



# User Insights Lab

AN INITIATIVE OF:



# Today's Problem



**No one's life should be limited by how they cook.** Yet globally, 2.3 billion people depend on polluting, open fires or inefficient stoves to cook their food, harming health, the climate, and the environment. Women and girls, who often spend hours cooking and collecting fuel, are disproportionately affected.



**3.2 million premature deaths each year** are attributable to household air pollution, predominantly generated from cooking.



Over **450,000 children under 5 die each year** as a result of household air pollution, primarily in Sub-Saharan Africa and Asia.



The **#1 environmental health risk globally** is air pollution.



**1\$2.4 trillion per year is the cost of inaction** on clean cooking, primarily from health costs.



**Over 50% of black carbon emissions** come from burning solid fuels for cooking and heating homes.



# The Clean Cooking Alliance

**Clean cooking transforms lives by improving health, protecting the climate and the environment, empowering women, and helping consumers save time and money.**

Globally, 2.3 billion people still lack access to clean cooking. The Clean Cooking Alliance is a global organization that enables, influences, and accelerates local transitions to clean cooking solutions.

The Clean Cooking Alliance takes a holistic systems approach to building the clean cooking ecosystem.

CCA is the global steward of the clean cooking ecosystem. CCA delivers an outsized impact by capacitating our global network of partners.

## Past efforts to grow demand for clean cooking have fallen short

The clean cooking industry is taking off, with carbon finance driving investment to a record high of \$215 million in 2022 (CCA, 2023).

### Affordability and awareness

Historically, public and private efforts to grow adoption of clean cooking have focused on affordability and consumer education. Donors, governments and innovative enterprises have designed new financing options, created subsidy programs, and lowered manufacturing costs. Governments and donors have developed local and national awareness campaigns with celebrity influencers, product demonstrations, and creative edutainment programming. Considerable resources have been invested in these efforts.

While gains have been made, the sector is still not experiencing demand driven by

products and services that are unambiguously better than traditional ones. Even subsidized products often fail to get widely adopted, and products that are adopted are often not used consistently over time. As a result, people are not getting the full health, convenience and savings benefits clean cooking offers.

### Meeting our customers' needs

Nearly 300 million people need to gain access to clean cooking each year to achieve SDG 7 (IEA, 2023). To do this, the sector needs to significantly improve its ability to understand and meet the needs of consumers. This requires investing in consumer research and insights, and designing and testing new approaches to accelerating adoption, and building a movement around serving customer needs in the private sector.



**“You aren't solving an unmet need, the need is already met somehow. Everyone already has something to cook on.”**

*-Clean Cooking Executive*

# Our Vision



The User Insights Lab (UIL) envisions a world where clean cooking is the unambiguously preferred way to cook.



Placing customers at the center of our work isn't just a moral imperative, it leads to more effective solutions that solve people's problems - creating new clean cooking customers.

This approach not only accelerates progress toward high-priority results but also fosters sustainability and scalability within the clean cooking industry.

**Jean-Louis Racine**

Chief Program Officer, Clean Cooking Alliance

# An Untapped Opportunity to Grow the Sector

For too long, clean cooking advocates have assumed that if people only had more money and more information about the benefits of clean cooking, they would purchase clean cooking solutions that exist. **This is not true.**

Our customers are discerning consumers, and they will adopt clean cooking solutions that have been designed by companies and programs who deeply understand them and solve their problems.

**We can massively increase demand and sustained use of clean cooking if we more effectively address people's needs.**

The UIL is unlocking the sector's growth by helping clean cooking organizations tackle four critical market challenges that must be addressed to achieve universal access and sustained use. The UIL is working with industry stakeholders to:

## 1 Create solutions people want and like

Enterprises struggle to effectively deploy clean cooking products and experiences that deliver compelling customer value.

By providing insight into customers' needs and aspirations, the UIL informs the design and delivery of solutions that solve people's problems, significantly increasing demand of clean cooking solutions.

