Annual Report 2022

clasp

Efficient Appliances for People & the Planet

“Efficient appliances are a tangible, cost-effective solution to the stark, interconnected challenges we face. The year 2030 looms large — we need to make progress this decade.”

Dear CLASP Partners,

Energy-efficient appliances, lighting, and equipment are critical to mitigating the global climate crisis, adapting to that crisis, and to achieving several United Nations Sustainable Development Goals, particularly ending energy poverty. The year 2030 looms large — we need to make progress this decade.

In 2022, CLASP took multiple actions to set our organization on a course to contribute maximally to global progress. First, we finalized our strategic plan, which outlines the ways in which energy-efficient appliances are a tangible, cost-effective solution to the stark challenges we face. The plan enumerates how CLASP and our partners must double down on our efforts now.

We also announced a new senior leadership team, comprised of a broader group of experts across the organization. The new structure reflects our desire to center regional knowledge in executive decision-making. Through this team, we are already executing the most critical recommendations from the strategic plan.

Finally, after two years of working virtually due to COVID-19, we got back out into the world, though carefully. The following pages demonstrate the power of connecting in person — productive partnerships are essential to fulfilling our mission.

The window of opportunity to prevent climate catastrophe has narrowed significantly and may soon close. Poor people will be most affected, exacerbating inequalities and already tenuous circumstances. CLASP is more focused than ever on delivering ambitiously for people and the planet.

Thank you for your partnership now and in the future.

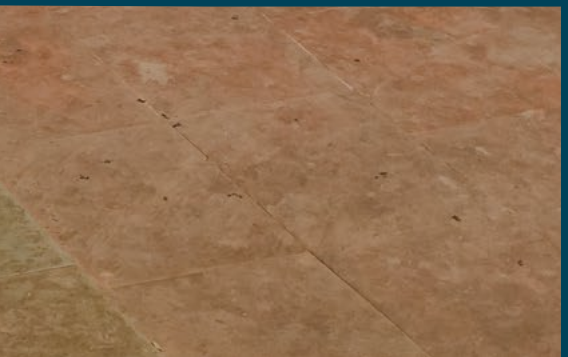
Christine Egan
Chief Executive Officer

Left page: CLASP CEO Christine Egan at the International Energy Agency's 7th Annual Global Conference on Energy Efficiency in Sønderborg, Denmark

Impact.

Turning the Tide Toward Appliance Efficiency

In 2022, CLASP escalated our work on top-emitting appliances and in top-emitting economies. We helped secure an international pact to make LEDs the de facto lighting technology for households. In India, we expanded our team and services as part of our mission to transition this vast market toward efficient appliances and equipment.



A Global Tipping Point in the Transition to LEDs

Bali, Indonesia

At the Minamata Convention on Mercury fourth Conference of Parties (COP4) in March, governments agreed to phase out compact fluorescent lamps by 2025. **The decision will usher in a new era of LEDs for household use globally, avoiding a cumulative 263 million metric tonnes of CO_2 emissions, equivalent to the annual emissions from 50 million mid-sized passenger vehicles**, 34.8 metric tonnes of mercury pollution, and saving $105.6 billion USD on energy bills, by 2050.

In the lead-up to COP4, CLASP's Clean Lighting Coalition (CLiC) led a global campaign calling for the phase-out of toxic, mercury-containing fluorescent lighting, in favor of efficient LEDs. CLiC engaged national governments, provided robust evidence demonstrating the feasibility of an LED transition, and mobilized more then 300 advocates in over 70 countries worldwide.

Clean Lighting Coalition representatives with Zero Mercury Working Group partners at the Minamata Convention COP4 in Bali, Indonesia.

LEDs for Health

CLiC worked with partners in Nigeria, Brazil, and the Philippines to retrofit three public hospitals, replacing toxic fluorescent lamps with nearly 3,000 energy-efficient LEDs. Together, the retrofits will save 125 megawatt-hours and $13,500 USD annually, and avoid 20 metric tonnes of CO_2 and over 20 grams of mercury.

CLASP's Nyamolo Abagi joined representatives of the Mary Johnston Hospital and Healthcare Without Harm in Manila, Philippines to launch the LED retrofit.

