

# Coordination in Africa's off-grid sector is accelerating progress towards universal energy access.

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## Summary

Over the last decade, off-grid electrification technology has contributed to the achievement of Sustainable Development Goal (SDG) 7 especially for people living in rural off-grid areas. A decrease in costs and the increased distribution of more affordable stand-alone solar solutions is providing electricity access for at least 160 million people across sub-Saharan Africa (SSA). Governments, donors and the private sector have contributed to this success. Despite these efforts, some developing countries are struggling to reach universal access goals especially for the vulnerable communities. Market Assessments conducted

by the Africa Clean Energy Technical Assistance Facility (ACE TAF) in 14 African countries found that lack of adequate coordination has led to high levels of fragmentation between stakeholders and inconsistent enforcement of off-grid regulations. Subsequently, ACE TAF has been supporting coordination efforts in the 14 countries. This brief provides evidence of the benefits of an effective coordination mechanism and highlights case studies from Zambia and Sierra Leone.

## Overview of off-grid electrification

For many years, electrification in Sub-Saharan Africa (SSA), was mainly by connection to the national grid and access to electricity was the responsibility of government. Over the last decade, the falling prices of solar panels and batteries have democratised energy generation and made it possible for private sector players to provide off-grid energy solutions for electrification. In addition, private sector companies have found innovative ways of selling affordable off-grid systems to people who would have had to wait for many years to be connected to the national grid. Private investors have stepped in to fund the private sector, development partners are supporting commercial market development, and all stakeholders including national governments are working towards a better enabling environment for off-grid solar markets. Non-governmental organisations are also promoting off-grid systems to improve the lives of vulnerable groups they serve. The efforts of these stakeholders have dramatically enhanced electricity access. As of April 2020, at least 160 million people in SSA are benefiting from off-grid solutions, inclusive of mini-grids and solar home systems<sup>ii</sup>.

Universal electrification requires significant government support for targets to be met and many governments are considering off-grid solutions. However, governance structures across SSA are different. Accordingly, responsibility for the energy function varies. Some countries have centralised systems that control energy funding, while others have devolved systems of government giving control to counties or state governments. Energy access programmes funded by development partners and multilateral agencies also have different implementation mechanisms anchored at either the national level, devolved level, or both. Coordination between government, the programme implementers, the private sector and other actors in the sector is necessary, but there are challenges.

In early 2019, the Africa Clean Energy Technical Assistance Facility (ACE TAF) conducted a market assessment of the off-grid sector in 14 countries. The assessments revealed minimal effective coordination amongst stakeholders in the off-grid sector. In summary, the challenges included:



A high level of fragmentation between the different actors in the sector partly attributed to organic and fast growth over the last few years. Consequently, there has been minimal harmonisation of efforts between public and private sector players.



Existence of overlapping and inconsistent regulations in some countries.



Inadequate stakeholder engagement in the development of regulatory frameworks governing the sector.

The Sustainable Development Goals (SDGs) are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. Targets for the energy sector are defined in SDG 7 which aims to, 'ensure access to affordable, reliable, sustainable and modern energy for all.' Energy access through solar contributes to the achievement of seven

other SDGs. These are; Goal 1 on ending poverty, Goal 3 on good health, Goal 4 on quality education, Goal 8 on economic growth, Goal 10 on reduced inequalities, Goal 12 on responsible production, and Goal 13 on climate action. Without access to energy, these other goals will be difficult to meet. Similarly, off-grid electrification is an enabler across multiple sectors including<sup>iii</sup>:



**Health:** The Covid-19 pandemic has brought to the fore the electrification gap in Africa's rural health centres. It has also presented an opportunity for governments and other stakeholders in the sector to prioritize electrification of these centres. Off-grid solar systems can easily be deployed to accelerate electrification of rural health centres.



**Agriculture:** The disruption of supply chains due to the Covid-19 pandemic has prompted governments to focus on being self-sufficient across many areas including food security. Off-grid solar technologies play a significant role in this regard. For instance, solar irrigation increases production (up to four cropping seasons per year) while solar refrigeration and drying reduce post-harvest losses.



**Trade:** For many trading and market centres in rural Africa business ends as dusk. Electrifying these centres means longer business hours, employment opportunities, increased incomes, new business opportunities and enhanced security. In places where grid power is unreliable, some businesses deploy solar to maintain production, for basic lighting, or to provide un-interrupted services.



