invest in women
power communities
A brighter world powered by women's enterprise
EXECUTIVE SUMMARY

Everyone should have access to clean energy.

In sub-Saharan Africa, where over 600 million people have no access to electricity and over 700 million rely on harmful cooking fuels, it’s women who bear the huge burden of energy poverty and who disproportionately shoulder the harmful effects of climate change.

Solar Sister believes women are a key part of the solution to the clean energy challenge. This is why we invest in women’s enterprise in off-grid communities. We see the opportunity to empower women and to reach people who aren’t reached by business-as-usual energy models. Centering local women in a rapidly growing clean energy sector is essential to eradicating poverty and achieving sustainable solutions to climate change and a host of development issues. And decentralized renewable energy is one of the quickest ways to ensure sustainable access for all.

Local women are enterprising, creative, hard working, and committed to improving the wellbeing of their families and communities. Like Nanbet, a formidable young single mother raising five children. She’s a farmer and a clean energy entrepreneur in Nigeria, selling solar lights and clean stoves in her community and using the profits to pay for fertilizers for her farm and to send her grandchildren to school. This is the kind of generational change that clean power can make.

We founded Solar Sister in 2010 “to provide women with the economic opportunity, training and support to distribute clean energy to underserved communities in Africa.” Since then we have supported women to create over 3,500 sustainable businesses that provide clean energy to over 1.5 million people in Nigeria, Tanzania and Uganda.

Solar Sister will achieve our mission via four strategic goals:

WOMEN POWER – economic opportunity + women’s livelihoods
ENERGY ACCESS – energy access in underserved communities
ADVOCACY – investment in local women + gender inclusion
SCALE WHAT WORKS – impact through our model + innovation

By building a sustainable last mile distribution network of women entrepreneurs, our unique model combines women’s economic empowerment with clean energy access where it is most needed. As a pioneer in building a gender-inclusive energy sector, Solar Sister invests in women to build better lives for themselves, their communities, and, in turn, the world. By scaling our model, Solar Sister contributes to the UN’s Sustainable Development Goals, in particular towards achieving Gender Equality and Affordable and Clean Energy Access.

Over the next five years, Solar Sister will support over 10,000 women to build clean energy businesses that reach over 10 million people in sub Saharan Africa with clean energy technology.
VISION

A brighter world powered by women entrepreneurs

MISSION

We provide women with economic opportunity, training and support to distribute clean energy to underserved communities in Africa.

VALUES

Sisterhood
Trust
Grit
VALUES

sisterhood

Women supporting each other, especially in the tech sector; valuing women’s networks and local leadership; an inclusive approach.

Our staff, entrepreneurs and supporters are part of a movement of women and allies who look out for each other. We care about the well-being of our communities. Energy poverty is gendered and it’s women in low-income households who shoulder this huge burden. Sisterhood amplifies existing strong, local women-led networks of community change and development.

trust

Working across diverse cultures, geographies, technology capacities, educational and socio-economic backgrounds, building trust is the foundation of our work.

Trust is a two-way street of relationship-building, deep listening, and integrity; trust opens up the possibility for innovation and allows for people to work together to achieve the seemingly impossible. We invest time and energy in fostering relationships that build trust within our team, with our entrepreneurs and with our customers. It is our everyday work.

grit

Doing our best, being creative, not giving up! We value determination and resilience in the face of the many challenges we are up against.

Grit means courage and resolve when you face a difficult situation. We believe that each of us can cultivate our innate “grit” to persevere through difficulty and find a solution! We value our inner grit for its action-oriented get-it-done quality.
Over 600 million people in sub-Saharan Africa live without electricity and over 700 million must use harmful fuels such as firewood and charcoal for cooking.

Globally, smoke from cookstoves causes 2.6 million premature deaths and a host of harmful health conditions, including respiratory and vision problems. Lack of access to power locks people into poverty and affects all areas of life. Energy poverty has a multitude of direct and indirect negative consequences on the health, education and incomes of women in particular and of off-grid communities in general.