## 2 Target the right customers with the right products

Public subsidy programs and enterprises have delivered products to people who won't consistently use them, leaving cookstoves to sit on shelves and wasting resources.

The UIL develops new targeting strategies to ensure the right cookstoves and the right subsidies go to the right customers. This supports sustained use, which is critical for impact and carbon financing.

## 3 Make clean cooking contagious

Past approaches to building awareness, changing behaviors and converting new customers are prohibitively expensive for clean cooking enterprises and public programs.

The UIL drives clean cooking uptake by turning customers into advocates and leveraging social networks to make clean cooking contagious.

## 4 Reshape industry culture around customer needs

The industry has put products first, expecting customers to learn and change to adopt them.

The UIL supports companies to use insights to deliver exceptional customer experiences, and demonstrates to investors that investing in customer-first companies results in stronger financial and impact returns.



# A Multi-Pronged Approach Accelerates Sector-Wide Impact



**DELIVER MORE VALUE**



**SUSTAIN USE**

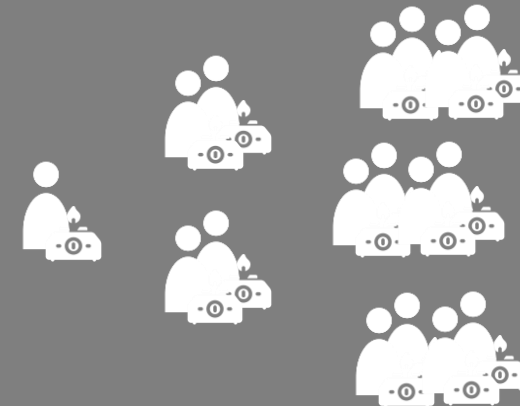
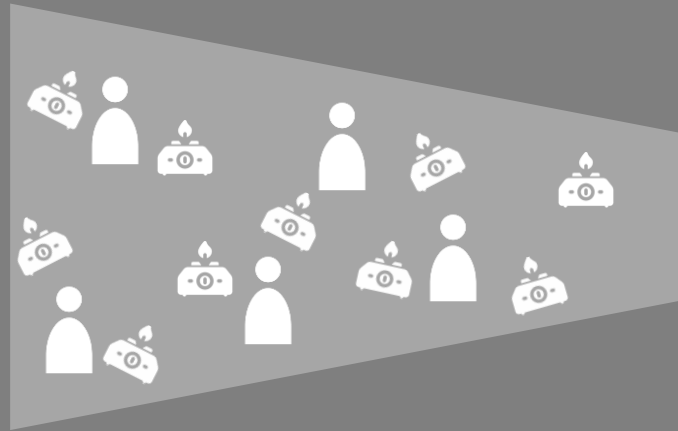
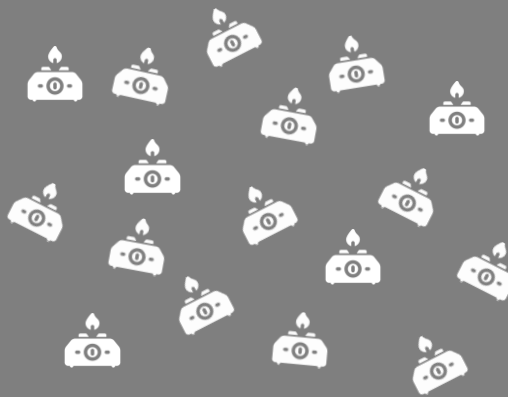


**REDUCE CONVERSION COSTS**

**1. Create solutions that people want and like**

**2. Target the right customers with the right solutions**

**3. Make clean cooking contagious**



**4. Reshape industry culture around customer needs**



# The User Insights Lab

The UIL combines the latest thinking in **consumer insights, behavioral sciences,** and **design** to support enterprises, non-profits, and governments that need to deliver more value for customers at a time when exponential growth in clean cooking adoption is needed.

