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CHANGES IN ENERGY SECTOR FINANCING DURING COVID-19

Lessons from the Ebola outbreak in Sierra Leone

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ABSTRACT

The COVID-19 pandemic is a stark reminder of the fragility of healthcare systems, which in many countries are marred by a lack of reliable electricity access that is necessary to deliver basic medical services. Past health crises offer important insights to ensure that strategies and actions that follow the first wave of economic and social measures deployed in response to crises focus on increasing the future resilience of healthcare systems.

This brief provides an analysis of international finance commitments and disbursements to Sierra Leone — one of the countries worst affected by the 2014–2016 Ebola outbreak. It finds that, despite the importance of the energy sector in the context of a pandemic, energy investments during and post-Ebola declined sharply. This situation was worsened by previously committed financing to energy sector projects being cancelled, stalled or redirected to other priorities that arose from the Ebola crisis.

To avoid the repeat of such a situation following the COVID-19 pandemic, it is important to realize that the two most interlinked Sustainable Development Goals (SDGs) — SDG7 and SDG3 — cannot be achieved without strategic planning and coordination among donors, development finance institutions (DFIs) and national government departments. All of these groups must understand the interlinkages between the health and energy sectors. They need to support and scale public-private initiatives that focus on new and innovative business models and increase renewable energy investment to ensure sustained economic recovery while achieving the SDGs.

INTRODUCTION

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Each health crisis the world has faced over the past decade has resulted in various adverse economic, social and geopolitical impacts. The unprecedented global reach of COVID-19 and the limited understanding of its full impact affects countries' ability to effectively respond. Looking at the responses of donors and national governments to earlier health crises such as the Ebola outbreak of 2014–16 in West Africa can offer important insights to inform the current response to COVID-19.

This is important in the context of SDGs related to universal healthcare (SDG3) and universal energy access (SDG7) as a lack of reliable electricity access severely hampers a country's healthcare responses at the best of times, let alone during a crisis. Uninterrupted electricity supply is imperative to operating diagnostic and lifesaving health equipment for disease surveillance, for vaccine refrigeration, and to provide virtual medical services, among other uses.

Around 70 percent of the medical equipment in developing countries is not functional, primarily due to inadequate power supply (WHO 2010). Further, 10–50[1] percent of vaccinations are wasted due to ineffective refrigeration and immunization practices (WHO 2019). A study of 46 low- and middle-income countries reported that 59 percent of their healthcare facilities (out of 121,381 facilities) lacked access to reliable electricity (Cronk and Bartram 2018).

This brief analyzes how official development assistance (ODA) commitments and disbursements to Sierra Leone changed before and after the Ebola outbreak, and the subsequent impact on energy sector investment in-country, to inform the world's response to the current COVID-19 crisis.

Past health crises can offer important insights to ensure that the international response to COVID-19 does not focus solely on short-term priorities without a coordinated effort to increase the *future resilience* of all healthcare systems.

Prior to COVID-19, the 2014–2016 Ebola outbreak in West Africa was one of the largest health crises in modern history, with over 28,000 cases and 11,000 deaths recorded (WHO 2016). Sierra Leone, along with Liberia and Guinea, was one of the worst affected countries, with more than 4,000 deaths. While Sierra Leone was declared Ebola-free in March 2016, the health crisis had long-lasting implications for the country's economy, which witnessed a 20 percent GDP decline in 2015 from 2014, followed by a post-Ebola GDP growth rate of 4.5 percent from 2016 to 2018, compared to 11.8 percent before the outbreak (2010–2013).

[1] These wastage ranges vary depending on the immunization session size, vaccine presentation and supply chain infrastructure of a country.

It is difficult to precisely quantify the economic impact of COVID-19 due to ongoing uncertainties about if and when the pandemic will be contained. However, at the time of writing the global economy is expected to contract by 5.2 percent in 2020, with most countries plunging into recession (World Bank 2020) and global poverty estimated to increase to half a billion people (Sumner et al 2020). In response, some countries have implemented fiscal and monetary measures that differ in breadth and scope. However, several developing countries with limited monetary and fiscal bandwidth are seeking external assistance. For example, Sierra Leone has received USD 143 million under the International Monetary Fund's Rapid Credit Facility to support its monetary and fiscal needs in response to COVID-19, as well as a USD 7.5 million International Development Association (IDA) grant to strengthen its health systems.

