Little Sun

2025 | A Year in Pictures

Dear **Little Sun** community,

Welcome to our Year in Pictures 2025!

With your support and partnership, we have:

- Established 7 solar-powered hubs and test centers for milk collection in Zambia
- Provided income to over 230 smallholder farmers
- Empowered 5.1 million people with improved energy access
- Avoided 1.3 million tons of CO2 emissions
- Provided over 246 million extra study hours for children
- Saved $215 million on energy costs

In 2025 we delivered final Little Sun lamp orders, and we will continue seeing impact from partnerships and our solar devices well beyond 2026. Our lamps will remain active and operational for years to come, but we are now ending our official tracking of that impact. While we are sad to close that chapter of our collaboration, we will remain forever grateful for the positivity and relationships that the Little Suns have enabled.

We continued to spread solar love – the planet needs it urgently – now with our key focus on building our impactful and innovative solar agritech offering in Zambia. More on our work in Zambia from Muyunda Munyinda, CEO of Little Sun Zambia.

What I want to add is this: we learned a lot. We failed, learned again, and kept going – testing, iterating, and rebuilding – and we are now getting close to our target of a sustainable impact business operation.

Generous contributions and partnerships make this work possible, and we sincerely thank you for your trust and support. It means the world to us, to our operating partners and to the people we serve.

Felix Hallwachs
Managing Director

Felix Hallwachs, Managing Director Photo: © Claus Morgenstern

Muyunda Munyinda, CEO Little Sun Zambia Photo: © Symmtech

When I joined **Little Sun** in 2019, we had one vision: Clean Energy Access for All.

Initially we focused on Solar Home Systems for households. Ideal to deliver energy beyond the grid, but challenging financially for remote rural users. We began researching which solar tools could enable income generation, business, and opportunity beyond providing immediate energy access, to ultimately improve household incomes.

Over the past years Little Sun tested solar powered productive use applications with partners in many countries. We worked with NGOs, researchers, individuals, businesses, and communities. We tested solar powered water pumps, driers, grain mills, cotton weaving, hair clippers, and cold chain solutions; fridges and ice boxes.

In Zambia we identified one very specific and interesting gap in an agricultural value chain: dairy processors import milk, even though there are millions of cows in the country. The dairy processors in Lusaka are eager to buy local, and smallholder farmers who hold the majority of these cows are eager to access the market. But a link in that chain was missing to deliver quality milk to the market: the point of collection, of milk testing, and of quick milk chilling.
Since 2024, we are filling that gap. One link in an agricultural value chain, connecting smallholder farmers to the formal market.
2025 was a pivotal year. We went from initial testing to operations building, we solidified the team, we developed roles and processes. We still have a long way to go, but I am excited to deliver last mile impact using scalable business methodology. And I am grateful that we can take you on this journey with us.

Enjoy the Little Sun Year in Pictures 2025. And onward to building further in 2026.

Muyunda Munyinda
CEO Little Sun Zambia

Little Sun, Global Impact.

2012 to 2025

7
Milk Collection Centers in operation

304,494 liters
Milk Volume bought from smallholder farmers

$55,682 USD
Income paid out to farmers

42
Full time employees

1,740,213 **Little Sun** products distributed worldwide

1,073,561 **Little Sun** products distributed in regions without electricity

$215,050,031 of savings on energy expenditure, cumulatively, over lifetime of products*

246,142,032 extra study hours for school children living without electricity**

1,346,952 metric tons of CO_2eq emissions avoided, over lifetime of products*

5,155,360 people with improved access to energy*

*Based on GOGLA, the Standardized Impact Calculator for the Off-grid Energy Sector. The calculations are based on the product lifespan.
**from Little Sun Foundation's distributions to school children since 2018. Based on SolarAid's Impact Calculator.
***Health facilities and schools.
For more information, visit: littlesun.org/impact

