

# SOCIAL IMPACT REPORT

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# Introduction

Welcome to the African Clean Energy (ACE) 2022 Social Impact Report. This report demonstrates our dedication to advancing positive global change through the implementation of sustainable energy solutions. We will share our journey, accomplishments, and aspirations in maintaining a meaningful difference to the lives of individuals, communities, and the environment.

At ACE, we understand the profound impact that clean energy access can have on low-income households in developing countries. Our mission revolves around eliminating poverty's most dire manifestations through the intersection of clean energy and smartphone technology. Through innovative solutions like the ACE One hybrid energy system, we aim to provide affordable and sustainable energy access to those living on just \$2 a day, empowering them to overcome the health risks associated with Household Air Pollution and gender-related challenges.

In this report, you'll gain insights into who we are as a company, our mission, and the comprehensive solution we offer to address energy challenges in underserved contexts. We delve into our impact assessment, exploring key performance indicators, social and environmental impacts, and our real-life success stories from both customers and our dedicated ACE team.

We invite you to join us in reviewing our achievements and in our collective dedication to shaping a more sustainable and equitable future.

With gratitude for your reading,

Judith Joan Walker  
Chief Operating Officer



# Company Overview

## Our History

ACE is the second highest ranked B Corp in the world. As both a manufacturer of renewable energy products and an Energy as a Service (EaaS) climate fintech pioneer, ACE provides its clean energy solutions through the use of the ACE One cookstove. This hybrid energy system provides biomass cooking energy and solar electricity that can also be used for lighting and phone charging, which is essential energy for low-income households in developing countries.

We at ACE are an industry leader in household energy products and have a strong presence in our current sales markets. As per 31 December 2022, we have provided more than 76,000 units of our clean energy system to Sub-Saharan Africa and South-East Asia, with a specific emphasis on Lesotho, Cambodia, Uganda, and Kenya.



## OUR MISSION

Our mission is to eliminate the worst forms of poverty on a platform of clean energy and smartphone technology.

To achieve our mission, ACE works towards providing affordable clean energy access to households earning \$2-a-day in underserved regions across the world, who would otherwise suffer from low energy access and the health risks associated with Household Air Pollution (HAP).

## Our Solution

Through our ACE One we provide a solution to both clean biomass cooking energy and solar electricity for lighting and phone charging. The specific features include the below.



### Fuel-flexibility

The device is a fuel-flexible stove that can burn any type of solid biomass at optimal efficiency (wood, sticks, cow dung, etc.). This allows households to diversify their fuel choices and reduce a dependence on unsustainably harvested firewood and charcoal. Additionally, we offer our ACE One users sustainably sourced biomass fuels (pellets and briquettes) that are locally made from agricultural waste obtained from local suppliers. ACE works to encourage the adoption of sustainable energy practices by providing access and improving affordability to clean fuels.

### High Thermal Efficiency

The high thermal efficiency of our cookstove allows it to fire up quickly, reducing time to cook for the user. The ACE One has been laboratory tested by Colorado State University (2014) and Covair (2016). Through these tests it achieved IWA-ISO tier 3-4 standards on emissions and efficiency, and received a 'best' rating for safety with a score of 97 out of 100. In 2023, ACE conducted laboratory testing in accordance with 19867-1: 2018 standard on the ACE One stove through CREEC. The testing results clearly demonstrated again that our ACE One achieves tier 3-4 on emissions, high thermal efficiency, and safety.

### Elimination of Household Air Pollution (HAP)

The ACE One's fan gasification diminishes HAP that is linked to disease and death. This sets the ACE One apart from the vast majority of its sector, greatly exceeding the performance of natural draft improved cooking solutions (ICS). The ACE One has been tested under real world conditions. In a field test (2015) conducted by Berkeley Air Monitoring Group in Cambodia, the ACE One reduced the woodfuel by at least 52% compared to traditional stoves. It is estimated that for every 25,000 stoves distributed 40 deaths are averted and instead 1,295 years of healthy life being reclaimed (aDALYs), as a result from reduced cook smoke exposure. This means that using one stove leads to an improvement of 0.05 Averted Disability-Adjusted Life-Years (aDALYs). In a lengthy study conducted by Liverpool School of Tropical Medicine in Malawi, the ACE One reduced the incidence of cooking related burns among children by 40%.

