



Young Leaders in Energy Access Award  
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# Best Practices & Key Recommendations from Young Leaders in Energy Access



Africa-EU  
Energy Partnership





# **Best Practices & Key Recommendations** from Young Leaders in Energy Access

## Imprint

This publication has been elaborated in cooperation with the Alliance for Rural Electrification (ARE) on behalf of the Africa-EU Energy Partnership (AEEP) Energy Access work stream to highlight the best practices and key recommendations from Young Leaders in Energy Access.



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The **Africa-EU Energy Partnership (AEEP)** constitutes one of the initial eight partnerships under the Joint Africa-EU Strategy (JAES), a long-term framework for cooperation between the two continents.

The African Union Commission, the Common Market for Eastern and Southern Africa (COMESA) Secretariat, Egypt, the European Commission, Germany, and Italy are the Steering Group members providing political guidance to the Partnership. The AEEP Secretariat is based at Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

The Africa EU Energy Partnership Energy Access work stream (EA WS) is composed of the Alliance for Rural Electrification (ARE), The African Association for Rural Electrification (CLUB-ER), Practical Action and Strathmore University Energy Research Centre (SERC).

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## Cooperation Partners



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## AEEP Steering Group



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# Acronyms and Abbreviations

<b>AEEP</b>	Africa-EU Energy Partnership
<b>AEGP</b>	Africa Energy Generation Prize
<b>ARE</b>	Alliance for Rural Electrification
<b>CEC</b>	California Energy Commission
<b>CEO</b>	Chief Executive Officer
<b>CLUB-ER</b>	African Association for Rural Electrification
<b>DEEP</b>	Developing Energy Enterprises Project
<b>DRC</b>	Democratic Republic of Congo
<b>EA WS</b>	Energy Access work stream of the Africa-EU Energy Partnership
<b>EPC</b>	Engineering Procurement and Construction
<b>EUEI</b>	European Union Energy Initiative
<b>EUEI PDF</b>	European Union Energy Initiative Partnership Dialogue Facility
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
<b>ICT</b>	Information and Communication Technology
<b>IPP</b>	Immediate Power Producer
<b>KW</b>	Kilowatt
<b>MBA</b>	Master in Business Administration
<b>MW</b>	Megawatt
<b>NDP</b>	National Development Plan
<b>NGO</b>	Non-Governmental Organisation
<b>OPEC</b>	Organisation of Petroleum Exporting Countries
<b>PPP</b>	Public Private Partnership
<b>PWC</b>	Price Waterhouse Coopers
<b>SDG</b>	Sustainable Development Goals
<b>SEforALL</b>	Sustainable Energy for All
<b>SERC</b>	Strathmore University Energy Research Centre

# About the AEEP Energy Access Work Stream

## Overview

The Energy Access work stream (EA WS) under the Africa-EU Energy Partnership (AEEP) was initiated in April 2016 and is mandated to:

- ▶ Close the gaps between public, private, NGO and the academic sector
- ▶ Promote business and technology solutions to effectively tackle energy access
- ▶ Raise public interest for clean energy access as a topic where necessary
- ▶ Contribute to the SEforALL and SDG7 processes on energy access.

Concrete activities of the work stream include:

- ▶ Engaging stakeholders from public and private sector, NGOs and academia to feed into policy dialogue (e.g. national dialogue events and AEEP Stakeholder Forum)
- ▶ Keeping energy access high on the political agenda & raising awareness for the AEEP and its targets
- ▶ Providing input to AEEP processes, meetings and dialogues
- ▶ Thematic studies on Best Practices and the Young Leaders in Energy Access initiative.

## Working structure of the Energy Access work stream



### **Private sector: Alliance for Rural Electrification (ARE)**

Established in 2006, the Alliance for Rural Electrification (ARE) is the only global business association that represents the whole decentralised renewable energy sector for integrating rural electrification in developing and emerging countries.

By consolidating the off-grid sector, ARE is there to assist decision-makers from both, private and public sector, by providing key policy, technical and financial recommendations. The association's services are not limited to but mainly focus on supporting policy dialogues, private sector cooperation's, capacity building/ training and finance access.

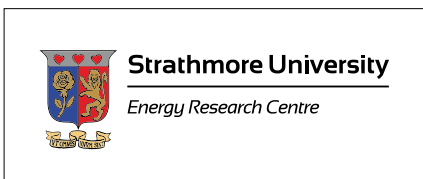
[www.ruralelec.org](http://www.ruralelec.org)



### **NGO/CSO: Practical Action**

Practical Action is an international non-governmental organisation (NGO) that uses technology to challenge poverty in developing countries. Practical Action aims to find out what people are doing and to help them to do it better. Through technology, Practical Action enables poor communities to build on their skills and knowledge in order to produce sustainable and practical solutions – transforming their lives forever and protecting the world around them.

[www.practicalaction.org](http://www.practicalaction.org)



### **Academia: Strathmore University Energy Research Centre (SERC)**

The Strathmore Energy Research Centre (SERC) is an institution that was established in July 2012, with the aim of carrying out high quality research and

technical training as well as consultancy services in the energy sector in Kenya. The institution effectively offers its services to the government, private sector and the public.

[www.serc.strathmore.edu](http://www.serc.strathmore.edu)



### **Public sector: The African Association for Rural Electrification (CLUB-ER)**

The African Association for Rural Electrification (CLUB-ER) is a network of around 40 African national agencies and structures in charge of rural electrification. Through experience sharing and feedback, CLUB-ER works to reinforce capacities of its members and functions as a platform to discuss the different issues linked to rural electrification. Furthermore, CLUB-ER is evolving as the voice African institution in charge of rural electrification.

