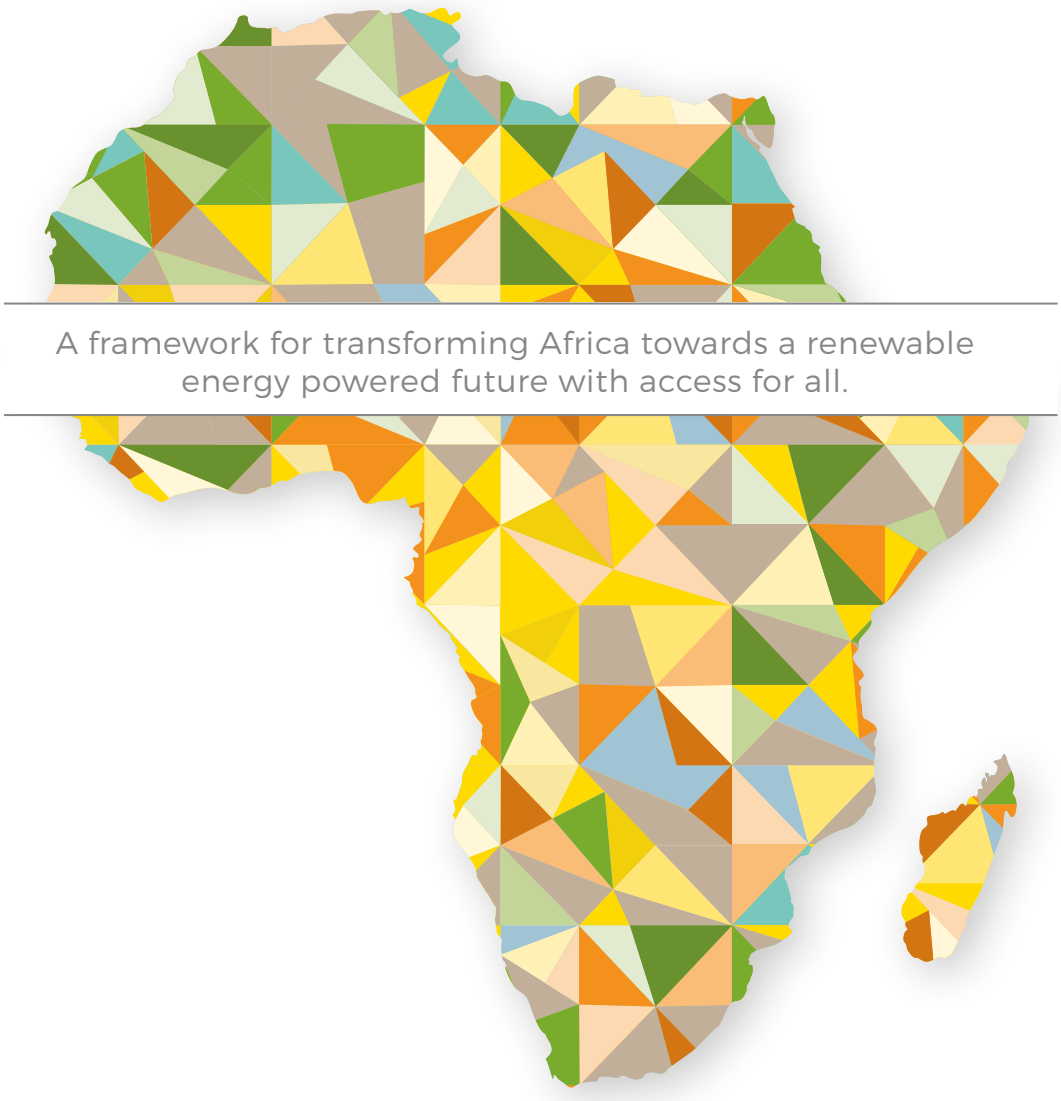
FRAMEWORK

# AREI

## Africa Renewable Energy Initiative



A framework for transforming Africa towards a renewable energy powered future with access for all.

October 2015

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# EXECUTIVE SUMMARY

The *Africa Renewable Energy Initiative (AREI)* is a transformative, Africa-owned and Africa-led inclusive effort to accelerate and scale up the harnessing of the continent's huge renewable energy potential. Under the mandate of the African Union and endorsed by African Heads of State and Government on Climate Change (CAHOSCC) the Initiative is set to achieve at least **10 GW** of new and additional renewable energy generation capacity by 2020, and at least **300 GW** by 2030.

The AREI's overall goals are: (1) to help achieve sustainable development, enhanced well-being, and sound economic development by *ensuring universal access to sufficient amounts of clean, appropriate and affordable energy*; and (2) to help African countries *leapfrog towards renewable energy systems* that support their low-carbon development strategies while enhancing economic and energy security.

The AREI will be led by Africans and strongly anchored in existing African political and decision-making processes. It will have a Governing Board at African Heads of State level, a Steering Committee with international and multi-stakeholder participation, a secretariat to serve the Board and Steering committee, a Delivery Unit to undertake concrete work and coordinate with other actors/initiatives, and a Trustee facility that will manage and pool some of the funds and investments.

The AREI focuses on building integrated solutions to the twin challenges of universal energy access and climate change. The Initiative is premised on the fact that all societies, including those in Africa, need to transition to low and zero carbon energy systems in order to avoid catastrophic climate change. In accordance with commitments and principles under the UN Framework Convention on Climate Change, these efforts by Africa need to be supported through international public climate finance, among other sources.

The Initiative highlights the fact that as well as ensuring appropriate electricity access for households and families, access needs to be sufficient to also drive the productive sectors in both local and national contexts for job creation, thriving economic development and increased resilience. This includes addressing the needs of small-scale farming and micro, small- and medium-scale enterprises in terms of both quantity and quality of access, and entails a vision of electricity access beyond the bare minimum requirements for households.

For poor people, increased access to energy means a potential for improved livelihoods. The Initiative will therefore promote unprecedented efforts to reach populations currently off national grids. It will plan for expanded access to electricity for social services as African societies develop social security provisions and other means of improving welfare for their populations over the coming decades.

The AREI envisions smart, distributed energy systems that can handle a mix of renewable energy generation. With a highly diversified ownership base compared to that of conventional, centralized energy systems, a vast number of households, communities, cooperatives, small and medium-sized enterprises, as well as larger companies, become both producers and consumers of electricity. This will enable Africa to leapfrog to the energy systems of the future.

According to its guiding principles, the AREI will:

- contribute to achieving sustainable development in Africa by scaling up and accelerating the deployment and funding of renewable energy in Africa;
- address the entire African continent and benefit all African countries;
- boost intra-regional and international cooperation and promote and support only those activities and projects that are agreed by the countries concerned and impacted;
- promote all kinds of renewable energy technologies – in particular solar; wind; pico-, micro-, small- and medium-scale hydro; modern biomass; geothermal; and marine – provided they are socially and environmentally appropriate, gender-sensitive and in line with these guiding principles;
- promote the full range of renewable electricity applications, from grid-connected to mini-grids to small stand-alone systems, as well as other forms of energy, with particular consideration being paid to applications that meet the needs of poor people.

Furthermore, the AREI describes additional key features that should guide the efforts:

- country ownership;
- transformative, programmatic approaches;
- leapfrogging to the best available, smart, modern distributed renewable energy systems that enable a transition through low to zero carbon futures;
- multi-stakeholder participation and social and environmental safeguards as essential elements of sustainable solutions;
- strengthening conducive environments at all levels to enhance private and public sector engagement.

The Initiative will be pursued in three distinct phases:

- the *immediate establishment phase (2015 to mid-2016)*
- *Phase I (2016-2020):* assessments, preparations and critical enabling activities at the continental African level as well as in a number of pioneering countries, setting the basis for enhanced acceleration in Phase II.
- *Phase II (2020-2030):* Ambitious, full-scale roll-out of nationally determined policies, programmes and incentives as initiated under Phase I.

The many activities under the AREI – which can be either supportive activities (such as studies, policy guidance and multi-stakeholder participatory processes) or incentives and investments (instruments such as feed-in tariff support, investments in grid upgrades, payment guarantees, de-risking measures, and concessional credit) – will be organised under five main activity clusters.

The activity clusters include: (1) mapping of experiences and activities for enhanced coordination of existing and future renewable energy (2) strengthening policy, regulatory, support and incentives frameworks (3) capacity-building, mobilization and partnership-fostering across stakeholders at all levels, and (4) financing and funding. Complementing the focus on policies and programmes, the AREI will also (5) provide project development and support for initiatives in the pipeline that meet its criteria and need additional support.

The AREI is led by Africans and strongly anchored in existing African political and decision-making processes. The Governing Board will be chaired by the CAHOSCC Coordinator and consist of the African Union Commission Chair, President of the African Ministerial Conference on the Environment (AMCEN), President of the African Ministerial Conference on the Environment (CEMA), President of the African Development Bank (AfDB), and Chair of the African Group of Negotiators to the UNFCCC (AGN). It will mobilize political support, provide strategic oversight and vision, ensure African leadership and ownership of the Initiative, and oversee the implementation of the project pipeline and the annual work plan. The Board will be supported by a Steering Committee, led by AMCEN and CEMA and with multiple African and international stakeholders, and a secretariat and independent delivery unit, accountable to both the Governing Board and the Steering Committee. The African Development Bank will serve as Trustee of the Initiative.

The Initiative will establish clear governing rules fully in line with the guiding principles and operations, monitoring and evaluation procedures.  These need to ensure that the Initiative remains fully Africa-led, and that all activities contributing to it – whether pursued through the Delivery Unit and Trustee facility or directly through countries or other institutions – adhere to the AREI guiding principles. Monitoring and evaluation procedures must be established that correspond to the principle of African ownership, recognize the need for flexibility, and ensure efficient and transparent use of resources.

The Initiative will provide an Africa-led framework with continental-wide reach to support comprehensive policy programming at country levels, incentives and enabling activities, made possible through international public finance. It will also require renewed efforts to reach out to international partners including through South-South cooperation. The objectives of the Initiative will be achieved by fostering partnerships and bringing together existing programmes, and mobilizing new international support.

In so doing, the Initiative will contribute to a brighter and more prosperous future for Africa, with African ownership and leadership, based on unity of purpose and supportive of Africa's development objectives, including those in Agenda 2063. It will respond to the aspiration of all our people for clean, appropriate and affordable energy, greater energy and economic security, and a safe and stable climate for all.

# INTRODUCTION

This document presents the framework of the *Africa Renewable Energy Initiative*, a transformative, Africa-led effort to accelerate and scale-up the harnessing of the continent's huge renewable energy potential. The Initiative focuses on building integrated solutions to the challenge of widening access to clean energy services for improved human well-being and sustainable development while putting African countries on a climate friendly sustainable development path. It recognizes that although Africa is not a large emitter of greenhouse gases (GHG) its energy needs will grow, and that the combination of rapid developments in technology and decreases in cost increasingly make renewable energy – from small-scale stand-alone systems to large installations – the most sensible and cost effective energy option. The Initiative stresses the advantages to Africa of moving quickly to adopt modern energy systems that are renewable, smarter, and built around interconnected small and larger-scale generation sources, and that as a priority reach people currently without adequate access to modern energy services. The Initiative seeks to achieve at least 10 GW of new capacity by 2020 and – as an aspiration goal – an additional RE generation of at least 300 GW by 2030.

The Africa RE Initiative takes inspiration from the recent calls by countries in Africa for bolder action under the UN Framework Convention on Climate Change, in particular Workstream 2 on pre-2020 action. Its origins are in international negotiations about climate change and the commitments by developed countries to support efforts by developing countries to transition to a low to zero carbon future, making the African RE Initiative different from and complementary to other energy efforts in Africa. In a May 2014 submission the African Group of Negotiators (AGN) – representing 54 African countries – called for the "Establishment of a global partnership to accelerate the energy transformation required for a well below 2° Celsius world," a call that was endorsed by the African Ministerial Conference on the Environment (AMCEN) meeting in Cairo, Egypt 2-6 March 2015. Ministers, in decision 15/9:

> *Call[ed] on the Green Climate Fund, and all partners to support the full operationalization of the Africa Group Renewable Energy Initiative in order to set in motion concrete pilot activities and projects with a view to demonstrate the full potential of such incentives and lay the foundation for rapid and massive scaling-up*.