Section II of this brief provides a brief country context and analysis of the shifting priorities of different capital providers to Sierra Leone, pre- and post-Ebola. Section III summarizes learnings and best practices and provides recommendations to Sierra Leone for its COVID-19 response.

SIERRA LEONE

International funding trends pre- and post-Ebola

2

A. COUNTRY CONTEXT

Sierra Leone successfully transitioned to a democracy after a decade-long civil war between 1996 and 2007 but remains one of the world's poorest countries, ranking 181 out of the 189 countries and territories tracked in the UNDP's Human Development Index (UNDP 2019). Sierra Leone also has one of the lowest electricity access rates in the world: 10 percent in urban regions and under 2 percent in rural areas. The country's energy mix is heavily dependent on oil and diesel-generated power. For instance, 35,000 diesel generators are currently used to generate 180MW across the country, which is nearly double the grid-connected capacity (Hankins 2017). Despite more than 97 percent of the rural population using solar lanterns and batteries, the off-grid sector remains largely untapped and underdeveloped. Power generation capacity is lower[2] than in most other low-income countries, due to the non-creditworthiness of the national power utility and underinvestment in the electricity sector. This is exacerbated by weak governance, corruption, and infrastructure deficits in energy and technology, which further curtail private sector investment (World Bank 2020a).

Sierra Leone was one of the West African countries worst affected by the 2014–2016 Ebola outbreak. This has had a long-lasting impact on the country's economy, which reversed its pre-Ebola momentum. Ebola also slowed Sierra Leone's effort to achieve the Sustainable Development Goals, including SDG7.

The Ebola outbreak exacerbated Sierra Leone's pre-existing energy sector difficulties as many planned energy projects suffered implementation delays and investors relied on *force majeure*[3] clauses in their funding agreements. This not only delayed planned energy projects, but also slowed the policy and regulatory reform process necessary to stimulate further investment. For instance, while the World Bank Group (WBG) continued to support development assistance programmes in Sierra Leone during and after the Ebola outbreak, the WBG's Country Assistance Strategy (CAS)[4], which ended in 2013, was not followed with a Country Partnership Framework (CPF) until 2020. This delay was primarily attributed to the Ebola outbreak and other subsequent events, including an iron ore price collapse (2015–2016) and the Freetown landslide disaster (2017) (World Bank 2020a).

In the absence of long-term strategic planning, a country's responses to any health crisis can be too narrowly focused, emphasizing only immediate and medium-term actions. This in turn threatens to reverse previous economic and social gains. Several studies have acknowledged that the local, national and international response to Ebola in Sierra Leone lacked both a definitive risk assessment and effective leadership. Development partners were also perceived to be ambivalent in their initial responses (ODI and HPG 2015). With a lack of any joint information systems, coordination was driven largely by events on the ground, and political and donor will (Chatham House 2017), rather than strategic planning.

Such short-term actions, while responsive to an emergency, are not a substitute for long-term integrated plans that focus on enabling factors, like energy access, to ensure healthcare systems are fit to deliver not only business-as-usual services, but better responses to future crises.

[2] The World Bank does not provide actual estimates of power generation in Sierra Leone.
[3] Force majeure refers to a contractual principle whereby a party is not liable for its failure to perform an obligation where this failure has been caused by the occurrence of exceptional events outside that party's control (Eversheds 2014).
[4] The Country Partnership Framework (CPF), which replaced the Country Assistance Strategy (CAS), is a strategic document used for reviewing and guiding the WBG's programmes in a country and gauging their effectiveness.

