



Foundation plan for establishing a **gender-just** **energy cooperative** in Ethiopia and Uganda



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1 Introduction

Energy is a central issue for sustainable development and for achieving the overarching climate goal to hold the increase in the global average temperature to well below 2°C above pre-industrial levels. Achieving universal **energy access**, increasing the share **of renewable energy** and improving **energy efficiency** emerge as key challenges in achieving the Sustainable Development Goal 7 (SDG7) “Ensure access to affordable, reliable, sustainable and modern energy for all.” According to the most recent SDG7 tracking report, despite significant progress on these issues, much more must be done to achieve the proposed targets (IEA; IRENA; UNSD; World Bank; WHO, 2022). In particular, access to clean electricity and clean cooking technologies remains one of the main challenges in sub-Saharan Africa due to the complexity of reaching remote populations with a centralised grid.

Therefore, the needed transformation of the energy system requires expanding decentralised and just systems, putting citizens at the centre and addressing problems of the conventional energy sector. Energy communities answer several challenges of today's energy system and provide economic, social and environmental benefits to communities worldwide.

Within the framework of the "Green People's Energy" programme of the Federal Ministry for Economic Development and Cooperation (BMZ), Women Engage for a Common Future- WECF (Germany), Action for Rural Women's Development – ARUWE (Uganda), and the Oromia Coffee Farmers' Cooperative Union – OCFCU (Ethiopia) have formed a partnership to exchange knowledge and experience in order to promote the development of energy cooperatives. The activities of the alliance have resulted in this *foundation plan* that compiles information on ideas, processes and methods for the creation of energy cooperatives in Uganda and Ethiopia. The publication draws on Germany's extensive and successful experience with citizens' energy, which has become the backbone of the energy transition, as well as on the extensive cooperative tradition in Uganda and Ethiopia, where agricultural cooperatives have played a key role in local economies.

This foundation plan is divided into three sections. Chapter 2 focuses on the aspects that need to be considered before starting the formal process of setting up the cooperative (pre-foundation assessment and analysis of the baseline situation). Chapter 3 presents information on developing the cooperative business plan as the critical stage to turning the cooperative idea into reality. Lastly, Chapter 4 presents good practices and examples from previous experiences in the partner countries.

Idea and analysis of the baseline situation



Solar panels on the roof of a coffee cooperative
(© OCFCU / Solar Foundation)

2 Idea and analysis of the baseline situation

Broadly defined, an energy community is “**any project or initiative where people have ownership or a meaningful say in the running of renewable energy or energy-related services**” (Friends of the Earth Europe; REScoop. eu; Energy Cities, 2020). The legal form that an energy community takes varies widely from place to place and depends on the country’s regulatory frameworks in which the initiative will be carried out. However, energy cooperatives are the most widespread form, as in many cases, countries already have legislation governing cooperative activity that can be extended and adapted to the energy sector. This is the case in the partnership countries –Uganda and Ethiopia– where cooperatives, especially agricultural cooperatives, have been vital to the local economy and social cohesion of communities. For this reason, this foundation plan focuses on the form of energy cooperatives and the actions needed for their successful implementation in the partnership member countries.

The idea of creating a cooperative that provides energy-related services to its members raises many questions that may sound overwhelming: Why should a cooperative be formed? What types of services should be provided? How to organise the community? Therefore, this section aims to provide information on how to answer all these initial questions and what aspects a group of citizens should consider when starting a cooperative energy project.

2.1 Idea – starting point

There are many ways to materialise using the cooperative model in the energy field. Energy cooperatives vary widely in the technologies they implement, the service they provide, the mechanisms by which they are financed, and the geographic scope they achieve, among others. However, all of them share as starting point **the motivation and engagement of a group of citizens willing to bring about the changes their communities need**. Whether it is to bring clean energy to rural and off-grid communities, to replace existing fossil fuel technologies with renewables or to achieve self-sufficiency and better prices concerning the centralised system, energy cooperatives always require **the voluntary work of a group of people** (the core group) to structure the project and engage more citizens and local stakeholders to join the initiative. Since the main objective of a cooperative is not to generate profits but to improve the conditions of its members and communities, the first issue to consider will always be the **services or socio-economic benefits the cooperative generates for its local community**.

