



# EnDev: Stirring change through clean cooking

Lessons and insights from 20 years of implementation



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### ACRONYMS AND ABBREVIATIONS

CO2	Carbondioxide
COVID	COVID-19 (Coronavirus Disease 2019)
EnDev	Energising Development
GCF	Green Climate Fund
GeCCo	Global Electric Cooking Coalition
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HERA	Poverty-oriented Basic Energy Services
ISO	International Organization for Standardization
M&E	Monitoring & Evaluation
MSMEs	Micro-, Small and Medium-sized Enterprises
RVO	Rijksdienst voor Ondernemend Nederland
SDG	Sustainable Development Goal
SDG 7	Goal 7 of the Sustainable Development Goals (Affordable and Clean Energy)
SEforALL	Sustainable Energy for All

## FOREWORD

# Dear Readers,

One lesson has stayed with me over the years: **access to modern cooking solutions is about far more than stoves or fuels.** Its real significance becomes visible in everyday life. Clean cooking reduces harmful smoke in homes, improves health, contributes to lowering CO<sub>2</sub> emissions, and saves time that would otherwise be spent collecting firewood. These changes create opportunities for education, income generation, and greater economic participation, particularly for women.

Over the past twenty years, EnDev's work has continually reinforced this lesson. Through our efforts, **26.1 million people have gained access to modern cooking solutions.** Beyond these numbers, however, two decades of implementation have deepened our understanding of what it takes to expand access to clean cooking at scale.

Yet the need for progress remains urgent. **Around 2.1 billion people worldwide still lack access to clean cooking solutions,** and global progress remains too slow. Without sustained action, projections suggest that only 75% to 83% of the global population will have access to clean cooking fuels and technologies by 2030, falling short of the goal of universal access under Sustainable Development Goal 7.

Experience has shown us that sustainable progress requires more than introducing improved technologies. Solutions must reflect how people cook and the economic realities households face. **Lasting change therefore depends on functioning markets that make clean cooking solutions available, affordable, and desirable.** Public programmes can cat-



**EnDev has proven that cooking is an opportunity rather than an issue: sustainable markets can serve the need for clean cooking technologies – at the same time creating jobs, attracting investors, and increasing livelihoods for women and children.**

– Alexander Haack  
Programme Director EnDev

alyze progress, but long-term transformation happens when private actors invest, supply chains develop, and policies create the conditions for innovation and scale.

These insights have emerged from a partnership that has evolved significantly over time. What began as a collaboration between Germany and the Netherlands has grown into one of the largest energy access programmes worldwide. As a multi-donor partnership, **EnDev has been able not only to support access to energy but also to continuously learn and adapt its approach when needed.**

Capturing and sharing lessons from these two decades of implementation is therefore essential. **This report brings together insights from EnDev's work across more than twenty countries,** highlighting approaches that have proven effective, reflecting on challenges encountered along the way, and drawing on the experiences of partners, implementers, and practitioners who have shaped the programme over the years.

One conclusion stands out clearly: **clean cooking has moved from a niche-topic to the center of political attention.** EnDev has proven that cooking is an opportunity rather than an issue. Sustainable markets can serve the need for clean cooking technologies – at the same time

creating jobs, attracting investors, and increasing livelihoods for women and children. I invite you to build on these lessons with us — so that together we can bring modern cooking within reach for millions more in the years ahead.

Alexander Haack  
Programme Director EnDev

**Video** Why energy access matters?

Watch our 20 years anniversary video. [↗](#)



**Web** EnDev 20 years anniversary

The lessons in this publication are informed by best practices and human impact stories from 20 years of implementation. Visit our 20 years anniversary page to learn more. [↗](#)



INTRODUCTION

# The cooking energy transition is here

**EnDev has spent 20 years tackling one of the toughest challenges in sustainable development: how to make clean cooking work everywhere, for everyone.**

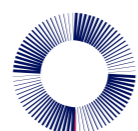
Preparing food is a shared human experience, and a daily task that is full of choices to make. Some choices lead to substantial improvements in cooking: safely making a meal, using a minimum of firewood or charcoal or another fuel source altogether, and keeping the air clean and healthy. However, one quarter of the world's population still lack access to improved, clean cooking options altogether.<sup>1</sup> These households continue cooking in the only ways they know or can. Feeding open fires that waste about 90% of the energy generated, they pay high prices in labour or income for load after load of wood and charcoal. There is a long-term cost to their health and wellbeing, and there are consequences for the whole world: continuing cycles of deforestation, pollution, carbon emissions, poverty, and inequality.

EnDev has shown that the cycles can be broken. The programme launched in 2005 as a broad strategic partnership to increase access to modern renewable energy, including cooking energy. In 32 countries, donors including the governments of Germany, the Netherlands, Norway, Switzerland, and the United Kingdom have enabled two principal implementers, Germany's GIZ and the Netherlands' RVO, to kickstart cooking energy and electrification markets.

Through the years, EnDev has changed millions of households and lives for the better and made a global impact in the clean cooking sector. All along the way, it has generated a deep knowledge of clean cooking action and how it can become the catalyst

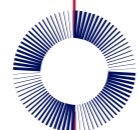
for a lasting cooking energy transition. This report shares the successes and the learning outcomes of EnDev's clean cooking efforts. It combines interviews with implementers and partners, past and present, with examples from many countries to illustrate what a cooking energy transition looks like.

**Achievements in clean cooking energy access**



**26.1 million people**

have gained access to modern cooking solutions.



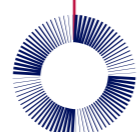
**46,900 MSMEs**

have turned clean cooking into green livelihoods.



**21,170 social institutions**

have deployed clean cooking in their canteens and kitchens.



**2.9 million tonnes of carbon emissions**

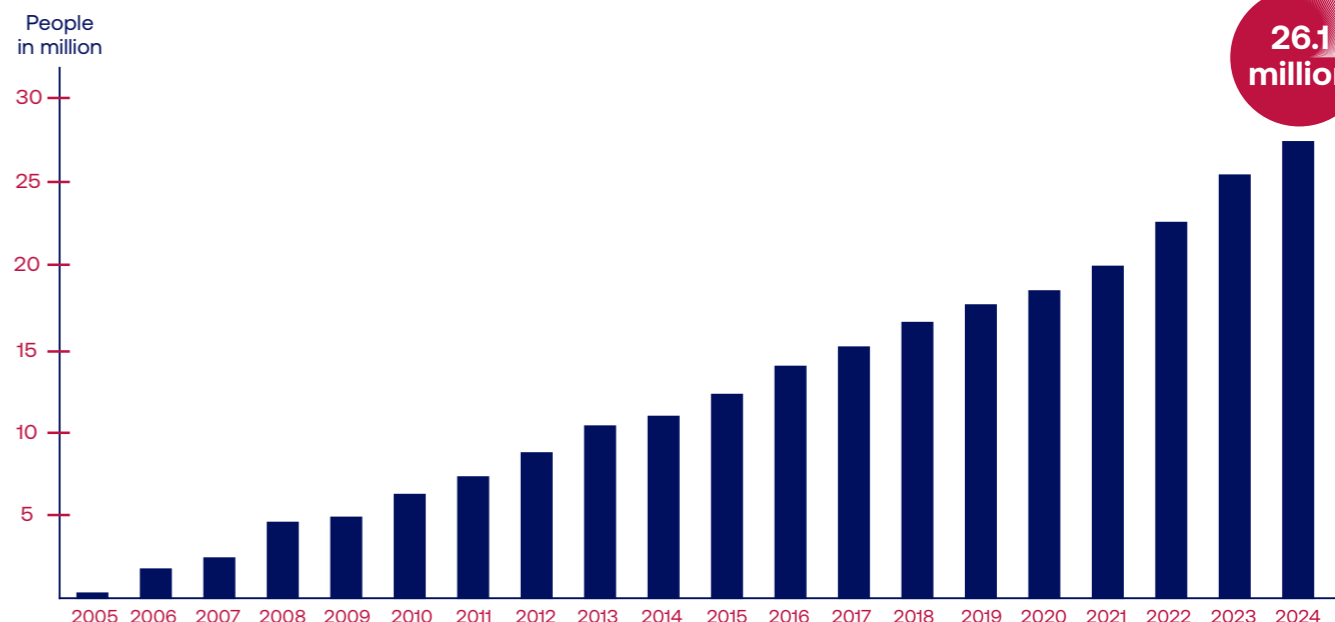
have deployed clean cooking in their canteens and kitchens.