B. KEY TRENDS IN ODA[5] COMMITMENTS AND DISBURSEMENTS TO SIERRA LEONE PRE- AND POST-EBOLA

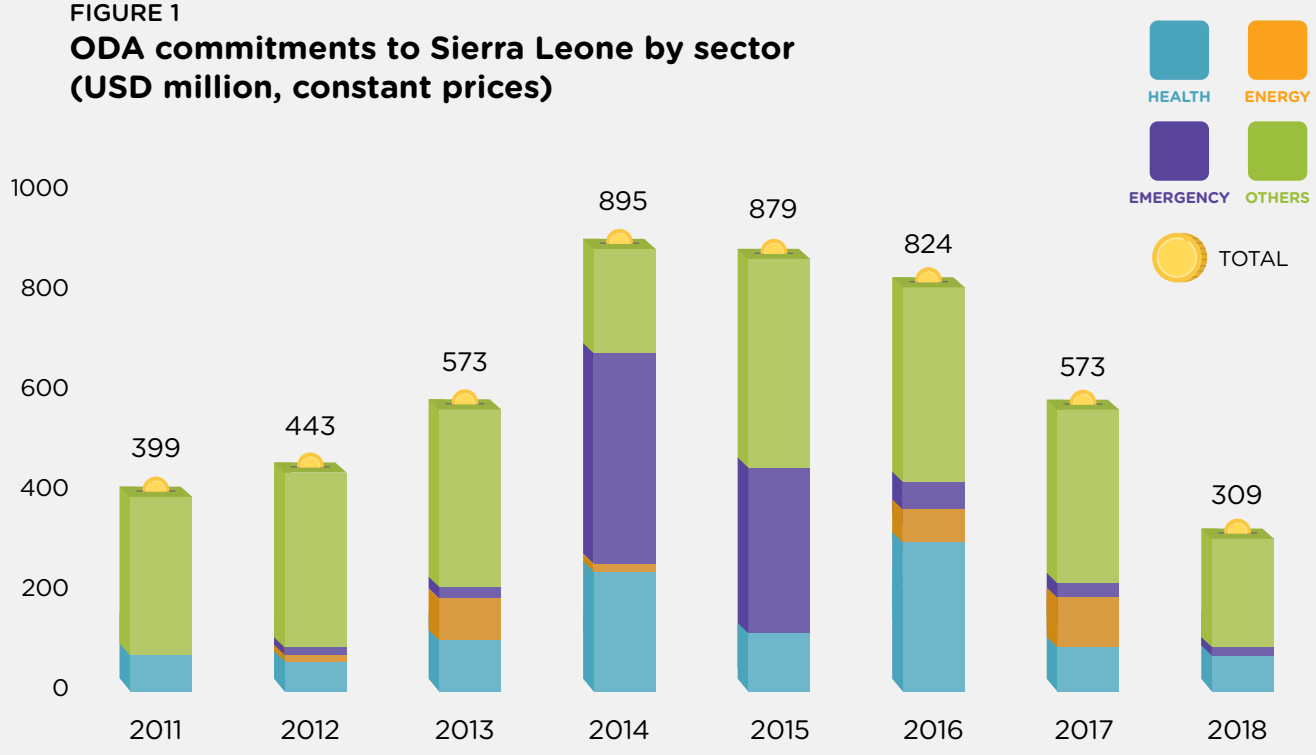
This section provides a comparative analysis of ODA commitments and disbursements to Sierra Leone before and after the Ebola outbreak by providers and key sectors, to inform donors' and DFIs' responses to the current COVID-19 crisis.

1 Short-term financing to the healthcare sector and emergency response was prioritized without a long-term focus on increasing resiliency to future crises. Total ODA commitments to Sierra Leone peaked between 2014 and 2016 (Figure 1) in response to the health crisis but declined thereafter. Health sector-related projects and emergency response accounted for more than 75 percent of total ODA commitments in 2014, while averaging 46 percent in 2015 and 2016. A similar trend was observed in Liberia and Guinea, the other two West African countries worst affected by Ebola, where ODA financing either declined or stagnated post-Ebola.

Despite the importance of the energy sector in a pandemic, and to economic development overall, energy-related ODA commitments accounted for an average of only 5 percent of total ODA commitments to Sierra Leone between 2011 and 2018. In this period, a total of USD 175.8 million[6] (or USD 44 million per annum) was committed to projects that target energy generation and distribution, and to sectoral reforms. This falls short of the USD 117-140 million per annum needed to address the country's renewable energy and electricity access needs by 2030 (SEforALL 2015).