### Cost-effectiveness

The independent British think tank Chatham House (2015) has conducted an industry-wide analysis of commercially available cookstoves, comparing various models in terms of annualised costs. This study rated stoves based on their costs over time: the upfront cost of the stove divided over its use-able lifespan, as well as the cost of fuel needed to use it over time. The ACE One is considered the most cost-effective advanced cookstove, and is even price competitive with much cheaper cookstoves due to its long lifespan and high efficiency.

# The Impact

ACE achieves social and environmental impact through Governance, Social Impact, Environmental Impact and the SDG goals..



## Governance

### Promoting Sustainable Operations

We uphold sustainability as a cornerstone of our operations, guided by a comprehensive suite of policies, including our Code of Ethics, Corporate Social Responsibility (CSR) Policy, HR Policy, and Procurement Policy. These policies are the bedrock of our business conduct, ensuring that we consistently maintain high standards of integrity, accountability, and responsibility across all facets of our operations. Our Code of Ethics is an integral component woven into the fabric of these policies. Notably, our HR and procurement policies encompass these critical elements, including adherence to the Supplier Code of Conduct. These measures underline our commitment to ethical business practices and the promotion of sustainable operations throughout the company, fostering constructive relationships with suppliers and stakeholders.

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### Tailored Standard Operating Procedures

ACE recognizes the importance of context-specific approaches, and thus, developed a comprehensive set of Standard Operating Procedures (SOPs) tailored to each of our operating countries. These SOPs comprehensively address areas such as the environment, poverty reduction, health, and safety, where applicable. By integrating these factors into all our operations, we adhere to the principles outlined in our CSR policy and Code of Ethics at the highest level.

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### Anti-Corruption Commitment

Aligned with the ACE Global Code of Ethics, we are committed to fair and transparent operations, underpinned by honesty and transparency. ACE stands resolute against any form of bribery or corruption within its ranks or in its interactions with external entities. Moreover, ACE is dedicated to transparency and pledges to publicly disclose any financial or in-kind contributions extended to political groups, politicians, charitable organisations, lobby groups, and advocacy groups.

# Social

## Job Creation

ACE is committed to job creation in our operating markets by manufacturing and selling our products locally and actively sourcing local talent. In 2022, we were pleased to grow our team, welcoming over 200 new employees, with a notable focus on Uganda, where we successfully inaugurated a new ACE One production facility.

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## Equal Opportunities in Recruitment

We offer equal opportunities to all candidates. This means we also pro-actively hire for inclusion, and have a global commitment to hiring persons who are differently abled. ACE is an equal opportunity employer with 50% female employees across operations. Additionally, we hire as locally as possible, including in refugee settlements, where we currently have an even divide of 50% host and refugee employees, in order to foster those relationships within the community (<https://eepafrica.org/inclusive-employment-news/>).

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## Extending Financial Access

We extend consumer financing to our target customers, many of whom have limited purchasing power despite their desire to invest in our clean solution. We achieve this by providing financial access to unbanked populations through a 6-18 month microfinance plan(s) with a 0% interest rate. Many of these loans are provided with support from our partners, including Kiva and the SDG ACE Foundation. We are continuously striving for the best possible practices for financial inclusion in our services.

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## Gender Impact

The gender impact of the ACE One is profound. As in many developing nations cooking is the responsibility of women and girls through our ACE One innovations they become primary beneficiaries through the following:



### Efficient Cooking

The ACE One's high thermal efficiency speeds up cooking, reducing the time needed to tend to cooking fires, particularly benefiting women.



### Fuel Savings

The ACE One users consume 50-85% less fuel compared to traditional stoves, resulting in significant cost savings and local environmental improvement.



### Healthier Homes

The ACE One's fan gasification technology improves indoor air quality by reducing household air pollution (HAP), which is a leading cause of respiratory diseases and premature deaths. This enhancement ensures that women and their families breathe cleaner air, reducing health risks.



