



# ElleSolaire

A Successful All-Woman Solar-Entrepreneurship Network

**August 2022**

IN PARTNERSHIP WITH  
**Canada**

**Energy2Equal**  
Africa

 **IFC** | **International  
Finance Corporation**  
WORLD BANK GROUP  
*Creating Markets, Creating Opportunities*

## Access to Power and Renewable Energy as an Alternative Solution

Between 2010 and 2019, more than one billion people gained access to power globally but about 760 million people are still in the dark. About 640 million of these people live in rural areas—far from the electricity grid—and 570 million live in Sub-Saharan Africa (SSA).<sup>1</sup> For millions of others in SSA, access to power remains unreliable or unaffordable.

Renewable energy is growing rapidly as an alternative solution in Africa. By 2040, renewable energy could account for more than 60 percent of new power generation in SSA, and this expected expansion will create new jobs.<sup>2</sup> In 2020, the International Renewable Energy Agency (IRENA) estimated that the RE sector employed 219,000 people in SSA, and about half of these jobs (110,000) were in the off-grid solar photovoltaic (PV) sector.<sup>3</sup>

## Renewable Energy Sector and the Gender Gap

Despite the growth in the renewable energy sector, women are being left behind—they are lagging men in both leadership and technical jobs. This trend is a concern because a large body of evidence demonstrates that having women in leadership positions, and a gender-balanced workforce, positively correlates with a company's innovation, resilience, quality of services, reduced financial and reputational risk, and improved environmental standards.<sup>4</sup> A company is gender balanced when it has between 40 and 60 percent of either gender at all levels of the organization.<sup>5</sup> In sum, diverse companies are more competitive than their peers.

As the world continues to embrace cleaner sources of energy, it is critical to ensure that women are not excluded from the transition to green energy, and that they benefit from new opportunities as leaders, employees, and entrepreneurs in corporate supply chains.



## IFC's Energy2Equal Initiative

In 2019, the International Finance Corporation (IFC), in partnership with the Government of Canada, launched the five-year [Energy2Equal](#) (E2E) program—the first Sub-Saharan African initiative to address gender gaps in the renewable energy sector.<sup>6</sup>

A key component of the initiative is a peer-learning platform where 10 companies exchange best practices and implement gender-smart solutions that can help to improve business performance, foster innovation, attract more talent, and better engage with communities. "E2E Company Insights," is a series of short studies that highlight successful gender equality approaches taken by participating companies to enhance the recruitment, retention, and promotion of women in the sector.

---

"Energy poverty disproportionately impacts women in rural Africa, and, hence, women are best placed to introduce energy solutions. Women buyers find women sellers more trustworthy. I believe women are the core asset to the portable solar distribution business that will drive long-term sustainability and resiliency."

**Kelly Lavelle Nwachuku**  
ElleSolaire Founder and CEO

---

## About ElleSolaire

With the goal of empowering women to solve energy problems that affect women, in 2017, Kelly Lavelle Nwachuku founded ElleSolaire, a women-led distributor of portable solar technology that is bringing clean energy solutions to remote, "last mile" communities in Senegal that are off the electrical power grid.

This social enterprise is the first in francophone West Africa to create an all-woman solar distribution network at the base of the pyramid.<sup>7</sup> ElleSolaire recruits, trains, and supports women entrepreneurs to distribute portable [solar pico lanterns](#),<sup>8</sup> which are small household lights about the size of a kerosene lamp. The women entrepreneurs also distribute solar home systems, solar powered lighting and ventilation systems, and solar mobile phone chargers, which are used in homes, health clinics, maternity clinics, and schools. As of January 2022, ElleSolaire's network of women had brought cleaner, safer solar power to more than 100,000 people living in "last-mile" regions of rural Senegal.

## The Gender Challenge: Energy Poverty and Gender Disparities – Dual Problems for Rural Women

In Senegal, although only about 5 percent of people in urban areas lack access to electricity, in rural areas, this energy gap rises to 48 percent (about 8 million people).<sup>9</sup> Lack of electricity particularly affects women and girls in rural areas, as they are responsible for household work, and they can spend more than 10 hours per week walking long distances to collect firewood for light and cooking. These chores deprive women and girls of time they could spend on generating income, studying, or getting rest and recreation.