COMMUNITY ENERGY HUBS

An Update From Zambia

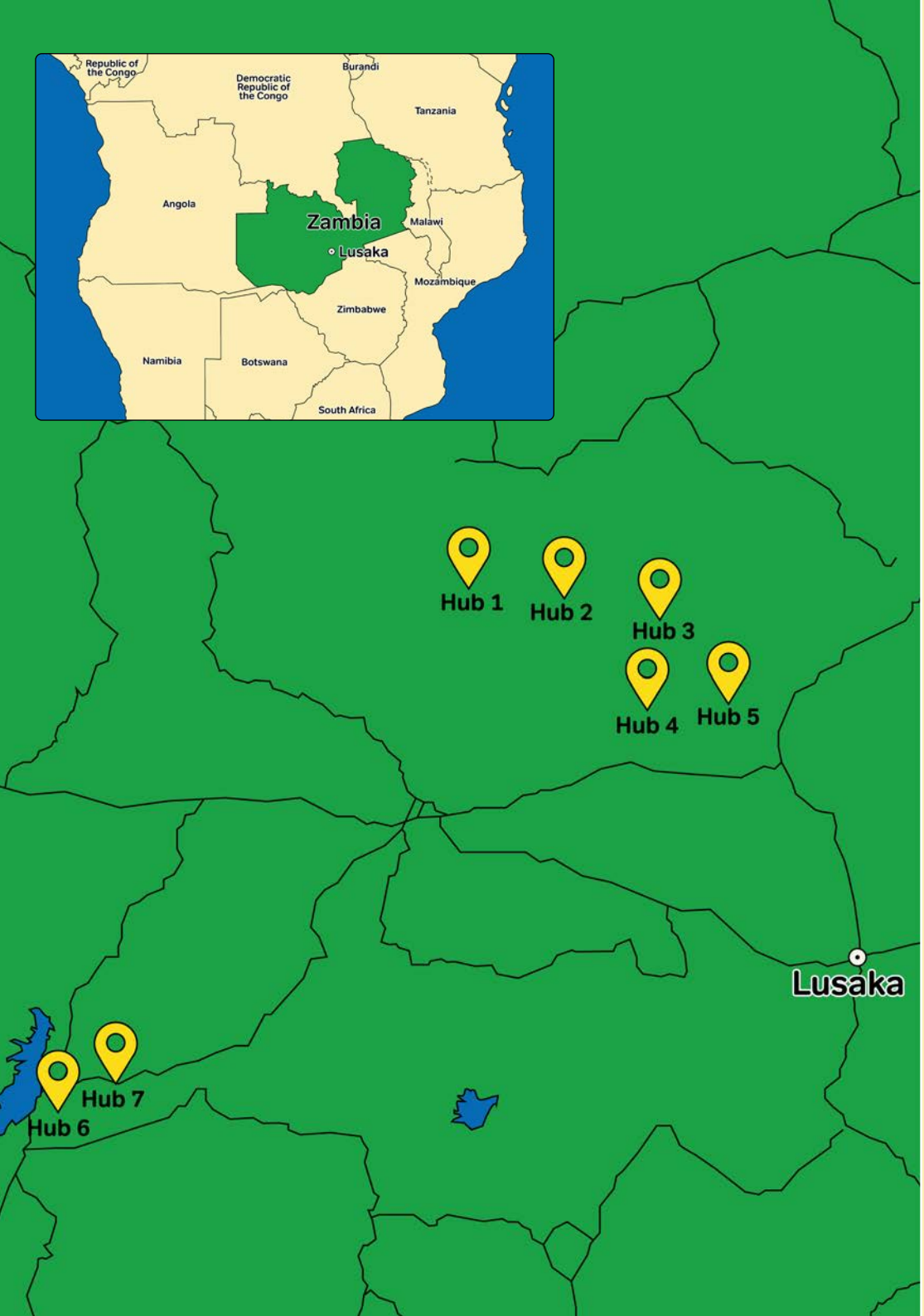
In 2025, Little Sun significantly scaled up its operations in Zambia, expanding its network of Community Energy Hubs (CEHs) from one to seven locations and bringing 12 solar-powered milk chillers into operation. Furthermore, we introduced a new standardized process for site assessment.