Most of this ODA was provided by the African Development Bank, the Millennium Challenge Corporation (US), the WBG, and the UK Department for International Development (DFID). Several funded projects targeted increased energy access to remote rural communities, which would have also benefitted hospitals and health clinics. DFID's rural electrification programme in Sierra Leone[7], valued at USD 34 million, electrified 53 Community Health Centres (CHCs) with standalone solar systems in 2017. These CHC sites were converted into mini-grids providing power to

FIGURE 1
ODA commitments to Sierra Leone by sector (USD million, constant prices)



Source: OECD's Creditor Reporting System (CRS): https://stats.oecd.org/Index.aspx?DataSetCode=CRS1

[5] Due to data limitations on private investments and public domestic expenditure, this brief mainly explores the trend in ODA commitments to Sierra Leone, pre- and post the outbreak of Ebola.
[6] International Finance Corporation.
[7] Implemented by the United Nations Office for Project Services (UNOPS).

surrounding communities in 2018. Only two[8] other projects, amounting to USD 0.3 million, were identified to specifically target improving the electricity supply to a hospital or health clinic in Sierra Leone. A few stopgap measures, such as the 'Solar Suitcase'[9] or diesel generator sets, were also deployed to rural areas during the Ebola crisis in the absence of a reliable off-grid sector.

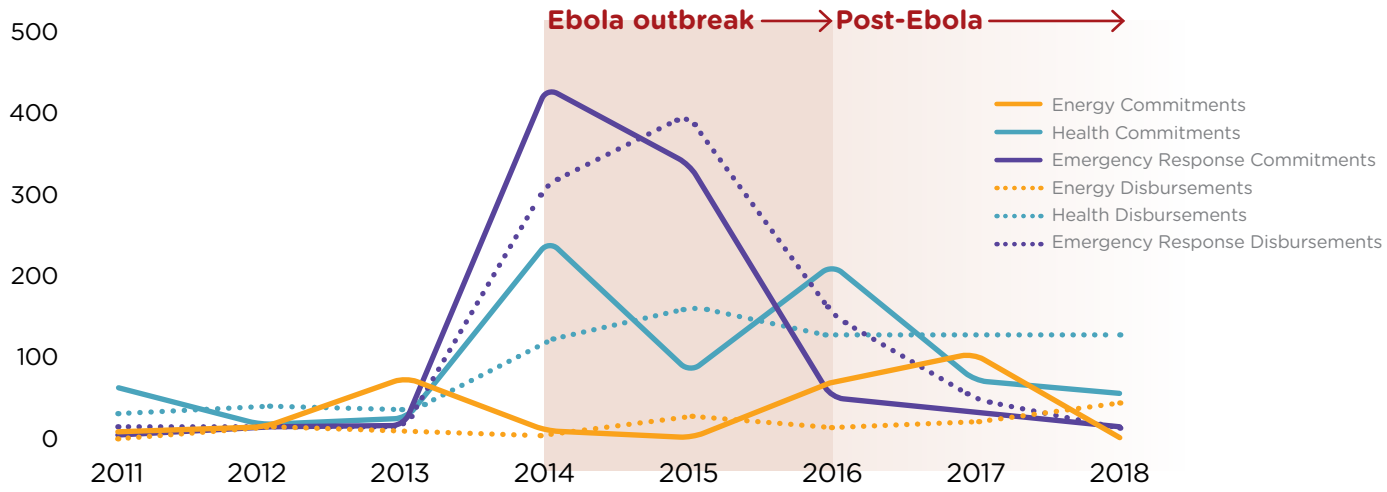
Systematic investment in transmission and distribution infrastructure, energy storage capabilities, and on- and off-grid renewable energy systems is needed to ensure a reliable electricity supply to hospitals and health centres. This would have ensured not only a better response in Sierra Leone during the Ebola outbreak, but would also have increased the resilience of its healthcare systems to future health crises.

> **International funding for energy sector projects in Sierra Leone declined sharply during and after Ebola, despite energy's paramount role in delivering essential healthcare services during and after a health crisis.**

2 Slowdown in actual disbursement to energy sector projects compared to other sectors. Previously committed financing to energy sector projects and several other sectors was either cancelled or stalled, or funds were redirected to prioritize the response to Ebola (ODI 2017). Post-2015, the gap between finance commitments and actual disbursements for energy projects increased, with average disbursements amounting to only one fifth of total commitments. Meanwhile, disbursements to projects targeting the health sector, including emergency relief and rehabilitation activities, remained, on average, 1.5 to 2 times higher than commitments over the same period.