At the June 2015 African Union Summit in Johannesburg, the AU Assembly took note of:

> *… the initiatives on renewable energy in Africa, and of the progress made since the 15th AMCEN meeting, regarding the African renewable energy initiative, suggested by the African Group of Negotiators (AGN), as a contribution to global efforts, led by developed countries, to address climate change and sustainable development*

The AU Assembly further recalled:

> *… AMCEN's Flagship Program on Sustainable Energy, and urges the importance of its implementation, and to liaise in this regard with AUC, NEPAD Agency, AGN, AfDB, UNEP and IRENA, and make sure that all other initiatives and proposals are aligned with the flagship programme, and funding is accessed from the GCF, with AMCEN President leading the work in this regard.*

To this effect African Heads of State also agreed that "a technical group chaired by AMCEN President, comprised of AUC, NEPAD Agency, AGN, AfDB, UNEP and IRENA formulate concrete proposals and projects, in order to avoid duplication and ensure unity of purpose for Africa, in line with Agenda 2063." The Africa RE Initiative should, therefore, be understood as an effort to make operational at the continental level decisions taken by African ministers and Heads of State to close the energy access gap in a climate sensible manner.

In operational terms, the AREI will engage multiple stakeholders on the African continent in conceptualizing and designing programmes that help countries leapfrog to the smart, modern renewable energy systems that define the global energy future. This means linking up with, supporting, and building on the many existing renewable energy and energy efficiency initiatives underway in Africa. The AREI will complement such initiatives, addressing areas that they do not cover or where they could be strengthened, with an initial focus on accelerating implementation of priority renewable energy projects. In its collaborative work with regional, sub-regional, national, and local stakeholders, the Initiative will follow a basic principle: jointly identify opportunities to make energy services more available for productive use, while also meeting growing demands for energy services linked to other important needs such as education, health, and community services.

The goals of the AREI will be realized by providing to interested countries assistance in formulating policies and regulations that suit each country's specific context and needs and that draw on the continent's growing body of experience in deploying renewable energy technologies. In addition, the Initiative will support efforts by countries to formulate investment proposals directed at international funding sources such as the Green Climate Fund (GCF), using public money judiciously to stimulate both public and private investments.

The goals and objectives of the AREI are fully in line with the objectives of the African Regional Flagship Program (ARFP) on Sustainable Energy, which aims at facilitating the provision of a coordinated and consolidated support to African countries to develop their energy sector to achieve a sustainable energy mix. The AREI will, therefore, be implemented under the ARFP on sustainable energy, thus enhancing its implementation and operationalization.

The Africa RE Initiative recognizes that the scale of the African energy challenge is enormous, but that so are the opportunities. Transformational change is both needed and possible, and must be stimulated by truly collaborative international efforts and goodwill. By fostering partnerships and bringing together existing initiatives while mobilizing new international support for a secure and people-oriented energy system, the African Renewable Energy Initiative will help African countries gain access to cleaner energy that drives their development and prosperity.

# 2 CONTEXT

The Africa RE Initiative must be understood against a backdrop of important challenges and priorities at the national, continental and global levels, including those relating to inclusive development, energy access, and climate change. It proceeds from a *framework* that seeks to integrate what have often been seemingly contradictory and conflicting goals in these areas.

## 2.1 DEVELOPMENT CHALLENGES AND OPPORTUNITIES

The past 15 years have seen sustained and diversified growth in many parts of Africa, averaging five percent per year across the continent. The factors underlying Africa's economic growth remain largely unchanged, however. High commodity prices continue to drive growth, with about a third of the continent's GDP linked to the use and exploitation of natural resources; over two-thirds of the export revenue for many African countries comes from agricultural products, oil, metals and minerals. While this represents the general picture, some non-resource exporting countries have achieved high growth rates through more diversified economic activities. In these countries, the share of the labor force has moved from low productivity agriculture to higher productivity manufacturing and services. Expanding and then sustaining this type of diversified growth requires a significant increase in the continent's energy supply.

In September 2015, governments meeting at the United Nations in New York are expected to agree on 17 Sustainable Development Goals (SDGs) and associated targets that define global development priorities and provide an aspirational narrative on the desired future for human development globally. This new set of international development goals broadly covers objectives such as poverty eradication, avoidance of child mortality, inclusive growth, gender equality, and sustainable land-use. In recognition of the importance of energy to achieving the targets, governments are expected to adopt specific Sustainable Development Goals relevant to energy and climate change.

The proposed SDG 7 on energy aims to close the energy access gap and "ensure access to affordable, reliable, sustainable and modern energy for all" through a combination of national action and international cooperation. In the current formulation, this would require increasing the share of renewable energy in the national and global energy mix and doubling the annual rate of improvement of energy efficiency. These energy ambitions are compatible with SDG 13 on climate change.

## 2.2 ENERGY AND CLIMATE CHANGE IN THE AFRICAN CONTEXT

Access to energy services is a prerequisite for human development and well-being as well as prosperous economic development and job creation. Africa has urgent needs to address "access to energy" through a rapid and wide scale expansion of both electricity generating capacity – on-grid and off-grid – and the supply of other forms of energy. There is growing optimism that the energy access gap can be closed without exacerbating changes to the climate that would threaten the foundations of Africa's development.

Africa has contributed little to global emissions but scientists predict that the climate will deviate from normal earlier and with more severe consequences there than in other places. Central Africa is already experiencing annual mean temperatures consistently higher than those experienced historically, and the same is predicted for the entire continent within the next two to three decades. Warming projections under medium scenarios indicate that many areas of Africa will exceed an increase of 2 °C by the last two decades of this century relative to the late 20th century mean annual temperature. Under a high warming pathway (an "over 4 °C world"), that exceedance could occur by mid-century across much of Africa and reach between 3 °C and 6 °C by the end of the century. Africa is also the continent most vulnerable to and affected by the adverse impacts of climate change; even a warming of 2 °C globally would put over half of the African continent's population at risk of undernourishment, making adaptation as well as addressing loss and damage a matter of urgency.

A major objective of the Africa Renewable Energy Initiative is, therefore, to help reconcile the twin challenges of expanding energy access and curbing climate change. It seeks to enable a transformation of Africa's energy system and scale up deployment of and access to renewable energy technologies. It thereby contributes to the global efforts to, led by developed countries, close the emissions gap and place the world on course towards limiting global warming to below 2 °C or 1.5 °C, an objective crucial to Africa's development and prosperity.

The Initiative recognizes that incremental progress will not achieve either energy or climate goals, let alone achieve both simultaneously. It will, therefore, use a strategic approach that emphasizes transformation of the whole energy system and provides incentives on the demand side, supply side, and international level in a holistic way. In so doing in a manner consistent with proposals put forth by African countries at the UN climate change negotiations, the Initiative will demonstrate Africa's commitment and contribution to international efforts to close the global emissions gap, and send strong messages to the developed countries regarding their obligations.

Finally, the Initiative recognizes that all societies, including those in Africa, need to transition to low to zero carbon energy systems in order to keep the rise in global average temperature to no more than 2 °C above pre-industrial levels.

## 2.3 ACCESS TO RENEWABLE ENERGY SERVICES FOR SUSTAINABLE DEVELOPMENT IN AFRICA

Although Africa has energy resources and potential far exceeding its current needs, most of its people and productive sectors suffer from energy deficits. The case of electricity stands out: about two thirds of the continent's population does not have any access to electricity services. At roughly 45 gigawatts (GW), the entire generating capacity of the 47 countries of sub-Saharan Africa excluding the Republic of South Africa is less than that of Turkey, and about a quarter of this capacity is not currently available for various reasons, particularly those of aging plants and lack of maintenance. As a result, sub-Saharan Africa has the world's lowest electricity access rate, at only 32 percent. Large parts of rural Africa remain non-electrified and current generation capacity is often unable to meet demand in rapidly growing urban centers and peri-urban areas. Countries in North Africa having higher levels of energy access also need to make significant changes in their energy systems to meet future demands while transitioning to a low to zero carbon future. The recent high economic growth rates experienced across the continent are

likely to drop if the existing situation is not ameliorated, as recent experience in South Africa has shown.

Current electrification trajectories are inadequate, and although many energy initiatives have specifically focused on Africa, their aggregate, potential contributions are still only marginal in relation to real needs. Depending on different aspirations, assumptions and projections, the magnitude of the gap differs, but is clearly significant. In the projections shown in Figure 2.1, Africa will face a gap of close to 400 GW of generation capacity in the year 2030 under a business as usual scenario.

### 2.3.1 Access to energy, equity, and human well-being

Access to adequate energy services is correlated with quality of life and well-being, and thus an imperative. Yet energy is very unevenly distributed, and even more so access to electricity. In some African countries, per capita electricity use is more than a hundred times smaller than that in industrialized countries. The International Energy Agency estimates that, on average, electricity consumption per capita in Africa was 590 kWh in 2012, compared to the world average of 2970 kWh/capita.

The Africa Progress Panel draws attention to the human face and socio-economic consequences of this gap, noting "… Sub-Saharan Africa is the only region in which the absolute number of people without access to modern energy is set to rise, by 45 million for electricity and 184 million for clean cooking stoves." Currently, over 600,000 women and children die annually from indoor air pollution associated with use of firewood for cooking. With other regions on a far more positive trajectory, by 2030 Africa's share of the world's population without electricity will rise from under half to over two thirds, and the share without clean cooking facilities will rise from one quarter to over a third.

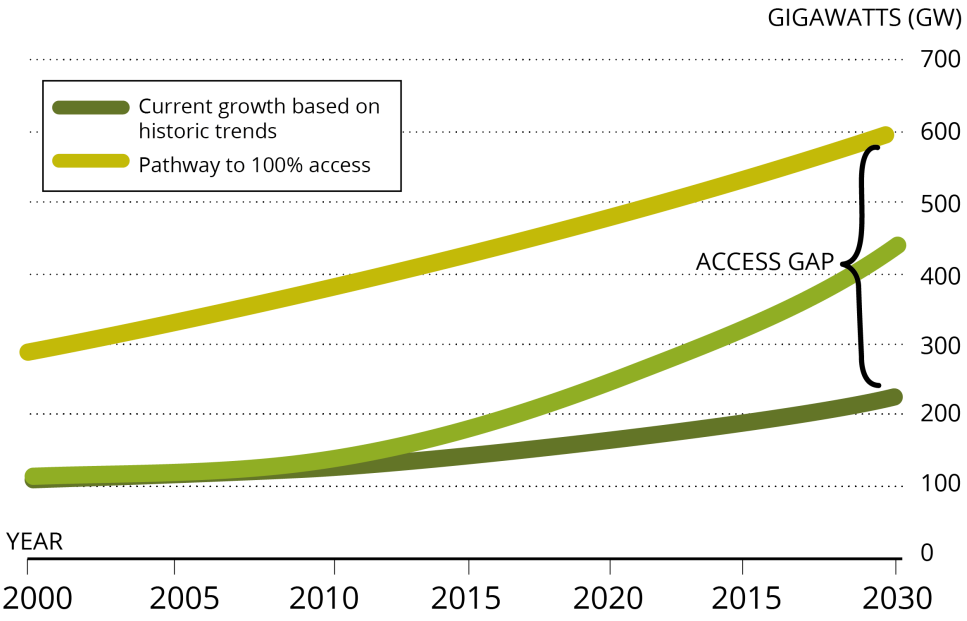


Figure 2.1. The energy access pathway – towards 2030. The lines show three trends: i) Generation capacity needs for 100% access at 2000W/household, calculated for years 2000 onwards; ii) Aspirations of the Programme for Infrastructure in Africa (PIDA), led by the AUC, at about 6% annual growth rate; iii) current & historic trends of installed power generation (2.5-3%/year). Note that even the ambitious PIDA goal of 6% per annual growth will not close the access gap until 2038; at the earliest.

For poor people, increased access to energy means a potential for vastly improved lives. The Africa RE Initiative therefore emphasizes energy access as one of its principal goals, with the recognition that this requires unprecedented efforts to reach populations currently off national grids. A transformative renewable energy initiative must recognize the importance of off-grid solutions and associated requirements for incentives, support, and capacity building measures.

Forward-looking transformational renewable energy efforts also recognize the importance of measures that promote *efficient* use of energy and that eliminates incentives to overconsume by wealthier parts of the population. Ultimately, the world must reach approximate convergence of per capita energy use at levels compatible with planetary boundaries, where African countries increase their per capita use of energy and developed countries decrease theirs, and all countries use energy efficiently.

### 2.3.2 Powering agriculture and food production

Agriculture contributes significantly to the economic and social makeup of the majority of African countries and plays a substantially larger relative role in Africa than in other regions. The average value added from agriculture in Sub-Saharan Africa, for example, was 19 percent in 2008, compared to two percent in Europe and seven percent in Latin America. This sector thus makes a significant contribution to the GDP of African countries, about 14 percent on average in 2014, and nearly half in some countries. Agriculture provides for around 40 percent of the continent's hard currency earnings, as well as 60 percent of employment and a large percentage of savings and tax revenues.