This expansion and testing – supported by EEP / the Nordic Development Fund – enabled us to establish a presence in a new region. A key operational shift involved transitioning from constructing new brick and mortar centers to a more agile approach. We now set up test centers in locations, renting existing buildings, which reduces costs, increases operational flexibility and allows multiple sites to be developed and tested simultaneously. We extended our network of farmers to over 500 smallholder farmers, with roughly 230 of those farmers delivering milk every day.

In December 2025, we successfully surpassed our milk collection target by 3,500 liters, collecting over 77,500 liters of milk from farmers. The growth of the CEH network has delivered substantial community and environmental impact. Our centers are generating significant rural income; in December alone, Little Sun paid out ZMW 597.000 to 232 smallholder farmers, generating an average monthly income of over ZMW 2,500 per farmer (based on an average of 11l of milk delivered per farmer per day). Through ongoing training sessions (18 in 2025), we are actively building local capacities.

Furthermore, by utilizing renewable energy instead of diesel generators for our 12 chillers, we are saving 2.8 tonnes of CO_2 emissions per month, reflecting Little Sun Zambia's commitment to increasing rural incomes, building local capacity, and reducing CO_2 emissions.

Aerial view of a Little Sun Community Energy Hub in construction. Photo: Little Sun Zambia



LITTLE SUN ZAMBIA

Our Community Energy Hubs in Zambia

Across Zambia, Little Sun's Community Energy Hubs are powering change in rural communities.

Each hub provides smallholder farmers with reliable access to markets, training, and renewable energy, helping them grow their livelihoods while reducing carbon emissions. The map on the left shows where our hubs are located.

Hub 1 Ipongo

Hub 2 Chiyuni

Hub 3 Kalebuka

Hub 4 Makoka

Hub 5 Shimukuni

Hub 6 Itezhi Tezhi

Hub 7 Babizhi

Children and workers in front of the Community Energy Hub in Itezhi-Tezhi. Photo: Little Sun Zambia

LITTLE SUN ZAMBIA

Farmer Paul Kaya's Story

Paul Kaya is a farmer and entrepreneur based in Chibombo. His daily life is a balancing act, managing maize and soybean fields, overseeing two small grocery shops, and caring for 80 to 90 cows.

Despite his determination and work ethic, his dairy business struggled for years with one recurring issue: market instability. Before joining the Little Sun Community Energy Hub in November 2024, Paul sold sour milk locally but struggled with inconsistent demand.

“There were days when I couldn’t sell more than two liters of milk,” he recalled. “It was hard to justify the effort when the returns were so uncertain."

He now delivers an average of 15-20 liters of milk daily, a significant shift that has allowed him to generate a steady weekly income while cutting down on spoilage. With this income, Paul has invested in dip and veterinary chemicals to manage livestock health. He has better control over livestock illnesses like mastitis, helping him maintain production. He also paid school fees and purchased educational materials for his children.

“This has made a big difference,” he told us. “I am able to plan ahead now, and I want other farmers to see this opportunity too. It’s something we can all benefit from if we take part.”

At Little Sun Zambia, we’re proud to work alongside farmers like Paul to help strengthen local value chains and improve income reliability.

Farmer Paul Kaya inspects his mais crops (top and bottom left), cows resting in the sun (bottom right). Photo: Little Sun Zambia