The implementation of energy projects in rural areas of Sierra Leone was adversely affected by Ebola-related quarantine. For example, a USD 16 million project funded by the World Bank and DFID under the 'Sierra Leone Infrastructure Development Fund' suffered severe implementation delays. One of the project's key components was to increase access to electricity in selected rural areas with a target of installing solar home-lighting systems in 450 rural health centres, and solar direct-drive refrigerator systems in 150 rural health centres. However, the Ebola outbreak made rural areas inaccessible, resulting in cancellation of the project's

FIGURE 2
ODA commitments and disbursement to Sierra Leone by sector (USD million, constant prices)



[8] Based on the project descriptions provided in OECD data and by the German and Spanish governments.
[9] These are portable power units to power lighting, mobile communication, laptops and small medical devices developed by We Care Solar (https://wecaresolar.org/).

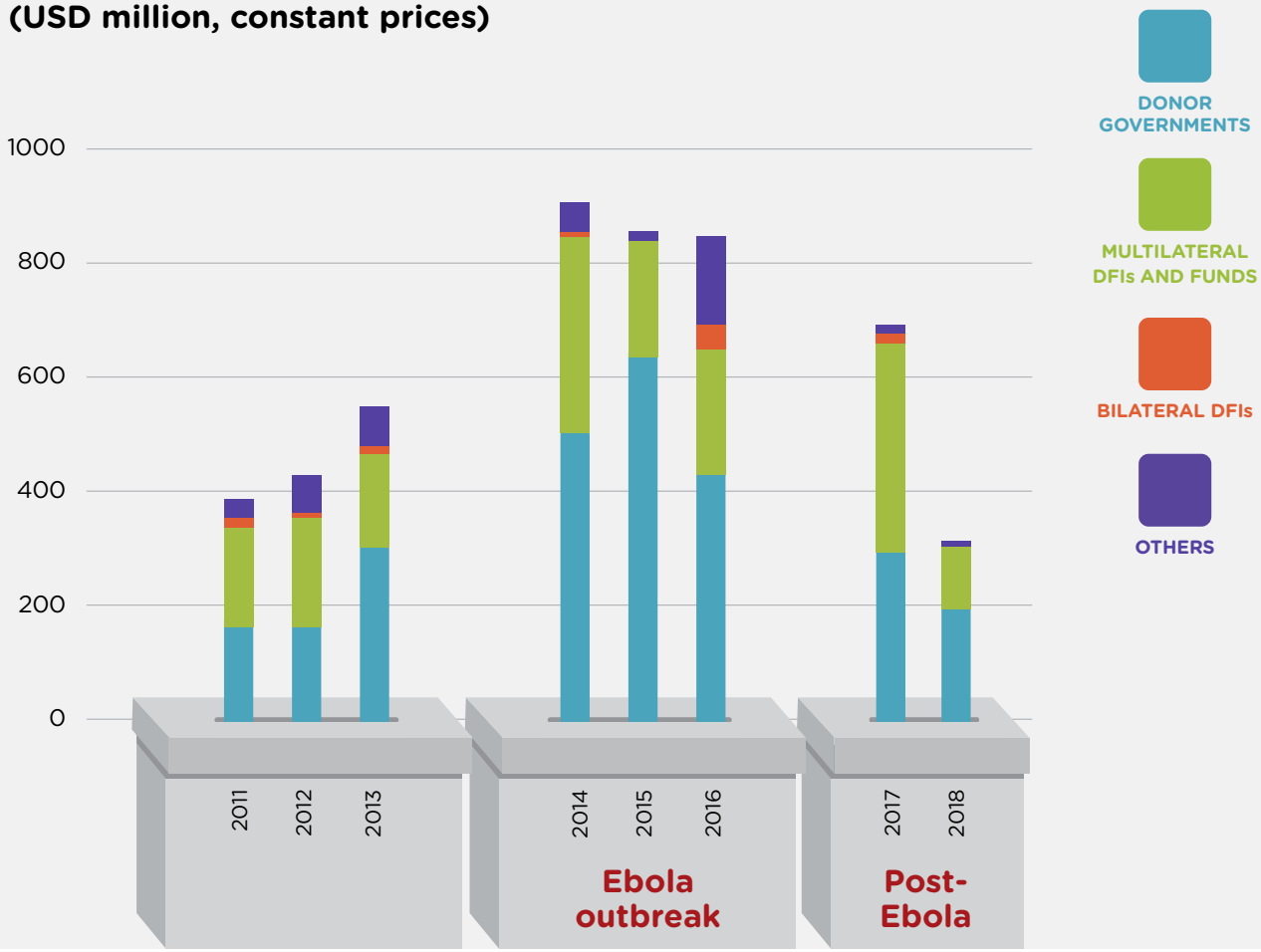
planned rural electrification activities. In lieu of these, DFID initiated a more comprehensive rural electrification intervention through its 'Rural Electrification in Sierra Leone' programme. Many other infrastructure projects, including energy projects, may not have benefitted from a similar follow-up action at the scale needed to build up access and resilience for the future (WHO 2015).