Once the core group has been identified and the creation of the cooperative is underway, the first step is to generate ideas that allow for a clear definition of the cooperative’s

objective and business model. Some questions that can guide brainstorming in the cooperative's conceptual phase are:

- What are the most critical energy needs of the community? What are energy-related issues affecting the community?
- What resources are available in the region to meet these needs?
- What challenges and barriers may be encountered in providing energy services to the community?
- What resources in stock can favour the activities of an energy community?
- As a group, what are your main motivations and shared goals?
- As a group, what resources do you have in stock (technical, financial, social, political)?

The answer to those questions will provide an initial understanding of the objective of the cooperative, its activities and how those will be delivered, the scope of the activities and the benefits that the cooperative will provide to its members and the society. However, it is essential to be flexible throughout the process to make adaptations, if and as needed.

Generating electricity through solar energy tends to be the most common activity of energy cooperatives in countries with good development of the cooperative energy sector (mainly in the Global North). However, it is essential to bear in mind that the field of community energy goes beyond electrification and solar power and can offer a wide range of options and solutions in areas such as clean cooking, mobility, or cooling and heating for households, businesses, and public institutions (such as schools and hospitals).

The following two sections give an overview of the technologies that might be used to achieve the goals of the energy cooperatives and the kind of activities that the cooperative might perform (including but not limited to electricity generation and sale).

2.2 Evaluating potential technologies

Once the needs and resources of the community have been identified, the next step is to analyse the technologies and activities best suited to achieve the cooperative's objectives. In general, producing and selling renewable energy is the critical activity of energy cooperatives. However, as different technologies serve this purpose, one has to be chosen (Friends of the Earth Europe; REScoop. eu; Energy Cities, 2020). The affordability of the technology, the scope of the technology, and the skills needed for its installation, operation and maintenance (and the existence of these in the cooperative) are vital aspects to consider when deciding which technology to implement.

Solar energy

Photovoltaic (PV) technology converts sunlight into electricity, and the amount of energy produced directly depends on the sunshine intensity. Most renewable energy cooperatives benefit from solar projects as solar energy provides a wide range of applications, from simple solar lanterns meeting small lighting needs to large solar farms capable of powering entire communities.

In general terms, solar power systems operate solar panels that capture energy from the sun and an inverter that converts that energy to power appliances. For large, stand-alone systems, batteries and charge controllers are also required.

Biomass energy

Biomass, generated from forest residues, food waste, agricultural waste and other wood residues (such as sawdust), is also a renewable energy source with multiple applications, e.g., for clean cooking. For instance, By-products of conventional agricultural activity, such as coffee husks, can be used to produce briquettes.

The following table summarises the advantages and drawbacks a cooperative should consider for each technology (solar energy and biomass).

Renewable energy technology	Advantages	Disadvantages
Solar energy	<ul style="list-style-type: none"> • Solar energy is the most abundant renewable energy source available. Both Ethiopia and Uganda have enormous potential for electricity generation from solar energy. • Solar energy systems can be deployed in remote off-grid areas. • Solar systems have low maintenance costs. • Solar energy systems can contribute significantly to employment generation and local development. • Solar energy technologies, even small ones such as pico-solar systems, can be easily integrated into production systems (productive use of energy). • Technological advances have rapidly increased efficiency while decreasing prices. 	<ul style="list-style-type: none"> • Solar systems (primarily stand-alone systems) might have high up-front costs, making them unaffordable for some communities. • Being weather-dependent, the system's efficiency is affected by many factors. Night-time and overcast days can interrupt the supply. • Despite significant advances, solar energy storage remains highly expensive.
Biomass energy	<ul style="list-style-type: none"> • Agricultural waste is available in abundance and at low or no cost, offering great potential to replace or supplement traditional energy sources. • Biomass can produce heat equivalent to other fuels like firewood or charcoal while significantly reducing environmental and health hazards. • The production and marketing of biomass briquettes generate economic benefits such as job creation, economic empowerment, and money-saving through lower prices of briquettes compared to firewood or charcoal. • Biomass production might add a revenue source for farmers and agricultural cooperatives. • Biomass energy reduces the amount of waste that goes into landfills. 	<ul style="list-style-type: none"> • Depending on the technology, up-front costs may be high and prohibitive for small communities. • There are few local suppliers of the machinery needed to produce biomass briquettes. In the case of Ethiopia, although some simple machines can be produced locally, capacity-building activities are necessary.