\*All figures are by end of 2024

**Change by the millions**

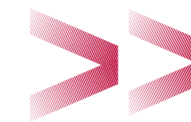
The seed of EnDev's enduring progress lies in a partnership with a very clear goal. The partners first committed to provide 3.1 million people with sustainable access to modern energy services between 2005 and 2009. The access could either be to cooking or electrical energy, and it could be achieved in any way, as long as it was within a budget of €20 per person reached. Integrating clean cooking and electrification in a single goal was a novel idea for a major international programme, and the idea would spread in the years ahead.

**People with sustainable access to clean cooking through EnDev activities**



We decided, okay, let's create a kind of competition between the different country projects – competition in a positive sense. We would start financing different energy activities, and would make it quite clear that if they achieved outcomes at a cost of €20 per person, we would continue. If they were even more cost efficient, we would increase the budget. We started with a small amount and then we saw what worked.

– Carsten Hellpap, freelance consultant and former EnDev Programme Manager



We were able to operate in this global programme, with one global budget and one global target. But underneath, we were flexible. We could flexibly use this money, could shift it between technologies and approaches within a project, but also between projects. And of course these changes were not just based on spontaneous ideas but based on monitoring, which was quite detailed.

– Andreas Michel, EnDev M&E Specialist, GIZ

<sup>1</sup> Tracking SDG7: The Energy Progress Report, 2023 data



### Infobox | Improved cookstoves (ICS)

Improved cookstoves are designed to burn biomass fuels like wood or charcoal more efficiently than traditional cookstoves or open fires. On top of saving fuel and money, improved cookstoves also produce significantly less smoke, improving air quality in the home and leading to an overall improvement of health in users, with fewer eye infections and respiratory diseases.

### Infobox | Poverty-oriented Basic Energy Services (HERA)

HERA was a sector project implemented by GIZ on behalf of the German Federal Ministry for Economic Cooperation and Development between 2005 and 2017. HERA was the principle advisory project to EnDev when EnDev started. The cooking energy approach was co-developed, the monitoring framework was co-created, and country backstopping was supported by HERA.

### A rising global aspiration

In 2015, during EnDev's second phase, the world agreed on the Sustainable Development Goals (SDGs). Countries collectively focused on affordable and clean energy (SDG 7) and committed to ensuring universal access to affordable, reliable and modern energy services by 2030 (Target 7.1). For the first time, a global target called not only for energy access but also for a "primary reliance on clean fuels and technology". This applied to cooking as well as to access to electricity.

With this grand multilateral aspiration backing up EnDev's continuing work, the energy transition gained speed. As before, EnDev held each of its activities to specific success criteria, seeking evidence on what could catalyse market-driven change at the scale demanded by the SDGs. This has been EnDev's way of breaking out of the cycle that, for decades, has kept clean cooking action from living up to its life-changing potential.



EnDev had – and still has – a very unique design: It was the first international programme that combined access to electricity and access to clean cooking, and therefore really serves and contributes to the entire SDG Target 7.1. It increases the proportion of population with access to electricity as well as with access to clean fuels and technologies.

– Verena Brinkmann, EnDev Clean Cooking Lead, GIZ

Another decade has seen EnDev forge ahead from the launch of the SDGs to the programme's most significant achievements. EnDev has reached millions more households, small enterprises, and social institutions with clean cooking access – but that's not all. It has also aided the development of the key global framework for defining clean cooking access quality and the standard for testing cookstove performance. It has brought climate-friendly cooking to the pursuit of countries' climate commitments and international action under the Paris Agreement. It has innovated with greater focus on the cleanest technologies, including electric cooking, while simultaneously striving to reach the most isolated and marginalised households. Critical momentum has built up behind the cooking energy transition and it won't end here.

### The learning behind the doing

The six sections of this report explore the major points of learning from EnDev's long story. Section 1 reflects on the importance of keeping clean cooking on the **global agenda** – a constant task that is also a constant reminder of what's at stake for the 2.1 billion people who still need access to clean cooking. Section 2 considers **cookstoves as devices** embedded within markets and energy systems. Section 3 shares

experiences with the central challenges of **behavioural change**. Section 4 tells the years-long story of establishing a framework of **clean cooking tiers**, and learning that clean cooking action is not always a race to the top tier. Section 5 reflects on the centrality of **local actors** in every cooking energy market. And section 6 looks to a new horizon of **electric cooking**, which unites the two components of EnDev and links this publication with its companion report, **Lessons from 20 years of electrification** [↗](#).





LESSON 1

# Cooking energy needs prioritisation on the global agenda – and national efforts are required to achieve this

**Clean cooking is a moving target on the global agenda: it answers so many different sustainable development needs that, paradoxically, it can risk ending up as nobody's priority.**

Through the 1990s and into the 2000s, improved cookstove advocates primarily spoke about protecting biomass resources and forests by reducing household requirements for firewood and charcoal. A further strong motivation was to reduce gender inequality by improving the lives of women, who are the main users of open fires and wood fuel. During the 2000s, a third narrative rose to prominence: averting the health damage of indoor air pollution caused by inefficient and polluting cooking. Such a concern typified the era of the Millennium Development Goals, which included highly visible goals on health but none on energy access.<sup>2</sup>

The 2010s brought the SDGs and the Paris Agreement. With the SDGs, focus moved again to achieving universal energy access including access to clean

cooking. With the Paris Agreement, it settled on how efficient cookstoves could mitigate CO2 and black carbon emissions on national scales. African governments and leaders substantially ramped up action, and in 2025, collectively declared access to clean cooking to be a top priority for the continent at the 38th Ordinary Session of the African Union.

### Bring clean cooking to the main stage

Each of these priorities has built on what came before; notably, none have been arguments against the importance of clean cooking. EnDev also joined and contributed practical experiences to the international debates, keeping clean cooking on the agenda at every step. The different priorities met by clean cooking could be seen in how EnDev communicated its successes, and to whom, and the partners it sought. Indeed, it was work done by EnDev and its partners in the clean cooking space that shaped the SDG 7 targets, taking the agenda farther than ever before.

### The evolving conversation around clean cooking



<sup>2</sup> Although none of the eight Millennium Development Goals (2000–2015) specifically addressed energy, access to sustainable and clean energy was important for progress on all the goals, and this was acknowledged in key documents such as the 2010 General Assembly resolution “Keeping the Promise: United to Achieve the Millennium Development Goals”



### Senegal | Building an improved cookstove industry since 2006

EnDev has supported improved cookstove producers in Senegal since the very beginning, and much has changed. In 2006, EnDev teamed up with the government to train artisanal manufacturers, at a time when there were only around 6,000 improved cookstoves sold per year. That first year, EnDev reported that recent adopters were now collecting less firewood and women were reclaiming time for other activities. Seeking impacts at scale, EnDev soon transitioned into professionalising artisanal manufacturers to produce more and higher-quality improved cookstoves, providing the best-performing manufacturers with tools and training. The proof of concept led to the launch of a significant partnership with the Green Climate Fund (GCF) in 2020, which created a whole cohort of professionalised improved cookstove entrepreneurs. Along with the industry, the goal too has grown: EnDev and GCF aim to meet Senegal's national commitment to reducing greenhouse gas emissions from cooking under the Paris Agreement.



Clean cooking is something that EnDev has, with true consistency, kept elevating, including through our collaborations launching the Global Electric Cooking Coalition (GeCCo) at COP28, and now clean cooking is in a totally new sphere. Some years ago, clean cooking was at best a basement discussion on day three of any event. Now it is often a main stage topic.

– Mikael Melin, Director, Partnerships & Development, Sustainable Energy for All (SEforALL)



**Refocus, react, and respond with outcomes**

Working across so many countries was a distinct advantage for a long-running programme. With it came flexibility; on the highest level, the flexibility to focus on countries as and when priorities and needs rose on the global agenda. Wherever it was working, EnDev consistently kept working in the clean cooking space and never let it become an orphan issue – certainly not with EnDev’s donors and partners. Within each country there was also flexibility to react to needs as they arose, including totally unforeseen events that could upend priorities overnight. EnDev’s flexibility around priorities was made possible by what didn’t change: its outcome orientation, which could always back up the need for clean cooking action with tangible evidence that it was bringing change for the better.