Watch our video about the LED retrofit in São Paulo, Brazil.

"The retrofit in Botucatu [Brazil] demonstrates practical steps hospitals can take. Our hospitals halved their lighting bills simply by changing their bulbs! We also improved working conditions for staff, as LEDs provide higher-quality lighting."

– **Erick Pelegia**, Energy Specialist, Healthy Hospital Project

Driving Progress in US States

The campaign also supported ambitious lighting policy in California and Vermont. The states will phase out fluorescents in 2025 and 2024, respectively, impacting the sales of approximately 15% of the US lighting market and saving people and businesses $7.1 billion USD through 2050.

IMPACT

India: Scaling Efforts to Impact a Billion

Efficient appliances are a key solution for decoupling economic growth from climate impacts in India, where energy demand is expected to grow faster than any other country over the next two decades.

In 2022, CLASP doubled the size of our team, expanding our staff capacity, suite of services, and partnerships to more fully address the challenges — and opportunities.

Robust Policies to Protect the Planet

Since the Bureau of Energy Efficiency (BEE) launched their Standards & Labelling program in 2002, appliance efficiency policy has been a workhorse. In 2020-2021, it delivered about 30% of the country's total GHG emissions reductions by 2030 and half of the cost savings, according to an impact assessment by BEE.

In 2022, CLASP supported BEE's launch of 10 appliance efficiency policies, expected to cut an additional 110 Mt of CO_2 emissions by 2030. This is equivalent to removing all personal automobiles in India from the road for a year. The policies focused on space cooling and refrigeration to fend off the heat and bolster economic growth.

"**One of its flagship initiatives, BEE's Standards and Labelling program capitalizes on significant opportunities for climate change mitigation through energy-efficient appliances. CLASP is proud to support the Government and our partners with innovative policy solutions and technical expertise to scale up in India and beyond.**"

– **Bishal Thapa**, Senior Director, CLASP

CLASP team outside our new office in New Delhi. From left to right: Prasun Pandey, Kishore Kumar, Sumedha Awasthy, Karishma Joseph, Christine Egan, Neha Dhingra, Moumita Chandra, Bishal Thapa, and P. K. Mukherjee

Innovative Solutions for People: Sowing Economic Resilience

Despite employing over 50% of India's working population, agriculture comprises less than 20% of the country's GDP. Many farmers lack the necessary tools for profitability, resulting in low yield and earnings.

To address this issue, CLASP's India team launched a program focused on increasing agricultural productive use equipment adoption, starting with solar water pumps. By working with local banks and farmer cooperatives in three Indian states, we are promoting crop diversification and water conservation, and displacing incumbent diesel with electric pumps. The program deploys incentives to shift consumer behavior towards adopting improved agricultural methods for increased productivity. Our aim is to replicate and scale the program to catalyze investments in the sector globally.

Laxmi, a farmer from Dungarpur, using a solar water pump to irrigate her crops. The reliable water supply allows her to irrigate a larger area in less time and diversify crops.


Equity

Advancing Appliance Affordability

Though poor and low-income people stand to benefit the most from efficient appliances, they are less likely to have access to them and spend much more proportionally on energy services globally. In 2022, CLASP launched new research on equity in the appliances sector and a financing facility aimed at scaling access to productive use equipment.

EQUITY

Rallying the Solar Appliances Sector Towards Greater Inclusivity

Access to appliances can deliver significant economic, health, education, and quality-of-life benefits for an estimated 60 million households worldwide. Moreover, it can accelerate low-carbon electrification in under-electrified regions. However, despite the transformative potential of these appliances, our recent analysis uncovered a sobering reality: marginalized groups, such as households living below the poverty line, women, and people with disabilities, are not benefiting from these advancements.

Image Credit: Wala

Appliances for All: Assessing the Inclusivity of the Solar Lighting & Appliances Sector

In 2022, through Efficiency for Access, CLASP conducted a groundbreaking analysis of the solar lighting and appliances sector. The resulting Appliances for All report is a vital first step in ensuring that energy access is more inclusive and equitable for all.

The report's findings are both eye-opening and urgent: despite the increasing availability of solar appliances, marginalized communities such as women and extremely poor people are still being left behind due to accessibility and affordability barriers. This exacerbates existing inequalities and impedes progress toward a more sustainable future.