Lack of economic opportunity for women is especially concerning when six out of 10 of the world’s poorest people are women. Women are vulnerable to extreme poverty because they face greater burdens of unpaid work, have fewer assets and productive resources than men, are exposed to gender-based violence, and are more likely to be forced into early marriage. These factors, as well as systemic gender bias and lack of representation in positions of leadership and power, reduce women’s ability to participate fully in the economy and to achieve prosperity. In sub-Saharan Africa as with other regions, women face deeply rooted obstacles to achieving their economic potential.

“Solidarity between women can be a powerful force of change, and can influence future development in ways favourable not only to women but also to men.”
-- Nawal El-Saadawi, Egyptian writer, rights activist

New technology and investment in the energy sector are starting to transform rural economies by creating a unique opening for economic opportunity. But despite global progress in electrification, sub-Saharan Africa lags behind: by 2030, 600 million of the global 674 million people without access to electricity will live in sub-Saharan Africa, a majority of them in rural areas.

The good news is that decentralized, off-grid power systems will pick up the slack: of 315 million rural Africans who will gain access to electricity by 2040, less than a third will connect to national grids. The large majority will gain access to electricity through off-grid household or mini-grid systems.

“Eliminating gender inequality and empowering women could raise the productive potential of one billion Africans, delivering a huge boost to the continent’s development potential.”
-- African Development Bank
Solar Sister defines last-mile communities by these interconnected factors: lack of access to grid power, low-income or seasonal economies, and remote or isolated geography.

Not all last mile communities are rural or remote. Many are peri-urban or urban communities where power lines criss cross overhead but remain out of reach to those who cannot afford to connect or pay monthly bills. Even those who are able to connect to the grid can experience regular outages.

The majority of sub Saharan Africans still live in fairly rural, last-mile communities, difficult to reach due to dispersed populations and poor transport infrastructure. In addition, low incomes and limited access to information and services leave many disconnected from power. Traditional centralized power systems have yet to reach last mile communities – even urban ones – and so people here often rely on expensive, low quality and harmful energy options.

The last mile is also about energy justice: we are committed to reaching people who are still waiting for access to clean power because of where they live.
Almost no country in Africa has a fully functioning grid. Too many people must rely on harmful fuels to light and power their homes.

**COOKING** About 3 billion people still cook using solid fuels, including wood, charcoal, coal and dung, and kerosene in open fires and inefficient stoves. The majority live in low and middle income countries. (WHO)

Every year, 4.3 million people, mostly women and children, die of inhaling the smoke from cooking over open fires. Women and children spend up to 5 hours a day and large percentage of their income collecting such harmful fuels. In conflict zones gathering fuel puts women at greater risk of assault and sexual violence. (Clean Cooking Alliance)

**LIGHTING** If you live somewhere on the African continent, over half of you (57%) will light your homes by battery-powered torchlight or kerosene-fueled lamps. Kerosene has multiple issues: children who knock over are burned severely, the light provided is poor, and it costs up to 4 times as much as electricity. (World Bank, IEA)

**CLIMATE** Black carbon is the 2nd largest contributor to climate change after CO2. Burning solid fuels for cooking and heating in homes produces approximately 25% of total black carbon emissions. (Clean Cooking Alliance)
STRATEGIC GOALS

Over the next five years Solar Sister will support over 10,000 women in building clean energy businesses by working towards 4 strategic goals: women’s economic empowerment, energy access for underserved communities, advocacy for gender inclusion and scaling what works.

1. (EM)POWER WOMEN

We offer local women access to key tools, skills and technology to bring in extra income, save money and step into their power.

To achieve this goal, we will

1. Increase women’s income: women entrepreneurs increase income, adopt business skills, and sustain or grow their income over time.

2. Reduce women’s economic risk: women entrepreneurs increase their savings and diversify their revenue sources.

3. Increase women’s agency: women entrepreneurs gain increased decision-making power, increased confidence, take on more leadership roles, and fulfill their aspirations.

2. ENERGY ACCESS

We work towards energy access for all, including last-mile communities. We build and grow sustainable market-based distribution networks to reach more people with clean energy products. To achieve this goal, we will,

1. Expand clean energy distribution to last-mile communities: off-grid communities access a diversity of clean energy products (both solar and clean cooking products).