**EnDev can react very quickly to changing environments. When COVID hit, our focus shifted almost overnight to entirely new questions: how to support the health sector and how to help companies that could no longer sell stoves. What is truly special is the flexibility we have, together with our donors, to respond to unexpected needs.**

– Barbara Richard, EnDev Team Leader, GIZ



**EnDev adapts its clean cooking approach to fragile contexts by strengthening local producers, fostering partnerships with community organisations, and engaging the private sector – for example in Mali – ensuring sustainable and safe solutions can reach communities even in challenging settings.**

– Amadou Sidibe, EnDev Mali, GIZ

**Remember the ‘why’ beyond the trends**

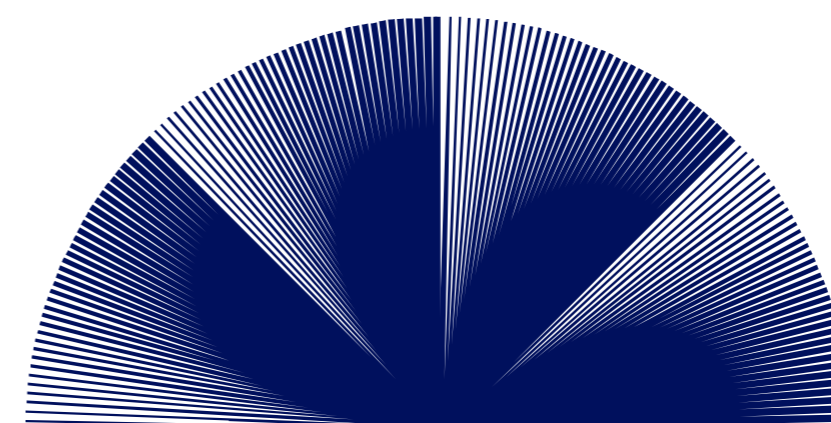
The pivots in narrative have kept the essential cooking energy from being overshadowed by more public, exciting, and usually male-dominated arenas of energy use. EnDev has insisted for 20 years on the promises of affordable, reliable and modern cooking energy services, and on cooking as a centrepiece of achieving SDG 7.

Because a quarter of the world’s population still lack access to clean cooking – as of the 2025 Tracking SDG7 Report – it can’t stop here. All the motivations that have been used to push for clean cooking are still real and important. No matter how the agenda shifts, evidence shows that clean cooking can improve livelihoods, save forests, save human lives, increase women’s agency and enhance gender transformation, reduce carbon emissions, and more. All of these reasons guide EnDev’s ambition, approaches, the choice of technologies, and the outcomes it pursues. Emphasising the importance of clean cooking is important, but so is ensuring that cookstoves and market models deliver on all their promises.



**As the focus on the energy transition – especially renewables and electrification – grows, the side of the energy transition that causes millions of deaths each year – cooking with dirty fuels – continues to receive less attention. I am proud that EnDev continues to address this challenge and even brings these two facets of the transition together by playing a role in catalyzing markets for electric cooking.**

– Jelena Popović, EnDev Coordinator, RVO





LESSON 2

# Cookstoves must be technologically and commercially viable solutions – **embedded in energy systems**

**Is cooking energy all about the stove? Countless past initiatives to improve the cooking situation have put their emphasis on technology engineering and handed out the most innovative, efficient, low- or no-emissions cookstoves to households. Historically, that has not been enough by itself to change cooking on the scale required.**

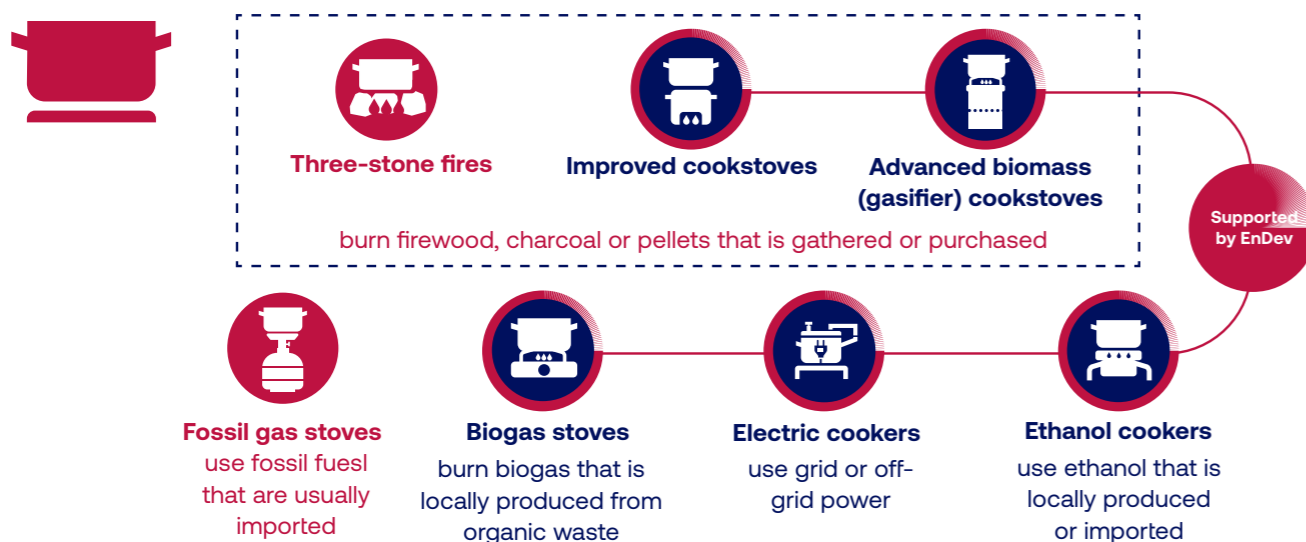
EnDev committed in 2005 to increase clean cooking energy access sustainably for millions of people, and it couldn't afford to repeat old mistakes. A shift on that scale would only happen once improved cookstoves were available, commercially viable, well-serviced products on the market. Any household should be able to get one, on easy terms. Such an understanding is why EnDev focused on supporting markets for those who were not connected to any form of modern cooking energy that they could realistically access and keep accessing. Developing such markets has proven to be the central engine of EnDev's impact.



EnDev was started in a context where markets for decentralised renewables and clean cooking solutions were in a nascent, pioneering stage. There was little technical capacity in the market, systems for management, customer relations, after-sales service, government regulation all needed to be built... EnDev's work was very influential in helping to build all this.

– Frank van der Vleuten, former EnDev board member, Ministry of Foreign Affairs (Netherlands)

### Cooking devices and energy systems



### Senegal | The interconnected business of smoking fish

The Nopalé oven is a specialised cooking technology with one job: smoking fish. EnDev made it available to women's groups who process the daily catch of artisanal fishers. It uses 85% less wood than open-air smoking and keeps the air clean. The smoked fish is higher in weight and quality, connecting groups with a more rewarding market. The women are setting aside some of the profits for savings and microfinance, including to maintain the ovens. For commercial users like these, the market isn't just a place to buy a stove but a source of connections, growth, and financial empowerment.

[Read more](#)

### Infobox | Results-based Financing (RBF)

RBF is typically used to overcome market barriers. In the cooking energy sector, these could be hard-to-reach target groups, specific higher-tier solutions, or certain desired impacts. Under an RBF arrangement, EnDev releases funds (incentives) to an energy supplier when certain agreed-upon conditions and results are reached and independently verified. A result may, for example, be a specified number of people gaining access to a certain type of technology. Energy suppliers are free to decide how best to achieve results, thereby encouraging innovation and competition. EnDev has deployed more than 70 RBF mechanisms since 2013, with more than 30 related to cooking energy.

In 2025, EnDev reviewed its RBF experiences in the report [EnDev: Driving Change through Results-based Financing](#).

In a sector where securing any form of finance is difficult, RBF is a targeted solution for cookstove companies – and as the name promises, it supports results. RBF can provide access to finance in two ways: directly, through grant-based funding given to the business partner; and indirectly, by acting as a leverage factor for additional commercial financing where the RBF can serve as security. On the impact side, RBF has expanded clean cooking markets to more rural and marginalised households, refining the balancing act of helping markets grow in the right directions without distorting them. The outcome is sustainable markets that keep cookstoves available, affordable, and maintainable.