Other sources

Wind energy is also an option available to energy communities. In the European context, some cooperatives have managed to operate community-owned wind turbines to provide electricity to their members or to establish alliances with authorities and the private sector to share ownership. However, wind energy parks have high upfront costs, making it challenging to start a cooperative focused on this technology. Likewise, micro- and small-scale hydroelectric power plants have become suitable for energy communities, especially those interested in operating a micro-grid.

2.3 Planned activities

The range of activities an energy cooperative can engage in is broad, including but not limited to the generation and sale of renewable energy. In general, any activity within the energy sector can constitute the core activity of the cooperative. This also encompasses energy-efficient activities such as building renovation or promoting efficient consumption and e-mobility services (Friends of the Earth Europe; REScoop. eu; Energy Cities, 2020).

In the field of electricity, there are two main activities:

- **Energy generation** is a usual starting point and constitutes the most common activity among cooperatives. Generation is understood as the process of producing electric power by transforming an energy source such as solar energy, wind, or biofuel. It also includes the production of biomass briquettes for cooking. Cooperatives aiming to perform energy generation activities must consider the availability of energy sources and technologies for energy production. For instance, solar energy generation through photovoltaic systems is the most common activity carried out by cooperatives in the European context, where the regulatory framework has opened possibilities for the decentralisation of electricity generation.
- **Energy distribution and the operation and maintenance of distribution grids** to distribute electricity at the local level are further activities for energy cooperatives. Whether community-owned or operated through a concession from the local authority, grid operation is an essential step to challenge monopolised energy structures and move towards genuinely decentralised energy systems. Particularly in rural contexts, where the centralised provision is scarce, and its attractiveness for private actors is low, this form of operation has proven to be an efficient model as it reduces bureaucratic hurdles and empowers locals.

Whether generating, distributing, or supplying energy, cooperatives play a crucial role in **fighting energy poverty** and increasing access to clean energy, positively impacting rural households' health and livelihoods.

2.4 Identifying barriers and opportunities

2.4.1 Legal situation and frameworks

The International Cooperative Alliance (ICA) has identified seven principles that serve as guidelines for cooperatives worldwide. These principles apply to all types of cooperatives, including energy cooperatives. The principles are:

1. **Voluntary and open membership:** Cooperatives are open to all who can use their services and are willing to accept the responsibilities of membership without gender, social, racial, political or religious discrimination.
2. **Democratic member control:** Cooperatives are democratic organisations controlled by their members, who actively participate in setting policies and making decisions. Women and men serving as members of an energy cooperative have an equal voice in decision-making processes.
3. **Member economic participation:** Members contribute equitably to the capital of their cooperative and democratically control the allocation of these resources.
4. **Autonomy and independence:** Cooperatives are autonomous, self-help organisations controlled by their members. If cooperatives enter into agreements with other organisations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.
5. **Education, training, and information:** Cooperatives provide education and training for their members, elected representatives, managers, and employees so they can contribute effectively to the development of their cooperatives. They inform the general public, particularly young people and opinion leaders, about the nature and benefits of cooperation.
6. **Cooperation among cooperatives:** Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional, and international structures.
7. **Concern for community:** Cooperatives work for the sustainable development of their communities through policies approved by their members. Cooperatives also aim to contribute to the development of gender-just societies.