The report also assessed the inclusivity of private companies in the sector, revealing that women account for only 23% of the workforce in decentralized energy companies. This gender gap mirrors gender-disaggregated employment trends in the broader energy sector, where women represent just 22% of the workforce.

To bridge these gaps, the report recommends that companies prioritize initiatives to improve the recruitment and retention of marginalized groups and target consumers with affordable and gender-inclusive product and service offerings.

The time for action is now. Appliances for All offers a clear path forward to ensure that no one is left behind in the just energy transition — it's up to us to follow it.

EQUITY

Financing Facility Tackles Solar Appliance Affordability Barrier

The numbers are staggering: a $15.5 billion investment shortfall exists between funding flows into the energy access sector and what's needed to achieve the United Nations Sustainable Development Goal 7 — energy access for all.

When it comes to unlocking productive energy use, the shortfall becomes even more daunting.

That's why CLASP launched a $6.5 million USD financing facility, with the goal of catalyzing the uptake of productive use appliances across Africa.

Kate Steel, co-founder and CEO of Nithio, and CLASP's Jeff Stottlemyer launch the Productive Use Appliances Financing Facility at the Off-Grid Solar Forum in Kigali, Rwanda.

Scaling Productive Use Appliance Markets to Reduce Energy Poverty

Sierra Leone **Nigeria** **Democratic Republic of Congo** **Uganda**

Kenya **Ethiopia**

Launched at the 2022 Global Off-Grid Solar Forum & Expo in Kigali, Rwanda, with support from Global Energy Alliance for People and Planet, CLASP and Nithio's Productive Use Appliance Financing Facility is a game-changer. The facility is helping scale productive use appliance markets and make those appliances more affordable and accessible by providing a smart mix of procurement subsidies, capacity-building grants, consumer financing, and advisory support.

The Financing Facility focuses on six technologies with a high potential to drive development impact: walk-in cold rooms, refrigerators, electric cookers, fans, mills, and solar water pumps. The facility operates in six African countries: the Democratic Republic of Congo, Ethiopia, Kenya, Nigeria, Sierra Leone, and Uganda.

"By making productive use appliances affordable and accessible, the facility can transform lives by enhancing income generated by smallholder farmers and micro-enterprises and creating new green energy enabled jobs,"

– **Chianda Njogu**, Global Energy Alliance for People and Planet.

By catalyzing the expansion of renewable energy solutions, the Facility is advancing environmental sustainability and community resilience to a changing climate. We still have a long way to go to achieve energy access for all, but with initiatives like the Productive Use Appliance Financing Facility, we're making progress every day.

EQUITY

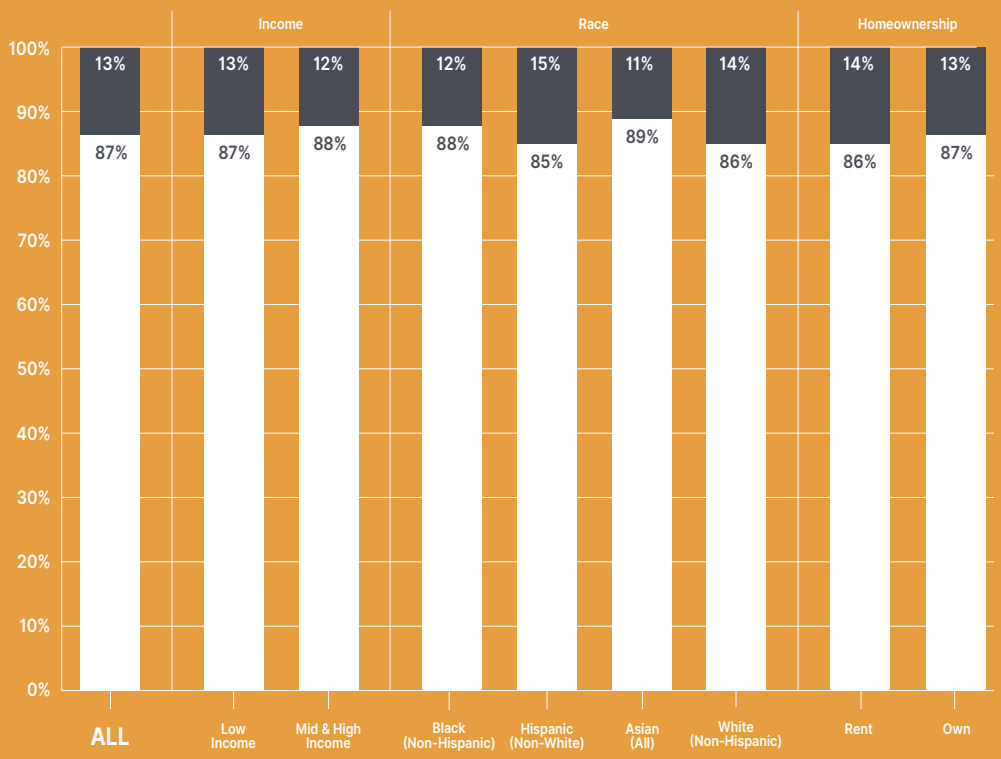
Ambitious Appliance Efficiency Motivates US Equity Dialogue