[www.club-er.org](http://www.club-er.org)



# The Young Leaders in Energy Access



Young Leaders in Energy Access at the ARE Energy Access Investment Forum, Lisbon, March 2017

Achieving universal energy access in Africa is a huge challenge, and one that must be met in a sustainable manner in order to ensure a secure and renewable energy future for the continent. Different sources indicate that around 620 million people in Africa lack access to electricity<sup>1</sup> and that 87% of those lacking energy access globally live in rural areas<sup>2</sup>. Given the expected high

population growth for Africa, this figure is likely to further increase if no effective action is taken.

As advocates and innovators for bringing sustainable energy solutions to households, communities, regions and countries, youth play a pivotal role in meeting this challenge. African youth (15–24 years) constitute about 37% of the working age population, but account for more than

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1 *IEA Africa Energy Outlook, 2014*

2 *SEforALL, 2015*

60% of all unemployed people in Africa<sup>3</sup>. It is hence no surprise that African Heads of State and Government have devoted the year 2017 to “*Harnessing the Demographic Dividend through Investments in Youth*”<sup>4</sup>, while the EU has proposed an enhanced partnership with Africa on peace and security, and job creation for the youth<sup>5</sup>.

In the just concluded 5<sup>th</sup> AU EU Summit, leaders adopted a joint declaration setting out their commitment to invest in youth for accelerated inclusive growth and sustainable development<sup>6</sup>. Crucially, an increasing number of African and European youth have risen to take the energy access challenge head-on and have come up with many innovative solutions and initiatives, which can help scale up access to energy in rural Africa.

To raise awareness and to honour the invaluable work and commitment of young people, the Energy Access work stream of the AEEP released a *Call for Proposals* in early 2017 for young advocates, public sector workers, or social entrepreneurs to show how they have improved energy access in Africa.

Six Young Leaders were chosen as winners and were invited to the *ARE Energy Access Investment Forum* in Lisbon, Portugal on 22–23 March 2017 to receive the award from high-level representatives of leading organisations. The organisations include: the African Development Bank (AfDB), the European Commission, the International Renewable Energy Agency (IRENA), the Organisation of Petroleum Exporting Countries (OPEC) Fund for International Development, Sustainable Energy for All (SEforALL) and The African Association for Rural Electrification (CLUE-ER). The Young Leaders in Energy Access also presented a *Communiqué* with recommendations to the high-level representatives.

In September 2017, the Young Leaders were also invited to a training session for African Rural Electrification Agencies grouped under the CLUE-ER to present a ‘*Call to Action*’ to the African Rural Electrification Authorities during the Annual Meeting. The six Young Leaders are:

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3 *AU Assembly Decision (Assembly/AU/Dec.601 (XXVI))*

4 *AU Assembly Decision (Assembly/AU/Dec.601 (XXVI))*

5 [http://europa.eu/rapid/press-release\\_IP-17-1189\\_en.htm](http://europa.eu/rapid/press-release_IP-17-1189_en.htm)

6 *AU-EU/Decl.1(V)*

- ▶ **Dr. Abdirahman M. Abdilahi**, CEO,  
SOMPOWER
- ▶ **Astria Fataki**, Founder & President,  
Energy Generation
- ▶ **Dina Ramaromandray**, Lawyer, Ministry  
of Energy & Hydrocarbons Madagascar
- ▶ **Marta Pascual Santodomingo**,  
Community Development Coordinator,  
Trama Tecnoambiental / International  
Consultant
- ▶ **Sayouba Guira**, General Director, Nafa  
Naana
- ▶ **Simon Kiragu Muigai**, Partnerships  
Manager, wPOWER HUB

The following publication summarises some of the best practices learnt from the work of the six Young Leaders in Energy Access and presents recommendations to the public sector on how to facilitate and encourage youth entrepreneurship and involvement in clean energy access. Lastly, with the hope to inspire even more young people to start their own energy access initiatives, the publication also presents recommendations for other passionate young African & European leaders committed to support the objectives of the Sustainable Energy for All (SEforALL) initiative by providing clean energy access.