As rural girls often have insufficient time to study because they are helping their mothers with domestic responsibilities, many drop out of school at an early age. Only about 50 percent of Senegalese girls enroll in secondary education, and this figure is even lower in rural areas.<sup>10</sup> Of the few rural girls who stay in school, studying at night without electrical power is a challenge. If their family cannot afford an expensive battery powered light, children must study with kerosene lamps, which also cost money to use, and emit toxic fumes. In summary, lack of electricity in rural Senegal contributes to 90 percent of girls' dropping out of school. The lack of education contributes to low literacy levels and many girls end up in early marriages before they reach the age 18.<sup>11</sup>

### Impact

**100,000**

people have benefited from cleaner, safer light in their homes, health clinics, and schools.

**1,500**

women have earned more income from solar energy technology entrepreneurship opportunities.

**40**

Village Savings and Loans (VSLAs) solar entrepreneurship partners have been actively supported in Senegal.

**27**

rural health clinics have been electrified and provided with radios, mobile phone chargers, and solar-powered fans.

Energy poverty (lack of access to sustainable energy services and products), lack of “smart” mobile phones, lack of access to the internet, and socio-cultural norms limit women’s income-generation opportunities. Even if women are able to start a business, most lack the financing they need for success.

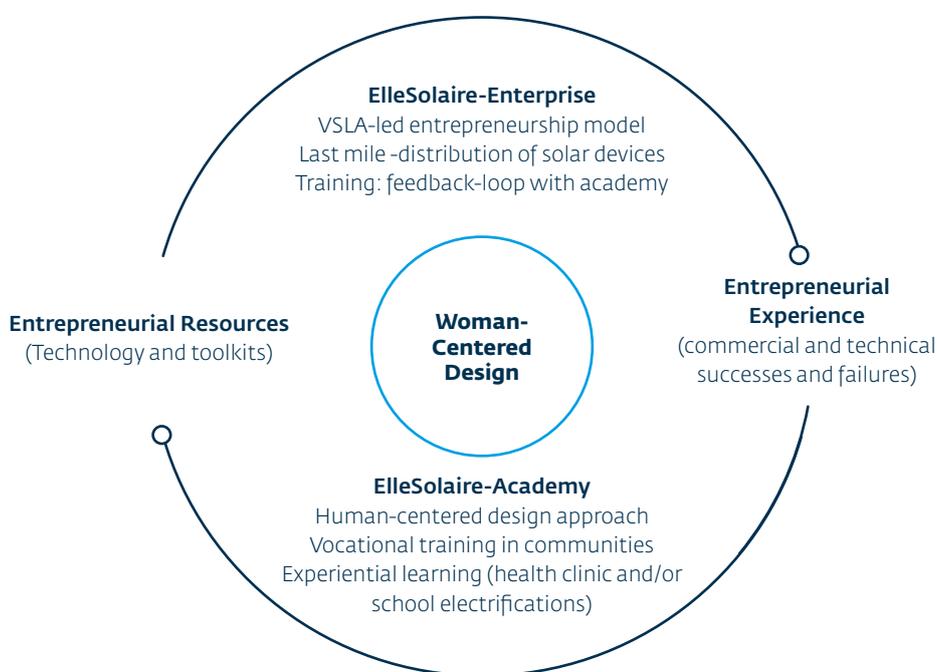
In Senegal, only [10 percent of women use formal financial services](#),<sup>12</sup> and only 15 percent own land which is needed as collateral for a loan. A GSMA<sup>13</sup> study in Senegal found that “36 percent of sampled women in Senegal cited reading and writing as the main barrier to mobile internet access, compared to only 12 percent of men” (GSMA 2020).

## The Gender Solution: A Unique Business Model – A Distribution Network Entirely Led by Women

Over 10 years of her successful career in the banking and corporate sectors of several emerging market countries, Kelly Lavelle Nwachukwu saw, first-hand, how energy poverty severely limits rural women’s opportunities and entraps women in a vicious cycle. She concluded that entrepreneurship could be an important tool to help rural women to overcome their challenges.

In 2017, Kelly launched ElleSolaire to facilitate a “just transition” to clean energy and change the negative trajectory of rural women’s lives, now, and for future generations. The woman-centered model is structured around two components: ElleSolaire Enterprise and ElleSolaire Academy.

### The ElleSolaire Enterprise and Academy Model



Source: ElleSolaire

**ElleSolaire Enterprise: Establishing an All-woman Distribution Network:** When Kelly was planning to set up her all-woman rural energy product distribution network, she considered two major recruiting challenges—women’s time poverty due to their substantial domestic responsibilities, and their physical location, which covered a wide geographic area. Women entrepreneurs spend around two and half hours of their 17-hour day on their business—the rest of their time is devoted to their household and caregiving responsibilities. Based on these realizations, Kelly concluded that recruiting women individually was not practical, and that ElleSolaire needed to recruit groups of women so that the company would be able to rapidly scale up its distribution networks and become viable.

