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DEUTSCHE GESELLSCHAFT FÜR INTERNATIONALE ZUSAMMENARBEIT (GIZ) GMBH

FINAL EVALUATION OF THE RECIC EU CO-FINANCED PROJECT IN RWANDA

Evaluation report

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ABBREVIATIONS

CEBGF	Cooking Energy Business Growth Fund
DAC	Development Assistance Committee
EnDev	Energising Development project
EU	European Union

GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
ICS	Improved cookstoves
NGO	Non-governmental organisations
OECD	Organisation for Economic Co-operation and Development
RACI	Responsible, Accountable, Consulted, and Informed (matrix)
ReCIC	Reducing the Climate Impact of Cooking in Rwanda project
RWF	Rwandan franc

0 Executive Summary

Context and objectives

Rwanda's high reliance on biomass for cooking, combined with inefficient stoves, contributes to land degradation, emissions, and negative health impacts, with over 70 % of households still using traditional cooking methods. To address this, the **Energising Development (EnDev) programme** launched the **Reducing the Climate Impact of Cooking in Rwanda (ReCIC) project** in 2020, co-financed by the European Union and implemented by GIZ and SNV in collaboration with the Government of Rwanda. ReCIC aimed to foster a sustainable market for improved cookstoves and fuels, targeting the sale of 500,000 units by 2025 through three key strategies: strengthening production capacities, raising consumer awareness, and expanding dissemination. The **Cooking Energy Business Growth Fund (CEBGF)** supported selected stove and fuel producing companies with grants and business development services, while demand-side interventions included community mobilisation, cooking demonstrations, and mass media outreach under the **NOZA IMITEKERE campaign** ("*Improve your Clean Cooking Style*"). Together, these measures sought to increase the adoption of climate-friendly cooking technologies and build lasting market structures (**market-based approach**).

GIZ commissioned Syspons to conduct the **Final Evaluation** of the ReCIC project and its key initiatives in Rwanda. The **objective** of the final evaluation was to systematically assess ReCIC and its key initiatives along the OECD-DAC criteria and additional evaluation questions. Based on these results, the evaluation developed recommendations for the future projects on improved cookstoves and fuels, in Rwanda or similar contexts.

The evaluation was conducted between June and November 2025.

Methodology

In order to achieve the objectives of the evaluation, the evaluation team developed a special **evaluation design** tailored to the central aspects of the assignment. The evaluation was structured around the **OECD-DAC criteria** of relevance, effectiveness, efficiency, impact, and sustainability. To assess effectiveness and impact, this evaluation applied **Mayne's Contribution Analysis model**, a structured approach to understanding causal linkages between interventions and observed outcomes. Due to the market-based approach, this evaluation also paid particular attention to the value chain – applying a **value-chain approach** – and the customer perceptions – referring to **semantic differentials**.

The **methods** used included a desk review of all available documentation, exploratory interviews, a Theory of Change workshop and an on-site evaluation mission to Rwanda. During the on-site visit, the evaluation team conducted **23 interviews and 5 focus groups with +100 people** to collect data, as well as an on-site debriefing workshop with the GIZ team to present and validate the preliminary findings.

Key findings

The final evaluation showed that ReCIC was highly relevant in addressing national and local priorities in Rwanda related to sustainable energy and clean cooking. The project aligned with the objectives of the Government of Rwanda, including the National Strategy for Transformation, the Energy Sector Strategic Plan, and the *2022 Ministerial Guidelines for Clean Cooking Technologies*. Initially, the project focused on producing tier 2 stoves, reflecting households' limited financial capacity for higher-tier technologies. Following the introduction of the 2022 Ministerial Guidelines, the focus shifted to tier 3 stoves to align with national standards.

ReCIC's **market-based approach** addressed the needs of households, stove and fuel producers, and local authorities alike. Households confirmed the relevance of the interventions, particularly in reducing fuel consumption, saving time previously spent on firewood collection, and improving health. Stove and fuel producers highlighted that the project responded to their operational and financial constraints, enabling them to expand production, improve technical quality, and strengthen marketing and sales capacities. Local authorities viewed the interventions as complementary to district development priorities and an opportunity to engage communities in sustainable energy practices. Therefore, ReCIC provided a relevant mechanism that responded to the needs of multiple stakeholder groups.

ReCIC and its key initiatives successfully strengthened both the supply and demand sides of the clean cooking sector (effectiveness). On the **supply side**, through the **Cooking Energy Business Growth Fund (CEBGF),** stove producers increased annual production from 15,641 improved cookstoves in year 1 to 114,725 in year 5, while total production and dissemination reached **519,154 stoves** by the end of the project. Support included financial assistance, technical training, equipment provision, and prototype development, particularly for tier 3 and above stoves. Fuel production and dissemination also expanded with four improved production site and 22 retail points established, although challenges remained for another fuel producer. On the demand side, **awareness campaigns**, particularly the **NOZA IMITEKERE** campaign – including public presentations, private discussions, and live cooking demonstrations – significantly improved household knowledge and interest in improved cookstoves and fuels. These combined interventions enhanced coordination between producers, authorities, and communities, facilitating knowledge exchange and market engagement. However, persistent barriers remained, including limited stove and fuel availability, financial constraints for households, and weak linkages between some stove and fuel producers.

Contribution to long-term impacts is plausible. Households reported perceived improved **health** outcomes, reduced exposure to indoor smoke, time savings, and potential benefits for education and **income-generating** activities. Stove production created employment opportunities, including for women, and strengthened local economic development. **Environmental benefits** were observed through reduced firewood consumption and potential contributions to climate resilience. Nevertheless, **affordability and dependence from subsidies emerged as key limiting factors**: nearly 30 % of Rwandans are considered economically challenged, and stove and fuel costs continue to restrict access, highlighting the need for targeted financing or payment options to sustain long-term adoption.

The durability of project outcomes appears promising but contingent on continued accessibility, affordability, and engagement. Most stove and fuel producers remain operational and have functional equipment, while household awareness and proper use of improved cookstoves are embedded in communities. However, the persistence of results depends on **strengthened sales and distribution structures, improved marketing linkages, ongoing support for fuel availability, as well as ongoing support within the national framework**. Integrating local leaders – elected or appointed officials – and sales agents could enhance communication and facilitate sustained adoption at the community level.

Efficiency was generally satisfactory. Delays were observed due to the COVID-19 pandemic, initial alignment of stakeholders with the market-based approach, and the transition from tier 2 to tier 3 and above stoves following the 2022 Ministerial Guidelines. Cost-effectiveness was evident in the strategic allocation of financial support, particularly in establishing stove production capacity in districts previously lacking local producers. Awareness campaigns and demonstrations proved more effective than mass media in promoting adoption.

In conclusion, ReCIC successfully piloted a market-based approach for clean cooking in Rwanda by combining supply-side interventions (stove and fuel production) with demand-side awareness and engagement. Interventions were well-received by households, producers, and local authorities, resulting in improved production capacities, increased adoption of improved cookstoves, and enhanced community awareness. **Challenges** remain regarding **affordability, fuel availability, sales and distribution linkages, and timely**

stove certification, which may constrain long-term impact. Nevertheless, the project provides a strong foundation for future scalable and sustainable interventions in Rwanda's clean cooking sector, with lessons on linking supply and demand, strengthening local networks, and integrating financial mechanisms to overcome household-level barriers.

Recommendations for action

Based on the findings and analysis, the following recommendations for action are proposed.

Supply-side

Recommendation 1 'Mixed-methods support': Building on the approach demonstrated by ReCIC, future projects should provide producers with comprehensive support that combines technical and business skills, access to equipment, and marketing assistance to connect with customers. Attention should also be given to occupational safety during both training and production.

Recommendation 2 'Networking': Building on the approach demonstrated by ReCIC, future projects should integrate networking as a cross-cutting principle, promoting interactions among producers, local authorities, and customers to enhance collaboration, knowledge exchange, and market linkages.

Recommendation 3 'Sales and distribution': Future projects should focus on reinforcing sales and distribution structures, including the use of local sales agents. Consideration should also be given to warranty and repair services of supported companies to assess whether they are likely to function effectively in the future.

Recommendation 4 'Fuel production': Building on the approach demonstrated by ReCIC, future projects should further focus on strengthening the production and availability of improved biomass fuels to address community concerns and ensure the effective use of improved cookstoves.

Recommendation 5 'Payment mechanisms': Building on the approach demonstrated by ReCIC, future projects should implement accessible payment options for households, such as instalment plans or community-based saving groups, to overcome financial barriers to acquiring improved cooking technologies.

Recommendation 6 'Testing and certification': To streamline product certification, future projects should support alternative testing institutions as preliminary steps before submission to the Rwandan Standards Board, reducing bottlenecks and facilitating compliance with technical standards.

Demand-side

Recommendation 7 'Mixed voices in campaigns': Building on the approach demonstrated by ReCIC, future projects should continue awareness campaigns that combine public presentations, private discussions, and live cooking demonstrations.

Recommendation 8 'Timing and duration of campaigns': Building on the approach demonstrated by ReCIC, future campaigns should be scheduled in the early afternoon to avoid conflict with household productive activities, avoid rainy seasons where possible, and extend duration to allow sufficient time for questions and participation.

Recommendation 9 'Advanced notice and local leader involvement': Future projects should announce campaigns well in advance and actively involve local leaders in communication and mobilisation efforts.

Recommendation 10 'Follow-up through local leaders': Future projects should connect local leaders with companies present during campaigns and provide them with additional training on proper cookstove use.

Recommendation 11 'Availability of products during campaigns: Future campaigns should ensure that products presented, including both stoves and fuels, are available for purchase after the demonstration.

1 Introduction

Due to its extremely high population density and land size, **Rwanda** is one of the most vulnerable countries to land degradation. The high dependency on solid biomass for cooking, used in inefficient cooking devices, generates high emissions affecting the climate, environment, and users' health. The Government of Rwanda seeks to reduce the share of households using inefficient cooking solutions from 83 % by 2014 to 42 % by 2024 (Rwandan Energy Group, 2018). However, to date, more than 70 % of the population continues to use three-stones and traditional stoves for cooking (National Institute of Statistics of Rwanda, 2022).

In Rwanda, where natural resources are under pressure, these impacts are acutely felt. To address these challenges and offer viable alternatives to firewood and charcoal – both of which threaten human health and the environment – the Energising Development (EnDev) programme launched the **Reducing the Climate Impact of Cooking in Rwanda (ReCIC) project** in 2020. Co-financed by the European Union under the Global Climate Change Alliance Plus (GCCA+) initiative, ReCIC was implemented by GIZ and SNV in close collaboration with the Government of Rwanda. ReCIC aimed to foster a sustainable market for climate-friendly cooking by strengthening the capacity of stove and fuel producers and distributors, with the goal of facilitating the sale of 500,000 improved cookstoves by 2025. To achieve this, ReCIC applied a threefold strategy: (1) increasing production capacities of climate-friendly cooking technologies, (2) raising consumer awareness, and (3) expanding the dissemination of improved cookstoves and alternative fuels. A key initiative under this strategy was the **Cooking Energy Business Growth Fund (CEBGF)**, launched in 2021. It supported selected producers of improved and higher-tier cookstoves and biomass fuels through grants and business development services, avoiding direct end-user subsidies to prevent market distortion. On the demand side, the ReCIC project promoted the adoption of climate-friendly cooking through a combination of **awareness-raising interventions**. Community mobilisation and cooking demonstration events were conducted in rural, peri-urban and urban areas in public-private partnership, engaging district and sector level government representatives' agencies as well as private sector actors. These activities continued within the framework of the **NOZA IMITEKERE** awareness campaign ("*Improve your Clean Cooking Style*"), which carried out similar outreach and demonstration interventions while also leveraging mass media for broader visibility.

GIZ commissioned Syspons to conduct the **Final Evaluation** of the ReCIC project in Rwanda. The **objective** of the final evaluation was to systematically assess the project and its key initiatives along the OECD-DAC criteria relevance, effectiveness, efficiency, impact and sustainability. The evaluation was conducted between June and November 2025.

This **evaluation report** showcases the findings of this evaluation. It outlines the objectives of the assignment as well as the methodological approach for analysis and reporting. Then, it depicts the findings, following the OECD-DAC criteria, as well as conclusions and recommendations. As annexes, it includes recommendations elaborated by the ReCIC project team, the project indicators, the list of references, the analysis grid, the list of interviewees and focus group participants, and the interview guides.

2 Object of the Evaluation

The **Energising Development (EnDev)** project is a multi-donor partnership dedicated to expanding access to modern energy services globally. Since its launch in 2005, EnDev has focused on providing modern energy services to low-income households, social institutions, and small businesses, aiming to improve economic opportunities, social well-being, and environmental sustainability. It employs an outcome- and performance-based approach, pioneering innovative market-driven solutions and supporting the scaling of climate-friendly energy technologies. EnDev is currently funded by the governments of the Netherlands, Germany, Norway,

and Switzerland. The project is jointly managed by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the Netherlands Enterprise Agency (RVO).

Starting in 2020, EnDev also implemented the **Reducing the Climate Impact of Cooking in Rwanda (ReCIC) project** (hereafter 'ReCIC' or 'action') co-financed by the European Union, with the **overall objective** of reducing the climate impact of cooking energy systems. More specifically, the project aimed to increase the use of efficient and climate-friendly cooking solutions (specific objective of the action 1) and to reduce biomass consumption for cooking purposes (specific objective of the action 2) (see Figure 1).

In this report, the terms **'improved and higher-tier cookstoves**' and '**climate-friendly cooking solutions**' are used, consistent with EnDev terminology. Globally, 'clean cookstoves' are typically defined as technologies meeting higher performance levels – tier 4 or 5 according to ISO/WHO guidelines – while 'improved cookstoves' refer to transitional solutions. In Rwanda, the **2022 *Ministerial Guidelines for Clean Cooking Technologies*** classify cookstoves achieving tier 3 performance in thermal efficiency, particulate matter, and carbon monoxide as 'clean', and stoves below this level may no longer be promoted (Government of Rwanda, Ministry of Infrastructure, 2022). When ReCIC was designed, these guidelines were not yet in place or enforced, and the project therefore focused on improved cookstoves, tier 2 and above. To avoid confusion between international and national definitions, this report uses the broader terms 'improved and higher-tier cookstoves' and 'climate-friendly cooking solutions' which also reflects EnDev language and excludes BLEENS fuels (biogas, liquefied petroleum gas, electricity, ethanol, natural gas, solar) that were not supported under the project. In this vein, where fuels are concerned, the terms **'alternative' or 'improved' fuels** are used, which refer to processed biomass fuels – primarily pellets and briquettes – intended to substitute traditional firewood and charcoal.

The ReCIC project's **supply-side** strategy centres on strengthening the capacity and sustainability of climate-friendly cooking technology producers (stoves and fuels) to achieve the project's specific and overall objectives and to contribute to the market development in Rwanda. Beginning with the launch of the **Cooking Energy Business Growth Fund (CEBGF)** (R1), the project aimed to identify and select high-potential enterprises and cooperatives[1] (R2) that were then to receive a tailored mix of technical (R3), business development (R4), and financial support (R6, R7). Hands-on training in stove production, business planning, and marketing (R5) aimed to ensure that these actors could improve product quality and expand outreach. In-kind support, such as raw materials and equipment (R8), was to complement grant funding and advisory services to enable the expansion or relocation of production facilities (R9). These interconnected interventions aimed to strengthen the entire value chain for cookstoves and fuels (R10), ultimately leading to output 1 (improved capacities for scaling up production and dissemination) and output 2 (introduction of improved biomass fuels). Together, these milestones aimed to contribute to the specific objectives of increased adoption of climate-friendly cooking solutions – targeting the sale of 500,000 stoves by 2025 – and reducing biomass consumption, thereby aiming to support the overarching goal of mitigating the climate impact of cooking energy systems.

Originally, fourteen companies were selected within the CEBGF. After one company voluntarily withdrew and another was removed due to non-compliance, **twelve ReCIC-funded companies** remained in focus for this final evaluation and are listed in the table below.

Table 1: List of ReCIC-funded companies selected for the final evaluation

#	Location	Company	ReCIC Project Grant Support for
Kigali City			

[1] At the start of the project, ReCIC focused more strongly on cooperatives as supply-side actors; this early emphasis is reflected in the project's indicator framework (see Annex), which places weight on re-engaging and establishing relationships with new cooperatives.

1	Gasabo District, Kigali City	**Eco Green Solutions**	Grant Agreement signed in July 2022 for RWF 40M, for **stoves production equipment** (CNC plasma cutter, electrical rolling machine, spot welding machine, press machine and moulds).
2	Gasabo District, Kigali City	**Green Hanga Ltd.**	Grant Agreement signed in December 2022 for RWF 40M, for **purchasing stove production equipment** (rolling, drilling, cutting, and welding machines) and raw **materials**.
3	Kigali Special Economic Zone, Kigali	**Safer 1 Ltd**	Grant Agreement signed in December 2022, for RWF 40M, to **establish new distribution channels for marketing stoves** (purchase of a truck for distribution of stoves).
4	Nyarugenge, Kigali city	**OAK investments LTD**	Grant Agreement signed in December 2022 for RWF 40M, for **stoves production equipment** (welding, rolling, curling, ribbing machines) and **materials**.
5	Nyarugenge District, Kigali	**Energie Domestique (ENEDOM)**	Grant Agreement signed in November 2023 for RWF 40M for **pellet production machine** to be purchased (complete vinspire biomass pellet machine 30hp), construction of **workshop** (shade and office).
Western Province			
6	Rubavu District, Western Province	**BioMassters**	Grant Agreement signed in August 2022 for 40 M RWF, for **wood pellets production machines** (Tomcat Chippers 250 AF Electric)
7	Rubavu District Western Province	**Ado Green Conserve Company Ltd**	Grant Agreement signed in January 2023 for RWF 40M, for purchasing of **stove production machines and material**, and similar.
8	Nyamasheke District, Western Province	**MPA (Modern Pottery Art)**	Grant Agreement signed in March 2023 for RWF 40M, to **purchase land, construction of workshop/shade and kiln, acquire machines for cladded stoves** (rolling, drilling and welding machines), purchase **motor tricycle**, **metallic sheets** for stove production, and market the products.
Eastern Province			
9	Gatsibo District	**Enviro Green Conserve Company Ltd**	Grant Agreement signed in December 2022 for RWF 40M, for **purchasing of equipment** (welding, drilling machines, tools), **materials**, **kiln construction**
10	Kayonza District	**Inganzo Pottery Company**	Grant Agreement signed in December 2022 for RWF 40M, to **purchase land, shade and kiln construction, stoves production equipment** (drilling, rolling, welding, punching machine, moulds), **three-wheel truck and furniture**.

Northern Province			
11	Musanze District	**EMT Xavier Company Ltd**	Grant Agreement signed in December 2022 for RWF 35M, for **purchasing of stove production equipment** (welding, drilling machines) and raw **materials**.
Southern Province			
12	Muhanga District, Southern Province	**MILTEC Company**	Grant Agreement signed in March 2023 for RWF 40M, for **stoves production equipment** (pigment and hydraulic press, clay compressing, clay mixing machine) and **workplace and kiln construction**.

