



# LINKING ELECTRICITY ACCESS AND DEVELOPMENT OUTCOMES IN AFRICA: A FRAMEWORK FOR ACTION

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## EXECUTIVE SUMMARY

### Highlights

- In this decade of action for delivering the Sustainable Development Goals (SDGs), the ability of African governments to meet ambitious goals in poverty reduction, health care delivery, education, and other services that depend on access to electricity will be severely compromised if adequate action is not taken to ensure that affordable and reliable supplies of electricity are available to power critical development services.
- Electricity service delivery, in turn, requires sustained demand from development sectors to thrive. Despite these interdependencies, electricity and development sector goals in Africa are largely pursued in isolation from one another.
- Emerging interest in “nexus issues” on both local and global levels, the growing acceptance of decentralized energy technologies for electricity access, increasing domestic finance and the ongoing data revolution, among others, are creating new and exciting opportunities for us to better link energy and development efforts.
- This paper proposes a framework that energy and development sector actors, specifically, African governments (their line ministries, lead energy agencies, and local governments), the international development community, private sector, and civil society can rally around to collectively shape a linked energy and development agenda to facilitate the attainment of the SDGs.

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- A supportive ecosystem for a linked agenda will require global ambition and engagement, evidence building on local levels, policy and institutional alignment on national levels, and the restructuring of development finance.

## Background

The SDGs and their focus on nexus issues have revitalized the interest of African governments and the broader development community in the interconnectedness of the various strands of development. Among several important dialogues that are emerging is renewed interest in the role of electricity in facilitating the delivery of outcomes in health, education, agriculture, poverty reduction, and other development sectors. Vaccine storage, the use of electronic teaching aids in classrooms, and water pumping for irrigation and agricultural processing all depend on energy to varying extents. But in sub-Saharan Africa, electricity to power critical development services is limited. A study of health care facilities in the 10 most populous countries in the subregion found that one in every four health care facilities lacked access to electricity, and almost three quarters of all health care facilities with electricity connections grappled with unreliable supply (Adair-Rohani et al. 2013). Meanwhile, electricity access targets and goals continue to lag in sub-Saharan Africa. Despite recent gains in global electricity access rates, it is estimated that there will still be some 620 million people without access to electricity by 2030; 85 percent of them will be sub-Saharan Africans (IEA et al. 2020). If urgent action is not taken to close the current gap, African governments will be unable to deliver on development outcomes that depend on electricity.

Despite the interdependencies between electricity access and the delivery of critical development services, African governments and the larger international development community have pursued electricity access and development sector goals in isolation from one another, missing important opportunities for exploiting the synergies among them. As we work to deliver ambitious targets for poverty reduction, health, education, gender equality, and other goals by 2030, the time is ripe to explore practical pathways for linking electricity access and development sector priorities.

## About This Working Paper

This paper explores some actions that energy and development sector actors—specifically, African governments (their line ministries, lead energy agencies and local governments), the international development community, the private sector, and civil society can take

to facilitate a linked energy and development agenda that can support the delivery of the SDGs. The vision for this paper was born at a multistakeholder workshop hosted by the World Resources Institute (WRI) and its local partner, the Tanzania Traditional Energy Development Organization, in Tanzania in October 2018. The workshop brought together stakeholders in government, the private sector, and civil society to explore the opportunities and challenges of scaling productive and social uses of energy for development in Tanzania. Building on the lessons from the workshop, this paper deploys a rigorous review of literature, examples, and expert views to propose a framework that can guide the target audience to collectively build an ecosystem that can support a linked energy and development vision in Africa. The paper can be used by the target audience to guide discussions and identify existing gaps and potential areas of intervention that can facilitate coordinated action across energy and other development sectors.

The paper draws on two concepts, scale and character, to support the argument that integrated action across energy and other development sectors will require an ecosystem comprising a mix of structural-institutional and operational efforts that span global, national, and subnational levels. The scale of cross-sectoral action can be global, national, or subnational. The global scale is important for building awareness and momentum for action. For example, by articulating a blueprint for building a better and sustainable future for all by 2030, the SDGs have galvanized action on national levels. Several African governments are now working to mainstream the SDGs into their development plans. But action on the global scale alone is not enough. Energy-development linkages are most concretely experienced at the national and subnational levels where the delivery of development services occurs and where planning and implementation of energy initiatives take place. At these levels, the issues at stake typically relate to coordinating action among actors with competing priorities and divergent views about how development priorities must be pursued, in addition to resource, capacity, and other technical constraints.

The character of cross-sectoral efforts refers to the substance of these efforts, which may be structural-institutional or operational (Masse and Watchueng 2010). Structural-institutional initiatives entail the design of harmonized policies as well as institutional, regulatory, and legislative frameworks to support integrated energy and development efforts. Operational initiatives, on the

other hand, involve on-the-ground implementation of initiatives that are cross-sectoral in nature, such as a rural electrification programs designed specifically with the promotion of productive activities in mind (Masse and Watchueng 2010).

The interplay of structural-institutional and operational initiatives across the difference levels of governance—global, national, and subnational—shapes the ecosystem needed to establish a linked energy and development agenda.

The paper identifies four elements of such an ecosystem:

- **Global ambition and engagement:** A linked energy and development agenda will require effective global action. The COVID-19 pandemic has revealed how interconnected our world is and how seemingly local issues, such as the lack of electricity access, can limit our resilience to global crises when they do arise. Galvanizing support for a linked agenda on the global level is important for building awareness, sharing lessons across countries, and expanding the set of actors beyond the traditional actors (who may be dependent on governments alone to act) to include the private sector and civil society.
- **Evidence-building on local levels:** The lack of data and evidence on the cross-sectoral dimensions of energy and development efforts in Africa inhibits integrated action. The subnational level, where the delivery of energy and development services occurs, and where impacts are felt, is an important space for building data, evidence, and knowledge regarding what it means to develop integrated energy and development initiatives in practice, as well as the enabling factors that can facilitate such efforts at scale.
- **Policy and institutional alignment on national levels:** At the national level, global ambition and local evidence can collectively shape policies and institutional arrangements that facilitate better linkages between energy and other development goals. In Africa, government agencies draw largely on sector-specific data to shape national policies and development plans, resulting in outputs that reinforce sectoral distinctions, rather than integrated action. Integrated action is further hindered by the very structure of government agencies in Africa where decisions relating to the allocation of resources and incentives, as well as mechanisms for accountability, are enforced through line ministries. This creates competition rather than collaboration

among line ministries. However, the ongoing data revolution offers significant opportunities for national governments to draw on data and analytic tools that can inform plans and policies that take into account the interdependencies between energy and other sectoral outcomes. These, in turn, can inform decisions on the allocation resources and incentives to encourage coordination around cross-sectoral outcomes.

- **Restructured development finance:** The fourth element of an ecosystem that can support a linked vision is the structure of development finance. Since 2012, official development finance (ODF) in Africa has grown both in volume of investments and in the diversity of the actors contributing to the finance stream (with greater domestic and private-sector investment in development activities). According to a recent OECD report (OECD 2018), development finance currently follows a sector and project-specific trajectory, limiting opportunities for cross-sectoral action. The good news is that domestic finance is growing in Africa and gradually reducing the dependence on foreign aid. In 2010, sub-Saharan African countries raised US\$10 for every \$1 of foreign aid received (UNDP 2018). This increase in the volume and diversity of finance options is creating opportunities for African governments to restructure their national budgets to support cross-sectoral planning and implementation. Likewise, development partners will have to reorient their support from the current sectoral division of labor to a more integrated approach.

## Policy Recommendations

Building on these four elements, we recommend four broad areas of action that will be needed to drive change.

**Link data to action.** Local data and evidence can only shape national and global action if we have strategic actors in place to catalyze change using the data and analysis at hand. As we aggregate local data and lessons, we must enlist the help of actors without hidden interests and agendas who can help to bridge the traditional divides among the key development sectors at all governance levels. Local policy research institutions and academic institutions can partner with credible civil society organizations to coordinate innovative action across sectors. In African institutions of higher learning, we must invest in training experts to embrace and apply transdisciplinary approaches to problem solving that reach beyond traditional sectoral boundaries.

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While encouraging cross-sectoral data collection and planning at the national level, we must also ensure that the right experts are embedded in line ministries to translate cross-sectoral data into integrated action. For instance, by embedding experts from lead energy agencies in line ministries, the unique energy needs and priorities of these ministries will be captured in national energy plans and electrification strategies and vice versa.

**Build strategic partnerships.** Globally, there has been a push by African governments and multilateral and bilateral partners to engage the private sector in development operations. Private finance is expected to grow as ideas for commercial development approaches become more popular (OECD 2018). However, the private sector tends to focus on a small subset of commercially viable sectors like energy, leaving the public sector to support commercially less attractive social sectors. As we gain more insights into the mutually reinforcing nature of energy and the other development sectors, we have come to understand that the viability of the private sector's investments in energy is dependent on the existence of significant demand from other sectors (Taneja 2018) such as health, agriculture, and other productive activities. This understanding can provide a new impetus for the private sector to partner with the public sector in stimulating demand from social and other productive sectors for their energy investments.

Another important partnership in driving a linked agenda is multistakeholder partnerships. In Africa, several line ministries consult with multistakeholder groups when developing their sectoral plans. We can leverage multistakeholder partnerships and use these same consultative platforms to advocate for better linkages between energy and other development sectors.