2. Provide local after-sales services: customers receive after-sales services including replacement of faulty products under warranty and recycling of defunct products.

3. Increase uptake of clean energy products by last mile customers: customers buy and use a diversity of clean energy products; customers reduce their spending on energy and report greater productivity.
STRATEGIC GOALS

3. ADVOCACY

We acknowledge that structural and systemic challenges affect women’s enterprise. We push for supportive policies and increased investment in local women’s economic empowerment and increased representation in the clean energy sector. To achieve this goal we will,

1. Advocate for investment in local women: policy-makers, funders and supporters invest in locally-led women-driven enterprise and economic empowerment.

2. Advocate for greater inclusion in clean energy sector: policy-makers, manufacturers, partners and supporters better include women in leadership, design, and distribution as well as consumption of clean energy products.

4. SCALE WHAT WORKS

In pursuit of our vision, we scale. We repeatedly test our model to scale our impact and reach the most people with clean energy. To achieve this goal, we will,

1. Strengthen organizational capacity: increase investment in fundraising, operations, internal systems and human resources for greater effectiveness.

2. Strengthen monitoring and evaluation: refine M&E framework, deepen our capacity and expertise, build evidence base through research partnerships.

3. Establish an Innovation Hub: run data-driven projects to evaluate new products, new partnerships and new pilot programs for effective scale up in line with mission.

4. Replicate model directly: establish new country programs based on rigorous criteria including market feasibility and infrastructure.

5. Grow current businesses: support women entrepreneurs to grow businesses to reach more customers; expand entrepreneur network to new markets.
THEORY OF CHANGE

Solar Sister’s Theory of Change is rooted in the knowledge that local women are enterprising, creative, hard working, and committed to improving the wellbeing of their families and communities.

We recruit, train, support and deliver products to networks of women entrepreneurs. Solar Sister offers a comprehensive training package on clean energy technology, business skills, and leadership and provides ongoing mentoring and a portfolio of quality-assured clean energy products and services.

Entrepreneurs report a ripple effect of benefits to their social and economic well-being. An International Center for Research on Women report on Solar Sister Tanzania says entrepreneurs increase their income, gain confidence and financial independence and play a larger role in decision-making and leadership. Entrepreneurs also use clean energy products in their homes resulting in improved family health, education, stability and status.

As Solar Sister entrepreneurs market and sell a wide variety of products, including small solar lights, solar home systems, and clean cookstoves, communities access reliable off-grid power solutions. As more and more people buy clean energy products, there is a ripple effect on education, health and economic improvements in households that use clean energy.
THEORY OF CHANGE

goals

women with power

clean energy for all

entrepreneurs with

- lower economic risk
- improved skills
- greater agency

outcomes

- improved education
- more savings
- better lighting
- better health
- higher income
- higher productivity

communities with

inputs

- manufacturers
- research
- finances
- partners
- storage
- enabling policies
- human resources
- internal systems

activities

- recruit, train
- + support
- entrepreneurs
- marketing
- delivery of products
- team + leadership development
- test + integrate new initiatives

outputs

- increase # people who switch to clean power
- increase # people with successful clean energy businesses

increased income

- higher
- greater agency

improved skills

- more savings
- better lighting
- better health
- higher income
- higher productivity

communities

entrepreneurs

outcomes

goals
Operations Model

Solar Sister recruits, trains, and supports women entrepreneurs to build sustainable businesses and bring clean energy technologies to their communities and beyond.

Solar Sister provides entrepreneurs with the following resources necessary to kickstart and grow their businesses:

- 12-month training curriculum including modules on networking, marketing, record-keeping, goal-setting, and leadership
- Business-in-a-bag start up kit including marketing materials and business tools**
- Delivery of diverse portfolio of quality-assured (including IFC Lighting Global Certified) clean energy products
- Warranty service for products
- Ongoing coaching and mentoring
- Support with product fairs, media, and partnerships; incentives package

With this comprehensive package of support, products and services, entrepreneurs learn about clean energy solutions and how to build a sustainable business around the opportunities these new technologies afford.

**N.B. For humanitarian projects targeting low-income women start-up inventory is provided.

Solar Sister Sales Agents focus on large sales and commercial markets with the goal of boosting the earned income revenue stream to increase sustainability.

