

Electricity Access as a Basic Human Right: How to Replicate Good Practices

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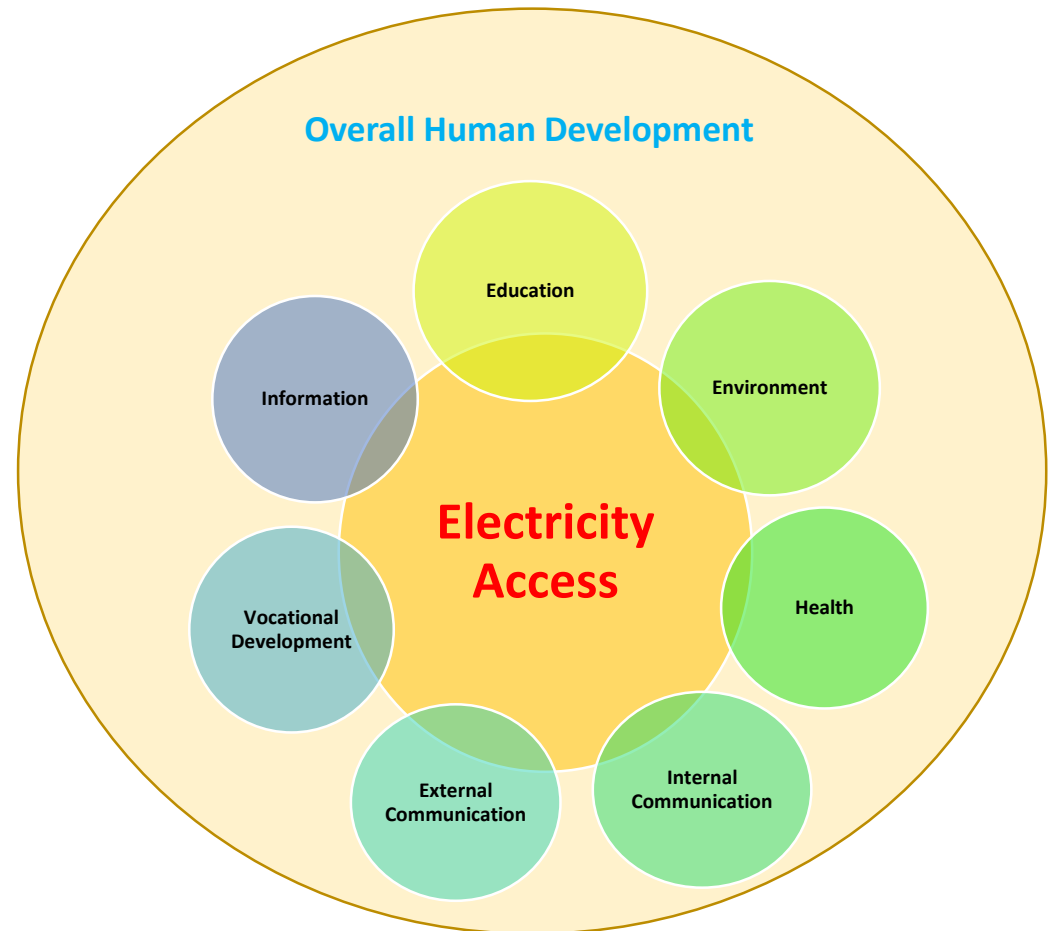
Permanent Monitoring Panel, World Federation of Scientists (Erice)

Electricity Access as Basic Human Right

- **Ensure access** to affordable, reliable, sustainable and modern energy for all by 2030 (U.N. SDG 7).
- Energy access is the “**golden thread**” that weaves together economic growth, human development and environmental sustainability(IEA Energy Access Outlook 2017).



- **In the age of electrification**, the access to electricity has the foremost importance among various types of energy.
- Given its contribution to overall human development, electricity access is part of **basic human right**.



Situation in Africa

- Africa has the potential to become **the Next Asia** (“TNA”) as the engine of global economy while Asian economy eventually matures.
- This potential cannot be fulfilled without **electricity access**.