**Education:** In the wake of the global pandemic and schools being closed in some countries, learning does not have end. Solar power enables students to access educational content remotely. With return to normalcy, students in off-grid boarding schools enjoy longer study hours, better quality learning through information and communication technologies and enhanced security through the use of solar systems.

SDG 17 on 'partnerships for the goals' provides a framework that can be used to foster coordination in the off-grid solar sector. Two targets under this Goal are quite relevant for the off-grid energy sector. Target 17.16 underscores the need for 'multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources to support the achievement of the SDGs.' Target 17.17 spells out the need for 'encouraging and promoting effective public, public-private and civil society partnerships, building on the experience and resource strategies of partnerships.' The sub-goals capture what has been identified as critical for the energy sector, limited knowledge sharing and coordination of financial resources, for the energy sector to thrive. According to the report Tracking SDG 7, significant public and private efforts will be required to achieve universal access to electricity by 2030 .

The growth witnessed in the off-grid sector over the last decade and its immense potential to accelerate development makes coordination critical. Furthermore, evidence shows that off-grid solutions are best placed to fast-track universal access to electricity in SSA .

**Strengthening coordination is a timely and powerful strategy that governments, private sector, investors, civil society and development partners should embrace to step up efforts towards universal access to electricity by 2030.**

Coordination requires harmonization of stakeholder efforts. Public and private actors need to come together to discuss their contribution, overlaps, barriers and misunderstandings that affect universal access to electricity in each country. **When the various off-grid actors work together, they;**



Contribute to the development of coherent policies and regulations that lead to the growth of the sector.



Address fiscal and other barriers inhibiting the development of the off-grid sector more effectively.



Agree on how to channel support for the sector to maximise the impact of available resources and minimise duplication and/or wastage of resources.



Share challenges, best practices and lessons learnt to avoid re-inventing the wheel.

For coordination in the off-grid sector to be effective all the key stakeholders should be involved. Usually, key stakeholders are; the ministry in charge of energy/electrification/power, the rural electrification agency, donors and development partners with off-grid programmes, and the industry association. In Zambia, for example, the Off-Grid Task Force is spearheaded by the Ministry of Energy and has permanent members and ad hoc members. The Zambia case study provides guidance on how the coordinating group can be constituted. (See

Case Study: Zambia). Similarly, in Sierra Leone, the Off-Grid Working Group operates under the leadership of the Energy Ministry (See Case Study: Sierra Leone). The membership in each of the two countries differs. Depending on the context in each country, other players like the standards organisation, government revenue agency, investors, academia, non-governmental organisations, and other relevant stakeholders, can be included on a need basis.

## Case Study: Zambia

The Zambia Off-Grid Energy Task Force (ZOGTF) was established in February 2018 by the Ministry of Energy. It is made up of six government representatives, eight cooperating partners, and five members representing the private sector making a total of 19 permanent members. The Task Force also has 10-20 *ad hoc* members, who are invited for meetings when the need arises. The purpose of the

ZOGTF is to serve as the focal point for coordination, provide oversight of initiatives designed to raise the profile of the potential of the off-grid sector in Zambia, and deliver increased energy access particularly in rural areas in line with Government objectives.

The chart below shows the composition of the Task Force.

Council of Ministers		Chair: Vice President
Steering Committee of Permanent Secretaries		Chair: Permanent Secretary MOE
Government	Cooperating Partners	Private Sector
<b>Permanent Members</b> Ministry of Energy (MOE) Ministry of Finance (MOF) Ministry of National Development Planning (MNDP) Office of the Vice President (OVP) Rural Electrification Authority (REA) Energy Regulation Board (ERB)	DFID SIDA EU KEW IFC AFBD WB	Solar Industry  Association of Zambia (SIAZ)  Zambia Renewable Energy Association  Mini Grid Cluster  Bioenergy Cluster  Finance Cluster
<b>Others</b> Zambia Bureau of Standards (ZABS) Zambia Environmental Management Agency (ZEMA), Ministry of Local Government (MLG), Ministry of Community Development & Social Services (MCDSS)		<b>Sub-Committees:</b> Land Rights; Consumer Affordability; Fiscal Incentives

**Figure 1: Composition of the ZOGTF**

In terms of operations, the Taskforce has a secretariat and meets once every three months. The secretariat presents progress and brings up issues to be discussed and resolved. All processes and meetings are managed by the secretariat working in close collaboration with programmes actioning various activities endorsed by the OGTF. The sub-committees meet when stakeholder engagement is required to address specific issues.