**Build local capacity.** As countries across Africa shift to decentralized governance structures, local governments will play a key role in development planning and service delivery. At the same time, electricity service delivery is becoming more local in some contexts as distributed electricity options like mini-grids and solar home systems gain acceptance. These shifts create opportunities to

integrate energy and development efforts at the local level and to build data and on-the-ground evidence of what is needed for success. However, most local governments in Africa are under-resourced and lack the technical and financial capacity to develop and implement plans that take the links between energy and development into account. Embedding energy personnel in local governance structures to streamline energy into local development plans will be important. National governments and the development community must invest in strengthening local institutions through improved governance and transparency, equity in the allocation of funds, and improved capacity to generate revenue locally. This must be complemented by efforts to make bureaucratic local government structures more efficient through adequate restructuring, empowerment, and providing the right incentives. Establishing clear pathways for communicating local evidence and knowledge to the higher governance levels (national and global) is extremely important; otherwise, local knowledge stays local

**Rethink the indicators of success.** As domestic development finance in Africa grows, countries must lead in defining development trajectories that take the linkages between energy and development into account. Integrated national development plans must be complemented by modifications in internal budgetary decisions and institutional structures for incentives and accountability to encourage cross-sectoral outcomes. This can prod line ministries along the line of greater coordination, rather than competition. Development partners can also plug into these integrated national plans. This will urge development finance away from sector- and project-specific efforts to more outcome-based efforts. Likewise, development partners who prefer quantifiable and time-bound, sector-specific impacts will have to accommodate cross-sectoral outcome-based metrics, some of which will require multiple and sometimes long timelines to show impact. This will encourage these partners to draw on the complementarities among their respective development activities within a country to drive the systemic change needed to build prosperous societies in Africa.

## ENERGY AND DEVELOPMENT

### Key Takeaways

- In Africa, energy's role in driving development outcomes has been recognized since post-colonial times. Despite this appreciation of the linkages between energy and other development outcomes, significant gaps remain in coordinating the energy and development sectors around mutual outcomes. Energy is continually viewed as an external input, rather than an integral aspect of other sectoral strategies.
- In order to achieve the SDGs by 2030, more coordinated efforts are needed to integrate energy and other sectoral goals.
- This paper proposes a framework that energy and development sector actors can rally around to collectively work on a linked agenda that can drive mutually relevant outcomes.

### Introduction

Electricity is a critical enabler of development.<sup>1</sup> In many development sectors, the role of electricity is evident. For instance, even though electricity is only one of several inputs needed for a well-functioning health system, the lack of access to electricity can impede the storage of vaccines in rural clinics and may inhibit the performance of life-saving procedures that are dependent on electricity. In an assessment of health care facilities in the 10 most populous sub-Saharan Africa countries, Adair-Rohani et.al. (2013) found that one in four health care facilities lacked access to electricity, and close to three quarters of those with access had challenges with the reliability of electricity. Electricity is also known to improve educational outcomes; electricity can facilitate the use of information and communications technology in classrooms, helps to attract and retain teachers, enhances attendance and test scores, and can promote other co-benefits, such as gender empowerment, health, and sanitation (UNDESA 2014). However, most schools in sub-Saharan Africa lack access to electricity. Drawing on data from the World Bank and UNESCO, a study by the United Nations Department of Economic and Social Affairs examined the status of electrification in schools in sub-Saharan Africa and reported that, of the primary and secondary schools surveyed, approximately four out of every five lacked access to electricity (UNDESA 2014).

Significant electricity access gaps persist across sub-Saharan Africa. The absolute number of people without access to electricity globally, dropped from 1.2 billion in 2010 to 789 million in 2018. This progress notwithstanding, there will still be an estimated 620 million people without access to electricity by 2030; approximately 9 out of every 10 of these will reside in sub-Saharan Africa (IEA et al. 2020). This is a worrying signal, given energy's role in driving other development goals.

### The Energy-Development Linkage: A Historical Trajectory

In Africa, the role of energy as one of the key drivers of development outcomes has been recognized for decades. Beginning in the 1960s, post-colonial African governments focused on developing large-scale energy infrastructure to power large-scale industrial growth. The construction of mega hydroelectric dams was a key feature of Africa's development during that period (Agbemabiese 2002). By the 1980s, the role of energy in development was increasingly appreciated in the context of powering development activities aimed at meeting the basic needs of the poor. Experts viewed energy's role in promoting development through the lens of the basic needs approach, which was the prevailing development rhetoric of the time (Goldemberg et al. 1985, 1988). The approach promoted the need to direct energy into meeting basic needs to affect social indicators like literacy rates, infant mortality, life expectancy, and fertility rates (Goldemberg 1991).

From the early to mid-nineties there was growing interest in the role of energy in powering productive uses, particularly for rural development. Early definitions of the productive use of energy focused on the use of energy for motive power to drive income-generating activities and increase productivity. In the context of rural development, increasing incomes and productivity were expected to drive improvements in the quality of life of citizens. Researchers in another school of thought found the confinement of the meaning of *productive uses* to productivity and income generation to be insufficient. For them it was important to capture social dimensions like health and education as well, as these indirectly led to increased incomes and productivity. Examples of the contrasting definitions of productive uses of energy are highlighted in Table 1.

What these evolving views of the relationship between energy and development outcomes did successfully was to establish energy's role as a catalyst of development.

Table 1 | **Contrasting Definitions of the Productive Uses of Energy**

THE INCOME-GENERATION AND PRODUCTIVITY PERSPECTIVE	THE ECONOMIC PLUS SOCIAL COMPONENT
<p>1. "Productive Use of Renewable Energy (PURE)" could be defined as agricultural, commercial and industrial activities, powered by renewable energy sources, which generate income." (Alliance for Rural Electrification 2015, 4).</p>	<p>1. The term productive use . . . refers broadly to projects that aim at enhancing income-generation opportunities and productivity in rural areas (e.g., small industry, agriculture, commercial activities, telecommunications, education and health facilities, clean water, refrigeration, etc.), to improve quality of life and increase local resilience and self-reliance (Etcheverry 2003).</p>
<p>2. "Agricultural, commercial and industrial activities involving energy services as a direct/indirect input to the production of goods or provision of services with increase in income or productivity." (GIZ 2013)</p>	<p>2. Productive uses of energy involve the use of energy . . . for activities that enhance income and welfare. These activities are typically in the sectors of agriculture, rural enterprise, health, and education. Examples of such activities are pumping water for agriculture, agro processing, lighting, information and communications, and vaccine refrigeration (Kapadia 2004).</p>
<p>3. "An activity that uses energy to earn income or generate other nonleisure benefits. Common productive uses of energy include agricultural processing, lighting for businesses and water pumping." (USAID 2018)</p>	<p>3. The EnergyPlus approach promotes the productive use of energy for generation of equitable employment and additional income; for meeting needs of existing and new enterprises; for community needs such as strengthened security and better access to education and health care, including through electricity for street lighting, clinics, and schools; and for lifestyle needs to improve living standards (UNDP 2015).</p>

But energy was largely viewed as an external input that could support other sectoral initiatives and not an integral component of those sectoral strategies. Thus, global development frameworks like the Millennium Development Goals (MDGs) (which served as a blueprint for development between 2000 and 2015) did not include a goal for energy, even though several of the eight goals were dependent to varying extents on the availability of reliable supplies of energy.<sup>2</sup>

The SDGs, the successor to the MDGs, articulate a clear goal on energy.<sup>3</sup> SDG 7 focuses on ensuring access to affordable, reliable, sustainable, and modern energy for all by 2030.

With their focus on nexus issues (i.e., issues that relate to the synergies and potential trade-offs among the different goals) (The Nexus Dialogue Program 2019), the SDGs have revitalized interest in the interconnectedness of the various strands of development. In Africa, the framework has signaled the need for governments and the development community to coordinate action across otherwise siloed sectors as we strive to achieve the SDGs. But much remains to be done in operationalizing these linkages. An integrated vision will require significant shifts in established structures and ways of doing things. For the energy and development sectors, the time is ripe to think