An issue brief by CLASP and Consumer Federation of America illuminates US appliance energy efficiency policies as a favorable opportunity to respond to the needs of low-income households, households of color, and renters — alleviating high energy burdens and energy insecurity.

These groups are more likely to live in older, less energy-efficient housing with reduced access to efficient appliances — meaning that marginalized households pay a disproportionately greater percentage of their income on utility bills.

IMPORTANCE OF ENERGY EFFICIENCY IN LAST MAJOR APPLIANCE PURCHASE

Sorted by Income, Race, and Homeownership



Consumers in all US demographic groups, including those predisposed to energy insecurity, utilize energy efficiency as a driving factor in new appliance purchasing decisions.

Not Important

Important

Efforts to strengthen appliance energy efficiency can catalyze meaningful cost savings for marginalized groups, via reduced energy use.

The evidence revealed an unmistakable fact: people across all demographic groups support efficiency standards, and they are willing to make an investment in energy efficiency that pays for itself over a short period of time through energy bill savings.

Another striking discovery: when low-income households, households of color, and renters need to replace a major appliance, they are at least 50% more likely to purchase from the used market. The persistence of these inefficient technologies have lasting cost burdens.

The US Department of Energy must move urgently to update appliance standards, ensuring all US households can reap economic benefits from improved efficiency.

"**We need to amplify efforts that lower barriers to efficient appliances for marginalized groups and expand initiatives that prevent the oldest, least-efficient products from entering the resale market.**"

— **Lauren Boucher,** CLASP

"**With rising energy prices and widespread inflation, now more than ever, consumers can use the additional pocketbook savings that updated efficiency standards will provide in hundreds of dollars annually thanks to the increased energy efficiency of their household appliances.**"

— **Richard Eckman,** Consumer Federation of America

Innovation.

Kick-Starting Next-Generation Solutions

As timelines dwindle for addressing the urgent effects of climate change and alleviating energy poverty, CLASP is developing and scaling innovative solutions to hasten progress. In 2022, we advanced electrification efforts globally and promoted the next generation of agricultural equipment that bolsters health and livelihoods.

INNOVATION

Advancing Global Electrification

Cutting fossil fuel reliance in heating is a global priority, amplified by economic crises and fuel insecurity. CLASP is advancing electrification by bolstering heat pump deployment in high-emitting economies.