Kelly realized that many women were members of Village Savings and Loans Associations (VSLAs), and that partnering with VSLAs could enable her company to quickly recruit large numbers of women efficiently, while accelerating the process of scaling up. In 2017, ElleSolaire developed partnerships with more than 40 VSLAs in two rural regions of Senegal—Fatick and Thies. This local entrepreneur ecosystem approach provided fast-track access to a group of women that was already anchored in the community. The strategy ensured that the company did not have to reinvent the wheel by building new engagement ecosystems, but, rather, it could add value rapidly to existing networks by empowering women members to join the initiative.

**ElleSolaire Academy - Bridging the Skills Gap:** Having established sources for the continuous recruitment of women through the VSLAs, ElleSolaire needed to address women’s substantial skills gap. As noted above, a high percentage of rural girls in Senegal drop out of school, which means that about 40 percent of women over age 15 are illiterate.<sup>14</sup> Although, two thirds of Senegalese women have started informal businesses out of necessity, their business skills are rudimentary. To help bridge this skills gap, in September 2021, ElleSolaire launched the ElleSolaire Academy, using funds from the “Women Saving for Resilience Innovation Award,” which is supported by the Bill and Melinda Gates Foundation.

Once a quarter, ElleSolaire drives its classroom-on-wheels to villages to conduct training sessions that develop distributors’ technical as well as their business skills. This combination of classroom and on-the-job training covers ElleSolaire’s business strategy, after-sales service, marketing, mobile money, solar technology, financial literacy, and digital literacy. The company’s practical approach to teaching marginalized women makes learning accessible, relevant, and enjoyable. For the hands-on solar technology classes, trainees install equipment in a health clinic or a school.

As most rural women lack reliable access to a smart phone, ElleSolaire provides these to its distributors, along with training to develop their digital literacy. These smartphones have special sales and customer management software (see below), as well as other tools to help distributors launch and run their business. At the end of their training program, women distributors are certified as ElleSolaire Entrepreneurs.

ElleSolaire began training women in 2018, and then formalized this with the ElleSolaire Academy in 2021. Since then, the company has developed the solar technology and entrepreneurship skills of 82 women and youth. Following completion of their training, women reported feeling more confident and better equipped to run their business and overcome challenges.

Once certified, women distributors return to their villages with high quality, reliable, and durable distributed renewable energy (DRE) solutions for their communities. Following women’s integration into ElleSolaire’s Enterprise network, the company gathers information on their successes and failures, and provides lessons learned to the ElleSolaire Academy to improve its training. The Academy also provides ElleSolaire’s certified entrepreneurs with ongoing coaching, and training in finance so that they can expand their businesses and generate more revenue. Also, ElleSolaire conducts market research and applies the findings to improve the company’s productivity and to diversify its suite of products (for example, solar mobile phone charging stations, kits for barbers and tailors, and refrigeration equipment).

**Marketing:** ElleSolaire’s training in marketing techniques, including digital marketing, has helped to increase individual as well company efficiency, and expand ElleSolaire’s markets. The strongest sales occur through door-to-door marketing, and presentations to savings groups and community events, however, the mobile phone application, WhatsApp, is becoming a new marketing tool now that 65 percent of women in rural areas are using the app.



Source: IFC/ElleSolaire Survey

**Solar Devices and Technology:** To source solar equipment, ElleSolaire works with [Angaza](#), “a technology company delivering life-changing products to low-income customers, while reducing risk and promoting business growth.”<sup>15</sup> Angaza supplies a range of [products](#),<sup>16</sup> including solar lighting, clean stoves, solar water pumps, smartphones, radios, laptops, and other electronics that are now in high demand in last mile communities.

Through Angaza’s sales and customer management mobile phone app, ElleSolaire’s entrepreneurs can reach more customers, monitor their buyers’ micro loan installment payments (PayGo), and manage their inventory. The technology platform is also helping ElleSolaire to accelerate the growth of its distribution networks.

**Access to Finance:** ElleSolaire has addressed the access to finance barrier, too, on both the supply and demand sides, by helping its distributors to purchase inventory, and its customers to pay for their products. In partnership with the VSLAs, ElleSolaire provides financing for its women entrepreneurs by lending them the seed capital they need to start their business and purchase inventory. As of January 2022, the company had dispersed nearly \$100,000 to finance distributors' inventory. In 2021, IFC and ElleSolaire conducted a survey of women entrepreneurs to gain a better understanding of their business practices and learn more about the challenges that these women face. In the survey, over 90 percent of the respondents said that ElleSolaire was their main source of funding.