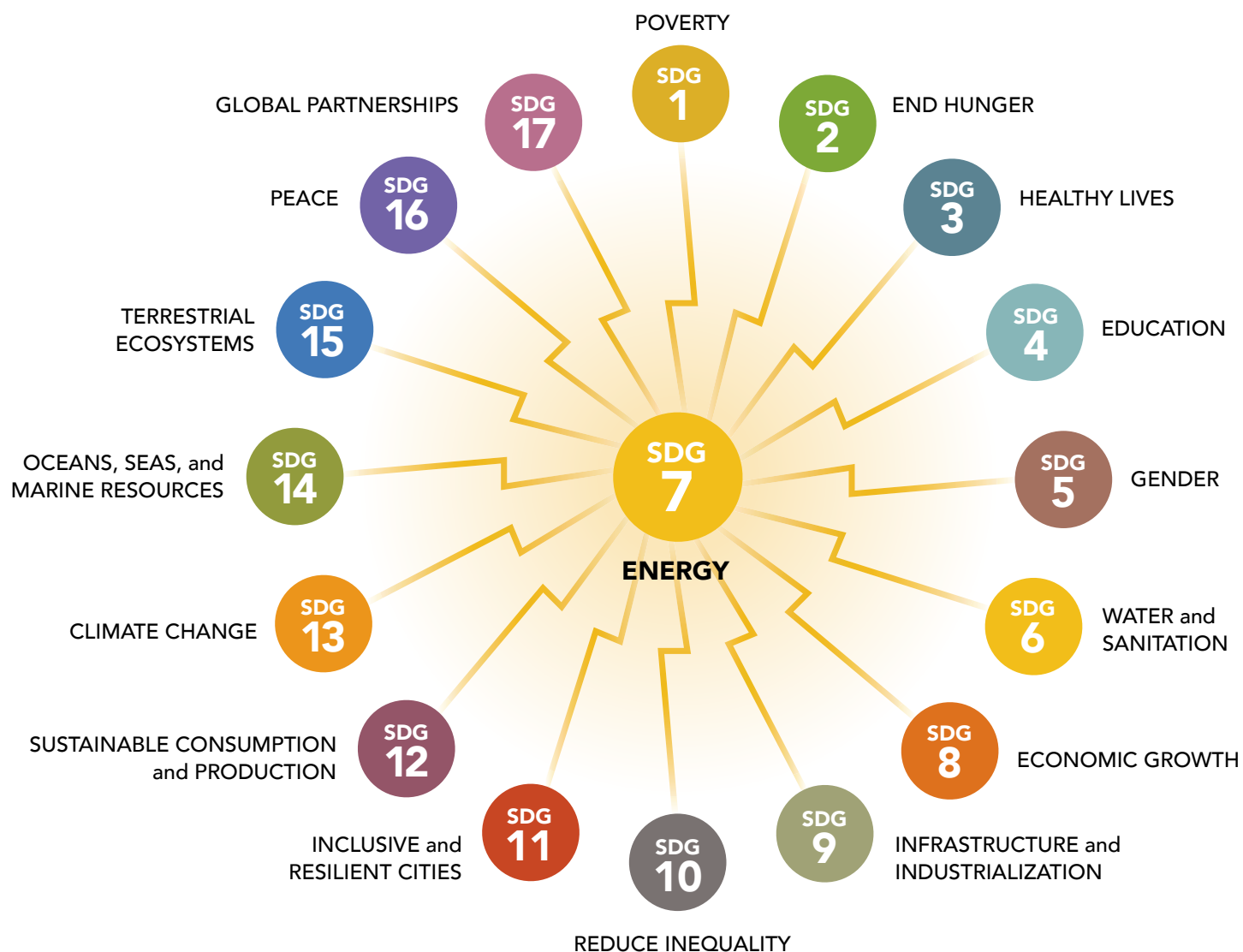
critically about the interdependencies between energy and other sectoral goals and to embrace strategies that can underpin the transformative action we need to drive the development outcomes we hope to see in the coming decade. This paper explores what we can do to move us toward this linked agenda.

### Objective of the Paper

The original vision for this paper was seeded at a multistakeholder workshop hosted by WRI and its local partner, the Tanzania Traditional Energy Development Organization, in Tanzania in October 2018. The workshop, *Linking Energy with Socio-Economic Development in Tanzania: The Role of Data and Partnerships*, brought together stakeholders in government, the private sector, and civil society to explore some of the practical challenges they face in adopting energy solutions for productive activities and other social uses. The workshop revealed that whereas energy's role in development is broadly acknowledged, significant gaps in policy, planning, finance, and governance impede coordination of the energy and development sectors around mutual outcomes.

In a subregion where progress in electricity access, health care delivery, education, and agricultural productivity continues to lag behind the rest of the world, urgent action

Figure 1 | Energy and Other Development Goals



Source: ESMAP and SE4ALL 2017.

is needed to address these barriers if the SDGs are to be achieved by 2030. Sub-Saharan African governments and the international development community must rally around a concrete set of strategies that can underpin a better-linked energy and development agenda.

This paper builds on the lessons learned from the workshop in Tanzania and draws on an extensive review of literature, expert views, and examples across other countries in the region to propose a framework on which African governments and the international development

community can draw to facilitate better linkages between energy and other sectoral outcomes. As we are cognizant of the context specificity of energy and development issues, the actions proposed in the paper are in no way exhaustive in their scope nor intended to be prescriptive in their application. Rather, they are intended to provide a framework that can guide context-specific dialogues and inform locally relevant action by African governments, the international development community, the private sector, and civil society toward building a linked vision.

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## WORKING ACROSS SECTORS

### Key Takeaways

- As early as the 1970s, governments across Africa and development partners, informed by the emergence of systems thinking in development practice, experimented with cross-sectoral efforts through integrated rural development.
- Today, development continues to maintain very strict sectoral delineations owing to several factors: the structure of sectoral decision-making and resource allocation, a lack of understanding of the co-benefits of cross-sectoral efforts, financial and technical resource constraints, hidden interests, and poor governance structures.
- However, renewed interest in the nexus of energy and development on both local and global levels, increasing domestic finance, the ongoing data revolution, and the growing importance of decentralized electricity technologies and markets, among others, are creating the space for a renewed conversation about how energy and other development goals can be better aligned.
- Two concepts, scale and character, are important for understanding what a supportive ecosystem for a linked energy and development agenda must comprise.

The idea of working across sectors to achieve development objectives is not new to the SDG era. In Africa, ideas of cross-sectoral coordination surfaced at different points along the development journeys of several countries, primarily in the context of integrated rural development (IRD). The IRD approach was informed by the emergence of systems thinking in the design of development programs and in institutional design in the early 1970s (Ruttan 1984). IRD was proposed as an alternative to the prevailing development thinking, which focused on programs that were designed with very sharp sectoral foci such as increasing agricultural production, improving rural education, building farm-to-market roads, and other activities (Ruttan 1984, 394). Integrated rural development encouraged building on the sectoral complementarities among different rural development goals.

The IRD approach was most prominent in rural agricultural development where large investments in crop research and production had failed to drive improvements

in the livelihoods of subsistence and low-income farmers in some least developed countries. What those initiatives showed instead was that, even with the right technology in hand, farmers were often confronted with other barriers that constrained their productivity and their ability to rise out of poverty. Farmers with the right technology in hand but who were beset by poor health, illiteracy, lack of water, inability to access credit, and the lack of market access were unlikely to succeed in increasing their incomes. This led to the conclusion that a more holistic effort encompassing health, education, access to finance, and other efforts was needed to promote the income-generation capacities of poor farmers in rural areas (ODI 1979). The approach also emphasized a second form of integration that involved supporting small-scale farmers with a package that includes a minimum level of inputs “with functions such as land settlement, extension, credit and marketing, integrated within a single organization” (ODI 1979, 1).

One of the common critiques of IRD is that initiatives modeled after the approach failed to deliver the intended development outcomes. Most of these claims remain anecdotal, as actual documentation of evaluations of these projects are hard to come by (Masset 2018). Poor data collection and the absence of robust evaluation methods at the time resulted in limited analyses of the impacts of IRD initiatives (Masset 2018). By the late 1980s and into the 1990s, most donors had abandoned the IRD approach. This coincided with the shift of development policy away from publicly funded initiatives and agricultural development toward a market-driven ideology. This shift in political ideology may also have contributed to IRD becoming a less popular development approach (IDS 2018).

In the early 2000s, then UN Secretary General Kofi Annan, commissioned the UN Millennium Project to establish a global plan of actions to drive the achievement of the MDGs. The effort was led by Columbia University’s Jeffrey Sachs. In 2005, the Millennium Villages Project (MVP) was initiated to operationalize the actions proposed in the Millennium Project. An improvement over the traditional IRD approach, the MVP targeted 10 African countries and focused on developing community-based capital in rural Africa using donor finance<sup>4</sup> (Sachs 2018). An end-line evaluation of the MVP showed mixed results. While improvements were seen in areas like child and maternal health, the project’s impact on consumption-based measures of poverty were insignificant, and the impact



on nutrition and education, inconclusive (Mitchell et al. 2018). Post-project evaluations of the MVP, however, yielded very useful insights for development practice. Once such evaluation identified the top-down nature of the MVP as a key limiting factor of project success; projects had been centrally planned with little recognition for the complexities of local context and culture (Bendavid 2018).

After decades of experimentation with integrated approaches, development in sub-Saharan Africa remains largely sectoral in approach. The challenge of rallying sectors that approach a development priority from very different viewpoints and that may in some cases be competing for the same resources has limited the potential for cross-sectoral action (Neely et al. 2017). In several instances, the supportive policies, regulatory frameworks, and robust governance structures that are needed to support cross-sectoral coordination are also absent.

Given the historical challenges with integration, one may ask if we should be pursuing a linked agenda for energy and other development goals. The answer is yes. Now is an opportune time to engage in these discussions as several factors align on the global, national, and subnational levels to make this linkage possible. Coming on the heels of decades of experimentation with integrated development efforts, this era of SDGs can draw on a repository of valuable lessons from the past to inform current action. On national levels, governments who for a long time were aware of the limiting nature of strict sectoral approaches on overall development outcomes, but who had been hesitant to pursue those approaches due to vested interests and the unwillingness of line ministries to move away from the status quo, are gradually becoming more willing to explore what greater coordination could mean in practice as they attempt to mainstream the SDGs into their development plans. This is happening alongside the fact that these governments are raising more domestic finance and hence have greater autonomy to make decisions that are in the interest of their national development priorities.