These principles can be used as a guide for establishing an energy cooperative that is committed to promoting gender justice, social inclusion, and sustainable development.

Uganda

The legal situation for founding a gender-just energy cooperative in Uganda is governed by the Cooperative Societies Act (Law Reform Commission of Uganda, 2010), the Energy Policy for Uganda (Ministry of Energy and Mineral Development, 2002), and the Renewable Energy Policy for Uganda (Ministry for Energy and Mineral Development, 2007). These laws provide a legal basis for registering, operating, and managing cooperatives in Uganda and promote gender equality in the energy sector. The Renewable Energy Policy for Uganda targets universal access to modern energy services by 2030, emphasising increasing access in rural

areas. The policy encourages the development of decentralised renewable energy systems, including community-based initiatives such as energy cooperatives, as a means of achieving this goal.

To establish a cooperative society, the group must first be registered with the Uganda Registration Services Bureau (URSB) and comply with the legal requirements for reporting, auditing, and annual general meetings. The registration process involves submitting the following documents:

1. Application for registration
2. Copy of the proposed constitution and by-laws
3. Minutes of the meeting where the constitution and by-laws were adopted
4. List of the initial members
5. Payment of registration fees

The cooperative must have a minimum of 30 members and be registered with a unique name (Ministry of Trade, Industry and Cooperatives, 2023).

The legal framework recognises the unique nature of cooperatives as democratic organisations that are owned and controlled by their members and provides for their autonomy and self-help principles. The policy recognises women's critical role in the energy sector and calls for the promotion of gender-sensitive policies and practices in the industry.

Overall, the legal situation for founding a gender-just energy cooperative in Uganda is supportive, with a legal framework that provides for the registration and operation of cooperative societies, promotes gender equality in the energy sector, and encourages the development of decentralised renewable energy systems. It will be necessary for the cooperative to ensure compliance with relevant laws and regulations, as well as to engage with relevant stakeholders and build support for its mission and goals.

Ethiopia

The legal situation for establishing a gender-just energy cooperative in Ethiopia is governed by the Cooperative Societies Proclamation (No. 147/1998) and the Energy Policy of Ethiopia (Federal Democratic Republic of Ethiopia, 2016). These laws provide a legal framework for registering, operating, and managing cooperatives in Ethiopia and promote the development of renewable energy sources and gender equality in the energy sector.

In addition to the Cooperatives Societies Proclamation, energy cooperatives in Ethiopia are also subject to the Energy Proclamation No. 810/2013 (Federal Democratic Republic of Ethiopia, 2013), which promotes using renewable energy sources and encourages the development of decentralised energy systems. The Energy Proclamation also includes provisions for establishing energy cooperatives, recognising their potential to promote sustainable energy development and reduce poverty.

To establish a cooperative society, the group must first be registered with the relevant regional Cooperative Promotion Agency (CPA) and comply with the legal requirements for

reporting, auditing, and general meetings. The registration process involves submitting an application for registration, a copy of the proposed constitution and by-laws, meeting minutes where the constitution and by-laws were adopted, a list of the initial members, and payment of registration fees. The cooperative must have a minimum of ten members and must be registered with a unique name.

The energy policy of Ethiopia aims to promote the development and utilisation of renewable energy sources and to ensure universal access to energy services by 2025 (Ministry of Water, 2021). The policy recognises the important role that women play in the energy sector and calls for the promotion of gender-sensitive policies and practices in the sector. In addition, the policy encourages the development of community-based renewable energy initiatives, such as energy cooperatives, to increase access to modern energy services in rural areas.

Overall, the legal framework for founding a gender-just energy cooperative in Ethiopia is supportive, with a legal framework that provides for the registration and operation of cooperative societies and promotes gender equality in the energy sector. It will be important for the cooperative to ensure compliance with relevant laws and regulations, as well as to engage with relevant stakeholders and build support for its mission and goals.