Around 80 percent of all farmlands on the continent are small-holdings of less than two hectares and the bulk of the production is rain-fed on soils with poor fertility, minimal mechanization, and limited access to other key inputs. Decades after the Asian agricultural Green Revolution, African agriculture lags behind all other developing regions when weighed by indicators of agricultural productivity; total factor productivity, for example, was only 1.7 percent by the mid-2000s. Access to agricultural technology and inputs lags other parts of the world, and capacity to adopt innovations is generally quite weak. Table 2.1 compares the level of agricultural mechanization in Africa to the rest of the world. What stands out is that small-scale farmers in Africa rely on labor-intensive technology that often makes them particularly vulnerable to climatic, ecological, and economic shocks.

| *Designation* | *Africa* | *Latin America* | *Europe* | *World* |
|---|---|---|---|---|
| *Tractors* | 523,917 | 1,765,242 | 10,737,469 | 25,530,184 |
| *Agricultural workers per tractor* | 394 | 24 | 3 | 51 |
| *Hectares per tractor* | 2,113 | 67 | 45 | 187 |

Table 2.1. Indicators of Agricultural Mechanization in Africa and the World (2003) - Source: FAOSTAT, 2008

Improved agricultural practices are consequently a priority for reducing poverty in Africa. Increased agricultural productivity is a primary driver for food security, nutrition, income generation, and development of peri-urban and rural areas. Greater agricultural productivity and improved climate resilience can be realized through improvements in agricultural production such as irrigation, improved agro-processing, more and better

post-harvest and storage facilities, and stronger distribution and retail chains, all of which require energy (see Figure 2.2).

African farmers need better quality and more energy and access to a wider range of energy services if they are to increase their productivity and realize higher incomes. This can be done in very different ways than those used earlier in agricultural intensification efforts on other continents, for example, by emphasizing knowledge intensive agro-ecological/small-scale ecologically intensive agriculture; using smaller electric powered agricultural machinery; adopting RE technologies for pumping water, irrigation and refrigeration; and using biogas for process heat.

Agricultural producers cannot transition to a more energy intensive agricultural practice on their own; they need support from governments, the private sector, research institutions and civil society. Energy services must be combined with other inputs such as ecologically appropriate seed diversity, machinery, and fertilizer; access to domestic and international agricultural markets; credit facilities; and other financial services.

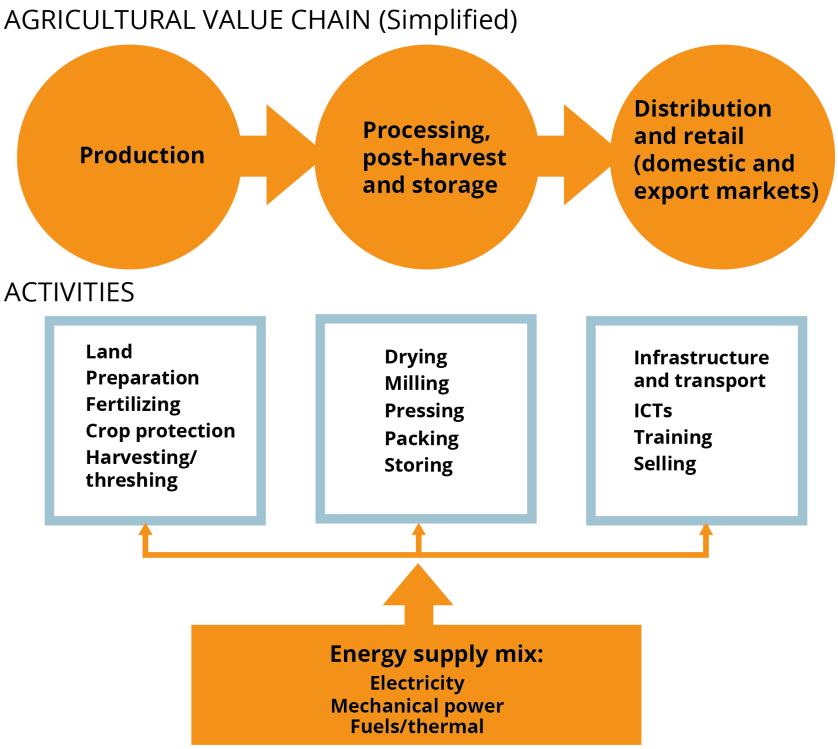


Figure 2.2. Stylized example of energy inputs at stages of an agricultural value chain (adapted from Practical Action, 2012)

### 2.3.3 Powering industries and services

The Africa RE Initiative recognizes that energy is a fundamental requirement to drive the productive sectors in both local and national contexts. This means addressing the needs of enterprises of all scales, both in terms of quantity and quality of access. The Initiative thus envisions electricity access that goes beyond providing electricity to households for lighting.

#### 2.3.3.1 Micro, Small and medium-sized enterprises and cooperatives

After agriculture, the bulk of Africa's people earn their living in the micro, small and medium-scale enterprise (MSME) sector, which includes artisans, cooperatives and non-profit oriented community associations among others. In addition to being active in small-

scale farming many African women own and run a wide variety of informal enterprises. Providing adequate and affordable energy services to this sector brings economy-wide benefits, although the full contribution of MSMEs to economic growth in African countries is seldom captured in official GDP statistics. Nonetheless, studies have shown a strong correlation between MSMEs and levels of income, with MSMEs in higher income countries contributing as much as 60 percent to GDP (Figure 2.3). Introducing labor saving energy services (for example, grain milling and water pumping) frees up women's time and reduces drudgery allowing them to increase and/or expand their productive activities.

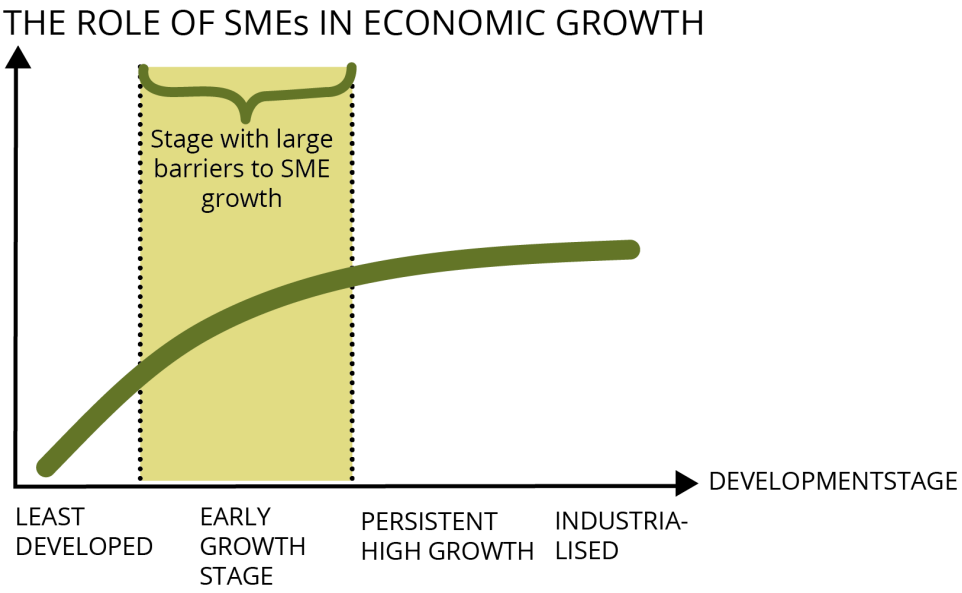


Figure 2.3. SMEs and Economic Growth (Fjose, Grunfeld & Green, 2010)

SMEs have identified unreliable electricity as a major constraint to their growth (Figure 2.4), and chronic power shortages continue to hamper Africa's manufacturing and service sectors and ultimately its overall economic development. As shown in Figure 2.5, growth in per capita electricity generation has been stagnant in Sub-Saharan Africa while increasing in all other regions in the world. Building a strong foundation for expanding electricity access to MSMEs thus makes sense from the economic growth and sustainable development perspectives.

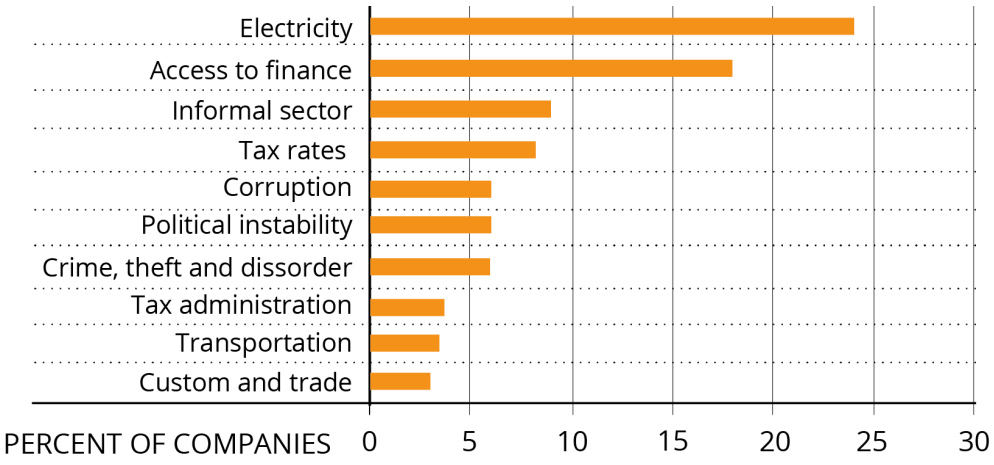


Figure 2.4. Ten business environment constraints for companies in Sub-Saharan Africa (World Bank, 2010)

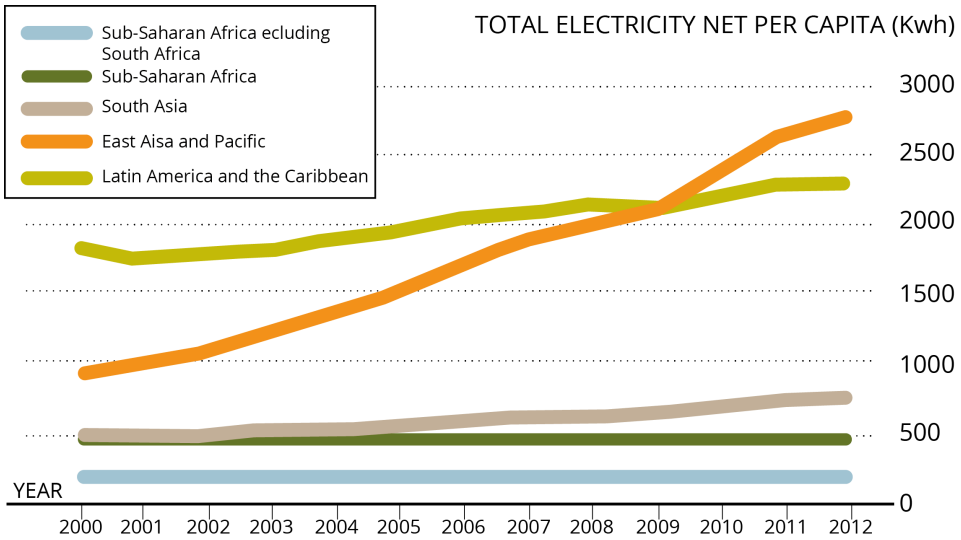


Figure 2.5. Generation Capacity 2000 - 2012: regions of the world (Source: Africa Progress Panel, 2015:38)

Clearly, MSMEs need access to modern energy services to function efficiently and profitably. Electricity is required to power tools, appliances, and productive equipment, and allow entrepreneurs to engage in and profit from the knowledge economy (Table 2.2). An assessment by USAID of energy needs in Angola's peri-urban areas, for example, found that all SMEs invest in energy to support their business activities. Better access to energy therefore opens up broad opportunities for income-producing activities, facilitating the transition of the poor out of poverty. Dependable, reasonably priced energy services enable MSMEs, cooperatives, and community associations to strengthen their market position, enhance their product and service base, increase business opportunities, and augment income flows in local and export markets.

| *SME Goals* | *Energy Services Contribution to Goal Achievement* |
|---|---|
| *Increased productivity through mechanization and energy efficiency* | Powering automated machinery and equipment upgrades for agricultural processing and small industries transforms labor-intensive, low-production enterprises into high value-added operations. |
| *Enhanced capacity for food processing and services* | Powering refrigeration, freezing and drying facilities helps preserve agricultural products such as milk, fish, spices, fruits, meats and maize for export or retail sales. |
| *Improved commercial communications* | Energy access makes possible the use of voice telephony, computing, internet services and other information and communication tools that help entrepreneurs keep up-to-date on market and weather conditions. |
| *Increased operating hours in response to peak demands* | Electric lighting allows entrepreneurs to extend their working day and thus increase their income by serving customers in the evening or operating workshops past sundown. Street lighting helps to extend selling hours for street vendors. |
| *Healthier and safer working conditions* | Modern energy services are cleaner and safer than traditional means of heating/cooling, cooking, and lighting, which benefits both workers and consumers. Eliminating the use of smoky kerosene lamps, crude cooking stoves, and unstable electrical connections (such as in pirated electricity) reduces the risks of accidents and indoor air pollution. |
| *Increased business opportunities through clustering/agglomeration.* | Availability of electrical appliances at specific locations fosters concentration of people at common locations, creating new business opportunities through networking and other benefits of industrial clusters. |

Table 2.2. The Energy – SME Nexus

#### 2.3.3.2 Powering Industrialization

Industrial demand for energy in Africa will increase markedly over the coming decades. As the least industrialized continent, Africa has the latecomer advantage of avoiding many of the problems that bedeviled countries that industrialized rapidly. African countries have the opportunity to adopt industrial strategies that reduce pollution and excessive demands for energy, as well as leapfrog to modern and diversified renewable energy systems. The Africa RE Initiative recognizes that renewable energy is the answer – over time – for even the most energy intensive demands. By enabling the use of the best available technologies Africa has the opportunity to use renewable energy sources to build energy systems of the future, where relatively smaller-scale distributed RE generation provides most of the energy, complemented by larger-scale RE generation as appropriate.