To help villagers with their purchases, ElleSolaire provides consumer financing through Angaza's PayGo (pay-as-you-go) feature. To minimize risk, Angaza's products are embedded with payment metering technology that can disable a device if its account goes into default. As of January 2022, about 2,500 households had purchased solar products through ElleSolaire's network using PayGo's affordable financing.

**Impact:** Since the company's launch in 2018, ElleSolaire has partnered with, and actively supported 42 VSLAs in two rural regions of Senegal; it has tripled its number of entrepreneurs from about 500 to about 1,500; and the company's women entrepreneurs have used their income to improve the lives of their families in ways that include funding secondary school for their children, purchasing additional food, paying for health care, and increasing their savings.

---

"Entrepreneurship that involves solving critical energy problems with breakthrough technological solutions earns a woman a very unique place at the heart of her community."

**Kelly Lavelle Nwachuku**

---

### Growth of ElleSolaire Women Entrepreneurs



Source: IFC/ElleSolaire survey

In just four years (2018–2022), ElleSolaire's entrepreneurs have brought solar lighting to over 100,000 people living in remote villages. Also, 27 rural health clinics have been electrified and provided with radios, mobile phone chargers, and solar-powered fans. The homes, health clinics, and schools in hundreds of communities are benefiting from cleaner, safer light, and by 2025, ElleSolaire expects to recruit 5,600 more women entrepreneurs and bring clean, renewable, and affordable solar energy to more than one million new customers.

**Beyond Senegal:** ElleSolaire's innovative strategy of working with women and VSLAs caught the attention of SolarAid, a pioneer in bringing portable solar lighting to rural communities in Africa, but the company had never worked exclusively with women. In 2021, SolarAid established a partnership with ElleSolaire that has facilitated a two-way information exchange. As a result, SolarAid launched the Mayi Walas (Shining Mothers) program, which recruits, trains, and supports female solar entrepreneurs in rural Malawi.

---

"The Mayi Walas (Shining Mothers) program supports women in reducing both their socio-economic poverty, as well as their energy poverty. We want to drive change, drive growth, and drive the success of women in rural areas through renewable energy businesses."

**Brave Mhonie**

General Manager, SolarAid Malawi

---

Based on ElleSolaire's successful approach, the Mayi Walas program combines training, finance, and long-term business support to help women overcome barriers in launching and scaling up successful businesses. In just a few months, the Malawi pilot program has already shown success—36 women's groups have been recruited; 15 groups have obtained interest-free loans for their solar product stock through [LendWithCare](#),<sup>17</sup> a crowdsourced microfinance initiative by Care International; and 380 [pico solar lanterns](#) have been distributed.

## Results

ElleSolaire's women-led model has demonstrated a strong business case for recruiting and supporting women distributors of off-grid solar energy products. Also, rural communities are being transformed with the introduction of clean, safe light; and the time that women and girls used to spend gathering firewood is being redirected toward income generation and educational activities that can take place after sunset, with good, safe light.