Our projects seek to **understand customer needs and behaviors, turn knowledge into ideas,** and **spark an industry culture shift.**

Our work is informed by **users local to the markets we serve** and guided by **global thought leaders.** We know that new opportunities are always arising, so we seek to continuously learn and improve.



**Mugendi Kanampiu  
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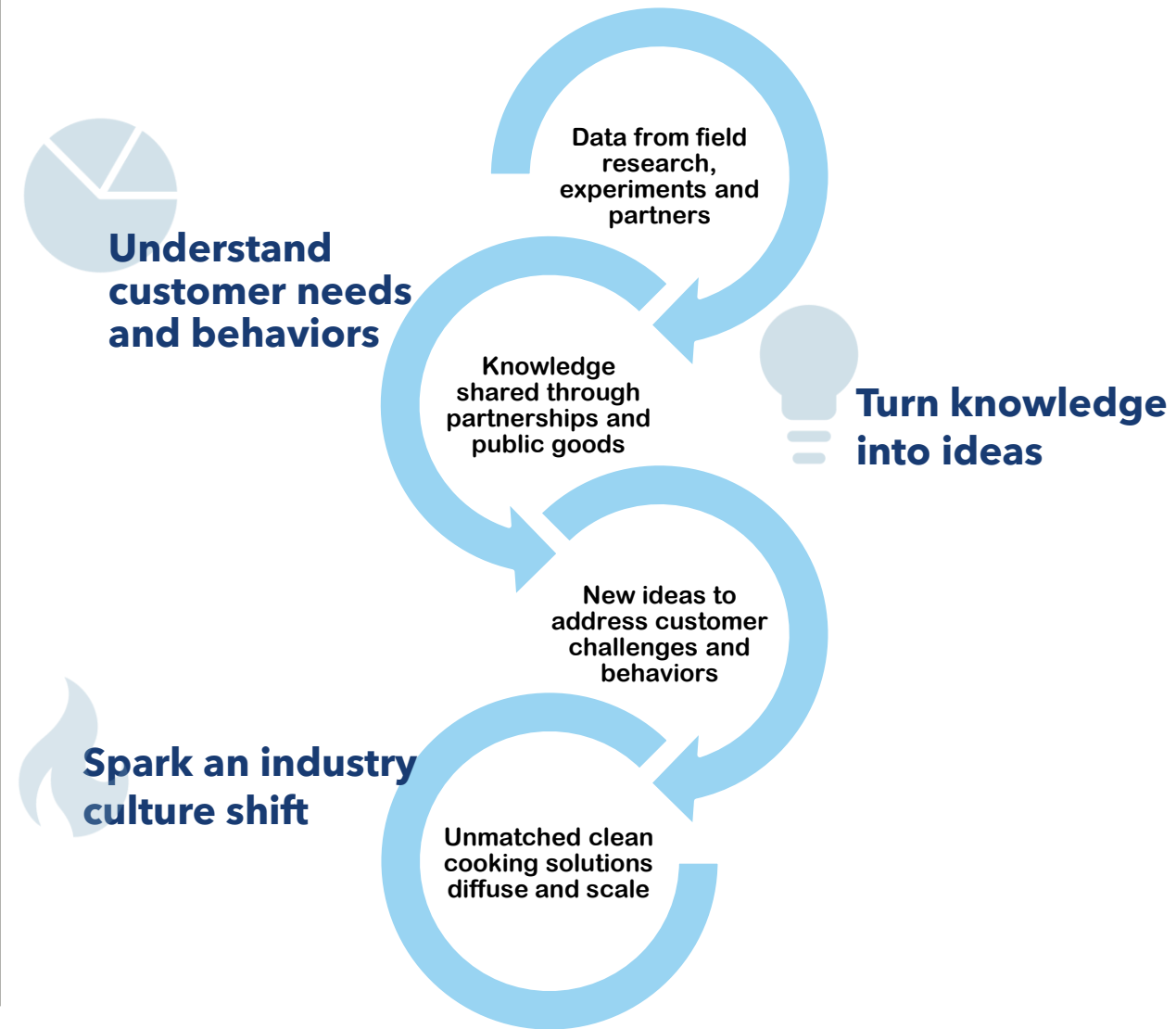
**Ralitsa Debrah**  
Kwame Nkrumah  
University of Science &  
Technology, Ghana



