should be designed to continuously "think and work politically." This does not just mean a regular, light-touch PEA of the sector. It also means adopting a flexible design that allows the interventions — and budget allocations — to be altered as circumstances change. It means having a portfolio of activities with a spread of risk, with the assumption that some activities will fail. It also entails a monitoring and evaluation system that values vital, but intangible progress, such as changes in mindsets or emerging reform coalitions, as highly as the value of disbursement. There is growing literature on how to apply TWP in practice[39], but this approach has, to date, rarely been applied to energy sector programs. If energy governance is to improve so that energy systems in developing countries deliver the transition needed, then that needs to change (see Annex A for examples of successes and failures to think and work politically in selected USAID energy projects).

The above recommendations apply primarily to the implementers of energy reform programs in developing countries. Contractors should build the skills and capabilities to be able to address complex political and governance challenges as well as the usual technical ones. But because private contractors respond primarily to demand, it is therefore incumbent upon donors and other funders of such programs to explicitly recognize the political economy challenges of reform in the sector in the design of programs and in the requirements and evaluation of tenders.

There is sometimes opposition to doing this. Funders keen to achieve results sometimes do not want to waste too much time with what may be seen by some as "talk shops"; tenders still prioritize technical expertise over political economy expertise. Technical expertise is undoubtedly essential, but most project failures result from governance challenges, suggesting that funders should place a far higher priority on the ability to read the political context and engage with multiple stakeholders to achieve the consensus and buy-in that enables projects to succeed. Including flexible approaches in the design and requiring bidders to have demonstrated the soft skills needed to negotiate complex and dynamic political contexts is essential to success — bid evaluation scoring should reflect this.

In addition, funders can improve the chances of success in the five ways described below.

1. Combine technical assistance with financing.

Technical assistance supports key energy sector stakeholders to design and implement effective policies, but the incentive for top political actors to engage in reforms depends, to some extent, on the existence of financing to enable these changes to happen. Individual funders do not necessarily have to integrate technical assistance with financing themselves. Although some multilateral funders are set up to do this,

[39] See McGregor, Frazer, and Brinkerhoff (2020) for a recent review of lessons. TWP also entails constructing a team that is not only technically strong but that also espouses the soft skills needed to work in this way. See an excellent piece on hiring adaptive employees here: https://usaidlearninglab.org/sites/default/files/resource/files/guide_to_hiring_adaptive_employees_r.pdf

others are not. A suitable combination can be achieved through close coordination between agencies; however, it is essential for the package to be implemented in ways that work "with the grain" of local politics. Finance by itself may not be a sufficient incentive for politicians to undertake unpopular reforms, as the MCC example from Ghana illustrates (see Millennium Challenge Corporation and the Electricity Corporation of Ghana box on page 18). At the same time, engagement on the basis of technical assistance alone can also fail to foster the sort of political commitment that is necessary. Rather, finance is a signal that the funder also has "skin in the game" and is committed to work in partnership to achieve joint outcomes. That said, both technical assistance and financing need to be delivered in a manner that is mindful of the local political economy of energy and strives to harness local actors as described in this paper.

2. Create space for learning and experimentation.

Rather than pushing for "quick wins," create space for implementors to explore the political economy in detail, such as through an inception phase. Build a trusting relationship with implementors to provide them with the space and license to think and work politically, to build a portfolio of activities (accepting that some may fail), and to adapt the program according to shifts in context and learning. Encourage lesson-learning across programs, including those from other sectors such as governance, water, or roads.

3. Coordinate on policy with other donors.

Donor coordination is difficult. Different funders have different approaches and different interests at times, particularly where commercial considerations are involved. Nonetheless, ensuring the regular exchange of information about strategies and approaches among funders can help to ensure that efforts are complementary rather than competitive and that policy messages are consistent. This is particularly important in countries where there are large non-traditional funders, notably China. Chinese funding for energy projects is an established fact in many developing countries. Moreover, there can be areas where China's agenda for energy sector reform in a country overlaps with the interests of Western donors. When this is the case, coordination across all donors can maximize the effectiveness of the support provided. When it is not, it is equally important that Western donors speak with the same voice.