LITTLE SUN ZAMBIA

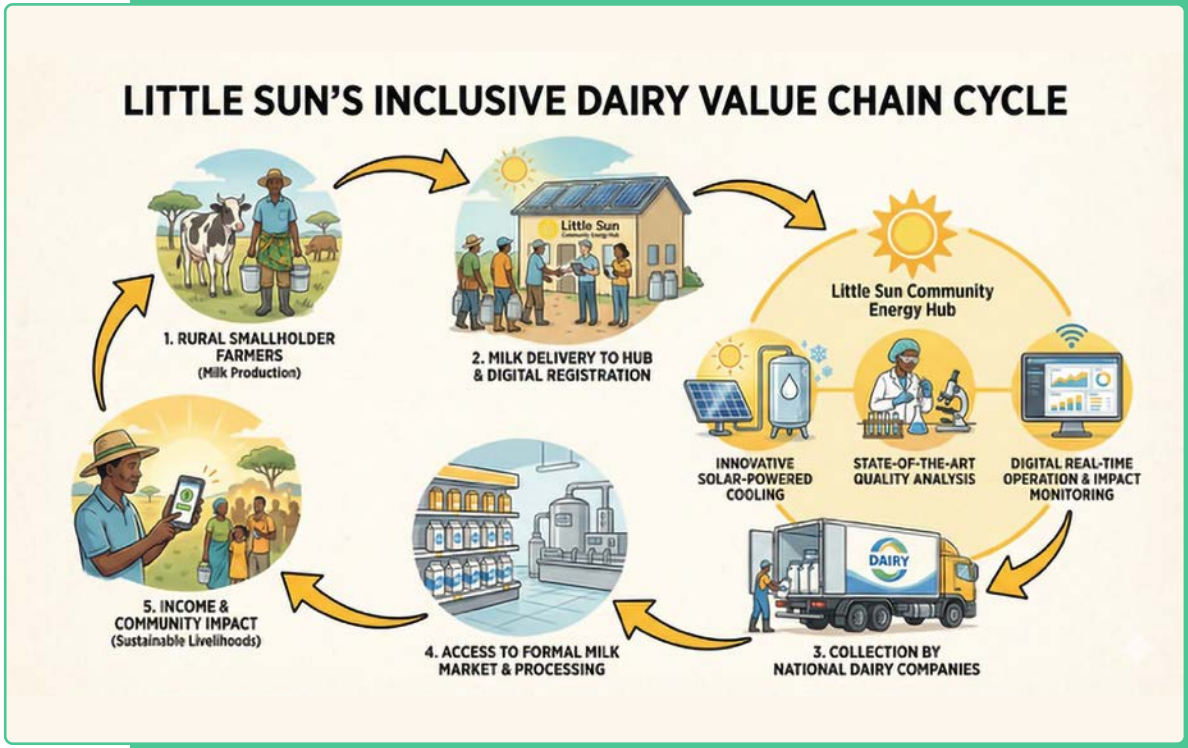
How does a Hub work?

In Zambia, our Community Energy Hubs are connecting rural smallholder farmers to formal dairy markets.

Here's how it works: farmers bring their freshly produced milk to their nearest Community Energy Hub, where they are digitally registered and their milk is immediately cooled using our innovative solar-powered cooling technology. On-site quality analysis ensures every delivery meets market standards, while our real-time digital monitoring tracks impact as it happens.

From there, national dairy companies collect the milk directly from our hubs, feeding it into formal processing and distribution networks. No more spoiled milk. No more being shut out of the market. Once a week, farmers receive the payment for the delivered milk via mobile money.

The result? Reliable income for farming families, stronger local economies, and communities that are more resilient than ever before.



Little Sun's five-step inclusive dairy value chain cycle (top), bottom left: Solar panels installed at a Community Hub (bottom left), a worker pouring fresh milk into a dairy processing vat (bottom right). Photos: Little Sun Zambia

LITTLE SUN ZAMBIA

How do we train farmers?

In 2025, we held 18 training sessions with over 400 smallholder farmers living near our Community Energy Hubs and keeping cattle.

These sessions were delivered in partnership with ADRA Zambia (The Adventist Development and Relief Agency ADRA Zambia), drawing on their expertise in agriculture and deep understanding of the challenges smallholder cattle farmers face.

Recognizing the challenges posed by the annual dry season, the training dedicated a substantial portion to sustainable and effective livestock feeding strategies. The content concentrated on preparing and applying dry season feeding supplements, using locally available resources to create nutritional feed alternatives, and managing fodder to ensure consistent feed supply. These practices help improve cattle health, milk yield, and herd resilience.