Recent advances in distributed electricity generation using stand-alone solar and mini-grids are changing the dynamics of electricity generation and distribution. Electrification is no longer the preserve of traditional utilities alone; neither is it wedded to central grids. Because distributed electricity generation happens locally and involves a wider cast of actors (private entrepreneurs and community-based associations) in its delivery, it

presents good opportunities to integrate electrification with local development priorities.

Data and analytic tools for cross-sectoral planning and decision-making are also becoming more widely available and accessible. In the same vein, techniques for evaluating integrated initiatives have improved significantly over the decades. Independent evaluations of integrated efforts can now draw on a range of mixed, experimental, and quasi-experimental approaches to deepen our understanding of the impacts of such efforts (Masset 2018). The convergence of these factors raises hope for a renewed conversation about how energy and other development outcomes can be better linked in practice.

## Understanding Cross-Sectoral Linkages: Conceptual Foundations

Before delving into a discussion about the key elements we need to build a linked energy and development agenda, there are two important concepts to keep in mind. These are the scales of cross-sectoral engagement and the character of cross-sectoral engagement.

### Scales of multi sectoral engagement

Cross-sectoral engagement can span different levels of governance: global, national, and subnational. Cross-sectoral engagement is most easily achieved at the global level. At this level, the focus is mainly on building global recognition and ambition around an issue that is multisectoral in nature. This is what the SDGs have successfully achieved by articulating a blueprint for global development by 2030. The actual success of the SDGs will, however, be largely dependent on the abilities of national governments to implement internal strategies to realize these global goals (drawing on the assistance of the private sector, civil society, and development partners) (United Nations 2015).

The linkages between energy and other development sectors are most concrete at the national and subnational levels. A local government responsible for developing the productive sector in its jurisdiction can more easily appreciate energy's facilitative role in that sector. An energy service provider delivering energy services can easily appreciate the critical need for consistent demand from educational institutions, health care centers, and agricultural activities for the sustainability of its business. At these levels, the issues at stake are typically issues of capacity, resources, knowledge and technical skills, project financing, and the practical

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challenge of coordinating actors around divergent and usually conflicting views of how a concrete development challenge ought to be addressed.

### The character of cross-sectoral coordination

The second concept of working across sectors is the character of cross-sectoral engagement. Cross-sectoral engagement may involve initiatives that are structural-institutional or operational in nature (Masse and Watchueng 2010). We may think of these two types of initiatives as the software and hardware components of cross-sectoral engagement, respectively.

#### STRUCTURAL-INSTITUTIONAL INITIATIVES

The term *structural-institutional initiatives* was coined by the Club of National Agencies and Structures Responsible for Rural Electrification. The term entails initiatives that result in outputs like strategic programs, innovative policy and institutional frameworks as well as legislation that supports multisectoral action (Masse and Watchueng 2010). Structural-institutional initiatives are usually implemented on a national level but may be driven by global or even regional engagements. Regional bodies, such as the Economic Community of West African States (ECOWAS) and the Central African Economic and Monetary Community, and international institutions, such as the World Bank, European Union, and other bilateral donors, have played key roles in implementing structural-institutional initiatives on national levels (See Box 1). National governments can also initiate structural-institutional initiatives to support specific national development mandates. Structural-institutional initiatives are important for creating an enabling environment to support the implementation of integrated energy and development initiatives at the national or subnational level.

#### OPERATIONAL INITIATIVES

Operational initiatives involve on-the-ground implementation of projects or initiatives that are cross-sectoral in nature; for example, the rollout of a rural electrification program that is focused on promoting productive uses of electricity or the establishment of multisectoral financing mechanisms (Masse and Watchueng 2010). Operational initiatives may involve a heterogeneous group of actors: rural electrification agencies, private energy developers, local governments, civil society organizations, and microfinance institutions.

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### Box 1 | PRSPs and the Birth of a Multisectoral Process?

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Between 2002 and 2003, the World Bank's Energy Sector Management Assistance Program, through the Global Village Energy Partnership, hosted a series of regional workshops in Addis Ababa, Dakar, and Douala to encourage a multisectoral and multistakeholder approach to poverty reduction in Africa. The Addis Ababa workshop brought together stakeholders in both energy and other development sectors from six countries—Ethiopia, Ghana, Uganda, Tanzania, Zambia, and Kenya—to exchange ideas on integrating energy into their poverty-reduction strategy papers. All six countries that participated in the Addis workshop developed country action plans that identified priority development sectors that could benefit from the integration of energy for poverty alleviation (ESMAP 2002). The Dakar and Douala workshops precipitated the formation of two multi sectoral groups: The Inter-sectoral Committee for the Implementation of Synergies between the Energy Sector and Other Strategic Sectors for the Reduction of Poverty and the Multisectoral National Energy Committee of Niger.

Structural-institutional and operational initiatives are complementary. While structural-institutional initiatives create the enabling framework that can support on-the-ground establishment of operational initiatives, operational initiatives can also be useful in shaping the content and structure of structural initiatives. We will build on these concepts in subsequent sections of this paper to understand what is needed to support an integrated energy and development agenda.

## BUILDING THE ECOSYSTEM FOR A LINKED ENERGY AND DEVELOPMENT AGENDA

### Key Takeaways

- The global level is an important space for building ambition, sharing lessons, and enlisting the support of nontraditional actors, such as the private sector and civil society, to support a linked energy and development agenda.
- The local level is an important space for building knowledge, evidence, and data that can shape integrated action on national and global levels.
- Effective policy and institutional frameworks on the national level are critical levers that can bring together global ambition and local evidence to enable integrated efforts across energy and other development sectors.
- The current structure of development finance constrains opportunities for exploiting synergies at the nexus of energy and other development sectors. Restructuring development finance will be key to realizing a linked vision.

### Elements of an Ecosystem for a Linked Energy and Development Agenda

Often, discussions about linking energy and other development sectors have centered on the need for the lead energy agencies and line ministries to talk to each other. But this level of action alone is insufficient to drive change. We need a broader systemic effort that encompasses a range of structural-institutional and operational initiatives across the different scales of governance (global, national, and subnational). What is required is an ecosystem within which both global ambition and local evidence shape national-level policy and institutional structures. These can, in turn, influence how initiatives at the local level are defined to drive impact and can further serve to elevate those lessons to global discussions. We identify four key elements of this ecosystem: global ambition and engagement, evidence building on local levels, policy and institutional alignment on national levels, and restructured finance. The focus on an ecosystem here is to emphasize the collective relevance and mutually reinforcing nature of the four elements.

### Global ambition and engagement

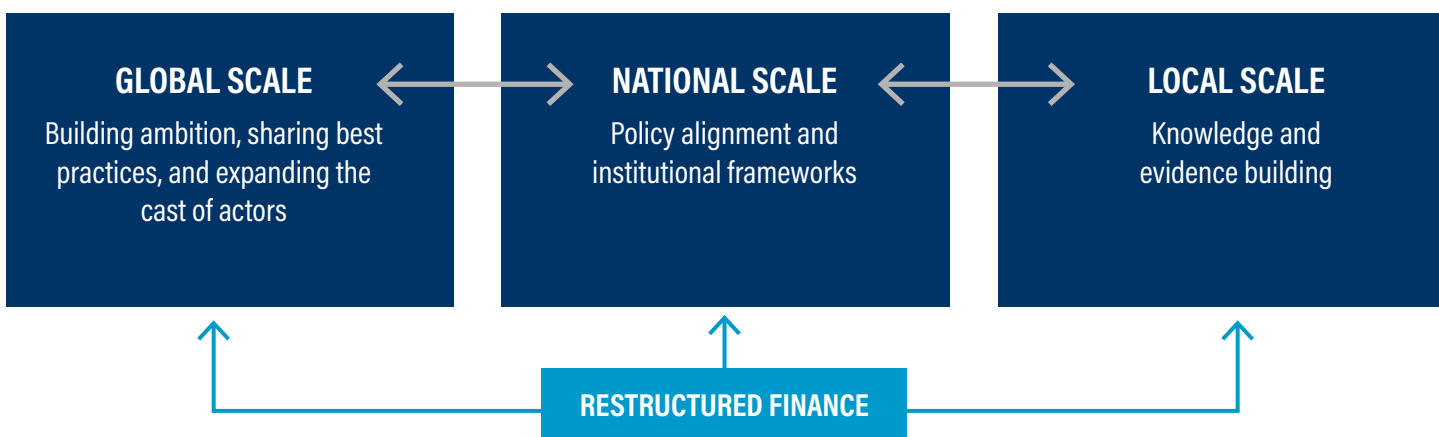
If there is any lesson to be learned from the COVID-19 pandemic, it is the interconnectedness of the global community. A seemingly local problem can be global in impact. Conversely, local problems like electricity access, if left unaddressed, can limit our resilience to global crises when they do arise. Even though electricity access and challenges with access to health care, education, and other services are issues with local expression, the global level will be an important space for building ambition, sharing best practices among countries, and expanding the set of actors that engage with these issues beyond the traditional actors who may in many cases be dependent on the national government to act. Drawing on the lessons learned from global engagements, as well as the opportunities for building strategic partnerships with other global actors, African governments can develop country-level strategies, policies, and legislative instruments to support a linked agenda, taking the peculiarities of their national circumstances into account. For example, at the 29th Summit of Heads of State and Governments in 2006, ECOWAS member states adopted a regional white paper that stipulated regional objectives for scaling access to modern energy services in the region by 2015. The member states agreed on targets to promote energy initiatives that were linked to poverty-reduction strategies (through the development of productive activity, the modernization of social sectors like health and education, and the promotion of gender equity). The member states also agreed on the need to build institutional and policy frameworks that could support the use of modern energy to promote development. As a direct consequence of this regional engagement, the government of Burkina Faso adopted a national white paper, which laid out a plan for developing an in-country policy strategy that would ensure that the provision of modern energy services was aligned with sectoral plans for rural development (Masse and Watchueng 2010).