On the **demand side**, ReCIC focused on raising awareness and shifting consumer behaviour toward the adoption of climate-friendly cooking solutions. Central to this approach was the implementation of the **NOZA IMITEKERE awareness campaign** (R13), which aimed to mobilise both public and private actors to engage communities through various channels. Community mobilisation efforts (R14), coupled with interactive cooking demonstrations (R15), were to allow households to see, understand, and experience the benefits of improved and higher-tier cookstoves in practice. Meanwhile, a widespread media campaign – leveraging radio, television, and posters (R16) – was to amplify messaging to reach a broader audience. These milestones were to build the foundation for output 1 by improving household awareness and acceptance of efficient cooking devices, thus stimulating demand. This, in turn, aimed to directly support the project's objectives of increasing the use of improved cookstoves and reducing biomass consumption, while also contributing to the climate-related ambitions of the overall initiative.

To support both supply and demand-side efforts, the ReCIC project aimed to strengthen the enabling environment by establishing **strategic partnerships and supporting quality assurance systems** (R11, R12). At the national level, the project intended to collaborate with key government agencies, particularly the **Rwanda Standards Board**, which is responsible for testing stoves and maintaining stove standards by operating the national cookstove testing laboratory. The project aimed to support the Rwanda Standards Board through the procurement of testing equipment and measurement tools relevant for testing procedures. In addition, the project aimed to provide technical training and advise on staffing. At the district levels, ReCIC sought to engage with local authorities to facilitate community mobilisation, stimulate demand, and reinforce awareness-raising activities. In addition, the project was to explore the introduction of a consumer-facing quality label for cookstoves, addressing the challenge that lab-tested stove quality often does not reflect the products available in the field. However, as this activity was only in its early stages during the evaluation and will be taken forward under the broader EnDev programme, it falls outside the scope of this assignment.

All hypotheses rested on the **assumption** that companies and cooperatives producing climate-friendly cookstoves and alternative fuels were willing and able to participate in the project and to scale their operations when provided with appropriate financial and technical support. ReCIC also assumed that households would be open to adopting climate-friendly cooking solutions, provided they were sufficiently informed, convinced of the benefits, and able to afford the products. Furthermore, the project design assumed that relevant public and private stakeholders at national and district levels would be willing and able to collaborate in implementing and sustaining key activities. In particular, it was assumed that government actors would take ownership of efforts related to quality assurance, standard enforcement, and awareness-raising.

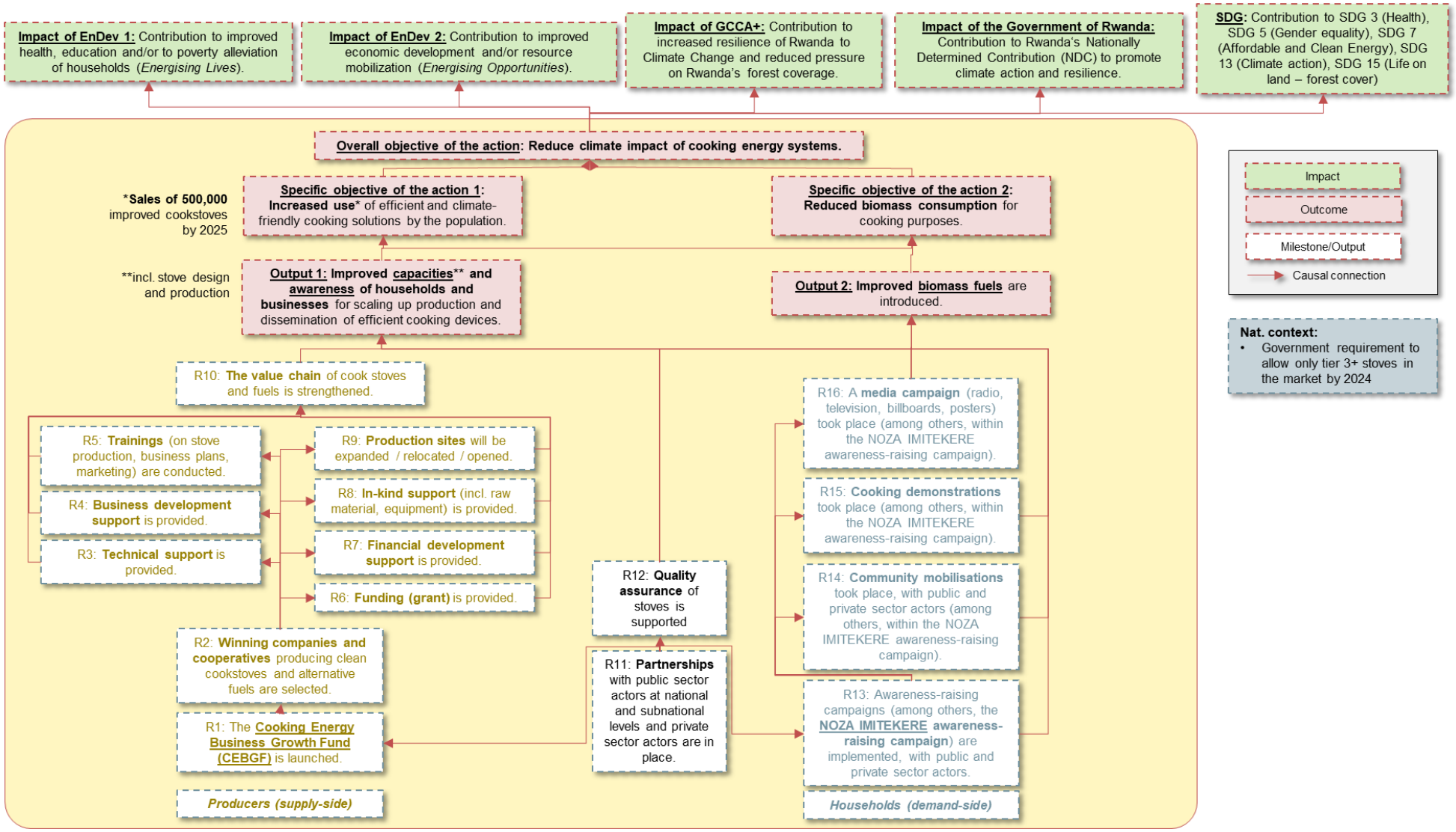
The specific objectives of ReCIC – to increase the use of efficient and climate-friendly cooking solutions and to reduce biomass consumption – were designed to contribute to broader **impacts** aligned with both EnDev and GCCA+ goals. By promoting access to more climate-friendly and efficient cooking technologies, the

project aimed to contribute to improved health, education, and poverty alleviation among households, supporting the EnDev 'Energising Lives' impact pathway (Impact 1). At the same time, by fostering local company development, and enabling more efficient energy use, the project was expected to contribute to economic development and resource mobilisation, aligned with EnDev's 'Energising Opportunities' pathway (Impact 2). In line with the European Union initiative GCCA+, that supports partner countries in strengthening resilience to climate change and promoting low-emission development, ReCIC sought to strengthen Rwanda's resilience to climate change by reducing unsustainable biomass use, thereby easing pressure on forest resources. These impacts further were to contribute to the achievement of several Sustainable Development Goals, particularly SDG 3 (Good Health and Well-being), SDG 5 (Gender Equality), SDG 7 (Affordable and Clean Energy) and SDG 15 (Life on Land) through improved air quality, empowerment of women in energy-related economic activities, and reduced land degredation.

Potentially unintended (positive or negative) results at output, outcome or impact level were not identified.

The intended objectives lay within the **system boundary**, which is depicted graphically by a yellow background in Figure 1. By placing the objective within the system boundary, the results model emphasises the ReCIC's ability to directly influence and therefore reach its objective. Finally, beyond the system boundary, the remaining impacts can be found. These long-term results were placed outside the system boundary as a variety of external factors may either foster or hinder the achievement of those results. Thus, they should not be placed within ReCIC's sphere of responsibility.

Figure 1: Theory of Change (August 2025)



Source: Syspons GmbH, 2025

3 Methodology

3.1 Evaluation approach and design

The evaluation was structured around the **OECD-DAC criteria**, ensuring a comprehensive assessment of the ReCIC-funded projects. These criteria – relevance, effectiveness, efficiency, impact, and sustainability – provided a standardized framework to evaluate the projects' performances, identify lessons learned, and inform future programming.

The **relevance** criterion referred to the extent to which the concepts of the ReCIC project align with the needs of the government organisations/institutions, companies and households. Evaluating relevance involved assessing how well the ReCIC project responded to the specific socio-economic and political conditions in the target areas, ensuring they addressed pressing challenges and contribute to sustainable solutions. This evaluation examined relevance through three key dimensions (see annex 4): (1) contextual analysis, (2) alignment with needs and priorities, and (3) stakeholder perceptions.

The **effectiveness** of the ReCIC project assessed the extent to which the interventions have successfully met their intended objectives and delivered tangible results. This evaluation considered measurable progress, the effect on beneficiaries, and the influence of external factors on project success. The assessment of effectiveness was guided by three key dimensions (see annex 4): (1) performance metrics, (2) achievement of objectives, and (3) contextual influences.

To assess effectiveness, this evaluation applied **Mayne's Contribution Analysis model**, a structured approach to understanding causal linkages between interventions and observed outcomes. Contribution Analysis helped determine the extent to which ReCIC interventions contributed to changes in production capacities, consumer awareness and dissemination of improved cookstoves and fuels by: Developing a theory of change (see figure 1) that outlines expected causal pathways; identifying external factors that may have influenced outcomes; assessing available evidence to validate or refine causal assumptions; and strengthening the credibility of findings by considering alternative explanations.

The **impact** of the ReCIC project assessed their long-term effects on beneficiaries (companies, cooperatives and households), including improvements in their businesses and living conditions at household level through the use of an improved cookstove and fuels, beyond immediate outputs and short-term outcomes. This evaluation examined whether NOZA IMITEKERE campaign influences mobilisation of potential customers, and its role towards the accessibility of climate-friendly cooking solutions. The impact assessment was guided by three key dimensions: (1) long-term effects, (2) unintended consequences, and (3) community awareness.

Similar to the effectiveness criterion, to assess causal linkages between ReCIC interventions and their long-term impact, this evaluation applied **Mayne's Contribution Analysis model** (see above).

The **efficiency** of the ReCIC project assessed how well resources – financial, human, and operational – were utilised to achieve intended results. This criterion examined whether project activities were executed in a timely and cost-effective manner, whether management processes were well-structured and responsive, and whether ReCIC interventions maximised outputs relative to inputs. The efficiency assessment focused on four key areas: (1) timeliness of execution, (2) resource utilisation, (3) cost-effectiveness analysis, and (4) implementation efficiency.

To systematically analyse the clarity and efficiency of project roles and responsibilities, this evaluation used a **RACI** (Responsible, Accountable, Consulted, and Informed) matrix (see figure 2). The RACI framework helped:

Clarify decision-making structures, ensuring accountability in project implementation; identify gaps or inefficiencies in coordination between stakeholders; and assess adaptability in response to operational challenges.

Figure 2: RACI matrix (template)

	Actor					
Process/Task	EnDev Project Team	Donors	Implementing partners	Beneficiaries	Other GIZ units	...
Task 1						
Activity 1.1						
...						
...						
Task 2						
Activity 2.1						
...						
...						
Task 3						
Activity 3.1						
...						
...						
Task 4						
Activity 4.1						
...						
...						

R	Responsible	C	Consulted
A	Accountable	I	Informed

The **sustainability** of ReCIC projects assessed the extent to which their benefits will continue beyond the project's duration. This criterion examined whether the interventions have been institutionalized within local systems, whether they have built sufficient local capacity to ensure long-term impact, and whether continuation plans were in place to maintain and expand project benefits after ReCIC interventions end. The sustainability assessment focused on three key areas: (1) sustainability of benefits, (2) continuation plans, and (3) capacity building. By analysing continuation strategies, local ownership, and integration into existing structures, this evaluation assessed whether ReCIC's interventions have laid the groundwork for long-term impact and can serve as models for replication and scaling in other regions.

Given that ReCIC approach aimed to establish an autonomous market that operates without ongoing external support, the goal of the evaluation is to assess the effectiveness and sustainability of creating a **self-sustaining market for improved cookstoves and alternative fuels** that can reduce costs and improve access over time. The evaluation needed to determine whether household demand for climate-friendly cooking technologies was met without disrupting local markets and if suppliers' needs were addressed within this evolving system.

To evaluate the sustainability of the market, this evaluation employed a **Value Chain Analysis**. It provided a comprehensive view of the market dynamics, allowing to identify key actors and assess how each segment of the value chain is contributing to the overall goal of building a sustainable market. This way, the evaluation could pinpoint any bottlenecks or inefficiencies in the system, whether on the supply side, such as production or distribution challenges, or on the demand side, such as barriers to the adoption of improved and higher-tier cookstoves by households. This method allowed to determine if the market was evolving as intended and

whether it had the potential for scalability, with supply and demand functioning in a balanced, self-sustaining way.

Assessing another key focus of ReCIC – the perceptions of companies and households – was crucial for understanding the **scalability** and **long-term viability of the market**, as their engagement and behaviour will influence whether the market can grow organically over time. Thise evaluation applied a **semantic differential scale** to evaluate the lasting effects of the awareness campaign that aimed to encourage the adoption of improved cookstoves in communities. By measuring the perceptions of the target audience, the scale provided insights into how well the campaign was resonating with households in terms of engagement, clarity, and relevance. It allowed to understand whether the messaging was perceived as clear and convincing, and whether the campaign successfully drove the desired **behaviour change**. While the Value Chain Analysis focused on the structural and operational aspects of the market, the semantic differential scale allowed to assess the emotional and cognitive responses to the campaign, which were crucial for determining whether the awareness efforts were effective in driving widespread adoption of the technology. Together, these methods provided a robust framework for evaluating both the market dynamics and the promotional efforts.

3.2 Methods of data collection and data analysis

The implementation of the assignment consisted of three phases. The evaluation started with a **virtual kick-off meeting** with the GIZ ReCIC project team to discuss the details of the assignment, refine key elements of the approach and processes, agree on upcoming steps, and update the operational plan accordingly. This meeting was also used to discuss communication principles and expectations for the assignment.

Phase 1 – Inception Phase (until September 2025): The Inception Phase was critical for establishing a thorough understanding of the ReCIC project and setting a solid methodological and operational foundation for the evaluation. The Inception phase started with a **desk review** of all available documentation, including reports and publications (see annex 3). This desk review did enhance the evaluation team's understanding of the project's operational context and strategic objectives. These findings were further explored and validated through **4 exploratory interviews** with representatives of the project team (GIZ and SNV) and the commissioning party (EU Commission), and **1 theory of change workshop** with the GIZ team and SNV. There, the theory of change for the ReCIC at the project level was validated. This theory of change was to articulate the project's intended pathways to impact, from immediate outputs to long-term outcomes and impacts on local companies as well as households. The theory of change workshop was conducted to validate this framework, allowing the GIZ team and SNV to collaboratively review and refine the underlying assumptions, impact pathways, and causal mechanisms. This participative approach ensured that the theory of change reflected the realities and complexities of implementing sustainable market-based solutions in a setting of subsistence resource dependency, providing a shared reference point for the evaluation.

Building on the desk review and stakeholder inputs, the evaluation team **refined the evaluation design and developed an analytical grid** (see annex 4). The evaluation design incorporated a combined approach using Mayne's contribution analysis model with a Value Chain Analysis and semantic differential scale to assess the effectiveness and impact and scalability of ReCIC and its key initiatives. By embedding these methods, the evaluation team aimed to understand how and why the improved cookstoves and fuels were adopted – or not – by beneficiaries and other stakeholders. This analytical framework was formalised into an analytical grid that operationalised the OECD-DAC criteria. Based on this analytical framework, the evaluation team also developed the **interview guides** (see annex 6) for the evaluation mission, addressing the project team in Rwanda as well as public authorities, companies and households. Meanwhile, based on the insights of the evaluation team, the GIZ team in Rwanda coordinated the **logistics for the evaluation mission**, including scheduling interviews and focus groups.

The culmination of this phase was the drafting of the **Inception note**, which documented the refined evaluation approach, analytical grid, theory of change, and detailed operational plan.

Phase 2 – Data Collection Phase (until October 2025): The data collection phase aimed to gather all necessary qualitative data to address the research questions outlined in the terms of reference, as well as any additional questions refined during the inception phase. To begin, the evaluation team conducted an in-depth continuation of the **desk review**. This extended desk review provided deeper insights into each key initiative, enhancing the evaluation team's understanding of the specific interventions, expected impacts, and potential challenges. The core of this phase involved the implementation of the **evaluation mission** in Rwanda, during which the evaluation team conducted interviews and focus group discussions to collect data directly from stakeholders and beneficiaries (see annex 5). The evaluation mission consisted of a two-week **on-site visit in Kigali as well as in Western, Eastern and Southern Province**. During the evaluation mission, a total of **23 (group) interviews** were conducted with company representatives and local authorities at the district and cell levels, complemented by **5 focus group discussions** with community members. In addition, **1 company site visit** was conducted without a corresponding interview. At the end of the evaluation mission, the evaluation team conducted a **debriefing meeting** with the project team to present and validate the preliminary findings.

Upon completion of the data collection, the evaluation team conducted **data cleaning and a qualitative analysis** of the gathered information. This process involved synthesising insights from the interviews and focus groups to ensure data quality and prepare a coherent basis for evaluating the impact, sustainability, and scalability of the market-based approach.

Phase 3 – Synthesis and Reporting Phase (until end of November 2025): The synthesis and reporting phase focussed on consolidating the findings from the data collection and analysis to produce a comprehensive evaluation of the ReCIC project. This phase began with an **internal synthesis workshop** of the evaluation team to review and integrate insights from the qualitative data analysis, ensuring consistency and coherence across the findings related to the OECD-DAC criteria. Following the synthesis, the evaluation team drafted the **final report**, structured according to the framework established in the inception phase. The draft report encapsulated the evaluation findings, conclusions, and possible actionable recommendations for future initiatives in the sector. The draft was then shared with the project team for a review. The findings were also presented in the **steering committee meeting** (mid-November). After receiving feedback, the evaluation team **revised and finalised the report**, ensuring that all input had been systematically addressed. Lastly, by the end of this phase, the evaluation team delivered a validated, stakeholder-informed final report and ensure a clear communication of key insights and recommendations for the program's ongoing improvement.

The following **milestones/deliverables** were to be achieved/elaborated within the assignment:

1) Inception note (.doc)
2) Presentation preliminary findings (.ppt)
3) Presentation findings for the steering committee (.ppt)
4) Evaluation report (.doc)

3.3 Data quality

To ensure the quality and reliability of the data collected, the evaluation adhered to rigorous **data, method and researcher triangulation**. The combination of exploratory interviews, desk studies, a theory of change workshop, evaluation mission interviews and focus group discussions allowed for cross-validation of findings and minimise biases. Data collection ensured that information was gathered from a diverse range of

stakeholders, including the GIZ and SNV project team, the SNV country director, the commissioning agency, companies, project beneficiaries, and public authorities at national and local level. The evaluation also emphasised consistency by applying structured interview guides and by analysing protocols and documents by following the evaluation matrix. Additionally, efforts were made to address potential limitations, such as recall bias in interviews or gaps in documentation, by incorporating multiple perspectives and verifying key insights through secondary data analysis.