Furthermore the training sessions raised awareness about hygiene and disease prevention. Farmers received practical guidance on personal hygiene, cleaning milking parlours, and sanitising milking cans and tools — all crucial for keeping milk safe and healthy. Training sessions represent a key component of our commitment to support sustainable livelihoods. By building the knowledge and skills of smallholder farmers, we help strengthen the economic stability of communities and ensure ourCommunity Energy Hubs create lasting, meaningful impact.

Two team members next to a milk chiller. Photo: LIttle Sun Zambia

IN CONVERSATION WITH MAYOR NATHAN NYALETI

“Little Sun has changed the lives of my people in Chibombo”

Nathan Nyaleti, the Mayor of Chibombo, has been leading the Chibombo Town Council since 2021.

Upon taking office, he introduced the slogan “The Chibombo We Want”. For Mayor Nyaleti, this slogan reflects a commitment to building a better Chibombo – one with improved infrastructure, enhanced development, and opportunities for all. Chibombo itself is one of Zambia’s largest and oldest districts, with a rich history and vast rural communities.

Team member Kangwa Mulenga in conversation with Mayor Nathan Nyaleti

What are some of the challenges smallholder dairy farmers face in Chibombo?

One of the main challenges is logistics, particularly the road network. Another challenge is access to a ready market for their products – how quickly they can reach the market given the logistical constraints and the distance involved.

What changes have you seen since the Community Energy Hubs were established?

The key change is that farmers can now sell their products when they choose and have money in their pockets. Little Sun has changed the lives of my people in Chibombo. Income and employment opportunities have been created, which has had a positive impact on livelihoods. With this income, farmers can buy farming inputs, purchase more cows, and increase their dairy production.

From your point of view, what does this new income mean for the stability of rural households and the broader local economy of the district?

It means a lot. The council is able to generate revenue, which improves service delivery to the community, including roads and boreholes. It also increases the status of households. Even marriages are stable now because people have got money in their homes.

Any feedback or suggestions that would benefit smallholder farmers in the district?

One of the things I would look forward to from Little Sun is establishing a processing plant in Chibombo. That is my vision, so that we grow together and strengthen the economy of Chibombo together. Such developments would also contribute further to GDP.

Can you describe how the Community Energy Hubs align with the district’s rural development strategy?

Our council falls under the Ministry of Local Government and Rural Development and aligns with the Eighth National Development Plan. We have formulated an Integrated Development Plan, as required of every council. Our work integrates rural communities, collaborates closely with the council, and aligns with national development priorities. The Community Energy Hubs are fully in line with this framework.

LITTLE SUN ZAMBIA

Little Sun at the EU–Zambia Lobito Corridor Business Forum

In November, Little Sun took part in the EU–Zambia Lobito Corridor Business Forum in Lusaka. The forum seeks to strengthen collaboration in the private sector between the EU and Zambian private sector in order to boost investment focusing on energy, agriculture and critical raw materials under the EU's global gateway strategy to create sustainable economic growth.

The Little Sun Zambia team exhibited and engaged with key partners and explored sustainable investment opportunities. Our team also interacted with the Zambian President, Mr Hakainde Hichilema, as he toured exhibitor stands. We're proud to be part of conversations that align clean energy innovation with inclusive development across the region and are looking forward to deepening partnerships that bring practical, impactful energy solutions to the people and regions that need them most.

Little Sun Zambia Team at the EU-Zambia Lobito Corridor Business Forum. Photo: Little Sun Zambia.

MEETING URGENT NEEDS

Tanzania & Burkina Faso

15,856 lamps
and 1,200 chargers
to Tanzania and Burkina Faso

School children receiving Little Suns at Osilailei Primary School in Tanzania. Photo: AAIDRO