### Make results-based breakthroughs

A new, efficient, and cost-saving cooking technology can change the market. So can a clever instrument that's independent of any one technology. Results-based Financing (RBF) has substantially changed the trajectory of cooking technology markets in the 12 years since EnDev first tried the approach, originally under a 14-country UK aid partnership called the RBF Facility. After the donor brought the idea in, EnDev picked it up and became the key initiator of RBF in the cooking sector, turning what was essentially a large pilot into a trademark tool that has garnered wide attention and replication.

I look at the EnDev team as people we can reach out to on different technical aspects. For instance, 'How does Results-based Financing work in this model or that model?' – as we refine our projects or think about new projects.

– Monojeet Pal, Manager - Clean Cooking and Energy Efficiency, African Development Bank



### Give low emissions a low sticker price

A number of other innovations have helped the market on its way. Pay-as-you-go (PAYGO) approaches came out of Africa's mobile money revolution of the 2000s, early in EnDev's lifetime. From early days this approach proved suitable to cookstoves, making clean cooking affordable for lower-income households that would seldom have the cash to buy the products outright.

#### Infobox | Pay-as-you-go (PAYGO)

The PAYGO digital payment model has become popular for cooking and other energy technologies in Africa. Rather than paying the full cost of a technology up-front, a household makes regular small payments as they use it, usually through mobile money platforms and/or when purchasing fuel. PAYGO aims to lower financial barriers for households with very limited cash on hand.

More recently, EnDev has incorporated Demand-Side Subsidies (DSS) alongside supply-side RBF, in balanced and innovative combinations. With DSS, a

results-based bonus is offered to cookstove distributors, but the companies must pass this on to low-income customers by reducing the purchase price of the technology. With a low enough cost, even very poor households can purchase clean cooking solutions. But like supply-side RBF, the level of DSS, and its balance in the mix of support, must be calculated with care to avoid intervening so much that the market collapses when the subsidy is removed.

#### Infobox | Demand-Side Subsidies (DSS)

DSS overcome the barrier of affordability by directly reducing the price of energy products for targeted consumers, enabling access to marginalised and low-income groups – ensuring that no one is left behind. However, to avoid market distortion, ensure ownership and preserve long-term sustainability, such subsidies must be carefully designed. To explore this relatively new cooking energy market instrument further, EnDev has launched a DSS component with pilots in Liberia, Malawi, Niger, and Uganda.

### Take the systemic viewpoint

Along with developing markets, EnDev has also seen its role as enhancing the entire cooking energy system, seen from a holistic and integrated perspective. In this view, the cookstove is just one crucial component. A cooking energy system includes the energy source (fuel), the cooking device (stove), and the service it provides (influenced by the user and the kitchen). In different countries and contexts, EnDev has opted to focus on improved biomass, biogas, and electric cooking systems while also venturing into ethanol and pellet gasifiers. Fuel availability, fuel and stove cost, efficiency, emissions, and user preferences – all play into these choices, and if the whole cooking energy system fails to work sustainably, the approach has to change.

Grounded monitoring has always been a core enabler of such a systemic view, and enabled EnDev to confidently estimate the actual adoption and use of stoves. In the early years this meant walking around with pen and paper, speaking with stove owners and ticking boxes. Monitoring has been upgraded constantly with sophisticated digital tools that made it possible to understand the state of the whole energy system, and the precise balance of support that would build sustainability for local actors.



**Before we focused a bit more on the technology. The logic was if we only have the right product then eventually it will sell. So, we'd focus on no smoke from the cookstove, high efficiency from wood, or asking ourselves what kind of stove do women actually need? This already created a lot of impact. But now we also look at what these clean cookstove enterprises need to succeed and to grow.**

– Jan Cloin, former EnDev Coordinator, RVO



### Sierra Leone | Westwind Energy cooks up a storm

After losing her mother to a smoke-related illness caused by indoor air pollution, Hannah Max-MacCarthy partnered with the entrepreneur Tapsir N'Jai to found Westwind Energy in 2012. More recently, Hannah started collaborating with EnDev, and the possibilities of scaling up really began to take shape. She recognised that Westwind needed to evolve beyond handmade cookstoves. EnDev helped the company semi-mechanise processes, enhance efficiency, and ramp up production. In 2024, Westwind received the Clean Cooking and Building of the Year Award at the ECOWAS Sustainable Energy Forum.

 [Read more](#)



## LESSON 3

## Behavioural change is a complex and fundamental process – which can't be treated as a simple add-on to cookstove sales

**The way people use technology is made up of everyday practices. There's no better time to see that in action than during cooking. EnDev, like many other clean cooking actors, has found that switching practices is never as easy as unboxing a new stove: lasting behavioural change is something deeper.**

Therefore, stove sales matter to EnDev, but only as day one of a longer process. The use, adoption, and ultimately maintenance and replacement of devices are equally important concerns. Often, these necessitate substantial behavioural changes in cooking habits and practices.



**Access to energy didn't mean access only for today or even the next few years, but for many years to come. Which means besides outcomes, impact and sustainability also became critically important. And that, in this sector, was not an easy task.**

– Marcel Raats, former EnDev Coordinator, RVO

### Respect cooking needs and cooking reality

There are many ways in which cooking reality may not align with the plans of a programme like EnDev. In reality, cooks use different types of stoves and fuels in parallel, intending to meet their daily cooking needs. The so-called “stacking” of traditional stoves and fuels alongside higher-tier devices interferes with intended fuel savings,

but it is common sense for a cook. If the stack includes an improved cookstove, the promised health gains may fall short without other changes – for example, smart ventilation to lead health-affecting pollutants out of the home and reduce the exposure of the cook.

In reality, the design of modern and more sophisticated cleaner-burning stoves may also require changes in cooking practices, which may conflict with the preferences of the cook or the whole household. Cooking with laboriously gathered firewood on an open fire may seem “free” – if the labour of the person who gathers it isn't valued in economic terms or is even valued positively in social terms.

In comparison, a new technology may look expensive, and cost-benefit analysis may underly different paradigms. Or in the end, a different way of cooking may just make meals taste different. Devotion to the traditional wood-fired or charcoal-fired taste of a dish has stood in the way of many a clean cooking effort.

Given all of these real-world factors, a comprehensive view of a stove's impact has to look beyond its technical performance. Impact includes how the stove integrates into daily life and serves the cooking needs in the local setting, affecting behaviours along the way. Clean cooking gains are real and lasting when enthusiasm for new cooking practices is as strong as enthusiasm for a new stove.



### Look for cultural change

EnDev has come to see how the simple act of cooking sits atop very large processes of cultural change. The processes are especially noteworthy in countries that are urbanising and where people's daily activities and livelihoods are shifting. All of that change comes out in how people feed themselves and each other. EnDev therefore looks past sales targets to understand barriers and drivers concealed in things like habits, gender roles, and community norms. Its cultural and behavioural change work leads to dialogue through schools, religious institutions, and councils. It inspires radio dramas and village roadshows, reaching key rural audiences. It also brings in peer educators, including men, who can challenge each others' preconceptions around cooking as “free” women's work.

### The most impactful behaviour change instruments for clean cooking

Case studies show that the most impactful instruments to promote cooking behaviour change are:

- 1 Peer-to-peer initiatives
- 2 Demonstration meetings or sites
- 3 Trustworthy advocates and influencers
- 4 Wide communication: radio, TV, road shows, billboards, fairs
- 5 Trainings and after-sales services
- 6 Narrow communication: flyers, catalogues

... and success is affected by the gender sensitivity of the instruments, which should sometimes align with gender norms, and other times be disruptive.



[Read more](#)



### Burundi | Local media lights up a clean cooking revolution

Across Burundi, women are rethinking how they cook and switching from open fires to cleaner, more efficient stoves – thanks to an innovative and integrated campaign. Local media, especially radio interviews, have proven to be powerful and cost-effective tools in the country's rural districts. Combining these media campaigns with in-person demonstrations and roadshows has really built trust and accelerated adoption. And supporting and showcasing local entrepreneurs, especially women, has further strengthened market sustainability and community ownership. Nearly 275,000 improved cookstoves have been sold countrywide as a new culture of clean cooking takes hold.



[Read more](#)

Sustained success lies in finding the right avenues to turn a technology into cultural change. Doing that often means a combination of approaches in a single behaviour change campaign, all centred on the barriers and drivers identified among a group of potential stove users. In the great majority of cases those stove users are women, and true cultural change in this sector must be part of a larger gender transformation. Women should have choice, voice, and control over the use of energy, and they need to overcome structural barriers to thrive in enterprises. At the same time, men will have to change their behaviours and participate in more household activities.