In addition to a supporting legal framework, Ethiopia has a long tradition of cooperatives. The country has more 80 000 cooperatives, most of which are multi-purpose. The "multi-purpose cooperative" legal figure would allow already existing cooperatives to include energy generation and distribution in their activities (Inensus, 2022a).

2.4.2 Financial situation

Clean energy projects, especially renewable energy generation, require significant capital investments. High upfront capital costs include project feasibility and assessment, equipment purchases, and construction. For example, around 90 % of a solar PV system's lifetime costs are up-front costs. In many cases, the money collected by the cooperative members through membership fees or contributions is not enough to cover the costs of the project and cooperatives need to turn to external sources of financing such as grants, loans, or public authority support.

Financial barriers can also be found at the member level. The requirement of an initial investment by members may be prohibitive for some households. Moreover, there is limited access to financial services and private capital for large sections of the population, which can be seen as a central obstacle. If financial mechanisms exist, the complexity of the processes can hinder the uptake.

Therefore, creating an energy cooperative requires the team to have the skills to raise funds and be aware of the existing and most appropriate financing mechanisms for their project. Two major groups of **financing mechanisms** for cooperatives are equity and borrowed capital. As cooperative energy projects typically get financed by their members, the search for **equity capital** should be the first step with the issue of shares. Through shares, members

receive ownership and can decide on which projects the money will be invested in. If the investments are successful over the years, the members participate in the profits through a yearly dividend. **Borrowed capital** could take different forms, but the lender will not have a say in the cooperative and typically receives interest for lending the money for a certain period. Borrowed capital can be a classical bank loan from a traditional or ethical/cooperative bank, but there are further options as third parties can provide loans. This comprehends private persons and organisations convinced by the business model (Friends of the Earth Europe; REScoop. eu; Energy Cities, 2020).

For example, an existing coffee cooperative that is interested in the productive use of renewable energy can provide a loan to and be a reliable customer of the energy cooperative at the same time. Another option is the application for governmental funding programs or international funding opportunities. In contrast, grants from international donors are economically advantageous as they do not have to be paid back and ease the project implementation. Innovative funding sources should be considered, e.g., receiving money from a voluntary carbon offset program.

Founding a gender-just energy cooperative



3 Founding a gender-just energy cooperative

3.1 The founding group

The founding group is a critical and essential component in establishing a successful energy cooperative. With the following steps, the founding group can be developed:

1. **Identify the core group and potential members:** The first step in forming a founding group is to identify the core group and potential members through outreach and networking. The founding group should consist of a core group of individuals committed to the vision and goals of the gender-just energy cooperative. They need the necessary skills and expertise to carry out tasks in establishing and running a cooperative. Thus, the group should include individuals with diverse skills and backgrounds, such as technical expertise, project management, finance, and gender-sensitive approaches; see chapter 3.2 for more details.
2. **Initial meeting:** Once potential members have been identified, the next step is to convene a meeting to discuss the formation of the cooperative and gauge interest. This meeting should include a presentation on the benefits of energy cooperatives, the steps involved in forming a cooperative, and the roles and responsibilities of founding members. The meeting should also allow potential members to ask questions and voice any concerns they may have.
3. **Develop a vision and mission:** After the initial meeting, those interested in joining the cooperative should be invited to a more in-depth planning meeting. This meeting should focus on developing a clear and concise vision and mission statement for the cooperative, which outlines its goals and objectives and its commitment to gender justice and community development. Furthermore, the specific tasks that must be completed to establish the cooperative should be identified. These tasks may include conducting market research, developing a business plan, and identifying potential funding sources. According to the "RESCOOP Community Energy Guide," the planning meeting should also involve the development of a timeline and establishment of working groups to carry out specific tasks.
4. **Diversity and inclusivity:** To ensure that the founding group is representative of the community, it is important to seek out participation from a diverse range of individuals actively. This may include women, youth, and members of marginalised communities. A gender analysis should be conducted to identify barriers to participation and ensure that the cooperative is accessible and inclusive to all community members.
5. **Conduct a feasibility study:** A feasibility study should be conducted to assess the viability of establishing the cooperative. This includes identifying the potential market demand, evaluating resource availability, and analysing the regulatory and legal framework.