# The Six Young Leaders and Their Countries



**Astria Fataki**

Founder & President,  
Energy Generation



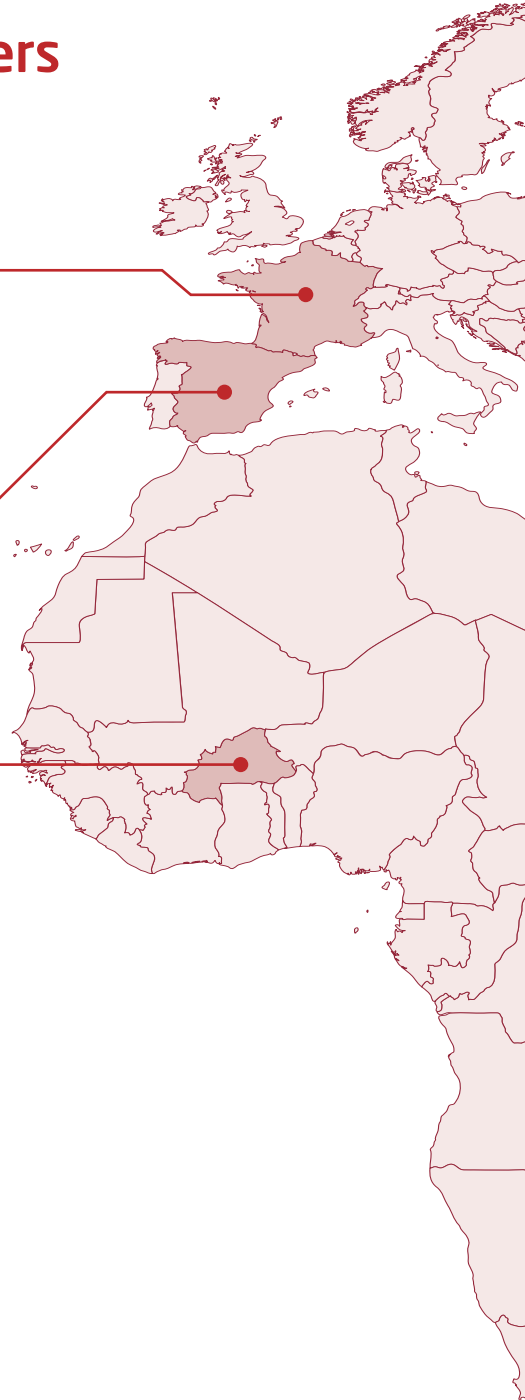
**Marta Pascual  
Santodomingo**

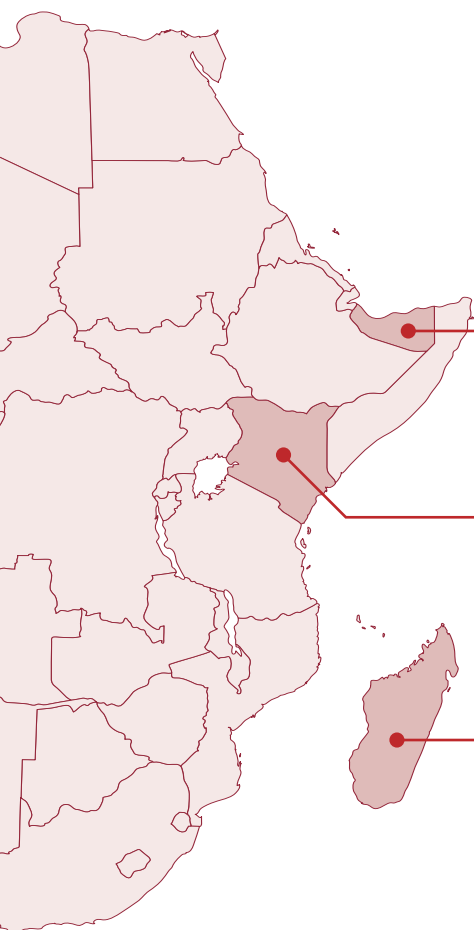
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**Simon Kiragu Muigai**

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**Dina Ramaromandray**

Lawyer, Minister of Water,  
Energy and Hydrocarbons



# Key Recommendations to the Public Sector

The public sector plays a vital role in initiating and catalysing sustainable energy programmes, investments and policy frameworks, which facilitate the creation of small businesses, green growth and job creation for Africa's youth.

Recognising the crucial role of the public sector in achieving clean energy access, the Young Leaders in Energy Access recommend public sector officials to consider that the youth holds the key to the present and future energy challenges facing Africa. The Young Leaders therefore have the following recommendations to the public sector:

## 1. Youth leadership

As African youth constitute about 37% of the working age population, but account for more than 60% of all unemployed people in Africa, it is therefore essential to promote youth leadership and involvement in decision-making. Young people are resourceful and have a hands-on approach to the energy access challenges, which can help them find new ways to solve the energy access problems of Africa.

## 2. Women empowerment

In particular, young women and girls should be empowered to accelerate energy access in rural areas through

productive uses of renewable energy. It is fundamental to recognise that women of all ages are in a position to drive demand, and catalyse the adoption and use of clean energy technologies at the household and community levels. Women should thus be empowered through financial and technical capacity building for increased entrepreneurship.

## 3. Transparent policy frameworks and policies for energy enterprises

The public sector can incentivise youth entrepreneurship by developing and implementing transparent national energy policy frameworks, which prioritise modern and sustainable energy. There should also be favourable policies that foster energy entrepreneurship among the youth, which can be combined with appropriate financing schemes and competitions for youth in energy access (see point 6 below). Political will is necessary for successful implementation of these policies. The youth play a fundamental role as change-makers and in setting up win-win partnerships between the public sector and private sector to scale up access to energy. Additionally, fossil-fuel subsidies should be gradually phased out, as a mechanism to encourage sustainable energy developments and level the playing field.

## 4. Education

There is a vital need to mobilise more investments in education, research, development and innovations for supporting native African technologies, which are truly the most adapted to local contexts. Education on renewable energy should start early and include seminars and workshops in schools and hubs at universities. Current curricula should include an introduction to and promotion of renewable energy. This will better prepare students for their transition to working life and can increase the pool of experts in the field of renewable energy and energy access in the long-term. The renewable energy education should include hands-on training with renewable energy technologies (e.g. solar assembly, improved cooking technologies), and should focus on empowering young entrepreneurs to start income generating enterprises focused on the renewable energy sector and productive use in rural areas of Africa.

## 5. Local community involvement

The involvement of local communities is essential, since local communities and populations are the ones who will benefit from increased energy access and modern energy services. Local communities must be consulted, and informed about the type of technology that will be developed

in their community. This will lead to an increased sense of ownership of the projects and can inspire additional youths in these areas to view renewable energy as a vehicle for positive change.