Regarding the data quality of the **document analysis**, the evaluation was only able to consider the information depicted in the documents. The evaluation team addressed information gaps in the interviews and focus groups, such as with the companies.

Regarding the data quality of the **interviews and focus group discussions**, limitations in accessing relevant information arose due to language barriers, as several interviewees and participants had limited proficiency in English and preferred to communicate in Kinyarwanda, which the evaluation team did not understand. To address this, the evaluation team collaborated closely with the project team and other interviewees who were more fluent or comfortable in English to facilitate the interviews. In these cases, the evaluation team adapted the interview and focus group questions to minimise privacy concerns and reduce potential bias. This collaborative approach also provided the project team with direct insights from stakeholders, supporting their **learning** and offering valuable input for guiding future interventions. Moreover, it enabled concerns for the future and emerging recommendations to be immediately discussed and considered by the project team, providing an opportunity for timely reflection.

4 Assessment according to OECD/DAC criteria

4.1 Relevance

The **relevance** criterion assessed the extent to which the concepts of ReCIC and its key initiatives – particularly their objectives – aligned with the needs, priorities, and contextual realities of the public authorities, companies, cooperatives and households. This included examining how well the marketing messages used during the awareness campaigns addressed the needs and priorities of the target groups.

Overall, ReCIC and its key initiatives were highly relevant, aligning with the priorities of the European Union, the Rwandan government, local authorities, households, and private sector actors. The project supported national climate and energy objectives by promoting cleaner cooking technologies, reducing biomass consumption, and contributing to Rwanda's NDC targets. It addressed community needs for safer, more efficient cooking solutions and enhanced awareness regarding proper stove use. Simultaneously, ReCIC sought to strengthen private sector capacities, facilitate market linkages, and support compliance with updated stove standards. The intervention combined a market-based approach – integrating supply-side support for production with demand-side awareness-raising – with a focus on decentralised production capacities. In addition, it applied a multi-level approach, engaging actors from national to village levels, and a multi-stakeholder approach, involving public authorities, private producers, and community members. In sum, ReCIC constituted a well-targeted and contextually appropriate intervention, designed to address structural, behavioural, and geographic challenges within the sector while responding to the needs of all key stakeholders.

The ReCIC project and its key initiatives demonstrated strong alignment with the European Union (EU)'s strategic priorities, particularly within its energy and climate focus, making it a timely and relevant intervention commissioned under the Global Climate Change Alliance Plus (GCCA+) framework. ReCIC was conceived and financed during the EU's energy-focused programming period, directly addressing Rwanda's high dependency on biomass and contributing to the EU's broader goals of promoting low-emission, climate-resilient development. Implemented within the GCCA+ initiative, the project aligned with the EU's objective to support partner countries in strengthening resilience to climate change and advancing their Nationally Determined Contributions (NDCs). The EU viewed ReCIC as a **flagship project** that showcased their commitment to climate action and demonstrated the potential for collaboration with BMZ in strengthening private-sector engagement through a market-based approach. By targeting the reduction of unsustainable firewood use and supporting cleaner cooking solutions, ReCIC addressed a key environmental and developmental priority in Rwanda while exemplifying the EU's strategic emphasis on sustainable energy transitions. Although at the moment of the evaluation the EU was phasing out its energy focus in favour of new thematic areas such as urbanisation, the project was considered highly relevant and well-aligned at the time of commissioning.

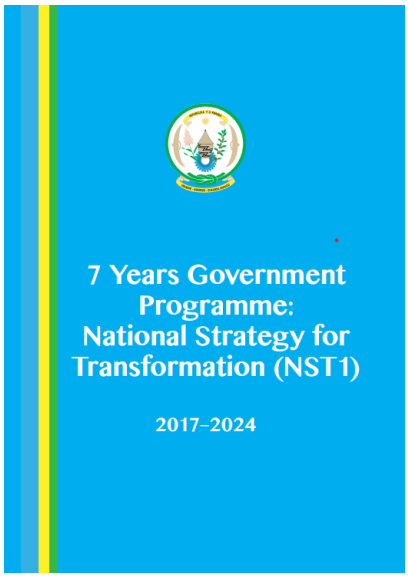
The final evaluation also showed that the ReCIC project and its key initiatives were highly relevant and closely aligned with the priorities of the Rwandan government, directly supporting national targets for biomass reduction and the promotion of cleaner cooking within the country's climate and development strategies. As depicted in the theory of change, ReCIC was designed to contribute to the Government of Rwanda's overarching goal of mitigating the environmental and health impacts of biomass use, as outlined in the *National Strategy for Transformation (NST1) 2017–2024* and the country's NDCs (Government of Rwanda, 2017). These policy frameworks set ambitious targets, including the reduction of households relying on firewood for cooking from 80 % in 2016/2017 to 42 % by 2023/2024, with the dual objectives of curbing deforestation and improving health outcomes, while facilitating the transition to cleaner energy systems (see Photos 1a-b) (Government of Rwanda, 2017, Rwandan Energy Group, 2018). Interviews with representatives of national institutions, including the Ministry of Environment and the Ministry of Infrastructure, confirmed that ReCIC's objectives and activities were well aligned with governmental priorities for promoting improved cookstoves and sustainable cooking energy systems. Moreover, the project's objective of **producing and selling 500,000 improved cookstoves** by the end of 2025 was widely regarded as consistent with these national objectives. National stakeholders had initially expected a distribution-focused approach rather than the market-based model eventually implemented; the market-based approach was subsequently positively received. Document analysis and interviews also highlighted ReCIC's adaptability, particularly in revising its approach in response to the **2022 *Ministerial Guidelines for Clean Cooking Technologies***, which mandated the transition to tier 3 cookstoves (see chapter 2). Interviewees noted that this responsiveness to evolving policy conditions further reinforced the project's relevance and positioned it as a key contributor to Rwanda's efforts toward cleaner, more sustainable cooking energy systems.

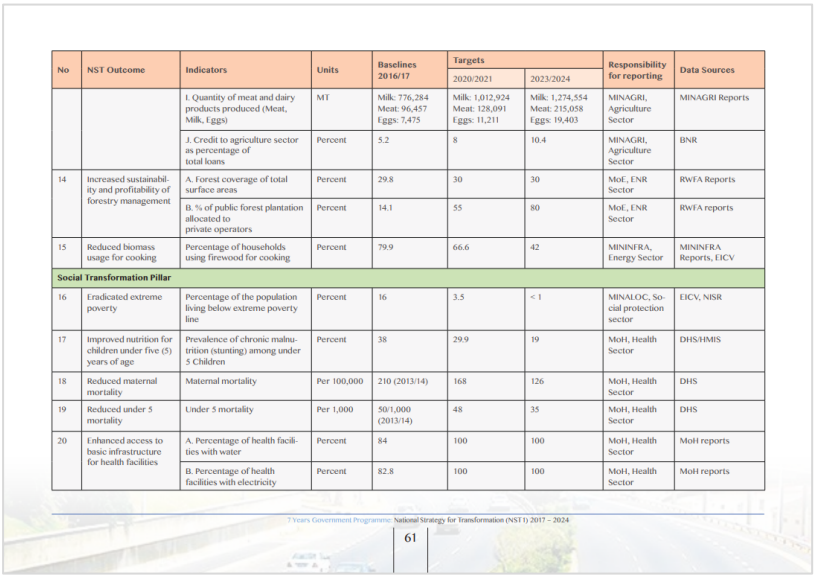
At the decentralised level, district authorities, cell representatives and local leaders[2] confirmed that ReCIC and its key initiatives were consistent with their own mandated targets under national frameworks. In this context, local authorities particularly valued the project's engagement with private-sector actors and communities, as it supported their **performance agreements**, which formalise commitments to expand access to improved cookstoves and promote job creation. These agreements provide a mechanism for aligning local-level objectives with national development priorities, and local authorities from participating districts regarded ReCIC as an important and relevant contribution to achieving Rwanda's climate and energy goals. In some districts, the company supported through ReCIC was the **only stove or fuel producer** operating in the area, further increasing the strategic relevance of the project for decentralised, local energy access and

[2] In this report, "**local leaders**" refers to elected or appointed officials at district and cell levels, including sector heads, and Cell Executive Secretaries, who are responsible for local governance, development planning, and community coordination.

market development. Notably, **ReCIC was the only initiative in the visited districts to combine a market-based approach – strengthening local producers through the Cooking Energy Business Growth Fund (CEBGF) – with direct community-level awareness campaigns**, thereby linking production, awareness, and adoption. This dual approach was identified by stakeholders as a distinctive feature, differentiating ReCIC from other interventions that primarily focused on direct stove distribution.

Photos 1a-b: Cooking Technology indicator depicted in the *National Strategy for Transformation (NST 1) 2017-2024* (excerpt) (Source/©: Alexandra Hoppe 2025)





No	NST Outcome	Indicators	Units	Baselines 2016/17	Targets		Responsibility for reporting	Data Sources
					2020/2021	2023/2024		
		I. Quantity of meat and dairy products produced (Meat, Milk, Eggs)	MT	Milk: 776,284 Meat: 96,457 Eggs: 7,475	Milk: 1,012,924 Meat: 128,091 Eggs: 11,211	Milk: 1,274,554 Meat: 215,058 Eggs: 19,403	MINAGRI, Agriculture Sector	MINAGRI Reports
		J. Credit to agriculture sector as percentage of total loans	Percent	5.2	8	10.4	MINAGRI, Agriculture Sector	BNR
14	Increased sustainability and profitability of forestry management	A. Forest coverage of total surface areas	Percent	29.8	30	30	MoE, ENR Sector	RWFA Reports
		B. % of public forest plantation allocated to private operators	Percent	14.1	55	80	MoE, ENR Sector	RWFA reports
15	Reduced biomass usage for cooking	Percentage of households using firewood for cooking	Percent	79.9	66.6	42	MININFRA, Energy Sector	MININFRA Reports, EICV
Social Transformation Pillar								
16	Eradicated extreme poverty	Percentage of the population living below extreme poverty line	Percent	16	3.5	< 1	MINALOC, Social protection sector	EICV, NISR
17	Improved nutrition for children under five (5) years of age	Prevalence of chronic malnutrition (stunting) among under 5 Children	Percent	38	29.9	19	MoH, Health Sector	DHS/HMIS
18	Reduced maternal mortality	Maternal mortality	Per 100,000	210 (2013/14)	168	126	MoH, Health Sector	DHS
19	Reduced under 5 mortality	Under 5 mortality	Per 1,000	50/1,000 (2013/14)	48	35	MoH, Health Sector	DHS
20	Enhanced access to basic infrastructure for health facilities	A. Percentage of health facilities with water	Percent	84	100	100	MoH, Health Sector	MoH reports
		B. Percentage of health facilities with electricity	Percent	82.8	100	100	MoH, Health Sector	MoH reports

7 Years Government Programme: National Strategy for Transformation (NST 1) 2017 – 2024
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It was also evident that ReCIC and its key initiatives were highly relevant to cooking technology and fuel producers, effectively addressing their capacity, technical, and market-access needs while supporting their adaptation to evolving regulatory standards. While the project worked with both stove and fuel producers, stove producers represented the majority of supported companies and were most directly affected by the transition to higher-tier technologies. Through the **CEBGF** framework, ReCIC provided comprehensive capacity-building in business planning, marketing, and technical skills, which companies – four of which had evolved from pottery cooperatives – identified as critical to professionalising their operations. The project's technical training became particularly relevant in the context of the 2022 *Ministerial Guidelines for Clean Cooking Technologies* shifting from tier 2 to tier 3 (and above) stove standards, supporting stove producing companies to upgrade production e.g. through the acquisition of new production techniques to meet regulatory requirements. Support in accessing essential equipment, such as machinery and metal sheets, as well as in constructing or expanding production sites, was also considered highly valuable by stove and fuel producers. **Awareness campaigns** implemented by ReCIC were also important, providing producers – who typically do not engage directly in sales – with visibility, market access, and practical marketing experience. Similar to the perspective of district authorities, for companies, ReCIC stood out as the only initiative in the visited districts to apply a comprehensive market-based model – strengthening their capacities while simultaneously strengthening their market access through on-the-ground awareness campaigns. Overall, companies did **not report gaps** in the project's support, instead emphasising the wish to continue with the project approach to build on the skills and capacities that ReCIC had already strengthened, underscoring the project's strong alignment with their priorities and operational needs.

Finally, the evaluation showed that the ReCIC project was highly relevant to Rwandan households, directly responding to their priorities for safer, healthier and more efficient cooking technologies while

gradually addressing accessibility and affordability challenges. The project operated within a **context of significant demographic and socioeconomic pressure**: Rwanda's population has grown by almost 400 % over the past six decades, more than 80 % of citizens living in rural areas and 28 % being considered economically challenged (BMZ, 2025; NISR, 2025; WorldData.info, 2025). Despite progress in recent years, about 75 % of households continue to rely primarily on firewood for cooking (NISR, 2022). Within this setting, ReCIC's efforts to promote improved cookstoves and cleaner fuels were particularly pertinent to household-level needs. Community members confirmed that the project's objectives aligned closely with their priorities, especially regarding fuel and time savings and improved health outcomes. While improved cookstoves were widely perceived as relevant and beneficial, many households faced significant barriers to access, including uncertainty about points of purchase, limited availability of appropriate fuels, and financial constraints. A significant proportion of the population relies on subsistence agricultural activities as their primary source of livelihood. In this context, the cost of a tier 3 improved cookstove represents a substantial financial investment for most households. Consequently, many dissemination programmes depend on free or subsidised distribution mechanisms to enhance accessibility and adoption. Given households' limited ability to afford higher-tier stoves and the unforeseen introduction of the 2022 Ministerial Guidelines, the project initially prioritised the production of improved clay stoves (tier 2). Furthermore, as the project operated under a **market-based approach**, it abstained from free distribution, instead aiming to raise awareness of communities as potential customers, for instance, through community mobilisations or TV spots. Nonetheless, towards the end of the project, ReCIC supported a pilot initiative with the company Safer 1 Ltd and the fintech company MoneyPhone[3], so that farmers can get a loan for a stove alongside a loan for agricultural inputs. Overall, ReCIC and its key initiatives demonstrated **strong relevance to household needs** by combining behavioural awareness, technological accessibility, and affordability measures in a context of rapid population growth and widespread reliance on traditional biomass fuels. Nonetheless, the findings also highlight the **continued importance** of strengthening local distribution networks and financing options to ensure sustained household access to clean cooking solutions.

The ReCIC project concept was highly appropriate for the Rwandan context, applying a market-based approach in a sector that has traditionally depended on subsidies. By combining supply-side interventions – strengthening production capacities for stoves and fuels – with demand-side measures such as community awareness campaigns, the project sought to foster sustainable changes in the clean cooking sector rather than relying on direct distribution. This approach was further reinforced by a multi-level design, engaging stakeholders at national, district, cell, and village levels, as well as a multi-stakeholder strategy that brought together public authorities, private producers, and community members. Through this integrated framework, the project aimed to support the development of **decentralised stove and fuel production capacities**, including in areas outside Kigali, which is particularly relevant given Rwanda's predominantly rural population and the high levels of poverty. By strengthening local production and linking it with community-level demand, ReCIC addressed both structural and behavioural barriers, enhancing the potential for lasting sectoral changes.

Assessment of the Relevance Criterion

To conclude, the final evaluation determined that ReCIC and its key interventions were highly relevant. The project demonstrated strong alignment with the strategic priorities of the European Union, as well as with national and local policy frameworks. It addressed the needs of stove and fuel-producing enterprises and households, initially focusing on tier 2 stoves to account for household financial constraints, and subsequently adapting to tier 3 stoves in response to the 2022 Ministerial Guidelines. ReCIC and its key initiatives were distinctive in their integration of a market-based approach, combining supply-side support for production with demand-side awareness-raising, while promoting decentralised production capacities – rendering ReCIC

[3] **MoneyPhone** is widely used in Rwanda for digital payments and financial transactions.

a highly relevant and contextually appropriate intervention in the improved cooking sector that addressed the priorities and needs of public authorities, private sector participants, and households alike.

4.2 Effectiveness

The following analysis of **effectiveness** focuses on the extent to which ReCIC and its key initiatives have achieved their intended objectives and delivered tangible results. This evaluation considered quantifiable progress, the effect on beneficiaries, and influencing factors.

Overall, ReCIC and its key initiatives have made significant strides in enhancing the production capacities of stove and fuel producers, raising community awareness, and promoting the adoption of efficient and clean cooking solutions. These achievements have contributed to increased use of improved stoves and fuels, advancing the project's specific objectives and supporting the broader goal of reducing the climate impact of cooking energy systems. Despite **challenges** such as stove affordability, fuel availability, and occasional operational or policy constraints, the project's outcomes **reflect strong effectiveness and a positive trajectory** toward its 2025 targets.

In assessing the effectiveness of ReCIC and its key initiatives, it is important to consider that while ReCIC had a detailed monitoring framework with several target values, grant agreements with companies focused on the achievement of milestones, which is inherent to this type of contractual arrangement. On project level, ReCIC developed a detailed monitoring framework consisting of 19 indicators (including sub-indicators) that included targets such as the cumulative improved cookstoves sold over the implementation period and the contribution to reducing CO2 eq. emissions by 0.2-million-ton per year. On company level, within the CEBGF, emphasis was on the achievement of milestones, with less emphasis on achieving predefined quantitative targets, although the companies did also report their monthly improved cookstoves sold. Tables 2, 3, 5 and 7 depict the achievement of the project indicators, as reported in 2024.

Supply-side: Stove production

According to the theory of change, ReCIC and its key activities aimed at improving the capacities of business for scaling up production and dissemination of climate-friendly cooking technologies (output 1) and the increased use of those by the population (specific objective of the action 1). According to the project indicators, the **annual cookstove production** of the stove producers involved in the CEBGF improved from 15,641 improved cookstoves sold in year 1 to 114,725 stoves sold year 5 (see project indicator 2 in Table 2). Annual sales peaked in year 3, when producers nearly reached the 200,000-stove threshold; however, subsequent annual production levels were significantly influenced by the introduction of ministerial guidelines, which had a substantial impact on production planning and output (see below). In total, until year 5, the stove companies managed to produce and disseminate **519,154** improved cookstoves, mostly to households (see project indicator 1). Throughout the project duration, ReCIC also supported activities related to **institutional cooking and productive-use-of-energy**. As part of this work, three high-performing biomass institutional stoves were developed and constructed (see project indicators 7 and 8). Interviews with company representatives confirmed an **overall increase in production capacity** over the project period, though **significant variation** remained among firms: While industrialised companies such as Safer 1 Ltd reported the capacity to produce up to 1,000 stoves per day, former cooperatives such as Enviro Green indicated a production capacity of approximately 10 stoves per day. This variation reflected the CEBGF's

design, which explicitly sought to include companies at different stages of development, including both industrialised enterprises and semi-industrialised entities such as former cooperatives. Several company representatives also confirmed their increased marketing and sales skills, to find and connect with their customers. However, some companies continued to face **challenges related to logistics and distribution**, including the need to accumulate larger order volumes before arranging transportation to customers.