### Time Reclaimed

Women often spend a substantial amount of time collecting fuel, limiting opportunities for rest, study, and other activities. Fuel collection also exposes them to the risk of gender-based violence (GBV). ACE offers a clean fuel delivery service, which reduces the time women spend on fuel collection thus minimising their exposure to GBV risks.

# Environmental

## Carbon Reduction

The ACE One significantly reduces CO2 emissions from cooking due to the efficiency when burning biomass and even more so when burning sustainable biomass. A conservative estimate of offsetting 2.5 to 3 tonnes of carbon for each ACE One per year, can be significantly increased when replacing extremely harmful fuels, such as charcoal, with sustainable fuels such as briquettes made from agricultural or industrial biomass waste.

## Preventing Deforestation

By decreasing dependence on woodfuel and fossil fuels, we generate positive ripple effects on local natural resources. ACE offers sustainably sourced briquettes and pellets, derived from agricultural or industrial biomass waste, as clean fuel alternatives. This effectively mitigates deforestation rates and reinforces ACE's commitment to preserving natural resources and promoting sustainable practices.





# SDGs



## NO POVERTY

Because the ACE One provides solar electricity for lighting & phone charging, our customers save 81% on avg on their monthly energy expenses. After just 4 months of using the ACE One, our customers can break even on their purchases.

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## HEALTH AND WELLBEING

The ACE One produces a smokeless flame, protecting the end-user from exposure to Household Air Pollutants, which is responsible for the deaths of 3-4M people each year to related diseases.

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## GENDER EQUALITY

Women and girls will be the greatest beneficiaries of the ACE One as they are generally responsible for preparing food and collecting fuel in the target country. Providing the ACE One and clean fuel will reduce the hours they spend each day cooking and gathering fuel.

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## AFFORDABLE AND CLEAN ENERGY

The ACE One provides clean energy for cooking and lighting with an affordable price. Along with the ACE One, we also provide sustainable fuel options (e.g., briquettes and pellets) to ACE One users. The carbon revenue generated from our activity will be injected to make the fuel cost more affordable, which will encourage usage of sustainable fuels over others.

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## CLIMATE ACTION

ACE significantly contributes to mitigating climate change by reducing carbon emissions. The ACE One can avert CO2 emissions by 2.5-3 tons/year (conservatively) on average.

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## LIFE ON LAND

The ACE One burns less fuel, lessening natural resource depletion and deforestation, resulting from the unsustainable harvesting of wood.

# Global Impact Factsheet (2019-2022)

Our report summarised ACE's extensive impact on clean energy access, CO2 reduction, and deforestation mitigation. With over 76,000 ACE One units sold, we have averted CO2 emissions, improved air quality for nearly 349,000 people, and averted 140 deaths related to household air pollution. ACE's commitment to data-underwritten carbon offset credits demonstrates our dedication to sustainability.

Our ACE One units demonstrate their efficiency with an electrical capacity of 66 kW, accumulating to a substantial 516 kW over the years. The energy generated by ACE One in 2022 amounted to 12,061 MWh, contributing to our cumulative total of 573,468 MWh.

Our impact goes beyond energy and electricity; it directly improves lives. In 2022, 33,045 additional individuals experienced improved air quality through our efficient cookstove, joining a growing count of 383,005 people benefiting from these advantages. Furthermore, in 2022, our commitment to health and well-being contributed 351 aDALYs, increasing our cumulative achievement to 3,851 aDALYs. In terms of saving lives, 13 lives were preserved in 2022, contributing to a cumulative total of 153 lives saved through our ACE One units.

These achievements affirm our commitment to sustainable progress and motivate us to continue making a meaningful impact on our environment, communities, and individuals' well-being. Please see the details of our estimated impact per year as of 2022 and cumulative metrics below.