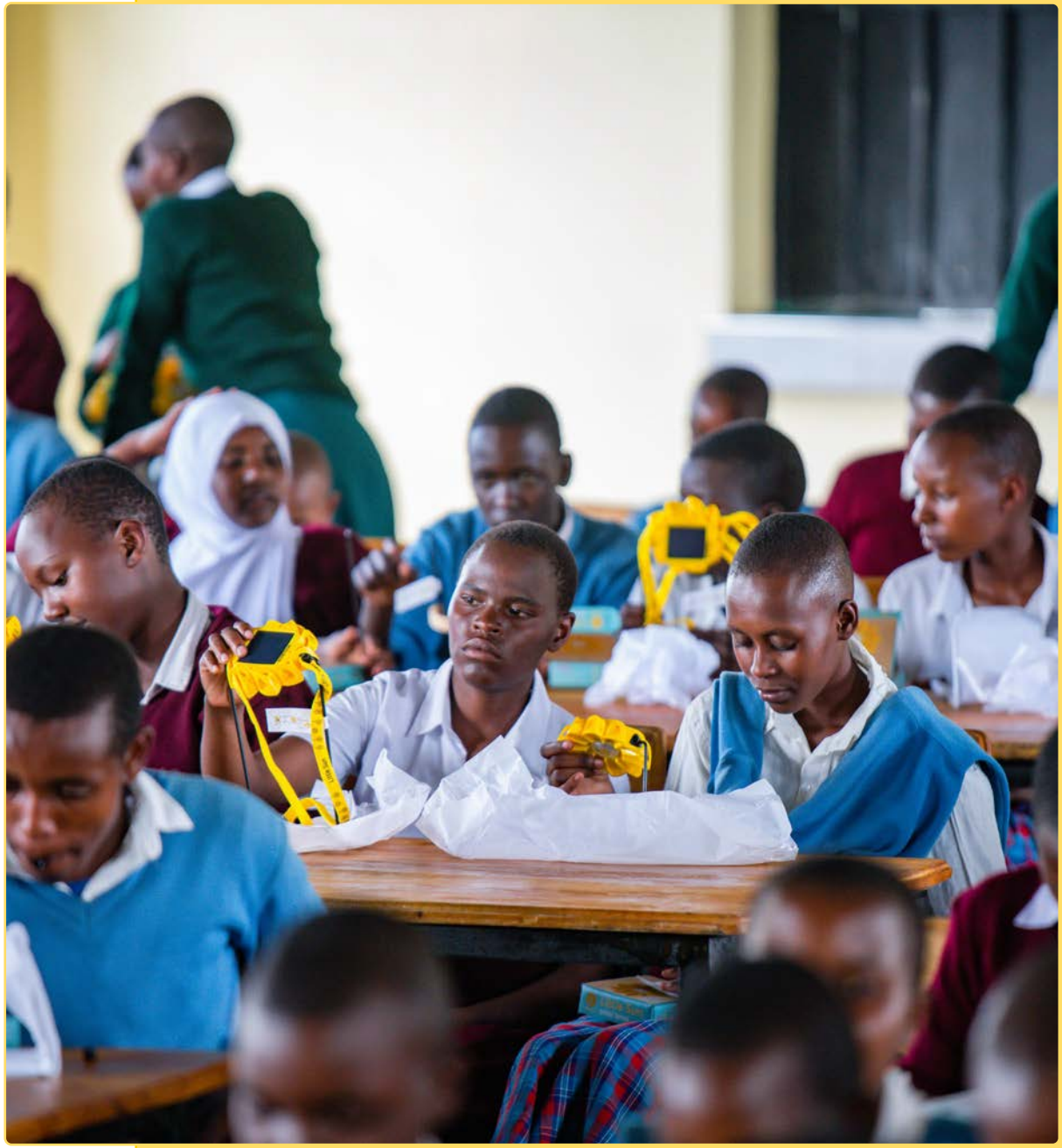
Tanzania

Bringing 7,056 Little Sun Original lamps and 1,200 Little Sun Chargers to students in Tanzania

Tanzania significantly improved national electrification from 7% in 2011 to 40% by 2020. Yet, a major urban-rural gap persists (70% vs. 25% energy access). Furthermore, even where infrastructure exists, reliable supply is often lacking, and the common traditional mud hut structure in rural areas complicates successful electrification efforts.

Little Sun, in partnership with AAIDRO, has continued to deliver safe and reliable lighting to students and teachers in impoverished, off-grid rural regions of Tanzania. The primary objective is to enhance the educational opportunities for students in disadvantaged communities by providing access to solar lights, enabling them to study after sunset – a simple advantage often taken for granted elsewhere, yet profoundly impactful in these communities.