United States

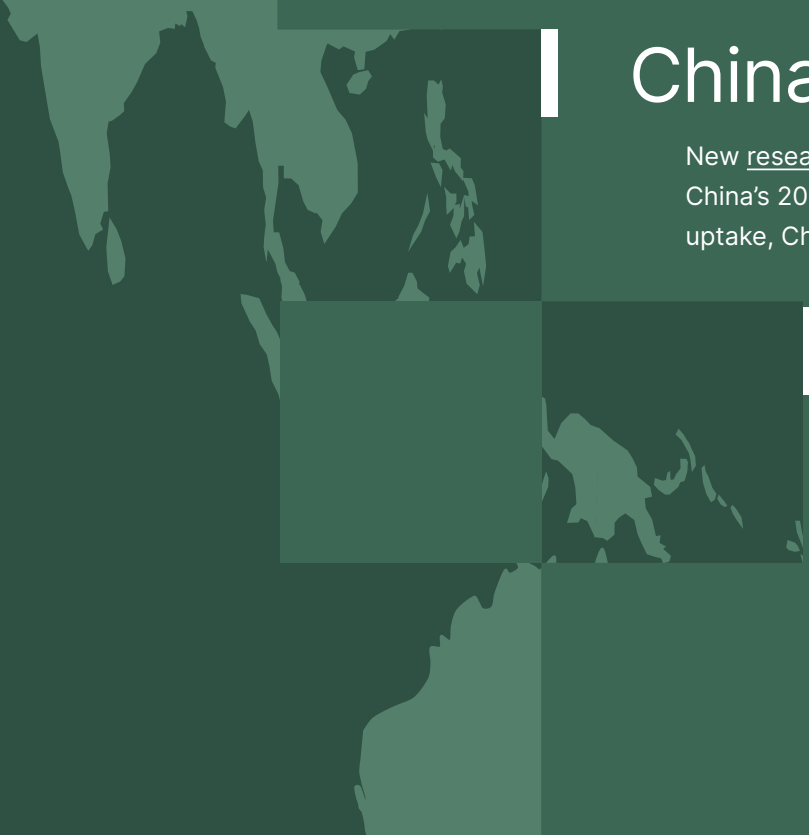
In the race to rapidly electrify the US grid, heat pumps are blazing the way forward. **CLASP tackles US heating electrification by targeting AC replacements.** Building on CLASP's groundbreaking 2021 3H Hybrid Heat Homes strategy, we partnered with the Regulatory Assistance Project (RAP) to launch new research highlighting the sweeping benefits of swapping end-of-life air conditioners for heat pumps — a super-efficient technology that can both heat and cool indoor spaces.

The findings unveil immense mitigation potential for households using an array of legacy heating fuels. Comprehensive implementation could cut CO_2 emissions by 67 Mt annually — and reduce US heating bills by $13.6 billion USD.

Through coordinated advocacy measures, CLASP also advanced an EPA decision to exclude one-way ACs from the ENERGYSTAR Most Efficient program. The EPA's decision will influence state- and utility-run efficiency programs for home temperature control.

European Union

CLASP and partners called for the European phase-out of fossil fuel boilers in favor of heat pumps. The policies could result in over 87 Mt cumulative CO_2 emissions reductions by 2030.



China

New research uncovered potential to scale heat pumps, supporting China's 2060 net-zero goal. For every 1% increase in heat pump uptake, China would cut an additional 7.1 Mt of CO_2 annually.

Global

In collaboration with Regulatory Assistance Project and the Global Buildings Performance Network, CLASP launched a policy toolkit for fast and effective heat pump adoption. The toolkit provides guidance for designing the best packages of policy and market approaches and features short video overviews of each element.

INNOVATION

Energizing Agricultural Livelihoods

By 2050, global food production needs will skyrocket by a whopping 70%, according to the UN Food and Agriculture Organization. Climate change impacts, along with inefficient food production and storage processes, hinder our ability to meet this growing demand sustainably. In 2022, CLASP supported innovations in early-stage agricultural equipment to help unlock the sector's full potential.

Revolutionizing Productive Use Equipment

Efficient and high-quality agricultural equipment help overcome food insecurity and sustainably meet growing food demand. However, many types of agricultural productive use equipment (PUE) are still new and have unproven commercial success, making it risky for off-grid solar companies and distributors to confidently invest in and deploy these innovative solutions.

In 2022, we focused on:

Cold chain solutions — Post-harvest losses account for nearly 40% of fresh produce. Adopting off-grid cold-chain solutions can ensure that food stays fresh from farm to table, improving food security and supporting farmers' livelihoods.

Solar egg incubators — More than 43% of newly hatched chicks do not survive, causing significant financial losses for farmers and impacting food security. Egg incubators can increase the survival rate of chicks, yielding almost five times more than conventional hatching.