## End Notes

- 1 IEA (International Energy Agency), IRENA (International Renewable Energy Agency), UNSD (United Nations Statistics Division), World Bank, and WHO (World Health Organization). 2021. "Tracking SDG 7: The Energy Progress Report". Washington DC: World Bank. [https://trackingsdg7.esmap.org/data/files/download-documents/2021\\_tracking\\_sdg7\\_chapter\\_1\\_access\\_to\\_electricity.pdf](https://trackingsdg7.esmap.org/data/files/download-documents/2021_tracking_sdg7_chapter_1_access_to_electricity.pdf).
- 2 IEA (International Energy Agency). 2019. "Africa Energy Outlook 2019": World Energy Outlook Special Report. Paris: IEA <https://www.iea.org/reports/africa-energy-outlook-2019>.
- 3 IRENA (International Renewable Energy Agency). "2020 Renewable Energy and Jobs – Annual Review 2020". Abu Dhabi: IRENA.
- 4 EY Canada (Ernest & Young). 2019. "Could gender equality be the innovation boost utilities need?" March 8, 2019. [https://www.ey.com/en\\_ca/women-power-utilities/could-gender-equality-be-the-innovation-boost-utilities-need](https://www.ey.com/en_ca/women-power-utilities/could-gender-equality-be-the-innovation-boost-utilities-need);  
Sylvia Ann Hewlett, Melinda Marshall, and Laura Serbin. 2013. "Innovation, Diversity and Market Growth." September 2018. New York: Center for Talent Innovation (now Coqual). [https://coqual.org/wp-content/uploads/2020/09/31\\_innovationdiversityandmarketgrowth\\_keyfindings-1.pdf](https://coqual.org/wp-content/uploads/2020/09/31_innovationdiversityandmarketgrowth_keyfindings-1.pdf);  
Ellyn Shook and Julie Sweet. 2019. "Equality = Innovation. Getting to Equal 2019: Creating a Culture that Drives Innovation". Toronto: Accenture. [https://www.accenture.com/\\_acnmedia/thought-leadership-assets/pdf/accenture-equality-equals-innovation-gender-equality-research-report-iwd-2019.pdf](https://www.accenture.com/_acnmedia/thought-leadership-assets/pdf/accenture-equality-equals-innovation-gender-equality-research-report-iwd-2019.pdf);  
Alexandre Di Miceli and Angela Donaggio. 2018. "Women in Business Leadership Boost ESG Performance: Existing Body of Evidence Makes Compelling Case." IFC Corporate Knowledge Publication No. 42. Washington, DC: International Finance Corporation. [https://www.ifc.org/wps/wcm/connect/topics\\_ext\\_content/ifc\\_external\\_corporate\\_site/ifc+cg/resources/private+sector+opinion/women+in+business+leadership+boost+esg+performance](https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+cg/resources/private+sector+opinion/women+in+business+leadership+boost+esg+performance).
- 5 ILO (International Labour Organization). 2019. "The Business Case for Change. Women in Business and Management". Geneva: ILO.
- 6 IFC (International Finance Corporation). n.d. "Energy2Equal: Empowering Women in Africa's Renewable Energy Sector". [https://www.ifc.org/wps/wcm/connect/news\\_ext\\_content/ifc\\_external\\_corporate\\_site/news+and+events/news/energy2equal-africa](https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/energy2equal-africa).
- 7 IFC uses the term "base of the pyramid" in the broader sense of poverty, which the poor, themselves, understand and experience—not just as lack of money, but also as lack of access to basic goods, services, and income generation opportunities. In 2010, the base of the pyramid comprised all people with an income below \$8 per day, in US dollar purchasing power parity. IFC (International Finance Corporation). 2010. "Inclusive Business 2010. Telling our Story: Base of the Pyramid Investments". Washington, DC: IFC. <https://documents1.worldbank.org/curated/en/562401468183895148/pdf/594460PUBoTelloBox358281Bo1PUBLIC1.pdf>
- 8 Pico Plus Solar Lanterns. Sunking catalog – product website, accessed June 1, 2022. <https://sunking.com/solar-lanterns/sun-king-pico-plus/>
- 9 World Bank. 2019. Database. Access to electricity, rural (% of rural population) Senegal. World Bank website accessed June 1, 2022. <https://data.worldbank.org/indicator/EG.ELC.ACCS.UR.ZS?locations=SN>
- 10 World Bank. 2020. Database. School enrollment, secondary, female (% gross) Senegal. <https://data.worldbank.org/indicator/SE.SEC.ENRR.FE?locations=SN>
- 11 UNCDF (United Nations Capital Development Fund). n.d. Women and Girls Economic Participation and Empowerment. UNCDF website accessed June 1, 2022. <https://www.uncdf.org/power/senegal>
- 12 Ibid.
- 13 Oliver Rowntree and Matthew Shanahan. 2020. "Connected Women. The Mobile Gender Gap Report 2020". March 2020. London: GSMA (Global System for Mobile Communications Association). <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/05/GSMA-The-Mobile-Gender-Gap-Report-2020.pdf>
- 14 UNESCO Institute for Statistics. Data for the Sustainable Development Goals: Senegal. General Information. UNESCO website accessed June 1, 2022. <http://uis.unesco.org/en/country/sn>
- 15 Angaza. Unlock customer value in global markets. Angaza website accessed June 1, 2022. <https://www.angaza.com/>.
- 16 Angaza. Angaza Catalog – Partner Devices – Metered Products. Angaza Catalogue website accessed June 1, 2022. <https://devices.angaza.com/>.
- 17 Lendwithcare. A loan from you can change someone's life. Lendwithcare website accessed June 1, 2022. <https://lendwithcare.org/>

**For more information about Energy2Equal please contact:**

**Anne N Kabugi**

Regional Gender Lead – Africa, Gender and Economic Inclusion Group  
akabugi@ifc.org

**Bhattiprolu Balachandra Murti**

Communications Officer - Gender & Economic Inclusion Group  
bmurti@ifc.org



**IFC**

**International  
Finance Corporation**  
WORLD BANK GROUP

*Creating Markets, Creating Opportunities*

**Energy2Equal**  
Africa