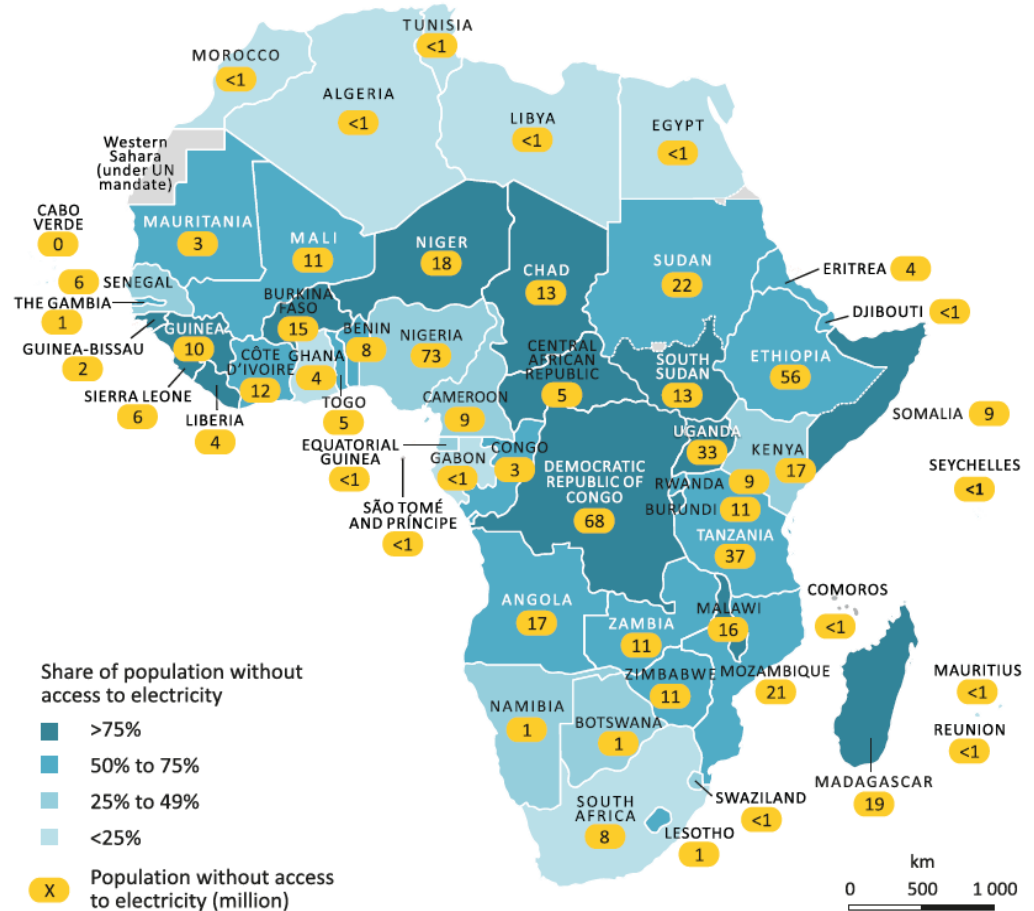


- Out of 20 countries with largest deficits in electricity access in 2016, Africa accounts for 16. In **sub-Saharan Africa**, 57% of the population still lacks in electricity access (The SDGs Report 2018 by UN).



- In sub-Saharan Africa, **only 18 countries out of 49** had electricity access over 50% in 2016 (IEA Energy Access Outlook 2017).

Population without access to electricity in Africa in 2016



Source: IEA Energy Access Outlook 2017

Uneven Progress in Sub-Saharan Africa

- A notable progress is made in electricity access in sub-Saharan Africa between 2010 and 2016 (**32→43%**).
- However, the progress in **uneven** depending on regions and countries, still leaving some **600 million** people without electricity access (as below).

