
Multi-actor Cooking Energy Strategy for Refugees and Host Communities in Ethiopia

(2022-2030)

December 2022

“Delivering universal energy access by 2030 and meeting Sustainable Development Goal 7 (SDG7) requires meeting the energy needs of everyone, including displaced people”.¹

¹ https://energypedia.info/wiki/A_Global_Plan_of_Action_-_Background_Paper:_Data,_Evidence,_Monitoring_and_Reporting

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Abbreviations and Acronyms

EEWG	Energy and Environment Working Group
GCR	Global Compact on Refugees
GPA	Global Platform for Action on Sustainable Energy in Displacement Settings
GRF	Global Refugee Forum
LNOB	Leave No-One Behind
M&E	Monitoring and Evaluation
MECS	Modern Energy Cooking Services
MoWE	Ministry of Water and Energy
MTF	Multi-Tier Framework
PESTEL	Political, Economic, Social, Technological, Environmental and Legal Analyses
RRS	Refugees and Returnee Service
SDG7	Access to affordable, reliable, sustainable and modern energy for all
SDGs	Sustainable Development Goals (2016– 2030)
SWOT	Strength, Weaknesses, Opportunities and Threats Analyses
ToC	Theory of Change
UNHCR	United Nations Higher Commissioner for Refugees

Foreword

Ethiopia is home to more than 875,000 refugees and asylum seekers residing on 23 refugee camps and urban areas found throughout the country. UNHCR, the UN Refugee Agency together with Refugee and Returnees Services (RRS) of Ethiopia has been coordinating activities to ensure protection and assistance of these refugees. Sufficient access to alternative cooking energy solutions is one of the unmet needs of refugees and host communities who basically are dependent on woody biomass for cooking and lighting. This dependence on the natural forest has led to deforestation and in some cases trigger a conflict with host communities besides the increased risk of Gender Based Violence (GBV) to refugee women and girls who are mainly responsible for firewood collection.

The project “Energy Solutions for Displacement Settings (SUN-ESDS)” seeks to address the lack of sustainable energy supply in refugee hosting areas through global advisory services and the implementation of technical measures in displacement settings. Working in Ethiopia, as well as in Uganda and Kenya, ESDS is part of the global programme “Support to UNHCR in the implementation of the Global Compact on Refugees (GCR) in the Humanitarian Development Peace Nexus (SUN)”, commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) as part of the German special initiative “Tackling the Root Causes of Displacement, (Reintegrating Refugees)”. The programme aims to support UNHCR in its mandate to coordinate the implementation of the GCR.

Supporting the Ethiopian pledge to provide market-based and sustainable energy solutions to 3 million people in refugee hosting areas, GIZ collaborates with UNHCR and RRS by strengthening the policy framework on energy in humanitarian settings. To this end, the ESDS project support coordination and exchange of agenda through steering structure of the Energy and Environment Working Group under UNHCR and facilitates the development of relevant strategies such as the multi-actor cooking fuel strategy.

With the cross-cutting challenges of limited energy access, the Government of Ethiopia has also pledged to improve the policy framework for sustainable energy access to refugees in the context of GCR comprehensive approach. The Energy and Environment Working Group (EEWG), then established as a key coordination platform to oversee strategies and initiations in refugee settings. The EEWG has led the development of this strategy under technical and financial support of GIZ-ESDS, with

extensive inclusive dialogs, consultations, baseline assessment and multi-stakeholder engagements.

The overall objective of this Multi-Actor Cooking Energy Strategy is to ensure sustainable access to clean, reliable, and affordable cooking energy solutions for refugees and hosting communities in line with UN SDG 7 goals and timelines. The Strategy is based on the following six overarching goals to support achieve the main objective in 2030:

- Goal 1: Ensure Access to Modern Energy Cooking Services;
- Goal 2: Improved Policy, Planning, Coordination and Resource Mobilization;
- Goal 3: Private Sector and Market Development;
- Goal 4: Capacity Building;
- Goal 5: Mainstreaming cross-cutting issues; and
- Goal 6: Evidence, learning and knowledge management.

This Strategy document was validated with the presence of humanitarian energy actors, government institutions, line ministries and private sectors engaged in clean energy access projects.

The implementation arrangement of this strategy will rely on the overall management, ownership, and monitoring by the EEWG, through the support of permanent structure comprising of UNHCR, MoWE and RRS to oversight the implementation process. UNHCR will expand its catalytic role in terms of advocacy, resource mobilization, partnership and facilitating energy access to vulnerable refugees. MoWE, the main Energy actor in Ethiopia will have policy support, strategic guidance and integration with national imitations and plans. RRS shall continue its advocacy and support to create an enabling environment for the successful implementation of this strategy. GIZ ESDS ET will continue supporting the EEWG and improvement of policy and strategy framework.

In this regard, this strategy is officially endorsed by MoWE, UNHCR, RRS and GIZ in December 16, 2022.

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1. Introduction

Ethiopia is the third-largest refugee-hosting country in Africa, sheltering 844,589 registered refugees and asylum-seekers as of 31 March 2022. The vast majority of the refugees are sheltered in camps scattered throughout the Country.

The almost complete reliance of refugees and host communities on unsustainable solid biomass for cooking using the three-stone stove is posing significant challenges. Access to traditional cooking fuels in Ethiopia is threatened by the progressive depletion of biomass energy resource base as well as the impacts of climate change. Although actions to improve the cooking energy access situation by the humanitarian community and private sector are encouraging, these remain insignificant to the scale of the challenges. There is an urgency to scale-up interventions to bring about transformational results at speed and scale. This is best summarized as follows:

Although the past execution method has evolved slightly, one can observe modest adjustments or improvements, especially when looking into clean cooking services. This isn't going to get us any farther, and it won't help us see real progress. ... It is important to break out of business-as-usual approaches.²

The overarching goal of this Multi-Actor Cooking Energy Strategy is to advance the fundamental human rights for adequate, sustainable, affordable and clean cooking solutions through inclusive and people-centred approach where no one is left behind.

The successful implementation of this Strategy should ultimately lead to positive outcomes: access to modern cooking energy services has an immediate and well-researched impact on the quality of life. Furthermore, it will strengthen gender equality, enhance climate resilience, and promote peaceful co-existence between refugees and host communities.

This Strategy is aligned with the Seventh Sustainable Development Goal (SDG7) which calls for “affordable, reliable, sustainable and modern energy for all” by 2030; the UNHCR Global Strategy for Sustainable Energy (2019-2024); the Global Platform for Action (GPA) on Sustainable Energy in Displacement Setting; and the Ethiopian National programmes.

The Strategy was developed through a staged and inclusive process under the leadership and of the humanitarian Energy and Environment Working Group and other stakeholders.

The Strategy is organized in ten Sections. The following Section provides an overview of the refugee camps in Ethiopia and the state of access to cooking energy services. Sections 3 provides the SWOT and PESTEL analyses, i.e., the challenges, limitations and barriers; and the assets and opportunities. Then follows the Vision, Mission and Guiding Principles in Sections 4. The framework for change and strategic goals and strategic actions are presented in Sections 5 and 6, respectively. Sections 7-10, present the estimated financing needs and resource mobilization strategy; risks assessment and management plan; monitoring and evaluation framework; and arrangement for the strategy implementation, in their respective orders.

Annexes include Working Definitions (Annex 1), baseline and targets (Annex 2), estimated financing needs (Annex 3), and existing initiatives/players (Annex 4).

² https://energypedia.info/wiki/Webinar_on_Cooking_Energy_in_Displacement_Setting_-_Summary

2. Strategy Development and Stakeholder Engagement

2.1. Strategy Development Process

Experiences demonstrate that it is the process of planning that is important, not the just the production of a strategic document. The plan itself serves as a record of the agreements reached during the planning process.

Engaging stakeholders throughout the planning process is one of the keys to the success. There are numerous benefits to involving a wide range of stakeholders:

- Broad-based stakeholder engagement and representation helps to lay the foundation for broad-based support and buy-in;
- Stakeholders offer valuable insights including real local context;
- Stakeholders' ideas, expertise, and viewpoints will make the Strategic Plan more relevant; and
- Help more stakeholders commit to action.

The Strategy was generally developed in the following progression as shown in Figure 1.

- 1) Establish A Strategy Leadership. The Team provides high-level leadership, guidance, and support for the final recommendations for the plan. The Team consisted the current Steering Committee of the Energy and Environment Working Group. These are of UNHCR, RRS, GIZ, UNDP, WFP, ZOA and DCA.
- 2) Assessment of the current energy situation. Data on population characteristics, energy demand, supply and consumption; inventory of on-going and planned energy-related activities/projects was compiled. Also, a two-day Strategic Planning workshop was conducted during which the data collected was validated and SWOT and PESTLE Analyses of the current energy situation for their respective refugee camps.
- 3) Develop Vision Statemen. Strategic planning is about creating a different future and that future is articulated in a vision statement. Common/shared vision can help the multiple actors reach a collective understanding and provide a foundation for establishing goals and objectives, strategies, and action plans. The vision for the strategy was developed by the stakeholders during the Strategic Planning workshop,
- 4) Develop Goals, Strategies and actions. The goals, Strategies and actions were identified by the Stakeholders during the Strategic Planning workshop.
- 5) Financing Requirements and Funding Strategy. Financing requirements for prioritized actions under each goal or strategic outcome was estimated. Also, a high-level resource mobilization strategy was developed.
- 6) Developed M&E Framework
- 7) Developed an Implementation arrangement and strategy leadership

- 8) Develop draft strategic plan. Prepared a comprehensive draft strategic plan document. The plan is a roadmap for the energy future, laying out where things stand today, the vision, and the goals, strategies, and actions for achieving that vision.
- 9) The draft strategic plan was validated in a one-day validation workshop.
- 10) Adopt and publicize the Strategic Plan. Following the approval of Strategic plan, it was adopted by the EEWG, the UNHCR and by the Government (through the Ministry of Water and Energy and Refugees and Returnees Agency). The Plan was publicized in websites of key stakeholders.

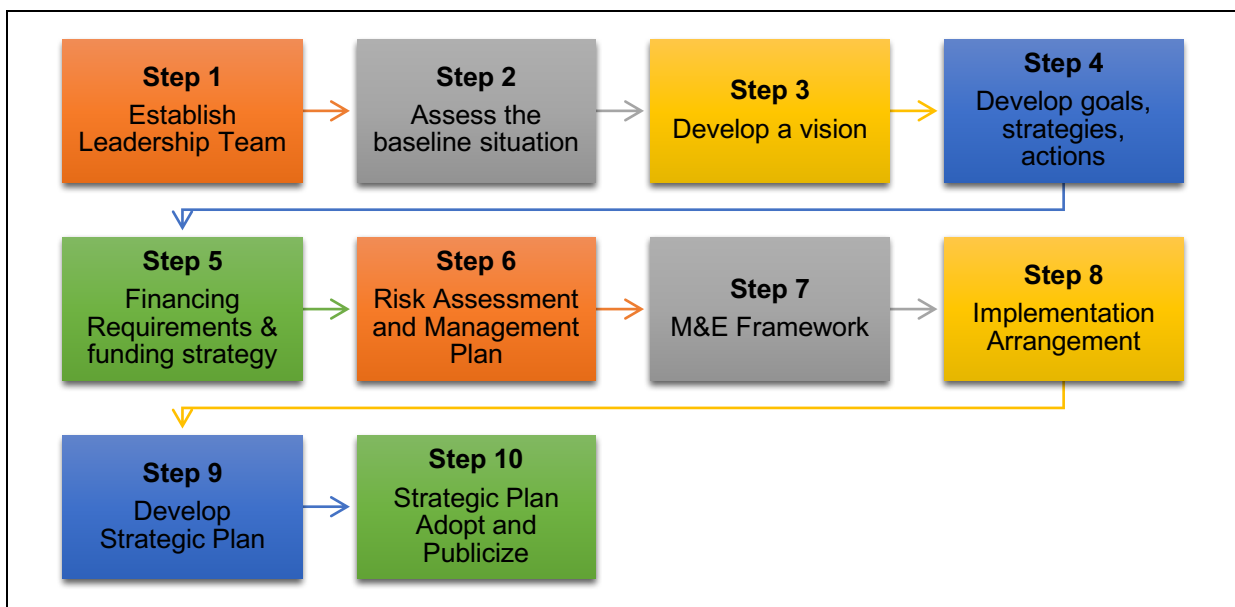


Figure 1 Strategy Development Process

2.2. Leadership of the Strategy Development

A multi-actor strategic planning is most effective when stakeholders are engaged as the owners of the process. Effective stakeholder leadership is critical to the success of the planning exercise.

The SLT will represent diverse points of view, and as representatives of important stakeholder groups will encourage buy-in and provide input to development of the Strategic Plan.

The Strategy was developed under the leadership of key stakeholders. The different roles of the stakeholders, shown in Figure 2.

- 1) A core team consisting of UNHCR, RRS and GIZ was established for the management of the Strategy development process including timeline of key activities and deliverables. The Strategy Development Facilitator was accountable to the core team on technical matters.

- 2) The Strategy Leadership Team consisting of UNHCR, RRS, GIZ, UNDP, WFP, ZOA and DCA was overseeing the strategy development and approved deliverables for deliberation by the humanitarian energy and environment working group.
- 3) The humanitarian energy and environment working group discusses and approves key deliverables.

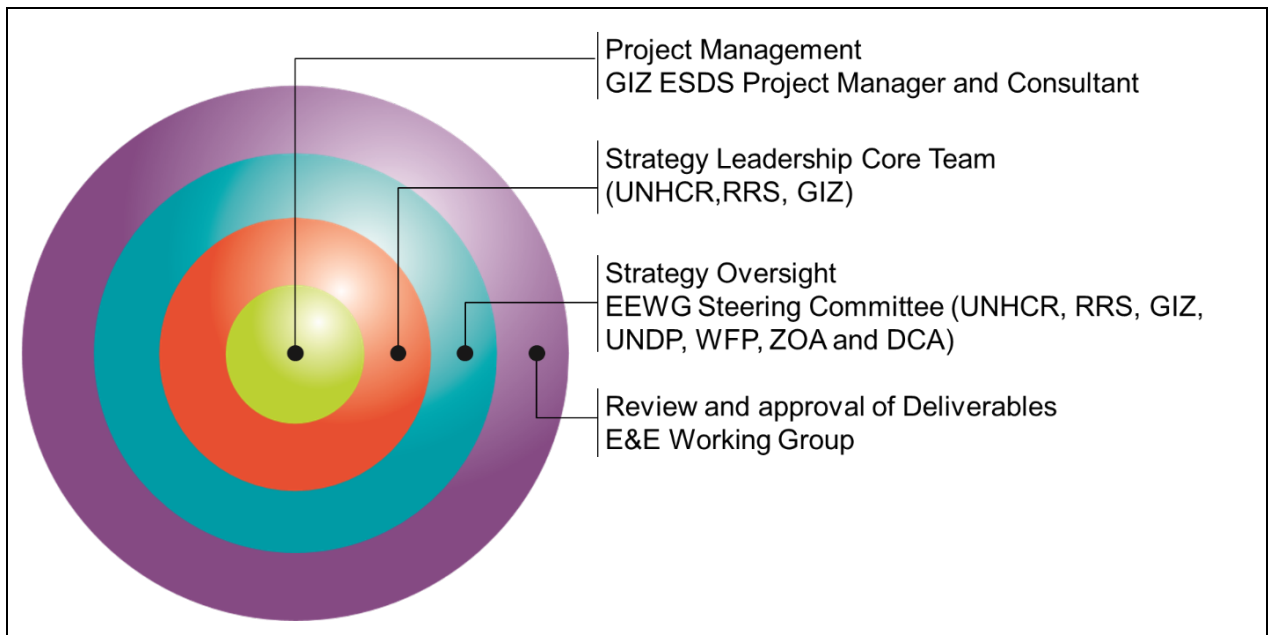


Figure 2 Stakeholder Leadership of Strategy Development Process

3. Current Situation Analyses

3.1. Overview of Refugee Camps in Ethiopia

Ethiopia is the third-largest refugee-hosting country in Africa, sheltering 844,589 registered refugees and asylum-seekers as of 31 March 2022. The overwhelming majority originate from South Sudan, Somalia and Eritrea. Their distribution by their citizenship shows that South Sudanese account for the largest share at 46.4%, followed by Somalis 28.1%, Eritreans 18.8% and Sudanese 5.6%. Yemenis and other nationalities represent merely 0.3% and 0.8% of the total.