# What We Do

To support clean cooking organizations to deliver more value to customers, ensure customers sustain use of their clean cooking solutions, and reduce the costs of converting new customers, the UIL's projects work in concert to do three things:

- ▶ **Understand customer needs and behaviors**
- ▶ **Turn knowledge into ideas**
- ▶ **Spark an industry culture shift**



# Understand Customer Needs & Behaviors

The UIL generates insights and evidence on consumers.

Findings are shared with clean cooking enterprises, funders, public agencies and non-profits to help them deliver products, services and programs that will win their customers over.

▶ **Deep ethnographic research** to understand people's needs, challenges and behaviors around cooking so that products respond to customers' unmet needs. For example, the UIL is undertaking research around electric cooking (e-cooking) in Kenya to understand the characteristics and pain points of early adopters of e-cooking and changes in the e-cooking offering that could persuade new adopters.

▶ **Consumer preference experiments** to understand people's cooking preferences so that subsidy programs target people who will actually use the products with financial incentives that match their preferences. For example, the UIL is running a discrete choice analysis, which uses statistical methods to generate choice sets to present consumers with different purchase choices and then assigns values to their willingness to

pay at different price points, payment models, and for different cooking technologies. This will guide the design of subsidy programs and energy efficiency labeling schemes.

▶ **Contagion effect predictive modeling** to understand how clean cooking technologies can spread in social networks, rather than through expensive 1:1 sales strategies. In Nepal, the UIL is designing a project to understand the power of social interactions in adoption, map social networks, discover opinion leaders and experiment with promoting clean cooking technologies with different social network interventions. Based on the results, the UIL will work with e-cooking distributors and public promotion programs to design evidence-based market penetration approaches that are effective.



## Goal

Create knowledge that identifies unmet customer needs and share evidence around what works to accelerate adoption and use.

# Turn Knowledge Into Ideas

Catalyze innovation by supporting partners to turn unmet customer needs into new ideas and solutions.

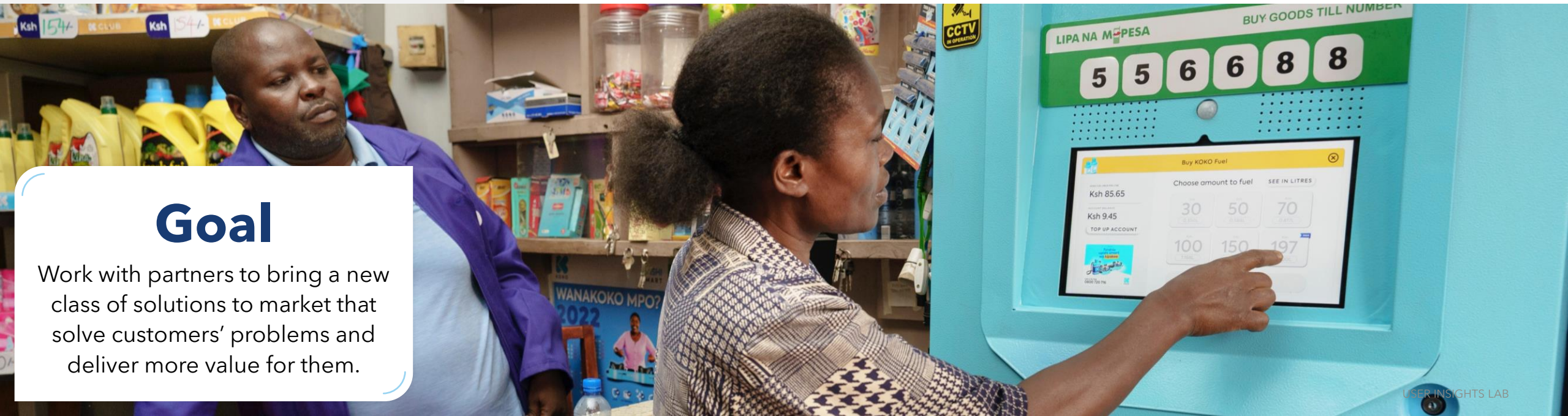
- ▶ **Co-creating with customers and other industry stakeholders** to design new solutions that grow clean cooking adoption and use. For example, in Haiti the UIL engaged street vendors in a participatory innovation process to develop new solutions that better serve this important and influential group of customers. The UIL is working with partners to bring priority solutions to market.
- ▶ **Insight and idea dissemination** to spur clean cooking enterprises and adjacent sector businesses to generate radical innovations in the clean cooking industry. Based on emerging evidence on consumer needs and preferences, the UIL feeds enterprises insights, ideas and