Solar Sister Business Development Associates focus on supporting women in remote and last-mile communities to build their own sustainable businesses.
This strategy document is rooted in the lessons learnt over eight years as well as key trends and gaps at the intersection of energy justice, climate justice and women’s rights.

Monitoring systems
Data-driven is our mantra, and strengthening our monitoring and evaluation systems is essential to scaling our work. The following were identified as key areas of growth:

- **Create Lean Quality Data Systems** - Solar Sister will ensure that we gather strong and high quality data from entrepreneurs while not passing huge surveying burdens onto them. We will continue to strengthen our impact evaluation systems while prioritizing quality over quantity of indicators.
- **Expand Customer Interface and Knowledge of Last Mile Market Dynamics** - Solar Sister’s model means that the organization primarily interacts with entrepreneurs, but customer satisfaction and impact are also central to our success. Solar Sister will expand M&E systems to be more inclusive of customer feedback.
- **Foster Evidence Based Decision Making** - Solar Sister will prioritize data-driven approaches and pilots that test our model and innovations, in order to provide the best support to our network of entrepreneurs and reach everyone clean energy.

Diversified revenue streams
Diversity is strength. Another important lesson learned is the need to ensure a healthy sales portfolio in each of our country operations. In order to diversify revenue streams and also stay true to our mission, each country portfolios must meet the following criteria:

- a large majority of entrepreneurs are women (above 80%)
- new recruits encouraged
- mature entrepreneurs’ businesses are deepened
- a mixture of profitable markets and pre-commercial last-mile markets
- a mixture of urban and rural communities

In order to achieve this healthy sales portfolio at country level, Solar Sister team is organized into two roles:

- **Sales Associates** who pursue big sales and make direct sales in commercial markets.
- **Business Development Associates** who focus on supporting entrepreneurs to build lasting clean energy businesses.
Innovation
We are always learning. And if we are to scale our work to reach much larger numbers, we must continually ask hard questions, test innovations and expansions, and improve on our model. In order to reach more people in the most efficient way, we need to be able to design and test innovative improvements to our model, using a data-driven approach. Solar Sister plans to establish an Innovation Hub to run small-scale evaluations testing out new products, partnerships and pilot programs that can help us to scale.

Innovation Hub projects will operate in collaboration with country operations and serve as a living lab for action research. As we expand, the hub will allow Solar Sister to respond and adapt operations and model as needed, always keeping our focus on the needs of the entrepreneurs and communities with whom we work.

Establishing the hub includes the following key activity stages –

1. **Design** Design products, pilots and partnerships that meet the needs of current entrepreneurs and that also help to scale operations effectively.
2. **Test** Propose and test Initiatives, gather data, to refine or reject ideas. Place strong focus on documenting lessons, what works and doesn’t.
3. **Integrate** Successful initiatives are integrated into Solar Sister’s ongoing distribution model, ongoing impact monitoring.
4. **Share** Disseminate findings; develop methodologies to increase impact through partnerships, franchise models, advisory and/or consulting.
OUR IMPACT

Together, Solar Sister and local women entrepreneurs set off a ripple effect impacting women, their families, their customers and their communities.

Women entrepreneurs
The women with whom we work are impressive and when they get the opportunity and support to set up their own business and to bring power to their communities, they do amazing things. Independent research shows that these women improve not only their household income, but also the health and education of their families and their own status and control over resources.

Extra income allows women to contribute to family earnings, to gain confidence, financial independence, and respect, and to play a larger role in household decision-making. From trainings and ongoing mentoring, entrepreneurs gain important skills. They often gain confidence and have more opportunities to serve as role models and change-agents in their communities.

“People in the community see me differently now. And that is why other women are interested in joining. They see I have money for soap, that I’m involved in two loans groups, that I use an efficient stove and that I have installed a big solar light system in my house.”
  -- Moshi, Tanzanian entrepreneur

“Everything inside the house changes [because of solar lanterns]. If the mom wants to cook, she can. If the kids want to study, they can.”
  -- Turning on the Lights, Miller Center for Social Enterprise

Community
Families benefit from the better health and economic stability thanks to use of clean cookstoves and solar light. Children in particular benefit from reliable, bright lighting for studying. Over 90% of parents reported improvement in their children’s academic performance thanks to solar light. Women in particular also benefit from time savings – thanks to increased lighting after dark. Those who use solar lights report 170% increase in light after sunset resulting in increased productivity.
Solar Sister’s work contributes directly to achieving several of the Sustainable Development Goals.