### 2.3.4 Powering essential social and community services

For the majority of Africans that lack sufficient access to energy services, the provision of energy for essential social services at the community level is a high priority. Energy and electricity supply to schools, health clinics, and other public institutions that serve the common good are of enormous value. The Africa RE Initiative will specifically target such social services and have clear and explicit community and people-focused orientation.

Energy for community services is essential for health and education. Along with buildings, staff, equipment, and medicines, an effective health care system needs energy. People are unlikely to receive adequate health care if the facility they visit has inadequate electric lighting, lacks a refrigerator or sterilization equipment, and is not able to attract skilled staff. Electric lighting allows schools to operate outside daylight hours, extending the working hours for students, adults, and teachers. Services of all public institutions can be improved and expanded through access to electricity, allowing for lighting, cooling and use of information and communication technologies (ICTs). When electricity is available, local government offices and police stations can maintain demographic data, tax information, legal registrations and other public records through use of computers, photocopiers, and printers.

Similarly, with electricity community associations can provide a range of services, improve local participatory decision-making processes, and undertake other efforts that support local development.

An ambitious Africa RE Initiative must plan for expanded access to electricity for social services as African societies develop social security provisions and other means of improving welfare for their populations over the coming decades.

# 3 THE AFRICA RENEWABLE ENERGY INITIATIVE: GOALS AND DEVELOPMENT OBJECTIVES

## 3.1 GOALS

The AREI seeks to: 1) help achieve sustainable development, enhance human well-being, and support sound economic development by *ensuring universal access to sufficient amounts of clean, appropriate and affordable energy*, and 2) help African countries *leapfrog towards renewable energy systems* that support their low-carbon development strategies while enhancing economic and energy security.

## 3.2 GUIDING PRINCIPLES

**In reaching these goals, the AREI will:**

- contribute to achieving sustainable development in Africa by scaling up and accelerating the deployment and funding of renewable energy in Africa;
- address the entire African continent and benefit all African countries;
- boost intra-regional and international cooperation and promote and support only those activities and projects that are agreed by all countries concerned and impacted;
- promote all kinds of renewable energy technologies, in particular solar; wind; pico-, micro-, small- and medium-scale hydro; modern biomass; geothermal; and marine, provided they are socially and environmentally appropriate, gender sensitive and in line with these guiding principles;
- promote the full range of renewable electricity applications, from grid-connected to mini-grids to small stand-alone systems, as well as other forms of energy, with particular consideration being paid to applications that meet the needs of poor people.

## 3.3 SUSTAINABILITY IMPERATIVES

The AREI is congruent with the ambitions of the post-2015 development agenda and its agreed Sustainable Development Goals – SDG 7 on energy and energy access and SDG 13 on climate change in particular – as well as those of the UN Climate Change Convention. Efforts that directly address energy requirements for social development such as schools, health centres and communications are critical to support the development capacities of communities in rural and urban areas, and promote directly several other SDGs. In recent years, a number of initiatives such as Sustainable Energy for All, the Programme of Infrastructure Development in Africa (PIDA) of the African Union, Power Africa, the African Clean Energy Corridor, and numerous civil society and community efforts have emerged to address Africa's energy challenges. The Africa RE Initiative will build on, influence, and interact with the renewable energy components of these initiatives, and create the means for sharing best practices and experiences as well as coordinating efforts on investment opportunities.

## 3.4 THE ENERGY SYSTEM OF THE FUTURE

Renewable energy is already today cost-competitive with conventional, fossil-fuel based new-build power systems in most countries.[1] While there were uncertainties as to both economic and technical feasibility of renewable energy a decade ago none of these remain today. The challenge now is to determine what regulatory frameworks and incentives schemes are necessary to implement a large-scale rollout of renewable energy. Africa has an abundance of renewable energy potential: McKinsey have estimated that solar could provide more than 10,000 GW of capacity; wind, 109 GW; hydro 350 GW; and geothermal about 15 GW.

The deployment of renewable energy technologies is taking place at different scales, ranging from small stand-alone units to isolated mini-grids to larger grid-integrated systems, and offers a new, highly inspiring vision of the energy system of the future. The electric power system has historically been designed to connect a small number of large generation plants in one direction with a large customer base. This way of providing electricity has significant lump-sum capital and operating costs and is relatively inflexible, making it a challenge for many African utilities. The approach is also limited in terms of reaching people and communities in rural areas, which is a major reason that the majority of people in rural areas in African countries are not connected to the grid.

The AREI will take advantage of rapidly falling costs, new technological and engineering innovations, and novel delivery models in the power sector. Renewable energy resources can be harnessed everywhere, by and for households, communities, SMEs and larger entities for their own consumption, as well as integrated into evolving smart multi-directional grid systems. Modular or phased approaches for scaling up generation, transmission, and distribution infrastructure are gaining in popularity as costs drop and experience with new business models grows. Leap-frogging to "smart" technologies will allow African countries to avoid costly lock-in of increasingly outdated technologies while addressing local and national energy service requirements.

By promoting distributed, decentralized solutions in addition to large-scale generation, renewable energy expansion can take place rapidly and across whole countries. Smaller, distributed projects can be initiated simultaneously, with construction times ranging from weeks to a few years as opposed to six to eight years or longer for large, centralized installations. The granularity of investments provides opportunities for African countries to expand energy production quickly. Over time, systems can increasingly be connected in dynamic ways that support, balance and strengthen each other – both within countries and across regions of countries – bringing down total costs further.

The AREI envisions a smart, distributed energy system that can handle a mix of RE generation both in terms of scale and types of technology, and that can quickly provide energy access to rural populations far from the national grids. As renewable energy projects attract new investors and developers, the ownership base will become more diversified compared to conventional energy systems.

[1] The levelized cost of energy (LCOE) for wind has declined by 58% and for solar by 78% between the period 2009 and 2014. Typical costs for renewable energy based power generation are of 3 to 10 US cents per kWh for large-scale hydro, 5 to 10 US cents for geothermal, and 5 to 14 US cents for onshore wind power (IRENA (2014) – Renewable Power Generation costs in 2014. In 2013, through competitive bidding process South Africa has signed PPA for wind at 7.5 US cents, 10 US cents for solar PV and 16.6 cents for solar CSP.

## 3.5 TIMEFRAME AND AMBITION

**The Africa RE Initiative has different ambitions over different times.**

- In the **immediate term**, the Initiative will engage with multiple African stakeholders and proponents of existing projects to stimulate discussions on transformation built around different RE deployment models, seeking alignment where possible.
- Between **2016 and 2020**, the Initiative seeks to facilitate and support the establishment of particularly promising incentive structures and comprehensive policy packages for national governments in interested African countries. The Initiative will identify projects that use RE/EE technologies or applications that can be replicated quickly in other African countries and help seek international public funding that leverages public and private investments.
- During this initial four-year period, the Initiative seeks to enable **at least 10 GW of new and additional renewable energy** installations in a number of countries, based on a demand-driven approach and in line with its approaches, priorities, and selection criteria.
- The period through 2020 should be seen as an investment that establishes the **foundation** for successful replication, qualitative learning, improvement, and scaling up in the post-2020 phase. This quantitative and qualitative expansion will be possible once nationally appropriate support mechanisms and comprehensive national policies exist across the whole of Africa, and sufficient international public climate and domestic finance is available.
- The **longer-term target** is to achieve **universal access to energy services by 2030**, with a per capita electricity use of at least 2000 kWh per year[2], while transitioning to low to zero carbon emissions. This **suggests at least 300 GW[3] of new and additional RE generation capacity** need to be added, which would also help meet the Sustainable Energy for All goals for access, renewable energy, and energy efficiency.
- In the context of the international climate negotiations and the **post-2020 period**, the Initiative will demonstrate Africa's commitment towards the establishment of the Global Renewable Energy Support Initiative proposed by the African Group of Negotiators to help close the global emissions gap and to put the world on course towards limiting warming to below 2 °C or 1.5 °C by the end of 2100 – an objective crucial to Africa's development and prosperity.

## 3.6 EXPECTED RESULTS

Achieving these goals and targets requires a large and rapid increase in investment across the full range of renewable energy applications. This needs to begin immediately, with **at least 10 GW** of new and additional installed capacity by 2020 that is made possible or enabled by the AREI.

For the second phase of accelerated deployment between 2020 and 2030, an additional **minimum of 300 GW** of new and additional capacity is expected (see figure 3.1).

**A snapshot of measurable results expected in the countries that engage with and take on the activities of the Initiative would include:**

[2] For reference today's per capita electricity use in Brazil is approximately 2500 KWh per person and year.
[3] This goal will be regularly revised based on changing and improving technical and implementation capacities.

- A quantitative and relative increase in the number of micro- small and medium enterprises (MSMEs) or other users connected to national grids or new mini-grids.
- A quantitative and relative increase in the RE share of overall energy consumption, particularly in agriculture, industry, and the service sector.
- A quantitative and relative increase in the share of African firms providing RE equipment, supplies, and services to national and African markets.

These and other indicators for the overall Initiative will be further elaborated, and translated into country and specific activity cluster/project contexts.

By 2020, a thorough review and assessment will be conducted to determine whether activities are on track, interim goals are being realized, commitments for support and funding from international partners have been fulfilled, and whether the goal for 2020-2030 should be revised.

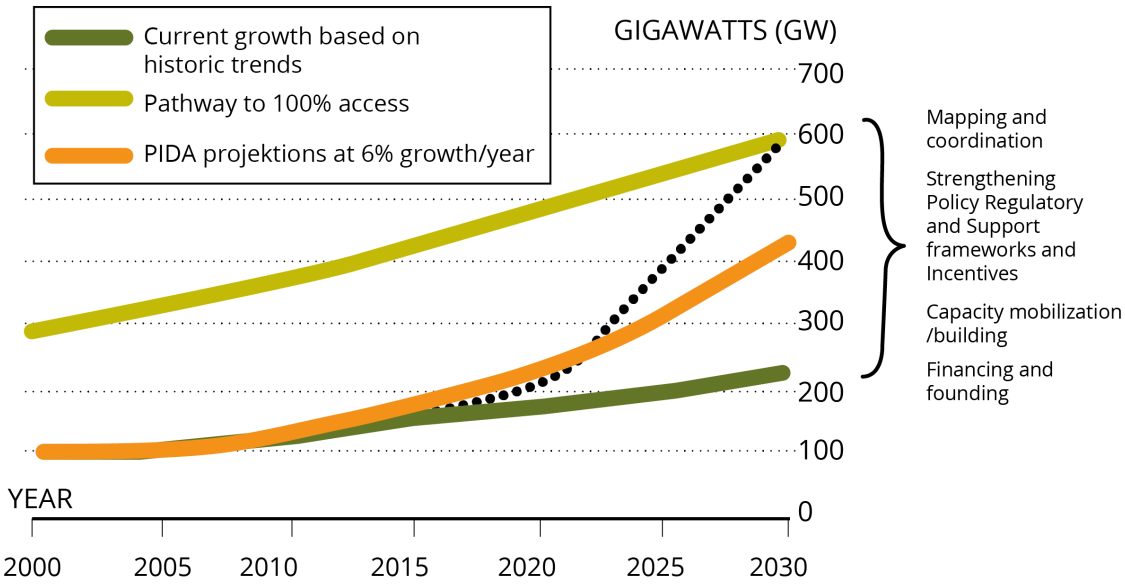


Figure 3.1. The AREI trajectory as dotted line – accelerated deployment of renewable energy to reach universal access by 2030, made possible by the four activity clusters elaborated below.

# 4 PROPOSED ACTIVITY CLUSTERS

The Africa RE Initiative recognizes that a diversity of renewable energy related efforts are already underway, supported by governments, various international and bilateral financing agencies, the private sector and civil society organizations. However, these efforts are unevenly spread across countries and taken together fall far short of reaching the goals outlined in previous section. There is a need for significant scaling up of efforts and accelerated implementation where the African continent as a whole shows solidarity and takes responsibility to ensure no country is left behind.