product visions to catalyze new product development and disruptive marketing approaches. For example, based on insights generated on early adopters of EPCs in Kenya, the UIL will develop product concepts and new marketing angles for enterprises entering the EPC market.

- ▶ **Commercialization partnerships** to bring new solutions into the market with the support of companies that have the manufacturing and distribution capabilities to be successful. The UIL validates new solutions that come from its open innovation efforts, it presents business and impact evidence to potential commercial partners within the clean cooking industry and adjacent sectors, and it shares the financial risk of commercialization.

## Goal

Work with partners to bring a new class of solutions to market that solve customers' problems and deliver more value for them.



# Spark an Industry Culture Shift

The UIL helps private sector companies understand how well they are meeting customers' needs and develop the capabilities they require to accelerate market traction.

- ▶ **1:1 Customer Experience Engagements** to dramatically improve customer experience (CX) with promising enterprises and create demonstration effects for the sector. Some projects are targeted at a specific phase of the customer journey, and others seek a CX transformation across the journey to accelerate customer growth, retention and impact. Beginning with a CX audit and maturity assessment, the UIL focuses on identifying the customer expectations that matter most and generating internal commitment to deliver across functions.
- ▶ **Industry benchmarking** to better understand the relative performance of clean cooking companies when it comes to customers' experiences with clean cooking products. For example, the UIL collected data to create a

benchmark to rank performance across metrics such as Net Promoter Score. The UIL will continue to refresh these benchmarks and tailor them to meet the needs of enterprises and investors across the industry.

- ▶ **Build Venture Community Resources** to drive interest in company-led investments in improving CX across clean cooking enterprises. These resources include webinars and articles that present case studies and best practices for improving CX.
- ▶ **Investor engagement** to demonstrate how CX improvements contribute to long-term growth. The UIL works with investors to build customer experience metrics into their due diligence, and to incentivize their portfolio enterprises to develop a high performing customer centric culture.



## Goal

Demonstrate the impact of investing in customer experience transformation and spark an industry-wide culture change to deliver more customer value.

# Exploratory Pilots



The UIL has initiated a series of exploratory pilots to test different elements of our approach, validate hypotheses, and learn what methods work best for clean cooking stakeholders. A few examples of our exploratory work follow.

- ▶ **Better subsidy programs in Kenya**

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- ▶ **New solutions for Haitian street vendors**

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- ▶ **Venture-led customer experience sprints**

# Designing Effective Subsidy Programs

The UIL developed design principles for clean cooking subsidy programs that incorporate behavioral insights to maximize clean cooking adoption among the most vulnerable customer segments.