We wanted to start from what is happening on the ground, and then see what can be done in terms of gender, to reach the overall gender goals and at the same time, contribute to the overall programme goals... The country programmes started to think of gender transformation as not as something that stands on its own, but that's fully integrated with everything in their work.

– Soma Dutta, Senior Technical Advisor, ENERGIA, and author of the EnDev Gender Strategy

EnDev has always worked to reduce cooking and fuel collection workloads and the health impacts on women and girls. It has used gender training to sensitise about social norms and the potential gains of gender transformation. It has strengthened female entrepreneurs, created jobs for women, and held targeted training for women in different roles along the cookstove value chain. In 2022, it made the aims of gender transformation clear in a **Gender Strategy** developed with ENERGIA, followed by country-level Gender Action Plans. These have centred a commitment that vaults the conversation about change from questions of cooking to questions of equality, choice, and leadership.

### Malawi | Men in cooking break with tradition

Malawi was one of the EnDev country teams to develop a Gender Action Plan in 2023. The plan was their way of operationalising the global Gender Strategy, in both its gender-responsive and gender-transformative aspects, into project implementation with targeted activities and indicators. As a key step, the “Men in Cooking” campaign here and in Tanzania engaged men in cooking practices and facilitated dialogue among couples to shift traditional gender roles in household energy use. By actively including men in these discussions, the campaign has fostered a more equitable division of responsibilities alongside the adoption of clean cooking solutions.



### Cambodia | A community-led clean cooking shift

More Cambodians have taken collective action on smoke and air pollution since EnDev, through its implementing partner SNV, rolled out the Smoke-Free Villages approach in 2020. Its community-based behaviour change communication encouraged villagers to imagine a shared future of clean cooking. While each household received the information it needed to make a decision about changing stoves, community-led action was crucial in fostering a collective desire to shift cooking norms. Better health was the primary driver of change, followed by saving money and fuel. By the end of 2023, 73 villages across Cambodia were declared smoke-free.

 [Read more](#)

### Make users into influencers

While behaviour change is a process, it is not a predictable A-to-B process. EnDev begins many behaviour change activities with a consumer behaviour assessment, then uses this as the basis for a theory of change, and eventually a behaviour change strategy tailored to the local context. However, this seemingly linear approach has to be open and dynamic as early technology adopters themselves take the reins. They become the ultimate influencers and their priorities are definitive.

Whatever the channel, effective communication proactively highlights the benefits and convenience

of clean cookstoves, while simultaneously clarifying the negative impacts of traditional cooking. It speaks to the perceptions and concerns of users, and ideally it equips them to speak to others. Often, the most immediate benefits that grab users' notice are time savings and fuel savings, convenience, and cleaner, more appealing kitchens. All of these are powerful benefits that have led to a significant uptake of clean cooking behaviours. The results can be seen in the final outcome: enthusiastic long-term adoption of a clean cooking technology, with all its promised social, economic, and environmental gains. Then, the complex process of behaviour change becomes just as worthwhile as the technological innovation itself.



## LESSON 4

# Access quality and tiers of performance are important – and every tier remains important for someone

Today the cooking energy sector is abuzz with talk of tiers. Institutions and companies are eager to roll out higher-tier access with the transitional concept of a multi-dimensional and multi-tier rating system in mind. That wasn't the case 20 years ago: then, households were either cooking with “non-solid fuels” or “solid fuels” – a binary metric that was associated with “clean cooking” and “polluting cooking”.

EnDev was there for the earliest discussions about access quality tiers, which continued for years before concluding in the 2019 finalisation of the **Multi-Tier Framework (MTF) for clean cooking**. During these years EnDev designed its own Cooking Energy System model as a programme-level methodology. Its experiences informed the MTF through its continuous participation in the collaborative design and development process. All of this finally resulted in the multi-tier indices, which determine intermediary stages of energy access, capturing the continuum of improvement that various technologies provide. Thus EnDev had a chance to refine cooking quality metrics beyond the binary of access/non-access, for its own reporting and, ultimately, for the whole sector.

### Infobox | Higher-tier cooking (HTC)

EnDev is currently prioritising HTC solutions – cooking practices that are cleaner, more efficient, more convenient, and safer than traditional methods. Solutions qualify as HTC if they achieve Tier 3 or higher in the definitions of the Multi-Tier Framework for clean cooking access quality. HTC technologies often also rate high on the ISO standards for clean cookstove performance.

It worked closely with the World Bank's Energy Sector Management Assistance Program (ESMAP) and the World Health Organization to set levels for the smoke exposure, efficiency, safety, convenience, availability, and affordability of cooking systems at the five tiers of the MTF.

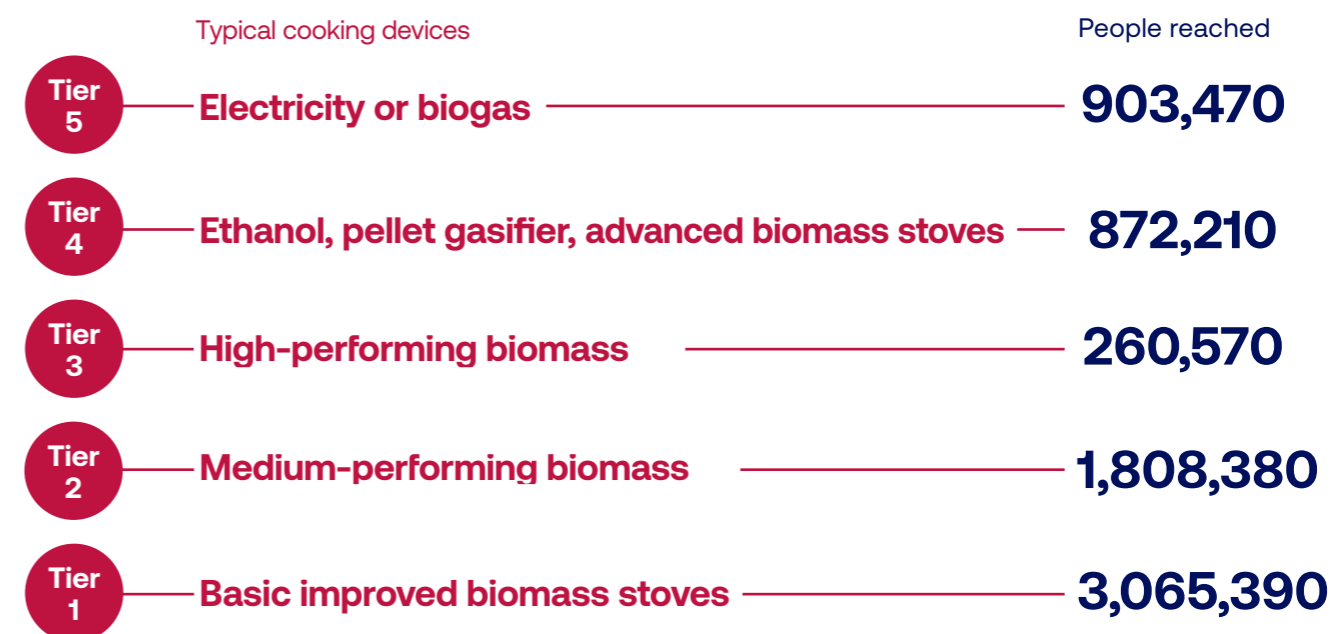
Higher-tier access, with cutting-edge efficiency and the lowest possible emissions, also requires a proper understanding of cookstove performance. For this, EnDev brought its field experience into the international development process to derive the ISO standards and guidance for testing and rating cookstoves. It continues to be part of the ISO technical committee “Clean cookstoves and clean cooking solutions”.

### With higher-fidelity metrics, come higher ambition

The MTF was a breakthrough in the urgent task of coming to an internationally shared understanding of how to measure energy access. It was also a way to ensure all actors are talking about the same thing when working in different countries and contexts with different cooking energy interventions. Tiers have made it possible to describe the state of national and international progress in energy access with the necessary differentiation and granularity. Beyond “solid fuels” and “non-solid fuels”, the MTF describes exactly how many households are associated with which access tiers based on a full assessment of cooking energy systems. Today, EnDev prioritises higher-tier cooking (HTC) and has made enormous progress transitioning households to the highest access quality levels. The progress was achieved by more than a million people adopting eCookers, ethanol and biogas stoves, pellet gasifiers, and biomass stoves that rate Tier 3 or above.