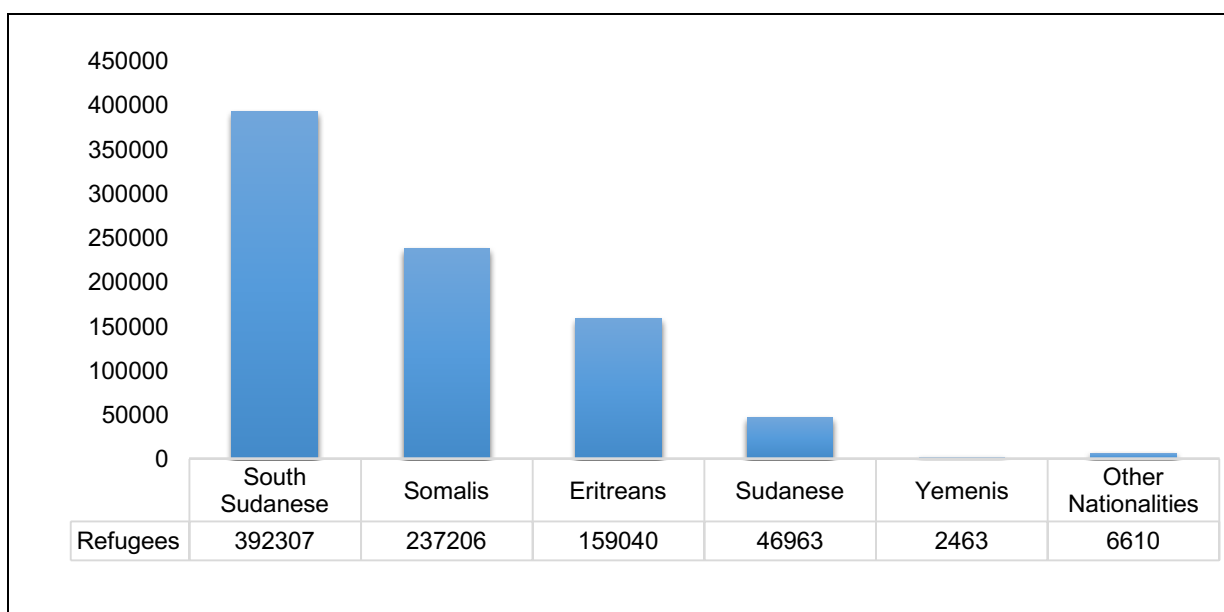


Figure 3 Distribution of Refugee by Country of Origin, March 31, 2022

Refugee-Impacted Communities

Refugee-affected communities may be defined as directly impacted if they are the neighbouring villages/kebeles that share resources and employment opportunities with refugees - typically in a 10-15 km range from refugee camps. The overall woreda, as a defined administrative area, is noted as being indirectly impacted. In Ethiopia, approximately 20 woredas are defined as indirectly impacted hosting areas.³

Following the above definitions, the total number of directly impacted and indirectly impact host population are estimated at about 400,000 and 1.9 million. The highest number of directly impacted population are found around Jigjig camps followed by Shire, Assosa, Melkadida/Dollo ado Afar, and Gambella as shown in Figure 4.

³ UNHCR (2020). Summary Pledge Progress Report, January-December 2019. Retrieved from: <https://reliefweb.int/sites/reliefweb.int/files/resources/2019%20ETH%20Summary%20Pledge%20Progress%20Report.pdf>

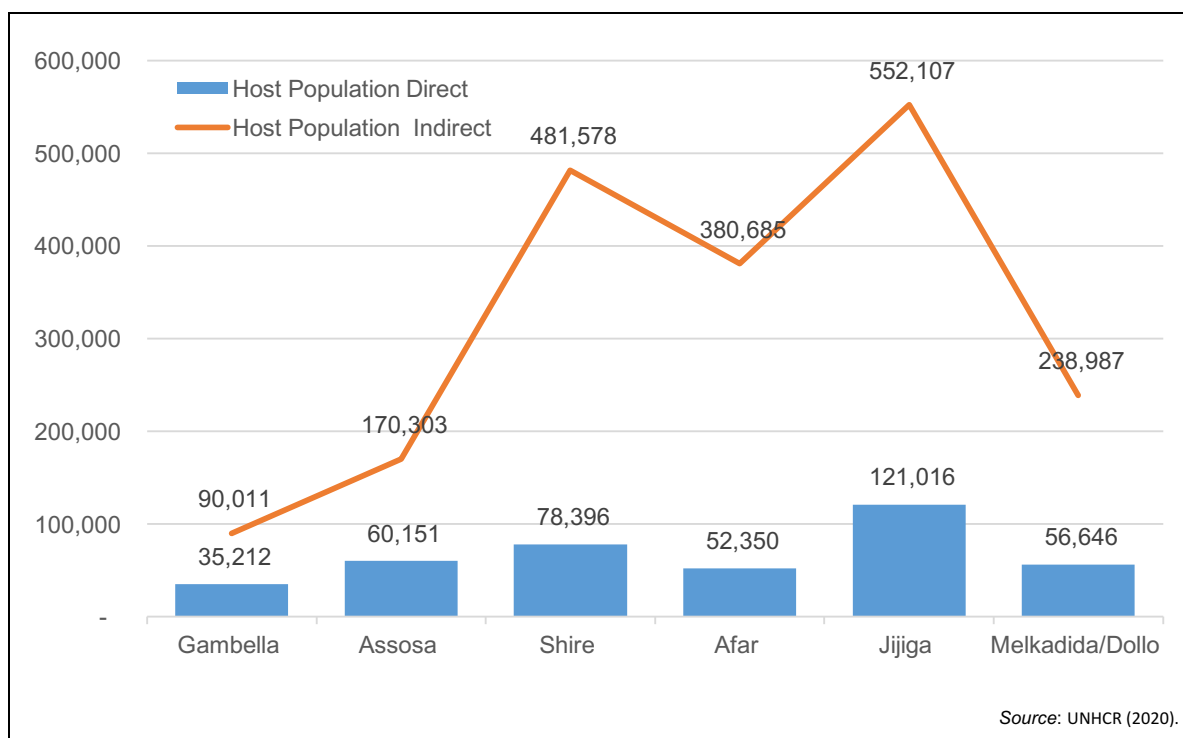


Figure 4 Distribution of Host Communities around Refugee Camps (December 2019)

3.2. Cooking Energy situation in Refugee Camps

Refugee population and host communities in Ethiopia almost entirely rely on biomass (see Figure 5) and three-stone stove (see Figure 6) as the primary source of energy for cooking. Lack of access to safe, clean, affordable and sustainable energy for cooking energy for cooking is posing significant challenges.

A survey found that 74% of the refugee households traded their food rations for energy for cooking.⁴

Worsening access to fuelwood around the refugee camps poses a high protection risk: women and girls spend many hours a day on fuelwood collection. This exposes them to various forms of sexual and gender-based violence (SGBV).

Refugees' dependence on collecting firewood has led to degradation of the vegetation and to conflict with the host community on the use of forest resources.

Another study concluded that in many displacement settings, a crisis point is being reached in which firewood from the local environment is no longer available and no alternatives exist.⁵

The cooking energy profile of each refugee camps in Ethiopia is presented below.

⁴ International Renewable Energy Agency (IRENA) (2019), *Renewables for refugee settlements: Sustainable energy access in humanitarian situations*. Retrieved from: https://irena.org/-/media/Files/IRENA/Agency/Publication/2019/Dec/IRENA_Refugee_settlements_2019.pdf

⁵ Patel, L. and Gross, K. (2019). *Cooking in Displacement Settings Engaging the Private Sector in Non-wood-based Fuel Supply*. Moving Energy Initiative Research Paper. Retrieved from: <https://reliefweb.int/sites/reliefweb.int/files/resources/2019-01-22-PatelGross2.pdf>

Gambella

- Both refugee and host community households in Gambella utilize firewood, charcoal or dry grass, or a mix thereof, for their various cooking purposes. The majority of households use the three-stone stove for firewood, and mud charcoal stoves for cooking with charcoal.
- The majority of refugee households spend a disproportionate amount of time and face immense burden and risk in addressing their cooking fuel requirements. Refugee HHs to fetch wood and elephant grass from bushland and forested areas surrounding many refugee camps approximately 2-3 times a week, through which they are frequently faced with risks such as animal bites, SGBV and conflict with host communities. Local authorities attribute widespread environmental degradation to such coping strategies.
- The distances that refugees need to cover for dead wood collection has been increasing over the years, and that many have to resort to cutting live trees.
- Refugee households in Gambella sale their WFP ration to purchase cooking fuels.

Shire

- The cooking patterns and practices of both the host community and refugees in Shire are very similar, as a result of their close socio-cultural ties. Both refugee and host community predominantly use firewood and charcoal, or a mix thereof, for cooking. The majority of HHs use the three-stone stove for firewood, and metal or mud charcoal stoves for cooking with charcoal. In some camps, communal kitchens are used for baking Injera (powered with electricity and diesel generators). FES have rarely been observed to be in use.
- The concentration of refugees in camps has been placing an immense burden on the local environment as a result of widespread cooking energy insecurity. Many endemic species of trees are currently threatened in Tigray due to their over-exploitation as a cooking fuel source. Such species trees typically require many years to reach maturity.

Jigjiga

- The cooking patterns and practices of refugees and host community in Jigjiga are very uniform. Refugee and host population utilize firewood or charcoal for cooking purposes. Firewood represents the dominant fuel for HHs, followed by charcoal. Ethanol and kerosene were being supplied to refugees, but due to shrinking budgets fuels distribution is currently terminated.
- The majority of HHs use three-stone stove for firewood and mud or metal charcoal stoves for cooking with charcoal. Despite the fact that UNHCR and various Implementing Partners (IPs) have been distributing fuel-efficient stoves (FES) to refugee households, these were observed to be rarely in use.
- Due to the acute scarcity of firewood, the distances refugees travel to collect firewood has been increasing over the years. Households collect firewood 3-4 times per week during which they frequently face risks of animal bites, SGBV and conflict with host communities.
- Refugee households reported that they sale their WFP ration, almost the whole CBI (ETB 200 ETB per person per moth) to purchase cooking fuel.

Afar

- The cooking patterns of refugee and host population in Afar are uniform. This is attributed to the fact that many of the refugees and host community stem from the same ethnic groups. Both refugee and host community utilise firewood and charcoal for cooking.
- The majority of households use three-stone stove for firewood, mud or metal charcoal stoves for cooking with charcoal. Fuel-efficient stoves (FES) distributed by Implementing Partners (IPs) were rarely observed to be in use

Melkadida

- Firewood represents the dominant cooking fuel for followed by charcoal. Firewood from Prosopis Juliflora is the most common firewood sold on the markets in Dollo Ado town, originating from the invaded areas around Dollo Ado. The majority of HHs use three-stone stove for firewood, and mud/metal charcoal stoves for cooking with charcoal. Improved Cook Stoves (ICS) were only occasionally found to be in use.
- The majority of refugee households in Melkadida camps collect firewood (average of 2-3 times a week, about 7 hours roundtrip, 10-15 km). Distances have been increasing in the last 3 years. Refugee household reported that they are frequently faced with risks such as animal bites, SGBV and conflict with host communities.
- Assessments on cooking fuel expenditures in the Melkadida reveal, that refugee population sale food rations to purchase coking fuel and spend ETB 220 - 400 per month.

Assosa

- The majority of refugee households in Assosa rely on firewood collection which places a huge burden on the women and girls. The majority of HHs engage in firewood collection (average 2-3 times a week, 4 hours per roundtrip).

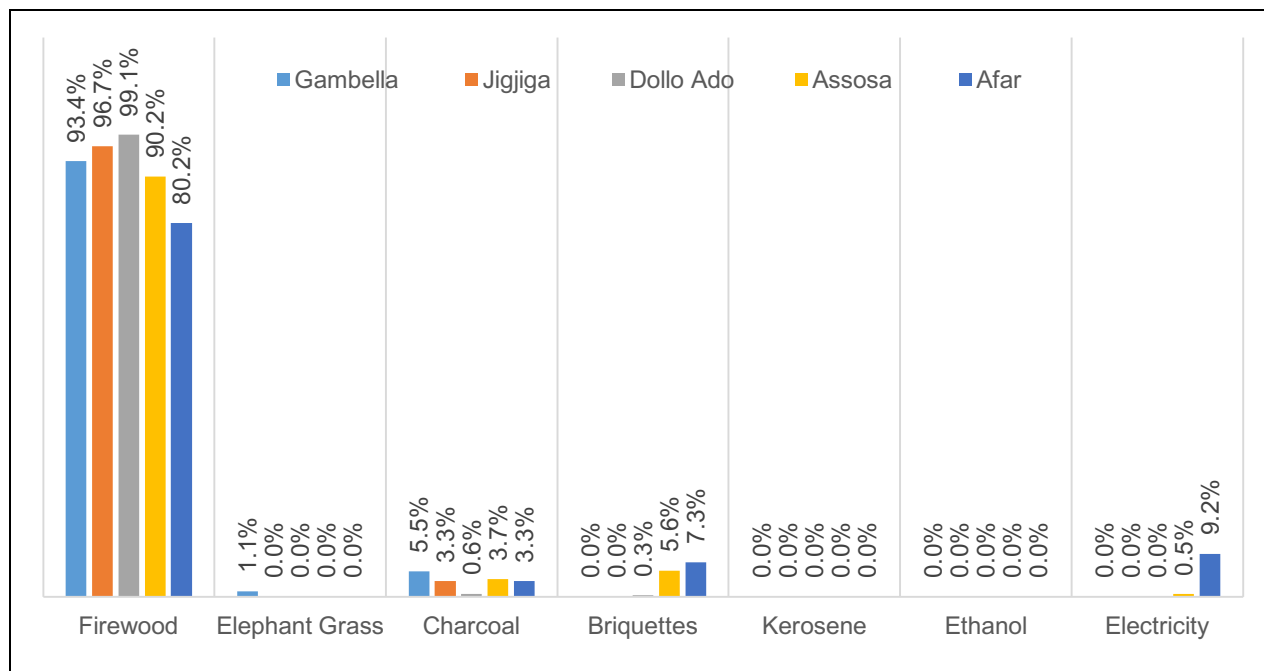


Figure 5 Distribution of Refugee Population by type of Primary Cooking Fuel

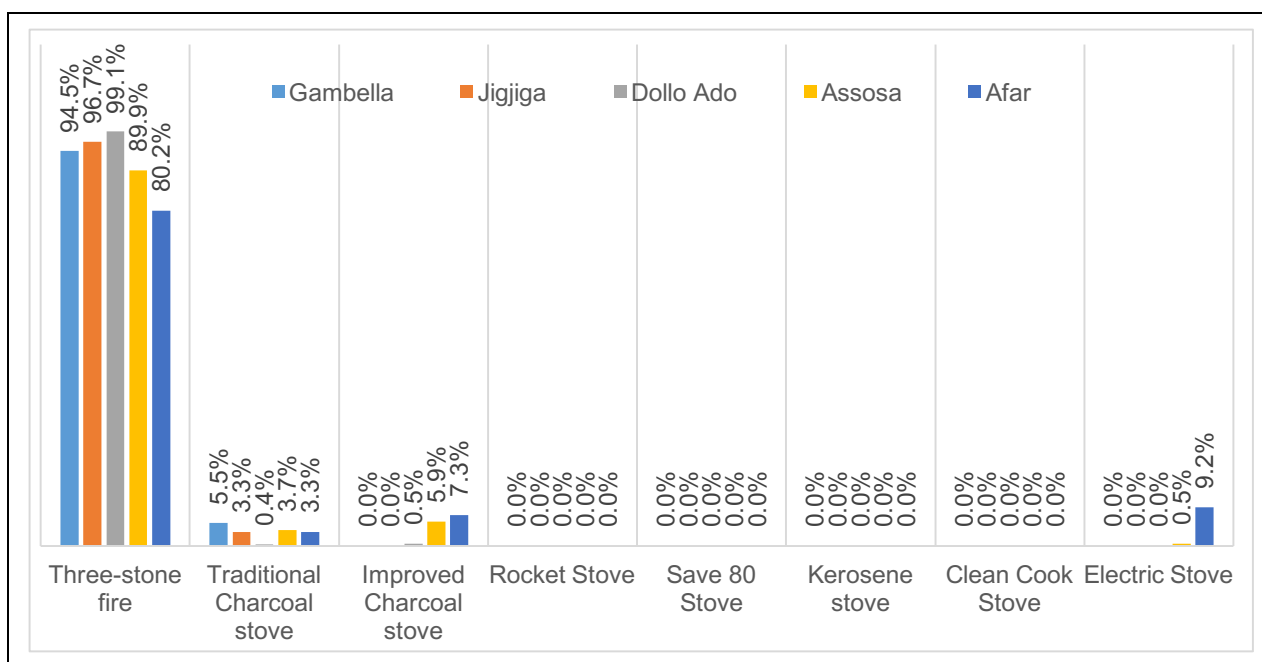


Figure 6 Distribution of Refugee Population by type of Primary Cookstove

Region	Camp	Proportion of Refugee Populatio by Multi-Tier Framework (MTF)					
		Tier 0	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Gambella	Terkidi	94.2%	5.8%				
	Nguenyiel	94.8%	5.2%				
	Jewi	94.8%	5.2%				
	Kule	94.3%	5.7%				
	Pugnido	94.8%	5.2%				
	Pugnido 2	94.5%	5.5%				
	Okugo	92.8%	7.2%				
Jigjiga	Aw Barre	96.7%	3.3%				
	Shedder	96.6%	3.4%				
	Keberbeyah	96.7%	3.3%				
Dollo Ado	Boklomayo	99.1%	0.3%	0.6%			
	Melkadida	99.1%	0.3%	0.6%			
	Kobe	98.9%	0.4%	0.7%			
	Halewein	99.3%	0.5%	0.2%			
	Bur Amino	99.1%	0.6%	0.3%			
Assosa	Sherkole	86.2%	4.4%	6.6%			2.8%
	Tsore	90.6%	4.5%	4.9%			
	Bambasi	90.5%	4.4%	5.1%			
	Gure Shombola	91.8%	0.0%	8.2%			
	Tongo	90.2%	4.1%	5.7%			
Afar	Berhale	78.8%	2.9%	7.9%			10.4%
	Assayta	81.3%	3.6%	6.8%			8.3%

Figure 7 Proportion of Refugee Population by Cooking Energy based on MTF

3.3. Cooking Energy situation of Host Communities

The energy supply and consumption pattern of the host communities display a similar characteristic these of the refugee population. The vast majority of households in Ethiopia households lack access to clean cooking solutions. Key characteristics of the household cooking in Ethiopia⁶

- 63.3% of households use a three-stone stove as their primary cooking solution
- Only 4.1% of households use a clean stove with electricity as a fuel. The penetration of electric stoves is higher in urban areas (15.3%) than in rural areas (0.6%)
- 51.5% of households use a three-stone stove exclusively, while only 2.4% use a clean fuel stove exclusively.
- Stove stacking (use of multiple stove types) occurs in 27.2% of households.
- Only 18.2% of households use a manufactured stove, despite high willingness to pay for such a Stove
- Penetration of manufactured biomass stoves and clean fuel stoves increases with household spending quintile: 6.1% of households in the top spending quintile use a manufactured biomass stove, compared with 1.3% of households in the bottom spending quintile, and 2.6% of households in the top spending quintile use a clean fuel stove, compared with 0.1% of households in the bottom spending quintile.
- 64.3% of households that use a biomass stove have poor ventilation—they cook indoors with no exhaust system and have two or fewer doors or windows in the cooking space.
- 53.3% of households—including 59.1% of rural households and 32% of urban households—spend more than 7 hours a week acquiring (through collection or purchase) fuel and more than 15 minutes preparing the stove for each meal.
- 28.4% of households use more than 5% of their monthly spending for fuel.