4. Take the long view.

It is extremely rare for a single program of four to five years' duration to deliver wholesale change in the energy system of a country. The changes required are often politically sensitive and can only be undertaken either gradually over a long period or during key windows of political opportunity. Incentivizing programs to deliver as much reform as possible within a short period may actually do harm, because it disincentivizes the slow, but necessary, process of building coalitions and creating consensus around difficult reforms. Funders should therefore take the long view and see each 4 to 5-year program as part of a 15 to 20-year effort to support long-term transformation.

5. Support regional integration.

Platforms for regional integration provide a mechanism for illustrating to all involved how more transparent policies, clear rules, and well-qualified regulators can deliver successful results in terms of investment and improved operations. The experience of SIEPAC (Central America), SAPP (Southern Africa), and SARI (South Asia) show how regional integration can both reduce costs and help to shift thinking in ways that can have long-term benefits for the sector. They also underscore the importance of taking the long view, given the way each of these initiatives has evolved over decades.

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Annex A. Thinking and Working Politically in USAID Energy Projects: Examples of Successes and Failures

Analysis of the final evaluation reports of USAID-funded energy projects over the last decade provides some good examples, both of success and of failures to think and work politically.

Kyrgyzstan Central Asia South Asia 1000 (CASA-1000): Building trusting relationships is key.

USAID provided support to the CASA-1000 Secretariat Component of the five-year, $22.8 million Energy Links Project, which ended in March 2020. This support is a key element to the establishment of a regional power market, which will allow surplus hydropower from the Kyrgyz Republic and Tajikistan to flow to energy-starved Afghanistan and Pakistan. This project entailed managing the complex relationships among counterparts in several countries to enable the energy links project to proceed. The evaluation found that it had been an effective intermediary with good leadership that had built trust through effective communication.

Nigeria Renewable Energy and Energy Efficiency Program (REEEP): Good technical implementation — but a failure of outreach and communication.

REEEP was designed to (1) facilitate the development and financing of renewable energy and energy efficient technology and (2) strengthen the policy and regulatory environment, with an outreach activity to promote public and private sector investment. However, USAID removed the outreach and enabling environment elements due to limited resources. Moreover, a major macroeconomic shock hindered access to foreign exchange and the importation of equipment. The evaluation recommended that new renewable energy and energy efficient projects should have sufficient labor and financial capital to support the accompanying outreach and communication tasks.

Kosovo Renewable Energy Power (REPower): Politically unpopular unbundling is hard to achieve.

The REPower project in Kosovo included a component focused on achieving the unbundling of the Kosovo Energy Corporation. The project prepared the documents to facilitate this unbundling, but the process was heavily delayed, and a final decision to proceed had not been made by the time of the evaluation (in 2018). Similarly, the work of the project was affected by delays in decision-making about the rehabilitation of another power plant as well as by disputes between Kosovo and Serbia regarding cross-border electricity transmission. All of these were outside of the control of the project, but they are illustrative of the importance of understanding the wider political context in designing interventions.

Liberia Energy Sector Support Program (LESSP): Ownership is critical for success.

LESSP aimed to increase access to affordable renewable energy services in geographically focused rural and urban areas to foster economic, political and social development. It largely failed to achieve this. The final evaluation showed that the project emphasized “activity” over “strategy.” In particular, the project failed to build ownership by the Government of Liberia or establish effective communication with key Liberian government counterparts and stakeholders — in particular, civil society non-government advocates such as the Liberia Chamber of Commerce, the National Association of Rural Cooperatives, the financial community, or the donor community.

Philippines Alliance for Mindanao Off-grid Renewable Energy 3 (AMORE 3): Great efforts to balance the needs of stakeholders, but a “results” focus damaged quality and sustainability

The AMORE 3 program was the third phase of a program to improve the quality of life in un-electrified rural communities in the Philippines. It aimed to strengthen modern rural energy services via public-private partnerships, including household electrification, school electrification for improved basic

education, and renewable energy workforce development. The contractor had to work in a complex political, social, and security environment, and the final evaluation acknowledges the effort and dedication of its staff in balancing the objectives of multiple stakeholders. The program was very successful in improving the lives of rural communities through increasing security and productivity, by reducing the cost of lighting, and by improving access to potable water. However, the way USAID set up the key performance indicators and its requirement for "intensification of electrification through commercialization based on Philippine DOE strategy" in a compressed timeline led to a focus on numbers installed rather than quality and sustainability.

Source: See USAID's Development Experience Clearinghouse at https://dec.usaid.gov/dec/home/Default.aspx for full evaluation reports.

CONTACTS

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