The company representatives confirmed that their production capacities increased due to ReCIC and its key initiatives. They highlighted financial and technical support, such as the acquisition of machinery, materials, production sites and trainings. The document analysis showed that within the **CEBGF**, each beneficiary company received financial support, ranging from RWF 35,000,000 (for EMT Xavier Company Ltd) to RWF 40,000,000 for the remaining companies[4]. They obtained that financial support, among others, for equipment and machinery, materials, as well as the construction and/or expansion of production sites/offices. The staff of stove producing companies could also participate in trainings, such as on business plans, technical production of stoves, leadership, and marketing. Within the evaluation mission, the company representatives interviewed highlighted the importance and effectiveness of those activities. They confirmed that the support of the project under the CEBGF, as well as the further assistance of the project team members – such as with applications, business plans and reporting – helped them to expand their capacities for stove production. The financial and technical support of the project was particularly important in the context of the 2022 *Ministerial Guidelines for Clean Cooking Technologies* (see chapter 4.1). For instance, companies initially focusing on the production of the Canarumwe, a clay stove, highlighted how ReCIC supported them in the acquisition of skills for tier 3 and above stoves, as well as with the development of tier 3 prototypes for certification. Overall, the feedback underscored both the project's effectiveness in strengthening their production capacity and the **continuing demand for sustained support**. Companies interviewed were particularly interested in the further development of improved cookstove technologies as well as fuel production.

Company representatives also underscored the value of the awareness campaigns in enhancing their marketing capacities and facilitating direct engagement with potential customers. During the interviews, several producers highlighted that, prior to the project, their marketing skills were limited, reflecting their primary focus on production rather than sales. They emphasised that participation in the awareness campaigns was critical, as it provided opportunities to establish contact with prospective customers. Following this engagement, several companies, including Enviro Green and Inganzo, adopted similar approaches independently, initiating cooking demonstrations in public spaces and/or directly with individual households.

Finally, ReCIC provided support to the Rwandan Standards Board, the authority responsible for testing and certifying stove prototypes, a role that gained particular significance in the context of the 2022 *Ministerial Guidelines for Clean Cooking Technologies*. According to the project indicators, throughout the project duration, ReCIC directly supported the Rwanda Standards Board by providing equipment and facilitating exchange visits, strengthening the Board's capacity to evaluate and certify improved cookstove models. After the introduction of the 2022 Ministerial Guidelines, ReCIC then also assisted stove producers within the framework of the CEBGF in developing tier 3 and higher-quality prototypes, thereby reducing the need for repeated testing of previously unsuccessful designs.

Several contextual and programmatic factors positively influenced the effectiveness of ReCIC in strengthening stove-producing companies. High consumer awareness and interest in improved cookstoves – largely driven by awareness and marketing campaigns – created a favourable market environment. The **active engagement** of national and local government authorities further supported project

[4] As of December 2021, according to the European Commission's InforEuro **exchange rates**, RWF 35,000,000 corresponded to approximately EUR 31,000, while RWF 40,000,000 corresponded to approximately EUR 35,000.

implementation, as stove distribution was well aligned with district and sector development priorities, such as depicted within their performance agreement. In addition, the limited number of active producers in the sector provided participating companies with a **competitive advantage** and room for market expansion.

Despite these enabling conditions, several challenges constrained the full realisation of ReCIC's intended results on the supply-side of stove producing companies. As depicted in chapter 4.1, at the policy level, the **2022 *Ministerial Guidelines*** *for Clean Cooking Technologies* disrupted existing agreements and market relationships. Although the national government allowed for a transition period and the EU confirmed that the project team was allowed to continue reporting on tier 2 stoves, stove producers suffered a recess in their sales. This is because after the ministerial guidelines, main customers such as NGOs only bought tier 3 and above stoves for distribution that had been certified by the Rwandan Standard Board, instead of the previously popular tier 2 stoves. For instance, companies such as MPA that had focused on clay stove production reported that tier 2 stoves ordered by organisations right before the ministerial guidelines were then not collected. Due to the necessary development and certification of tier 3 stoves: **restricted skills** in developing elaborate tier 3 and above stove prototypes as well as **certification bottlenecks** at the Rwanda Standard Board caused delays in stove testing and approval, impeding timely market entry for new models. Moreover, a gap between production capacity and sales was observed: At the moment of the evaluation, companies had the capacity to produce more improved cookstoves but limited their production due to the **restricted purchasing powers** of end users. Customer dependency on subsidised pricing remained high, leading to fluctuating demand tied to funding cycles. Producers also faced **weak market linkages and limited marketing and sales skills**. In addition, ongoing **concerns about fuel availability** constrained consumer uptake, indicating the need for integrated approaches that link stove and fuel supply chains. While the project supported two fuel producers, this support did not fully cover the demand (see following section). Finally, during the evaluation mission, some occupational safety shortcomings were observed, such as the lack of protective equipment and gear.

Table 2: Achievement of project indicators (Stove production) (Source: GIZ, 2025)

#	Indicator	Target value	Year 1	Year 5	Remark
Stove production					
1	**Improved cookstoves produced and sold** in households, Social Institutions (SI) and Productive Use (PU) unit	500,000 disseminated improved cookstoves over the total project duration *(accumulated value)*	15,169	519,154 (104 %)	Over the total project duration, a cumulative of 519,154 stoves were disseminated.
2	**Improved cookstoves yearly** production and dissemination	At least 200,000 ICS/year will be sold in year 5 (*annual value*)	15,169	114,725 sold in year 5 (57 %)	In year 5, 114,725 stoves have been sold.
3.1	New **ICS production units** established, and existing ICS production units supported	10 of the 15 cooperatives trained by Practical Action and SNV are re-engaged *(accumulated value)*	5	5	Also continued support for 12 CEBGF companies, amongst them 3 that started as cooperatives.

#	Indicator	Target value	Year 1	Year 5	Remark
3.2		6 new pottery co-operatives will be trained to produce clay-cookstoves *(accumulated value)*	0	4 (67 %)	As part of the project, 4 cooperatives have been re-engaged
3.3		At least 2 semi-industrial producers will open new production sites (of which at least two outside Kigali) *(accumulated value)*	0	9 (450%)	In total, 3 new industrial ICS production sites and 6 new semi-industrial production sites have been established in the past five years.
4	**Estimated CO2 emissions savings**	0.2 million-ton CO2eq are reduced per year as a result of ICS dissemination and increased ICS usage (*annual value*)	9,295	A cumulative of 1,321,911t CO2eq reduced (132 %)	By the end of the project, a cumulative of 1,321,911t CO2eq reduced.
5.1	**Trainings** to producers	10 training sessions on stove production *(accumulated value)*	1	10 (100 %)	Over the duration of the project, a total of 10 training sessions on stove production have been delivered
5.2		10 training sessions on business plan development and marketing *(accumulated value)*	0	11 (110 %)	Over the duration of the project, a total of 11 training sessions on business development and marketing have been delivered. In total 161 trainees received business plan development, marketing and Sales, and Project proposal and Pitch preparation.
6	**Equipment** provided to producers	Equipment given to at least 10 co-operatives and 4 decentralised production sites of semi-industrial producers *(accumulated value)*	9 producers	14 production sites	In total, 14 stove production sites were supported with equipment, machines, warehouse materials, and tools. This included 3 industrial production sites, 6 semi-industrial sites and 5 cooperatives.
7	Identification of **appropriate ICS for**	At least one ICS type for PU and	2	2	Over the project duration, one institutional stove and one

#	Indicator	Target value	Year 1	Year 5	Remark
	PU (restaurants, tea factories) and **SI** (boarding schools)	one ICS type for SI is identified *(accumulated value)*		(100 %)	stove suitable for restaurants (productive use) have been identified.
8	**Training** to producers in the production of appropriate ICS for **PU and SI**	At least 10 producers trained *(accumulated value)*	0	9 trained in ICS for SI (90 %) 10 trained in ICS for PU (100 %)	Over the duration of the project, 9 trainees received training to build the institutional stove, and 10 technicians were trained to produce a stove suitable for restaurants.
9	**Financing products** by MFI for ICS users	At least 1 nationwide MFI and 3 SACCOs have developed financing products for ICS buyers *(accumulated value)*	0	2 MFI	Over the duration of the project, one scoping study on clean cooking finance mechanisms and the financial environment for ICS users was conducted. Two cooperation agreements with microfinance institutions were established and piloted (RIM Ltd and MoneyPhone Ltd).
10 / 13	**Retail points** (distribution network)	ICS sold in 18 shops: 10 in Kigali and 2 in each province. *(accumulated value)*	0 0	19 5 (122 %)	In year 5, 24 retail shops were established and operating – 19 in Kigali and 5 outside the capital. Other retail points had been established in earlier years but are no longer functioning.
11	**Testing of improved stoves**	At least 5 stove types are tested *(accumulated value)*	2	5 (400 %)	20 types of stoves (175 units) have been tested by project staff and RSB.
12	**Quality control system** for stove and fuel producers	Each producer will be controlled by an independent organisation at least once per semester (from year 3 on) *(accumulated value)*	0	1 (100 %)	A quality assurance approach for stoves has been drafted, and a report has been produced

Table 3: Achievement of project indicators (Rwandan Standard Board)

#	Indicator	Target value	Year 1	Year 4	Remark
Rwandan Standard Board					
18.1	**Rwandan testing set-up** is defined with National Authorities, equipment purchased, and staff trained in accordance	Equipment for testing centre purchased *(accumulated value)*	0	1 (100 %)	The RSB stove testing laboratory has been fully equipped, and staff member were trained. The RSB stove testing laboratory has gained growing recognition as a regional testing laboratory for stoves and fuels.
18.2		Exchange visits and training with the approved regional testing centre are organised (at least one in each direction) *(accumulated value)*	0	2 (100 %)	SB and EDCL staff were successfully trained in stove testing according to ISO and RW standards An exchange trip to Kampala, Uganda was organized. Meetings with the Ugandan Ministry of Energy & Mineral Development, as well as testing and standard entities were visited.

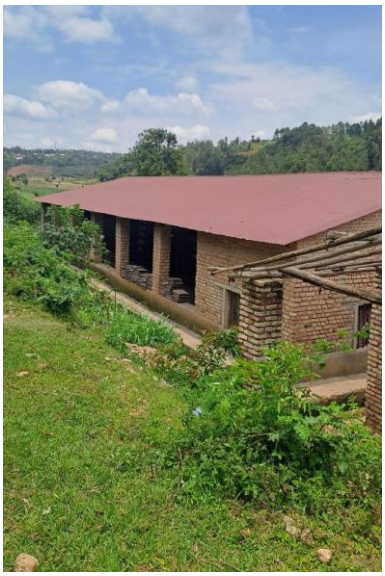
Table 4: List of ReCIC-funded companies selected for the final evaluation (Stove producers)

#	Company	Main support (Grant Agreement)	Company performance	Industrialisation level[5]
Kigali City				
1	**Eco Green Solutions**	Stove production equipment	High performing	Industrial
2	**Green Hanga Ltd.**	Stove production equipment and raw materials	High performing	Semi-industrial (Former cooperative)
3	**Safer 1 Ltd**	Equipment for new stove distribution channels	High performing	Industrial
4	**OAK investments LTD**	Stove production equipment and raw materials	Medium performing	Industrial
Western Province				
7	**Ado Green Conserve Company Ltd**	Stove production equipment and raw materials	Medium performing	Small-scale (Former cooperative)
8	**MPA (Modern Pottery Art)**	Stove production equipment and raw materials, production site	Medium performing	Small-scale (Former cooperative)
Eastern Province				

[5] **Light green** indicates entities that began as artisan cooperatives and, with CEBGF support, transitioned to semi-industrial private companies.

9	**Enviro Green Conserve Company Ltd**	Stove production equipment and raw materials, production site	Medium performing	Semi-industrial (Former cooperative)
10	**Inganzo Pottery Company**	Stove production equipment and raw materials, production site	Low performing	Small-scale
Northern Province				
11	**EMT Xavier Company Ltd**	Stove production equipment and raw materials	Low performing	Semi-industrial
Southern Province				
12	**MILTEC Company**	Stove production equipment, production site	Low performing	Small-scale

Photos 2a-c: Production sites (Inganzo, MILTEC) and office (MPA) for stove production (selection) (Source/©: Alexandra Hoppe 2025)


Photos 3a-c: Equipment for stove production (Green Hanga, MPA, OAK) (selection) (Source/©: Alexandra Hoppe 2025)



Photos 4a-f: Different stove types (Green Hanga, Safer 1 Ltd, EMT Xavier Ltd, Inganzo, MPA metal and clay stove) (selection) (Source/©: Alexandra Hoppe 2025)





Supply-side: Fuel production

Based on the theory of change, ReCIC and its key initiatives aimed to improve the capacities of fuel producing companies (Output 1) and to introduce improved biomass fuels (Output 2), for the increased use of efficient and clean cooking solutions (specific objective of the action 1) and reduce biomass consumption for cooking purposes (specific objective of the action 2). According to project indicators, by 2025, five production sites for improved fuel had been established and were fully operational, representing 83% of the target value. In addition, 22 **retail points** for fuels (pellets and briquettes) were established at the moment of the evaluation, predominantly in Kigali and operated by BioMassters. Other retail points, including shops run by cooperatives, had been opened during the project duration, but later closed following the introduction of the 2022 Ministerial Guidelines. The interview with the company representative from BioMassters confirmed that **production capacity** had increased over the course of the project. Unlike many of the stove-producing companies, BioMassters is a well-established industrialised enterprise with a strong reputation among stove producers and customers. At the time of the evaluation, high demand had prompted the company to prepare for the opening of an additional retail outlet in the Rubavu District, Western Province. Nonetheless, production at ENEDOM was inactive during the evaluation period, partly due to unforeseen private reasons of the company representative and the withdrawal of a key buyer.

Company representatives of the fuel producing companies confirmed that their (potential) production capacities increased as a result of ReCIC and its key initiatives, particularly through the support provided under the CEBGF. They highlighted the acquisition of the machinery, such as a wood chopper, and the visibility gained within the participation of the project. Document analysis indicated that each company received financial support of RWF 40,000,000, which was allocated toward pellet production machinery (for BioMassters and ENEDOM) and the construction of parts of the production site, including offices and a shaded area for ENEDOM in Kigali City. In the case of ENEDOM, the company initially proposed establishing a private testing laboratory; however, following feedback from the CEBGF committee, it revised its business plan to focus on pellet production, demonstrating the adaptive guidance provided through the project. Staff members of the fuel-producing companies also participated in a range of trainings covering business planning, fuel production techniques, leadership, and marketing. During the evaluation mission, company representatives emphasised the importance and effectiveness of these activities, confirming that support under the CEBGF had been instrumental in expanding their fuel production capacities.[6]

Several factors positively influenced the effectiveness of ReCIC in improving biomass fuel production. High consumer awareness and interest in improved fuels – promoted through campaigns highlighting economic and efficiency benefits – created a receptive market environment. **Local government engagement** further facilitated production, as fuel supply initiatives were aligned with district and sector priorities. The limited number of active fuel producers in the market provided participating companies with **opportunities for growth and market expansion**; in this vein, some stove producers confirmed that some of their customers had used BioMassters' fuels for cooking. In addition, BioMassters benefited from **external technical and business support** within their own steering structure, which strengthened their operational and managerial capacities.

Despite these enabling conditions, certain challenges constrained the full realisation of fuel production improvements. This was particularly evident in the case of ENEDOM. There, **unforeseen private reasons** temporarily disrupted company operations. They also faced **challenges in the acquisition** of their machinery,

[6] In addition to the CEBGF, three additional companies were selected by GIZ under the so-called **Alternative Fuel Challenge Fund**. Grant support had been planned for these companies but ultimately proved not feasible due to internal reasons within GIZ, so the project instead provided equipment and construction materials to upgrade production sites and strengthen or expand their distribution chains. The Alternative Fuel Challenge Fund and its activities were not addressed in this evaluation as the evaluation centred on ReCIC's key initiatives.

as the shipping company employed supplied used instead of new machines with limited production capacity. Although the ENEDOM representative tried to solve this problem, among others, by contacting the shipping company as well as the respective embassy, it was not possible for them to exchange the machinery. Additionally, the ENEDOM representative highlighted a **challenge with the exchange rate**: with exchange variation, at the time the grant was received, they received RWF 32,000,000 instead of the envisioned RWF 40,000,000. Also, while fuel demand was generally positive, **dependency on subsidised stove access** influenced consumer purchasing patterns to some extent, creating minor fluctuations in fuel demand.

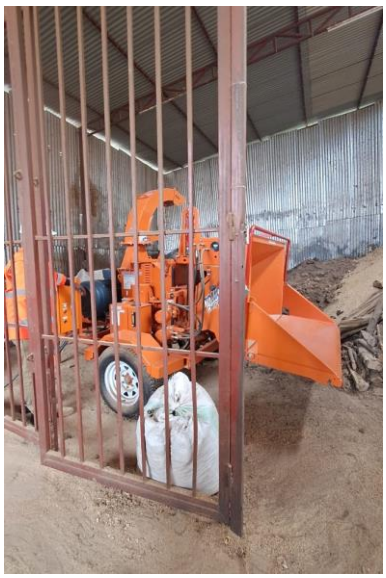
Table 5: Achievement of project indicators (Fuel production)

#	Indicator	Target value	Year 1	Year 4	Remark
Fuel production					
14	**Training** aimed at charcoal and potentially improved fuel producers on the production of improved fuel	At least 50 fuel producers trained *(accumulated value)*	0	50 (100 %)	In total 50 fuel producers received training
15	**Production sites** for improved fuel are established and functional	At least 6 production sites are established and functional: amongst them, green charcoal production and wood conditioning sides *(accumulated value)*	6	5 (83 %)	In total, 5 alternative fuel production sites were supported
16	**Test of fuels**	At least 3 types of improved fuels are tested *(accumulated value)*	0	3 (100 %)	In total, 3 types of alternative fuels were tested.
17	**Retail points** (distribution network)	Fuels (pellets, briquettes, or other alternative fuel) are sold in 8 shops: at least 4 shops in Kigali. *(accumulated value)*	0	22 (275 %)	In total, 22 fuel retail shops are still operational: 20 shops in Kigali, 2 shops outside Kigali

Table 6: List of ReCIC-funded companies selected for the final evaluation (Fuel producers)

#	Location	Company	Categorisation regarding milestone achievement	Industrialisation level
Kigali City				
5	Nyarugenge District, Kigali	**Energie Domestique (ENEDOM)**	Low performing	Small-scale
Western Province				
6	Rubavu District, Western Province	**BioMassters**	High performing	Industrial

Photos 5a-c: Equipment and improved production sites for fuel production (selection) (Source/©: Alexandra Hoppe 2025)



Demand-side: Awareness-raising

As depicted in the theory of change, ReCIC and its key activities aimed to increase awareness of households (Output 1), to increase the use of efficient and clean cooking solutions by the population (specific objective of the action 1) and to reduce biomass consumption for cooking purposes (specific objective of the action 2). According to project indicators related to awareness campaigns (see Table 7) and stove dissemination (see Table 2), ReCIC conducted 190 community mobilisations and cooking demonstrations, alongside additional marketing activities such as television adds, radio spots, billboards and posters; and over the project duration, the companies produced and sold 519,154 improved cookstoves. The **community mobilisation activities** consisted of three components: first, an introduction by local authorities ('public voice') highlighting the environmental and health impacts of firewood use; second, presentations by the project team showcasing the stove and fuels ('private voice')[7]; and third, live cooking demonstrations. These events also provided space for community members to engage directly with producers and the project team and pose questions. According to the project progress report, for example, in 2024, each awareness-raising event was attended by an average of 700 participants, including several local authority representatives from the participating districts. Focus group discussions with community members conducted during the evaluation confirmed their **knowledge of improved cookstoves** and expressed **interest in acquiring them**. However, consistent with findings from the stove production assessment, household representatives also emphasised **persistent barriers to access**, including financial constraints and limited information on where to purchase improved cookstoves and corresponding fuels within their districts.