Global engagement can also create a space for the private sector and civil society to identify opportunities to engage with local issues that can support a global ambition.

### Evidence building on local levels

Past experiences with cross-sectoral efforts has revealed the lack of evidence and data as a key barrier to successful planning and implementation (Neely et al. 2017). Operational initiatives at the local level are important for building the data and evidence that can shape the design

Figure 2 | **An Ecosystem for a Linked Energy and Development Agenda**



Source: WRI author

of cross-sectoral efforts. Assessments of projects that are implemented at the nexus of energy and development can yield useful insights that can inform the design of other projects or shape the design of supportive policy and regulatory environments for integrated action.

For example, in Tanzania, the Italian NGO European Committee for Training and Agriculture (CEFA) is pursuing an integrated approach to implementing energy and development initiatives in the country's Njombe and Iringa regions. CEFA is developing mini-hydro projects in combination with initiatives that are promoting income-generating activities in villages in these two regions. Guided by the view that an understanding of the complex systems that underlie community development is critical to developing energy initiatives that promote development, CEFA has established a model that is built on community engagement, sensitization campaigns, and multistakeholder engagement. In 1989, CEFA founded the Matembwe Village Committee (MVC) to support integrated rural development in Matembwe. The shareholders of the company are the village councils of Matembwe, Yembela, and Ikondo; the Njombe District Council; the Njombe Roman Catholic Diocese; and the workers of the company, who are mainly locals. Through the MVC, CEFA has developed two hydro mini-grids that serve a total of 1,192 users across eight villages. These include 1,040 households, 133 commercial activities, 9

schools, 5 dispensaries, and 5 public service buildings. The MVC also invests in poultry and animal feed production as well as forestry. MVC rears about 540,000 chickens per year and produces 210 tons of animal feed annually. To ensure that communities benefit from access to modern energy, CEFA invests in vocational training and business literacy classes and supports the establishment of new businesses, as well as the scale-up of existing agricultural processing initiatives. CEFA's projects in the Njombe and Iringa regions in Tanzania have stimulated other investments in communication services, commerce, and social services in the regions, leading to significant local development.

There are several scattered examples of initiatives of this nature across the continent that continue to yield important lessons. There can be significant value in aggregating the lessons from these experiences across different contexts and using that knowledge to inform local and national-level thinking about the support that is needed to scale such integrated efforts beyond individual projects. The local level, therefore, becomes an important space for building the evidence and understanding of the ingredients that are needed to support that integration in practice. This must be complemented by clear pathways for communication and engagement to ensure that the local evidence influences national and global action.

## Spotlight: A potential role for local governments?

As more African countries move toward decentralized governance structures, the role of local governments is becoming more prominent in delivering salient development services.<sup>5</sup> Local governments represent the level of government that is closest to the citizens of a country and, therefore, tend to be the level of government most conversant with the needs and aspirations of the citizenry when they are downwardly accountable (Ribot 2002). As the custodians of local development plans, local governments can have a more holistic view of local development needs and priorities beyond project-based approaches. Local governments can play an important role in building and sustaining integrated agendas as they deliver services that rely on energy in their jurisdictions (van Staden 2017). Coordination with local governments is not only relevant for ticking the public participation box of a project but is critical for developing well-integrated projects that can drive sustained development locally. Experiences from early IRD projects show that some of the projects were not sustained beyond the project period because not enough attention was given to local participation. Because early IRD efforts were typically rolled out in very rural communities with weak local institutions, donors established specialized structures to administer these projects. These positions were usually filled by expatriate staff and other skilled personnel, who were mostly not employed beyond the end of the project. Without local capacity and expertise to maintain these initiatives, they could not be sustained nor scaled up (IDS 2018).

Despite the important role that local governments can play in coordinating local action and feeding the lessons learned into national and global platforms, there are several constraints that may inhibit effective local government engagement along these lines as described in Box 2.

## Policy and institutional alignment on national levels

Global ambition and local evidence building will not result in systemic changes if national-level policies and institutions are not aligned to support an integrated agenda. Tools for organizing local-level data and conducting analysis that can inform harmonized policies will be important. Currently, policies that guide ministries of energy, health, education, and other services are

## Box 2 | Engaging Local Governments: The Critical Role of Good Governance, Capacity Building, and Financing

### POLITICS AND GOVERNANCE

Local governments can be well-positioned to lead integrated energy and development efforts if they are downwardly accountable to the citizens they represent and have the autonomy to make decisions that take public interest into account. When the transfer of responsibility to provide local services is not accompanied by the transfer of fiscal authority and autonomy, local governments may become more accountable to the central government actors who hold the purse strings, rather than to local communities (Ribot 2002). In other instances where inequalities are already embedded in the social fabric of communities, decentralization of authority to local governments can lead to a deepening of existing inequalities or create the substrate for new patterns of inequality to be created, leading to elite capture. Such local governments can fail to play a “representative, responsive and constructive role in the everyday lives of local populations” (Ribot 2002, 2). Improving both central and local governance around the distributions of resources, participatory or inclusive planning, transparency, and accountability will be important for local government action around service delivery and the development of an integrated energy and development agenda.

### CAPACITY

In some contexts, local governments may lack the technical capacity to integrate energy and service delivery planning. In countries where electricity delivery is seen as the preserve of a national utility, local governments may have little to no experience planning for electricity services. For example, in Tanzania where the government is looking to implement Sustainable Energy for All (SE4ALL) objectives through local governments, most of these local governments have limited experience developing energy plans. This leads to energy getting sidelined in development planning on the local level (URT 2017). Raising local government awareness around the benefits of integrated energy and development agenda and building their technical capacity to develop energy plans that take sectoral development needs into account will be important.

### FINANCE

Finance is a typical challenge for local governments. The lack of funds limits local government capacity for service delivery. In some cases, funding from central governments might be insufficient. The transparent institutional framework for an equitable disbursement of funds from central to local government levels may also not be available. Local governments may also lack the internal capacity to raise local revenue that can support service delivery and local development. Pursuing integrated energy and development agendas in cash-strapped contexts can be challenging as local governments may be forced to prioritize some sectoral priorities over others, instead of considering the linkages among them.

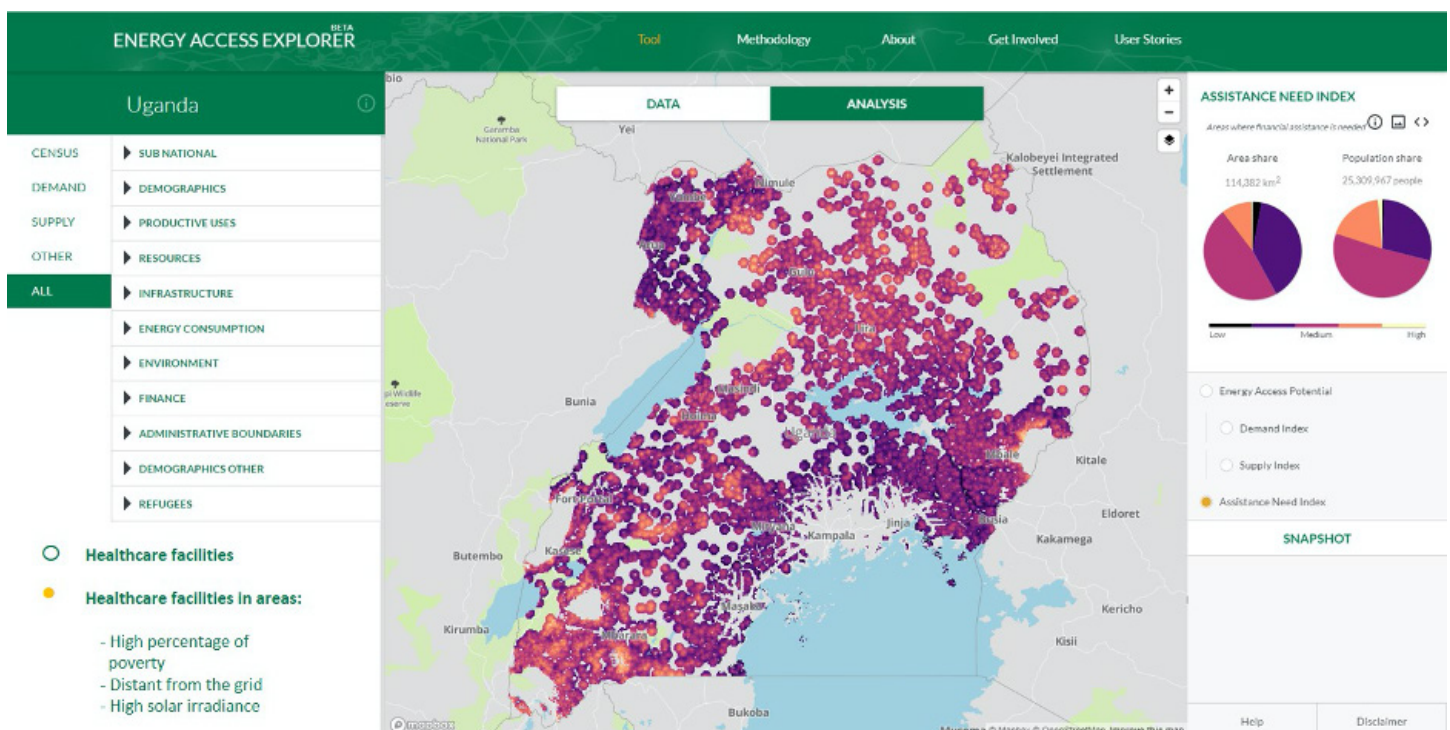
largely informed by sector-specific data and analysis that fail to take sectoral interdependencies into account. Energy planners may develop least-cost electrification plans and assess technological options with little to no engagement with line ministries. Ministries of health, education, and other services may also develop initiatives with energy components in isolation from the lead energy agencies. Without prior consultation with energy stakeholders, health or education ministries may invest resources in electrifying facilities that are also marked for electrification by the energy agencies. This may not be in the best interest of effective resource allocation.