⁶ The World Bank (2018). Ethiopia Beyond Connections Energy Access Diagnostic Report Based on the Multi-Tier Framework. <https://documents1.worldbank.org/curated/en/372371533064359909/pdf/Ethiopia-Beyond-connections-energy-access-diagnostic-report-based-on-the-multi-tier-framework.pdf>

4. SWOT and PESTEL Analyses

4.1. Challenges to Overcome

Key challenges for the persistent lack of progress towards addressing the cooking energy challenge in the refugee settings in Ethiopia include a host of internal and external barriers. These include absence of enabling policy frameworks and lack of prioritization of cooking energy, lack of long-term programming, poor stakeholder coordination; and weak resource mobilization; insufficient data and evidence base to guide the planning of cooking energy interventions; weak monitoring and evaluation, learning and knowledge management; poverty and lack of affordability of modern cooking products and services; undeveloped market and low private sector investment; stretched socio-cultural norms and gender inequality; and limited capacity at all levels. These are further elaborated below.

Policy, Planning, Coordination and Resource Mobilization

1. Within the humanitarian sector, cooking energy is not being a formal strategic priority.⁷ There is no lead agency responsible and accountable for responding to the energy needs in humanitarian response.
2. Although refugee population in Ethiopia are among the most vulnerable in terms of access to cooking solutions, they are not included in national programmes such as National Programme for Improved Household Cook Stoves Development and Promotion (NICSP) and the National Biogas Dissemination Scale-Up Programme
3. Short-term, sporadic and piecemeal intervention, i.e., lack of long-term programming. Cooking energy interventions are implemented in an ad hoc way and on the basis of annual budgets which most often will not support sustainable long-term investments. The vast majority of cooking energy intervention are small-scale mostly centred around “improved” cook stoves distributions. There is dire need for viable and diversified cooking energy options to be delivered on a wide scale and this requires, among others, a longer-term programming⁸
4. Inadequate coordination among UN agencies, humanitarian organizations and IPs working on cooking energy interventions.⁹ A lack of coordination means duplication of effort, wasted resource and potentially working at cross-purposes¹⁰
5. While cooking energy is a cross-cutting issue that touches many sectors (e.g., protection, livelihoods, environment, health, food security, and shelter), it is still not widely integrated into sectoral humanitarian programming. This means that opportunities to benefit from cross-sector integration are missed.
6. Insufficient engagement of users, in particular women. This can result in misplaced priorities.

⁷ GPA

⁸ HEDON (2016). Energy in Emergency Settings. Boiling Point, Issue 8. Available online: <https://www.cleancookingalliance.org/binary-data/RESOURCE/file/000/000/458-2.pdf>

⁹ The current EEWG has no formal mandate

¹⁰ For example, a programme giving away energy products alongside one working to create a market for energy products.

Data, Evidence, monitoring and evaluation knowledge sharing

1. Limited sufficient and consistent data about context-specific cooking energy needs of refugee population, potential market, market dynamics, and proven business models
2. Limited evidence on the effectiveness of some of the current approaches and national and international good practices
3. Limited quality data that can guide planning and implementation of cooking energy interventions
4. Households lack adequate information or unsure about multiple benefits (economic, health, social, environment, etc.) of the various clean cooking alternatives
5. A lack of standards for gathering and reporting of data. Where data is available, it is often not comparable, i.e., each project and/ or implementing organization has its own set of indicators and reporting structures, making it difficult to judge effectiveness or identify lessons learned¹¹
6. Absence of common repository and mechanisms for information sharing
7. Lack of knowledge management system makes it difficult for humanitarian organizations to improve their cooking energy programming

Economic/Financial, Markets and Private Sector Investments

1. Refugee population often have little or no income to afford modern energy products and services. Households' limited ability and willingness to pay is translated into low effective demand and small market size thus economy of scale cannot be achieved. This particularly applies in areas where firewood usually does not have a direct financial cost for households. Lack of economies of scale translates to difficulties for the private sector to develop viable business models.
2. Limited number of Implementing Partners (IPs) engaged in the energy sector
3. Over dependence on handouts rather than developing markets. Negative indirect impacts from distribution include market disruption, the reselling of products, a top-down approach in addressing needs with products from foreign value chains, tensions with host communities and the creation of a dependence mind-set.¹²
4. Undeveloped markets and low private sector investments. The enterprises offering alternative fuels (such as briquettes) are small, early-stage firms, not operating at scale or making profits.
5. Significant funding gap: cooking energy in refugee settings is under-funded; funding remains far below the investment needs. Funding also depends on short-term cycle which is poorly suited to financing long-term cooking energy solutions.
6. The refugee camps are located in remote areas with limited infrastructure (roads, power, telecom, etc). This limits access to modern cooking energy products and services.
7. High up-front capital costs for investors may affect economic viability; high payback period. Only products with low payback period may be acceptable.
8. Lack of access to financial services by investors and to consumers¹³
9. Unstable macro-economic environment- double-digit inflation and shortage of foreign exchange. This may increase risk and uncertainty for new investments.

¹¹ GPA

¹² https://www.chathamhouse.org/sites/default/files/field/field_document/20141201EnergyDisplacedPopulationsPolicyPracticeBellanca.pdf, pp. 14

¹³ The Development Bank of Ethiopia's credit line for renewable energy remain difficult to access for small-scale producers who lack collateral. Limited financing modalities for investment or working capital for importing, manufacturing or distributing clean cooking fuels and technologies and high interest rate charged by MFIs discourages borrowing for investment.

Social and cultural

1. Deeply rooted traditional cooking practice can be a barrier for adopting modern cooking solutions
2. Gender inequalities exacerbate further in terms of both consumers (purchasing and decision-making powers) and entrepreneurs. In many settings, women do not have income to purchase cooking fuels and technologies and rely on their husbands, who may be resistant to purchasing a new appliance, even if their wives are convinced of its benefits. Studies have found that ICS adoption in female-headed households were nearly twice of male-headed households. Households headed by a male were less likely to adopt ICS than those headed by a female in southern Ethiopia

Technical Expertise and capacity

1. Shortage of dedicated energy experts in the humanitarian system. Addressing the cooking energy needs in displacement settings requires specific technical expertise to assess energy needs and potential solutions; develop strategies; plan actions; collaborate with other actors; and monitoring and evaluation, learning and knowledge management
2. Limited capacity for technology research, adaptation and innovation. Limited cooperation with and engagement of research and development organizations (e.g., TVETs).
3. Limited workshop and testing facilities and training. This can be a constraint for producers of modern clean solutions

Environment and Climate Change

1. High-rate deforestation and forest degradation, inaccessibility and high cost of bioenergy resources
2. Risks of conflict with host communities over fuelwood resource extraction
3. Unsustainable wood harvesting contributes to deforestation, reducing carbon uptake by forests.¹⁴
4. GHG emission and Household Air Pollution (HAP) Burning solid fuels for cooking emits some of the most significant contributors to global climate change. Burning solid fuels releases carbon dioxide, methane and other ozone producing gases such as carbon monoxide. Up to 25% of global black carbon emissions are estimated to come from burning solid fuels for household energy needs.
5. Climate change poses significant challenge to the energy sector in Ethiopia. Extreme weather events can affect bioenergy production and the availability

Legal

1. Lack of clarity of existing regulations on the rights of refugees to work. According to a recent review, very few refugees have been granted the right to work and that most refugees lack freedom of movement and can only work informally in the limited markets in and around camps. Also, unclear regulations inhibit refugees' access to financial services, and the few refugees that live outside camps have trouble accessing government services.¹⁵

¹⁴ Winrock International (2017). Clean and Efficient Cooking Technologies and Fuels. Retrieved from: <https://www.winrock.org/wp-content/uploads/2017/09/WinrockCookstoveCombined.pdf>

¹⁵ Graham, J. and Miller, S. (2021). From Displacement to Development. How Ethiopia Can Create Shared Growth by Facilitating Economic Inclusion for Refugees. Retrieved from:

2. Lack of standard and quality certification can affect product quality and acceptability of new cooking fuels and technologies. This contributes to a lack of consumer information about which products are of a good quality. Counterfeit and cheap products also distort the market influencing the willingness to pay for good quality products. markets.
3. Lack of clarity on ownership over fuelwood plantations

4.2. Assets and Opportunities to Meet the Challenges

Policy, planning, Coordination and Resource Mobilization

1. Access to sustainable and clean energy for cooking is increasingly recognised as a human right, essential for people's safety, well-being, and productivity as indicated in a number of global initiatives including the Agenda for Humanity¹⁶, the New York Declaration for Refugees and Migrants¹⁷, the Global Compact on Refugees (GCR), the Comprehensive Refugee Response Framework (CRRF)¹⁸; and the Global Platform for Action (GPA).¹⁹ The Seventh Sustainable Development Goal (SDG 7) commits the world to affordable, reliable, sustainable and modern energy for all by 2030.²⁰
2. The cooking energy needs of refugees is increasingly understood and prioritized by UN and humanitarian agencies operating in Ethiopia. Generally, there is a growing level of commitment to change the current state of cooking energy among the various stakeholders: UNHCR, RRS, and Implementing Partners (IPs).
3. UNHCR has adopted a well-articulated global strategy for sustainable energy²¹
4. Existence of a coordination mechanisms for humanitarian energy and environment. Interventions. The Energy and Environment Working Group (EEWG) has been a key task form and effective platform that oversees strategies and other initiatives in humanitarian settings.²²
5. Government of Ethiopia's attention and policy support through enactment of refugee laws and pledges. The Government has pleaded to provide market-based clean/renewable energy solutions for 3 million people.²³ Also, the energy needs of refugee population are recognized and incorporated into national electrification plan.²⁴

Economic/Financial, Markets and Private Sector Investments

1. Ethiopia is among the high-impact countries (HICs) for clean cooking identified in the SDG 7 tracking progress report²⁵. This will help mobilize international donor resources for cooking energy interventions.
2. Increasing donor funding for cooking interventions (e.g., IKEA Foundation in Dollo Ado and ESDS intervention in Gambella)

¹⁶ <https://agendaforhumanity.org/>

¹⁷ The New York Declaration on Refugees and Migrants contains wide-ranging commitments to respect the human rights of refugees and migrants and to support the countries that welcome them. UN General Assembly (2016). New York Declaration for Refugees and Migrants. Retrieved from:

https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_71_1.pdf

¹⁸ The Comprehensive Refugee Response Framework (CRRF) aims to: (1) ease pressure on countries that welcome and host refugees; (2) build self-reliance of refugees; (3) expand access to resettlement in third countries and other complementary pathways; and (4) foster conditions that enable refugees to return voluntarily to their home countries.

<https://www.unhcr.org/comprehensive-refugee-response-framework-crrf.html>

¹⁹ The GPA has already endorsed global plan of action (GPA) in displacement settings; international community pledges towards energy access in displacement setting;

²⁰ The visibility of displaced people at different SDG 7-related fora and in the Global Tracking Framework. Since 2017, several fora related to SDG 7 have included displaced people's energy-access issues, helping to generate greater awareness among a wider development and business community. For example, the Global Tracking Framework, which monitors progress on delivery of SDG 7, first raised the issue of energy for displaced people in its 2017 report.

²¹ <https://www.unhcr.org/5db16a4a4.pdf>

²² UNHCR (2021). Ethiopia GRF Pledge Progress Report. Retrieved from: <https://reliefweb.int/report/ethiopia/ethiopia-grf-pledge-progress-report-december-2021>

²³ *ibid*

²⁴ Federal Democratic Republic of Ethiopia (2019). Ethiopia National Electrification Program 2.0 Report. Retrieved from: <https://www.powermag.com/wp-content/uploads/2020/08/ethiopia-national-electrification-program.pdf>

²⁵ The World Bank (2021). Tracking SDG 7. The Energy Progress Report 2021. Retrieved from: https://trackingsdg7.esmap.org/data/files/download-documents/2021_tracking_sdg7_report.pdf

3. UNHCR's adaptation of multi-year planning offers the opportunity to invest in sustainable long-term programmes
4. There is already some kind of formal or informal market for traditional cooking fuels. Refugee households are spending what little income they have on purchase of firewood and charcoal
5. On-going initiatives for market-based approaches through social enterprises/cooperatives and awareness and acceptance of charcoal briquette by refugee population (briquette enterprises in Dollo Ado, Assosa, and Afar refugee camps)
6. Experience in electrified communal kitchens in various camps: Shire, Assosa, Afar
7. Experience in cash-based interventions (CBI) and emerging new business models
8. Large settlements of refugee population and host communities offer market opportunities for expanding modern cooking solutions on a commercial basis
9. Existence of a dedicated credit line. The Development Bank of Ethiopia with the assistance of the World Bank is implementing a credit facility for clean cooking and off-grid renewable energy projects. The facility is a revolving fund providing loans to private sector and microfinance institutions with funding to disperse loans to families to purchase and install these products.²⁶
10. Increasing Infrastructure investments (road, telecom, national electric grid densification and expansion) will drive clean cooking market development
11. Increased livelihood interventions among refugee populations will raise incomes of and demand for clean cooking solutions

Technical

1. Relatively high bioenergy resource potential for briquette production: *Prosopis juliflora* in Afar and Dollo Ado; and Elephant grass (*Pennisetum purpureum* Schumach) in Gambella and Assosa; and Sesame stalk in Northern Ethiopia
2. Experience in local production of cook stoves, local production of briquettes and grid-connected communal kitchens
3. Expanding TVETs, universities and research institutions

Environmental

1. Clean cooking solutions have the potential for climate change mitigation and adaptation and attracting climate finance opportunities and carbon trading
2. Deforestation and forest degradation, Firewood scarcity can increase the likelihood of shifting to modern cooking fuels and technologies. In places where fuelwood is scarce, adoption of clean cooking fuels and technologies is relatively high.

Legal

1. Ethiopia's revised refugee law²⁷ grants refugee population access to local integration, a wide range of services and improved socio-economic integration. Refugees' legal status and government policies regarding their economic integration offers opportunities for setting up businesses, access to finance, and ease movements of refugee population
2. Legal recognition of refugees encourages investment and long-term planning by refugees, supporting agencies and the private sector

²⁶ The Fund is exhausted at present. According to the Ministry of Water and Energy, there is on-going discussion for additional financing between the Government (Ministry of Finance) and the World Bank.

²⁷ Africa Portal. <https://www.africaportal.org/features/depth-unpacking-ethiopias-revised-refugee-law/>

5. Lessons Learned

The development of this Multi-actor Cooking Energy Strategy builds on decades of experiences and lessons learned in promoting cooking solutions in developing countries as well as in humanitarian settings. The strategic interventions aim to apply cooking solutions and business models to reach the refugees and poor and vulnerable host populations while leveraging private sector investments.