The Initiative foresees four clusters of activities that will need to be further designed, funded, and implemented. This section summarizes these clusters. In practice, countries will select and combine specific elements into comprehensive, nationally determined policy packages. As the challenges of executing an energy transition are complex and multifaceted, a number of complementary and inter-related interventions are needed.

Activities will occur on both the national and sub-regional levels. The Initiative will conduct assessments, proactively formulate policy options and support mechanisms for consideration by countries, and pool international funding to ensure all African countries benefit. The Initiative will be demand-driven, with governments and sub-regional organizations able to request technical assistance through individual experts or centers of excellence working under contracts or memoranda of understanding with the Africa RE Initiative and allied institutions. The Initiative will provide technical and financial assistance for policy analysis and design and implementation of incentives, building on replicable and scalable best practices in Africa and other regions.

**The Africa RE Initiative serves two roles in this regard:**

1) It seeks to enhance the identification, coordination and multi-stakeholder elaboration of the many activities that a broad range of actors already pursue – or may take up in the future.

2) It will take an active role and pursue or facilitate activities in its own right where there is a particular need and lack of appropriate action.

**Furthermore, the various enabling activities under the four Africa RE Initiative activity clusters may be divided into:**

**'Supportive activities'** such as studies, assessments, policy guidance, capacity building, funding proposal support, international coordination, and multi-stakeholder participatory processes that require relatively modest funding (squares in the overview of activities below), and

**'Incentives and investments'** such as feed-in tariff support, payment guarantees, de-risking measures, concessional credit, and various forms of investment that require much more substantial funding (circles in the overview of activities below)

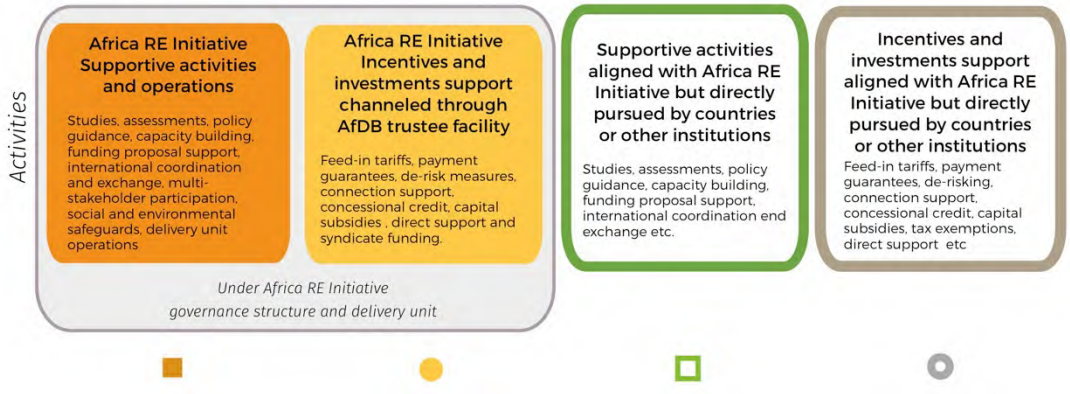


Figure 4.1. Activities within the Africa RE Inititative Framework

Figure 4.1 summarizes how the different enabling activities of the Africa RE Initiative can be categorized. These are described in greater detail below.

The activities outlined in this Framework are being further elaborated into an Action Plan as a matter of priority.

## 4.1 MAPPING EXPERIENCES AND ACTIVITIES FOR ENHANCED COORDINATION

Recent years have seen considerable growth in the number of initiatives aiming to support the deployment of renewable energy technologies in Africa; these involve a variety of multilateral and development partners. This growth highlights both the global interest in addressing the energy challenge in Africa and the opportunities Africa offers for energy investment. There is, however, a concern that many initiatives are fragmented and uncoordinated and that opportunities for delivering greater impact are too often foregone. The AREI will devote efforts to enhance coordination with and build on the outcome of the various programmes and initiatives on the development of renewable energy that already exist in Africa, including bilateral and multilateral cooperation.

**It will promote the following activities:**

a) Assess current and emerging technologies, RE policies, regulations, and experiences in the African region, drawing on existing information as well as commissioning new assessments of approaches to determine success factors and lessons learned. ( ■□, see legend in fig 4.1)

a) Determine among existing initiatives the most promising and replicable approaches; assess the level of effort, gaps, and priorities of the different RE initiatives and identify those that can be mutually strengthened through partnerships. ■□

b) Facilitate exchange of best-practice policies by supporting participation of policy makers in peer-exchange networks; organize consultative events on policy design and implementation that bring together African and non-African decision makers, parliamentarians, IFIs, utility managers, regulators and civil society and private sector organizations. ■□

## 4.2 STRENGTHENING POLICY, REGULATORY, SUPPORT AND INCENTIVES FRAMEWORKS…

Financial institutions and developers need stability and certainty in their investment environment. From the perspective of local communities, SMEs, larger domestic companies, and international private sector financial institutions and companies, certain elements of the enabling environment must be in place in order to make African countries attractive for renewable energy investment. One fundamental element is a strong regulatory environment that respects contracts and the rule of law. Investors need confidence that contracts will be honored and will not be "re-traded" – invalidated or revised by government action after the fact.

Accordingly, this activity cluster addresses the strengthening of policy, regulatory, and incentive measures at the country level in five distinct areas of intervention. These are: to provide long-term investment security; to drive upgrades of existing national grids and accelerate roll-out of mini-grids; to address needs of non-electrical energy forms in productive sectors; to improve energy efficiency; and to enhance domestic RE technology manufacturing, assembly, deployment, and operations capacity.

### 4.2.1 … to provide long-term investment security

Although there is often already a clear business case for renewable energy based on lifetime costs, efforts to accelerate renewable energy deployment must address the difference in cost structure between fossil fuels and renewable energy sources. That the cost of renewable energy projects is dominated by the upfront capital costs of the equipment rather than fuel and other operating costs presents a risk to investors. Investors and developers – whether households, communities, cooperatives, SMEs or larger companies – need both certainty of off-take (that is, that the energy produced can be sold) and certainty about the tariff, the price at which the energy can be sold.

For ambitious rollout of renewable energy in Africa, these risks need to be addressed in a comprehensive, predictable, and long-term manner through targeted support and incentives. De-risking, time-bound payment guarantees such as those offered through power purchase agreements (PPAs) can provide secure investment conditions for both small and large investors and developers. Many African countries already have or are planning for such results-based incentives using feed-in tariff or auction based systems. Scaled up, they can leverage large levels of investment by both public and private actors.

Other incentives that countries may consider include indirect support measures such as tax rebates, insurance, various forms of risk guarantees, low-cost loans and concessional financing (see also 4.4.2), and, while seldom the most cost-efficient, direct support measures such as cash subsidies.

In addition, countries can consider a range of policy measures that further enhance long-term investment conditions. These include public procurement with RE requirements, formulation of near and long-term national RE goals, renewable energy portfolio requirements, net metering provisions, domestic content requirements, and uniform standards ranging from grid protocols to PPAs, all of which might be considered in determining a nationally optimal policy mix.

Design and application of these instruments will need to be financed through a mix of national and international climate/ development funding, which will in turn leverage much larger public and private investment. It is important in designing policy frameworks and incentives to involve stakeholders through participatory processes and address issues of

affordability, socio-economic benefits, environmental soundness, regional cooperation, and technology transfer elements.

**The Africa RE Initiative will:**

a) Consider and evaluate existing experiences and lessons learned from the use of different kinds of policy tools and incentives, including results-based off-take and tariff guarantees, particularly in developing and African country contexts. It will further develop best-case model options that ensure fulfilment of deployment goals while addressing concerns regarding environmental safeguards, affordability and regional, national and local socio-economic development and impacts. ■□ (see legend in fig 4.1)

b) Support countries in determining the combination of international financial support and domestic contributions for different mixes of policies and incentives, and assist/support countries in formulating funding proposals to the GCF and other international funding sources favorable to the Africa RE Initiative. ■□

c) Help mobilize, and channel as appropriate, international financial support to fund country-based RE incentives according to national priorities. ●○

d) Strengthen or create innovative mechanisms for enhanced local participation in RE policy and planning efforts. ■□

e) Evaluate particularly promising options or models for support of off-grid and mini-grid development and household-based RE generation (both standalone and grid connected). ■□

### 4.2.2 … to drive upgrades of existing national grids and accelerate mini-grid rollouts

Realizing the bold vision of a future with high renewable energy penetration in Africa requires long-term planning and implies significant investments in upgrades of existing grids and expansion of new "smart" grids, both small mini-grids and national grids. While this will mean higher costs in the short run, it will build a resilient energy infrastructure in Africa. With smart grids the energy system will be able to accommodate both large-scale RE installations as well as new, small-scale generators that are both consumers and producers of electricity.

Clusters of such entities can form "virtual power plants" that provide a net surplus to the grid and ensure instantaneous matching of supply and demand. With current transmission and distribution losses averaging 25 percent in Africa against a global average of six percent, alternative systems with more localized generation and consumption – illustrated in Figure 4.1 – can provide immediate gains in efficiency and avoidable losses. Localized systems may also more effectively address non-technical losses such as non-metered and unbilled consumption. By developing new and smarter grids and upgrading old grids, the energy system can accommodate significantly higher amounts of renewable energy. Relying on a greater diversity of renewable energy sources and smart design, the system will be able to provide stability and baseload capacity. Stand-alone installations, including at households level, and mini-grids can interconnect and may eventually connect to the national grid.

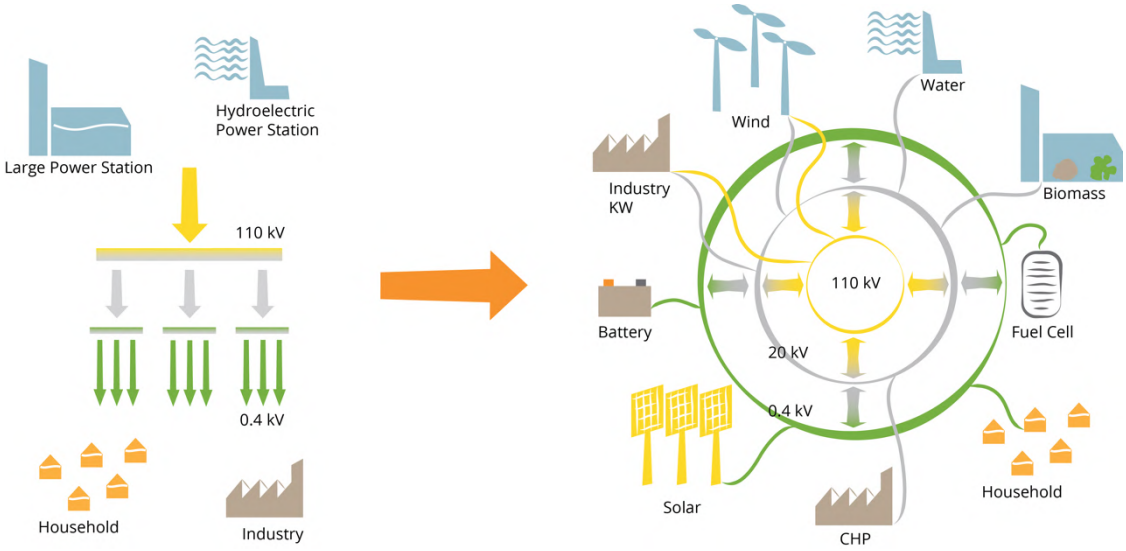


Figure 4.1. Illustration of the transition from centralized to distributed generation (Adapted from the South African Council for Scientific and Industrial Research - CSIR)

For many African countries, accelerated roll out and support for mini-grids will be a large part of the renewable energy transition. By providing incentives and support for mini-grids, electricity access can be expanded in short time in areas both presently far off the grid and in rural, peri-urban and urban areas where mini-grids can be connected to the national grid. Regulations and support schemes for mini-grids must ensure secure investments for the developer (community, SME, or larger company) and be conducive to eventual grid connection, both economically and technically. The Initiative will explore and highlight the best examples of household-based approaches, including off-grid solar and pay-as you go models, recognizing the need for these to be conducive to mini-grid and grid expansion and to ensure they are not too limited in their approach to energy access.