## As of 2022; Per year and Cumulative Metrics

| Indicators   |           |        | 2019   | 2020   | 2021   | 2022   |
|--|-----------|--------|--------|--------|--------|--------|
| <b>ACE One's sold/year</b>                               | 1 ACE One | units  | 5039   | 6613   | 7268   | 6609   |
| <i>Cumulative ACE One's sold (units)</i>                 |           |        | 56111  | 62724  | 69992  | 76601  |
| <b>Averted tonnes of CO2 emissions</b>                   | 2.5       | tonnes | 76093  | 77275  | 73518  | 73605  |
| <i>Cumulative tonnes of CO2 averted (tonnes)</i>         |           |        | 566853 | 644128 | 717645 | 791250 |
| <b>Averted woodfuel tonnes</b>                           | 1.5       | tonnes | 45656  | 46365  | 44111  | 44163  |
| <i>Cumulative tonnes of woodfuel averted (tonnes)</i>    |           |        | 340112 | 386477 | 430587 | 474750 |
| <b>Additional Electrical Capacity</b>                    | 0.010     | kW     | 50     | 66     | 73     | 66     |
| <i>Cumulative electrical capacity (kW)</i>               |           |        | 311    | 377    | 450    | 516    |
| <b>Additional Energy generated</b>                       | 1.825     | MWh    | 9196   | 12069  | 13264  | 12061  |
| <i>Cumulative energy generated (MWh)</i>                 |           |        | 309996 | 393468 | 481857 | 573468 |
| <b>Additional People breathing cleaner air</b>           | 5.0       | people | 25195  | 33065  | 36340  | 33045  |
| <i>Cumulative number of people breathing cleaner air</i> |           |        | 280555 | 313620 | 349960 | 383005 |
| <b>Averted Disability-Adjusted Life-Years (aDALYs)</b>   | 0.05      | aDALYs | 252    | 331    | 363    | So351  |
| <i>Cumulative aDALYs</i>                                 |           |        | 2806   | 3136   | 3500   | 3851   |
| <b>Averted deaths</b>                                    | 0.002     | people | 10     | 13     | 15     | 13     |
| <i>Cumulative averted deaths (people units)</i>          |           |        | 112    | 125    | 140    | 153    |

 Let's have a closer look at those indicators.

## Definition of impact indicators

- **ACE One's Sold/Year:** This indicator represents the number of ACE One units sold in a given year, reflecting the annual sales volume of ACE One units.
- **Averted Tonnes of CO2 Emissions:** This impact metric quantifies the tonnes of carbon dioxide (CO2) emissions that have been prevented or avoided due to the use of ACE One units. This indicative impact metric is calculated by multiplying the number of ACE One units sold in the last 5 years by 2.5 tonnes. We feel this is a conservative estimate, that assumes that every customer will use the ACE One effectively for an average of 5 years (despite a much longer usable life expectancy of the ACE One). The average of 2.5 tonnes is also conservatively estimated, given that it does not include any fuel switch assumptions, only that of average usage of the ACE One itself. Importantly, this metric differs from the carbon offsetting that ACE monetises through voluntary carbon credits, which are based only on measured, data underwritten usage data from ACE Ones that have the smart electronics.

**Note:** Previous social impact reports from ACE have reported the annual additional offset, which was calculated only over the ACE One units sold that year. The previous year's units were only reflected in the cumulative figures, which was confusing and underrepresented the impact created. Therefore the previous year's impact metrics have been adjusted to reflect the 2022 methodology of all ACE One units sold in the last 5 years x 2.5 tonnes of carbon offset. We will also continue (from now on) to report the measured, data underwritten carbon offsets and our insights into how these reflect the extrapolated impact metrics reported above. See the section below, Data underwritten Impacts, for more information.