- In many situations, the refugee crisis also evolved from an emergency situation to a protracted crisis. Thus, the issue of cooking energy in displacement settings needs to be viewed as a long-term crisis that requires sustainable solutions.²⁸
- There is no-one-size-fits-all when it comes to cooking solutions and has to be adopted to local context. Many of the past experience has not adopted a holistic systemic approach that combines a deep understanding of the specific geographic context and differences in cooking behaviour, culture, resources, institutions, and market access conditions. Past clean cooking programmes have tended to focus on low-tier and one-size-fits-all cooking solutions, which often has resulted in low adoption rates.
- Private sectors are the foundations of any sustainable market and have vast experience that can be leveraged to accelerate growth in humanitarian-energy nexus for sustainable market development.²⁹
- Scaling-up access clean and sustainable energy services requires strong and sustained support in a number of areas including awareness raising, technical research and development, business development, and consumer research; development of performance standards and benchmarks on safety, energy efficiency, emissions, and durability; and financing mechanisms that can target subsidies and grants; and monitoring and evaluation (M&E) mechanisms.³⁰
- Need for high-level political commitment. A transformative approach to clean cooking will require political high-level support. Particularly, there is a need to support market mechanism to overcome affordability and other constraints that affect mainly poor households. This will include effective subsidy allocation mechanisms to mobilize and sustain private-sector participation and target households who have an affordability gap.
- Refugee communities are the beneficiaries of all cooking interventions and thus, they need to be at the center for designing sustainable interventions as well as from a rights-based approach.³¹
- Women's and men's energy needs differ, particularly for marginalised people in low-income countries. Furthermore, women's contribution to energy planning, supply, and policymaking is marginal, as the energy sector is heavily dominated by men. Universal energy access cannot be achieved without women being able to use the modern energy services they need. However, energy supply interventions have

²⁸ https://energypedia.info/wiki/Webinar_on_Cooking_Energy_in_Displacement_Setting_-_Summary

²⁹ https://energypedia.info/wiki/Webinar_on_Cooking_Energy_in_Displacement_Settings

³⁰ UNDP (2011)

³¹ https://energypedia.info/wiki/Webinar_on_Cooking_Energy_in_Displacement_Settings

traditionally been gender blind. This error is compounded by the lack of gender-differentiated data on energy supply and demand.³²

- Need for cross-sector coordination. There is an opportunity and need for cross-sectoral collaboration, partnerships and coordination between different actors such as humanitarian, development and private sector for addressing the challenges, meet broader needs, for leveraging resources, to prevent duplication of effort, and increase learning and cooperation.³³
- Results-Based Financing (RBF) is an effective instrument to incentivize private-sector investment and can be designed to fit the country context and market conditions. The flexibility allows for designing and adjusting the pre-defined results and associated incentives based on the country context, market conditions, and feedback from program implementation which is important for global funding mechanism. It also allows for unlocking market development targeted poor and unserved population. Further, Result-based financing mechanisms must be careful not to distort the market in an attempt to introduce new technologies and stimulate demand, and a carefully designed exit strategy should be developed.
- UNHCR's Experience with Cash-Based Interventions (CBI). Cash-Based Interventions (CBI) have been successfully implemented in Ethiopia following feasibility studies conducted in selected camps in the Somali and Benishangul-Gumuz regional states. Cash has been used for the direct purchase of items to meet basic needs including laundry soap, kitchen sets, sleeping mats, sanitary kits and fuel for cooking... Within the camps in the Tigray Regional State, which accommodate a significant number of unaccompanied children, cash has been used to reinforce foster care arrangements. In 2021, cash assistance is scheduled for all camps in the Afar, Benishangul-Gumuz, Somali and Tigray regional states, in addition to urban refugee support in Addis Ababa. This will include core relief items, education, energy, health, shelter and livelihoods sectors, as sector specific assistance or part of a comprehensive multi-purpose cash grant. In addition to the ongoing cash for nutrition assistance, a comprehensive CBIs feasibility assessment will also be conducted in camps in the Gambella Regional State, the Liben Zone in the Somali Regional State and Melkadida markets.³⁴

³² IDS (2020). Gender and Energy: Opportunities for All. Transforming Development Knowledge IDS Bulletin, Vol. 51, No. 1. Retrieved from:

https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/15115/IDSB51.1_10.190881968-2020.100.pdf?sequence=1&isAllowed=y

³³ https://energypedia.info/wiki/Webinar_on_Cooking_Energy_in_Displacement_Setting_-_Summary

³⁴ UNHCR (2021). Ethiopia Refugee Response Plan. January 2020 – December 2021. Retrieved from: <https://reporting.unhcr.org/sites/default/files/Ethiopia%20CRP%202020-2021.pdf>

6. Vision, Mission, Guiding Principles

Our Vision:

By 2030 all refugees and directly impacted host communities have access to adequate, sustainable, affordable, safe and clean cooking solutions adopted to user needs, preferences and local cooking context.

Our Mission:

We, the humanitarian Energy and Environment Working Group in Ethiopia, are committed to supporting refugees and poor and vulnerable host communities to their fundamental right to modern energy for cooking services through creating an enabling environment.

Guiding Principles:

All actions and initiatives by all actors in the operationalization of this Strategy will be guided by the following set principles.

- Access to adequate, sustainable and affordable modern energy for cooking services is a human right. Access to energy services is the prerequisite for the realization of other human rights: about 80 percent of food is only edible if cooked.³⁵
- Strive to leave no-one behind (LNOB)
- Building on existing policies, strategies and initiatives, and institutional frameworks
- Inclusive and effective engagement of a broad range of stakeholders (refugees, host communities, host government, UN agencies, humanitarian organizations, implementing partners, donors, private companies, etc.) and build their capacities to be 'fit to engage'
- Recognizes the potential of market-based solutions and the private sector to address the cooking energy challenge
- Cooking energy solutions must be context-appropriate and sensitive to the unique needs and challenges of women and girls
- Promote social cohesion – stable co-existence within communities, IDPs, refugees, and host community members accept socio-ethnic differences, have equitable access to livelihoods and other community resources, and feel safe and secure
- Accountability, efficient use of resources and maximize cross-sector collaborations and partnerships
- Adhere to the 'do no harm' principle³⁶
- Mainstreaming cross-cutting issues: gender equality and empowerment of Women; environment and climate change

³⁵ German Ministry for Economic Cooperation and Development. Applying human rights in practice Fact sheets on a human rights-based approach in development cooperation. Retrieved from: https://www.aaas.org/sites/default/files/Energy_FactSheet.pdf

³⁶ The principle of "do no harm" requires humanitarian organisations to strive to minimize the harm they may inadvertently cause through providing aid, as well harm that may be caused by not providing aid (such as adding to tensions with host communities).

7. Framework for Change

The framework adopted for outlining how the vision will be reached is based on a Theory of Change (TOC) approach. The TOC illustrates how key problem and underlying cause are addressed by key interventions, and how these then lead to intermediate outcomes and ultimately the Strategic overarching goal. The process of change and transformations incorporates the strategic vision and mission, as well as the guiding principles.

The theory of change is that without a strategic response to address the cooking energy challenge (i.e., under “Business as Usual” scenario), progress in access to modern energy cooking services will likely be slow; refugee households will likely continue to adopt negative coping strategies including undercooking of meals and skipping meals which adversely affect the nutritional intake and health of refugee population including children; deforestation and forest degradation would increase and would be less resilient to climate hazards; and conflicts over unsustainable biomass resource extraction between refugees and host communities will likely to continue

On the other hand, the successful implementation of this Strategy should ultimately lead to positive outcomes; access to modern cooking energy services has an immediate and well researched impact on the quality of life. This process of change is presented in Figure 1 and outlined below.

Pathways to Change

- **Pathway 1.** Ensure universal access to modern energy cooking services (MECS): close the MECS access gap; increase the share of renewable energy in the total final energy consumption; and increase the rate of improvement in cooking energy efficiency.
- **Pathway 2.** Policy, Planning, Coordination and Resource Mobilization: enabling environment, prioritization of cooking energy, increased commitment and improved coordination and resource mobilization
- **Pathway 3.** Private sector and market Development: energy resource assessment, feasibility studies and business plans for modern cooking energy solutions; technical assistance and BDS services for entrepreneurs and support market development
- **Pathway 4.** Strengthen technical and management skills of stakeholders at all levels (refugee population, host communities, humanitarian organizations, private sector, host government agencies responsible for energy, health, gender, environment, etc.)
- **Pathway 5.** Data, Evidence, M&E Learning and Knowledge Management
- **Pathway 6.** Mainstreaming cross-cutting issues – gender equality and empowerment of women, environment and climate change

The rationales for the choice of the selected result pathways are:

- To overcome the challenges and gaps and use strengths (assets) and capitalize on external opportunities as highlighted by the SWOT and PSTELE analyses.
- Alignment with the UN Sustainable Development Goals (2016– 2030). The selected pathways are aligned with the access to affordable and clean energy (SDG 7).
- The selected result pathways are also aligned with the UNHCR Global Strategy for Sustainable Energy (2019-2025)³⁷ which aims to enable refugees', host communities

³⁷ UNHCR (2019). Global Strategy for Sustainable Energy 2019-2025. Retrieved from: <https://www.unhcr.org/5db16a4a4.pdf>

and other persons of concern to UNHCR to meet their energy needs in a safe and sustainable manner. The Strategy seeks to increase the sustainable use of renewable energy sources to minimize environmental impact, in a way that includes host communities and other stakeholders, while improving refugees' protection and well-being.³⁸

- The selected result pathways are also aligned the Global Platform for Action (GPA) on Sustainable Energy in Displacement Setting which promotes promote actions that enable sustainable energy access in displacement settings, as laid out in the Global Plan of Action Framework.³⁹
- The selected result pathways build on decades of experiences and lessons learned in promoting cooking solutions in developing countries as well as in humanitarian settings. The interventions aim to apply cooking solutions and business models to reach the refugees and poor and vulnerable host populations while leveraging private sector investments.
- The selected result pathways are cost-effective; equitable distribution, foster ownership and sustainability
- Achievable: humanitarian organizations, IPs and other stakeholders have successfully implemented the actions in a number of countries
- The pathway/strategies can deliver measurable and quick impact
- The pathways/strategies complement each other: one without the other is not sufficient
- The Strategy is aligned with the Government policy direction on the role of the private sector as reflected in several documents including:
 - “Home-grown Economic Reform” which highlights the importance of the private sector to sustain the country’s economic growth and provides the foundation for the transition from public to private sector-led growth.
 - Perspective plan (2021-2030) aims to ensure fair and equitable opportunities for women and youth; and guarantee private sector led growth.⁴⁰
 - Revised Investment Law which allows more space for private sector investment to drive growth and create more jobs.
 - Public Private Partnership (PPP) Proclamation which recognizes the participation of the private sector an essential strategy to realize the country’s development objectives, including the infrastructure system.
 - Energy Policy of Government of the Federal Democratic Republic of Ethiopia (February 2021, draft, in Amharic) which aims to ensure citizen’s access to sustainable and reliable energy
 - Climate-Resilient Green Economy (CRGE) Strategy outlines Ethiopia’s plan to build a green economy and achieve middle-income status by 2025.⁴¹
 - Ethiopia’s GRF pledge on renewable energy
 - National Improved Cookstove Programme (NICP). Through the Programme the Government plans to reach all households with clean cooking solutions by 2030.

³⁸ Ibid

³⁹United Nations Institute for Training and Research (UNITAR) Website. <https://unitar.org/sustainable-development-goals/peace/our-portfolio/global-platform-action-gpa-sustainable-energy-displacement-settings>

⁴⁰ Fana Broadcasting Corporate Website. <https://www.fanabc.com/english/ethiopia-unveils-its-10-year-development-plan/>

⁴¹ Federal Democratic Republic of Ethiopia (FDRE). 2011. [Ethiopia’s Climate-Resilient Green Economy strategy](http://www.undp.org/content/dam/ethiopia/docs/Ethiopia%20CRGE.pdf). Retrieved from: <http://www.undp.org/content/dam/ethiopia/docs/Ethiopia%20CRGE.pdf>

8. Goals and Strategic Actions

This Strategy is built on six strategic goals that support the vision and mission, under which specific goals have been set for the ten-year period as follows.

Goal 1: Ensure Access to Modern Energy Cooking Services (MECS)

This overarching goal is directly aligned to Seventh Sustainable Development Goal (SDG7) which calls for “affordable, reliable, sustainable and modern energy for all” by 2030. It will advance the fundamental human rights for adequate, sustainable, affordable cooking solutions through inclusive and people-centred approach where no one is left behind. Further, it will contribute to well-being and improve health outcomes, strengthen gender equality by reducing both women’s domestic workload and exposure to health risks and gender-based violence by reducing time and risk exposure when collecting firewood. It will enhance climate resilience, peaceful co-existence between refugees and host community.

Expected Outcome

Close the current cooking energy access gap, increased share of renewable energy and improved energy efficiency. This goal has three core targets:

1. Close the cooking energy access gap through annual targets using Multi-Tier Framework (MTF) for Cooking
2. Increased share of renewable energy (RE) in total cooking energy consumption
3. Increased energy efficiency (EF)

Strategic Actions:

1. Support the development of demand driven products with a high likelihood of adoption
2. Promote renewable energy and energy efficiency measures at each stage from primary energy extraction, conversion, and end-use
3. Promote sustainable financial inclusion benefiting both refugees and host communities: review and assess existing financial inclusion practices, including saving credit, micro-financing, remittances and cooperative arrangements
4. Support income generating and livelihood opportunities
5. Implement Energy Safety nets programme.⁴² Design and implement effective targeting system, considering the different response and support options; monitor and evaluate effectiveness of the targeting system and adapt as needed.
6. Design and implement Cash-Based Intervention (CBI) and Result-based Financing, as appropriate

Key Performance Indicators (KPIs)	Measurement of success
1. Promote renewable energy and energy efficiency measures at each stage from primary energy extraction, conversion, and end-use	<ul style="list-style-type: none"> • Overall increase in number of promotional activities on energy efficiency
2. Implement Energy Safety nets programme	<ul style="list-style-type: none"> • Energy SafetyNet programme developed and implemented

⁴² Sustainable Energy for All (SE4ALL) Website. <https://www.seforall.org/data-and-evidence/energy-safety-nets-series>

	<ul style="list-style-type: none"> Overall increase in number of beneficiaries of Energy SafetyNet Programme
3. Design and implement Cash-Based Intervention (CBI) and Result-based Financing, as appropriate	<ul style="list-style-type: none"> Cash-Based Intervention (CBI) developed and implemented Overall increase in number of beneficiaries of Cash-Based Intervention (CBI)

Targets

The total population started under this Strategy, excluding urban based refugees, is nearly 1.16 million of which about 760,000 or 65% are refugees and about 400,000 (35%) are host communities. The corresponding number of families are 165,000 and 82,400.