Community members reported that their awareness of improved cookstoves increased as a result of participating in the project's awareness campaigns. Document analysis indicated that, within NOZA IMITEKERE and previous awareness-raising activities, a total of 190 community mobilisation events and cooking demonstrations were conducted across eleven districts (see Table 8). During the evaluation mission, focus group participants highlighted the effectiveness of these events, noting that the community mobilisations provided an opportunity to learn about the benefits and proper use of improved cooking technologies. Participants consistently demonstrated an **understanding of the stoves' added value**, citing **perceived benefits such as durability, reduced fuel consumption, ease of use, environmental friendliness, improved health**

[7] The presentation was primarily delivered by the project team. While all companies were informed, attendance was generally limited to those located in the relevant sector, such as Enviro Green during the campaign in Gatsibo.

and safety, and enhanced convenience. Although a few negative perceptions were expressed – such as the relatively high cost of improved cookstoves, or limited availability of stoves and fuels – the overall feedback underscored the relevance and utility of the campaigns, as well as a strong community interest in continued awareness-raising efforts. In particular, participants highlighted the importance of the cooking demonstrations and the opportunity to engage directly with producers.

Finally, several community members further reported that participation in the awareness campaigns influenced their decision to acquire an improved cookstove. Some made this decision during the events, either purchasing a stove directly or registering as potential customers, while others decided to acquire a stove subsequently. However, participants also identified **persistent challenges** in accessing stoves and corresponding fuels. Barriers included lack of follow-up from producers, uncertainty about where to purchase the stoves presented at the events, and limited knowledge regarding fuel availability. In this context, participants suggested that strengthened involvement of local leaders could help address these challenges by disseminating information on the purchasing process and supporting ongoing access to improved cooking solutions.

Several elements contributed positively to the effective improvement of community awareness regarding improved cookstoves. High consumer interest and understanding of the stoves' benefits created a receptive environment for awareness campaigns. Active engagement of local government, aligning stove distribution with district and sector priorities, further reinforced these efforts. In this vein, on several occasions, awareness raising events were conducted within the "**District Joint Action Development Forum (JADF) open days**" organised by the district authorities. This refers to a week-long event organised within a district under the JADF, a platform that consolidates partnerships between local authorities, non-governmental organisations and the private sector, to showcase their activities, achievements, and contributions to the public through exhibitions, media, and social media, jointly managed by public, private, and local or international organisations. The **presence of local producers** during these campaigns allowed participants to ask questions, build trust in the products, and establish direct contact with suppliers. **Cooking demonstrations** were particularly valued by community members, as they provided practical exposure to stove use and the opportunity to assess cooking performance and food quality firsthand.

Despite these enabling conditions, several challenges limited the full effectiveness of awareness-raising activities. Timing and accessibility issues often prevented participants from attending campaigns, as schedules were not always communicated in advance and some households faced work or travel constraints. **Limited follow-up information** left communities unclear on where to purchase stoves and fuel after campaigns. Additionally, some participants reported **low responsiveness from companies** following the events, despite interest being collected. **Potential gaps in user guidance** were also noted, particularly regarding correct stove operation to ensure maximum efficiency and health protection, such as reducing indoor smoke exposure.

Table 7: Achievement of project indicators (Awareness campaigns)

#	Indicator	Target value	Year 1	Year 4	Remark
Awareness campaigns					
19.1	**Marketing- and awareness raising-campaign**	900 TV-adds *(accumulated value)*	0	30 (3 %)	Annual marketing and awareness-raising campaigns were implemented, covering 154 sectors across 12 districts. A nationwide media campaign was also launched, including 24 televised advertisements and four talk-show appearances.

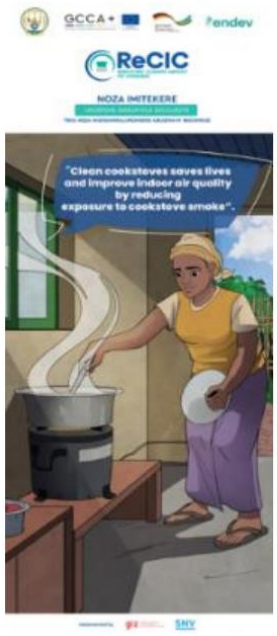
19.2		4,500 radio-spots *(accumulated value)*	0	420 (9 %)	Over the duration of the project, a total of 420 radio spots (402 Radio ads and 19 talk shows) were streamed. Social media platforms such as 29 LinkedIn, 17 YouTube, and 89 X (formerly Twitter), as well as the EnDev website, were used to share information about the project.
19.3		30 billboards and 300 posters *(accumulated value)*	0	20 (67 %) 300 (100 %)	A total of 20 billboards, 1,351 flyers, 300 postcards, 600 toolkits, and 300 posters were produced and distributed to convey clean cooking messages. Additionally, four teardrop banners were designed and procured.
19.4		PR gadgets designed and produced *(accumulated value)*	0	1 (100 %)	In total, 16 cross load banners, 40 pull-up banners, 2.260 T-Shirts, 1,027 Caps, 450 aprons,41 branded pens, 28 Notebooks, 4 umbrellas, 50 stickers and 10 Metal label, 2 cut-out stand, and 2 Gazebo Tents were designed and procured for different purposes such as the awareness raising campaigns, stakeholder management and RSB (metal labels).
19.5		150 community mobilisations *(accumulated value)*	0	190 (127 %)	190 community mobilization and 4 roadshows were held in 6 districts; Attendance at each event varied over the years from 400 to more than 1,000 participants
19.6		300 Cooking demonstration and awareness-raising sessions *(accumulated value)*	2	195 (65 %)	195 events of cooking demonstrations were held in 6 districts; Attendance at each event varied over the years from 400 to more than 1,000 participants

Table 8: List of awareness campaigns within the NOZA IMITEKERE campaign (selection)

#	Location	Description
Kigali City		
1	Gasabo District	10 times participation in open days/ Cooking demonstrations and community mobilisation
2	Nyarugenge	10 times participation in Umuganda/ awareness raising and cooking demonstrations, 1 road show
Western Province		
3	Rubavu District	26 events/ awareness raising campaign and cooking demos
4	Nyamasheke District	10 events/ awareness raising campaign and cooking demos
5	Nyabihu District	16 events/ awareness raising campaign and cooking demos
6	Ngororero District	13 events/ awareness raising campaign and cooking demos
Eastern Province		
7	Gatsibo District	27 events of awareness raising and cooking demos
8	Kayonza District	14 events awareness raising and cooking demos
Northern Province		
9	Musanze District	17 events of awareness raising campaign and cooking demos
Southern Province		
10	Gisagara District	14 events, awareness raising and cooking demos
11	Muhanga District	23 events, awareness raising and cooking demos
12	Microfinance pilot	10 events with Money-phone and 1 event with RIM

Photos 6a-c: Community mobilisation in Ngororero as depicted in the Progress Report 2024 (Source/©: GIZ 2024)


Photos 7a-e: ReCIC Banners and billboards as depicted in the Progress Report 2024 (Source/©: GIZ 2024)



<u>Overall objective of the action: Reducing climate impact</u>

As outlined in the Theory of Change, ReCIC and its key activities sought to reduce the climate impact of cooking energy systems. Project indicators demonstrate that the dissemination of improved cookstoves increased, accompanied by heightened household awareness and adoption of these stoves and corresponding fuels. Consequently, Project Indicator 4 tracks the **estimated CO_2 emission savings**, which by Year 5 amounted to approximately 1.3 million tonnes of CO_2 equivalent cumulatively – **exceeding the original target** of a cumulative of 1.0 million tonnes per year (132 %). Collectively, these results contribute to the broader objective of mitigating the climate impact of cooking energy systems, illustrating that improvements in

production capacity, product quality, and community knowledge have effectively facilitated a shift toward more efficient and environmentally sustainable cooking practices.

Assessment of the Effectiveness Criterion

To conclude, the final evaluation demonstrates that ReCIC and its key initiatives have been largely effective in achieving the intended outcomes. The project successfully strengthened the capacities of stove and fuel producers, increased community awareness of improved cooking solutions, and facilitated higher adoption of clean and efficient stoves and fuels. While some challenges – such as affordability, fuel availability, and operational or policy constraints – limited the full realisation of results, the overall progress indicates substantial contributions toward the specific objectives and the overarching goal of reducing the climate impact of cooking energy systems.

4.3 Impact

The **impact** analysis of ReCIC assesses the (potential) long-term effects of ReCIC and its key initiatives on (1) health, education and/or poverty alleviation of the population, (2) economic development and/or resource mobilisation (especially for women), as well as (3) the resilience of Rwanda to Climate Change and reduced pressure on Rwanda's forest coverage. The evaluation also focused on identifying any unintended consequences that may have emerged and/or could emerge.

Overall, ReCIC and its key initiatives have laid a foundation for plausible long-term positive impacts on health, education, poverty alleviation, economic development, gender inclusion, and environmental sustainability. The project's interventions in stove and fuel production, combined with community awareness campaigns, have increased the adoption of improved cookstoves and fuels, contributing to reduced indoor air pollution, time savings, and lower fuel consumption. These changes are expected to generate broader benefits, including improved health outcomes, more time for education, enhanced economic opportunities – particularly for women – and reduced pressure on forests, supporting climate resilience. The presence of producers, public authority support, and strong community interest underpin the plausibility of sustained impact. However, the population's financial capacity, dependence on free and/or subsidised stove distribution, and limited fuel availability, represent relevant **constraints** for uptake**.**

As described in the effectiveness chapter, ReCIC aimed to influence household perspectives, shaping their understanding and perception of improved cookstoves. The evaluation showed that awareness campaigns, including cooking demonstrations, effectively changed how households viewed and valued these stoves. Participants associated improved cookstoves with a range of positive attributes – durability, reduced fuel consumption, ease of use, safety, better health outcomes, environmental benefits, and the ability to multitask while cooking – while some noted minor challenges such as cost and limited fuel availability. These perceptions translated into concrete actions: many households purchased stoves, actively used them, or were added to lists of interested buyers for future stoves. The campaigns clearly enhanced knowledge about correct stove use and efficiency, enabling households to adopt new cooking practices. However, uptake remained constrained by limited stove and fuel availability and households' financial capacity, resulting in continued reliance on subsidies to access improved cooking solutions.

ReCIC and its key interventions demonstrate a plausible potential for long-term positive effects on health, education, and poverty alleviation, aligning with the objectives of EnDev's impact area of *Energising Lives* and SDGs 3 and 5. Indicators show substantial progress in the dissemination of improved

cookstoves, a finding corroborated by public authorities, community members, and social and economic development officers in the visited cells. All stakeholders emphasised the perceived **health** benefits, including reduced exposure to indoor smoke and ash, contributing to cleaner living and cooking environments. Several interviewees further noted potential positive impacts on **education**, as the time saved from fuel collection could allow children to attend school more regularly, although no respondents explicitly confirmed changes in school attendance following stove adoption. **Poverty alleviation** was supported through reduced fuel consumption, associated cost savings, and time freed from firewood collection, enabling households to engage in other productive activities. Nevertheless, a **limitation** regarding health outcomes was identified: potential burn risks for children have received limited attention. While some producers observed that stoves' portability can help mitigate such risks, future interventions should consider strengthening awareness and safety guidance to further enhance health outcomes and protect vulnerable household members.

ReCIC and its key interventions exhibit a plausible potential for long-term impact on economic development and resource mobilisation, with particular benefits for women, consistent with the objectives of EnDev's impact area of *Energising Opportunities*. The evaluation indicates that the project has strengthened **production capacities** across the districts and contributed to job creation, including **opportunities for women** within stove production. In this regard, women benefitted both as leaders of stove companies or cooperatives – such as EcoGreen, Safer1, Inganzo, and EMT Xavier – and as members of the female workforce within the companies and cooperatives. Some company representatives highlighted that they had been able to provide employment opportunities to women, including women with sole caregiving responsibilities. Although much of the **current employment is temporary and contingent on incoming orders** – which have been influenced by policy changes such as the 2022 *Ministerial Guidelines for Clean Cooking Technologies* – the enhanced production capacity provides a foundation for more stable economic activity over the longer term. Several companies now have the potential to scale up operations, generate sustained employment, and more effectively mobilise local resources as demand stabilises and additional orders are secured. Consequently, while short-term employment has been variable, the project's interventions establish conditions conducive to meaningful, longer-term contributions to local economic development and women's economic participation.

Finally, ReCIC's interventions demonstrate a plausible potential for long-term impact on climate resilience and the reduction of pressure on Rwanda's forest resources, aligning with the objectives of GCCA+ and SDG 15. The project indicators show that the dissemination of improved cookstoves and fuels plausibly contributes to **lower emissions** and **decreased reliance on firewood**, a finding corroborated by public authorities and community members. Households expressed a growing interest in using improved fuels instead of traditional biomass, reflecting a **shift in awareness and behaviour** toward more sustainable energy practices. Nonetheless, **adoption remains constrained** by limited fuel availability and insufficient knowledge regarding sources of supply, as consistently highlighted in interviews and focus group discussions. Producers focusing solely on stoves similarly reported that these limitations impede a full transition away from firewood. Despite these challenges, the enhanced adoption of efficient cookstoves and fuels provides a foundation for long-term environmental benefits, including reduced land degradation and increased resilience to climate change, contingent upon the implementation of complementary measures to improve fuel access and supply.

A key limitation to the long-term impact of improved cookstoves is the population's dependence on subsidies and external financing, which reflects the broader socio-economic context of the sector. As depicted in Chapter 4.1, improved cookstoves remain relevant for rural households, supporting the durability of project outcomes. However, affordability remains a challenge: 28 % of Rwandans are considered economically vulnerable (NISR, 2025), while the average improved cookstove costs approximately RWF 30,000-45,000, not including fuel expenses. Even if the government achieves its target of distributing 500,000 stoves, based

on 2022 demographic data, this would cover only about 15% of Rwanda's households[8] (NISR, 2022). Since 75% of households were still relying on firewood for cooking in 2022 (NISR, 2022), the majority would continue to depend on traditional fuels. Although producers are operational, public authorities provide support, and households demonstrate strong interest, limited financial capacity among the population remains a critical constraint. Interviews with companies and households confirmed that, despite evident demand and available supply, **access to improved cookstoves continues to be heavily reliant on subsidies**. Current initiatives, such as the World Bank's distribution of tier 3 and higher stoves at subsidised prices, further illustrate the difficulty of establishing a self-sustaining market without continued government or external support, highlighting a **structural barrier** to achieving long-term sectoral impact.

Assessment of the Impact Criterion

To conclude, ReCIC has established a solid foundation for long-term impacts on health, education, poverty alleviation, economic development, gender inclusion, and environmental sustainability. The project's support for stove and fuel production, combined with community awareness, has increased adoption of improved cookstoves and fuels, contributing to cleaner indoor air, time savings, and reduced fuel consumption. While financial constraints, reliance on subsidies, and limited fuel availability remain challenges, the presence of producers, public authority support, and strong community interest make the long-term benefits plausible. Sustained support and complementary measures will be essential to ensure these positive effects are maintained and scaled.

4.4 Sustainability

The **sustainability** of ReCIC assesses the extent to which their benefits will continue beyond the project's duration. This criterion examines whether the interventions have been institutionalized within local systems, whether they have built sufficient local capacity to ensure long-term impact, and whether continuation plans are in place to maintain and expand results after ReCIC ends.

Overall, the results achieved by ReCIC demonstrate a promising level of sustainability. On the supply-side, strengthened production capacities and functional equipment among stove and fuel producers provide a solid foundation for continued operations, while some producers have secured additional funding and repair services exist for stoves. On the demand-side, household awareness and adoption of improved cookstoves have been embedded, particularly in rural areas, supported by effective awareness campaigns and demonstrations. **However**, the long-term durability of these results depends on households' financial capacity, the availability of stoves and fuels, and adequate follow-up and user guidance, highlighting the need for complementary measures to maintain and scale the project's impact; as well as on national policies and priorities.

The strengthened production capacities of stove and fuel producers are likely to be durable; however, their full potential depends on households' financial ability to afford improved cookstoves as well as on national policies and priorities. Most supported producers continue to operate and sell their products, with machinery and equipment remaining functional, and are prepared to scale up production and expand staffing in response to increased orders. Several stove producers have also expressed strong interest in

[8] According to the National Institute of Statistics of Rwanda (NISR, 2022), Rwanda had a total of 3.3 million households in 2022.

entering fuel production, although this expansion remains contingent on access to **additional funding**. Some companies have already secured financing through programmes promoting local procurement, reflecting sustained investment and confidence in the sector. The durability of these outcomes is further reinforced by the strong alignment of the interventions with public priorities: the topic of clean and efficient cooking is highly relevant for national and district authorities, who actively support the sector – for example, by involving producers in public open days and other promotional events. Repair services for improved metal stoves are available, although focus group participants reported limited utilisation to date. **Challenges** remain in product distribution and customer connectivity; establishing networks of sales agents or engaging local leaders in post-demonstration follow-up could strengthen supply continuity and ensure households can access stoves and fuels when needed. Nevertheless, the long-term durability of supply-side outcomes is ultimately constrained by households' financial capacity, highlighting affordability as a critical determinant of sustained sectoral impact. National policies and priorities in Rwanda that increasingly emphasize liquefied petroleum gas and electric cooking, such as the current versions of the National Strategy for Transformation (NST2) or the Energy Sector Strategic Plan, may further limit support for biomass-based technologies and their producers.

Households' awareness and adoption of improved cookstoves are likely to be durable, but the persistence of these results depends on accessibility and affordability. The project has improved the public image of clean cookstoves and raised household awareness, particularly in rural areas where the stoves are highly relevant. Households have changed their perceptions, purchased stoves, and demonstrated the ability to use them correctly, indicating that knowledge and interest are embedded. However, the durability of these results is constrained by the availability of stoves and fuels, and access to adequate user information. Strengthening the involvement of local leaders through "training of trainers" approaches could enhance the retention and dissemination of knowledge over time. As depicted in chapters 4.1 and 4.3, the durability of the results also depends on the future affordability of the improved cookstoves.

Photos 8a-c: Shop (MILTEC) for selling own stoves and reselling other stoves (Source/©: Alexandra Hoppe 2025)

Assessment of the Sustainability Criterion

To conclude, the final evaluation showed that ReCIC has established durable results both on the supply- and demand-side, with functional production capacities and sustained household awareness. While structural constraints such as affordability, fuel availability, and limited distribution networks pose challenges, the presence of motivated producers, supportive public authorities, and community interest provide a solid basis for

continued and scalable outcomes. Continued support, targeted financing, and strengthened local networks will be critical to ensure that these sustainable results are maintained over time.