The ZOGTF provides a platform for sharing experiences, know-how and insights gained from programme implemen-

tation and regulatory or policy development. It serves as a forum in which participants from Government, other agencies, cooperating partners, industry representatives and civil society come together to jointly share and analyze information and challenges in the sector as well as agree on the way forward.

In recognition of the critical role played by the ZOGTF, the Ministry of Energy in Zambia notes,

*“The coordination group has been helpful in several aspects as it is now easier for government and Cooperating Partners to have synergy on actions required in building the off-grid market. The coordination also averts duplication of efforts including resources. This further allows government to have a platform for addressing concerns from market players in a coordinated manner.”*



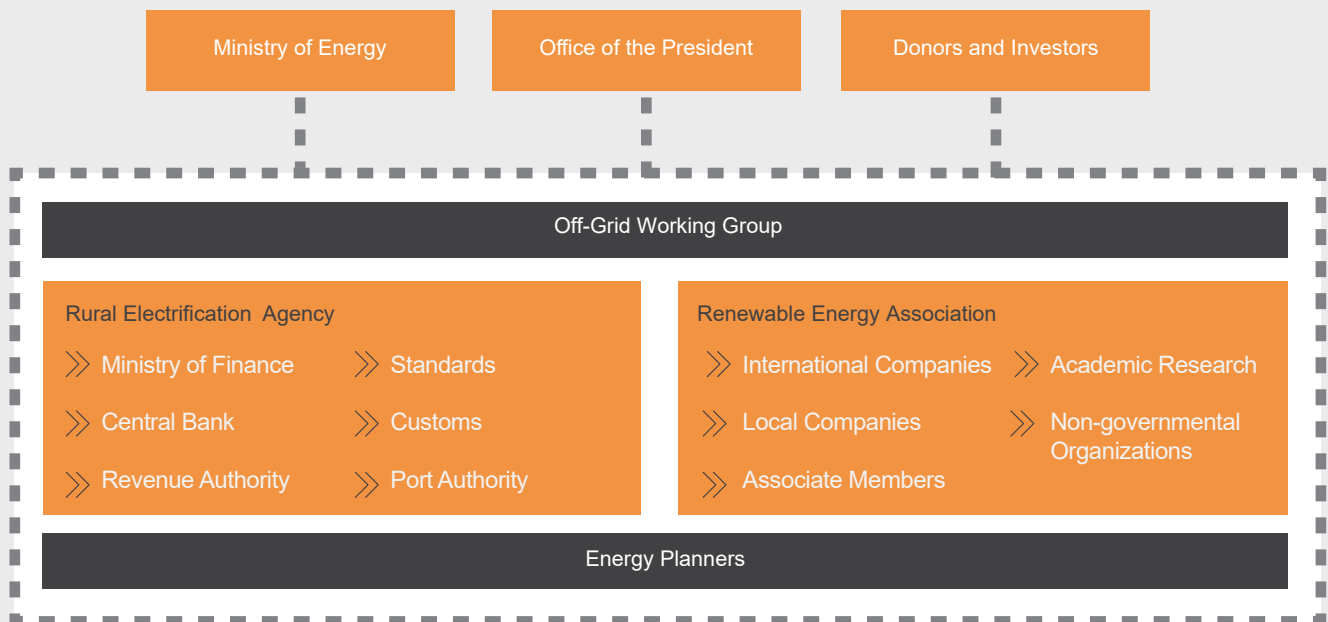
## Case study: Sierra Leone

The Government of Sierra Leone aims to increase energy access from the current 15% to 80% by 2030. Sierra Leone, like many countries across sub-Saharan Africa, is also keen on increasing the share of renewable energy, including solar, in the national energy mix. According to the country's Energy Sector Roadmap (2018- 2030), coordination between the Ministry of Energy, development partners and private sector is needed to achieve the Government's energy access target.

In early 2019, the Africa Clean Energy Technical Assistance Facility (ACE TAF) identified two areas of collaboration with the Ministry of Energy in Sierra Leone. These were the re-activation of the Off-Grid Working Group (OGWG) and refreshing the Energy Africa Compact for Sierra Leone. The objective of the OGWG was to coordinate stakeholders' activities in the sector. The Energy Africa Compact was

aimed at ensuring that activities in the energy sector are fully aligned with the Government's objectives and to secure buy-in from development partners (DPs) active in Sierra Leone.