Table 1 Target Population

	Individuals	Families
Refugees total (as of March 31, 2022)	844 589	
Refugees (camp-based)	757 173	164 995
Host communities	403 771	82 402
Total	1 160 944	247 398

Targets for access to clean cooking services

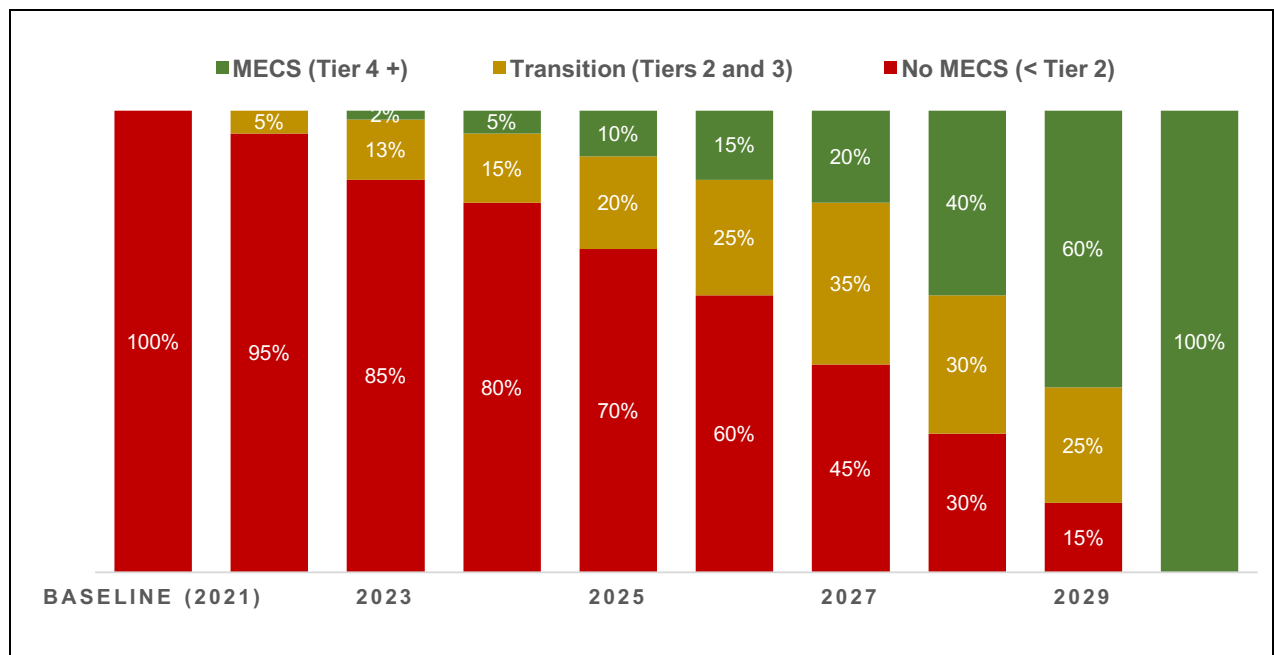


Figure 9 Proportion of target population with primary reliance on clean cooking

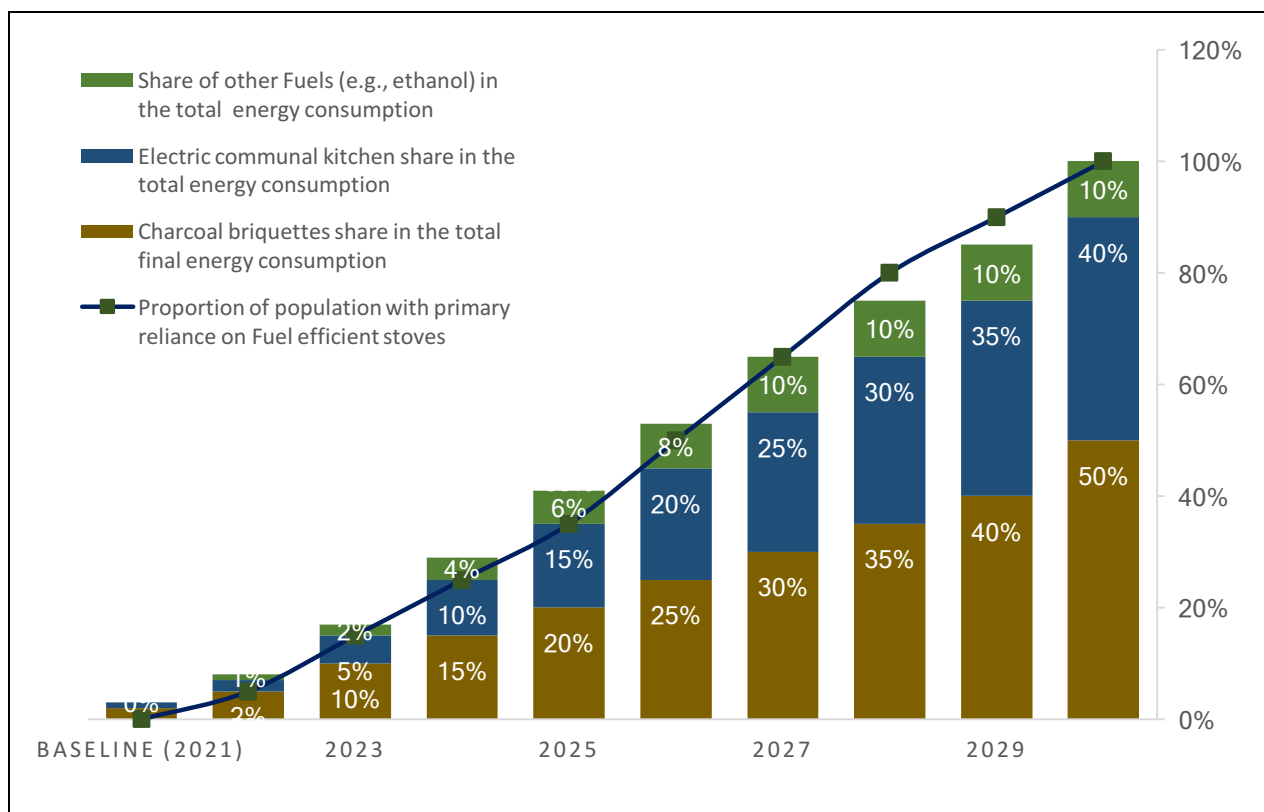


Figure 10 Share of Renewable energy and energy efficiency

Goal 2: Improved Policy, Planning, Coordination and Resource Mobilization

This Strategic goal aims at mobilizing high-level political commitment, coordination and multi-stakeholder partnerships and mobilization of adequate resources for the implementation of the Strategy.

Expected outcomes:

1. Access to modern energy for cooking services for refugee and host population receives the political, economic, and environmental priority, supported by high-level decision-makers, enabling policy frameworks and commitments for actions
2. Improved stakeholder collaboration and coordination
3. Multi-year programming adopted by humanitarian community
4. Harmonized project implementation modalities are adopted
5. Adequate and sustained funding mobilized to effectively implement strategy

Strategic actions:

Improved coordination and communication

1. Awareness, sensitization and advocacy for Government prioritization of energy, commitment to its energy pledge
2. Awareness, sensitization and advocacy for prioritization, and commitment among the humanitarian community, IPs, donors, etc.

3. Stakeholder capacity building on coordination and communication skills
4. Develop strategic partnerships for Joint delivery of projects
5. Provide guidance on incorporating cooking energy into relevant humanitarian programmes (e.g., livelihoods, health)
6. Adopt appropriate formal rules and standard procedures to coordinate activities, e.g., mandates, plans and schedules, memorandums of understanding, implementation agreements. Involve relevant organizations in task assignments
7. Use Information technology (e.g., electronic mail, voice mail, fax, decision support systems) for faster and cheaper communication and facilitate the coordination of distributed tasks

Resource Mobilization

8. Develop and disseminate resource mobilization strategy, guidelines, tools
9. Mainstream cooking energy activities into humanitarian assistance programmes to leverage resources
10. Regular meetings with donors, in order to consolidate and broaden the donor base
11. Enhancing donor visibility; highlight impact and contributions of partners
12. Regularly track resource mobilization: identify funding gap, outcomes that are fully funded, under-funded and un-funded
13. Adopt rules for modern energy cooking solutions in social institutions: schools, health centres
14. Facilitate access to finance awareness raising of financial institutions
15. Explore climate finance and carbon trading opportunities
16. Facilitate Public-Private Partnerships

Key Performance Indicators (KPIs)	Measurement of success
<i>Outcome: Improved coordination and communication</i>	
1. Awareness, sensitization and advocacy for prioritization of cooking energy	• Mandates of individual stakeholder defined with clear definition of scope / timeline / key outcomes
2. Formal rules, standard procedures to coordinate activities	• Mandates of individual stakeholder defined with clear definition of scope / timeline / key outcomes
3. Develop strategic partnerships for joint development and implantation of projects	• Number of joint projects/activities developed
4. Stakeholder capacity building on coordination and communication skills	• Overall increase on number of trainees programmed highlighting collaboration, cooperation, coordination, communication and use of information technology
5. Provide guidance on incorporating cooking energy into relevant humanitarian programmes (e.g., livelihoods, health)	• Guidance on integrating biodigester system with sectoral plans developed and communicated
<i>Outcome: Resource Mobilization</i>	
6. Develop and disseminate resource mobilization strategy, guidelines, tools	• Resource mobilization strategy published and disseminated
7. Regular meetings with donors, in order to consolidate and broaden the donor base	• Overall increase in total funding for cooking energy
8. Mobilize Government pledges and funding	• Overall increase in Government funding for cooking energy
9. Facilitate access to finance	• Overall increase in financial institutions' financing of biodigester projects

10. Climate finance and carbon trading opportunities	<ul style="list-style-type: none"> • Overall increase in climate finance flows to the biodigester sector • Overall increase in carbon trading revenue flows to the biodigester sector
11. Facilitate Public-Private Partnerships	<ul style="list-style-type: none"> • Overall increase in number of PPP projects
12. Regular meetings with donors	<ul style="list-style-type: none"> • Number of Meetings conducted with donors
13. Enhancing donor visibility, publicly acknowledge particular efforts, contributions partners	<ul style="list-style-type: none"> • Donor satisfaction on visibility actions

Goal 3: Private Sector and Market Development to achieve results at scale

The focus of the goal is to create an enabling environment for private sector investment and market development. It will provide demand-driven technical assistance and business development services which will catalyse technology and business innovation across the clean cooking value chain, as well as dedicated financing window and financing instruments to overcome the financial barrier and de-risking investments.

Expected Outcomes:

1. Private sector expertise and financing has effectively contributed to measurable and sustainable positive outcomes on market-based access to modern cooking energy services to refugees and host communities
2. Increased private sector investments
3. Developed and diversified market and increased market uptake of modern cooking energy product and services
4. Employment/jobs created

Strategic actions:

1. Market research to understanding consumer needs and preferences, challenges in the market chain, willingness to pay (WTP)
2. Develop policy and regulatory frameworks to create an enabling environment for private investments: technical and quality standards, appliance labelling, etc.
3. Technical Assistance and Business Development Services (BDS): financial literacy, book keeping, business management, business to business links, marketing, product development, business plan preparation, proven business models
4. Demand stimulation: information, awareness-raising and stimulation of changes in consumer behaviour
5. Investment in sustainable supply chains and in critical infrastructure for modern cooking fuels and technologies
6. Support the private sector in the preparation of bankable projects in order to secure finance and access climate finance
7. Establish dedicated financing window and financing instruments (grant⁴³, concessional or soft lending⁴⁴, guarantee⁴⁵); increase willingness and ability to pay, financial sustainability

⁴³ Resources aimed at funding investments without the expectation that the money be repaid

⁴⁴ Upfront transfer of resources more favourable than market terms (low or no interest rates, longer repayment and/or grace periods, or a combination of these features) with the agreement that the money will be repaid. This lowers the cost of capital and reduces the risk. Concessional lending is used when financing at market terms is not available or would make the investment unviable.

⁴⁵ Guarantees help to mitigate or reduce key default risks and help to crowd-in private sector investments

Key Performance Indicators (KPIs)	Measurement of success
1. Market research to understanding consumer needs and preferences, willingness to pay (WTP)	<ul style="list-style-type: none"> Overall increase in number market researches/studies conducted and disseminated
2. Develop policy and regulatory frameworks to create an enabling environment for private investments	<ul style="list-style-type: none"> Number of policies and strategies adopted industry Overall increase in number of cooking energy enterprises operational
3. Technical Assistance and BDS	<ul style="list-style-type: none"> Overall increase in number of TA and BDS provided Overall increase in number of TA and BDS beneficiaries
4. Demand stimulation: information, awareness-raising and stimulation of changes in consumer behaviour	<ul style="list-style-type: none"> Overall increase in the number of households adopting clean cooking energy products and services
5. Establish technical standards and quality control mechanisms for clean cooking solutions	<ul style="list-style-type: none"> Technical standards and quality control measures developed and implemented
6. Develop standards for digestate from large bio-digester system	<ul style="list-style-type: none"> Develop standards for digestate from municipal and industrial wastes
7. Establish dedicated financing window and financing instruments	<ul style="list-style-type: none"> Financing window established and operational Overall increase in amounts of grants and soft loans disbursed to cooking energy enterprises

Goal 4: Capacity Building

Securing access to modern and sustainable energy services requires enhanced capacity of the humanitarian community and host governments to manage a mix of political, organizational, technical and financial interventions, and to understand, plan and implement sustainable energy solutions and facilitate market-based solutions.⁴⁶

Strategic actions:

1. Identify institutional capacities gaps in terms of human resource, planning, coordination, resource mobilization, project preparation, project implementation, M&E, Knowledge Management, etc.
2. Implement capacity development support to fill capacity gaps: Human resource development: knowledge and competences in resource assessment, energy technology characteristics, private sector and market development, project design, planning and management, needs assessments, economic and financial analysis, project financing, multi sectoral coordination
3. Technology options and system design, e.g., energy technology characteristics, best available technologies, energy production processes, analyse cooking fuels and technology options, cost-benefit analysis
4. Capacity building/development also in relation to strengthen energy multi sectoral coordination to achieve objectives.
5. Institutional networking and coordination for research and development with government, private and other academic institutions.

⁴⁶ ACP-EU Energy Facility (2019). Institutional Capacity Development (ICD) in the Energy Sector. Experiences from EU-supported projects in ACP countries 2007-2019. Retrieved from: https://www.dem.dk/wp-content/uploads/2019/11/Discussion-paper-08_Institutional-Capacity-Development.pdf

Key Performance Indicators (KPIs)	Measurement of success
1. Identify gaps in terms of human resource, planning, coordination, resource mobilization, M&E, Knowledge Management	<ul style="list-style-type: none"> • Training Needs Assessment conducted and training gaps identified
2. Implement capacity development support to fill capacity gaps	<ul style="list-style-type: none"> • Number of persons trained disaggregated by gender
3. Build knowledge and skills of the implementing organisation as facilitators of the adoption of bio-digester technologies	<ul style="list-style-type: none"> • Human resource development: knowledge and competences in private sector and market development, multi sectoral coordination
4. Institutional networking and coordination of research and development	<ul style="list-style-type: none"> • Overall increase in number of research products on cooking energy technologies and end-use appliances

Goal 5: Mainstreaming cross-cutting issues across all strategic goals

Expected Outcome:

Improved gender equality and empowerment of women

Strategic actions:

1. Development of a Gender Equality Framework and mainstreaming guidelines, protocols, and monitoring and reporting: gender disaggregated data
2. Mainstream gender in the energy sector, and enhance energy access for women and other vulnerable groups through targeted programmes

Key Performance Indicators (KPIs)	Measurement of success
1. Design and implement a Sector-wide Gender Equality Framework	<ul style="list-style-type: none"> • Gender Equality Framework published and disseminated
2. Empowerment of women	<ul style="list-style-type: none"> • Overall increase in Share (%) of women employed in the energy value chain for technical jobs related to renewable energy, energy efficiency, and energy access. • Overall increase in number of households reported fuelwood collection time saving by women and girls • Overall increase in number of households reported cooking time saving by women and girls
3. Targeted investment incentive for female-headed households	<ul style="list-style-type: none"> • Overall increase in proportion of female-headed households to total number of targeted beneficiaries of cooking energy products and services

Goal 6: Evidence, Learning and Knowledge Management

Expected outcomes

Improved information and knowledge sharing, building knowledge and skills, increased collaboration and networking, and evidence-based decisions making.

Strategic actions:

1. Develop standard and integrated monitoring and evaluation (M&E) and knowledge management system, adopt a common data repository and central knowledge-sharing system and standardize the types and forms of data collection to enable comparison and facilitate effective monitoring and evaluation
2. Collect and regularly update data to reflect state of the cooking energy situation
3. Develop knowledge dissemination plan: target audience, language, and information content levels; dissemination techniques (written, graphical, electronic, print, broadcast, and verbal media etc methods (electronic dissemination, cross postings on web pages; policy briefs, press releases; media coverage; flyers, posters, and brochures, etc.)
4. Develop and disseminate knowledge products: capture lessons, shortcomings for risk management, good practices, innovations

Key Performance Indicators (KPIs)	Measurement of success
1. Develop integrated M&E and knowledge management system	<ul style="list-style-type: none">• M&E and KM system developed and implemented
2. Collect and regularly update data	<ul style="list-style-type: none">• Timelines of data and information generated
3. Develop knowledge dissemination plan	<ul style="list-style-type: none">• Knowledge dissemination plan developed
4. Develop and disseminate knowledge products: capture lessons, shortcomings for risk management, good practices, innovations	<ul style="list-style-type: none">• Overall increase in number of knowledge products developed• Overall increase in number of people reached• Overall increase in level of satisfaction (e.g., usefulness, timelines) of users of knowledge products

9. Financing Requirements and Resource Mobilization

9.1. Financing Requirements

The total financing requirement to implement the Strategy over period 2022-2030 is estimated at US\$115.8 million of which US\$ 71.3 million (61.6%) will be to meet the modern energy cooking services of refugees and directly impacted host communities. The actions under the market and private sector development outcome will require US\$ 43 million or 37% of the total financing needs.

A summary of financing requirements is provided in Table 2 and Figure 11 below. Detailed estimates are provided in Annex 3.