## 6. Access to finance & competitions

Access to finance through grants and other financing schemes will pave the way for innovative ideas for youth. Also, it will encourage more small businesses and pilot projects in renewable energy with local solutions. More local start-ups can in turn lead to additional job creation and create a virtuous cycle. Moreover, the public sector is encouraged to hold 'Renewable Energy Business Competitions'. Competition always encourages innovation for new ideas and concepts, e.g. Solar Pay-As-You-Go as a financial innovation, eliciting greater interests and kick-starting new business models.

## 7. Accelerating energy access via cross-sectoral cooperation

Energy is the root of development and inherently linked to job creation for youngsters – and other societal groups. Therefore, aligning energy access challenges with other development challenges is critical in achieving sustainable development goals. Such sectors include agriculture, ICT,

health and water, where links to productive uses can be made. It is also essential to note that neither the public nor the private sector can achieve the objective of bringing clean, affordable and modern energy to Africa's rural population alone. Instead, win-win partnerships between the public sector and private sector, as well as academia and civil society are needed to scale up access to energy.

## **8. Access to information**

Collection of and accessibility to local data should be encouraged in all projects. Easier access to information and project opportunities will reduce transaction costs, reduce the chance of failure and facilitate more projects and better selection of projects, thus creating more sustainable development and jobs.

## **9. Raising awareness**

It is essential to raise awareness about energy issues for people living in rural areas, as this will lead to a better understanding and implementation of projects. This does not only include education as mentioned above, but also broader awareness campaigns in local communities.



# Key Recommendations to Aspiring Young Leaders

Working on energy access in African countries can be quite challenging. Young Leaders face many obstacles, such as lack of access to finance, limited local skills and technology and no level playing field in the competition with fossil fuels. Despite such challenges, working in the energy access space can be highly rewarding because the work of pioneers in this field have tremendous impact on the quality of life in local communities. To help aspiring Young Leaders overcome the many challenges in this field, the six Young Leaders have developed a series of recommendations, based on their own experiences:

## 1. Knowledge is power

It is crucial to stay informed about what is going on right now in your region and country concerning renewable energy and energy access. You can come a long way with hard work and with a curiosity to learn more. Also, use the ‘enernet’<sup>7</sup> era to understand all the challenges and then to contribute with your own and innovative ideas to influence things towards the better. In turn, help promote capacity in

energy education and training through formal education, training and capacity building.

## 2. Start from the bottom

Talk to as many people in the sector as possible and listen to what they have to say. Knock on doors and show your enthusiasm. If you are not immediately looking to start your own initiative, create your own pool of companies that may interest you and follow-up on their activities to know when to act. Another good option to get some initial experience in the sector is to do an internship, volunteer or to take up a junior position in an existing company active in the energy access space.

## 3. Strength in numbers

The youth should share best practices on failures and successes of their energy access project and engage in cross African-European networks on energy access. This can also help create increased environmental awareness and youth lobbying for participation in decision-making processes for energy projects. With a stronger voice, the youth can also better help lobby for legislation allowing small and medium sized enterprises to flourish.

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<sup>7</sup> Techcrunch, 2017: The ‘Enernet’ is defined as a dynamic, distributed, redundant and multi-participant energy network built around clean energy generation, storage and delivery

#### **4. Help encourage new solutions**

Vague plans on extending the national power grids often result in a barrier for off-grid developers. As an aspiring young leader, you should help to encourage new and innovative local solutions for local communities and help spread awareness for such initiatives.

#### **5. Keep going**

As a Young Leader you should know that small actions can lead to big impacts, so keep going and moving forward. The more you develop your ability to face and overcome challenges, the more you increase your chance of getting support in your mission. Always keep in mind that most important is that you are contributing to many improved lives. Let your enthusiasm shine through and do not give up.

# Best Practices of Young Leaders in Energy Access

## Dr. Abdirahman M. Abdilahi

CEO, SOMPOWER



Having grown up in an immediate post-conflict situation, I have experienced how extreme scarcity of engineering expertise can hinder a country's attempt

to create a sustainable environment for development. However, I was privileged to be able to dedicate nine years of my life to pursuing electrical engineering programs, and recently completed my PhD in electrical engineering. My doctorate focused on sustainable and low carbon electric power systems, with a particular focus on power system operations and planning. During my doctoral studies, I have researched several different aspects of low carbon power system operations including hybrid mini-grids, carbon policies, carbon capture technologies and renewable energy, at various different scales and contexts.

### **My work as a Young Leader in Energy Access**

I have served as the Energy and Electrical Advisor for several different organisations and institutions in Somaliland, including the Ministry of Energy and Minerals, electric utility companies, the Energy Security and Resource Efficiency in Somaliland (ESRES) Programme, and the World Bank's Wind

Energy Programme in Somaliland. Currently, I am serving SOMPOWER Co., the largest electric utility company in Somaliland, as the Chief Executive Officer. In my current position, key challenges that I need to address include establishing a modern, standardised electrical grid that is both profitable for sustainable operation as well as safe, reliable and affordable for wider businesses. To address our generation diversity problem, I am currently overseeing the execution of Somaliland's largest project in hybrid solar-diesel system with an expected total capacity of 20MW, and another 1.5MW hybrid solar-diesel system.

During my advisory services at the Ministry, the activities that I directly contributed to include provision of Somaliland's Electrical Energy Act, development of a sustainable energy policy in line with Somaliland's vision on 2030, development of hybrid mini-grids, and participation in dialogues related to the development of renewable energy and its supporting policies. I also assisted the ministry team to put together Somaliland's energy sector strategy, which contributed Somaliland's second National Development Plan (known as NDP2). The NDP2 is expected to guide the country's focus from 2017 until 2021.