**Why we did it:** Subsidies, including carbon financing, are crucial for achieving universal access to clean cooking. Yet, there's limited evidence on how to design subsidy programs to foster sustainable market systems rather than distort them. The UIL wanted to understand how insights into customer behavior and decision making might inform clean cooking subsidy program design.

**What we did:** The UIL conducted a discrete choice experiment with potential customers in Nairobi and Isiolo, Kenya. This experiment simulated the choices that participants might make in the presence of subsidies of varying amounts and structures, and for different clean cooking technologies.

**What we will learn:** The choice experiment will provide insight on willingness to pay for clean cooking solutions, the tradeoffs that potential customers make when considering a variety of subsidy amounts and structures, and factors that impact those choices.

**What's next.** The UIL will work directly with subsidy designers to put these principles into practice and gather more evidence on the role that subsidies play in achieving universal access to clean cooking. The UIL's current partnership provide the opportunity to influence subsidy programs worth over \$25 million and targeting over 150,000 potential customers.

**1 Review of clean cooking subsidy research.** Literature review and interviews with experts in clean cooking subsidy programs

**3 Qualitative research** found that convenience, health impacts, social influence and cooking speed were key factors driving adoption.

**5 Design principles.** Insights informed a set of design principles targeting designers of clean cooking subsidy programs.

**2 Identify partners.** The team identified thought partners and potential users of subsidy design principles.

**4 Discrete choice experiment.** Potential customers presented with choices of subsidy amount, mechanism and clean cooking technology to simulate real world decisions.



# CX Prototyping Sprint

Testing a light touch approach, the UIL helped 2 clean cooking enterprises design and run prototypes to better understand customer needs, and experiment with solutions to improve customer experience.

**Why we did it:** Benchmarking data and enterprise feedback suggests that companies struggle to connect with and meet customers' needs after the initial purchase of a clean cooking technology. The UIL wanted to test whether light touch support that empowers enterprises to prototype around customer needs could change the way enterprises think about and serve their customers.

**What we did:** The UIL conducted rapid customer research, identified opportunity areas, and worked with the enterprises to design and refine prototype solutions to customer problems. With coaching support, the enterprises ran the prototypes and collected data to learn from the prototype experiments for 6-8 weeks.

**What we learned:** Not all clean cooking companies are directly connected to their customers, which impedes their ability to get useful customer feedback. Previously, enterprises had not tried simple solutions due to competing priorities. The sprints provided space and support to experiment, but were too short to mobilize big changes. Through the pilots, we uncovered cross-cutting business challenges, validating our hypothesis that a focus on CX can align business functions to deliver more value for customers and yield other business benefits.

**What's next:** The UIL's Customer Centricity Initiative will pilot a more intensive approach to transform enterprises' customer experiences by generating internal commitment and alignment to deliver across functions.

## 1 Rapid customer research

revealed that each retailer delivers a different experience to the enterprise's customers, giving the enterprise less control over its brand.

**3 Building and testing.** The "Green Box" was a handwritten note and gift for retailers to react to; retailers appreciated 1:1 recognition and practical support.

**5 Changing how they work.** As a result of the sprint, the enterprise is focusing more on continuous innovation and experimentation.

**2 Opportunity: design for retailers to support customers.** The team prototyped incentives & marketing support for retailers, the face of the brand.

**4 Prototyping leads to business efficiency improvements.** Logging GPS points for retailers to track data for the prototype led to delivery route improvements, and weekly check-ins increased sales.



# Co-creating with Haitian Street Vendors

The UIL is engaging street vendors in a participatory innovation process to design new solutions that might spur clean cooking uptake among this critical segment.

**Why we did it:** Almost 37,000 street vendors serve over 6.5 million meals per day in Haiti, and predominantly use charcoal to prepare these meals. As such, they are a key segment of potential clean cooking users with a vested interest in improving the cooking experience. The UIL wanted to test whether a participatory innovation process with users could yield new solutions that ignite clean cooking uptake.