Table 2 Summary of Financing Requirements

Strategic Outcome	US\$ '000	%
1. Access to Clean Cooking Solution	71,841	61.7
Energy Safety Net programme	28,829	24.8
Affordability Gap	43,013	36.9
2. Planning, Coordination and Resource Mobilization	230	0.2
3. Market and Private Sector Development	43,404	37.3
Investment Grant	22,514	19.3
4. Capacity Building	300	0.3
5. M&E, Learning, and Knowledge Management	465	0.4
6. Mainstreaming cross-cutting issues	170	0.1
Total	116,410	100

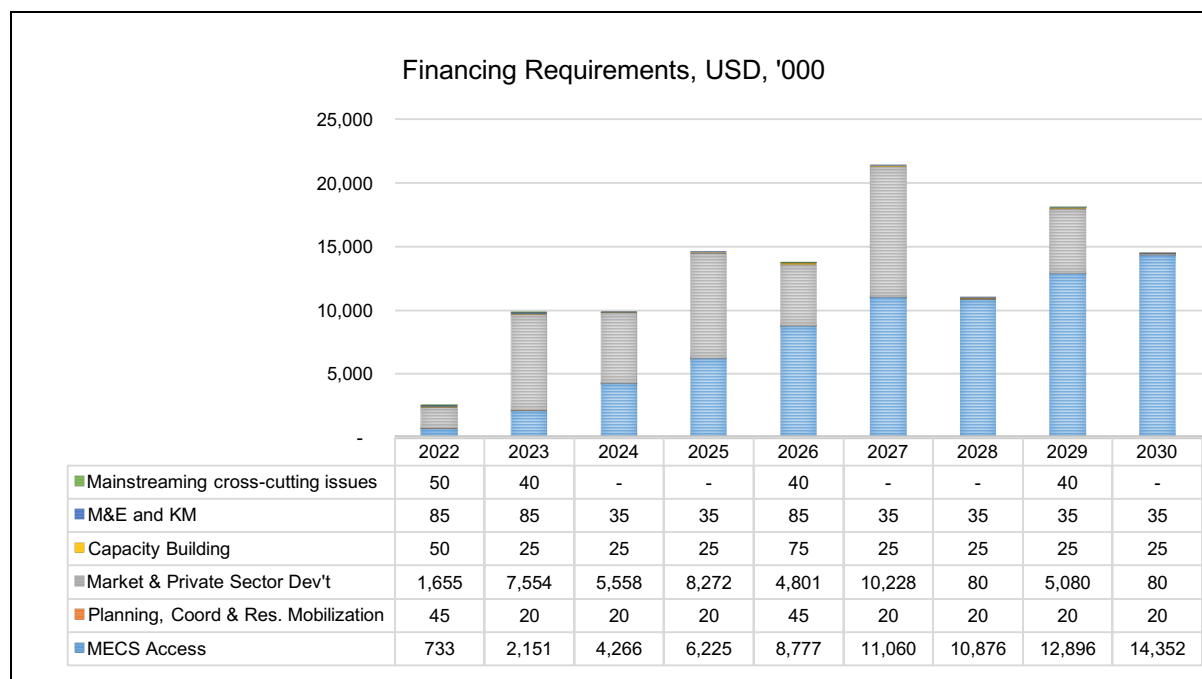


Figure 11 Financing Requirements by outcome and year

9.2. Resource Mobilization Strategy

The over-arching goal of resource mobilisation strategy is to assure adequate, predictable, flexibility multi-year funding to deliver the results in the strategic plan. Potential resource mobilization strategies and instruments are outlined below.

1) **Develop Strategic partnerships**

- Develop longer term high impact programmes that can attract funding from multiple donors
- Strategic funding dialogues and regular meetings with donors to build long-term strategic relationships
- Consolidating and deepening engagement with the existing donor base
- Broadening the donor base to diversify funding and decrease current dependency on a few donors
- Systematic communications and enhancing donor visibility which highlight results and impact as well as the contributions of development partners

2) **Private and Corporate Sector Investments**

- Develop programmes that can attract financing from the private sector
- Support the preparation of bankable projects
- Facilitate access to blended funding to secure different types of financing including grants and subsidies, soft loans and corporate investments
- Facilitate Public-Private Partnerships

3) **Resource mobilization capacity building and coordination**

- Empower stakeholders resource mobilization skills and capacity building e.g., training on formulation of proposals to donors
- Coordination among EEWG for joint programme development and resource mobilization
- Develop and disseminate resource mobilization guidelines, tools and good practices, success stories and lessons learned

4) **Sectoral Coordination and Integration**

- integration of cooking energy interventions with sectoral (health, gender, livelihoods, natural resource management, etc) programmes, and initiatives

5) **Mobilize Climate Finance opportunities**

- Tracking climate finance opportunities and disseminate information
- Support the preparation of climate change mitigation (low-emission) and adaptation (climate-resilient) renewable energy/energy efficiency Projects
- Explore opportunities for carbon trading

6) **Strengthen performance monitoring and reporting of resource mobilization**

- Develop a multi-year resource mobilization plan with clearly identified goals, actions, performance indicators, and responsibilities for resource mobilization,
- Define funding mechanisms for each strategic outcome
- Regular evaluations of international responses to humanitarian crises, including assessments of donor performance
- Mapping resource availability and diversity of funding per strategic outcome and identify outcomes that are fully funded, under-funded and unfunded
- Define funding gap and set realistic resource mobilization targets
- Pledge management system: managing, tracking, reporting, and communicating

10. Risk Assessment and Risk Management Plan

Risk	Assessment without Mitigation	Management Plan or Measures	Assessment with Mitigation
A. Context Fragility, conflict, and violence (FCV) in the Horn of Africa region may impede progress on access to clean cooking.	medium	<ul style="list-style-type: none"> - Specific approaches suitable to various FCV contexts will be adopted, including greater reliance on and collaboration with the local governments, local communities, private sector, IPs, non-profit partners, and UN agencies. - Formal and informal community leaders engaged in social cohesion and co-existence activities 	low
B. Prioritization Competing priorities or interests may constrain the ability to meet the objectives for transformative interventions	medium	<ul style="list-style-type: none"> - The Strategy will support the establishment of a High-Level Strategy Steering Group which will seek to prioritize clean cooking within the key stakeholder organizations - Mainstreaming the Strategy into sectoral humanitarian programmes 	low
C. Resource mobilization Uncertain financing and slow progress in resource mobilization of funding required for the Strategy implementation	high	<ul style="list-style-type: none"> - The High-Level Multi-Actor Cooking Energy Steering Group will develop partnerships and resource mobilisation strategies to respond to the resource gaps - Potential financiers will be identified and reached out as early as possible - Climate financing and carbon revenue opportunities will be identified and proposals will be submitted as early as possible - The Strategy actions will be integrated with sectoral plans/programmes/projects - Strategy implementation will be in phased manner to ensure adequate finance for prioritized interventions 	low
D. Coordination A large number of stakeholders impede effective coordination	medium	<ul style="list-style-type: none"> - The Strategy includes specific actions that will strengthen coordination - Formal agreements (e.g., Memorandum of Understanding) for partnerships and collaboration - Information sharing, regular consultations, by-annual and annual joint evaluation sessions 	low
E. Capacity Limited capacity may impede the pace of the implementation	medium	<ul style="list-style-type: none"> - The Strategy includes interventions for capacity strengthening, technical-assistance and business development support - Coordination and knowledge management will be developed 	low
F. Performance The barriers are too entrenched to be changed over the duration of the Strategy, which prevents from achieving transformative change. Results may also be affected by unpredictable field conditions. This may be particularly affected by the COVID-19 pandemic.	medium	<ul style="list-style-type: none"> - The Strategy Steering Group will provide a platform for coordination of stakeholders and remedy any issues that arises. - Intervention actions will be designed with flexibility to allow adjustments based on an evidence base 	low
Overall	Medium		Low

11. Monitoring and Evaluation

Monitoring and Evaluation (M&E) is an important element of Strategy implementation. Monitoring entails taking a periodic look at how the Strategy implementation is going while evaluation entails a systematic and objective assessment of on-going or completed actions and the resulting impacts.

An effective mechanism for monitoring and evaluating system for the Strategy will be important for at least the following reasons:

- Ensures that the actions being undertaken conform to the Strategy;
- Ensures that the results being achieved are aligned with the Strategic goals;
- Provides regular information to stakeholders on the progress of implementation, challenges encountered and opportunities;
- Ensures the continuous sharpening and focusing of strategic actions and allows timely corrective measures leading to improved Strategy implementation;
- Demonstrates accountability and transparency in the implementation of the Strategy through clearly defined implementation plans and regular evaluation and reporting of progress towards achieving results; and
- Promotes learning, feedback, and knowledge sharing on results achieved and lessons learned among stakeholders.

The M&E will focus on the following four issues:

- **Result Monitoring:** the extent to which the desired results (outcomes) are being achieved in relation to set targets; identify implementation challenges, and recommend remedial actions and adjustments or corrective actions and decisions to be taken
- **Resource Mobilization (RM) Monitoring:** Monitor and reports on the implementation resources and progress in achieving annual RM targets including donors' partnership building, assessment of opportunities for resource mobilization (RM) and identification and mapping of current and potential donors
- **Evaluations** will be conducted by way of systematic and objective assessment of on-going or completed interventions and the resulting impacts.
- **Dissemination and learning:** capture lessons, challenges and good practices in the course of the implementation of the Strategy and communicate same to stakeholders for improved strategy implementation

Activities under the Monitoring will include operationalization quarterly, bi-annual and annual reports using standard and approved formats.

- **Quarterly Performance Report.** A quarterly progress report shall be generated to provide the status of achievement of results (outcomes) and assessment of progress towards achieving the strategic goals. It will provide information and updates on actions under implementation.
- **Bi-Annual Progress Report (Six months).** The bi-annual progress report shall be prepared by the UNHCR. The report shall allow lessons to be shared, and

adjustments made or corrective actions be taken. The report shall be presented in the Bi-Annual Evaluation stakeholder meeting.

- **Annual Report.** The annual report shall provide information and data on the progress made in implementation of the Strategy as well as the progress in the energy pledge. The report will highlight the successes, challenges encountered and the priority actions for next year.

Evaluation activities will include annual review workshops mid-term review, and final evaluation.

12. Arrangement for Strategy Implementation

The successful implementation of the Strategy requires concerted efforts from multiple players. This also depends on the level of stakeholder engagement and ownership coordination at all levels. A clear coordination mechanism is therefore needed. For several reasons

- Broad-based stakeholder engagement helps to lay the foundation for broad-based support and buy-in of the Strategy;
- Stakeholders have valuable insight to offer and provide real local context for interventions
- Stakeholders' ideas, expertise, different viewpoints and from many perspectives will make the Strategic Plan more relevant
- Input from stakeholders helps prioritize recommendations based on their aspirations and priorities
- Funding and resources (financial, human, information) – these will be needed in planning and carrying out the plan.
- Lead to better acceptance of the decisions and measures that are taken
- Help more stakeholders commit to action

Currently, an Energy and Environment Working Group (EEWG) for energy and environment interventions exist but there is no formal coordination mechanism. In order to improve overall coordination and planning of actions an inter-agency High-Level Steering Group will be established. The Steering Group will provide overall oversight, guidance, direction and coordination of the implementation of the Strategy. More specifically, the Steering Group will:

- Ensure stakeholders engagement, strengthen inter-sectorial coordination and support partnership development
- Facilitate resource mobilization;
- Review and approve work plan seeking synergies and avoiding duplication of effort and overlaps
- Assess progress of the implementation of the Strategy and propose priorities for actions and corrective measures
- Approval of operational guidelines and knowledge products;
- Establishes ad hoc working groups, task forces as needed; and
- Serves as a forum for the consideration of issues related to the Strategy.

The High-Level Multi-Actor Cooking Energy Steering Group shall be composed of about 10 members drawn from key humanitarian and development organizations, host Government as well as private sector actors. In other gain a balanced representation of the stakeholders, it is proposed that the Steering Group shall consist of permanent and rotating members.

Given their organizational mandates and responsibilities (see Box 1), the following key institutions shall assume the overall responsibility for overseeing and coordinating the implementation of this Strategy:

1. United Nations Higher Commissioner for Refugees (UNHCR),
2. Refugees and Returnee Service (RRS), and
3. Ministry of Water and Energy (MoWE).

These will assume permanent membership of the Multi-Actor Cooking Energy Steering Group. Rotating members will be drawn every two years from humanitarian organizations, donors, implementing partners, private sector companies and interests, as well as financial Institutions

The work of the Strategy Steering Group will be supported by a Coordination Unit to be established with the UNHCR Ethiopia. The Coordination Unit will act as a secretariat and ensure the day-to-day coordination of efforts by key stakeholders and the implementation of the actions.

The Steering Group may establish Thematic Technical Working Groups (TTWG). The TTWG will provide input and strategic advice to the Strategy Steering Group and supports implementation of activities of the Strategy in consultation with the Coordination Unit. It consists of individuals and representatives of humanitarian and development agencies, private sector, donors and funders, governments and academia.

Box 1. Mandates and Responsibilities of Key Institutions

United Nations Higher Commissioner for Refugees (UNHCR)

The UNHCR maintains that limited access to energy can have severe repercussions on the safety and security of refugees; in particular, it exposes them to heightened risks of SGBV. Safe access to affordable clean energy is closely linked to the enjoyment of rights associated with protection, peaceful co-existence, education, safety, health, nutrition, WASH (Water Sanitation and Hygiene), food and livelihoods. Energy should therefore be conceptualized as a critical means of achieving protection outcomes. <https://www.unhcr.org/5db16a4a4.pdf>

Refugees and Returnee Service (RRS)

The key mandate of the RRS is to support and maintain the physical safety of refugees as well as ensure refugees live in dignity until durable solutions are found. Its mandates include serve as a key government agency and representative on all matters of refugees and asylum-seekers; overall coordination of camp activities; provide physical protection and maintain the well-being of all people of concern; provide and coordinate basic and social service delivery to refugees; coordinate country-level refugee assistance programs; and assist and facilitate NGO partners and other stakeholder interventions in the discharge of their activities. <https://arra.et/mandates/>

Ministry of Water and Energy (MoWE)

The Ministry of Water and Energy of Ethiopia is a federal organization established to undertake the overall management of the energy sector. This involves planning, development and management of energy resources, preparation and implementation of guidelines, strategies, policies programs, and sectoral laws and regulations. The Ministry conducts studies and researches on energy. Also, it provides technical support to regional water and energy bureaux. <https://www.mowe.gov.et/en/about>

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Africa Portal. <https://www.africaportal.org/features/depth-unpacking-ethiopias-revised-refugee-law/>

Agenda for Humanity Website: <https://agendaforhumanity.org/>

Chatham House Website:

https://www.chathamhouse.org/sites/default/files/field/field_document/20141201EnergyDisplacedPopulationsPolicyPracticeBellanca.pdf , pp. 14

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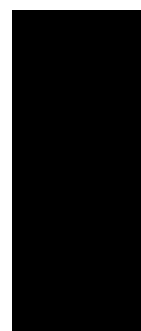
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Annexes



Refugee

The 1951 Refugee Convention is a key legal document and defines a **refugee** as:

“Someone who is unable or unwilling to return to their country of origin owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion.”⁴⁷

Host Communities

The UNHCR offers the following definition of host communities:

A host community in this context refers to the country of asylum and the local, regional and national governmental, social and economic structures within which refugees live. Urban refugees live within host communities with or without legal status and recognition by the host community. In the context of refugee camps, the host community may encompass the camp, or may simply neighbour the camp but have interaction with, or otherwise be impacted by, the refugees residing in the camp.⁴⁸

Refugee-Impacted Communities

With new commitments expressed through the GCR/CRRF, RRS and UNHCR, along with bureaus and agencies of the GoE and partners, are increasingly addressing refugee needs within the context of inclusion in local Ethiopian ‘hosting’ communities. In Ethiopia refugee-affected communities are defined as directly impacted if they are the neighbouring villages/kebeles that share resources and employment opportunities with refugees - typically in a 10-15 km range from refugee camps. The overall woreda, as a defined administrative area, is noted as being indirectly impacted. In Ethiopia, approximately 20 woredas are defined as indirectly impacted hosting areas.⁴⁹

Energy Safety Nets

Energy Safety Net is a term describes approaches to support the very poor and vulnerable to access essential modern energy services (electricity as well as clean fuels and technology for cooking). They close the affordability gap between market prices and what poor consumers can pay for both connections and service delivery tariffs, ensuring that households or social groups are not left behind in progress to meet the Sustainable Development Goals (SDGs).

⁴⁷ <https://www.unhcr.org/what-is-a-refugee.html>

⁴⁸ <https://www.unhcr.org/protection/resettlement/4cd7d1509/unhcr-ngo-toolkit-practical-cooperation-resettlement-community-outreach.html?query=definitions>

⁴⁹ UNHCR (2020). Summary Pledge Progress Report, January-December 2019. Retrieved from: <https://reliefweb.int/sites/reliefweb.int/files/resources/2019%20ETH%20Summary%20Pledge%20Progress%20Report.pdf>

Methodology Multi-Tier Framework (MTF) for Cooking⁵⁰

The Multi-Tier Framework (MTF) redefines energy access to fill the gaps in the Global Tracking Framework binary access measurement. It acknowledges that access is a spectrum of service levels experienced by households. The key features of MTF are:

1. Focus on service from the user’s perspective. MTF does not only record whether a household is receiving an energy service, but whether this service is “usable” from the household’s perspective. The Framework has therefore identified the key attributes that together determine the “usability” of service. For cooking, MTF records the combination of all cookstoves and fuels used by a household in order to determine impact on indoor air pollution, stove efficiency, convenience, safety, affordability, and quality and availability of fuels. The Multi-Tier Framework therefore includes all aspects of SDG7 definition of energy access, including reliability and affordability.