### The Africa RE Initiative will:

a) Support country assessment of RE-readiness of existing grid-infrastructure, with identification, prioritization and cost estimations of immediate and longer-term technology upgrading, as well as options for enhanced maintenance and operations strategies. ■□

b) Enable African regional exchange of experiences, scope for visionary longer-term planning of new smart grid systems, standards, and technology transfer, including drawing on experiences and interacting with other developed and developing countries. ■□

c) Help countries mobilize and channel as appropriate international public funding to enable country-based support systems for grid upgrades and mini-grid development according to national priorities. These may include, for example, efforts to provide results-based direct payments per additional access point achieved in rural areas, whether on- or off-grid, and efforts for facilitating grid construction and upgrading according to the outcomes of the above assessments. ●○

d) Map and evaluate existing and emerging business models and support schemes for mini-grid development and support country specific assessments of how mini-

grids can play significant roles, (that is, determining their optimal mini-grid "space").

e) Support the creation of stable policy environments that provide certainty for mini-grid project developers concerning main grid extension plans and contractual / financial arrangements in the event of later grid connection.

f) Explore best practices and experiences from household-oriented efforts and support schemes, including ways of integrating these in long-term planning of the national energy systems.

### 4.2.3 … to address needs for non-electrical energy forms in productive sectors

The Africa RE Initiative will address often-neglected non-electricity energy needs across all sectors of African societies. These include needs for transportation, cooking, heating/cooling, post-harvest processing, smelting and milling, among others. While electricity will have an increasingly large share of the energy mix in the renewable energy based energy systems of the future, these very real current needs need to be addressed in the short term also through energy carriers such as biogas, liquid biofuels and other biomass energy, for example wood pellets, and in socially and environmentally appropriate ways. Countries need capacity and support to carefully plan for dynamic and ambitious energy trajectories that can anticipate a shift towards electricity over the decades to come, while addressing current needs. The Initiative will promote the following activities:

a) Support efforts by countries to raise, and channel as appropriate, international public funding to enable country-based support systems that incentivize non-electrical RE investments according to national priorities.

b) Expand access to market-transformative credit/loan facilities for commercial customers of non-electrical energy equipment/appliances.

c) Set up or strengthen business development services and provision of seed capital for small- and medium-sized entrepreneurs, enabling them to meet demands for productive applications of non-electrical energy products and services.

d) Establish web-enabled databases covering non-electrical energy innovations, applications and business opportunities.

e) Implement new (or strengthen existing) South-South cooperation agreements and frameworks that support the transfer, replication and scale-up of the most promising non-electrical energy technologies (low-cost, high impact) in African rural and peri-urban energy markets.

f) Strengthen capacities of government agencies and civil-society "watch-dog" institutions in the design and enforcement of non-electrical appliance standards.

g) Engage and support African countries to map desired shifts of electric and non-electrical RE energy options over time and integrate these desired trajectories into national energy strategies, plans, and programmes.

### 4.2.4 … to improve energy efficiency

As the energy system transitions to renewable energy, it is important to ensure the overall system is as efficient as possible. Through both "production efficiency" (through, for example, ensuring proper maintenance of generation plants, reliable feedstock supply to increase load factors, and efficient manufacturing processes) and "consumption efficiency" (by requiring efficient appliances, cookstoves, lighting, and vehicles for transportation), renewable energy installations can provide more services for less cost. If the expanding system is efficient, generation capacity for stand-alone systems can be lower and less expensive. With higher system efficiency, emissions of greenhouse gases will be reduced. Experience elsewhere has shown it is important to deeply integrate energy efficiency with efforts to promote renewable energy and promote general awareness about the benefits of efficiency. This coupling will ensure effective use of resources.

**The Initiative will support the following activities:**

a) Assess systematically various energy efficiency policies, regulations, standards and incentives measures currently used in African countries, as well as other developing and developed countries, with a view to identify best practices and particularly successful approaches.

b) Explore options for incentive measures and regulations to ensure and enable the highest standards of energy efficiency for appliances, lighting, and other devices as complementary and conditional requirements for other results-based RE investment incentives.

c) Enable and channel international financial support for efforts by African countries to develop, improve, and finance bold energy efficiency measures and national strategies facilitated by the above assessments.

### 4.2.5 … to enhance domestic RE technology manufacturing, assembly, deployment and operations capacity

All parts of the renewable energy value chain, from investments in RE component manufacturing to operations and management, offer significant potential for job creation, improved incomes, economic diversification, and growth both locally and nationally. While RE deployment, operations and management contribute directly to jobs, the enhanced availability of electricity in communities supports local businesses and public services, creating additional jobs. Enhancing domestic and African regional RE technology manufacturing to supply and respond to an African RE revolution will create a new economic sector for Africa.

In the short term, local companies will be incentivized to import advanced RE technologies for local assembly and installation. In the medium term, with an emerging skills base as part of a growing manufacturing ecosystem, local and regional assembly of RE technologies would occur, much of this by small and medium enterprises that bring job creation and employment benefits. In the longer term, domestic or regional manufacturing of RE technologies is the goal, made possible by North-South and South-South technology transfer, skills enhancement, provision of financial incentives, and regional cooperation

**The Africa RE Initiative will:**

a) Support country and continent-wide planning for long-term, step-wise enhancement of the RE technology value chain, including manufacturing capacity in terms of domestic regulatory reforms, international technology transfer and trade provisions, and the formulation and funding of targeted financial incentive mechanisms.

b) Initiate collaborative long-term programmes with supportive countries, including through South-South collaboration and involving multilateral and UN institutions, for establishing and strengthening RE technology manufacturing, assembly and deployment capacity and access to technology.

c) Support government efforts to maximize job-creation impacts of RE deployment, with a view to producing tailored policy mixes through coordination between RE deployment and other interacting policies such as education, trade, regional development, industry, and labor.

d) Provide technical and financial assistance for systematic assessments of employment effects at specific points on RE value chains to inform adoption of measures that maximize socio- economic benefits of RE on low income populations.

e) Expand opportunities for the participation of women in the renewable energy sector across all dimensions.

## 4.3 CAPACITY BUILDING AND MOBILIZATION ACROSS STAKEHOLDERS AT ALL LEVELS

Achieving universal access to energy and a transformation to modern, renewable energy systems in Africa is a task that will require unprecedented involvement and strengthened capacity of people and institutions across sectors and at all levels. The Africa RE Initiative will from the very outset, therefore, place a high priority on and plan for the necessary capacity building and institutional strengthening. Every part of the effort will have a capacity building and mobilization component factored and costed in. This will increase overall costs but the benefits from robust institutional and human capacity are significant. Sustained expansion of renewable energy projects in Africa will more than compensate for the costs, which are best thought of as investments.

A large capacity building effort will require substantial international public funding to top-up domestic resources. While international expertise, including South-South collaboration and knowledge exchange, are critical, it is imperative that Africa builds its own skills base and expertise. National ownership means African institutions taking control of the technical effort required to expand the renewable energy sector. The capacity building cluster of the Africa RE Initiative includes the following activities:

a) Support an African-regional effort to develop a comprehensive strategic plan for enhancing skills, education and training, with involvement of top international experts. Formulate long-term capacity building and mobilization programmes with developed and developing countries.

b) Support mobilizing and, as appropriate channeling, public financial support for scaled up renewable energy education and training at universities and other relevant institutions, and foster international and interdisciplinary collaboration,

such as the creation of interchangeable job and training specifications, harmonization of curricula, and development of common quality standards for training programmes and trainers.

c) Integrate an on-the-job training component (including apprenticeships) into all government and donor supported projects, and provide for exchanges of both operational staff and managers across countries and continents.

d) Build partnerships with the very best knowledge institutions outside of Africa with the goal of accelerating technology and knowledge transfer. Develop regional collaboration and expert sharing programmes between African institutions, supported by partners. Strengthen capacity and enhance experience sharing of specialized institutions dedicated to renewable energy across Africa. Establish an African Energy Institute for action-oriented research, training, capacity mobilization and skills building.

e) Build the capacity of researchers to produce, access, and communicate evidence that informs policy-making, and strengthen capacity to monitor and evaluate progress and achievements on all dimensions of this Framework and its Action Plan.

Actions in this result area will address the skill shortages and requirements outlined by IRENA and presented in Table 4.2.

| *RE Sector* | Occupation |
|---|---|
| *Wind* | Project developers; service technicians; data analysts; electrical, computer, mechanical, and construction engineers |
| *Solar* | Photovoltaic and solar thermal system installers and maintainers; building inspectors |
| *Hydro* | Electrical and operations and maintenance engineers; technicians; tradespersons; sustainability specialists |
| *Geothermal* | Trainers; geologists; hydrogeologists; geothermal engineers |
| *Biomass* | R&D and design engineers; service technicians; trainers |

Table 4.2. Renewable energy skills gaps: global survey results (adapted from: IRENA, 2013:78)

## 4.4 FINANCING AND FUNDING

The Africa RE Initiative would be a major undertaking, particularly once scaled up and involving all countries across the African continent. Each of the activity clusters is essential for the overall success and long-term viability of the undertaking. Funding requirements for some activity clusters, such as the mapping of existing initiatives, improving access to credit for investors and developers, and the delivery of technical support to countries on long-term RE planning are relatively modest. Other activities such as targeted incentives for investors, de-risking measures, concerted capacity building and enabling of both national grid and off-grid / mini-grid development will be significant at scale. Overall, however, the Initiative is expected to leverage much larger sums of investments from both public and particularly private investors.

### 4.4.1 … to cover operating costs, supporting activities, incentives, and investments

In the short run (pre-2020), financial resources of at least USD 5 billion in new and additional grants would be needed for the activity clusters described above, for the required analytical, preparatory and planning work and to provide incentives and financial investment support. Based on recent experience in Africa, these efforts could be expected to attract at least USD 15 billion in private and/or public sector financing and lead to the installation of at least 10 GW new and additional RE generation capacity in African countries.

The initial efforts should set examples at the national level and prepare the ground for acceleration and scaling up from 2020 onwards across all activity clusters. From 2020 onward it is expected that all African countries would be engaged, and through their specific country-determined mixes of activities/policy incentives be implementing renewable energy plans and investments over the decades to come.

Total cost as well as needs/requirements for international support through grants will need to be determined in detail, but would likely amount to USD 25-40 billion per year over the coming two decades, depending on levels of ambition and technology and other cost trajectories. Detailed analysis and longer-term cost calculations are a priority of the pre-2020 phase of the Initiative.

**Required finance-related activities include:**

a) Direct financing, through both international and African domestic means, of the operationalization of the Africa RE Initiative as a coordinating and facilitating entity, including supportive activities as outlined above. ■

b) Financial commitments from international climate funds to fund the pre-2020 requirements with at least USD 5 billion over the five-year period. ■□○

c) Support to individual countries or groups of countries for formulating requests and preparing proposals to the Green Climate Fund and other international funding sources. ■

d) Detailed assessments of costs, facilitated through collaboration and sharing of ideas through the Africa RE Initiative, of a variety of trajectories and ambitious policy/support scheme mixes for different African country contexts. ■□

### 4.4.2 … by facilitating access to credit for investors and developers

The Africa RE Initiative needs to address the access-to-credit bottleneck experienced by RE investors across the continent. Many African credit institutions are reluctant and inexperienced in lending for RE investments, with the result that many RE potential projects never occur due to either non-availability of credit or excessively high interest rates. This is particularly the case for small-scale investments in distributed RE which is a new, unproven area for many credit institutions, and where in addition borrowers/creditors are often relatively weak and inexperienced economic entities (SMEs, cooperatives, communities and households). Other credit related challenges include lack of access to foreign exchange, lender requirements (e.g., collateral requirements) and risks associated with off-taker creditworthiness.

**A transformative effort will need to tackle this challenge in several parallel tracks:**

a) Make available new public sources of favorable, concessional finance for RE investments through African, developed and other developing country governments, multilateral development banks, and other public sources.

b) Make interventions that expands less costly lending from African commercial bank and other credit institutions, and through dedicated outreach, awareness raising, capacity building, and payment default risk mitigation, strengthen their confidence in lending for RE investments and development.

c) Strengthen access to international private credit that supports investments and development of renewable energy in line with priorities and guiding principles of this Framework, with particular emphasis on ensuring environmental and social appropriateness and investments that benefit the productive sectors and poor and marginalized parts of the populations.

d) Explore different complementary sources of investment capital, such as wealthy Africans who are keen to see their wealth serve African energy access and development, various crowd-sourcing options, and the potential of foreign capital from community/cooperatives funds in developed countries that are interested in supporting communities in the South.

# 5 ELEMENTS OF THE IMPLEMENTATION STRATEGY

The Africa RE Initiative implementation strategy is premised on the Initiative being a fully Africa-led effort that is continental in scope, has a focus on comprehensive policy design and implementation at the country level, that provides incentives and enabling activities made possible through international public finance, and that relies on different forms of public and private investment in RE systems. A core principle guiding the implementation strategy outlined below is that there is no "one-size-fits-all" formula for success across the continent. Each country will have to identify its own strengths and weaknesses, and formulate its own strategies for achieving results.