In a continent that has enormous renewable energy resources potential (e.g. solar, wind, geothermal, and hydro), but still faces extreme shortages of power, I strongly believe that our efforts are timely to address some of Africa's needs, to drive forward its energy sector development for the purpose of improving energy scarcity levels as well as the national economies.



**Dr. Abdirahman Abdilahi delivering a presentation of major gaps within Somaliland's energy sector to the participants of the Somaliland Power Sector Stakeholders Workshop**

### **Recommendations to the public sector**

The scale of success achieved within the Sustainable Energy for All (SEforALL) initiative will largely depend on the scale of empowerment of the local communities that should own, operate, finance, and use the energy facilities in the end. Both the first realisation of increased access level at global scale as well as the long-term sustainability of these systems are extremely dependent on the level of success

in empowering the communities that shall establish these facilities in their neighbourhoods. Empowerment is a general statement that includes all types of activities to strengthen the communities' capabilities in getting reliable, affordable, and sustainable electricity that includes simplifying access to finance, increasing skill sets and know-how, creating favourable laws and regulations, providing appropriate tools to kick-start their innovations and creativity in the long run, and many others.

### **Recommendations to other Young Leaders**

Life is a continuous struggle of aiming at and achieving meaningful targets in the short span of our lives. The opportunity that comes with being a youth is something that all of us must cherish and capitalise on. As the English saying goes, *"time and tide wait for no man."* We should all attempt to use our free time efficiently and strive to form a better global community that is stronger and well prepared for the unknown future. With all the efforts that you may be undertaking, bear in mind that charity begins at home and it can be synergistically achieved by teaming up with like-minded individuals, organisations and/or institutions. Last but not the least, keep pushing and stay strong.

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# Astria Fataki

Founder & President, Energy Generation



French with Congolese origin, I was educated between two cultures, making me an open-minded person, eager for intercultural exchanges.

I have always been incensed by inequalities – especially development inequalities, which I think are the most flagrant. Earlier on, I became a passionate entrepreneur who truly believes that energy is at the centre of socio-economic development, and I fully dedicated myself to tackle this challenge at both the micro and the macro level in Africa. I chose to focus on Africa, because I believe that if we could solve the important energetic challenge it is facing, the entire planet would be better off.

## **My work as a Young Leader in Energy Access**

At the macro level, I coordinated the contractual and legal construction of two Public-Private Partnership (PPP) projects for the construction and operation of photovoltaic solar power plants in Mali (40MW) and Chad (60MW) from 2013 to 2015. Then I founded my own Infrastructure and PPP consulting firm named *Isis Development* (Implementing Sustainable Infrastructure Solutions for Development) in 2015. At present, I am working on developing solar power plants in Togo and Benin.

At the micro level, I founded the association *Energy Generation*. It aims to promote and encourage social innovation and entrepreneurship in order to identify, develop and widely spread today and tomorrow's made in Africa electrification solutions. Its main drive relies on the belief that Africa's challenges will be solved by its youth, which needs to be properly trained, not only on technological issues, but also on entrepreneurial values, in order to create their own jobs.

*Energy Generation* is currently represented in 32 African countries through a network of ambassadors. The Energy Generation initiative has found some valuable partners – among them the European Union, the French and Togolese governments as well as Akon Lighting Africa and Schneider Electric. Each year, candidates are selected through the Africa Energy Generation Prize (AEGP) to attend a one-year intensive training at the Energy Generation Academy, located in Lomé, Togo.

These candidates who come from all over Africa (Benin, Cameroon, Chad, Congo Brazzaville, Cote d'Ivoire, Ethiopia, Ghana, Guinea, Madagascar, Nigeria, Togo, and Zambia) have developed innovative and promising projects. *Energy Generation* proposes four types of support, which is thought out and designed to answer the problems encountered by entrepreneurs



**AEGP2016 Winners presenting their innovation during the 2016 Awards Ceremony**

at different stages of their project development. The Academy trains young innovators to become promising start-up entrepreneurs. To ensure their success, they are provided with free courses and granted a monthly scholarship. In addition, their prototyping fees are covered up to 1,000 EUR. At the end of the program, the three best projects are awarded seed funds, for a total of 10,000 EUR, and with a two-year access to the Incubator. The Incubator also welcomes external start-

ups that have reached a sufficient level of maturity. Each start-up benefits from an individualised support, a private office, and shared facilities. Networking events are also organised in coordination with the Co-working Space – a hub for entrepreneurship hosted by *Energy Generation*. The Seed Fund is the final support proposed by Energy Generation. It provides seed capital to small ventures, in order to scale up their proposed innovative and affordable locally developed solutions.

### **Recommendations to the public sector**

My experience led me to think that investing only money in developing economies is not enough. The population must be included in the development initiatives. We should aim at supporting innovation and investing in research and development that favours native African technologies, which are truly the most adapted to the local contexts. My deepest conviction is that African youth holds the key to the challenges facing their continent. They are resourceful and ingenious, and have a hands-on approach to these challenges. Therefore, they need to be empowered, mainly through education.

### **Recommendations to other Young Leaders**

As Young Leaders, we have one mission: change the status quo. We identified a problem and we decided to act concretely in order to propose an alternative solution

we believe will bring a positive change. The journey we decided to undertake is by nature dotted with obstacles and challenges in a context where old beliefs and situations will always “resist in order to persist”. Therefore, we need to redouble our efforts and commitment to mobilise enough energy to infuse and implement change. We want to have a real impact and contribute to tackling the great challenge of energy access in Africa, and we work hard to implement great ideas with limited resources. This might seem overwhelming sometimes and we might be tempted to think, “This is too big for me”, hoping that someone else will take care of it. However, as Young Leaders we need to acknowledge at every moment that this is our responsibility to make positive and sustainable change happen. Innovation, education and solidarity must be our most precious tools; perseverance and resilience our best allies in order to do so. Gradually each of us can contribute to a better future.