The OGWG in Sierra Leone was launched in March 2019 and operates under the Ministry of Energy. The objectives of the OGWG are; re-affirming the government's commitment to rural electrification and the off-grid sector, coordinating donors and the private sector and supporting the Ministry in the implementation of relevant off-grid policies and programs. The OGWG has 38 members drawn from government ministries, departments and agencies; private sector including the Renewable Energy Association of Sierra Leone (REASL); and donor partners as shown in the chart below. The structure is adapted from a coordination mechanism developed by Power for All\*.



The functions of the OGWG are:



*Keeping the Minister for Energy updated on the activities of various partners and regional and international developments in the off-grid sector.*



*Supporting the Ministry's result-based approach to rural electrification.*



*Being the focal point for off-grid matters in the country.*



*Improving collaboration between government, private sector, the donor community and other stakeholders. This will ensure timely and effective implementation of off-grid programs that contribute to Government priorities.*



*Serve as a platform for addressing policy issues affecting rural electrification.*

In 2019, the OGWG set up the steering committee and completed the workplan for two years. In 2020, the OGWG is developing the Integrated Energy Resource Plan that spells out the off-grid contribution to overall electrification

targets. The OGWG will also establish sub-committees for policy, access to finance, quality assurance and data reporting. The sub-committees will enhance the operational efficiency of the Working Group.

\*Power for All (2017) Decentralised renewables: From promise to progress

## Off-grid electrification continues to gain prominence, elevating the need for effective coordination

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Developing trends in off-grid electrification show that the sector will continue to gain prominence in the coming years. The trends elevating the need for coordination include:



**Regional bodies continue to discuss how standardizing tax regimes and quality standards can improve the availability and affordability of off-grid solar products across borders.** Effective coordination across this complex set of stakeholders and political landscape is imperative to achieve results. For example, the Energy Efficient Lighting and Appliances Project is harmonizing standards for energy efficient lighting and appliances in the Southern Africa Development Community (SADC) and East Africa Community (EAC) regions, covering 21 countries requires a high degree of coordination in order to show results (See Case Study: Regional coordination to harmonise solar standards for energy efficient lighting and appliances in the Southern Africa Development Community, and East Africa Community regions).



**Governments in SSA are acknowledging that off-grid solutions are playing a key role in driving electrification<sup>vi</sup>.** They are therefore working on implementing strategies that incorporate off-grid solutions to grid extension strategies. Such strategies are best developed in collaboration with all the relevant stakeholders including government, private sector, development partners and civil society.



**Increase in the number of stakeholders supporting the sector:** The number of development partners supporting the roll-out of mini-grids and stand-alone solar continues to increase. This is evident in countries like Kenya, Rwanda, Mozambique, Nigeria, Sierra Leone, Uganda and Zambia. More private sector companies are entering the market, while investors are exploring new ways of providing appropriate financing. Without proper coordination, governments are not able to keep abreast of what is happening leading to duplication of efforts and concentration of support in one geographical area while others are left out.



**The realization that a critical balance is required to address market barriers while taking care of the varied interests of stakeholders.** For instance, governments need to generate revenue through taxes while the private sector may be lobbying for tax exemptions. Such a conflicting perspective can be addressed by government approving tax-exemptions for products that meet internationally recognised quality standards, which also serves as a way of protecting consumers. For example, in Sierra Leone, the Off-Grid Working Group reviews applications for tax exemptions to ensure that only products meeting the required standards qualify.



**Projections that show the level of financing available for electrification in SSA, falls short of what is required to achieve universal access to electricity by 2030.** This means that the available resources need to be managed well. This happens when there is adequate evidence of where this investment lies, proof that the investment is optimized to maximize electricity access, and hence the need for coordination between all the major players.



**The cost of developing off-grid renewable energy technologies is reducing as the technologies become more advanced<sup>vii</sup>.** As such, all stakeholders must continue providing the least cost electrification solution and play a key role in the attainment of universal access to electricity. Optimal coordination across the stakeholders enables faster deployment of solutions leading to governments attaining SDG 7.

## Best practices from strengthening coordination in SSA

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ACE TAF experience in strengthening coordination in the off-grid sector reveals that government leadership and on-going support are critical for coordination to succeed. Effective communication and accountability also build trust among the stakeholders, leading to a more cohesive coordination mechanism. These and other best practices that have emerged in the course of ACE TAF work, are explained below.