Electricity Access in sub-Saharan Africa in 2016

	West Africa	Central Africa	East Africa	Southern Africa (excl. S.Africa)	South Africa	Total
Access Rate(%)	52	25	39	31	86	43
(Urban)	80	50	66	65	87	71
(Rural)	28	5	31	13	83	23
Without access	175 m	98 m	172 m	135 m	8 m	588 m
Countries with progress (%) (2010→2016)	Ghana (61→84) Senegal (54→64) Nigeria (50→61)	Gabon (60→90) Cameroon (49→63) Equatorial Guinea (27→68)	Kenya (18→65) Ethiopia (23→45) Rwanda (10→30)	Tanzania (15→33) Namibia (44→56) Mozambique (15→29)	South Africa (83→86)	Total (32→43)

Source: IEA Energy Access Outlook 2017

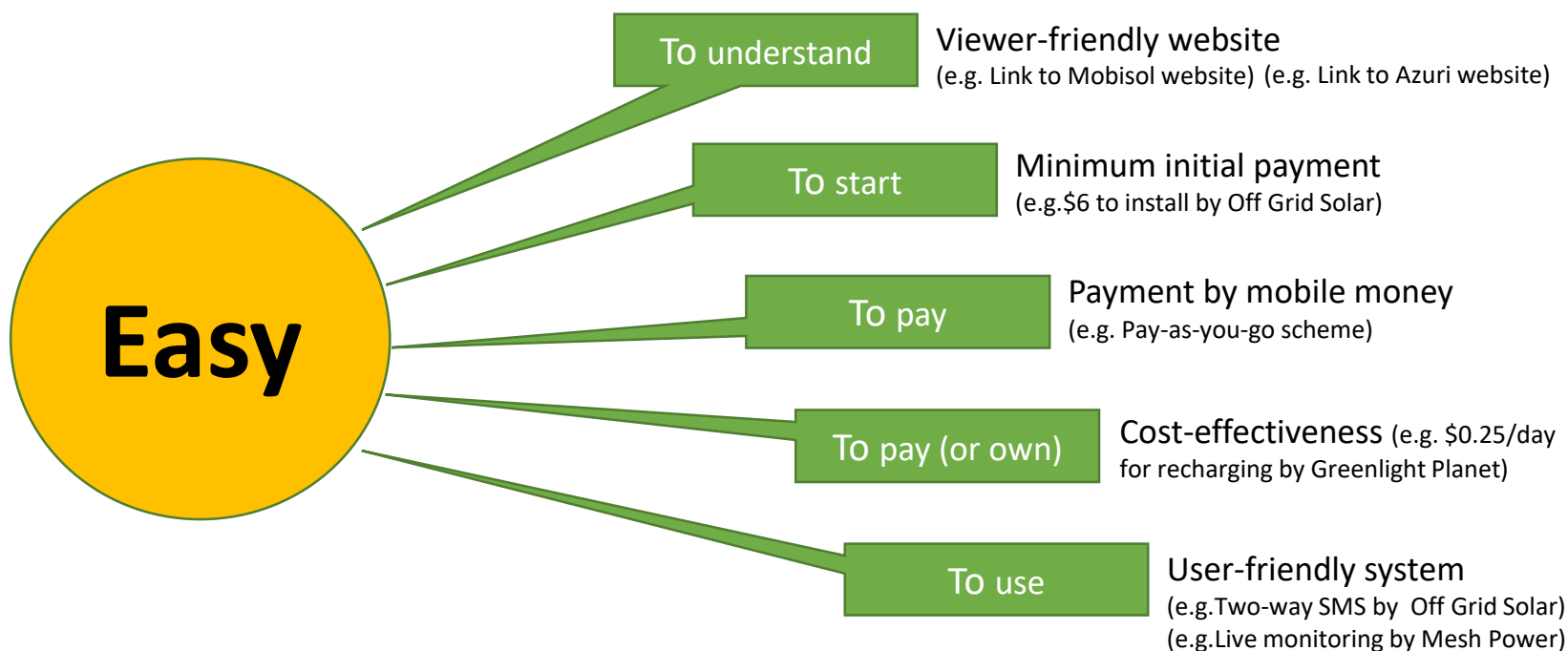
Good Business Practices in Sub-Sahara(Examples)