4.5 Efficiency

The **efficiency** of ReCIC assesses how well resources – financial, human, and operational – were utilized to achieve intended results. This criterion examines whether pilot project activities were executed in a timely and cost-efficient manner, whether outputs were maximised in comparison to inputs, and analysed whether management processes were well-structured and responsive.

Overall, the project made generally efficient use of resources despite delays caused by COVID-19, initial conceptual adjustments, and evolving stove standards. The uniform financial investment of approximately RWF 40,000,000 per company supported both established producers in scaling production and the creation of decentralised stove capacity in previously underserved districts, addressing immediate outputs and long-term sectoral development. ReCIC's networked approach and on-site awareness events strengthened connections between local authorities, companies and communities, while remaining challenges – such as limited producer responsiveness and the limited knowledge of where to find stoves and fuels – highlight opportunities to further enhance efficiency in future interventions.

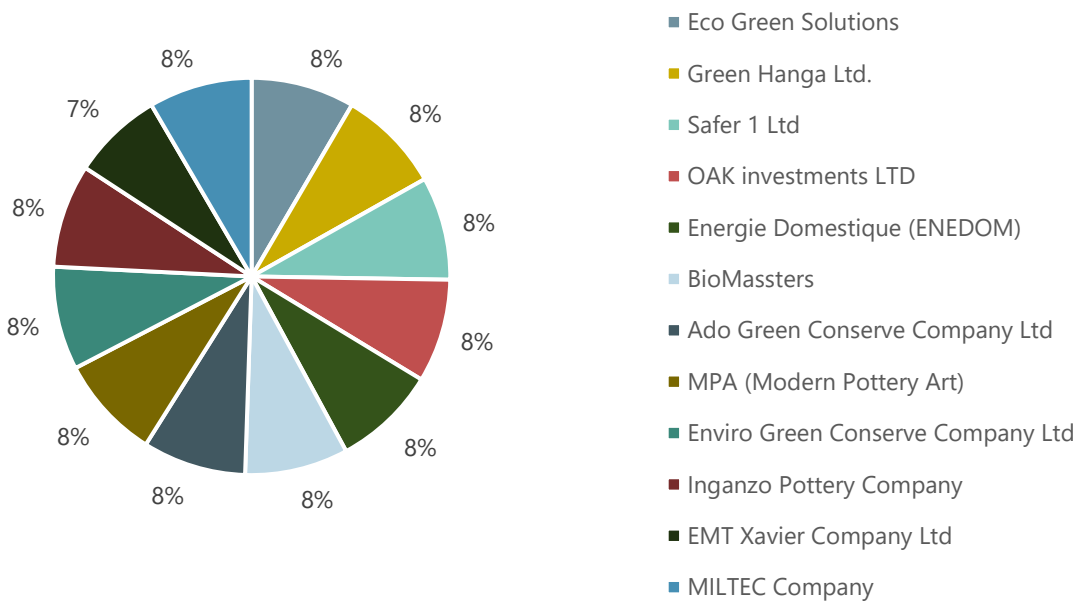
Table 9: Distribution of funds (RWF) according to Grant agreements[9]

#	Company	Company	Support	Company performance	Grant (RWF)
Kigali City					
1	**Eco Green Solutions** (industrial)	Stove production equipment	Stove production	High performing	RWF 40,000,000
2	**Green Hanga Ltd.** (semi-industrial, former cooperative)	Stove production equipment Raw materials	Stove production	High performing	RWF 40,000,000
3	**Safer 1 Ltd** (industrial)	Stove distribution equipment	Stove production	High performing	RWF 40,000,000
4	**OAK investments LTD** (industrial)	Stove production equipment Raw materials	Stove production	Medium performing	RWF 40,000,000
5	**Energie Domestique (ENEDOM)** (small-scale)		Fuel production	Low performing	RWF 40,000,000

[9] The information presented is based on the project's grant agreements. In addition to the support outlined in these agreements, selected companies received further in-kind support toward the end of the project period.

Western Province					
6	**BioMassters** (industrial)		Fuel production	High performing	RWF 40,000,000
7	**Ado Green Conserve Company Ltd** (small-scale, former cooperative)	Stove production equipment Raw materials	Stove production	Medium performing	RWF 40,000,000
8	**MPA (Modern Pottery Art)** (small-scale, former cooperative)	Production site Stove production equipment Raw materials	Stove production	Medium performing	RWF 40,000,000
Eastern Province					
9	**Enviro Green Conserve Company Ltd** (semi-industrial, former cooperative)	Production site Stove production equipment Raw materials	Stove production	Medium performing	RWF 40,000,000
10	**Inganzo Pottery Company** (small-scale)	Production site Stove production equipment Raw materials	Stove production	Low performing	RWF 40,000,000
Northern Province					
11	**EMT Xavier Company Ltd** (semi-industrial)	Stove production equipment Raw materials	Stove production	Low performing	RWF 35,000,000
Southern Province					
12	**MILTEC Company** (small-scale)	Production site Stove production equipment	Stove production	Low performing	RWF 40,000,000

Figure 3: Distribution of funds (%) according to Grant agreements



The project achieved several of its intended objectives, but implementation experienced notable delays. Initially, the project concept did not clearly specify the initiatives to be implemented, and the COVID-19 pandemic further delayed the start, requiring remote implementation. National stakeholders had expected a distribution-focused approach rather than the market-based model eventually implemented, which, although positively received, contributed to early delays, as stakeholders needed some time to discuss and align. Later, the introduction of the **2022 *Ministerial Guidelines for Clean Cooking Technologies*** created additional interruptions, as producers needed training for tier 3 stove production and certification processes were slowed by both producer errors and long waiting times at the Rwanda Standards Board. While incorporating tier 3 stoves from the outset could have reduced later delays, the ministerial guidelines had not been predictable, and focusing on improved production of clay stoves was a reasonable adjustment given households' limited capacity to finance higher-tier stoves.

ReCIC generally demonstrated effective use of available resources, although certain adjustments could have further enhanced efficiency. A **key strength** of the project was the team's consistent networking approach, which brought together public authorities, private producers, and community members, generating synergies and facilitating coordinated action across stakeholders. Resource utilisation, however, was affected by unforeseen **challenges**, such as the mandatory transition from tier 2 to tier 3 stoves (see above), which necessitated additional training and extended **certification processes**. While interviews did not indicate that alternative resource allocation at the outset would have substantially increased outcomes, one exception might have been the steering committee's decision not to support the business plan of establishing a private standard testing laboratory (see chapter 4.2). In early 2023, the steering committee decided against funding a private laboratory in addition to the Rwanda Standards Board, in order to avoid duplicating existing institutional functions. Nevertheless, such a facility could have potentially accelerated prototype testing, given the bottlenecks at the RSB following the implementation of the 2022 Ministerial Guidelines. Regarding outreach, **interactive on-site activities** – such as cooking demonstrations and direct engagement by producers – proved considerably more effective than TV or radio campaigns, suggesting opportunities for more targeted and efficient resource use. The **limited responsiveness of stove producers** on orders after awareness events,

however, required additional effort from the project team to follow up. Overall, efficiency could be further improved in future interventions by **training local leaders and involving sales agents** to enhance both the reach and durability of results, ensuring that households are informed at awareness events, know where to obtain stoves and fuels, and about correct stove use. Additionally, **broader inclusion of fuel producers** alongside stove producers could have strengthened value chain linkages, as limited fuel availability remains a key constraint on the dissemination of improved cookstoves and a factor contributing to slower achievement of results.

The uniform financial investment of approximately RWF 40,000,000 per company was justified, as it supported both established, high-performing producers in scaling production and the creation of decentralised stove production capacity in districts that previously lacked local producers. This approach addressed immediate outputs while fostering longer-term sectoral development. Cost-effectiveness can be assessed by examining these investments in relation to their role in strengthening stove and fuel production capacities and promoting clean cooking solutions. Across the twelve beneficiary companies, financial support was largely uniform. Analysis of costs relative to performance, which includes factors such as current production capacity, reveals no clear correlation between company performance and industrialisation level or the type and quantity of equipment provided (see table 9). Notably, some former cooperatives ranked between high and medium performing despite lower initial capacities. Among the high-performing companies, some, such as Safer 1 Ltd and BioMassters, were already well-established prior to the project. While these companies achieved high production outputs, the **marginal effect of project support** was less pronounced than for less-established enterprises, including former cooperatives. From a cost-effectiveness perspective, the project's effect should also be considered in light of its strategic intentions to establish stove production in districts without local producers. By ensuring that all supported districts had at least some production capacity, the project contributed to **decentralised production**, a critical factor in rural areas with limited logistics and accessibility. Some companies maintain limited permanent staff due to **restricted order volumes**, often linked to the absence of certified tier 3 stoves – a requirement due to the 2022 ministerial guidelines – rather than lack of capacity or commitment. Overall, while established companies demonstrated higher efficiency in stove production, the support provided to less developed or previously absent producers was **strategically important** for expanding access and creating decentralised production capacity.

ReCIC's management processes and procedures were generally appropriate and effectively implemented. From the stakeholders' perspective, roles and responsibilities among GIZ, SNV, and other actors were sufficiently clear, and they knew whom to contact for specific activities or topics. Project team members reported that internal responsibilities were largely understood and executed, and no major issues were identified during interviews. While a systematic allocation of responsibilities was not formally in place, which could have posed potential challenges, these were largely mitigated by agile and frequent communication within the flexible management approach. Several decision-making processes and procedures were shared among GIZ and SNV as well as the steering committee, supporting coordination and transparency. The management structure also proved responsive to changing circumstances, such as adjustments required during the transition from tier 2 to tier 3 stoves. Some risks related to financial liability were noted, particularly regarding grant agreements with companies, and procedures for addressing potential fraud or misuse of funds could have been better anticipated. Overall, the management approach enabled effective coordination, decision-making, and knowledge sharing, with only minor procedural gaps that could be addressed in future, similar projects.

Assessment of the Efficiency Criterion

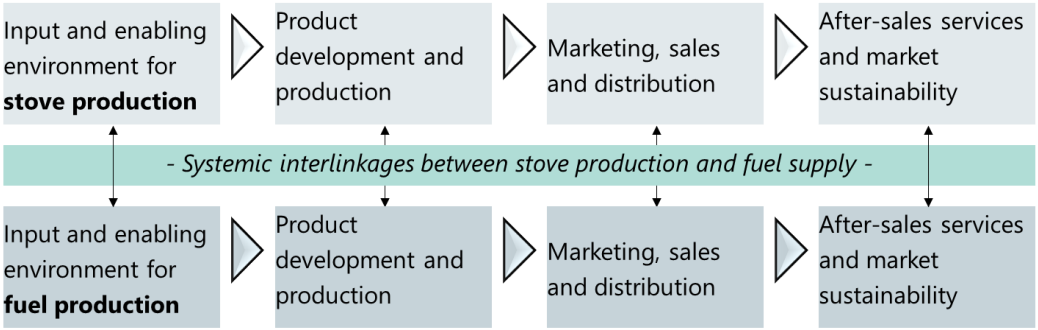
To conclude, the final evaluation showed that ReCIC effectively used resources to strengthen stove and fuel production, promote clean cooking, and establish decentralised production in underserved districts. Delays occurred due to COVID-19, the tier 3 stove transition, and early alignment on the market-based approach.

Efficiency was supported by on-site awareness events, though additional follow-up was needed due to limited producer responsiveness. Training local leaders, involving sales agents, and integrating fuel producers could further enhance efficiency. The uniform financial investment was justified, supporting both established and less-developed producers, while management was flexible, coordinated, and responsive, with only minor gaps.

4.6 Other lessons learned

This chapter presents additional lessons and insights identified during the evaluation, with a particular focus on the value chains for stove and fuel production. Figure 4 illustrates these value chains and their systemic interlinkages.

Figure 4: Value chain for stove and fuel production (Source: Syspons GmbH, 2025)



The long-term sustainability and scalability of ReCIC's interventions depend on a market-based approach that addresses both production capacities and linkages between producers and consumers. The evaluation indicates that the project combined supply- and demand-side support, aiming to address structural and operational challenges in the clean cooking sector. By providing support to production, product quality, and consumer engagement, the project sought to establish conditions for a functioning market for improved cookstoves and fuels.

The evaluation found that ReCIC contributed to strengthening production capacities and addressing input and operational constraints. Clay for stoves was locally available and did not limit stove production, whereas metal sheets and specialised equipment required importation and financial support facilitated by ReCIC (**inputs**). Fuel raw materials appeared generally accessible. Looking at **product development and production**, the project provided technical, operational, and organisational support to both stove and fuel producers. For stoves, project activities included support for prototype development and certification in collaboration with the Rwandan Standards Board, addressing bottlenecks in stove quality certification, particularly following the *2022 Ministerial Guidelines for Clean Cooking Technologies*. For fuels, some support for testing and quality assurance had been initiated at the time of the evaluation. These activities strengthened the capacities of producers, including in districts previously without stove production, which may support expanded market activity in the future.

Marketing, sales, and distribution emerged as critical factors for the functioning of the market. Awareness-raising activities, such as community cooking demonstrations, increased knowledge and interest in improved cookstoves and fuels. At the same time, producers reported challenges in connecting directly with potential customers, and community members were sometimes uncertain where to obtain stoves or fuels, even after attending awareness events. The project supported the establishment of various retail points within and outside Kigali (see project indicators) and facilitated e.g. the opening of a Retail shop by the MILTEC representative which is not only selling different stoves but also pellets. However, coordination between stove

and fuel producers remained limited, particularly for stove producers that do not produce fuel themselves. The evaluation also indicates a **missing intermediary function** – such as **sales agents or well-informed local leaders** – who could facilitate customer linkages, follow up after demonstrations, and support sustained adoption of improved cookstoves and fuels.

The main limitation to sustained market development lies in the affordability of stoves and fuels for households. After-sales services for improved stoves are available, but uptake has been minimal, as stoves have not yet required repair. Instead, the main limitation to sustained market development lies in the affordability of stoves and fuels for households. Partnerships with (mobile) financial service providers, such as MoneyPhone, and community-based savings groups may partially address affordability, but high stove costs relative to household incomes continue to limit demand. Community representatives suggested that existing savings group mechanisms, similar to those used in health programs, could be adapted to facilitate broader adoption.

5 Conclusions

The **Reducing the Climate Impact of Cooking in Rwanda (ReCIC) project**, launched in 2020, was designed to promote the adoption of improved and efficient cookstoves and fuels, reduce reliance on unsustainable biomass for cooking, and strengthen the capacities of stove and fuel producers through a market-based approach. The final evaluation demonstrated that ReCIC proved to be a **highly relevant** intervention, aligning well with the priorities of the Government of Rwanda and the European Union in advancing climate-resilient, low-emission development, clean energy access, and household health. The project effectively addressed the needs of its stakeholders, including stove and fuel producers seeking to expand their businesses, local authorities aiming to meet environmental and energy targets, and households interested in safer, more efficient cooking solutions.

The final evaluation found that ReCIC achieved **significant progress** in strengthening supply-side capacities, particularly among stove producers who increased production and improved technical capabilities, as well as among fuel producers who expanded operations. Demand-side interventions, such as community mobilisations and cooking demonstrations, successfully raised awareness and stimulated adoption of improved cookstoves, while enhancing understanding of their benefits for health, environment, and household productivity. The project also contributed to the development of tier 3 stoves and improved fuel standards, supporting regulatory compliance and product quality. However, the evaluation identified **several barriers** limiting the full achievement of project objectives. Household uptake of improved cookstoves and fuels remained constrained by affordability, inconsistent product availability, and limited knowledge of where to purchase stoves and fuels. Stove and fuel producers also faced challenges linked to policy changes, certification bottlenecks, and coordination gaps in the value chain. Despite these constraints, stakeholder interviews and community feedback consistently highlighted the effects of the project and the **value of its market-based approach**, particularly the combination of supply-side support for producers with demand-side activities such as awareness campaigns, which were critical in linking households with producers, enhancing market engagement, and promoting adoption of improved cookstoves and fuels.

The positive reception of ReCIC among households, private-sector actors, and local authorities indicates that the project interventions have laid a **strong foundation** for longer-term sectoral development. The improvements in production capacity, enhanced awareness, and behavioural changes observed suggest a **plausible potential for sustainable impact** on health, environmental outcomes, and local economic development. While ongoing support is required to **address affordability** and **strengthen market linkages**, the project's

design and implementation provide valuable lessons for scaling up clean cooking solutions in Rwanda and similar contexts.

6 Recommendations

#	Keyword	Recommendation
		Supply-side
1	**Mixed-methods support**	**Building on the approach demonstrated by ReCIC, future projects should provide producers with comprehensive support that combines technical and business skills, access to equipment, and marketing assistance to connect with customers. Attention should also be given to occupational safety during both training and production.** The evaluation highlighted that producers benefited from technical and business support, access to equipment, and guidance on marketing, all of which contributed to improved production capacities and market engagement. However, gaps remain in connecting producers to customers, ensuring effective sales, and maintaining occupational safety standards. Comprehensive support that combines these elements would strengthen producers' ability to scale operations, improve efficiency, and sustain market participation. In addition, based on selected observations during the evaluations mission, it is recommended to consider further integrating training on occupational safety. Note: This aligns with the EU Delegation's recommendation that continued attention to occupational health and safety standards within production facilities would contribute to socially sustainable sector development, as received during the revision process.
2	**Networking**	**Building on the approach demonstrated by ReCIC, future projects should integrate networking as a cross-cutting principle, promoting interactions among producers, local authorities, and customers to enhance collaboration, knowledge exchange, and market linkages.** The evaluation demonstrated that networking between stove and fuel producers, local authorities, and community members was a critical factor in the success of ReCIC's interventions. At the local level, active engagement with district authorities and community representatives facilitated alignment with national and district priorities, reinforced performance agreements, and strengthened market linkages. Producers reported that awareness-raising campaigns and direct interactions with households improved their marketing skills, expanded customer outreach, and enabled feedback for product adaptation. Similarly, community members valued opportunities to engage directly with producers, ask questions, and gain hands-on experience with improved cookstoves through demonstrations. These findings indicate that fostering structured and ongoing networking across stakeholders enhances coordination, knowledge exchange, and the adoption of clean cooking solutions, making it a key element for future projects seeking to scale market-based interventions effectively.
3	**Sales and distribution**	**Future projects should focus on reinforcing sales and distribution structures, including the use of local sales agents. Consideration should also be given to warranty and repair services of supported companies to assess whether they are likely to function effectively in the future.** The evaluation highlighted that while household awareness and interest in improved cookstoves were high, uptake and sustained use were constrained by limited access to products and weak distribution networks. Producers often faced challenges