- **Electrical Capacity:** This indicator measures the electrical power generation capacity of ACE One units, expressed in kilowatts (kW). It provides insight into the electricity-producing capabilities of these units.
- **Energy Generated:** This metric represents the total amount of electrical energy generated by ACE One units in a given year, measured in megawatt-hours (MWh). It serves as a quantification of electricity production.
- **People Breathing Cleaner Air:** This indicator counts the number of individuals who benefit from improved air quality due to ACE One units in a specific year. It quantifies the positive health impact on people enjoying cleaner air. The metric is calculated by multiplying the number of ACE One units sold by 5 people, which represents the average number of households in our operating country.
- **Averted Adjusted Disability Life-Years (aDALYs):** This metric quantifies the number of DALYs that have been prevented or avoided due to ACE One units in a given year. DALYs are a measure of the overall disease burden, and "averted" indicates a reduction in this burden. The calculation involves multiplying the number of ACE One units sold by 0.05 aDALYs, which is calculated based on the field test conducted by the Berkeley Air Monitoring Group (2015).
- **Averted Deaths:** This indicator reflects the number of lives saved due to the avoidance of premature deaths in a specific year, attributed to the benefits of ACE One units. The metric is calculated by multiplying the number of ACE One units sold by 0.002 people, which is calculated based on the field test conducted by the Berkeley Air Monitoring Group (2015).

# Data underwritten Impacts

Alongside the estimated metric-based results, here we would like to present our measured, data underwritten impacts related to CO2 reduction and deforestation reduction.

## CO2 Reduction

Going beyond the impact metrics, ACE can calculate the accurate amount of carbon offsets based on the measured energy usage data (ACE One stove usage per second) and kilograms of sustainable fuel purchased (a transition from charcoal or firewood to a sustainable fuel for cooking). To calculate the precise amount of carbon offsets, ACE tracks energy usage data and fuel transactions in detail throughout the value chain. Carbon offset calculations are based on a comparison with conventional cooking baseline surveys conducted at the point of sale.



## DATA COLLECTION

Regarding energy usage data, once an Android phone is connected to the ACE One via a USB cable, it transfers all usage data to the connected device, storing the information until the mobile device connects to the internet. The usage data is then automatically sent to our data warehouse. As our customers are primarily located in rural areas where network connectivity may be limited, our systems are designed to collect this data offline.

Usage data is collected in one of three ways: **1) a customer plugs in their smartphone with the ACE Connect App into the ACE One, 2) a neighbour or friend plugs in their smartphone with the ACE Connect App, or 3) an ACE employee extracts the data using a company device.**

Through this procedure, their usage data is automatically synced to the Salesforce CRM system, which calculates accurate carbon offset amounts.

## Based on the energy usage data that we captured from the ACE One stoves, we measured a reduction of 15,650 tonnes of carbon across our markets in 2022.

Of course, with this new technology being rolled out across all our markets, this resulting figure is somewhat lower than the metrics in the global factsheet. This is due to various reasons: not all our historical customers have ACE Ones with smart electronics, not all our customers have synced their data, and usage data hasn't been fully synced for customers syncing their data sporadically.

The cumulative data is not lost and we can continue to capture data from usage that has occurred in 2022, but we endeavour to sync our customer usage data more rapidly and consistently in order to reduce the risk of lost data, and to monetize the carbon offsets more swiftly. To enhance the collection of usage data, we are encouraging our users to synchronise their phones with the ACE One through incentive campaigns, such as sustainable fuel discounts. This is also a way for us to pass the value of the data back to those end-users who are syncing the data with ACE. For those who may not have a smartphone, our dedicated local agents in each market are actively assisting them so that they can still benefit from the rewards.

High level analysis shows that the tonnes measured in 2022 were from data synced from 9380 customers, capturing (over time) 69% of their usage data and an average of 1.5 hours of usage per day. This gives us confidence that our assumptions, and impact metrics, are in line with what we have measured so far.

### **Mitigating Deforestation**

In Lesotho, we have seen 57.39% decrease in woody biomass reliance among our ACE One users in Lesotho through the "Lesotho Rural Energy Hubs Programme." This reduction represents a notable decrease in the woody biomass fuel usage.

The program was made from a collaborative effort between ACE and the European Union, which began in March 2018 and concluded in early 2023. It aims to provide clean, cost-effective energy solutions to rural households and reduce woody biomass fuel by providing the ACE One and establishing energy hubs across Lesotho, which ACE will continue post-project.

After the completion of this program, we've observed a decrease in the monthly hours our stove users in Lesotho spend on fuel collection, reducing from 31 hours to 14.18 hours. This change has provided individuals with extra time for other activities that were previously constrained.