6. **Develop a business plan:** A business plan should be developed that outlines the cooperative's products and services, target market, marketing and distribution strategies, financial projections, and organisational structure.
7. **Establish a legal entity:** The founding group should establish a legal entity, such as a cooperative society, to ensure that the cooperative has a legal basis for registration, operation, and management.
8. **Mobilize resources:** The founding group should mobilise the necessary resources, including financial, technical, and human resources, to establish the cooperative. This may include seeking funding from donors, investors, and financial institutions.
9. **Build partnerships:** The founding group should build partnerships with key stakeholders, including the government, NGOs, universities, and private sector partners. This will help leverage their expertise, support, and resources to establish the cooperative; see 3.3 for more details.
10. **Engage the community:** The founding group should engage the community in establishing the cooperative, including conducting outreach and awareness-raising activities and soliciting feedback and input from community members.

In summary, the founding group is essential to establishing a successful energy cooperative. To ensure long-term success, the group should consist of individuals committed to the cooperative's vision and goals and with the necessary skills and expertise to carry out the tasks involved in establishing and running a cooperative. Forming a founding group involves outreach and networking to identify potential members, convening meetings to gauge interest and develop a vision and mission for the cooperative, and actively seeking out participation from a diverse range of individuals. By following these steps, the founding group can establish a strong foundation for the gender-just energy cooperative, which is committed to promoting gender justice and community development.

3.2 Core team

A strong and dedicated core team is the backbone of a successful cooperative. It is essential to have a team with diverse skills and experience, including but not limited to business management, legal, financial, technical, communication and social media. Each team member should clearly understand the cooperative principles, values, and goals. Furthermore, they should be committed to the success of the cooperative and have a passion for promoting gender equality in the energy sector (Flieger, et al., 2012).

The core team should include the following:

1. **Project manager and coordinator:** They are responsible for coordinating the project and ensuring that it meets its objectives. They are responsible for the overall management and coordination of the project, including the development of work plans, timelines, and budgets. The project managers should have experience in project management, preferably in the energy sector. They should also have good

communication skills to manage the relationships with stakeholders, partners, and cooperative members.

2. **Finance manager:** They are responsible for managing the cooperative's finances, overseeing the cooperative's financial management, and ensuring that financial resources are used effectively. The finance manager should have experience in finance, accounting, and budgeting. They should be able to develop and manage budgets, financial statements, and fundraising strategies. The finance manager should also have good communication skills to manage relationships with donors, investors, and lenders.
3. **Gender specialists:** They are responsible for ensuring that gender justice is integrated into all aspects of the cooperative and that the cooperative is designed to be inclusive and accessible to all genders, and to provide guidance on gender-sensitive approaches and strategies. The gender expert should have experience in gender mainstreaming, preferably in the energy sector. They should also have good communication skills to manage relationships with stakeholders, partners, and cooperative members.
4. **Technical expert:** They provide technical guidance and support for the project and are responsible for the technical aspects of the cooperative. The technical expert should have experience in renewable energy technologies, preferably in the local context. They should be able to design, install, and maintain renewable energy systems. The technical expert should also have good communication skills to manage relationships with suppliers, contractors, and cooperative members.
5. **Communications officer:** They develop and implement a communication strategy for the cooperative, including outreach to potential partners and stakeholders.

In addition to these core team members, the cooperative may also need other specialists, such as **lawyers**, **engineers**, and **marketers**. The core team should be responsible for recruiting and managing these specialists as required.