As the world embraces a data revolution, the time is ripe to draw on innovative data collection and analytic tools to implement rigorous mapping of energy needs across sectors, consolidate national energy needs, and facilitate effective data sharing among line ministries and lead energy agencies. This will enable energy agencies to plan better to implement energy access efforts across sectors. WRI has developed the Energy Access Explorer, a tool that enables analyses that can support better linkages between energy and other development sectors. The platform, which was developed in partnership with global, national,

and subnational stakeholders in both the energy and development sectors, goes beyond the cost optimization of technological options for electrification to allow multi-criteria analysis that gives equal importance to both the supply and demand dimensions of electricity access. By so doing, both energy experts and development experts can draw on a single data platform as a basis for a dialogue about how their respective sectors can strategize to pursue goals of mutual relevance.

In Uganda, WRI is working with the Ministry of Energy and the Ministry of Health to map out health care facilities in Uganda in the Energy Access Explorer. A thorough mapping of all health care facilities (from dispensaries to teaching hospitals) will give a better overview of the scale as well as spatial variation of health care energy demand across different regions and districts in Uganda. Both ministries of energy and health can draw on these analyses to shape decisions regarding the optimal electrification strategies that will be needed to electrify health care facilities in Uganda, taking poverty, affordability, and other sectoral priorities into account.

Figure 3 | Mapping of Health Care Facilities in Uganda



Source: Energy Access Explorer 2020.

In addition to the data barriers, the structure of government agencies in Africa tends to impede the potential for cross-sectoral coordination (Benson 2011), as all political and administrative authority, decisions on resource allocations, and incentives and structures for accountability are enforced through line ministries. A fundamental rethinking of structures for resource allocation and incentives, coupled with support for an integrated outcome-based agenda, will be a step in the right direction.

## Restructuring development finance

The fourth important element of an ecosystem for an integrated energy and development agenda is the structure of development finance. A 2018 OECD report that assesses development finance flows from the Development Assistance Committee and non-Committee countries shows that development finance continues to be shaped by sectoral priorities and remains largely influenced by the interests of donors, which may not necessarily be aligned with the national development interests of the recipient governments (OECD 2018).

Official development finance (ODF) from bilateral and multilateral providers in 2016 was \$293.6 billion; this represented a 35 percent increase from 2012. Of these funds, 64 percent was provided by bilateral donors and 36 percent by multilateral institutions. Most of the total ODF (\$224 billion) was sector-allocable; that is, it could be analyzed by sector.<sup>6</sup> Despite the overall growth in ODF over the period, the sectoral allocation of funds remained largely

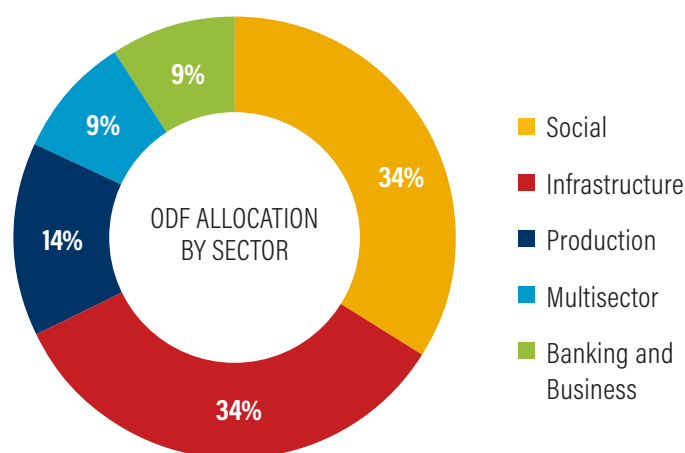
stable. The lion's share (two-thirds) of all sector-allocable ODF went to the social and infrastructure sectors.

Bilateral donors are the primary financiers of the social sectors (up to 40 percent of their total sector-allocable funding), whereas multilateral donors focus on the infrastructure, banking, and business sectors. Most sectoral financing is currently provided by just a handful of multilateral and bilateral donors. Up to 84 percent of all infrastructure investments come from six multilateral development banks, the United States, Japan, Germany, and Korea.<sup>7</sup> Close to 40 percent of funding in the social sectors comes from the World Bank and the United States (OECD 2018).

Private development finance also doubled from \$15 billion in 2012 to about \$33 billion in 2016 (OECD 2018). Private finance tends to target sectors with high prospects for commercial returns: energy, banking and business, industry, mining, and construction. The social sectors like education and health attract less private financing.

Development partners also tend to allocate their sectoral budgets to specific projects. This further jeopardizes the scope for cross-sectoral integration and policy coherence. When development partners allocate their sectoral funds to specific projects, it is much easier for them to quantify the impacts of their financial assistance. This, however, reinforces barriers between sectors that should otherwise be coordinating around goals requiring multisectoral inputs or efforts on the country level. In some cases, development partners may stick to project-level disbursement structures because it enables them to retain control of their development dollars (OECD 2018). Broad sectoral support and pooled funding tend to receive much less attention, even though these instruments have a greater propensity to promote greater sectoral integration if they are well designed (OECD 2018) and if national governments institute clear coordination and policy guidance, as well as accountability mechanisms.

Figure 4 | **ODF Allocation by Sector (2012-2016)**

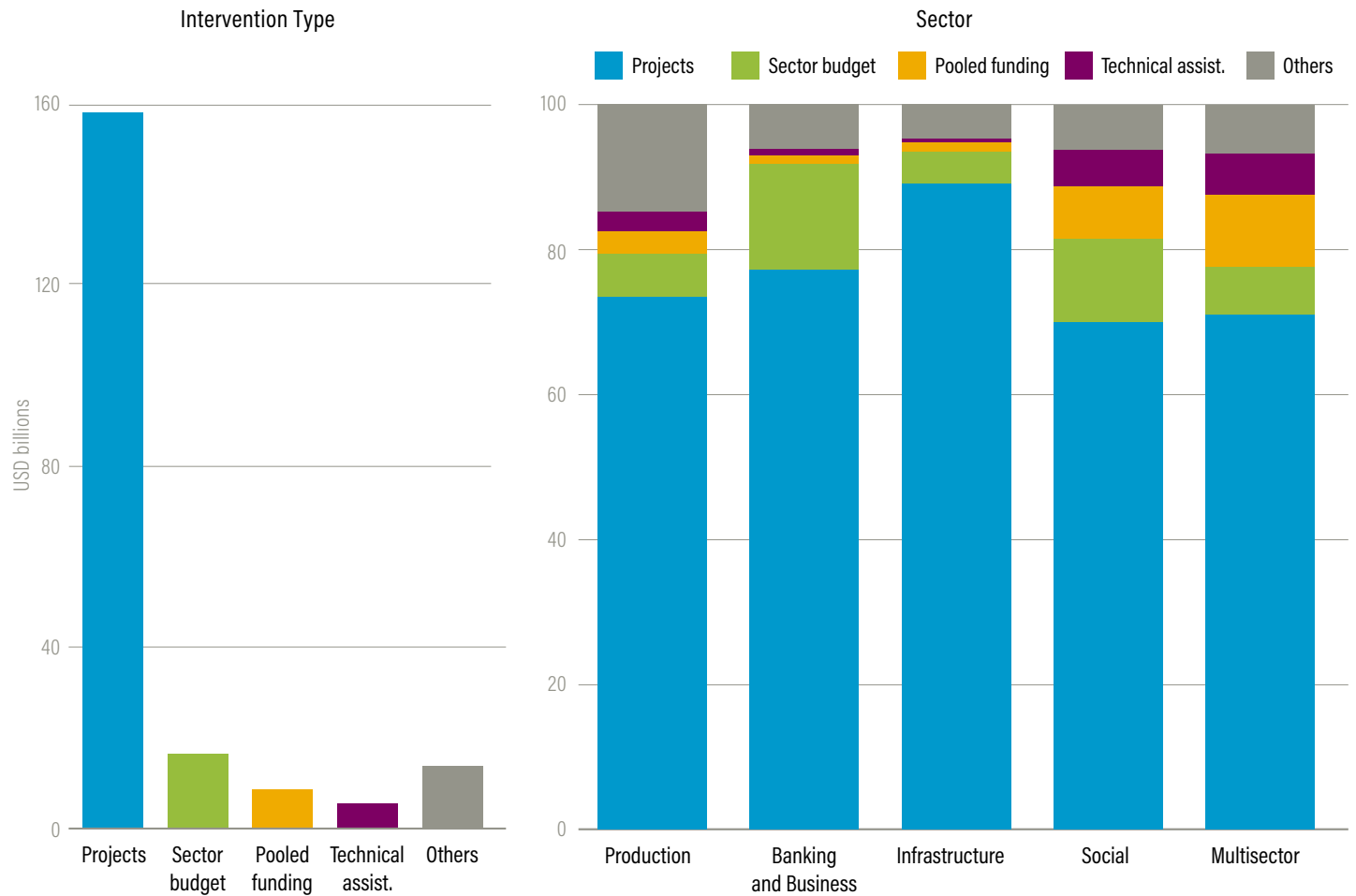


Source: OECD 2018.