# Impact Stories

Real-life stories of impact from ACE Customers



Meet Salao,

a 33 year-old teacher in northwestern Cambodia, used to have to gather firewood to cook meals for her family. There are four people in her family these days, all of them are female and she is the only one who has a job in the family. Before she bought ACE One, she had to buy at least two bags of charcoal a month for cooking and wake up early in the morning just to start the fire with the stoves she was using. **Salao said that the ACE One has saved her time and money** by eliminating the need to gather or buy firewood and charcoal and providing free solar energy to charge the family's phones. According to her, **ACE One saves almost fifty percent of her expense on stove fuel.** She loves that it lights fast and doesn't give off any toxic fumes. Above all, she mentioned that the clean-burning stove has increased her joy in spending time in the kitchen.



Meet Nil Thach,

a mother of two kids in Siem Reap, used a traditional stove with firewood prior to purchasing the ACE One. The old stove generated so much smoke and consumed a lot of firewood, as much as 2 or 3 bags (60kg) per month. After shifting to the ACE One, she only used around 1 bag and alternatively can use palm leaves or seeds easily picked up nearby instead of the firewood. She was also happy that the stove cooked food quicker while making less smoke. She is now working as a sales campaigner at ACE Cambodia, promoting and reaching out to new customers. She wanted to work with ACE because she knew the advantages of ACE One as a customer and to support her family. **"The reason I want people to use this stove is that this stove saves on expenses, cooks quicker, and reduces smoke emission,"** Thach said. She has a dream to keep on working this job forever to help her family and children's education.

## Meet Mapitso,



a mother of two residing in Butha Buthe, Lesotho with a total of seven dependents. Mapitso is a guest house owner who used to spend about M850 a month on fuel (i.e., gas, paraffin and electricity), due to high fuel costs she says it was a challenge to save money to improve her business. She was first introduced to ACE One in December 2019 at a product demonstration in her village and **she fell in love with it upon realising its benefits.** Mapitso and other ladies then formed a group and purchased on credit. Now **she is excited about cutting her fuel expenses and the possibility of expanding her business.**

## Meet Kato,



a businessman in Kassanja, Uganda, purchased the ACE One to boost his food business. He has been selling fried chips, eggs, and other types of food. According to Kato, **ACE One allows him to save a lot on his fuel costs.** With ACE One he didn't have to buy charcoal or cut down trees anymore. Instead, he could use any type of fuel that he found in his surroundings. **"With the money I saved on fuel in one year I bought a plot of land!"**, Kato said. He promotes the ACE One, especially about how durable it is, to others because he knows the durability of the product after using it daily for over 3 years.

## Meet Dorothy,



a retired nurse in Agule Palisa, Uganda, bought a second ACE One straight away after finishing paying for her first loan. She loves the ACE One as it saves her so much time for cooking. **After using ACE One, she has been especially able to save money on fuel costs but also electrical costs by using the LED lamp connected with it.**

Dorothy emphasised how it is good for her health and it will prolong her life as it generates no smoke. "As a retired nurse I understand what great positive influence the ACE One has on one's lungs," Dorothy said, a loyal customer who bought two ACE One and shared the benefit with others.

## Success stories in the ACE team

### RETHABILE MAFURA'S REMARKABLE JOURNEY WITH ACE

Rethabile, Country Director of ACE Lesotho, was awarded the EEP Africa Rising Energy Leader in 2023. She's an Alumni of Women in Clean Energy, a mentorship programme by GWNET, CCA and SEforALL and has recently been appointed as the honorary consul of the Netherlands to Lesotho. She has been praised for her leadership skills, provision of inclusive employment opportunities and strong sense of teamwork. Rethabile has been instrumental in the success of ACE Lesotho.



In Lesotho, amidst soaring unemployment and entrenched gender roles, Rethabile Mafura, ACE Country Director, stands as an inspiring symbol of resilience and determination. Born into an energy-poverty-stricken world, her early life was defined by arduous journeys to school and the struggle for basic necessities in the face of indoor air pollution.

Orphaned and raised by a foster family, she recognized the power of education, propelling her into a career at a mobile telecom company. Driven by a desire for a greater impact, Rethabile joined African Clean Energy (ACE), drawn by their mission to eliminate indoor pollution and empower marginalized individuals, including disabled workers.