### The five tiers of clean cooking and EnDev's reach since 2005



### But don't abandon biomass at lower tiers

Nevertheless, there are still vital needs for improved biomass cookstoves of Tiers 2 and 1, and EnDev continues to reach huge numbers of people with these – 1.7 million in 2024 alone. Why does EnDev still work at these lower tiers? There are many reasons. Improved biomass is an easy and fast-to-deploy transitional technology at a relatively low cost and does not bring additional costs to users in the long run. It is compatible with established cooking methods, so behavioural changes are minimal. Biomass stoves can be stacked with HTC solutions for a combined positive impact. They can be produced and repaired by local companies. And last but not least, lower-tier clean cooking remains important because EnDev is following a dual commitment: promoting HTC, but also striving to leave no one behind.

#### Infobox | Leaving no one behind (LNOB)

When countries agreed on the SDGs in 2015, they pledged that “no one will be left behind” in sustainable development. The LNOB principle means that everyone should benefit from access to energy. EnDev therefore works actively to include people who are often left without energy access due to poverty, discrimination, displacement, or geographic location.

Ingenious locally produced cookstoves can still change lives in the poorest, most remote communities, and for people living amid conflict and displacement. EnDev continues to champion the inclusion of improved biomass cookstoves in the access quality tiers. After all, the availability and affordability of other technologies remains limited; open-fire cooking is still widespread among the world's most vulnerable and marginalised; and real progress can be made by bringing accessible alternatives on the market.

In fact, with a target of reaching 1.7 million more people in LNOB groups between 2023 and the end of 2026, EnDev is doubling down on these efforts. It is

collaborating with more humanitarian organisations and communities in fragile contexts. It is deploying pro-poor mechanisms like DSS where commercial markets fall short in delivering affordable products. Country teams are specifically aiming to reach ethnic minority and other marginalised populations, very poor and remote communities, and woman-headed households with clean cooking at the right tier.

#### Liberia | Fuelling change in the school kitchen

In a Liberian school, Fatu Debah, the school cook, keeps two large pots bubbling steadily on improved stoves. The stoves are part of EnDev's collaboration with the World Food Programme to upgrade 100+ schools in underserved communities receiving food assistance, with hopes of keeping the next generation from falling farther behind. Before, cooking on open fires was so inefficient and unpredictable that Fatu often couldn't get food ready by the lunch period. With the new stoves, the meal will be ready early and every student will get a nutritious meal, on time, to support them through the school day.



Each country team is expected to define their targets, and this year every single one has something on LNOB. The commitment has encouraged teams to go above and beyond to reach the truly farthest behind within their country contexts — not just assuming poverty is widespread and continuing with business as usual, but instead asking ‘who is actually not reached with energy access yet? And what can we do about it?’

– Olivia de Vesci, EnDev LNOB Lead, GIZ

#### Innovate across the tiers

When EnDev brought its LNOB target into action in 2023, it reiterated the continuing importance of Tier 1 and 2 solutions for many in these groups. At the same time, the programming cycle brought the strategic focus on higher-tier cooking as well. Country teams also competed for extra top-up funding based on their LNOB or HTC initiatives, evaluated on results achieved with the best cost efficiency. The extra funding enabled them to take on additional activities in the wake of a success. The competition sparked ongoing innovation to counter the generally higher costs of reaching LNOB households on the one hand, and supporting the market introduction of new high-tier technologies on the other.



#### Mozambique | A nonprofit-run RBF in tumultuous times

In rural Mozambique, improved cookstoves are on the market, come what may. The manufacturers have support from the Fund for Sustainable Access to Renewable Energy (FASER), set up by EnDev and managed by the Mozambican nonprofit FDC. FASER has brought marginalised and crisis-hit communities their first clean cooking technologies, while also helping the companies stay in business through multiple shocks – from Cyclone Idai, to COVID-19, to post-election unrest. Through an LNOB window, the fund is now focusing on getting clean cooking to women-headed households, families in remote areas, internally displaced persons, and their host communities.

 [Read more](#)



LESSON 5

**Local actors enable clean cooking success - even as markets and technologies proliferate**

**Local actors have been indispensable in every country where EnDev has worked. Whatever the setting, progress in clean cooking takes off and keeps going when the people who build, sell, and fix stoves are close at hand, and know their markets and their customers' traditions and needs. Much of EnDev's work from the start has prioritised local-level involvement, such as training and enabling local entrepreneurs in cookstove production and distribution.**

Existing and experienced potters and metal workers, both women and men, have a history of meeting far-flung demand for clean cooking equipment while keeping the economic benefits in rural communities.

And inevitably, with daily cooking, even the best-made cookstoves experience wear and tear. When that happens, trained village technicians are irreplaceable to keep household, institutional, and commercial cookstoves in safe working order. In remote areas the sustainability of clean cooking access is a fragile prospect without these technicians, so EnDev has supported people to get into the repair business and built their capabilities in many countries.



**I've never innovated as much as in this project... Besides the main implementation work, we did a lot of piloting on behalf of different donors. But one of the main success factors was the continuity on the ground that really made a difference. You need time for change.**

**– Anja Rohde, former EnDev Uganda project manager, GIZ**

EnDev's complementary strategic focuses ensure that it works at the top and bottom of the MTF at the same time. The programme is thus meeting the needs of many kinds of households and answering the national priorities of many different countries. EnDev and its partners are able to advance the cutting edge of efficient, clean energy systems and technologies – without leaving behind the many people who need an immediate solution to save time, resources, health, the environment, and the climate.



**Bangladesh | Santal women, stove technicians**

Women from Santal communities are shaping and sustaining the adoption of clean cooking as local technicians – overcoming their double exclusion from technical roles, as both women and members of a minority group, to become experts and leaders. EnDev made this possible along with AVA Development Society, which was already a trusted community presence as a maker of stoves. The women have thrived in their trade, with two important factors being the use of their preferred community spaces for training, and AVA's offer of low cost replacement parts.

 [Read more](#)



### Keep it local as progress takes off

Year by year in EnDev’s programme countries, the technologies advance, the markets mature, and access quality is enhancing. As this happens, the roles for local actors don’t fade away. EnDev continues to strengthen local supply and maintenance, while assisting national partners and budding enterprises to build their capacity. That means professionalising and upgrading local and national cookstove enterprises to accelerate their production and sales quality and quantity. In a short span of time they can become formal, self-sustaining, credit-worthy businesses. They can generate income and create jobs in their communities.

Local partners also remain unbeatable in leading cookstove distribution; carrying out relevant and effective awareness, promotion, and behaviour change campaigns; and ensuring impact reaches the most marginalised people, such as those living in refugee and host communities. Based on EnDev’s experiences with market approaches, supply needs to attract and meet the demand of the targeted customers – so that modern cooking solutions are adopted and provide the intended benefits to their daily users. At the start of 2025, therefore, 6,010 people were employed at the local level in the production and assembly, distribution, and sales of cooking energy technologies achieved through EnDev’s work. Markets are evolving but this much remains the same: local action is how modern cooking reaches the last mile, and stays there.

### Accelerate production by professionalising enterprises

Cost-efficiency, impact, and scale have been further ramped up from the local level by the professionalisation approach. EnDev piloted this approach before it was scaled in the associated project **Promotion of Climate-Friendly Cooking: Kenya and Senegal** (EnDev/GCF), co-funded by BMZ and the Green Climate Fund (GCF). The professionalisation approach is a performance-based support scheme to build growth-oriented supply chains for climate-friendly improved cookstoves. The objective is promotion of capable and growth-oriented local and national supply enterprises to transition to intermediate professionals and semi-industrial formalised businesses.

As the EnDev/GCF project turned local entrepreneurs into “business class companies” through large-scale market development, it simultaneously mobilised demand and the enabling environment. Rigorous monitoring, reporting, and verification of emissions reductions contributed to national mitigation targets in the Nationally Determined Contributions (NDCs) in Kenya and Senegal. The approach promises to help other governments establish their own national systems to integrate local green business achievements into carbon inventories and reporting.



### Kenya and Senegal | Climate action from a professionalising industry

The EnDev/GCF collaboration in Kenya and Senegal has brought the professionalisation approach to life in these two countries’ cookstove sectors. The emergence and strong growth of a business class of improved cookstove producers and suppliers has enabled the large-scale dissemination of improved biomass cookstoves. The resulting reduction in greenhouse gas emissions will allow both Kenya and Senegal to meet the cooking energy-related targets established in their Nationally Determined Contributions (NDCs). By the end of 2024 – a year before its completion – the project achieved its objective of tripling annual improved cookstove sales compared with 2020.