3 International development funding declined across all providers after the Ebola outbreak. Commitments from donor governments and bilateral and multilateral DFIs declined significantly after the Ebola outbreak peaked in 2015 (Figure 3). While global ODA financing declined slightly in 2017 and 2018, Sierra Leone witnessed an average annual decline in ODA commitments of 28 percent post-Ebola (2016 to 2018) — the largest decline among other low-income African economies. After redirecting their finance to meet immediate health sector needs in response to Ebola, DFIs should have reset their medium- and long-term priorities towards continued improvement of healthcare systems by provision of essential services like electricity. This should have been, but was not, accompanied by an increase in their overall funding commitments.

This is surprising and unfortunate, as ODA is shown to be a stable external resource for least-developed countries that is underpinned by political will and global solidarity (OECD 2020). And Sierra Leone — a country hit by three crises simultaneously from 2014–2017 in addition to uncertainty — needed much more international funding from donors than it received.

FIGURE 3

ODA commitments to Sierra Leone by donor type (USD million, constant prices)



LESSONS FROM THE EBOLA OUTBREAK IN SIERRA LEONE TO INFORM ITS COVID-19 RESPONSE

3

Sierra Leone is quite possibly on the brink of another health and socioeconomic disaster with COVID-19 (IMF 2020), the extent of which is uncertain. The international community's immediate response to Ebola was to increase funding for emergency and relief activities without a coordinated effort to fund energy sector infrastructure that could underpin a robust and responsive healthcare system. As observed in Section II, a health crisis often leads to development financiers reprioritizing their funding activities and this can have serious long-term implications for other sectors from which funding is reduced or withdrawn, such as the energy sector. Based on these past trends, this brief suggests changes to how the international financial community responds to COVID-19.

While the following recommendations are based on observations and experiences in Sierra Leone, they are broadly relevant to other developing economies (Figure 4).

1 **There is a need to overcome siloed approaches to planning energy and health sector investment to boost the resiliency of healthcare systems.** A key learning from the Ebola response is not to adopt a siloed approach to planning investments in the electricity and healthcare sectors. It is important to better understand the interlinkages, synergies and trade-offs between different sectoral projects and their impact on achieving multiple SDGs, including SDG3 and SDG7. Co-benefits across sectors must be evaluated; for example, the critical role of grid-connected and off-grid energy sector investments to increase electrification of rural households and health centres. Such a long-term programmatic approach will be key to helping countries recover from current crises while equipping them to better handle future ones.

There is a need to integrate these considerations into current planning processes to target both short-term economic recovery and long-term structural change. This is especially true when DFIs are grappling to realign their portfolios in the face of multiple, immediate priorities such as healthcare, employment generation and economic sustainability. For example, the Asian Infrastructure Investment Bank (AIIB), which in the past focused mainly on energy and transportation projects, is now supporting social infrastructure[10] projects focused on healthcare.