**Contact information**

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# Dina Ramaromandray

Lawyer, Minister of Water, Energy and Hydrocarbons



I am a young professional working at the Ministry of Water, Energy and Hydrocarbons in Madagascar. I have studied Public Law and Political Science at the

Université Catholique de Madagascar. Since December 2014, I have been working as a lawyer at the Department of Studies and Planning of the Ministry. At the start, I had very basic knowledge on technical aspects of the power sector but after almost three years in this field, I have gained useful experience. I am very aware of the challenges that my country faces in terms of energy access. The electrification rate is still very low (15% in 2015 with only 4.8% in rural areas). Due to my selection as a Mandela Washington Fellow in 2017, I had the chance to study at the University of California Davis for six weeks on Public Management focused on Energy and then had six more weeks of professional development experience at the California Energy Commission (CEC) in Sacramento.

## **My work as a Young Leader in Energy Access**

My work at the Ministry of Water, Energy and Hydrocarbons consists in designing the legal and regulatory framework of the power sector in Madagascar. I am currently working on finalising the reform of the Electricity Code (which should be voted on at the end of 2017). The main objectives of this reform are the integration of renewa-

ble energy and the facilitation of public and private partnerships, consistent with the implementation of the Energy Policy, which sets objectives for 2030. I am also working on power contracts such as Immediate Power Producer (IPP) and Engineering, Procurement and Construction (EPC), which will help in increasing the energy access in rural areas by adding more generation to the grid.



**Dina Ramaromandray with Chair Weisenmiller of the California Energy Commission and Errol Renaud from Seychelles Islands**

Working at the California Energy Commission has made me realise that there is still a lot to do to advance energy access in Madagascar – and that taking action at the level of the administration can be a long process. My six weeks at the CEC working at the Chair Office and the Research and Development Division inspired me to work with a non-profit organisation developing solar home systems in Madagascar. This



project is still at its beginning, but I would like to provide the last-mile consumers in very remote areas with the ‘best technology’; by this, I mean clean, modern and affordable energy for all. Knowing that investing in these remote areas is still very challenging in terms of price and accessibility, my plan is to develop the best model appropriate for the local conditions. For bigger villages with higher purchasing power, I want to develop micro grid projects that will have positive impacts on energy access, protection of the environment and education using a zero-emission school bus. This electric vehicle will take kids to school, connect to the grid (by using vehicle-to-grid systems for energy storage) and use solar energy from the micro grid. In addition, I would like to continue to advise the government on promoting solar home systems and micro grids by making studies on the appropriate legal and regulatory aspects. Further, I am interested in encouraging the private sector to invest in such systems.

### **Recommendations to the public sector**

As a Young Leader in Energy Access, I would like to reiterate the necessity of providing clean and modern energy to rural areas. Both young men and women should be empowered to take action on promoting energy access by challenging themselves in finding solutions. Access to energy should benefit all and be apprehended by all. The

government should set adequate and clear policies; the private sector should help them achieve their objectives by joining into win-win partnerships, while research and development should be encouraged to find additional innovative solutions. The involvement of local communities is very important since they are the ones who will benefit from the energy access. They should be consulted, informed and even educated on the type of technology that will be developed in their community.

### **Recommendations to other Young Leaders**

There is still a lot to do in Africa in terms of energy access. Be it an engineer, an economist, an entrepreneur, or even a lawyer, everyone can and should be involved. One of my biggest challenges was having no technical backgrounds in terms of power systems. However, one of my favorite quotes is ‘What I lack in talent, I compensate with my willingness to grind it out’. Since I wanted to know more in order to help the sector to develop, I keep myself educated and informed on what is going on and will be upcoming in this field. Also, use the ‘enernet’ era to understand all the challenges and then to contribute with your own and innovative ideas to make things change.

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# Marta Pascual Santodomingo

Community Development Coordinator, Trama Tecnoambiental/  
International Consultant



As soon as I finished my studies in law, I knew I wanted to work in development. I wanted to help others to live in better conditions thanks to my

privileged position. My first opportunity came at the office for inter-university cooperation programs, whose staff encouraged and financed students to take part in development projects abroad. I afterwards landed at an insurance company (from whom I escaped) and finally had the opportunity to work in Chad, a country where less than 5% of the population has access to electricity. Outside urban areas, this figure is practically 0%. I finally saw what I longed for so long: technology challenging poverty.

## **My work as a Young Leader in Energy Access**

From September 2013, I worked on the implementation of a rural electrification project in Chad, consisting of the construction of three pilot sites in off-grid isolated communities based on a market-oriented public-private partnership approach. We were certain that the key to success was bringing together the needs of businesses, government and civil society, an approach that is commonly not considered. The development of the management model through a local association therefore included a series of



**Association training, Mombou, Chad. July 2015**

activities that went from development of a rural energy framework, capacity building, operation and maintenance activities, to follow-up between operator and end-users. This took us more time than expected, but the mini-grids are well operated and cash flow from tariffs is growing since their implementation in 2014. In my opinion, any development project, and specifically ones with a technology focus, should spend some time on solving the bottlenecks between their conception and their implementation.