## Local finance for development is growing

Domestic finance is growing steadily. This is happening through the imposition and more effective collection of consumption and income taxes and revenues from tourism and natural resources in developing countries. Domestic local resources in developing and emerging economies have grown at a rate of about 14 percent since 2000. Currently, domestic public resources constitute the “largest and most important source of finance for development” (UNDP 2018,

Figure 5 | ODF Support by Intervention Type and Sector (2012-2016)



Source: OECD 2018

12). This has reduced the overall dependence of developing countries on foreign aid for development. In 2010, countries in sub-Saharan Africa raised \$10 for every \$1 of foreign aid received (UNDP 2018). As domestic finance comes to play an important role in financing development, African countries can have more control over their financial resources and can structure internal budgets to take

advantage of the potential for integration. African countries are also accessing more finance from private sources in the form of foreign direct investments and through domestic debt markets. This increase in the total volume and diversity of financing sources points to opportunities to rethink how finance can be better structured and allocated to support an integrated energy and development agenda.



## TOWARD A LINKED VISION

### Key Takeaways

- As we build the case for integrated action between energy and other development sectors, we must enlist the help of actors who can bridge differences among stakeholders to drive the change we need.
- Public-private partnerships and multistakeholder partnerships can create new investment opportunities and serve to communicate the benefits of an integrated agenda to stakeholders at global, national, and subnational levels.
- Building capacity and instituting effective systems of governance on local levels, coupled with establishing clear lines of communication and collaboration across the different scales of governance, will be key to ensuring that local experience and knowledge are factored into decision-making processes at national and global levels.
- As the role of domestic development finance grows, African governments must lead on creating integrated plans, supported by appropriate policies and legislation, to inform collaborative action among their sectoral agencies and to redirect foreign development finance from the narrow focus on sector-specific projects and impacts to cross-sectoral initiatives and outcome-based targets.

Having established the four key elements that are needed to support a linked energy and development agenda, we now conclude with a discussion of some concrete actions that can be taken to promote this approach. We identify four important action areas in Figure 6 .

### Linking Data to Action

Analytic tools like the Energy Access Explorer are providing the data and analysis that can support the case for a linked agenda. Opportunities also exist to aggregate lessons from operational initiatives at the intersection of energy and other development sectors through robust impact assessments and project evaluations. While the need to support such data collection and analyses remains, there is also the need to identify strategic players who can drive change using the analyses developed. At all scales of engagement—global, national, and local—conveners without hidden interests and agendas will be needed to

straddle the traditional divide between energy and other sectors, like health, education, and agriculture. Local policy research institutions and academic institutions can partner with credible civil society organizations to engage different sectoral players around data and evidence that can help them appreciate the interconnections among their sectors and encourage them to explore innovative opportunities for engagement. Academic institutions, through the structure of the training they offer, can begin laying the ground for producing experts who are transdisciplinary in their approach to problem solving and not wedded to the technical specificities of their sectoral enterprises. Over the long term, this investment in intellectual capital can be reflected in a cadre of experts in policy and planning institutions who are able to see beyond their sectoral fields of vision.

While encouraging cross-sectoral data collection and planning at the national level, we must also ensure that the right experts are embedded in line ministries to translate cross-sectoral data into integrated plans. For instance, by embedding experts from lead energy agencies in ministries of health, education, agriculture, and other services, the unique energy needs and priorities of these ministries will be captured in national energy plans and electrification strategies.

Figure 6 | Action Areas for a Linked Agenda



Source: WRI author

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## Building Strategic Partnerships

In recent years, African governments and multilateral and bilateral partners have given much attention to mobilizing private finance for development operations. Even though private finance doubled between 2012 and 2016, the levels currently remain low, considering the scale of financing needed to meet the SDGs. Private finance is expected to grow as interest in commercial development solutions grow (OECD 2018). The private sector, however, tends to concentrate on a limited subset of sectors like energy, which is considered more commercially viable, leaving the public sector to invest in the so-called commercially less attractive social sectors like health and education. But in Africa, the interdependencies between the two are more apparent today than ever before. An integrated energy and development agenda can pave the way for us to bring together both public and private finance in creative ways. The time is right for the energy sector to ask the important question, what will our energy investments be powering? In sub-Saharan Africa, countries like Kenya are already being forced to grapple with this question, as constrained demand for electricity threatens to jeopardize the business models of both the public utility and private energy providers (Taneja 2018). Stimulating demand in sectors like health, education, and agriculture will be extremely crucial to the viability of energy investments just as much as these sectors need affordable and reliable supplies of electricity to thrive. According to the OECD, the so-called social sectors, which have been less attractive to the private sector, can present significant opportunities for investment (OECD 2018). Strategic partnerships and alliances between the private and public sectors will be needed to drive this change.

We also need innovative partnerships to carry the message of the benefits of an integrated agenda to relevant stakeholders at global, national, and subnational levels. Existing multistakeholder partnerships can be leveraged to make the case for this integrated agenda. In many African countries, line ministries consult with the private sector and civil society when developing sectoral plans and policies through stakeholder consultation processes. With the right analysis and evidence in hand, as well as the necessary capacity and structures for engagement in place, multistakeholder partnerships can be leveraged to use these same consultative platforms to advocate for better linkages between energy and other development sectors. Multistakeholder consultations with sectoral agencies must be structured with this objective in mind.

## Building Local Capacity

As several African countries move to decentralized governance structures, development planning will increasingly happen at the local level. As distributed electricity options like mini-grids and solar home systems gain wider acceptance in Africa, electricity service delivery is also becoming more local as actors beyond traditional utilities become active in the space. These shifts are creating opportunities to link development and energy service delivery on local levels. Data and experiences from these efforts can inform national and global action regarding what is needed to drive integrated efforts on the ground.

However, most local governments in Africa are extremely under-resourced and lack the technical capacity to develop local development plans that integrate energy and development goals. In some contexts, local governments may lack energy expertise on their planning teams; hence, health, education, and other sector plans fail to take energy into account. In these contexts, it is extremely important that energy planners be embedded in local governance structures to facilitate the integration of energy into other development plans.

National governments and the development community can commit to strengthening local institutions through improved governance, transparency, and equity in the allocation of funds. Strengthening the capacities of local governments to generate their own revenue can be beneficial to a linked agenda. In addition to these, improving the efficiency of current bureaucratic structures in local governments through adequate restructuring, empowerment, and the right incentives will be key. With the right institutional and governance arrangements in place, as well as the right technical capacity, financially self-sufficient local governments can support strategic plans and budgets that take the linkages between energy and other sectors into account.

In addition to local governments, there are a host of local institutions working at the intersection of energy and development. These include community-based organizations, local development NGOs, and local energy service providers. Compared with large western international NGOs working on similar issues, local organizations contend with varying degrees of capacity constraints—technical, financial, human resources, and so on. Strengthening these local organizations and encouraging knowledge sharing among them through local and global platforms will be important in pursuing a linked vision.

Effective feedback loops among global, national, and local actions will be needed to support an integrated energy and development agenda. Building local capacity must be complemented by efforts that ensure that democratic processes for incorporating local input into national action are established and backed by effective legislation. Closed policy and planning processes on the national level will inhibit local participation and limit opportunities for local data, knowledge, and experience to shape national and global action.

## Rethinking Indicators of Success

As development finance in Africa grows both in volume and in the diversity of sources, we need to reconsider how we allocate finance and design related impact metrics. As local development finance grows, governments in Africa must take the lead in defining the development trajectory they would like to take. They must structure their development plans and budgets to cater to the linkages between energy and the other development sectors. Such integrated national plans will also help African governments encourage collaboration between their line ministries in defining objectives and tracking outcomes. Decisions on resource allocations, incentives, and structures for accountability must also be structured to encourage collaboration, rather than competition, among line ministries around common outcomes.

The development community can, in turn, plug into those integrated plans. In so doing, development partners can be urged away from the current focus on impacts that are specific to their sectors of interest to focus on how their actions can complement those of other partners working in other sectors. Development partners will have to deepen their focus on thematic goals and outcomes (OECD 2018). Unlike stand-alone projects where quantifiable impacts are easier to track, integrated efforts that focus on thematic goals and cross-sectoral issues can involve multiple outcomes with multiple timelines, which can exceed the project timeline (Masset 2018). For development partners who are interested time-bound, quantifiable impacts, this can represent a significant source of tension when defining their priorities. Development partners must be flexible and committed to rethinking what success for them entails. In cases where development partners can capitalize on the integration of energy into the delivery of health, educational, and agriculture initiatives, they should take immediate advantage of those opportunities. But more importantly, development partners must

exploit synergies among their respective activities and look beyond project-specific support to outcome-based support.