Year	Name	Head	Business	Countries	Impact
2006	Solar Aid	UK	<ul style="list-style-type: none"> International charity foundation Solar lights provided at lower price (via Sunny Money) 	Uganda, Malawi, Zambia, etc.	10m (population) 2b (studying hours)
2007	Husk	India	<ul style="list-style-type: none"> Mini-grids with power plants (solar/agricultural waste) Pay-As-You-Go (mobile money) 	Tanzania (+India)	75 (plants) 15,000 (homes)
2009	Greenlight Planet	India	<ul style="list-style-type: none"> Design, produce, distribute & finance solar house systems (SHSs) Pay-As-You-Go (mobile money) 	Kenya (+India)	27m (population) 5.3m (homes)
2010	Mobisol	Germany	<ul style="list-style-type: none"> Design, produce, distribute and finance SHSs (40-200 kW) Pay-As-You-Go (mobile money) 	Kenya, Tanzania, Rwanda, etc.,	0.6m (population) 750 (employees)
	BBOXX	UK	<ul style="list-style-type: none"> Design, produce, distribute and finance SHSs Three year payment plan 	Congo, Kenya, Rwanda (+PNG, Australia)	0.5m (population) 63,000 (children studying)
2011	M-KOPA	Kenya	<ul style="list-style-type: none"> Design, produce, distribute & finance SHSs Pay-As-You-Go (mobile money) 	Kenya, Tanzania, Uganda,	3m (population) 2000 (employees)
	Solar Kiosk	Germany	<ul style="list-style-type: none"> Design, produce, distribute and finance pre-fabricated & scalable Solar Kiosk E-Hubb (1-4 kW) Platform of business innovation 	Rwanda, Tanzania Kenya, Ethiopia, Ghana, etc.,	25,000 (population per E-Hubb) 4 (jobs per E-Hbb)
2012	Off Grid Electric	Tanzania	<ul style="list-style-type: none"> Design, produce, distribute & finance SHSs Pay-As-You-Go (mobile money) 	Tanzania, Ghana, Rwanda, I. Coast	150,000 (homes) 40 (new jobs/month)
	Mesh Power (→Xpower)	UK→US (May 2018)	<ul style="list-style-type: none"> Mini-grids with solar power plants built, operated & owned by Mesh Power Pay-As-You-Go (mobile money) 	Rwanda, Uganda	70 (grids operating & 100 in 2019) 50 (employees)
	Azuri	UK	<ul style="list-style-type: none"> Design, produce, distribute & finance SHSs Pay-As-You-Go (mobile money) 	Tanzania, Ghana, Uganda, Kenya, etc.,	97% (studying more) 50% (cost saving)

Source: Home Pages and Interviews

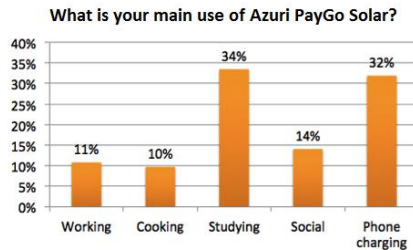
Replication of Good Practices

- Through these impactful and successful practices, one key message is identifiable, “**Easy**”.
- Vigorous competition is on going in **sab-Saharan Africa**, which should be accelerated through further innovations in policies, technologies and business models.
- **WFS Action Recommended:** Encourage/commend the replication of these practices and give technical/scientific advices to those in business and start-ups wherever possible.



[Appendix] Interesting Images

[Image 1] Studying is the main use!



"Now I am just enjoying the light"
Customer, Kitale

[Image 2] Solar Kiosk - Easy to Scale!



[Image 3] Low priced lights by Soar Aid!



\$11 Study light
Solar panel & battery
30 hours of light
2 year warranty



\$30 Study light & mobile charger
Solar panel & battery
36 hours of light
2 year warranty