[Read more](#)

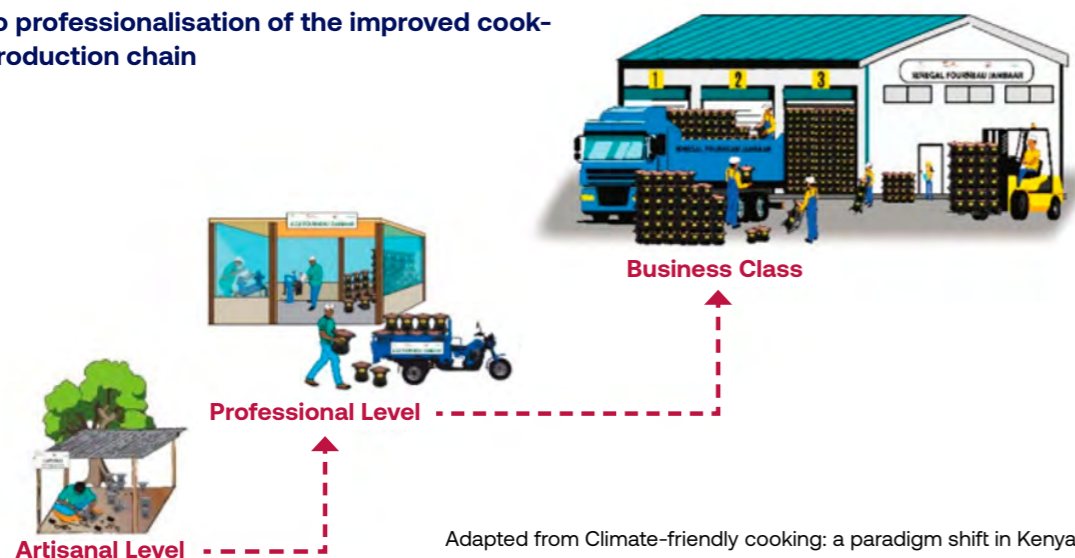
The professionalisation approach demonstrates the huge untapped potential that lies within local supply companies. Because cooking energy involves both market-based and development perspectives, it can form a compelling business and investment case. In just the last 5 years, it has led to around 60 business-class producers forming in Kenya and Senegal and signing credit agreements with commercial banks and lenders.



**We need to understand clean cooking not as a cost, but as an investment opportunity. This [EnDev/GCF] project demonstrates an African-led solution for an African challenge.**

– H.E. Lerato D. Mataboge, Commissioner for Infrastructure and Energy, African Union Commission

### Steps to professionalisation of the improved cookstove production chain



Connect local trust and national engagement  
Working locally also means working with national agencies so they can develop an enabling environment for clean cooking markets. Indeed, there's a strong synergy between partnering with local actors and partnering with national governments. Both partnerships thrive on the same resource: EnDev's time spent working at the local level. Trust, knowledge, and experience accumulate together to make EnDev a valued adviser, whether on a small enterprise's

business plan or a country's 5-year clean cooking strategy. Most of all, that trust builds on EnDev's visible achievements, which means EnDev has been strengthening partnerships, and partners, all along as its successes have built up year after year. Advice and support to governments has contributed to pivotal national policy achievements like Kenya's National Cooking Transition Strategy in 2024, Uganda's National eCooking Strategy in 2024, and Senegal's National Strategy for Clean Cooking Fuels and Biofuels in 2025.

➤➤ **Our government has a vision for clean cooking roadmap. By 2030, our target is to ensure universal access to clean cooking solutions, replacing traditional cooking practices across the country. This includes a mix of technologies such as improved cookstoves, LPG, electric cooking, biogas and other modern solutions. EnDev was making an important contribution toward the national target, particularly in areas where public resources alone were not sufficient. As a government entity, SREDA works closely with development partners, private companies and non-profit organisations. Like EnDev, we welcome all partners who are working in the same direction.**

– Eng. Ratan Kumar Ghosh, Member, Sustainable and Renewable Energy Development Authority (SREDA), Bangladesh

### Enable commercial clean cooking

Finally, all of EnDev's thousands of successes in productive use of energy (PUE) are also a credit to local actors and enterprises. In this sector, PUE means applying thermal or electric cooking energy to commercial and income-earning ends. It could be processing agricultural products, such as smoking fish or roasting cassava into gari; baking Ethiopian injera; or cooking meals and snacks for small restaurants and market customers.

#### Infobox | Productive use of energy (PUE)

PUE is the application of energy in agricultural, commercial, or industrial activities that increase incomes and productivity. The use can either be of thermal or electrical energy, with each having a large catalogue of different applications. Energy for cooking can be used to help farmers and others in the food system add value to production, cut fuel costs, and open access to higher-value markets, while also building resilience to climate change.

PUE is a way of fuelling enterprise and employment, and a way of bringing new technologies into communities. By making clean cooking visible, it inspires wider adoption – a potential engine of behaviour change. In the last 20 years, EnDev has worked with more than 46,000 MSMEs to use cooking energy for productive ends. PUE remains another area where only local entrepreneurs and groups can make change happen.

### Continuing PUE partnerships

In 2024  
EnDev partnered on  
PUE with  
**10,610**  
new MSMEs

More than  
**3,500**  
are led by  
women

More than  
**5,000**  
are cooking or  
baking

➤➤ **EnDev has been pivotal in reframing clean cooking from a basic need to a powerful economic and social driver for development, including for productive uses. By equipping local enterprises with integrated business support and de-risking market entry, we have proven that clean cooking is a profitable investment for commercial businesses, is a key contributor towards a just and inclusive energy transition, rather than only an environmental necessity.**



– Victoria Butegwa, EnDev Uganda, GIZ





## LESSON 6

# There are two sides to energy access in a household – and eCooking brings them together

In EnDev’s programme countries, most households – and, indeed, most social institutions like schools and health centres – can benefit from energy in two forms. One is electricity, to provide light, run a refrigerator, and everything else this modern wonder offers. The other is cooking energy: the fuel or energy source that generates heat in a stove under a pot. What if these two sides of energy access were one and the same

In higher-income countries they commonly are: people cook with electric appliances. And EnDev firmly believes, after 20 years of tackling both electrification and clean cooking, that the time has come for accessible electric cooking in the Global South too. Far from just another kind of stove, eCooking is a sector-bridging technology that can radically change both sides of the energy equation.



Rather than a separate stand-alone issue, cooking is such a fundamental part of day-to-day life that it obviously cuts across a whole range of different aspects of EnDev’s work, and indeed of our work – including as a massively important load for electricity.

– Ed Brown, Research Director, Modern Energy Cooking Services (MECS)

### Electric frontier



EnDev began piloting eCooking in 2020, and has since supported technologies like electric pressure cookers, induction stoves, and rice cookers in 13 countries.

### Plug the kitchen in

For people cooking in difficult and disadvantaged contexts, eCooking represents a leap to Tier 5, the top of the clean cooking MTF. That leap is boosted by the power of synergy across sectors – something EnDev knows a lot about. As electrification reaches more communities, and where power tariffs are affordable, households that formerly bought cooking fuel can save significant money by adopting efficient eCooking technologies. More demand for electricity brings electricity to more households, and that demand can ideally be met with renewable sources.

As the market ramps up, there’s also rising demand for electric cooking appliances with higher efficiency at affordable prices. Urbanisation is a powerful context for these shifts. However, with the right approach and enabling environment the economics can work even in remote areas, as well as in refugee communities and other challenging markets, where fuel costs are often a heavy burden. In lifting that burden, eCooking also does away with direct emissions from cooking. Combined with the suitability of powered devices for collecting precise usage data, eCooking is an ideal testing ground for connecting stove users with carbon markets, such as through carbon credit and cook-to-earn concepts.



### Kenya | A cooking plan for a fast-electrifying country

Kenya is bounding ahead in electricity access, which recently reached a rate of 75%, and eCooking might be the perfect accompaniment. Starting when the technologies were virtually unknown in Kenya, EnDev helped the private sector make eCooking a real option through RBF and other forms of support. Then, Modern Energy Cooking Services (MECS) and EnDev supported the government in developing a national electric cooking strategy. Kenya is showing how progress in electrification can lead to clean cooking progress. Through joint planning eCooking can become affordable and even highly attractive. Kenya aims for 10% of households to be cooking with electricity by 2030.