		connecting directly with potential customers, and community members reported uncertainty about where to purchase stoves and fuels even after awareness campaigns. Strengthening local sales and distribution structures, including the engagement of trained local sales agents, would facilitate direct linkages between producers and households, improve follow-up after demonstrations, and support consistent product availability. Paying attention to the functioning of warranty and repair services in future projects would help ensure that these services effectively support product longevity, enhance consumer confidence, and contribute to the long-term sustainability of clean cooking interventions. Note: This aligns with the EU Delegation's recommendation that future support could increasingly focus on commercial viability and downstream market functions, as received during the revision process.
4	**Fuel production**	**Building on the approach demonstrated by ReCIC, future projects should further focus on strengthening the production and availability of improved biomass fuels to address community concerns and ensure the effective use of improved cookstoves.** The evaluation revealed that limited availability of improved biomass fuels was a key constraint to the adoption and effective use of improved cookstoves. While households expressed strong interest in cleaner cooking solutions, some reported difficulty accessing appropriate fuels, and stove producers noted that demand for stoves was often linked to fuel availability. Strengthening the production and distribution of improved biomass fuels in future projects would address these community concerns, ensure that stoves can be used effectively, and support sustained adoption. Future projects should also consider whether and how stove and fuel producers can be better connected.
5	**Payment mechanisms**	**Building on the approach demonstrated by ReCIC, future projects should further implement accessible payment options for households, such as instalment plans or community-based saving groups, to overcome financial barriers to acquiring improved cooking technologies.** The evaluation showed that household adoption of improved cookstoves was strongly constrained by financial barriers. Many households, particularly in rural areas, perceived the cost of tier 3 stoves and compatible fuels as high relative to their incomes, which limited uptake even when awareness and interest were strong. While ReCIC promoted market-based approaches, the lack of flexible payment mechanisms prevented some households from acquiring stoves. Future projects should implement accessible payment options, such as instalment plans or community-based saving groups, to lower the upfront financial burden, facilitate broader access, and enable more consistent use of improved cooking technologies. Note: This aligns with the EU Delegation's recommendation to more systematically embed consumer financing mechanisms, as received during the revision process.
6	**Testing and certification**	**To streamline product certification, future projects should support alternative testing institutions as preliminary steps before submission to the Rwandan Standards Board, reducing bottlenecks and facilitating compliance with technical standards.** The evaluation identified certification bottlenecks as a key challenge affecting stove producers, particularly following the 2022 Ministerial Guidelines for Clean Cooking Technologies. Delays at the Rwanda Standards Board slowed the approval of tier 3 stove prototypes, impeding timely market entry and disrupting supply chains. Some delays were also caused by the limited quality of prototypes, which required repeated testing and adjustments. Supporting alternative testing institutions as preliminary

		steps before submission to the Rwanda Standards Board would allow producers to identify technical issues early, refine prototypes, and streamline the certification process. Note: This aligns with the EU Delegation's recommendation that future projects may benefit from supporting interim testing arrangements or complementary testing institutions, in close coordination with national authorities, as received during the revision process.
Demand-side		
7	**Mixed voices in campaigns**	**Building on the approach demonstrated by ReCIC, future projects should continue awareness campaigns that combine public presentations, private discussions, and live cooking demonstrations.** The evaluation demonstrated that ReCIC's awareness campaigns were highly effective in increasing household knowledge, interest, and adoption of improved cookstoves. Campaigns that combined public presentations by local authorities, private discussions with producers, and live cooking demonstrations enabled households to understand the stoves' benefits, ask questions, and observe proper use firsthand. This multifaceted approach also strengthened producers' marketing skills and helped establish direct linkages between households and suppliers. Maintaining such integrated awareness campaigns in future projects would continue to promote informed decision-making, foster trust in products, and enhance adoption and sustained use of improved cooking technologies.
8	**Timing and duration of campaigns**	**Building on the approach demonstrated by ReCIC, future campaigns should be scheduled in the early afternoon to avoid conflict with household productive activities, avoid rainy seasons where possible, and extend duration to allow sufficient time for questions and participation.** The evaluation highlighted that timing and accessibility of awareness campaigns affected community participation, with some households unable to attend due to work, field activities, or weather conditions. Scheduling campaigns in the early afternoon, avoiding the rainy season, and extending their duration did allow more households to participate fully, ask questions, and engage with demonstrations.
9	**Advanced notice and local leader involvement**	**Future projects should announce campaigns well in advance and actively involve local leaders in communication and mobilisation efforts.** The evaluation indicated that limited advance notice and insufficient local involvement reduced community participation in awareness campaigns. Announcing campaigns well in advance and engaging local leaders in communication and mobilisation would improve outreach, increase attendance, and foster trust between producers and communities. Strengthening these local linkages would enhance the effectiveness of awareness activities, support sustained adoption of improved cookstoves, and contribute to the overall durability of project results. Note: This aligns with the EU Delegation's recommendation to consider formalising the role of local leadership and community-level governance structures beyond initial mobilisation, as received during the revision process.
10	**Follow-up through local leaders**	**Future projects should connect local leaders with companies present during campaigns and provide them with additional training on proper cookstove use.** The evaluation showed that local leaders play a critical role in reinforcing community awareness and trust during cookstove campaigns. While ReCIC's awareness activities successfully combined public presentations, private discussions, and live cooking demonstrations, households sometimes lacked ongoing guidance on correct stove use and where to access products. Connecting local leaders with companies during campaigns and providing them with additional training on proper stove operation

		would strengthen the continuity of information and support at the community level. This approach could enhance correct usage, build confidence in the products, and help maintain engagement between households and producers. In particular, community members frequently signalled to their local leaders for guidance and information, indicating both trust in these authorities and the existence of functioning local communication mechanisms.
11	**Availability of products during campaigns**	**Future campaigns should ensure that products presented, including both stoves and fuels, are available for purchase after the demonstration.** The evaluation highlighted that community interest generated during awareness campaigns was sometimes not matched by immediate product availability, limiting the translation of interest into actual purchases. Ensuring that both stoves and compatible fuels are available for sale immediately after demonstrations would capitalise on consumer motivation, facilitate adoption, and strengthen the connection between awareness-raising and market uptake. This approach would improve the effectiveness of campaigns and support the sustained use of improved cooking technologies. Note: This aligns with the EU Delegation's recommendation to strengthen the operational integration of supply- and demand-side interventions, as received during the revision process.

Note: Annex 1 depicts a list of recommendations from the practical guide document elaborated by SNV in June 2025, to provide further details and learning. They focus specifically on the implementation of the CEBGF, offering insights that complement the present analysis.

7 Annex

7.1 List of recommendations for future rounds of the CEBGF by SNV

The following recommendations are included from a practical guide document elaborated by SNV in June 2025, to provide further details and learning. They focus specifically on the implementation of the CEBGF, offering insights that complement the present analysis.

Table 10: List of recommendations for future rounds of the CEBGF by SNV

#	Recommendation
A	Develop structured exit strategies for enterprises that reach an investment readiness stage, to ensure a smooth transition to independent growth. These strategies should include strengthening credit-worthiness, planning for financial sustainability, identifying new and commercial sources of capital, and connecting grantees to relevant support ecosystems like microfinance institutions, equity investors and local banks.
B	Some milestones should link with business results, such as quality of products and quantity of sales to increase accountability and financial sustainability.
C	Facilitate access to stove testing services through subsidised testing or mobile lab options, to avoid long queues in Rwanda Standard Board's testing facility.
D	Enhance inclusion criteria beyond gender in the application and evaluation process to stimulate inclusive entrepreneurship e.g., people with disability.
E	Consider a possible mechanism for peer mentoring between CEBGF alumni and new grantees to accelerate learning and scale proven models.

Source: SNV (2025): *Practical Guide on a Cooking Energy Business Challenge Fund: Informed by the CEBGF Implementation Journey*, unpublished document.

7.2 Project indicators

Table 11: List of project indicators as reported in the EU Indicator Reporting Template Year 5 (11/2024-10/2025) (Source: GIZ, 2024)

#	Indicator	Target value	Year 1	Year 5	Remark
Stove production					
1	Improved cookstoves produced and sold in households, Social Institutions (SI) and Productive Use (PU) unit	500,000 disseminated improved cookstoves over the total project duration *(accumulated value)*	15,169	519,154 (104 %)	Over the total project duration, a cumulative of 519,154 stoves were disseminated.
2	Improved cookstoves yearly production and dissemination	At least 200,000 ICS/year will be sold in year 5 (*annual value*)	15,169	114,725 (57 %)	In year 5: 114,725 stoves have been sold.
3.1	New ICS production units established, and existing ICS production units supported	10 of the 15 cooperatives trained by Practical Action and SNV are re-engaged *(accumulated value)*	5	5	Also: Continued support for 12 CE-BGF companies, amongst them 3 that started as cooperatives.
3.2		6 new pottery cooperatives will be trained to produce clay-cookstoves *(accumulated value)*	0	4 (67 %)	As part of the project, 4 cooperatives have been re-engaged
3.3		At least 2 semi-industrial producers will open new production sites (of which at least two outside Kigali) *(accumulated value)*	0	9 (450%)	In total, 3 new industrial ICS production sites and 6 new semi-industrial production sites have been established in the past five years.
4	Estimated CO2 emissions savings	0.2 million-ton CO2eq are reduced per year as a result of ICS dissemination and increased ICS usage (*annual value*)	9,295 t CO2eq reduced	A cumulative of 1,321,911t CO2eq reduced (132 %)	By the end of the project, a cumulative of 1,321,911t CO2eq reduced.
5.1	Trainings to producers	10 training sessions on stove production *(accumulated value)*	1	10 (100 %)	Over the duration of the project, a total of 10 training sessions on stove production have been delivered

5.2		10 training sessions on business plan development and marketing *(accumulated value)*	0	11 (110 %)	Over the duration of the project, a total of 11 training sessions on business development and marketing have been delivered. In total 161 trainees received business plan development, marketing and Sales, and Project proposal and Pitch preparation.
6	Equipment provided to producers	Equipment given to at least 10 cooperatives and 4 decentralised production sites of semi-industrial producers *(accumulated value)*	9 producers	14 production sites	In total, 14 stove production sites were supported with equipment, machines, warehouse materials, and tools. This included 3 industrial production sites, 6 semi-industrial sites and 5 cooperatives.
7	Identification of appropriate ICS for PU (restaurants, tea factories) and SI (boarding schools)	At least one ICS type for both PU and SI is identified *(accumulated value)*	2	2 (100 %)	Over the project duration, one institutional stove and one stove suitable for restaurants (productive use) have been identified.
8	Training to producers in the production of appropriate ICS for PU and SI	At least 10 producers trained *(accumulated value)*	0	9 trained in ICS for SI (90 %) 10 trained in ICS for PU (100 %)	Over the duration of the project, 9 trainees received training to build the institutional stove, and 10 technicians were trained to produce a stove suitable for restaurants.
9	Financing products by Microfinance institutions (MFI) for ICS users	At least 1 nationwide MFI and 3 SACCOs have developed financing products for ICS buyers	0	2 MFI	Over the duration of the project, one scoping study on clean cooking finance mechanisms

		(accumulated value)			and the financial environment for ICS users was conducted. Two cooperation agreements with microfinance institutions were established and piloted (RIM Ltd and MoneyPhone Ltd).
10 / 13	Retail points (distribution network)	ICS sold in 18 shops: 10 in Kigali and 2 in each province *(accumulated value)*	0 0	19 5 (122 %)	In year 5, 24 retail shops were established and operating – 19 in Kigali and 5 outside the capital. Other retail points had been established in earlier years but are no longer functioning.
11	Testing of improved stoves	At least 5 stove types are tested *(accumulated value)*	2	5 (400 %)	20 types of stoves (175 units) have been tested by project staff and RSB.
12	Quality control system for stove and fuel producers	Each producer will be controlled by an independent organisation at least once per semester (from year 3 on) *(accumulated value)*	0	1 (100 %)	A quality assurance approach for stoves has been drafted, and a report has been produced
Fuel production					
14	Training aimed at charcoal and potentially improved fuel producers on the production of improved fuel	At least 50 fuel producers trained *(accumulated value)*	0	50 (100 %)	In total 50 fuel producers received training
15	Production sites for improved fuel are established and functional	At least 6 production sites are established and functional: amongst them, green charcoal production and wood conditioning sides *(accumulated value)*	6	5 (83 %)	In total, 5 alternative fuel production sites were supported
16	Test of fuels	At least 3 types of improved fuels are tested *(accumulated value)*	0	3 (100 %)	In total, 3 types of alternative fuels were tested.

17	Retail points (distribution network)	Fuels (pellets, briquettes, or other alternative fuel) are sold in 8 shops: at least 4 shops in Kigali. *(accumulated value)*	0	22 (275 %)	In total, 22 fuel retail shops are still operational: 20 shops in Kigali, 2 shops outside Kigali
Rwandan Standard Board					
18.1	Rwandan testing set-up is defined with National Authorities, equipment purchased, and staff trained in accordance	Equipment for testing centre purchased *(accumulated value)*	0	1 (100 %)	The RSB stove testing laboratory has been fully equipped, and staff member were trained. The RSB stove testing laboratory has gained growing recognition as a regional testing laboratory for stoves and fuels.
18.2		Exchange visits and training with the approved regional testing centre are organised (at least one in each direction) *(accumulated value)*	0	2 (100 %)	SB and EDCL staff were successfully trained in stove testing according to ISO and RW standards An exchange trip to Kampala, Uganda was organized. Meetings with the Ugandan Ministry of Energy & Mineral Development, as well as testing and standard entities were visited.
Awareness-campaign					
19.1	Marketing- and awareness raising-campaign	900 TV-adds *(accumulated value)*	0	30 (3 %)	Annual marketing and awareness-raising campaigns were implemented, covering 154 sectors across 12 districts. A nationwide media campaign was also launched, including 24 televised advertisements and four

					talk-show appearances.
19.2		4,500 radio-spots *(accumulated value)*	0	420 (9 %)	Over the duration of the project, a total of 420 radio spots (402 Radio ads and 19 talk shows) were streamed. Social media platforms such as 29 LinkedIn, 17 YouTube, and 89 X (formerly Twitter), as well as the EnDev website, were used to share information about the project.
19.3		30 billboards and 300 posters *(accumulated value)*	0	20 (67 %) 300 (100 %)	A total of 20 billboards, 1,351 flyers, 300 postcards, 600 toolkits, and 300 posters were produced and distributed to convey clean cooking messages. Additionally, four teardrop banners were designed and procured.
19.4		PR gadgets designed and produced *(accumulated value)*	0	1 (100 %)	In total, 16 cross load banners, 40 pull-up banners, 2.260 T-Shirts, 1,027 Caps, 450 aprons,41 branded pens, 28 Notebooks, 4 umbrellas, 50 stickers and 10 Metal label, 2 cut-out stand, and 2 Gazebo Tents were designed and procured for different purposes such as the awareness raising campaigns, stakeholder

					management and RSB (metal labels).
19.5		150 community mobilisations *(accumulated value)*	0	190 (127 %)	190 community mobilization and 4 roadshows were held in 6 districts; Attendance at each event varied over the years from 400 to more than 1,000 participants
19.6		300 Cooking demonstration and awareness-raising sessions *(accumulated value)*	2	195 (65 %)	195 events of cooking demonstrations were held in 6 districts; Attendance at each event varied over the years from 400 to more than 1,000 participants

7.3 List of references

Table 12: List of documents from ReCIC

Category	Document name
1. Description of the Action	Description of the Action "Reducing climate impact of cooking in Rwanda through improved cooking energy systems (ReCIC)" (2020)
2. Monitoring Data	Outcomes (Exported 22/07/2025)
	Annex 1: Guidance on CO2 emission reduction calculations for the Reducing climate impact of cooking in Rwanda through improved cooking energy systems (ReCIC) Action
3. Annual Progress Reports	Annual Progress Report 2021
	Annual Progress Report 2022
	Annual Progress Report 2023
	Annual Progress Report 2024
	EU Indicator Reporting Template Year 5 (11/2024-10/2025)
4. Other ReCIC documents	Expression of Interest: Consultancy to co-design the structure, implementation, and evaluation of the Cooking Energy Business Growth Fund
	Co-design of the Structure, Implementation, and Evaluation of the COOKING ENERGY BUSINESS GROWTH FUND (BGF): Activities and Timeline (2021)
	Reducing Climate Impact of Cooking in Rwanda through Improved Cooking Energy Systems (ReCIC) Action. A Practical Guide on a Cooking Energy Business Challenge Fund: Informed by the CEBGF Implementation Journey (2025)
	Cooking Energy Business Growth Fund (CEBGF) (*Presentation*)
	COOKING ENERGY BUSINESS GROWTH FUND (CEBGF). Project Implementation. INKOMOKO Final Report
	ReCIC CEBGF Documentary 2025 (*Video*)
	Explanatory Note on Community Mobilisation and Cooking Demonstration Events with Estimated Revised Budget
	Summary of ReCIC Project Support and Status of CEBGF Companies (June 30, 2025)
	To be discussed: SNV Draft Narrative Report (October 2024 to June 2025)
5. Company documents	EcoGreen Solutions Ltd.: Grant agreement incl. annexes

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7.4 Analysis grid

Table 13: Analysis grid

Evaluation questions		
Evaluation dimension	**Evaluation questions**	**Indicators / Descriptors**
Relevance	1.1 How does the socio-economic and political context influence the relevance of ReCIC interventions (contextual analysis)?	1. Qualitative description of socio-economic and political context factors. a. Socio-economic context factors, such as income levels, education, social norms, community influence, etc. b. Political context factors, such as policy and regulatory frameworks, capacities of local authorities, etc. 2. Qualitative assessment to what extent these socio-economic and political context factors influenced the relevance of the ReCIC interventions.
	1.2 To what extent do ReCIC's objectives align with the needs and priorities of the government organisations/institutions, companies and cooperatives (assessment of relevance)?	1. Qualitative description of ReCIC's objectives. 2. Qualitative description of needs and priorities of a. government organisations/institutions. b. companies and cooperatives 3. Qualitative comparison of the alignment of ReCIC's objectives and needs and priorities of: a. government organisations/institutions. b. companies and cooperatives
	1.3 How do beneficiaries, local companies/cooperatives, and other stakeholders such as government institutions perceive the relevance and usefulness of ReCIC in addressing their needs (stakeholder feedback)?	1. Qualitative description of ReCICs activities and objectives. 2. Qualitative description of needs and priorities of a. government organisations/institutions. b. companies and cooperatives 3. Qualitative comparison of the alignment of ReCIC activities and objectives, and needs and priorities of a. government organisations/institutions. b. companies and cooperatives
	1.4 To what extent were the marketing messages used during the awareness-raising campaign relevant?	1. Qualitative description of NOZA IMITEKERE messages and objectives. 2. Qualitative description of needs and priorities of a. government organisations/institutions. b. companies and cooperatives c. households 3. Qualitative comparison of the alignment of NOZA IMITEKERE messages and objectives, and needs and priorities of

		a. government organisations/institutions. b. companies and cooperatives c. households
Effectiveness	2.1 How do ReCIC performance data compare against set targets and objectives (performance metrics)?	1. Analysis of indicator achievement. 2. Qualitative description of indicator achievement.
	2.2 To what extent have ReCIC achieved its intended outcomes (achievement of objectives)?	1. Qualitative description of intended outcomes. 2. Qualitative assessment of the achievement of the intended outcomes.
	2.4 How does the socio-economic and political context influence the effectiveness of ReCIC interventions (contextual analysis)?	1. Qualitative description of socio-economic and political context factors. a. Socio-economic context factors, such as income levels, education, social norms, community influence, etc.. b. Political context factors, such as policy and regulatory frameworks, capacities of local authorities, etc. 2. Qualitative assessment to what extent these socio-economic and political context factors influenced the effectiveness of the ReCIC interventions.
Impact	3.1 What are the long-term effects of ReCIC on target populations (long-term effects)?	1. Qualitative descriptions of the intended long-term effects of ReCIC on target populations: a. intended impacts of EnDev regarding energy access and jobs created b. intended impacts of GCCA+ regarding CO2 emissions saved c. other SDGs (health, gender, forest cover) d. improvements in business (employment effect, diversification of portfolio, production places and general living conditions) e. improvements in living conditions at household level (income effects, health effects) 2. Qualitative description of improvements regarding the intended long-term effects (see above). 3. Qualitative assessment of the contribution of the ReCIC to those improvements (see above).
	3.2 To what extent have there been any unintended positive or negative consequences of ReCIC interventions (unintended consequences)?	1. Qualitative description of unintended negative and/or positive long-term effects. 2. Qualitative assessment of the contribution of the ReCIC projects to those unintended long-term effects. 3. Qualitative description of the responses of the ReCIC projects towards those unintended long-term effects. 4. Qualitative assessment of the responses of the

		ReCIC projects towards those unintended long-term effects.
	3.3 How does the awareness campaign impact mobilisation and accessibility of climate-friendly cooking solutions?	1. Qualitative descriptions of the intended effects of ReCIC on mobilisation and its role towards the accessibility of climate-friendly cooking solutions. 2. Qualitative description of improvements regarding mobilisation and accessibility of climate-friendly cooking solutions. 3. Qualitative assessment of the contribution of the ReCIC to those impacts.
Sustainability	4.1 What plans are in place to ensure the continuation of companies/cooperatives benefits after the end of ReCIC implementation (continuation plans)? How well do continuation plans align with aspects such as local capacities, policies, strategies, and frameworks?	1. Qualitative description of the continuation plans of the ReCIC. 2. Qualitative assessment of the alignment of the continuation plans of the ReCIC projects with aspects such as local capacities, policies, strategies, and frameworks.
	4.2 To what extent has ReCIC built local capacities to sustain company/cooperative outcomes and financial sustainability (capacity building)?	1. Qualitative description of capacity-building activities implemented by the ReCIC. 2. Qualitative description of the capacities built by the ReCIC project activities. 3. Qualitative assessment of the extent to which the capacities built can sustain outcomes and support financial sustainability of local companies.
	4.4 To what extent are the benefits achieved through ReCIC sustainable beyond the project's duration (sustainability of benefits)?	1. Qualitative assessment of the durability of the ReCIC project results after the end of the ReCIC project duration.
Efficiency	5.1 Were project activities executed in a timely manner, and if not, what were the main bottlenecks or delays?	1. Qualitative assessment of the extent to which activities were implemented as planned (time). 2. Qualitative description of the influencing factors. a. Positive influencing factors b. Negative influencing factors
	5.2 How efficiently were resources used in the implementation of ReCIC (resource utilisation)?	1. Qualitative assessment of the extent to which activities were implemented as planned (resources). 2. Qualitative description of the influencing factors. a. Positive influencing factors b. Negative influencing factors 3. Qualitative assessment whether a different resource allocation could have led to more project results (yield maximisation principle).