Milling — Efficient solar-powered mills improve farmers' profitability by up to 70% and free up time spent on traditional milling methods for other activities.

Pictured: Matt Carr, Co-founder & CEO of Agsol; Silard Liptak, Chief Technology Officer of Agsol; Lisa Kahuthu, CLASP; Wilfred Muriithi, an Agsol solar mill owner; Chris Beland, Energy Saving Trust.

CLASP brings a unique perspective to early-stage solar technologies, partnering with both innovators and farmers to assess the equipment across a broad range of parameters — like product design, energy consumption, affordability, and overall performance — and then improve it. While lab testing is a popular way to assess product performance, niche and new-entry products benefit more from VeraSol's flexible and cost-effective rapid product assessment framework, enabling us to quickly identify areas for improvement and ensure that products meet the needs of farmers and the market.

The insights and data we collect while evaluating early-stage equipment are invaluable for sector stakeholders, including investors and commercial buyers. CLASP shares this information through the VeraSol product database, the Global LEAP Awards buyers guides, and our research and analysis.

Reconnecting & Moving Forward

CLASP's staff, board, and donors are all essential parts of an ecosystem, each crucial to fulfilling our mission. In 2022, CLASP grew our team and funding support overall, introduced a new senior leadership team, and completed a strategic plan that puts us on an ambitious path to 2030.

Meeting the Challenges of the Future

2022 was marked by significant changes for CLASP. We restructured our senior leadership team, supported our staff as the workplace evolved, and completed a strategic plan which sets us on an impactful path to 2030.

Evolving Our Team

In 2022, CLASP announced a new senior leadership team, which brings together leaders from across programs and regional offices, as well as cross-functional expertise such as human resources. The structure reflects our desire to better integrate our programs and initiatives and further center regional knowledge into executive decision-making.

We also executed several internal promotions, and our team continued growing; we were 65-strong at the end of the year, as compared to 45 at the end of 2020. Managing many new hires in a primarily virtual environment posed challenges — and opportunities to do things differently. After two years of remote work, team productivity, wellness, and cohesion were a top priority. We gradually started meeting in person again, gathering in regional offices weekly for improved collaboration. In April, everyone came together for the first time since the onset of the pandemic for an all-team retreat. This gave us the opportunity to welcome a wave of new hires, deepen cross-regional connections, and align with our 2030 Strategic Plan.

CLASP's senior leadership team. Top, left to right: Sam Grant, Fred Sherman, Ana Maria Carreño, Jenny Corry Smith, Ari Reeves. Bottom, left to right: Naté Harris, Corinne Schneider, Christine Egan, Amanda Upshaw, Bishal Thapa

A Plan for People & Planet

Efficient appliances have a strong track record of delivery and must be prioritized now for us to meet global climate and sustainability goals. In 2022, we completed a new strategic plan, which outlines the ways in which energy-efficient, high-quality appliances are a tangible, cost-effective solution to the challenges we face, enumerates why CLASP, our partners, donors, and governments must double-down on our efforts and ambition now, and how we can do so.

In sum, CLASP's work is to make appliances as planet-neutral and people-positive as possible. Within these broad objectives, we prioritize geographies (e.g., top emitting countries, those most energy-poor and/or vulnerable to climate change), appliances (e.g., those with the most benefit to people and planet), and the activities that will drive the most impact, based on rigorous analysis and CLASP's current and burgeoning expertise.

As we set our sights on 2030 goals, we are excited for CLASP's expanded senior leadership council to guide us into a new era of even higher-impact activities encompassing the principles of equity, environmental justice, and broader environmental protection in response to evermore complicated social and planetary challenges.

Both elements — an evolved and bigger team and a new strategy for efficient appliances for people and the planet — are setting us up for CLASP's next phase of evolution.

Reconnecting at the all-team retreat.