## 5.1 HARNESSING NEW WAVES OF TRANSFORMATION

The Africa RE Initiative comes at a time of rising global interest in the vision of universal access to modern, sustainable energy services, exemplified in the UN Decade of Sustainable Energy for All. This vision is powering multiple actions needed to reach the goal. In this new context, the Africa RE Initiative will use an implementation strategy that resembles the act of "riding a wave" of other initiatives, positioning itself in the path of a crest of new ideas and resource flows and building forward momentum with high-impact actions structured around shared objectives. Important waves that can be harnessed to reach the goals of the Africa RE Initiative include:

- Rapidly falling costs for renewable energy that crowd in further investment and increased economies of scale and consequently drive additional cost reductions.
- Growing recognition of renewable energy as a key factor in global policy discourse, with increasingly vocal support for a transition to a renewables dominated energy system, including within the UNFCCC negotiations. The recent G7 statement explicitly calling for Renewable Energy access in Africa and the eventual phase-out of fossil fuels; the strong calls for renewable energy by religious leaders and civil society movements; and the increasing number of businesses taking a proactive approach to climate change and low carbon positions are but a few examples.
- Realization that markets will not develop and deliver quickly enough by themselves, and the growing recognition of the need for targeted incentives and appropriate regulations to harness the full potential of the private sector and ensure that it delivers energy in a manner consistent with societal priorities and goals.
- Action by communities across the world that are pursuing a vision of distributed energy generation that enhances energy security and boosts local development, creates local jobs, and provides a greater sense of participation, ownership, and local control.

- Increasing calls for African private sector investments in renewable energy technologies. There is a growing realization that the African private sector has the means to transform the continent economically and socially through long-term investments in key sectors such as infrastructure and power, which not only generate high returns but help alleviate some of Africa's most pressing challenges.
- A growing number of African countries whose governments are adopting renewable energy support policies and incentives and together show African leadership. The agenda of the African-institutions led Sustainable Energy for All Africa Hub and the recent creation of the African Energy Leaders Group (AELG) offer opportunities for more synergy with the Initiative and mutual reinforcement. Increased political support for renewable energy through these efforts would increase visibility, coherence, coordination, and ownership of the Initiative; identify additional support for deployment of renewable energy capacity through flagship programmes and projects; and influence partners and relevant stakeholders to motivate and sustain action.
- International private sector players who are entering the African renewable energy space. Asian investors, including those from China, have been particularly active in renewable energy investments internationally, and are increasingly targeting African renewable energy projects.

## 5.2 MOBILIZING AFRICAN LEADERSHIP

Leadership from Africa is central to successful implementation of the results-oriented activities outlined in Section 4. Given its origins in the African Group of Negotiators (AGN) and links to the UNFCCC, the Committee of African Heads of State and Government on Climate Change (CAHOSCC) will lead the Initiative. The President of CAHOSCC will be supported by a Board that consists of (provisionally) the African Union Commission Chairperson, President of the African Ministerial Conference on the Environment (AMCEN), President of the Conference of Energy Ministers of Africa (CEMA), President of the African Development Bank (AfDB), and Chair of the African Group of Negotiators (AGN). The Board will liaise with relevant African institutions to support the Initiative and ensure funding is accessed from the Green Climate Fund and other international public funding sources.

### 5.2.1 Further engagement in UN negotiations and the UNFCCC

The African group has already demonstrated leadership and effectively used the UNFCCC negotiations to present its vision of a RE transformation in Africa. The AGN has furthermore played a strong role in promoting and engaging in the Technical Experts Meetings under the pre-2020 action negotiations track, including on renewable energy and energy efficiency. The group has been active in shaping the Green Climate Fund negotiations so that the GCF is aligned to the ideas presented in this Framework. As an important part of the implementation strategy, the African group, led by the AGN under AMCEN and CAHOSCC, needs to increase its efforts to promote a global renewable energy support programme, as well as an informal "friends of renewable energy" network of Parties and other stakeholders.

## 5.3 MULTI-STAKEHOLDER ACTION

The implementation strategy for the Africa RE Initiative must be multi-faceted, and involve and mobilize all types of stakeholders. To deliver a viable renewable energy system for

the long-term, the financial community, private sector, civil society actors and policymakers need to work collaboratively in stimulating and de-risking investment and developing innovative structures built on mutually reinforcing relationships. Policymakers need the financial community to invest in the strategies they promulgate, and the financial community needs stable and clear policy frameworks that inspire investment confidence. Both need private sector and civil society actors to serve as brokers between the state and the market in order to create a balanced dialogue and help construct a collective vision of prosperity. The Initiative should explore the applicability of the most successful examples of multi-stakeholder processes within the multilateral / UN system, such as the Committee on World Food Security as highlighted in the Rio+20 and post 2015-processes. Recognizing the scale and challenges associated with the Africa RE Initiative, it is important that safeguards, participation, and equity principles are recognized and included from the outset. Provisions to ensure environmentally and socially sound renewable energy technologies, affordable energy access that reaches those in need and at sufficient scale, and genuine community, civil society and SME participation will be integral parts of the multi-stakeholder engagement components of the Initiative.

### 5.3.1 Key partners: local, national, continental

Clusters of pre-assessed and registered partner organizations from the private and non-profit sector would commit to be active investment and implementation partners in the Africa RE Initiative. Drawn from the ranks of national, regional and global institutions, partners would bring needed expertise in the areas of technology, finance and project management. The objective is to build into the Initiative a strong public-private-non-profit partnership dimension that leverages technology, investment and project implementation capacity. The clusters would form part of the core partnership but would engage additional players in individual projects at the national level.

### 5.3.2 African and international civil society

Civil society is key for mobilizing the broad based support, public pressure, and widespread awareness that often drives political action. Civil society actors also have important roles as partners in designing, conceptualizing, forming, and implementing policies and programmes on the ground. Many of the most interesting ideas for RE support and implementation emanate from civil society and community organizations, and these groups are essential for effective and sustainable implementation. At both the national and global levels, civil society organizations can through their networking structures play coordinating and watchdog roles that help ensure implementation is equitable and serves those most in need. Civil society must thus be present and actively involved throughout the chain of activities under the Africa RE Initiative.

### 5.3.3 Global partners

This Initiative will create a platform for the engagement of governments and actors from a wide-range of countries with interests in and links to Africa and its development, including from Asia, Latin America, the Middle East, Europe, and North America. It will capture both the wide scope of potential partnerships as well as the importance of raising the profile of Africa's leadership during the crucial period before 2020, during which the world must be closing the emissions gap and begin implementing a new global climate change agreement.

## 5.4 RESOURCE NEEDS: ENABLING ACTIVITIES AND INVESTMENTS

**The resource needs for the enabling activities described above and for the investments in RE projects will be drawn from four primary sources:**

1) international public funding, particularly funding available through climate finance obligations and commitments by developed countries within the UNFCCC context
2) African domestic sources, such as government public funds, sovereign wealth funds, pension funds, remittances, household savings, community organizations, and other private and philanthropic sources of capital
3) international partnerships including South-South and North-South cooperation streams directed at capacity building, technology transfer and exchange, and finance, and
4) international private sector investment, including philanthropy, CSR activities, and community-to-community support.

Through the activities of the various activity clusters, much larger sums for the actual investments will be mobilized from both private and public sources (see Figure 5.1).

### 5.4.1 Funding of the enabling activity clusters, including investment incentives

#### 5.4.1.1 International public funding

Mobilizing international public funding will be critical to achieve the objectives of the Africa RE Initiative. As such, this Initiative will move along two mutually supportive tracks. First, it will draw up an immediate resource mobilization strategy for the 2016-2020 phase, where partnering and collaborating developed countries are encouraged to pledge their support. The Board of the Initiative will lead this effort, and will conduct a series of high-level resource mobilization dialogues. Second, the Initiative will help African countries formulate funding requests to various bilateral and multilateral sources of international public funding supporting low carbon development.

In this regard, the initiative will focus on the need for substantial and rapid scaling-up of Green Climate Fund (GCF) capitalization in line with developed country obligations under the Climate Change Convention and agreements to cover incremental costs of mitigation efforts in developing countries. The Africa RE Initiative is well aligned with the GCF investment framework and could help the GCF demonstrate its potential in its important early years of operations. Other climate finance sources under the Financial Mechanism of the UNFCCC include the Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDCF) both operated by GEF, and the Adaptation Fund. Additionally, various other sources of international public funding and access to technologies will be pursued, including, for example, revenues from international financial transaction taxes, the new Technology Facilitation Mechanism that is being discussed as part of the post 2015 and finance for development processes, and the new Technology Bank under discussion among the G20 partners.

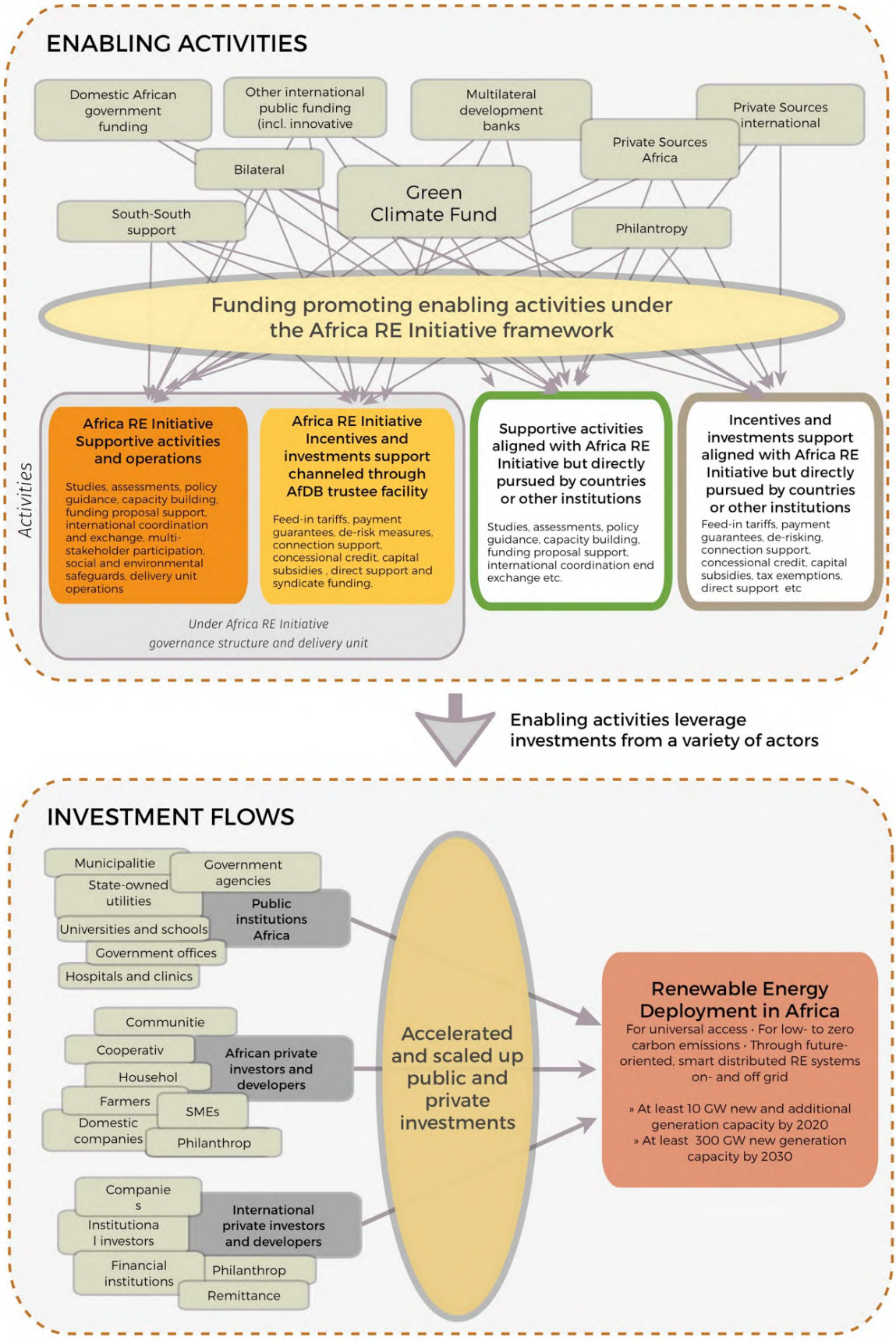


Figure 5.1 Funding from a variety of African and international sources supports a range of enabling activities and leverage actual investments.

#### 5.4.1.1 African domestic sources

It is critical that domestic public and private sector actors play leading roles in driving the Africa RE Initiative in order for the Initiative to be meaningfully integrated into the new vision of national and regional development. African governments must determine the extent of their financial means to undertake enabling activities at the national level, and raise and allocate resources. As a principle, this calls for enhanced coordination across ministries, including ministries of finance, and integration of renewable energy planning as a core dimension of development strategies. The Initiative will support countries in these efforts, as well as developing national and sub-regional strategies on 'unlocking' domestic finance. As part of this effort, the Initiative will create the platform that enables African philanthropists to provide funding both to the Initiative and directly to its enabling activities. This will strengthen the investment conditions and build confidence for domestic entrepreneurs and citizens entering the energy market as investors.