Taking the time to meet and listen to the local communities is laborious, but will give you a much more complete picture and will bring things up you could have never imagined. The project was conceived from the beginning as a mutual effort with the communities, who helped us find the best solution for every village based

on their habits. The three villages where we installed a 40kW mini-grid were very different and called for different solutions. The result: Three different associations came to manage the operation and maintenance of the service, selecting a multidisciplinary team that received an on-the-job-training the moment the material arrived to the sites. Each team, consisting of a Director, a Technical Manager and a Guard, helped us through the implementation period. Making them part of the solution was key – over time, they identified the project as theirs and even knew where the cables passed in a closed trench. Energy is the thread that connects economic growth with better living conditions. This video shows better the experience: <https://www.youtube.com/watch?v=JOYmROfRMuc&t=316s>

### **Recommendations to the public sector**

To create the next generation of entrepreneurs we need to start earlier and to encourage seminars, workshops in schools, hubs at universities. At the same time, we need to rethink education. In this new way of thinking, solar mini-grid implementation shall take place on a large-scale. However, in order to do so there has to be sufficient local capacity to design, build and operate these mini-grids. Facilitating training should therefore be mandatory in every energy access project sponsored by the EU. Moreover, a

lack of a culture of entrepreneurship as evident in many African countries means that there is no supporting network for projects. During the learning process, many technical questions may arise – and it is important entrepreneurs are not discouraged to take action by a simple lack of information! Therefore, we must initiate a process to create support networks. Another important recommendation to the public sector is to increase financing



**End-user profiling of electricity, Douguia, July 2016**

available for start-ups and to make existing opportunities for start-ups transparent to the private sector. Finally, we need to rethink the way expected incomes should be generated in isolated areas. If a tariff-scheme is implemented, experience shows that later O&M activities are often not sufficiently supported. The disbursement should be seen as a long-term investment of which the impact will progressively become an income opportunity for donors.

### **Recommendations to other Young Leaders**

- ▶ Listen, listen, listen and start from the bottom: knock on doors and show your enthusiasm. This is an easy piece of advice, but creating your own pool of companies that may interest you and follow-up on their activities is important to know where to act.
- ▶ Lobby for legislative changes that will allow small and medium-sized enterprises to flourish. Without the right legislative, fiscal and financial conditions, these new companies will not go the distance.
- ▶ Encourage new solutions: vague plans from extending the national power grids sometimes result in a barrier for off-grid developers. Encourage new solutions where lighter materials can be hooked up to the national grid that will not result in an abandoned structure.

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# Sayouba Guira

General Director, Nafa Naana



I am an economist, specialised in HR economics, personnel and organisation development and the current Director of *Nafa Naana*. I am also actively

engaged in community development and youth empowerment activities. I am the current Chairman of the Board of Advisors of *AIESEC Burkina Faso* and the founder of a training and capacity-building centre called Effectivité Plus.

About 16,500 people die every year in Burkina Faso due to indoor air pollution, which is mainly due to the usage of inappropriate cook stoves and lighting equipment. Many women, to their own detriment, are feeding their families every day in Africa with inefficient and bad cooking technologies that negatively affect their health. Leaders who make decisions have hardly captured this kind of issue. I engaged with *Nafa Naana* to help poor families of Burkina Faso access clean and affordable energy solutions.

## **My work as a Young Leader in Energy Access**

Nearly 3 billion people worldwide use open fires for cooking and 600 million African (60% of Africa's population) use costly oil lamps or torches for lighting. In Burkina Faso, households rely on firewood for 90% of their energy consumption, thus contributing to irreversibly altering forest

ecosystems. Wood smoke has harmful health effects and fuel supply issues exacerbate the economic insecurity faced by women and their families. Solutions do exist but remain out of reach for the most vulnerable people because of lack of awareness and distribution networks.

As a Young Leader, my work at *Nafa Naana* consists of promoting and distributing clean and affordable energy solutions to Burkinabe families. Our main target group is women in rural and sub-urban areas. Since 2010, we have distributed more than 50,000 clean and affordable cook stoves and solar lamps. More than 70,000 beneficiaries have been positively impacted by our activities. We envision a world with universal access to energy-efficient products and services.

Our approach can be presented through our fourfold impact:

- 1) Environmentally, forests are protected by reduced wood cutting, that would otherwise be needed to prepare meals. From 2010 to 2016, *Nafa Naana* contributed to the reduction of 155,585 tons of CO<sub>2</sub> emissions from Burkinabe households and to the conservation of 86,784 tons of uncut wood.

- 2) + 3)** From a health and social point of view, families' standards of living are improved. Households are less exposed to toxic fumes, they can save money on purchasing wood and use it for batteries or lamps (5.8 million EUR from 2010 to 2016) and they save time on collecting fuel.
- 4)** Finally, from an economic standpoint, stakeholders of the value chain (local producers and retailers) can increase their revenues. From 2013 to 2016, we purchased more than 100,000 EUR local stoves from about 50 local producers.
- ▶ Promotes energy access in rural areas: In African countries, energy access is significant in rural development for both domestic and productive uses. Additionally, it helps stem rural depopulation and illegal immigration.
  - ▶ Facilitates hands-on training with renewable energy technologies (e.g. solar assembly, improved cooking technologies) focused on empowering young entrepreneurs who start income generating enterprises in the renewable energy sector.
  - ▶ Supports existing energy access initiatives, especially those youth and/or women led.

We believe that energy is a key pillar to the socio-economic development of countries like Burkina Faso. As a young leader in energy access, I am fully determined and committed to contribute to the achievement of SDG7, thus allowing millions of Burkinabe to live in safer and better conditions.