**What we did:** The UIL used design research techniques to understand the experiences of street vendors and generate insights on their lives. Vendors took photos and shared insights on their typical day to share their context, and to explore needs, barriers and constraints. Vendors then co-created solutions to the most prominent challenges with the design team.

**What we learned:** A highly complex set of factors influence vendors' day to day behaviors and influence the feasibility of any solution. A key category that emerged was the mental load that vendors are under, and how this impacts their ability to change behaviors when transitioning to clean cooking technologies. Vendors also rely heavily on a variety of group-based financing models that highlight the important role community plays in the running of their businesses.

**What's next:** The UIL will test and refine solutions built on these insights and aims to identify partners to launch solutions in the market that have been prioritized by vendors.

## 1 Photos to see through street vendors' eyes.

The UIL asked street vendors take photos of their daily experiences as part of the research process.

3 **A layered user journey map** illustrates the complex factors that influence street vendors' experiences, including the heavy mental load and business needs they juggle.

5 **Actionable solutions** include group purchasing of both food ingredients and clean cooking fuel to reduce the impact of fluctuating prices

2 **Early findings** revealed the large role macroeconomic factors, such as fluctuating prices and political instability play in street vendors' decisions.

4 **Co-designing with customers.** Vendors built on and voted for priority solutions during co-creation workshops.





# Partnering for Impact



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"We discovered new ideas during the [UIL project] process, such as understanding retailers' needs before providing them with what we thought they required, like offering free refills."

**Nicole Karimi**  
Chief of Growth, HavGas



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"Too often we focus on technical and financial aspects of solutions, overlooking the importance of genuine human needs. Identifying these needs requires novel approaches in human-centered research. The UIL is breaking traditional research boundaries. Through exploratory approaches that transcend both theory and practice, the Lab deepens understanding of key user needs and insights, ultimately contributing to the advancement of the sector."

**Richard Perez**  
Founding Director, Hasso-Plattner  
d-School, University of Cape Town

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60 \_ decibels

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"Our customer insights and impact measurement work with CCA has demonstrated that clean cooking enterprises are creating positive impact for many end-users but also need to improve customer experience to ensure the full benefits are realized and to increase uptake and adoption. The UIL is bringing new focus to this critical area that is key for the sector's future."

**Kat Harrison**  
Director, 60 decibels



**UIL achieves outsized impact** through strategically partnering across the clean cooking industry.

**Read what our partners have to say about our work.**

# Shaping the Future of Clean Cooking

The User Insights Lab has an ambitious agenda to achieve the massive increase in demand and use of clean cooking required to achieve SDG7.

To achieve the the UN's SDG 7, "affordable, reliable, sustainable and modern energy for all," nearly 300 million people need to gain access to clean cooking each year between now and 2030 ([IEA, 2023](#)). CCA's User Insights Lab will work across its three initiatives to propel the massive increase in demand and use of clean cooking required to put SDG 7 within reach. Over the next few years, the UIL will build, test and refine its insights generation capabilities, and work with stakeholders across the industry to roll-out cost-effective clean cooking solutions that address people's needs.

**Join us on the UIL's ambitious journey to 2030.**

2024

Pilot customer centricity initiative

Test insights generation model

Build customer insights service

Prototype knowledge hub

Launch clean cooking subsidy design principles

2025

Launch industry-facing knowledge hub

Catalyze new solutions using UIL insights

Build predictive model for clean cooking technology adoption

Prove case for customer centricity to investors

Scale customer insights service for the industry

2030

Clean cooking industry competes on customer experience

Multiple new solutions in the market based on UIL insights and partnerships

Substantial increase in demand and sustained use of clean cooking



# UIL Funders



# Get In Touch

For more information or partnership opportunities, contact us:

▶ **Email**      [userinsights@cleancooking.org](mailto:userinsights@cleancooking.org)

▶ **Website**      [www.cleancooking.org](http://www.cleancooking.org)

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