### **Government should provide leadership and continued support to the coordination mechanism:**

Government is the main driver of national electrification plans and their implementation. Therefore, government ownership and political goodwill remains critical for effective coordination in the off-grid sector. The coordinating group achieves more when government plays a leading role and provides on-going support through the ministry in charge of energy or electrification. The Minister for Energy in Sierra Leone aptly captures this.

*'Government must be in the driving seat, while bringing in the expertise and support of development partners. At the same time, **the private sector must be given a voice**, to communicate their progress to government and to **help identify new, innovative areas for collaboration** that will take the sector to new heights. Collectively, we must work together to **champion Sierra Leone and our off-grid sector, to raise the bar of our ambitions and effectively resolve the bottlenecks preventing delivery.**'*

*Hon. Alhaji Kanja Sesay, Minister of Energy Sierra Leone*



**Start-off with stakeholder mapping and engagement:** The coordinating group will be strengthened when time is taken to identify, invite and get commitment from stakeholders while aligning the appropriate mandate, expertise, positions of authority and required resources relevant for the off-grid sector. Stakeholder coordination begins with mapping out who needs to be involved across government, development partners, the donor community and private sector. Where critical stakeholders have capacity gaps, they can be trained or supported through technical assistance but only after the gap is revealed.



**Create an action plan to guide the activities of the coordination mechanism.** The action plan will help to prioritise activities, identify what resources are needed and find ways of mobilising the required resources. The action plan is also a good way of harmonising the interventions of different actors operating in the off-grid sector.



**Cultivate trust by creating a joint vision for the coordinating mechanism:** Trust is an important element of human interactions. Johan Thorbecke says, 'Trust comes on foot but leaves on horseback' It takes time to build trust within the group, but it can easily be eroded. The coordinating group can therefore cultivate trust by creating and reinforcing a joint vision for the group. The joint vision is articulated in the Government's electrification goals.



**Use collaborative leadership to keep stakeholders engaged:** Collaborative leadership happens when members take on different responsibilities and there is active participation from the entire group. Once a coordinating group is established, the members should embrace collaboration so that they can easily work together, take responsibility in areas they are best suited for and eventually become empowered to address difficult issues jointly.



**Nurture commitment through regular engagement and ensuring that stakeholders are efficiently carrying out their responsibilities.** Government should be committed to the direction of the coordinating group's action plan particularly embracing the role and contribution of the other stakeholders in what has traditionally been a purely government driven mandate.



**Adopt efficient operational procedures:** As seen in the two case studies, operational procedures that facilitate smooth running of the coordinating group should be established. One common way to manage the efforts of the group has been the establishment of sub-committees to handle specific tasks. In other cases, members volunteer to lead or work on some tasks. Most groups will have a combination of both approaches. Develop written procedures for effective communication and accountability so that what happens in small groups or at individual level is monitored and contributes to the goals of the entire group.



**Establish procedures for effective communication and administration:** These are the cornerstone of collaboration. Open and continuous communication among the members of the coordinating group enhances trust and increases commitment. A member of the secretariat should be responsible for communication. The person circulates minutes, communicates next steps, shares updates and other related tasks, ensuring that all members, even if they were not present understand the decisions made at any given time.



**Uphold transparency and accountability:** Some countries have several off-grid programmes that are funded by different donors or development partners that often are implemented in silos. With transparency and accountability, the programmes harmonise their efforts to reduce cases where the country has 'pockets of plenty and pockets of none' or duplication of efforts. When efforts are harmonised, the programmes can be designed or adjusted in such a way that they complement each other to reach a common goal. Where there is transparency and accountability across programmes, the government is also able to track the progress made by different programmes and tie the progress to their electrification targets.



**Address any differences as soon as they are identified:** It is to be expected that stakeholder interests will not always fully align. The differences in the underlying drivers for government, development partners and the private sector will lead to differences and possibly conflict. Conflict is not necessarily bad, abnormal or dysfunctional. Therefore, whenever conflict arises it should not be ignored or pushed aside but rather addressed and handled constructively to forge a vibrant and sustainable off-grid sector.



**Explore opportunities for coordination with other sectors such as agriculture, education and health to catalyse development.** More importantly this ensures that off-grid consumers are generating income to pay for energy while also improving their livelihoods. This is especially critical where mini-grids and pay-as-you-go business models exist.



**Establish ways to make the coordination mechanism sustainable in the long-term.** In some cases, a coordination mechanism has been set up and fizzled as soon as the programme that kickstarted it wound up. An effective coordination mechanism will have a long-term horizon, especially when government is committed to collaborating with stakeholders to fast track universal access to energy.