Her journey at ACE began as HR Manager, where she took pride in recruiting motivated individuals who shared her and ACE's values. Recognizing the untapped potential in marginalized individuals, she championed their inclusion in the workforce.

In November 2021, Rethabile's dedication led to her promotion as Country Director of ACE Lesotho. Under her leadership, ACE refocused on empowering middle management, prioritizing customer service, and expanding its clean energy impact. Her influence transcends the company, as she continues to strive for higher standards in the energy access sector.

Rethabile's leadership is marked by clear expectations, training, trust, and fostering accountability, even amidst formidable social, cultural, and geographical challenges. Her commitment to gender equality is evidenced by her track record of promoting qualified women to senior roles in ACE and beyond.

Looking forward, Rethabile envisions a future where rural households and communities have access to clean energy and a sector that champions diversity and inclusion. We take pride in having leaders like Rethabile in our organization, dedicated to empowering others for a bright future.



## CHHENGHEANG'S NEW JOURNEY WITH ACE



**Chhengheang's ACE journey began in 2020 amidst the COVID-19 pandemic. She transitioned from the struggling tourism industry to become an inventory officer at ACE's Cambodian factory. Despite initial challenges, her determination and support from colleagues helped her adapt and thrive.**

What impressed Chhengheang about ACE was the dynamic and collaborative team spirit. ACE's mission, dedicated to improving the community through clean cooking energy with the ACE One, ignited a spark within her, in stark contrast to her profit-driven tourism background.

In September 2021, recognizing her outstanding contributions, ACE promoted her to the position of project manager, focusing on encouraging customers to embrace sustainable biomass fuel over environmentally harmful alternatives. ACE Cambodia's production of sustainably sourced briquettes, crafted from sugar cane waste, led this transformative endeavor.

Project managing such an initiative was complex, particularly in changing customer energy practices. Chhengheang consistently shared ACE's significant social and environmental impact with customers, resulting in approximately 20% of Cambodian customers transitioning to clean fuel. She estimates that the work at ACE has influenced a large portion of the local Chreav community to embrace a cleaner energy alternative.

Chhengheang also led another project, incentivizing customers to use the ACE Connect app in conjunction with the ACE stove, enhancing the ACE customer experience.

However, amid her burgeoning career, Chhengheang faced a significant personal challenge in early 2023. Her mother fell seriously ill and required surgery, leading her to temporarily step away from ACE to care for her. After her mother's successful surgery, ACE welcomed her back, and moved by ACE's unwavering support, Chhengheang decided to rejoin.

Today, she works on diverse projects and oversees the global supply chain beyond her local sphere. Her well-deserved promotion is a testament to her contributions, and ACE fully supports her as she embarks on this exciting new phase of her career.

Chhengheang's life goal is to uplift people from poverty, a mission ACE wholeheartedly believes she will achieve. As she continues on this path, ACE is committed to championing a journey towards a brighter future for all.

# Looking ahead

In 2022 and beyond, ACE has made a significant positive impact on both social and environmental fronts. Socially, we have created quality jobs, promoted equal hiring opportunities, expanded financial access to unbanked households, and improved gender equality by saving time and enhancing the health of women responsible for cooking. Environmentally, we have provided clean cooking energy to low-income households in emerging markets, offering ACE One cookstoves and clean biofuel to encourage a complete transition from unsustainable energy practices. This report, especially in our global impact factsheet, demonstrates a substantial reduction in CO2 emissions, saved wood fuel, and improved air quality.

Now, ACE is furthering its efforts by offering data-backed carbon credits based on ACE One users' usage patterns. We're excited to announce the acquisition of the Gold Standard Certificate for our Uganda projects in 2023, providing clear verification of the high quality of our carbon credits. The revenue generated from these credits will be reinvested to make sustainable fuel even more affordable for ACE One users, attracting more households to adopt responsible energy solutions. This model will continue to boost carbon revenue, fostering a cycle that enhances the scalability and sustainability of ACE's virtuous business cycle and its impact.

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