Similarly, the national recovery plans of developed countries should include and evaluate the impact — spillovers and spillbacks — of their actions on developing countries, while they find the correct balance between their national priorities and ODA priorities. While OECD Development Assistance Committee (DAC) members, through a joint statement, stated their priority is to fund healthcare systems and social safety nets (OECD 2020a), it is important that they do not lose sight of other SDGs to ensure that any response consists of rescue, recovery and transformation.

2 **Increased cooperation between public and private actors.** Due to COVID-19, private actors in the energy sector continue to face varying degrees of demand and supply shocks, raising concerns about their business continuity and growth prospects[11]. With funding from several sources drying up as market conditions worsen, investors are likely to become more risk-averse and adopt a wait-and-watch approach, limiting new investments and the push to universal energy access. To address these issues, donors and DFIs should not only consider expanding their engagements in vulnerable countries, such as Sierra Leone, but also increase the de-risking of

[10] The AIIB has recently approved a USD 355 million emergency health project for China and is planning similar social infrastructure investments in other member states, e.g. India and Indonesia.
[11] For instance, solar home system and mini-grid companies are expected to lose 27 percent and 40 percent of their revenues, respectively (SEforALL April 2020), with 70 percent of the off-grid companies having cash to cover only two months or less of their operating expenses.

private investments through various blended concessional finance solutions, including partial risk guarantees and credit enhancements.

Within the context of cooperation between public and private actors, while the world manages the current crisis, it is important not to lose sight of long-term recovery. A case in point is 'ReGrow West Africa – Sierra Leone', an ongoing public-private partnership[12] established to promote post-Ebola economic recovery in Sierra Leone. Since the Ebola outbreak ended, the partnership has provided technical and financial support to over 30 local small and medium-sized enterprises and promoted Sierra Leonean enterprises to global impact investors. Similar integrated energy and healthcare initiatives, country and/or regionally focused, should be underway to mobilize private sector participation and finance in response to COVID-19.

However, the private sector also needs to play an active role beyond being solely a recipient of government and financial stimulus, otherwise COVID-19 recovery may not be guaranteed. For example, in 2014 the 'Ebola Private Sector Mobilisation Group' (EPSMG) was established. Comprised of over 48 private sector companies with major operations in West Africa, EPSMG provided support to affected countries through donations, deploying equipment and personnel, and advocacy.

Furthermore, a steady mix of "shovel ready" energy projects that combine SDG7 with healthcare needs and economic recovery, new business models, and innovative financing approaches are all needed. For instance, in response to COVID-19, Nigeria's Rural Electrification Agency, with help from private companies, installed several solar hybrid power plants in Nigerian healthcare centres in the space of two weeks (Afrik21 2020). Also, initiatives like Africa50, an energy and transport sector focused infrastructure fund, developed by the African Development Bank in 2012, could be adapted and/or expanded to projects addressing electricity needs in the healthcare sector. Innovative financing models focused on digital technologies, like smart meters, remote management, and geospatial sensing and battery storage systems, among others, can also help deliver energy access in this rapidly changing landscape.

There is a clear need to better understand the interlinkages, synergies, and trade-offs between various sectoral projects, especially in the health and energy sectors.

3 **Investments by national governments in renewable energy can be instrumental in achieving three objectives: economic recovery, climate action and SDG7.** Sierra Leone, like many developing countries, does not have the fiscal and monetary strength to counteract the negative economic and social consequences of COVID-19. The country is currently spending on emergency relief measures and foregoing revenues in tax cancellations/rebates, leading to a precarious fiscal balance with limited or no foreseeable revenue stream. This occurs against the backdrop of a stable but shallow domestic banking system. In fact, it is estimated that Sierra Leone's real GDP growth will decline by 7 percent compared to 2018, to -3.1 percent in 2019 (IMF 2020).

Sierra Leone, with limited domestic funding resources, should consider investing a certain percentage of available resources in renewable energy, particularly decentralized solutions, and to develop upstream capacity to manufacture or assemble energy equipment locally (SEforALL 2020).

Renewable energy investments, which are an effective means of job creation and economic stimulus, will help the country in several ways, including:

- Tackling recession in both the short and long term (Hepburn et al 2020)
- Assisting in its National Determined Contributions (NDCs), as agreed to under the Paris Agreement
- Ensuring reliable electricity to the residential sector and to critical public services, including hospitals and healthcare centres

12 The initial partnership was between RESOLVE, USAID and Chevron (SL) Ltd.

Equally important is the role of local governments to accelerate the deployment of energy sector projects and decentralized renewable energy solutions to ensure efficient use of limited public funds. This level of government can better understand the pulse of the local populace, especially in these challenging times, to encourage innovative business models and instruments for entrepreneurs, community-based initiatives and municipalities.