 [Read more](#)



Where there is electricity, there is potential for eCooking technology adoption. There is uptake from different market segments – from the urban middle class working woman who has disposable income and who wishes to save time, to households who need innovative finance such as cook-to-earn or PAYGO to enable affordability of upfront costs. There are also rural settings where electricity access is more of a challenge – but this does not mean they should be excluded. New connections and stand-alone systems can provide solutions in rural contexts. It’s very appropriate that EnDev has this mindset of, yes, there’s low-hanging fruit of connected households who use electricity but not for cooking usage, but at the same time let’s not forget other last mile communities.

– Alicia Butterfield, Global Manager, Global Electric Cooking Coalition (GeCCo)

## Find the approaches that bridge sectors

The recent turn to eCooking has deep roots in EnDev's history. The partnership has always looked at energy access holistically, with country teams pursuing electrification, clean cooking, or both based on their assessment of the greatest needs and opportunities. Lessons learned in one sector have become invaluable in the other. National partners have built capacity, networks, and policies that benefit both sectors. In some instances, the same market development approaches have worked across electrical and clean cooking technologies, as evidenced by successful cross-sector RBFs.



One of EnDev's unique selling points is the fact that the programme is excelling support mechanisms both in the cooking and electrification spheres. Focussing on market development and retail structuring for rural, remote and last mile areas, business development services and result-based financing mechanisms are key instruments to enable the local private sector to sell their products. So, much of the technical approaches may seem transferable across technologies. Yet, providing access to modern cooking technologies and off-grid electricity require specialized expertise and knowledge. EnDev is the rare programme with both, covering modern energy access for cooking energy and electricity.

– Monika Rammelt, Programme Manager, GIZ



From this cross-sector philosophy, eCooking represents a step into full sector coupling. Importantly, it solidifies the economic case for electrification, whether through grid extension or mini-grids. Where low demand would limit a community's electrification prospects, demand for cooking – redirected from the biomass market – increases electricity demand and therefore enhances the economic viability of electricity production and supply. Incorporating significant eCooking demand into a system's design and business plan can ensure the investment will be fully utilised by the community and viable for the long term.

## Coordinate globally to shift conventional thinking

eCooking is considered ambitious for a reason: it takes a systemic reconfiguration for a household to jump from a firewood stove to an electric kitchen. And a systemic change requires a highly coordinated approach. Many actors have to unite around national strategies, integrated energy planning, affordable electricity tariffs, behaviour change campaigns, and eCooking appliances offered on the right terms for all. EnDev has put a call out to all the actors as a founding partner of the Global Electric Cooking Coalition (GeCCo) [↗](#). It advises the growing circle of GeCCo members and Country Action Groups on concrete interventions to take forward, based on its

many years of implementation expertise. With the other GeCCo partners, EnDev also set up the Global eCooking Accelerator in 2023 with a shared goal of reaching 500,000 people by the end of 2025 – a goal the partners overachieved.

## Infobox | Global Electric Cooking Coalition (GeCCo)

Reaching at least 10% of the population in 10 countries – this is the initial target of GeCCo. The coalition was launched at the climate conference COP28 in 2023, through the efforts of MECS, Sustainable Energy for All (SEforALL), the Global Energy Alliance for People and Planet (GEAPP), and EnDev. GeCCo Country Action Groups take on responsibility for national coordination and alignment in the transition to eCooking.

As the growing global momentum within GeCCo shows, eCooking is not only a sector connector, but also an interface between national and international priorities that contributes to achieving climate and access targets. All of which makes it an exciting new chapter in EnDev's story.



What makes EnDev truly stand out is its ability to build, strengthen, and support sustainable energy markets, especially in rural, peri-urban, and underserved communities. I particularly commend EnDev for its Global eCooking Accelerator that is working to fast-track the transition to clean, electric cooking, and the objectives of GeCCo.

– Damilola Ogunbiyi, CEO and Special Representative of the UN Secretary-General for Sustainable Energy for All



## Laos | A truly ambitious 'Smoke-Free' vision

Laos set a striking target: by 2030, 90% of the population should be cooking with electricity. Acting on this ambition, it became one of the first countries to join GeCCo and is developing a national eCooking strategy. EnDev is providing policy support to ensure the development of a solid strategy aligned with climate goals. This policy work is complemented by support to the design of innovative financing for eCooking, and a behaviour change campaign by EnDev's implementing partner SNV to transition communities into Smoke-Free Villages. The campaign has motivated thousands of households to adopt the eCooking vision, with 22 village committees signing on in 2024.

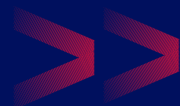
 [Read more ↗](#)

## CONCLUSIONS

# The rest of the clean cooking story lies ahead

Learning lessons every year, and incorporating them the next year – 20 years of this has made EnDev incredibly effective at achieving and tracking real impacts. It can't stop here, though. As large, enduring, and influential a partnership as EnDev has become, the scale of the energy access gap and the global challenge of reaching SDG 7 is much larger.

In many ways, then, the lessons learned are the outcomes with the greatest potential, if these can be taken up across the clean cooking sector. EnDev's story continues, and it becomes part of a much larger story. The time for scaling up what works is here.



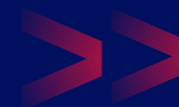
It took time to build our gender-transformative infrastructure, but it now gives us a strong platform for action. And it's sustainable: even if EnDev ended, the capacity would remain in-country with the people and gender focal points we work with. They carry that learning forward into other projects — so the impact continues.

– **Sindy Karberg-Manuel**,  
EnDev Gender Lead, GIZ



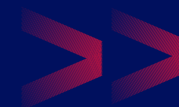
EnDev developments were all RVO developments as well. The market paradigm is part and parcel of all our activities; the Energy Access Market Development tool developed by EnDev is being used in our programmes, and so is the results-based financing that was pioneered by EnDev in the energy sector. One way or another, we've incorporated these in all of our programmes, taking the lessons that we learned within EnDev and developing them further.

– **Marcel Raats**, former EnDev Coordinator, RVO



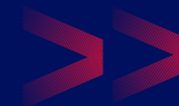
I was at an EnDev workshop last year in Kampala where I joined a breakout group on cooking, and someone asked, 'what is EnDev's exit strategy?' And someone else said that the exit strategy is to have something that goes on to the African Development Bank or similar institutions. That's the linkage, and I think that's very appropriate.

– **Monojeet Pal**, Manager – Clean Cooking and Energy Efficiency, African Development Bank



In HERA we extracted a lot of learnings and information from EnDev, because EnDev was this huge implementation programme across continents where we really saw all the learnings and approaches, what does work, what doesn't work – we used all this information for our work as a sector programme.

– **Anja Rohde**, former HERA project manager, GIZ



SEforALL has drawn valuable lessons from work that had already been done over many years by EnDev. The strategies and implementation modalities developed by EnDev provided critical knowledge and building blocks that helped shape SEforALL as an organisation when it was established.

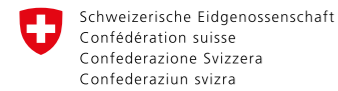
– **Mikael Melin**, Director, Partnerships & Development, Sustainable Energy for All (SEforALL)

Scaling has been an ongoing part of the EnDev story, from Peru's 2009 National Campaign for Improved Stoves, building on EnDev's early improved cookstove experiences in the Arequipa region, to national eCooking strategies in Cambodia and Kenya in 2024. World Bank RBF facilities incorporate DSS mechanisms innovated by EnDev. The large European project Strengthening the Entrepreneurial Ecosystem for Clean Cooking (SEE-CC) is following in EnDev's footsteps with its African Biodigester Component and Higher-Tier Cooking Component.

It can happen whenever a partner, counterpart, donor, or development bank sees an approach they want to take up, often at a scale that goes well beyond a technical programme like EnDev. It can happen when private markets grow out of assistance, know their business, and need to move on into the financial sector, be it the development world, commercial banks, impact investors, or carbon finance. And it can happen as EnDev hands over the institutional capacities it has cultivated.

In another 20 years – hopefully looking back at a problem solved – the decades leading up to 2025 may well just look like baby steps. Whatever achievements are ahead for EnDev, it will be a significant part of the larger story of how clean cooking became universal, to the benefit of everyone.

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