Between February and May 2025, we distributed 7,056 Little Sun Original lamps and 1,200 Little Sun Chargers at a total of 28 schools. As part of this project, we handed out 722 Little Sun Chargers to selected high-performing students. The initiative was intended as a form of motivation. The 14 primary and 14 secondary schools involved in the project were located in remote areas of the Arusha Region – including the districts of Simanjiro, Longido, Monduli, and Arusha DC – where unreliable or non-existent energy access is a daily reality.



Students inspecting their Little Suns. Photo: AAIDRO

The team conducted interactive training on climate change, renewable energy, and deforestation before distributing the solar lamps. The distribution brought excitement to the schools, concluding with the symbolic planting of tree seedlings to reinforce environmental stewardship and raise awareness of local deforestation.

In early 2025 we spent a week in Arusha to plan the upcoming distribution of the lamps and to meet with schools. We witnessed appreciation for the program from all sides – the project team, the local education administrations as well as the schools, the teachers and students – and they all shared with us the ongoing high demand for solar lighting among their beneficiaries.

Group picture with teachers (top), Little Suns arriving at Embris Secondary School (bottom left), group picture with students (bottom right) and a certificate of appreciation of Olesokoine Secondary School. Photos: AAIDRO

MONDULI DISTRICT COUNCIL

CERTIFICATE OF APPRECIATION

This certificate is proudly presented to
LITTLE SUN
In recognition of your act of **kindness, dedication, generosity** and valuable contribution of 40 solar chargers to 40 student's and 15 for teacher's who missed previous at Olesokoine Secondary School.
Your service is truly appreciated and make a meaningful impact to our students & teachers
Awarded on this 16th of May, 2025

Head mistress

Academic Mistress

MEETING URGENT NEEDS

Burkina Faso

Burkina Faso ranks among the world's poorest countries globally. Since the mid-2010s, Burkina Faso has been severely affected by the rise of insurgencies in the Sahel and experienced many terrorist attacks with devastating effects.

There have also been clashes between armed groups and government forces, as well as the formation of self-defense militias. The conflict has resulted in a significant humanitarian crisis, with millions in need of assistance and hundreds of thousands displaced from their homes. While the state has made efforts to regain control, the security situation remains fragile and continues to pose a severe challenge to the country's stability and development.

Burkina Faso is one of the least electrified countries globally. Especially its rural areas have a very low electrification rate, estimated at only 3-7%. The government has set ambitious targets to increase electrification rates, aiming for 50% rural access by 2028 and 90% national access by 2030. Some progress is already visible, but reaching 50% rural electrification by 2028 does not seem likely.

Lamp distribution in Barsalogho, North Central region. Photo: ISAEDD

Despite the security challenges, we are grateful to have continued our work in Burkina Faso in 2025. We successfully distributed in collaboration with our long term partner ISAEDD 8,800 solar lamps to internally displaced students across the country, providing students with reliable lighting for studying. Internally displaced students are often in dangerous and difficult to reach localities. To gain access to these localities we work closely with a network of partner NGOs, local authorities and the military for protection. Thus, internally displaced students receive the lamps despite the violence and instability in the country.

In 2026, we are launching another project in Burkina Faso to strengthen the resilience of rural students at the secondary, vocational training, and university levels. This initiative will distribute 4,704 Little Sun solar lamps with phone charging capabilities across seven provinces. The distribution will utilize the "Solar Libraries" model—a system designed to maximize student access and managed by our local partner, ISAEDD.

Lamp distribution in Barsalogho, North Central region.
Photos: ISAEDD

Thank you to supporters of **Little Sun**

We are deeply grateful to all our partners for their trust, collaboration, and shared commitment to building sustainable energy and livelihoods in Zambia. Your support makes our Community Energy Hubs and smallholder farmer programmes possible – thank you for joining us on this journey.

We are all **#ConnectedByTheSun**

www.littlesun.org

Photo: Little Sun