4 **Comprehensive data collection initiatives to identify gaps and financing opportunities.** A lack of systematic reporting, including inconsistent and unreliable data, was reported as one of the key reasons for the initial slow response to Ebola in Sierra Leone (Chatham House 2017). In fact, there is limited or no information available on the number of hospitals and clinics with or without electricity, or current sources of power, in several developing countries. For instance, only 14 developing countries globally have nationally representative data available on energy access in healthcare facilities (WHO 2020). Also, very few estimates exist that quantify the cascading impact of electricity access on improved health outcomes and resilient health systems and other sectors, co-benefits to other SDGs, and overall socioeconomic development.

The availability of such basic impact assessments is key to identifying the magnitude of gaps and preparedness opportunities, and to prioritizing international funding accordingly during a crisis. These considerations are relevant to informing longer term, integrated national development plans. There is a clear need for a collective effort to gather, report and harmonize such information to allow for evidence-based policymaking and financing decisions.

FIGURE 4

Recommendations based on past health crises to inform energy sector responses to COVID-19

Overcome siloed approaches while planning investments in energy and health to build resiliency to future pandemics (DFI and donor governments)	• Not lose sight of medium- and long-term priorities, like SDGs, while addressing immediate priorities. • Understand the importance of the energy sector to healthcare responses and deploy an integrated approach to planning, structuring and financing investments in these and other sectors. • Incorporate the effects of spillovers and spillbacks on developing economies. • Expand engagements in vulnerable countries; private investments must be de-risked through various blended finance solutions.
Increased renewable energy investment to ensure economic recovery, climate action and SDG7 (national governments)	• Invest certain fixed percentage of stimulus budgets to renewable energy projects for economic recovery and job creation, to achieve NDCs and SDGs. • Leverage local governments to deploy energy and other infrastructure projects.
Increased private and public sector initiatives	• Maximize cooperation between private and public sectors to finance and support immediate needs and post-COVID-19 recovery. • Create a steady pipeline of "shovel ready" energy projects, and new business models, and pursue innovative financing solutions that link healthcare and energy sector needs. • Launch comprehensive, joint data collection efforts by various public and private stakeholders to identify financing gaps and opportunities to ensure an effective response to any future pandemics.

CONCLUSIONS

Financing to achieve energy access in 16 high-impact[13] African countries was around USD 4 billion (SEforALL 2020a — forthcoming) in 2018 compared to the required investment need of USD 21 billion per year (OECD 2019) to reach universal energy access by 2030. The impact of COVID-19 is expected to widen this gap if the world fails to see the bigger picture and learn from mistakes made during previous crises, such as the Ebola outbreak. The scale and impact of COVID-19 is unprecedented in its global reach — with both developed and developing economies affected. This makes developing countries such as Sierra Leone particularly vulnerable as, in contrast to developed countries, they typically have limited fiscal and monetary bandwidth.

It is important to acknowledge that COVID-19 will not be the last health crisis the world faces. Therefore, it is imperative that we learn from past crises and adopt a well-calibrated approach to build both secure, sustainable and resilient energy and healthcare systems in the future.

While the immediate need is for international donors, national governments and DFIs to concentrate and prioritize efforts to tackle the spread of COVID-19 and deploy emergency relief measures, they must not lose sight of efforts to meet the SDGs. Siloed thinking must be overcome to ensure that there is a range of sophisticated tools and a portfolio of mechanisms in place that are as efficient and effective as possible. This will require unprecedented collaboration across sectors and among diverse stakeholders to align all financing in response to COVID-19 while leaving no one behind.

[13] High-impact countries refer to countries with the highest energy access deficits and include Angola, Burkina Faso, Congo, DR, Ethiopia, Kenya, Korea, DPR, Madagascar, Malawi, Mozambique, Niger, Nigeria, Sudan, Tanzania and Uganda.

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