1. **No Poverty**
   - We improve women’s economic wellbeing, increasing their income and savings, as well as financial skills and planning.

2. **Good Health and Well-Being**
   - We improve air indoor quality, reduce eye and chest health issues from cooking smoke. Our lights improve bodily security and also maternal healthcare.

3. **Quality Education**
   - We improve education. Over 90% of children in homes with solar power from Solar Sister use it for studying.

4. **Gender Equality**
   - We create opportunity for women. Our entrepreneurs improve their economic level, social status, personal autonomy and household decision-making.

5. **Affordable and Clean Energy**
   - We distribute affordable solar and clean cooking solutions to underserved communities in Africa.

6. **Decent Work and Economic Growth**
   - We create green jobs, invest in local leadership and capacity and spur local economic growth.

7. **Reduced Inequalities**
   - We work with rural and low income women to reduce the inequalities of geography, knowledge, skills and opportunities.

8. **Sustainable Cities and Communities**
   - We offer rural and last mile communities sustainable alternatives to finite fuels.

9. **Climate Action**
   - We displace Carbon Dioxide emissions, eradicate kerosene usage, and reduce deforestation.
BUSINESS MODEL

Solar Sister is committed to finding sustainable ways to scale our impact so that more women access economic opportunity and more communities access clean energy.

Our strategy and operations are sustained by funds from three diverse revenue streams: grants, earned income from product sales, and donations. This diversity of funding allows Solar Sister to sustain and expand operations in service of our larger vision.

REVENUE STREAMS

Solar Sister blends a market-based business model with grants and donations to achieve its goal of maximizing impact in the most cost-efficient way.

We recognize the need to cultivate a balanced portfolio to sustain and grow our operations. So, over the next five years, Solar Sister plans to reach a balanced diversity of revenue streams by

1) strengthening fundraising capacity
2) boosting our earned income
3) continued grants development

SUSTAINABILITY

Sustainability and our market-based business model. Solar Sister’s market-based distribution model meets local energy demands and also generates a margin from sales of clean energy products. We reinvest this margin to cover distribution operations in-country and thus sustain a key part of our operating costs. [see earned income section below]
BUSINESS MODEL

Earned Income from Distribution Business

Solar Sister’s business model generates a percentage of earned income from product sales that are then reinvested in sustaining and growing our operations. Solar Sister maximizes impact by extending our reach to rural and pre-commercial markets as well as more typical commercial markets via our sustainable direct distribution model. Direct distribution costs (product sourcing, shipping, storing) are covered by earned income from sales. Costs associated with kickstarting new clean energy businesses, reaching pre-commercial markets and testing innovations are supported by grants and donations.

Grants

Since 2010, Solar Sister has cultivated strong grants support that has allowed us to test, build and grow our model and also strengthen our organizational capacity. From small family foundations to large public sector grant makers and corporate foundations, Solar Sister will continue to leverage a diverse set of grants partners to address key capacity and market development gaps that we see in pre-commercial energy access markets.

Donations

Solar Sister is creating a movement of supporters and advocates for women in clean energy who believe in our mission and will commit to help us tackle the immensity of the clean energy gap. In order to strengthen our capacity to gain long term supporters and funds, Solar Sister will invest in fundraising strategy and human resource capacity.

RESOURCE ALLOCATION

Relative resource allocation is illustrated to the right. While these will proportions will vary year to year, the pie chart represents approximate resources we will dedicate to each area over the five year span of this Strategic Plan. Approximately half of our resources will fund expansion to new areas, and about a third will facilitate our current operations.

CREDITS  All design, photography and original artwork in this report was created by Fid Thompson © 2018
Solar Sister is seeking partners to reach 10 million people across Africa with clean power by 2023.

Be bold for change.

www.solarsister.org