#### 5.4.1.2 South-South and North-South collaboration

In the global pursuit of a low carbon future, Africa is strategically positioned to be a bridge between North and South because of the region's historical and economic links with each group and the progressive position the continent has taken in the climate negotiations. The Africa RE Initiative hence recognizes the importance of and potential for enhanced South-South and North-South collaboration. Justifications include: i) climate change is a global challenge that calls for global collaboration on sharing solutions and good practices; ii) the emergence of some countries from the South as powerful players in finance, research and technology development offers a new opportunity for Africa in RE finance and technology transfer; iii) countries in the South broadly share many of the challenges and experiences with regard to settlement patterns, capacity deficit, development pathways, and wellbeing enhancement priorities, creating the opportunity for deeper collaboration.

Collaboration can be undertaken in a variety of ways, including the financing of enabling activities; exchange of experiences and knowledge; joint capacity building programmes; sharing of technology and skills transfer in terms of RE planning, deployment, operations and maintenance; support for initial or expanded manufacturing capacity; grants; and concessional finance.

### 5.4.2 Renewable energy investment sources

The financial flows for renewable energy in Africa will come from private as well as public investments, both African and international – leveraged by the many enabling activities and investment incentives outlined above.

#### 5.4.2.1 African entrepreneurs and investors

The Africa RE Initiative will mobilize the growing number of visionary African entrepreneurs. African investors are beginning to show interest in the RE sector, matching their counterparts in Europe, the Americas, and Asia. With an estimated total net worth in 2015 of USD 180 billion, the potential contribution of the African private sector to future RE investments is large. Additionally, remittances, now at par with or exceeding Official Development Assistance (ODA), signify major opportunities for RE investments and signal growing confidence in the continent by Africans in the Diaspora.

As a priority, the Africa RE Initiative should help create awareness of RE business opportunities, technology sources, business models and profitability of RE investments. This can be done through matchmaking efforts that bring together businessmen and women, policy makers, and renewable energy experts to share practical advice and information and build relationships.

The Initiative should furthermore link with the African Energy Leaders Group as a means for political leaders to engage with the private sector to explore and highlight sound policy and regulatory interventions that can enhance RE investment readiness, including ease of doing RE business in local, national and transnational RE markets.

In light of the strong focus on modern distributed RE systems, which allow a large number of smaller-scale generation entities to grow and builds capacity from the bottom up, a significant share of the actual investments will come from smaller and more localized, Africa-based investors and developers of very different kinds. Examples are locally based for-profit companies, social entrepreneurs, and community associations and cooperatives. Investments in RE generation will constitute additional revenue streams.

#### 5.4.2.2 Development Finance Institutions and international private sector actors

To support all stages of the project development cycle for renewable energy infrastructure and energy efficiency improvements, the Africa RE Initiative will work with Development Finance Institutions (DFIs), including national, regional, and multilateral development banks. These institutions need to align themselves with the goals, priorities and guiding principles of this Africa-led initiative and will in so doing have essential roles to play. The African Development Bank, with its strong anchoring in African governments, has a particularly important role. It can act as a Trustee of the Initiative by hosting an independent Special Fund for channeling both funds for incentives support to countries as well as make investments through the Initiative. Management, assessment and approval of grant procedures for the trustee function would need to be under the Initiative's governance structure while adhering to the Bank's fiduciary requirements, risk management, and compliance procedures. Through the AfDB's and other MDB's regular activities, additional syndicate funding for investments can be leveraged to scale. In addition, the MDBs could provide partial risk guarantees and innovative financing mechanisms to scale up RE investment on the continent.

As the rollout of renewable energy accelerates in Africa, there will be increasing interest from international private investors, including individuals, companies and financial institutions. The flow of private investment capital, including foreign direct investment, venture capital and private equity, public markets, asset finance, mergers and acquisitions amongst other sources of investment finance, can become very significant and could help accelerate the expansion of RE on the continent. It is important, however, that international investment adheres to the social, environmental and people-oriented principles of the Africa RE Initiative and that they do not crowd out efforts to develop manufacturing, deployment, and operations capacity and ownership in Africa.

Pension funds, sovereign wealth funds, and other institutional investors can also help by buying out or investing in existing assets and capturing their revenue streams in the form of long-term, fixed income investments. Refinancing by institutional investors will allow project developers to recycle their capital and invest in new renewable energy projects, accelerating the growth of the renewable energy market in Africa. For institutional investors, not least publically owned pension funds who seek to divest from fossil fuels, investments in African renewable energy offer attractive alternatives.

#### 5.4.2.3 Public investments

Enabled by appropriate support systems, the full range of public entities from municipalities and local governments to national governments can invest in renewable energy with confidence. As Africa transitions to renewable energy, schools, health clinics, government offices, state-owned companies, universities and hospitals will be able to

generate their own renewable energy and earn complementary revenue from exporting excess energy to both mini-grids and national grids. State-owned energy utilities can play a forward-looking, enabling role in the transition to more modern and equitable energy systems.

## 5.5 TIMELINE: 2016 – 2020 | 2020+

The Africa RE Initiative should be launched prior to COP21 in Paris in parallel with efforts by the African Group of Negotiators and partners to create a global renewable energy support partnership and an informal *Friends of Renewable Energy* group within Workstream II of the Durban Platform. This would enhance discussions about renewable energy with the UNFCCC and move forward the Africa Group's global proposal that has been endorsed by AMCEN. By the Paris COP, it is anticipated that donors will have offered recognition and support for these two Initiatives, and consider establishment of additional structures within the UNFCCC to advance work on renewables. Phase I of the African RE Initiative would mean a major effort to accelerate RE deployment, and to elaborate a more systematic strategic framework capable of addressing the access gap, while transforming access to renewables and putting Africa on a low-emissions development pathway consistent with the Africa Group's stated goal of keeping warming below 1,5 °C. Phase II would involve full-scale deployment of renewables building on lessons from in the pre-2020 period.

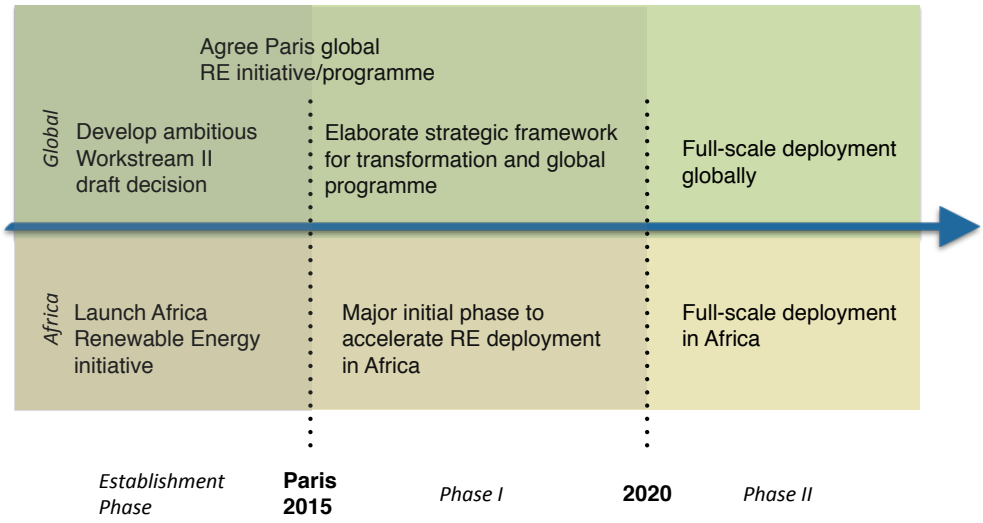


Figure 5.2. The timeline to 2020 and beyond with the Africa RE Initiative contributing to the establishment of a global renewable energy support programme/partnership.

# 6 GOVERNANCE AND MANAGEMENT

As noted above, the Initiative will be led by Africa and strongly anchored in existing African political and decision-making processes. Given its origins in and links to the UNFCCC, CAHOSCC will lead the Initiative with the support of other African institutions and individuals as appropriate. Overall, the management mechanism should be light, flexible and responsive in terms of processes, transparent in terms of decisions making, including funds and credit allocation and relevant to countries' needs. It should also adhere to the guiding principles outlined in section 3.2. The proposed governance structure could be as follows:

- **A Governing Board** chaired by the Committee of African Heads of State and Government on Climate Change (CAHOSCC) Coordinator and consisting of the African Union Commission (AUC) Chairperson, President of the African Ministerial Conference on the Environment (AMCEN), President of the Conference of Energy Ministers of Africa (CEMA), President of the African Development Bank (AfDB), and Chair of the African Group of Negotiators to the UNFCCC (AGN).
    - The main role of the Governing Board is to mobilize political support, provide strategic oversight and vision, ensure African leadership and ownership of the Initiative, foster resource mobilization, and oversee the implementation of the project pipeline and the annual work plan.

- **A Steering Committee** chaired by the Presidents of AMCEN and CEMA, with members representing AUC, NEPAD, AMCEN, CEMA, AfDB, AGN, and other committed institutions such as related African initiatives, African civil society and private sector, UNEP, IRENA and other international institutions (such as the World Bank) and partners.
    - The main role of the Steering Committee is to set priorities, objectives and milestones; review and approve project pipeline, the annual work plan and budget; oversee resource mobilization activities; approve the annual report and budget; ensure coherence with other initiatives; approve the inception and annual report; ensure coherence with other initiatives; and endorse funding for supportive activities, incentives, and investments.

- **A Trustee (AfDB)**
    - The main role of the Trustee – accountable to the Governing Board – is to manage funds and investments; design and manage grant application and assessment procedures with the Delivery Unit; ensure adherence with risk management and compliance procedures.

- **The independent technical secretariat/delivery unit** will be fully accountable to the Governing Board through the Steering Committee and report to both. The delivery unit be hosted by an African institution (such as the AfDB) and defined by specific arrangements between the hosting institution and the Governing Board that will provide for the independence of the secretariat and delivery unit and ensure African leadership.

- The main roles of the technical secretariat/delivery unit will be to provide a secretariat role for the Board and Steering Committee, coordinate and prepare annual work plans, coordinate and conduct supporting activities across all clusters; coordinate and facilitate support and finance to accelerate implementation, design and manage grant application and assessment procedures in consultation with the Trustee; and communicate with stakeholders on behalf of the Initiative.

Detailed Terms of Reference for each of the above bodies will need to be further developed and elaborated.

As a priority, the Initiative will need to establish clear governing rules as well as operations, monitoring and evaluation procedures fully in line with the guiding principles. These need to ensure that the Initiative remains fully Africa-led, and that all activities contributing to it – whether pursued through the Delivery Unit and Trustee Facility or directly through countries or other institutions – adhere to the principles and directions provided in this Framework. Monitoring and evaluation procedures must be established that correspond to the principle of African ownership, recognize the need for flexibility, and ensure efficient and transparent use of resources.

**AU Assembly, Decision on Africa's Engagement in the Global Climate Negotiations** (Doc. Assembly/AU/16 (XXV))

**8. TAKES NOTE**, of the initiatives on renewable energy in Africa, and of the progress made since the 15th AMCEN meeting, regarding the African renewable energy initiative, suggested by the African Group of Negotiators (AGN), as a contribution to global efforts, led by developed countries, to address climate change and sustainable development; and **FURTHER TAKES NOTE** of the work undertaken in this regard, and of the two technical meetings which have been organized by UNEP in Addis Ababa on 17th March, and in Cairo on 23rd May 2015 to further elaborate on the African renewable energy initiative;

**9. RECALLS** the Summit's decision on AMCEN's flagship program on Renewable energy, and urges the importance of its implementation, and to liaise in this regard with AUC, NEPAD Agency, AGN, AFDB, UNEP and IRENA, and make sure that all other initiatives and proposals are aligned with the flagship program, and funding is accessed from the GCF, with AMCEN President leading the work in this regard;

**10. AGREES** to this effect that a technical group chaired by AMCEN President, comprised of AUC, NEPAD Agency, AGN, AFDB, UNEP and IRENA formulate concrete proposals and projects, in order to avoid duplication and ensure unity of purpose for Africa, in line with Agenda 2063;

**11. TAKES NOTE** of the call by the leaders of the G7, during the Summit held from 7-8 June 2015 in Schloss Elmau, Germany, for accelerated access to renewable energy in Africa; **AND WELCOMES** the expression of support towards Africa. In this regard, the G7 is urged to consult and work closely with the technical group under the leadership and guidance of AMCEN to ensure Africa's ownership and leadership of these initiatives.

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