***Without greater coordination in the energy sector, SDG 7 will not be achieved.***  
*William Brent, Chief Campaign Officer, Power for All.*

## References

<sup>i</sup>Ethiopia, Ghana, Kenya, Malawi, Mozambique, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, Tanzania, Uganda, Zambia, Zimbabwe.

<sup>ii</sup>Open Capital Advisors, Analysis (April, 2020)

<sup>iii</sup>Africa Clean Energy Technical Assistance Facility (2020) Optimizing solar for social economic development in Kenya's Counties

<sup>iv</sup>IRENA (2019) Tracking SDG 7: The energy progress report 2019.

<sup>v</sup>IRENA (2019) Off-grid renewable energy solutions to expand electricity access: An opportunity not to be missed.

<sup>vi</sup>Lighting Global, OCA, Vivid Economics (2020) Global off-grid solar market trends report.

<sup>vii</sup>IRENA (2020) Tracking SDG 7: The energy progress report 2020.



## Case Study: Regional coordination to harmonise solar standards for energy efficient lighting and appliances in the Southern Africa Development Community (SADC) and East Africa Community (EAC) regions

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In August 2018, preparations for harmonizing standards for energy efficient lighting and appliances in the Southern Africa Development Community (SADC)<sup>1</sup> and East Africa Community (EAC)<sup>2</sup> regions, covering 21 countries began. The preparations led to the launch of the Energy Efficient and Lighting Appliances (EELA)<sup>3</sup> project in June 2019. The project integrates coordination among stakeholders involved in the manufacture, distribution and regulation of energy efficient appliances across the 21 countries. The key stakeholders in the project are the East African Centre of Excellence for Renewable Energy and Efficiency (EACREEE), the Southern African Development Community Centre for Renewable Energy and Energy Efficiency (SACREEE), National Ministries of Energy/Environment/Trade, Power Pools and Regulatory Associations, Private Sector Associations, producers and distributors of household and industrial appliances, private sector companies offering energy efficiency services, and national standards organisations. The focal points in each of the 21 countries are drawn from the Energy Ministries in those countries.

EELA seeks to address the problem of inefficient lighting and energy appliances found in the market. This is being addressed through; building the capacity of standards setting and accreditation bodies in different countries, improving policies and regulations on energy efficiency through standards and a framework for 'end-of-life' disposal, designing financial incentives for the private sector and raising awareness on the benefits of energy efficient appliances among policymakers, private sector and consumers.

Coordination on the EELA project is happening at two levels, at EAC and SADC member state levels, and where EACREEE and SACREEE are coordinating to ensure the standards are harmonised. In East Africa, EACREEE is working closely with the East African Standards Committee – a standing committee for harmonising standards across the EAC countries. The committee has developed the draft Minimum Energy Performance Standards (MEPS) for lights. These are currently under review at the national level by the member states. The committee has started working on MEPS for refrigerators and air conditioners.

Coordinating to harmonize standards has not been without challenges. The main ones have been;



The lengthy process of standards development,



More recently restrictions on travel and meetings as a result of the Covid-19 pandemic.



Getting stakeholders from different countries to agree on the standards,

To deal with the challenge of meetings, the committee is discussing standards via webinars while also conducting capacity building for government officials through the same platform.

Regional energy markets in EAC and SADC regions are increasingly becoming integrated hence the need for the respective regions to adopt complimentary standards, regulations and policies such as MEPS. The regional institutions EACREEE and SACREEE are coordination

platforms that are bringing different stakeholders (government, private sector and development partners) together so that they can jointly develop the MEPS and share best practice. Once the MEPS have been adopted, the platforms will provide initial support to national governments for implementation. The harmonised standards will go a long way in reducing trade barriers in the region. Additionally, manufacturers and distributors will have incentives to deliver good quality and energy efficient lighting products and appliances.

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<sup>1</sup>Angola, Botswana, Comoros, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius Mozambique, Namibia, South Africa, Seychelles, United Republic of Tanzania, Zambia and Zimbabwe.

<sup>2</sup>Burundi, Kenya, Rwanda, South Sudan, the United Republic of Tanzania and Uganda.

<sup>3</sup>EELA is a five-year programme (2019 - 2024) implemented by the United Nations Industrial Organisation (UNIDO) with technical support from Swedish Energy Agency and CLASP. The Project is funded by the Swedish International Development Corporation (Sida).

## Africa Clean Energy Technical Assistance Facility (ACE TAF)



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