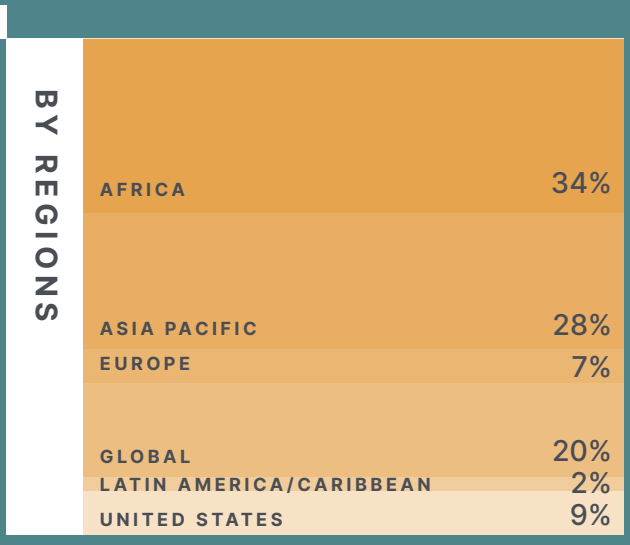
Financial Information

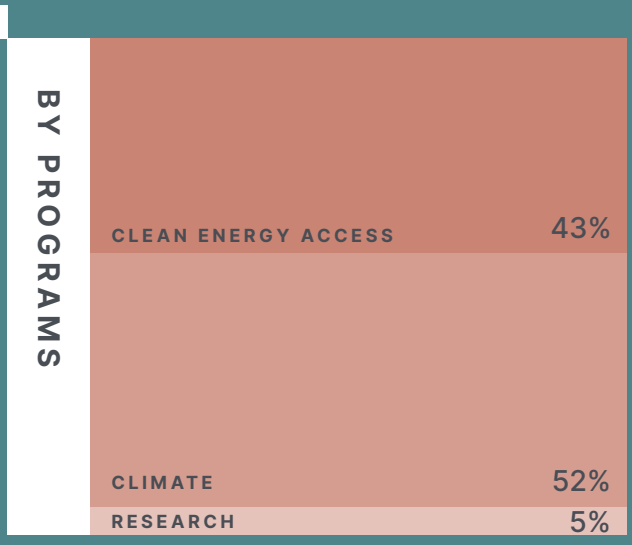
2022 Revenue

Total: $21,103,603.92

2022 Expenses

Total: $20,891,074.68





2022 Donors

- Anonymous (2)
- Application Européenne de Technologies et de Services
- Aspen Global Change Institute / the Crux Alliance
- Climate Imperative Foundation
- DOEN Foundation
- Energy Action Fund
- European Climate Foundation
- German Government's International Development Agency (GIZ)
- Global Energy Alliance for People and Planet
- Good Energies Foundation
- IKEA Foundation
- International Finance Corporation
- Loughborough University
- ResilientAfrica Network at Makerere University
- Rockefeller Philanthropy Advisors
- Sixteen Thirty Fund
- SNV Netherlands Development Organisation
- Stantec
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- The John D. and Catherine T. MacArthur Foundation
- The Rockefeller Foundation
- UK Aid
- United Nations
- United Nations Industrial Development Organization
- World Bank

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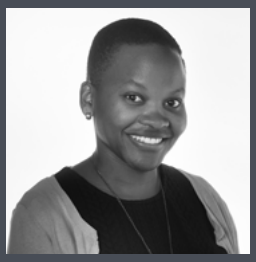

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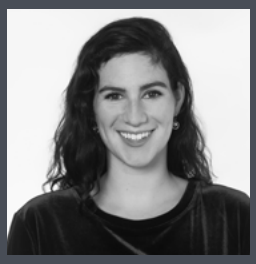

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Royal Electronics & Appliance

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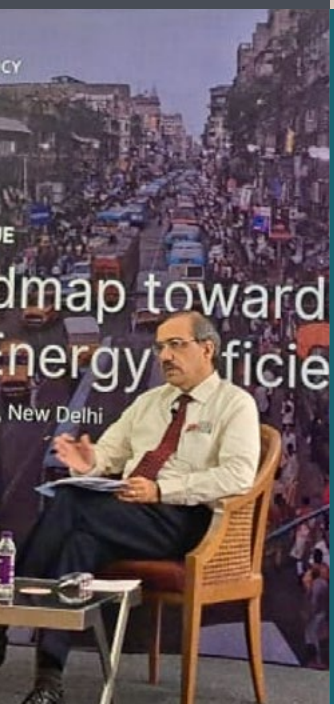

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