2. Acknowledgment that energy access is a spectrum of service levels. MTF classifies energy services in tiers – starting from Tier 0 (no service) to Tier 5 (full service). For cooking is moving from open fire and traditional stoves to cleaner and more efficient cookstoves and fuels.

3. Technology-neutral approach. Multi-tier approach is technology neutral. It does not matter how the service is provided; what matters is whether the benchmarks for each tier are met. It therefore allows aggregation of different technologies with different service levels.

4. How are the data for MTF collected? The best practice for MTF data collection is household surveys. The survey, covering household access to electricity and clean cooking, is carried out through a household questionnaire applied to a representative sample of households.

Table 2.1 shows the updated version of the matrix as used for accessing access to cooking solutions.

⁵⁰ <https://www.seforall.org/sites/default/files/Beyond-Connections-Introducing-Multi-Tier-Framework-for-Tracking-Energy-Access.pdf>

Table 2.1

Multi-Level Matrix for Access to Cooking Solutions⁵¹

		Tier 0	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Cooking Exposure	ISO's voluntary performance targets (Default Ventilation) PM2.5 (mg/MJd) CO (g/MJd) gn	>1030 >18.3	<=1030 <=18.3	<=481 <=11.5	<=21 8 <=7.2	<=62 <=4.4	<=5 <=3.0
	High Ventilation PM2.5 (mg/MJd) CO (g/MJd)	>1489 >26.9	<=1489 <=26.9	<=733 <=16.0	<=32 1 <=10. 3	<=92 <=6.2	<=7 <=4.4
	Low Ventilation PM2.5 (mg/MJd) CO (g/MJd)	>550 >9.9	550 <=9.9	<=252 <=5.5	<=11 5 <=3.7	<=32 <=2.2	<=2 <=1.4
Cookstove Efficiency	ISO's voluntary performance Targets	<=10%	>10%	>20%	>30%	>40%	>50%
Convenience	Fuel acquisition and preparation time (hrs/week)	>0 7		< 7	< 3	< 1.5	< 0.5
	Stove preparation time (min/meal)	>= 15		< 15	< 10	< 5	< 2
Safety		Serious Accidents over the past 12 months			No accidents over the past year that required professional medical attendance		
Affordability		Fuel cost >= 5% of household expenditure (income)			Levelized cost of cooking solution (including cooking fuel) < 5% of household income		
Fuel Availability		Primary fuel available less than 80% of the year			Primary fuel is readily available 80% of the year	Primary fuel is readily available throughout the year	

⁵¹ISO = International Organization for Standardization, PM = Particulate Matter, CO = carbon monoxide, MJd = Mega Joule delivered

⁵¹ https://energypedia.info/wiki/Global_Tracking_Framework_for_Measuring_Energy_Access

Table 2.2

Distribution of Refugee Population by Type of Cooking Fuel

Region/Camp	Total Population (individuals)	Total Number of Households	Number of Households by Type of Cooking Fuel												Other Elephant Grass				
			Firewood		Charcoal		Briquettes		Kerosene		Ethanol		Electricity (Communal Kitchen)		# HH	%			
			# HH	%	# HH	%	# HH	%	# HH	%	# HH	%	# HH	%	# HH	%	# HH	%	
Gambella																			
Terkidi	72,560	16,890	93.0%	4,223	5.8%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	845	1.2%
Nguenyiel	99,651	20,645	93.8%	5,161	5.2%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1,032	1.0%
Jewi	61,759	12,781	93.8%	3,195	5.2%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	639	1.0%
Kule	54,145	12,337	93.2%	3,084	5.7%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	617	1.1%
Pugnido	67,437	13,966	93.8%	3,492	5.2%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	698	1.0%
Pugnido 2	17,641	3,912	93.3%	978	5.5%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	196	1.1%
Okugo	13,824	3,998	91.3%	1,000	7.2%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	200	1.4%
Gambella Total	387,017	84,529	93.4%	21,133	5.5%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	4,226	1.1%
Jigjiga																			
Aw Barre	11,522	1,878	96.7%	376	3.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Shedder	11,400	1,935	96.6%	387	3.4%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Keberbeyah	14,601	2,437	96.7%	487	3.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Jigjiga Total	37,523	6,250	96.7%	1,250	3.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Dollo Ado																			
Boklomayo	26,673	4,224	99.0%	169	0.6%	85	0.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Melkadida	34,891	5,197	99.1%	208	0.6%	104	0.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Kobe	31,127	5,614	98.9%	225	0.7%	112	0.4%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Halewein	36,628	4,384	99.3%	175	0.5%	88	0.2%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Bur Amino	34,342	4,823	99.2%	193	0.6%	96	0.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Dollo Ado Total	163,661	24,242	99.1%	970	0.6%	485	0.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Assosa																			
Sherkole	10,619	2,650	86.6%	467	4.4%	660	6.2%	0	0.0%	0	0.0%	75	2.8%	0	0.0%	0	0.0%	0	0.0%
Tsore	14,153	3,324	90.8%	639	4.5%	668	4.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Bambasi	17,572	4,050	90.7%	766	4.4%	865	4.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Gure Shombola	8,550	2,362	91.8%	0	0.0%	700	8.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Tongo	10,550	2,324	90.9%	432	4.1%	526	5.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Assosa Total	61,444	14,710	90.2%	2,304	3.7%	3,419	5.6%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.5%	-	0.0%
Afar																			
Berhale	12,642	2,888	82.7%	371	2.9%	500	4.0%	-	0.0%	-	0.0%	300	10.4%	-	0.0%	-	0.0%	-	0.0%
Assayta	14,715	3,636	84.7%	532	3.6%	500	3.4%	-	0.0%	-	0.0%	300	8.3%	-	0.0%	-	0.0%	-	0.0%
Afar Total	27,357	6,524	83.8%	903	3.3%	1,000	3.7%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	9.2%	-	0.0%

**Table 2.3
Number of Households by Type of Cooking Stove**

Region/Camp	Total Population (individuals)	Total Number of Households	Number of Households by Type of Cooking Stove															
			Three-stone fire		Charcoal stove		Improved Charcoal stove		Rocket Stove		Save 80 Stove		Kerosene stove		Clean Cook Stove		Electric Stove	
			# HH	%	# HH	%	# HH	%	# HH	%	# HH	%	# HH	%	# HH	%	# HH	%
Gambella																		
Terkidi	72,560	16,890	15,907	94.2%	4,223	5.8%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Nguenyiel	99,651	20,645	19,576	94.8%	5,161	5.2%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Jewi	61,759	12,781	12,120	94.8%	3,195	5.2%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Kule	54,145	12,337	11,634	94.3%	3,084	5.7%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Pugnido	67,437	13,966	13,243	94.8%	3,492	5.2%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Pugnido 2	17,641	3,912	3,695	94.5%	978	5.5%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Okugo	13,824	3,998	3,709	92.8%	1,000	7.2%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Gambella Total	387,017	84,529	79,884	94.5%	21,133	5.5%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Jigjiga																		
Aw Barre	11,522	1,878	1,817	96.7%	376	3.3%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Shedder	11,400	1,935	1,869	96.6%	387	3.4%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Keberbayah	14,601	2,437	2,356	96.7%	487	3.3%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Jigjiga Total	37,523	6,250	6,042	96.7%	1,250	3.3%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Dollo Ado																		
Boklomayo	26,673	4,224	4,184	99.0%	85	0.3%	169	0.6%		0.0%		0.0%		0.0%		0.0%		0.0%
Meikadida	34,891	5,197	5,151	99.1%	104	0.3%	208	0.6%		0.0%		0.0%		0.0%		0.0%		0.0%
Kobe	31,127	5,614	5,553	98.9%	112	0.4%	225	0.7%		0.0%		0.0%		0.0%		0.0%		0.0%
Halewein	36,628	4,384	4,353	99.3%	175	0.5%	88	0.2%		0.0%		0.0%		0.0%		0.0%		0.0%
Bur Ammino	34,342	4,823	4,782	99.2%	193	0.6%	96	0.3%		0.0%		0.0%		0.0%		0.0%		0.0%
Dollo Ado Total	163,661	24,242	24,022	99.1%	669	0.4%	786	0.5%		0.0%		0.0%		0.0%		0.0%		0.0%
Assosa																		
Sherkole	10,619	2,650	2,284	86.2%	467	4.4%	700	6.6%		0.0%		0.0%		0.0%		0.0%	75	2.8%
Tsore	14,153	3,324	3,010	90.5%	639	4.5%	700	4.9%		0.0%		0.0%		0.0%		0.0%		0.0%
Bambasi	17,572	4,050	3,666	90.5%	766	4.4%	900	5.1%		0.0%		0.0%		0.0%		0.0%		0.0%
Gure Shombola	8,550	2,362	2,169	91.8%		0.0%	700	8.2%		0.0%		0.0%		0.0%		0.0%		0.0%
Tongo	10,550	2,324	2,097	90.2%	432	4.1%	600	5.7%		0.0%		0.0%		0.0%		0.0%		0.0%
Assosa Total	61,444	14,710	13,225	89.9%	2,304	3.7%	3,600	5.9%		0.0%		0.0%		0.0%		0.0%	75	0.5%
Afar																		
Berhale	12,642	2,888	2,274.80	78.8%	371	2.9%	1000	7.9%		0.0%		0.0%		0.0%		0.0%	300	10.4%
Assayta	14,715	3,636	2,957.45	81.3%	532	3.6%	1000	6.8%		0.0%		0.0%		0.0%		0.0%	300	8.3%
Afar Total	27,357	6,524	5,232	80.2%	903	3.3%	2,000	7.3%		0.0%		0.0%		0.0%		0.0%	600	9.2%

**Table 2.4
Targets for Access to Modern Energy Cooking Services, Cumulative (2022-30)**

Indicator	Baseline (2021)	Target												
		2022	2023	2024	2025	2026	2027	2028	2029	2030				
1. Proportion of refugee population and host communities with primary reliance on clean fuels and technology for cooking														
1.1. No MECS (< Tier 2)	100%	95%	85%	80%	70%	60%	45%	30%	15%	0%				
1.2. Transition (Tiers 2 and 3)	0%	5%	13%	15%	20%	25%	35%	30%	25%	0%				
1.3. MECS (Tier 4 +)	0%		2%	5%	10%	15%	20%	40%	60%	100%				
2. Renewable energy share in the total final energy consumption														
2.1. Share of Charcoal briquettes in the total final energy consumption	2%	5%	10%	15%	20%	25%	30%	35%	40%	50%				
2.2. Share of Electric communal kitchen in the total final energy consumption	1%	2%	5%	10%	15%	20%	25%	30%	35%	40%				
2.3. Share of other Fuels (e.g., ethanol) in the total final energy consumption	0%	1%	2%	4%	6%	8%	10%	10%	10%	10%				
3. Proportion of population with primary reliance on Fuel efficient stoves	0%	5%	15%	25%	35%	50%	65%	80%	90%	100%				

Table 2.5
Target Population by Cooking Fuel Type

Target Population	Target										
Refugee Families	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Charcoal briquettes	3,300	8,250	8,250	8,250	8,250	8,250	8,250	8,250	8,250		
Electric communal kitchen	1,650	4,950	8,250	8,250	8,250	8,250	8,250	8,250	8,250		
Other Fuels (e.g., ethanol)	0	1,650	3,300	3,300	3,300	3,300	0	0	0		
Fuel efficient stoves	0	16,500	16,500	16,500	24,749	24,749	24,749	16,500	16,500		
Host Families											
Charcoal briquettes	0	4,038	8,075	8,075	4,038	4,038	8,075	8,075	8,075		
Electric communal kitchen	0	1,615	2,423	2,019	2,019	2,019	2,019	2,019	2,019		
Other Fuels (e.g., ethanol)	0	808	1,615	1,615	1,615	1,615	0	0	0		
Fuel efficient stoves	0	4,038	8,075	8,075	12,113	12,113	12,113	8,075	8,075		
Cumulative, # of families by cooking fuel type											
Refugee Families											
Charcoal briquettes	3,300	16,500	24,749	32,999	41,249	49,499	57,748	65,998	82,498		
Electric communal kitchen	1,650	8,250	16,500	24,749	32,999	41,249	49,499	57,748	65,998		
Other Fuels (e.g., ethanol)	0	3,300	6,600	9,900	13,200	16,500	16,500	16,500	16,500		
Fuel efficient stoves	0	24,749	41,249	57,748	82,498	107,247	131,996	148,496	164,995		
Host Families											
Charcoal briquettes	0	8,075	16,151	24,226	28,264	32,302	40,377	48,453	56,528		
Electric communal kitchen	0	1,615	4,038	6,057	8,075	10,094	12,113	14,132	16,151		
Other Fuels (e.g., ethanol)	0	808	3,230	4,845	6,460	8,075	8,075	8,075	8,075		
Refugee + Host Families											
Charcoal briquettes	3,300	12,287	40,900	57,225	69,513	81,800	98,125	114,451	139,026		
Electric communal kitchen	1,650	9,865	20,537	30,806	41,074	51,343	61,612	71,880	82,149		
Other Fuels (e.g., ethanol)	0	2,457	9,830	14,745	19,660	24,575	24,575	24,575	24,575		
Fuel efficient stoves	0	8,250	41,249	57,748	82,498	107,247	131,996	148,496	164,995		

Annex 3

Estimated Financing Needs

Table 3.1
Estimated Financing Needs Cumulative (2022-30) in US\$

Assumption:											
Exchange rate per 1 US\$ (April 10, 2022 CBE)	ETB 51.06										
Annual inflation rate	10.00%										
Charcoal Briquette		Target	2022	2023	2024	2025	2026	2027	2028	2029	2030
Target char briquette market families		12,287	24,575	40,900	57,225	69,513	81,800	98,125	114,451	139,026	
Briquette requirement (kg/HH/yr.)	636										
Total briquette requirement (t/yr.)		7,815	15,630	26,012	36,395	44,210	52,025	62,408	72,791	88,420	
Target Char Briquette price (local currency/kg)	ETB 10.00										
Target Char Briquette price (\$/kg)	0.20										
Inflation adjusted Char price (\$/kg)		0.22	0.24	0.26	0.29	0.32	0.35	0.38	0.42	0.46	
HHs able to pay full Market price		50%	50%	50%	50%	50%	50%	55%	55%	60%	
HH enrolled in Energy safety net programme target		15%	15%	15%	15%	15%	10%	10%	10%	10%	
HHs able to subsidized Market price		35%	35%	35%	35%	35%	40%	35%	35%	30%	
Subsidy gap		35%	35%	35%	25%	25%	25%	15%	15%	15%	
Subsidy gap (\$/kg)		0.08	0.08	0.09	0.07	0.08	0.09	0.06	0.06	0.07	
Energy Safety net requirement (\$/yr.)		252,515	555,533	1,017,032	1,565,275	2,091,510	1,804,893	2,381,612	3,055,626	4,082,907	
Subsidy requirement (\$/yr.)		324,246	713,342	1,305,937	1,435,656	1,918,314	2,837,882	1,965,953	2,522,333	2,888,849	
Sub-total Energy Safety Net and Affordability Gap		576,761	1,268,875	2,322,969	3,000,932	4,009,824	4,642,774	4,347,565	5,577,960	6,971,756	
Investment Grant for Charcoal Briquettes											
No. of Char Briquetting facilities required (each 150 t/month)		5	5	12	12	17	17	24	24	35	
CAPEX	\$70,000										
CAPEX grant per facility (%)		50%	50%	50%	25%	25%	25%	0%	0%	0%	
CAPEX grant per facility, US\$		182,346	182,346	424,612	212,306	303,479	303,479	-	-	-	
Safety nets, affordability gap and CAPEX Grant		759,107	1,451,221	2,747,581	3,213,238	4,313,303	4,946,253	4,347,565	5,577,960	6,971,756	
Electric Communal Kitchen		Target	2022	2023	2024	2025	2026	2027	2028	2029	2030
Target electric communal kitchen families		3,300	9,865	20,537	30,806	41,074	51,343	61,612	71,880	82,149	
Electricity consumption (kWh/HH/yr.)	475										
Electricity Tariff (ETB/kWh)	ETB 0.35										