### **Recommendations to the public sector**

Access to affordable, reliable, sustainable and modern energy is a pre-condition for social and equitable development at local level and a great catalyst for job creation. It is also an important way of empowering youth and women in rural areas. Therefore, I recommend that the public sector:

### **Recommendations to other Young Leaders**

Being engaged in energy access projects in Africa is quite an exciting journey. The needs and expectations for energy access are so important that the impact of our actions is highly positive and much appreciated. The journey is not an easy one but it is worth it. In countries where there are many priorities (food, education, health, etc.), energy access for rural areas is seldom on the top of the list. Thus, getting enough support to reach your goals is a big challenge. However, as a Young Leader you should know that small actions can lead to big impacts, so keep going and moving forward. The more you develop your ability to face and overcome

challenges the more you increase your chance of getting support in your noble mission. Last, but not least, always keep in mind that the most important is the lives you are contributing to improve.

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**A Nafa Naana sales agent raising awareness on energy precariousness and promoting clean and efficient products**



**Sayouba Guira and his colleagues during a SeforALL promotional event in the region of Centre-Nord in Burkina Faso**

# Simon Kiragu Muigai

Partnerships Manager, wPOWER HUB



Having been brought up in Africa, in my motherland Kenya, I have experienced what it feels like living in energy poverty. The burden of energy poverty falls heaviest

on women and children, to which I can relate. During my childhood, an elderly family member died from third-degree burns because of an explosion as she was lighting her kerosene lamp – little did we know that the fuel had been adulterated. I did not know what fuel adulteration meant until venturing to my career in the energy field. I now have an MBA in Project Management and an Energy Engineering Degree. This sad experience taught me not look back when working with communities to eradicate energy poverty. Rather we must use all available capacities and opportunities to advance the situation of the more than 620 million people in sub-Saharan Africa who lack access to electricity – those who have to rely on kerosene and candles to light their homes and to the 80% of the rural population relying on wood, charcoal, or dung for cooking.

## **My work as a Young Leader in Energy Access**

While everyone deserves access to modern energy, addressing energy poverty among women generates some of the greatest benefits and changes. In the absence of access to modern energy, people depend

on wood, charcoal, or dung for cooking and kerosene or candles to light their homes. The collection of these fuels is left to women and children, who spend inordinate time to secure them. This takes away precious time from many other activities, whether generating extra income, pursuing an education, or caring for children. The use of these fuels, which burn poorly and produce a great deal of smoke, affects the health of both women and children through indoor air pollution, causing several serious respiratory ailments, from infections to lung cancer.

I have been working with communities on the issues of clean energy cook stoves and solar power, and as a young leader, I know energy is a critical enabler for development. Currently, I am working at [\*wPOWER Hub\*](#) that aims to empower more than 8,000 female clean energy entrepreneurs to deliver clean energy access and improve livelihoods to 3.5 million households globally. My previous assignment was to work on the [\*Developing Energy Enterprises Project \(DEEP\)\*](#) that was able to provide over 4 million people with access to energy products and services and to create 4,400 jobs in the region. These results could be achieved through my engagements in awareness creation, capacity building, and mentoring, building an evidence base, sharing best practices and facilitating knowledge exchange visits.





**Energy Exhibition: With the Kenyan president, HE Uhuru (2<sup>nd</sup> left) during Nairobi innovation week**



**Capacity building session in Kenya**

### **Recommendations to the public sector**

Africa has a population of over 1.2 billion, 60% of whom are between the ages of 15 and 24. Massive unemployment among the youth hampers development and growth of the continent, and severely affects the youth. There is a need for a concerted effort to integrate the youth in the development agenda of the continent, allowing them to realise their potential.

The African and European public can facilitate and encourage youth entrepreneurship and leadership by addressing some of the pressing challenges and by creating an enabling environment for the opportunities that exist. The challenges facing the youth are many: poverty and limited access to finance, the digital gap, limited opportunities to learn and apply modern technology, gender inequity and inequality, inadequate investments in education and skills for youth and people with disabilities, as well as obsolete skills (PWC reports that 21–38% of jobs will be lost to automation by 2030).

On other hand, there are also tremendous opportunities to empower the youth. Some of these are in:

- ▶ Agribusiness (e.g. combining energy and agriculture in rural areas for productive use).
- ▶ Information and Communication Technology (ICT) (by ensuring digital access to global markets, innovations can be achieved via Apps, software, technology hubs (incubators and accelerators) and online courses).
- ▶ Government programs and initiatives (e.g. skills and empowerment programs such as youth funds, entrepreneurship development funds, start-up financing).

- ▶ Policies and regulations favouring youth development and employment, such as public procurement of tenders to youth, equal opportunities for men and women, and decision making to involve youth in government and the private sector.
- ▶ Political leadership for youth: Without political representation, young people can be manipulated. The majority, who are youths, can make, break or strengthen the systems (uprising in Egypt, Democratic Republic of Congo (DRC), South Africa, terrorism).
- ▶ Education: Instil skills and knowledge and support project development.
- ▶ Promote capacity in energy education and training through formal education, training and capacity building.
- ▶ Sharing of best practises among the youth. This will give rise to improved energy projects that build on the successes of previous projects and make improvements for new projects that better answer the needs of the people.
- ▶ Innovating around local contexts and engaging local communities in energy projects.
- ▶ Creating environmental awareness and youth lobbying for participation in decision-making processes for energy projects. The youth should form an African-European youth network, which will be a platform for engagement on the development agenda.

### **Recommendations to other Young Leaders**

Some of my ideas and tips to other African and European youth on how they can be engaged in energy access projects in Africa include:

- ▶ Volunteering in energy access projects by the European youth: This will make them gain experience and understand Africa's needs when working on future projects.
- ▶ Solicit for investments that can accelerate energy access from governments and developmental organisations.

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