	5.3 What are the financial costs and benefits of ReCIC, and how do they compare in terms of cost-effectiveness (Cost-Effectiveness Analysis)?	1. Description of financial costs and benefits of ReCIC, such as: a. Total financial cost of ReCIC b. Cost per beneficiary reached c. Cost per unit of impact d. Cost-effectiveness ratio e. Data from similar EnDev activities 2. Comparison of cost-effectiveness across ReCIC. 3. Comparison with data from similar EnDev activities.
	5.4 How effectively were ReCIC's management processes and procedures designed and implemented (process evaluation)? Were roles and responsibilities clearly defined and efficiently executed? How adaptable and responsive were project management processes to changing circumstances or challenges?	1. Qualitative description of ReCIC management processes and procedures, including assigned roles and tasks. 2. Qualitative assessment of definition of assigned roles and tasks based on a RACI matrix. 3. Qualitative description of changing circumstances or challenges that required management responses. 4. Qualitative description of management responses. 5. Qualitative assessment of adaptability and responsiveness (management responses).
Other questions	6.1 How did the ReCIC project support a self-sustaining market for ICS? How have the ReCIC's intervention's reduce costs and improve access to ICS for households over time? What were the barriers or constraints that limited the ability to fully implement the market-based approach, and how were they addressed?	1. Qualitative description of ReCIC's approach. 2. Qualitative assessment of market-based elements of ReCIC. 3. Qualitative description of perception of beneficiaries and stakeholders regarding these market-based elements. 4. Qualitative assessment of appropriateness of market-based elements. 5. Qualitative assessment of barriers or constraints limiting the implementation of market-based approaches. 6. Qualitative assessment of adaptive strategies used to support market-based implementation.
	6.2 To what extent was the content used in the awareness campaign adapted in the communities? What are the key factors that will influence the success of scaling or replicating this campaign (scalability)?	1. Qualitative description of the approach of NOZA IMITEKERE. 2. Qualitative assessment of required resources for scaling. 3. Qualitative assessment of required partnerships and institutional support for scaling. 4. Qualitative assessment of systemic and contextual factors influencing scalability, such as policy, local practices and regulatory environments.

7.5 List of Interviews and Focus group discussions during the Evaluation Mission

Table 14: Interviews and Focus group discussions during the Evaluation Mission

#	Organisation	Type of interview
Project team		
1	GIZ project team	Group interview
2	SNV country director	Interview
Political partner		
3	Ministry of Environment (MoE)	Interview
4	Ministry of Infrastructure (Mininfra)	Interview
5	Rwandan Energy Group (REG)	Interview
6	Local authorities in Western Province • Nyamasheke District • Rubavu District	(Group) interview
7, 8	Local authorities in Eastern Province • Gatsibo District • Kayonza District Also: Cell representatives	(Group) interviews
9, 10	Local authorities in Southern Province • Muhanga District • Gisagara District	(Group) interviews
Companies		
11	Eco Green Solutions	Group interview
12	Green Hanga Ltd.	Visit and Group interview
13	Safer 1 Ltd	Visit and interview
14	OAK investments LTD	Visit to the compound (short interview)
15	Energie Domestique (ENEDOM)	Visit and interview
16	BioMassters	Visit and interview
17	Ado Green Conserve Company Ltd	Visit and Group interview
18	MPA (Modern Pottery Art)	Visit and interview

19	Enviro Green Conserve Company Ltd	Visit and Group interview
20	Inganzo Pottery Company	Visit and interview
21	EMT Xavier Company Ltd	Visit to the compound (no interview)
22	MILTEC Company	Visit and Group interview
Direct and/or indirect Beneficiaries		
23, 24	Community representatives (some who participated in campaigns) in Western Province • Rubavu District • Nyamasheke District	Focus group discussion
25, 26	Community representatives (some who participated in campaigns) in Eastern Province • Kayonza District • Gatsibo District	Focus group discussions
27	Community representatives (some who participated in campaigns) in Southern Province • Muhanga District	Focus group discussion

7.6 Interview guides (Selection)

In this annex, we attached the **interview guides for the main interviewee categories** of the evaluation mission: Project team, national authorities, local authorities, companies as well as participants in awareness-raising activities/customers. In addition, within the framework of the evaluation mission, we also elaborated interview guides for more specific stakeholders, such as the SNV country office.

7.6.1 Project team (GIZ, SNV)

ABOUT THE PROJECT

Project concept

1) Please describe how the project concept addressed the **value chain** for cookstoves and fuels.

2) We would like to address the **appropriateness** of the project design. Looking back, to what extent was/is the concept adequate and/or realistic (e.g. with respect to the project objective, project approach, resources)?

3) To what extent were there **defined intended results** and **reporting** with the project stakeholders?

4) Please describe to what extent there were **changes to the projects concept** (e.g. intended results) during implementation. *If there were changes, please describe the reasons behind them, the changes themselves, and the decision-making process involved.*

Short-term/mid-term results

We would first like to ask you to describe to what extent the intended objectives of the project have been achieved.

5) To what extent have the **following expected changes** at the output level occurred in Rwanda? To what extent has the project contributed to these changes?
   a) Output 1: Improved capacities and awareness of businesses for scaling up production and dissemination of efficient cooking devices.
   b) Output 1: Improved capacities and awareness of households regarding efficient cooking devices.
   c) Output 2: Improved biomass fuels are introduced.
   d) Specific objective 1: Increased use of efficient and climate-friendly cooking solutions by the population.
   e) Specific objective 2: Reduced biomass consumption for cooking purposes.

6) **Objective of the module:** *The objective of the project is to contribute to a reduced climate impact of cooking energy systems.* To what extent has this happened so far? To what extent has the project contributed?

7) What do you consider to be the **most important results** that the project has achieved, and why?

8) To what extent were **other (positive or negative) results** observed or foreseeable?

9) What were **supporting and/or hindering factors** for the successful implementation of the project?

10) Why did some **companies have a better and/or weaker performance** than other companies?

11) Please describe the **interaction** with the companies and local authorities.

12) To what extent did **synergies, cooperation or interaction** occur between the projects?

Long-term results

13) Please tell us to what extent the following **impacts** have occurred or are foreseeable and to what extent the project has contributed to them:
    a) Increased resilience of Rwanda to climate change and reduced pressure on Rwanda's forest coverage
    b) Reduced greenhouse gas emissions
    c) Improved health, education and/or poverty alleviation of households
    d) Improved economic development and/or resource mobilisation

14) Which **factors** were decisive for the achievement or non-achievement of the intended impacts?

15) Are there any **unintended (positive or negative) long-term effects** of the project? If yes, which ones, and how did the project address them?

Durability of results

16) In your opinion, to what extent will the achieved short-term, mid-term and/or long-term **results remain** after the project has ended? What **factors** are decisive?

17) Are there any plans for the **continuation** of the project benefits after the end of ReCIC funding?

Use of resources

18) To what extent were the intended results achieved within the **planned timeframe and with the planned resources**?

19) To what extent were there **synergies or duplications** with other projects (e.g. other GIZ projects)?

Project implementation

20) Please identify and describe the **key processes** within the project.

21) We would like to ask you for further information on **responsibilities and coordination within the project team**, especially between GIZ and SNV. Please describe:
    a) the distribution of responsibilities
    b) the overall coordination / interaction
    c) the decision-making process

FINAL QUESTION

22) What **(other) recommendations** do you have for similar projects?

23) Are there any **other aspects** that you deem important which were not addressed in this interview?

You are also welcome to share information beyond the guide.
Thank you for your time and support!

7.6.2 National authorities

ABOUT YOURSELF

1) Please briefly **present yourself** and your institution, and your relationship with the ReCIC project. *For instance, since when you have been in contact with the ReCIC project.*

ABOUT THE PROJECT

Project context

2) Please describe **how/why** your involvement with the project began.

3) Please describe the **relevant context** for improved cooking technology in Rwanda. *For instance, strategic frame-work, needs of households and markets.*

4) Please describe to what extent the **project is aligned** with the context in Rwanda.

5) To what extent did the project activities address what the **market** in Rwanda actually requires?

6) How did the project fit into **the national government activities and/or strategies**?

7) What were your **expectations** for your involvement with the project?

Project results

8) To what extent were those **expectations met**?

9) Please tell us to what extent the following **concrete changes** have occurred or are foreseeable and to what extent the project has contributed to them:
   a) Improved capacities and awareness of businesses for scaling up production and dissemination of efficient cooking devices.
   b) Improved capacities and awareness of households regarding efficient cooking devices.
   c) Introduction of improved biomass fuels.
   d) Increased use of efficient and climate-friendly cooking solutions by the population.
   e) Reduced biomass consumption for cooking purposes.

10) What do you consider to be the **most important results** that the project has achieved, and why?

11) According to your perspective, what were **supporting and/or hindering factors** for the successful implemen-tation of your activities?

12) Please describe your **interaction** with the project team during the implementation of the project.

13) Please tell us to what extent the following **long-term changes** have occurred or are foreseeable in Rwanda and to what extent the project has contributed to them:
   a) Reduced pressure on forests
   b) Reduced greenhouse gas emissions
   c) Improved health, education and/or poverty alleviation of households
   d) Improved economic development and/or resource mobilisation

14) In your opinion, to what extent will the achieved results or impacts **remain** after the project has ended? What **factors** are decisive?

15) What are your **plans for Rwanda**, related to improved cooking?

16) How could the project have **better** met the needs of Rwanda? How could the collaboration have been **more successful**?

FINAL QUESTIONS

17) What other **comment and/or recommendations** do you have for the project team?

18) Are there any **other aspects** that you deem important which were not addressed in this interview?

You are also welcome to share information beyond the guide.
Thank you for your time and support!

7.6.3 Local authorities

ABOUT YOURSELF

1) Please briefly **present yourself** and your institution, and your relationship with the ReCIC project. *For instance, since when you have been in contact with the ReCIC project.*

ABOUT THE PROJECT

Project context

2) Please describe **how/why** your involvement with the project began.

3) Please describe the **relevant context** for improved cooking technology in your community. *For instance, the needs of your community, the existing market, your strategies.*

4) How does the project meet the **needs of your community**?

5) To what extent did the project activities address what the **market** in your community actually requires?

6) How did the project fit into **the activities and/or plans of your organisation**?

7) What were your **expectations** for your involvement with the project?

Project results

8) To what extent were those **expectations met**?

9) Please tell us to what extent the following **concrete changes** have occurred or are foreseeable and to what extent the project has contributed to them:

a) Improved capacities and awareness of businesses for scaling up production and dissemination of efficient cooking devices.
b) Improved capacities and awareness of households regarding efficient cooking devices.
c) Introduction of improved biomass fuels.
d) Increased use of efficient and climate-friendly cooking solutions by the population.
e) Reduced biomass consumption for cooking purposes.

10) What do you consider to be the **most important results** that the project has achieved, and why?

11) According to your perspective, what were **supporting and/or hindering factors** for the successful implementation of your activities?

12) Please describe your **interaction** with the project team during the implementation of the project.

13) Please tell us to what extent the following **long-term changes** have occurred or are foreseeable in your community and to what extent the project has contributed to them:
a) Reduced pressure on forests
b) Reduced greenhouse gas emissions
c) Improved health, education and/or poverty alleviation of households
d) Improved economic development and/or resource mobilisation

14) In your opinion, to what extent will the achieved results or impacts **remain** after the project has ended? What **factors** are decisive?

15) What are your **plans for your community**, related to improved cooking?

16) How could the project have **better** met the needs of your community? How could the collaboration have been **more successful**?

FINAL QUESTIONS

17) What other **comment and/or recommendations** do you have for the project team?

18) Are there any **other aspects** that you deem important which were not addressed in this interview?

You are also welcome to share information beyond the guide.
Thank you for your time and support!

7.6.4 Companies

ABOUT YOURSELF

1) Please briefly **present yourself** and tell us about your company and your position, and how you are connected to the ReCIC project. *For instance, since when have you been involved with the ReCIC project?*

ABOUT THE PROJECT

Project context

2) Please describe the **relevant context** for improved cookstoves. *For instance, main challenges, main stakeholders, and similar.*

3) Please describe the **main activities and products** of your company related to improved cooking. *For instance, which needs do you address / which products and/or services do you provide?*

4) What was your **motivation** to apply for the funding by ReCIC? Please describe your expectations.

5) To what extent were your **expectations met**?

6) To what extent did the project activities address what the **market** actually requires?

Project implementation

7) Please describe your **interaction** with the ReCIC team during the implementation of your activities. Please also describe the **reporting** of your activities.

8) Which **results** did you agree on with the ReCIC team at the beginning of your activities?

9) To what extent did your company achieve the **planned results**?

10) To what extent were the planned results achieved within the **planned timeframe and budget**?

11) To what extent did the project activities **help you become more competitive** in the market?

12) Please tell us to what extent the following **concrete changes** have occurred or are foreseeable and to what extent the project has contributed to them:
    a) Improved capacities and awareness of businesses for scaling up production and dissemination of efficient cooking devices.
    b) Improved capacities and awareness of households regarding efficient cooking devices.
    c) Introduction of improved biomass fuels.
    d) Increased use of efficient and climate-friendly cooking solutions by the population.
    e) Reduced biomass consumption for cooking purposes.

13) What do you consider to be the **most important results** that the project has achieved, and why?

14) To what extent did the project contribute to **strengthen the cooking technology market** in Rwanda?

15) According to your perspective, what were **supporting and/or hindering factors** for the successful implementation of your activities?

16) Please tell us to what extent the following **long-term changes** have occurred or are foreseeable and to what extent the project has contributed to them:
    a) Reduced pressure on Rwanda's forests
    b) Reduced greenhouse gas emissions
    c) Improved health, education and/or poverty alleviation of households
    d) Improved economic development and/or resource mobilisation

17) In your opinion, to what extent will the achieved results or impacts **remain** after the project has ended? What **factors** are decisive?

18) What are your **plans for your production**?

Lessons learned

19) From your perspective, how could the ReCIC project have **better** met the needs of your company?

FINAL QUESTIONS

20) What **(other) recommendations** do you have for the project team?

21) Are there any **other aspects** that you deem important which were not addressed in this interview?

You are also welcome to share information beyond the guide.
Thank you for your time and support!

7.6.5 Participants in awareness-raising activities / Customers

ABOUT YOURSELF

1) Please briefly **present yourself** and share with us, how/when you did participate in awareness-raising activities on clean cooking of the **NOZA IMITEKERE** Campaign. *Those activities were, for instance, community mobilisation, cooking demonstration, District JADF Open Days, Umuganda Community Work Days, National Tree Planting Day. We will also bring material to the interview, such as flyers, for orientation.*

2) What kind of **stove** do you use at home / at work? *For example, firewood, charcoal, pellet/briquettes.*

ABOUT THE PROJECT

3) Please describe **how** you heard about the awareness-raising activity.

4) Please describe **why** you decided to participate in the awareness-raising activity.

5) To what extent were your expectations **achieved**?

6) How **satisfied** were you with the awareness-raising activity?

Now I would like to understand your perception of improved cooking stoves.

7) When you think about an improved cookstove, what **kind of stove** comes to your mind? Please describe it.

8) For each pair of opposite words, please tell us where on the scale your opinion lies. There are no right or wrong answers – it is about your **personal impression**.

Would you say the improved cooking stoves are…

a) More affordable or more expensive?

b) More available or harder to find?

c) More durable or more fragile?

d) More easy to use or more complicated to use?

e) More fast or more slow in cooking?

f) Fitting your cooking style or not fitting your cooking style?

g) More healthy or more harmful?

h) More safe or more unsafe?

i) Requiring less fuel or are requiring more fuel?

j) Require fuel that is more available or less available?

k) Allowing you to safe time or not allowing you to safe time?

l) Allowing you to save income or not allowing you to save income?

m) Allowing you to be more comfortable or not allowing you to be more comfortable?

9) What was the **greatest benefit / result** of having participated in the awareness-raising activity? Did you…
   a) …obtain the information you needed?
   b) …get guidance?
   c) …buy a stove afterwards?

10) If you **bought a stove, why** did you do so? Did the awareness-raising activities influence you somehow in that decision?

11) Can you **apply** what you obtained and/or learned? *For example, your information obtained on how to cook, and/or the stove you bought.*

12) What **recommendations** do you have for this or future similar activities?

FINAL QUESTIONS

13) Are there any **other aspects** that you deem important which were not addressed in this interview?

You are also welcome to share information beyond the guide.
Thank you for your time and support!

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