Solar Power: Electrifying the Continent

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Currently, only one-third of people in Africa have easy access to electricity. In some regions, like Northern Rwanda, just one-tenth of houses maintain regular access to electrical power ("Africa Unplugged," 2016). According to the International Energy Agency, in 2012 individual energy use in Africa was "around 600kWh, compared to a global average of more than 3,000kWh" per person (Cuff, 2016). In the past electricity was exclusively available to wealthy individuals in large cities, but now, those who have solar panels can access electricity for no more than a "few dollars a week" ("Africa Unplugged," 2016). The average individual can now charge their smartphone, and "watching television, powering their irrigation pumps and cooling their homes with fans" will amount to a lower total cost than traditional electricity provided by the grid, and thereby, the government ("Africa Unplugged," 2016). Currently, around 600,000 homes in the continent are powered through solar energy ("Africa Unplugged," 2016).

It is expected that individually owned "home-power systems" could increase by sixty to one hundred percent within the next year ("Africa Unplugged," 2016). The astronomic uptick of individuals owning solar power systems will soon mean that more individuals will have access to energy through off-grid resources than on-grid connections. This process is similar to the way cellular networks surpassed landlines due to the smaller amount of infrastructure and government facilitation required. Several changes to the solar energy industry have made this boom possible, including a decrease of nearly eighty percent in production costs from 2010, the availability of a "pay-as-you-go" plan, and the improvement of technology to use smaller amounts of power ("Africa Unplugged," 2016). The industry has become so popular that producers, such as Bboxx cannot keep up with the demand ("Africa Unplugged," 2016).

Due to either a lack of political will or poor governance, solar energy provides a more viable alternative to expanding the current electricity structures throughout the continent. In Rwanda, it is estimated that it would cost "an average of $880 to link" a single-family home in a densely populated area to an existing electrical grid ("Africa Unplugged," 2016). The Africa Progress Panel has produced a report that states in order to link every individual to the electrical grid, the infrastructure alone would cost over 55 billion USD annually and not be completed until 2080. This investment would require political will on a much larger level than currently exists. Currently, policy makers are embedded in "state-owned electricity monopolies" and are looking to maintain their customers ("Africa Unplugged," 2016). They discourage off-grid electricity for their own monetary gain despite the potential benefits - increased access to electricity would likely grow industry, improve quality of life, and add nearly "two percentage points" to Africa's economy growth annually according to the World Bank ("Africa Unplugged," 2016).

Solar energy provides a new source of hope for the continent - as a sign into a large solar power farm reads, "arise, shine for your light has come" (Smith, 2015).

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