Electricity Tariff (\$/kWh)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Inflation adjusted Electricity Tariff (\$/kWh)																		
HHs able to pay full market price	%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	60%
HH enrolled in Energy safety net programme target	5%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	10%
HHs able to subsidized tariff		35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	30%
Subsidy gap	%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	15%
Subsidy gap (\$/KWh)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy Safety net requirement (\$/yr.)		1,771	5,823	13,335	22,003	32,271	29,582	39,048	50,112	62,998	75,391	88,933	103,889	119,356	135,433	152,133	169,478	187,474
Subsidy requirement (\$/yr.)		4,132	13,587	31,115	51,340	75,299	118,328	136,668	175,391	188,993	225,503	251,990	280,118	308,988	338,625	369,031	399,206	429,252
Sub-total Energy Safety Net and Affordability Gap		5,903	19,410	44,451	73,344	107,570	147,909	175,716	225,503	251,990	280,118	308,988	338,625	369,031	399,206	429,252	459,278	488,726
Investment Grant for Electric Communal Kitchens																		
No. of Communal kitchens required (each 75 families)	75	44	88	186	224	323	361	460	498	597								
CAPEX	\$50,000																	
CAPEX grant per facility (%)		50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	0%
CAPEX grant per facility, US\$		1,099,969	2,188,314	4,657,432	2,805,594	4,040,152	4,517,030	-	-	-								-
Safety nets, affordability gap and CAPEX Grant		1,105,871	2,207,724	4,701,882	2,878,937	4,147,723	4,664,939	175,716	225,503	251,990								
Ethanol Fuel and Stove																		
Target ethanol user households		2022	2023	2024	2025	2026	2027	2028	2029	2030								
Ethanol consumption (litre/HH/yr.)	365	2,457	4,915	9,830	14,745	19,660	24,575	24,575	24,575	24,575								
Ethanol retail price (ETB/litre)	ETB 25.00																	
Ethanol retail price (\$/litre)	0.49																	
Inflation adjusted Ethanol price (\$/litre)	%	0.54	0.59	0.65	0.72	0.79	0.87	0.95	1.05	1.15								
HHs able to pay full market price		50%	50%	50%	50%	50%	50%	50%	50%	50%								
HH enrolled in Energy safety net programme target		15%	15%	15%	15%	15%	10%	10%	10%	10%								
HHs able to subsidized tariff		35%	35%	35%	35%	35%	40%	35%	35%	30%								
Subsidy gap		35%	35%	35%	35%	35%	25%	25%	25%	15%								
Subsidy gap (\$/litre)		0.19	0.21	0.23	0.18	0.20	0.22	0.14	0.16	0.17								
Energy Safety net requirement (\$/yr.)		72,459	207,233	455,913	752,256	1,103,309	1,011,366	1,112,503	1,223,753	1,346,128								
Subsidy requirement (\$/yr.)		7,526	483,544	1,063,796	1,755,264	2,574,387	4,045,465	3,893,760	4,283,136	4,038,385								
Sub-total Energy Safety Net and Affordability Gap		79,985	690,777	1,519,709	2,507,519	3,677,695	5,056,831	5,006,262	5,506,889	5,384,513								
Ethanol cookstove																		
Price of Ethanol Stove (ETB/stove)	ETB 2,000																	
Price of FES (\$/stove)	39.17																	
Inflation adjusted price (\$/stove)		43.08	47.39	52.13	57.34	63.08	69.39	76.32	83.96	92.35								
HHs able to pay full market price		50%	50%	50%	50%	50%	50%	50%	50%	50%								
HH enrolled in Energy safety net programme target		15%	15%	15%	15%	15%	10%	10%	10%	10%								
HHs able to subsidized tariff		35%	35%	35%	35%	35%	40%	35%	35%	30%								
Subsidy gap		35%	35%	35%	35%	35%	25%	25%	25%	15%								
Subsidy gap (\$/stove)		15.08	16.59	18.25	14.34	15.77	17.35	11.45	12.59	13.85								

Energy Safety net requirement (\$/yr.)		15,881	34,939	76,866	126,829	186,016	170,515	187,566	206,323	226,955
Subsidy requirement (\$/yr.)		37,057	81,525	179,354	295,935	434,038	682,059	656,482	722,130	680,866
Sub-total Energy Safety Net and Affordability Gap		52,938	116,464	256,221	422,764	620,054	852,574	844,048	928,453	907,821
CAPEX grant for Ethanol Fuel station										
No. of Ethanol facilities (ach 500 families)	500	5	5	15	15	25	25	25	25	25
CAPEX grant per facility (%)	\$50,000	50%	50%	50%	25%	25%	25%	0%	0%	0%
CAPEX grant per facility (50%)		122,875	122,875	368,624	184,312	307,187	307,187	-	-	-
Safety nets, affordability gap and CAPEX Grant		255,798	930,115	2,144,554	3,114,596	4,604,936	6,216,592	5,850,311	6,435,342	6,292,334
Fuel Efficient Stoves										
Target										
New FES target		8,250	24,749	41,249	57,748	82,498	107,247	131,996	148,496	164,995
Replacement of FES										
Total annual FES target market		8,250	24,749	49,499	82,498	123,746	164,995	214,494	255,743	296,991
Price of FES (ETB/stove)	ETB 600.00									
Price of FES (\$/stove)	11.75									
Inflation adjusted price (\$/stove)		12.92	14.22	15.64	17.20	18.92	20.82	22.90	25.19	27.71
HHs able to pay full market price		50%	50%	50%	50%	50%	50%	55%	55%	60%
HH enrolled in Energy safety net programme target		15%	15%	15%	15%	15%	10%	10%	10%	10%
HHs able to subsidized tariff		35%	35%	35%	35%	35%	40%	35%	35%	30%
Subsidy gap		35%	35%	35%	25%	25%	25%	15%	15%	15%
Subsidy gap (\$/litre)		4.52	4.98	5.47	4.30	4.73	5.20	3.43	3.78	4.16
Energy Safety net requirement (\$/yr.)		15,994	52,781	116,117	212,882	351,255	343,449	491,132	644,139	822,835
Subsidy requirement (\$/yr.)		1,011	3,032	6,064	7,219	10,828	16,500	11,261	13,426	13,365
Sub-total Energy Safety Net and Affordability Gap		17,005	55,812	122,181	220,100	362,083	359,949	502,393	657,565	836,200
CAPEX grant										
No. of FES Manufacturing Facilities (ach 500 families)	30,000	6		1				1	1	1
CAPEX	\$25,000									
CAPEX grant (%)		50%	50%	50%	25%	25%	25%	0%	0%	0%
CAPEX grant, US\$		75,000	-	12,500	-	-	-	-	-	-
Safety nets, affordability gap and CAPEX Grant		92,005	55,812	134,681	220,100	362,083	359,949	502,393	657,565	836,200

Table 3.2

Estimated Financing Needs by Outcome (2022-30) in US\$

	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
MECS Access										
Energy Safety nets programme	358,620	856,309	1,679,263	2,679,245	3,764,361	3,359,805	4,211,861	5,179,953	6,541,823	28,631,240
Affordability Gap	373,971	1,295,029	2,586,267	3,545,414	5,012,865	7,700,233	6,664,124	7,716,417	7,810,457	42,704,777
RBF/CBI design	50,000									50,000
RBF/CBI Management and verification fees	10,000	10,000	20,000	20,000	30,000	30,000	40,000	40,000	50,000	250,000
Sub-total	732,592	2,151,338	4,265,530	6,224,659	8,777,226	11,060,037	10,875,986	12,896,369	14,352,280	71,336,017
Policy Planning, Coord. & Resource Mobilization										
Awareness, sensitization and advocacy	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	90,000
Resource mobilization strategy and guidelines	25,000				25,000					50,000
Workshops, review meetings	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	90,000
Sub-total	45,000	20,000	20,000	20,000	45,000	20,000	20,000	20,000	20,000	230,000
Market and Private Sector Development										
Feasibility Studies, Business Plan	50,000				50,000					100,000
Market study	25,000				25,000					50,000
Review policy and regulatory frameworks	25,000									25,000
Business Development services (BDS)	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	225,000
Demand stimulation promotion	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	225,000
Support for Climate Financing Project Preparation			25,000			25,000				50,000
Private Funding Facility, Design	25,000									25,000
Private Funding Facility, seed money		5,000,000		5,000,000		5,000,000		5,000,000		20,000,000
Private Funding Facility, Management Fee		10,000	20,000	20,000	25,000	25,000	30,000	30,000	30,000	190,000
Investment Grant	1,480,189	2,493,535	5,463,168	3,202,212	4,650,818	5,127,696	-	-	-	20,937,428
Sub-total	1,655,189	7,553,535	5,558,168	8,272,212	4,800,818	10,227,696	80,000	5,080,000	80,000	43,307,618
Capacity Building										
Training/Capacity Need Assessment	50,000				50,000					100,000
Training and capacity Building		25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	200,000
Sub-total	50,000	25,000	25,000	25,000	75,000	25,000	25,000	25,000	25,000	300,000
Data, Evidence, M&E Learning and Knowledge Management										
Requirements Analysis and Database Development	50,000									50,000
Hardware and Software		50,000								50,000
Baseline survey	25,000									25,000
Knowledge Management Products		25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	200,000
Annual Review and Work Planning Workshops	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	90,000
Mid-Term Review				50,000						50,000
Sub-total	85,000	85,000	35,000	35,000	85,000	35,000	35,000	35,000	35,000	465,000
Mainstreaming cross-cutting issues										
Gender Mainstreaming guidelines	25,000									25,000

Climate Change Mitigation and Adaptation Guideline	25,000													25,000			
Training on Gender and Empowerment of Women		25,000					25,000							25,000			
Training on Energy and Climate Change		15,000					15,000							15,000			
Sub-total		50,000					40,000							40,000			170,000
Total		2,617,781				14,576,870	13,823,044				21,367,733		11,035,986	18,096,369		14,512,280	115,808,635

Annex 4 Existing Initiatives/Players

Ser. N°	Organization Type	Organization Name	Organizational Mission/Programme Objective	Focus Areas	Role in Energy, Refugee, Environment
1	Bilateral Organization	GIZ-Endev	Energising Development Ethiopia (EnDev) is a global multi-donor partnership implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) that facilitates access to modern energy services. The Endev Programme Ethiopia supports a sustainable supply of energy services to lower-income households, social facilities and small to medium sized enterprises with a focus on rural areas.	Gambella	<ul style="list-style-type: none"> • Selection of beneficiaries and resource identification • Feedstock Assessment • Establish two Briquette making Machines in the selected camps, (Phugnido & Nugneil)
2	Bilateral Organization	GIZ-ESDS	GIZ Energy Solutions for Displacement Settings (ESDS) seeks to improve the energy supply in refugee settlements and host communities.	Gambella	<ul style="list-style-type: none"> • Support the review of policy framework • Greening infrastructure in displacement settings • Facilitate the development and implementation of multi-actors cooking fuel National strategy • Document the financial feasibility and energy regulatory policy.
3	Inter-governmental organisation	IRENA	IRENA promotes the widespread adoption and sustainable use of all forms of renewable energy, including bioenergy, geothermal, hydropower, ocean, solar and wind energy, in the pursuit of sustainable development, energy access, energy security and low-carbon economic growth and prosperity.	Asossa	<ul style="list-style-type: none"> • Electrification of the camps
4		ENTER ENERGY		Jigjiga	<ul style="list-style-type: none"> • Electrification of the camps
5	NGO	MERCY CORPS	Mercy Corps secure humanitarian and development outcomes by increasing Mercy Corps' ability to implement effective programs that support climate	Jigjiga	<ul style="list-style-type: none"> • Electrification of the camps

				adaptation, natural resource management, and access to clean energy.		
6	Privet Sector	SHELL	Jigjiga			<ul style="list-style-type: none"> • Electrification of the camps
7	Multistakeholder partnership	Allianza Shire	Shire	Is a public, private, and academic sectors partnership working in collaboration to develop energy supply solutions that improve the services and quality of life for refugee populations.		<ul style="list-style-type: none"> • Electrification of the 4 camps
8	Development Organization	Helvetas		uphold the protection and promotion of social, economic, political, environmental and cultural rights and responsibilities, and seek to ensure their practical implementation.		<ul style="list-style-type: none"> • Solarization of the 2 camps • Shimmelba & Hitsats camps
9	NGO	NRC	Shire	Helping people forced to flee		<ul style="list-style-type: none"> • Connection of grid to the communal kitchens Mia-ani, Adi-Harush, Hitsats
10	NGO	DCA	Afar	DanChurchAid supports the poorest of the world in their struggle for a dignified life and helps those whose lives are threatened. We provide emergency relief in disaster-stricken areas and long-term development assistance in poor regions - to create a more equitable and sustainable world.		<ul style="list-style-type: none"> • Connection of grid electricity with communal kitchen and individual households.
11		IWMI-ADRA	Gambella			<ul style="list-style-type: none"> • Provide innovative and gender-responsive fuel and farming options
12	NGO	International Committee for the Development of Peoples (CISP)	Asossa & Shire	Emergency and humanitarian aid, CISP's activities is directed towards refugee communities, returnees and displaced people, promoting health services, and defining and implementing disaster preparedness plans.		<ul style="list-style-type: none"> • Shared environment protection and raising of seedlings
13	NGO	ZOA	All camps			<ul style="list-style-type: none"> • Provide alternative energy & environmental protection options.
14	Government	NRDEP	Gambella, Asossa			<ul style="list-style-type: none"> • Protection of natural resources and shared environment through; (natural resource development and environmental protection)
15	NGO	SEE Environment	Melkadida, Jigjiga	Operating in Ethiopia in the fields of environmental protection, alternative energy provision and livelihood enhancement. See tries		<ul style="list-style-type: none"> • Protection of shared environment and forest development

				to combat desertification and sustain the environmental condition of Ethiopia				<ul style="list-style-type: none"> Improve access to sustainable through promotion of Solar Energy, Fuel & Saving practices
16	NGO	Gaia Clean Energy		Promote clean, safe, affordable, sustainable, and renewable energy for cooking and other household needs by displacing the reliance on fossil fuels, firewood, and charcoal; reducing carbon emissions and deforestation by employing efficient clean stoves and other household appliances.		Asossa	<ul style="list-style-type: none"> Provision of clean and safe household energy (Ethanol, Briquette, energy saving stoves) 	
17	Government	ARDO			Shire	<ul style="list-style-type: none"> Protection of natural resources and shared environment through; <ul style="list-style-type: none"> Seedling raising and plantation Construction of terraces and check dams Area enclosure 		
18	Interdisciplinary Centre	i.t.d UPM		Works to address complex problems related to sustainability and to co-create practical solutions.	Shire	<ul style="list-style-type: none"> Installation of grid connected street lights Improvement and extension of electricity grid Training on electricity and electrical installations 		
19	NGO	OSD		Works to ensure environmental protection and sustainable development of the country.	Afar	<ul style="list-style-type: none"> Protection of natural resources and shared environment, Promotion of renewable energy 		
20	Multilateral Organization	WFP		To support food security and nutrition and (re)build livelihoods in fragile settings and following emergencies. Reduce risk and enable people, communities and countries to meet their own food and nutrition needs.	All camps	<ul style="list-style-type: none"> Interested and involved in ensuring safe access to appropriate cooking fuel and technologies which has many facets: protection and safety of beneficiaries; effectiveness of food and nutrition interventions; and mitigation of and adaptation to climate change. 		
21	Multilateral Organization	UNDP		helping to achieve the eradication of poverty, and the reduction of inequalities and exclusion. We help countries to develop policies, leadership skills, partnering abilities, institutional capabilities and build resilience in order to sustain development results	All camps	<ul style="list-style-type: none"> UNDP places a special focus on building the national capacity to integrate environmental considerations into development plans and strategies and provides innovative policy support, creates and builds strong partnerships particularly for securing resources. 		

22	Multilateral Organization	European Union	The program aims to support Ethiopia to shift from a 'care and maintenance' or camp-based model of refugee assistance to an approach that encourages refugees to become self-reliance.	All camps	<ul style="list-style-type: none"> • EU will support the transition of targeted refugees into local structures by including them into the national safety net scheme, the Urban Productive Safety Net Program
23	Multilateral Organization	World Bank	To end extreme poverty: by reducing the share of the global population that lives in extreme poverty to 3 percent by 2030. To promote shared prosperity: By increasing the incomes of the poorest 40 percent of people in every country.	All camps	<ul style="list-style-type: none"> • The World Bank supports the Government of Ethiopia's effort to provide more economic opportunities for Ethiopians and refugees in an environmentally and socially sustainable way.
24	Government	Ministry of Water and Energy	The Ministry is a regulatory body which involves the planning, development and management of resources, preparation and implementation of guidelines, strategies, policies, programs, and sectoral laws and regulations.	All camps	<ul style="list-style-type: none"> • MO WIE plays a significant role in the socio-economic development of Ethiopia through development and management of its energy resources in a sustainable manner, through provision of quality and equitable supplies in the entire country.
25	Multilateral Organization	FAO	FAO is helping countries develop and implement evidence-based pro-poor policies, strategies and programmes that promote inclusive growth and sustainable livelihoods, income diversification, decent employment, access to social protection and empowerment of women and men in agriculture and in rural areas.	All camps	<ul style="list-style-type: none"> • FAO is working to respond to the energy needs in emergencies and protracted crises, particularly in the context of forced displacement, migration and climate change. FAO's response to the cooking, heating, and agriculture powering and lighting needs of affected populations in emergencies, protracted crises and recovery contexts focuses on ensuring sustainable natural resources management and diversifying livelihood activities.



Briquette production plant at pukumu, Gambela Region