As philanthropic organizations, domestic and international foundations and emerging providers like China increase their footprint on the development landscape in Africa (OECD 2018), governments must take the lead in ensuring that the resources and objectives of these financiers are well coordinated and consistent with national development priorities, while purposefully creating opportunities for mutual learning among them.

Taken collectively, these actions can increase greater coordination between line ministries and lead energy agencies within African countries, strengthen local action, and facilitate better alignment between national development priorities and donor investments. There couldn't be a better time to do this than the last decade for the SDGs.

## SUMMARY: A FRAMEWORK FOR ACTION

In conclusion, we summarize some key interventions that African governments (and their line ministries and lead energy agencies), development partners, the private sector, and civil society can focus on to operationalize the four broad action areas we discussed (see Table 2). The interventions highlighted here are not exhaustive and may vary, depending on contextual realities. They can, however, serve as important entry points for shaping dialogues and identifying gaps in what is needed in-country to support integrated energy and development pathways.

Table 2 | **Summary of Intervention Areas**

	KEY INTERVENTION AREAS	WHO SHOULD BE ENGAGED?
LINKING DATA TO ACTION	<p>DATA COLLECTION AND SHARING</p> <ul style="list-style-type: none"> <li>Support sectoral data collection and institute common structures and/or platforms for data sharing between line ministries and lead energy agencies, as well as between the private and public sector</li> <li>Document and share lessons on the impact on integrated efforts on development and the enabling conditions for success with all relevant stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Line ministries</li> <li>Lead energy agencies</li> <li>Finance ministries</li> <li>Local governments</li> <li>Universities and research institutions</li> <li>Local and international NGOs</li> <li>Private-sector associations and companies</li> </ul>
	<p>PLANNING AND POLICY</p> <ul style="list-style-type: none"> <li>Harmonize policies and plans across energy and other development sectors by embedding staff from lead energy agencies in line ministries and local governments to use cross-sectoral data and analysis to bridge energy and development sector plans and policies</li> </ul>	<ul style="list-style-type: none"> <li>National and local planning agencies</li> <li>Line ministries</li> <li>Regulatory authorities and legislative bodies</li> </ul>
	<p>CONSULTATION AND DIALOGUE</p> <ul style="list-style-type: none"> <li>Enlist the assistance of actors without hidden interests and agendas (independent policy research institutes, universities, and credible civil society organizations) to facilitate dialogue and coordination between energy and other sectors using data and impact evaluations</li> <li>Promote a transdisciplinary approach to energy and development studies in institutions of higher learning</li> </ul>	<ul style="list-style-type: none"> <li>Local policy research institutions and universities</li> <li>Civil society organizations</li> </ul>
BUILDING STRATEGIC PARTNERSHIPS	<p>PUBLIC-PRIVATE PARTNERSHIPS</p> <ul style="list-style-type: none"> <li>Promote a healthy investment climate for the private sector through clear and transparent regulations that govern energy and other development sectors.</li> <li>Invest in stimulating demand for energy services by supporting agriculture, small business development, health, education, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Regulatory agencies</li> <li>Legislative bodies</li> <li>Line ministries</li> <li>Private-sector actors</li> <li>Development finance institutions</li> <li>Foundations and philanthropies</li> <li>Civil society organizations</li> </ul>
	<p>MULTISTAKEHOLDER PARTNERSHIPS AND DIALOGUE</p> <ul style="list-style-type: none"> <li>Establish clear and transparent structures for multistakeholder engagement with development planning and build the capacity of multistakeholder partners to engage</li> <li>Structure multistakeholder consultations with energy and other development sectors with clear goals of promoting better cross-sectoral linkages in mind</li> </ul>	<ul style="list-style-type: none"> <li>National and subnational planning agencies</li> <li>Line ministries</li> <li>Private-sector actors</li> <li>Civil society organizations</li> </ul>

Table 2 | Summary of Intervention Areas (cont.)

	KEY INTERVENTION AREAS	WHO SHOULD BE ENGAGED?
BUILDING LOCAL CAPACITY	DATA COLLECTION, EVIDENCE BUILDING, AND KNOWLEDGE SHARING <ul style="list-style-type: none"> <li>Support local sectoral data collection and assessments of operational initiatives to build on-the-ground evidence of what is required to scale integrated energy and development efforts</li> <li>Establish clear lines of communication and collaboration among local and national governance levels to ensure that local evidence and lessons from assessments of operational initiatives are factored into national level plans</li> </ul>	<ul style="list-style-type: none"> <li>Local policy research institutions and universities</li> <li>Civil society organizations</li> </ul>
	STRENGTHENING INSTITUTIONS AND GOVERNANCE <ul style="list-style-type: none"> <li>Enact legislation to promote transparency and accountability in the distributions of resources, and participatory/inclusive planning on local levels</li> <li>Make existing local structures more efficient through adequate restructuring, incentives, and motivation</li> <li>Support local governments in raising domestic revenue by stimulating productive activity and promoting transparency and accountability in local revenue collection</li> <li>Build the technical capacity of local governments to integrate energy into local development plans and strategies by embedding energy planning personnel in local government structures</li> <li>Support local NGOs and private-sector actors working at the intersection of energy and other development sectors with technical, financial, and other forms of assistance to help them thrive</li> <li>Create opportunities for knowledge sharing among local governments and other actors working locally at the intersection of energy and development</li> </ul>	<ul style="list-style-type: none"> <li>Legislative bodies</li> <li>Regulatory agencies</li> <li>Local governments</li> <li>Civil society organizations</li> <li>Local and international NGOs</li> <li>Development finance institutions</li> <li>Foundations and philanthropies</li> <li>Private-sector actors</li> </ul>
RETHINKING INDICATORS OF SUCCESS	POLICY AND PLANNING <ul style="list-style-type: none"> <li>Develop integrated development plans (supported by appropriate policies and legislation) to inform collaborative action among line ministries and to guide donor support toward cross-sectoral support and systemic impacts</li> <li>Structure resource allocations, incentives, and structures for accountability to encourage collaboration, rather than competition, among line ministries around common outcomes</li> </ul>	<ul style="list-style-type: none"> <li>National and local planning agencies</li> <li>Finance ministries</li> <li>Development finance institutions</li> <li>Foundations and philanthropies</li> </ul>
	MONITORING AND EVALUATION <ul style="list-style-type: none"> <li>Build cross-cutting goals, such as gender equality, poverty alleviation, etc., into strategic plans and monitoring frameworks</li> <li>Shift from project-level impact tracking to cross-sectoral impact tracking</li> <li>Coordinate the activities of development partners and monitor how the respective investments are contributing toward integrated national goals and subnational goals</li> </ul>	<ul style="list-style-type: none"> <li>National and local governments</li> <li>Independent research institutions</li> <li>Civil society organizations</li> <li>Local and international NGOs</li> </ul>

Source: WRI author

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## LIST OF ABBREVIATIONS

CEFA	European Committee for Training and Agriculture
CEMAC	Central African Economic and Monetary Community
COVID-19	Coronavirus disease 2019
ECOWAS	Economic Community of West African States
IDS	Institute of Development Studies
IEA	International Energy Agency
IRD	Integrated rural development
MDGs	Millennium Development Goals
MVP	Millennium Villages Project
MVC	Matembwe Village Committee
NGO	Nongovernmental organization
ODF	Official development finance
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
SE4ALL	Sustainable Energy for All
SDG	Sustainable Development Goal
URT	United Republic of Tanzania
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization

## ENDNOTES

1. This paper focuses on electricity access. Any reference to energy refers to electrical energy unless otherwise specified. It must be noted, however, that even though the focus here is on electrical energy, energy for cooking and heating is a critical element of SDG 7. Like what this paper tries to achieve, the exploration of how the linkage between energy and development in the context of cooking and heating applications could be better exploited, for overall development benefits will be beneficial to attaining SDG7.
2. The eight Millennium Development Goals (MDGs) included targets for halving extreme poverty, halting the spread of HIV/AIDS, providing universal primary education, etc., all by the target date of 2015 (<http://www.un.org/millenniumgoals/bkgd.shtml>).
3. The framework, which is a legally nonbinding arrangement, is intended to guide societies in realizing prosperous futures that are inclusive and sensitive to environmental protection through a number of goals spanning several development sectors. The framework presents 17 goals highlighting critical development areas or goals, the achievement of most of which will require effective coordination across different sectors.
4. Kenya, Ethiopia, Uganda, Rwanda, Malawi, Nigeria, Senegal, Mali, Ghana, and Tanzania.
5. In several African countries the history of decentralization has been linked to efforts by governments to shift from centralized approaches of government to decentralized forms of government that lead to a more effective allocation of development to the local spaces and promote better accountability and transparency in the allocation of resources from the center to the periphery.
6. Social comprises education, health, government and civil society, and other social services. Infrastructure includes water, transportation and storage, communications, and energy. Production encompasses agriculture, industry, mining and construction, and trade and tourism. Banking and business are grouped into a single sector grouping. Multisector comprises both the environment sector and multisector activities.
7. Bilateral donors like China are making significant infrastructure investments in Africa. These investment flows are not reported to the OECD creditor system as yet and are therefore not captured in these sectoral analyses.

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