Overall, a strong core team is essential for establishing a gender-just energy cooperative. The team should have diverse skills and experiences and be committed to the values and principles of gender justice and renewable energy. Effective communication and leadership skills are also critical for managing the cooperative successfully (Friends of the Earth Europe; REScoop. eu; Energy Cities, 2020; Flieger, et al., 2012).

3.3 Possible partners

Establishing a gender-just energy cooperative requires collaboration with various partners. These partners can provide resources, expertise, and support to the cooperative.

Possible partners for the cooperative include (Diagne & Haftendorn, 2019; Mebratu & Megersa, 2016; Ssentongo & Kalyowa, 2019; Bensch & Kluve, 2014; Nakaweesa & Koppensteiner, 2019; Friends of the Earth Europe; REScoop. eu; Energy Cities, 2020):

Founding a gender-just energy cooperative

1. **Local government or government agencies:** The local government can be a crucial partner in establishing the cooperative, providing support through policy and regulatory frameworks, land access, technical expertise, and funding. In Ethiopia, for example, the Ministry of Water, Irrigation, and Energy is responsible for promoting the use of renewable energy sources. The cooperative can collaborate with the Ministry to access funding and technical expertise for their renewable energy projects. Similarly, the Ministry of Energy and Mineral Development is responsible for developing and implementing energy-related policies in Uganda. The cooperative can work with the Ministry to access project funding and regulatory support.
2. **Non-governmental organisations (NGOs):** NGOs working in the areas of gender equality, renewable energy, and community development can provide technical expertise, capacity-building support, and community mobilisation. In Ethiopia, the Women's Association for Sustainable Development (WASDA) is a local NGO that empowers women and promotes sustainable development. The cooperative can collaborate with WASDA to ensure that gender justice is integrated into all aspects of its projects. In Uganda, ARUWE (Action For Rural Women's Empowerment) has a broad expertise on gender equality and women's empowerment in cooperatives.
3. **Academic institutions, e.g., universities:** They can provide research, and technical expertise, as well as opportunities for internships, training and knowledge exchange. In Ethiopia, the Addis Ababa Institute of Technology is a leading academic institution that offers programs in renewable energy. The cooperative can collaborate with the Institute to access technical expertise and training for their renewable energy projects. In Uganda, Makerere University is a leading academic institution that offers programs in renewable energy. The cooperative can work with Makerere University to access technical expertise and training.
4. **Private sector (companies):** Private sector partners can provide financing or funding, technical expertise, and market access for the cooperative. In Ethiopia, for example, Solar Energy Foundation (SEF) is a local private sector company that provides solar energy solutions. The cooperative can collaborate with SEF to access technical expertise and market access for their renewable energy projects. Similarly, Fenix International is a private sector company in Uganda that provides solar energy solutions. The cooperative can work with Fenix International to access technical expertise and market access.
5. **International organisations:** International organisations can provide funding, technical support, and knowledge exchange opportunities for the cooperative. Some examples of international organisations focusing on gender-just energy cooperatives include
6. Women Engage for a Common Future or UN Women.¹

¹ Further information:

- [Ministry of Water and Energy, Ethiopia. "About"](#)
- [Ministry of Energy and Mineral Development, Uganda. "About"](#)
- [Uganda Women's Network \(UWONET\). "Home"](#)

3.4 Gender justice in energy cooperatives

Cooperatives are considered powerful agents for their members' social inclusion and empowerment. As a bottom-up and democratic initiative, they further facilitate women's empowerment and gender justice. Women have traditionally been underrepresented in the energy field at the policymaking and implementation level and in the energy industry itself (IRENA, 2019). Nevertheless, because of their core principles, energy cooperatives could provide specific benefits for women, such as equal access to the whole energy value chain (including jobs, funding, and profits), control over energy production and consumption, and opportunities to participate in local economies, thereby becoming economically empowered. Moreover, energy cooperatives increase participatory democracy and female leadership (Fraune, 2015). In this regard, cooperatives can use instruments and tools to ensure women's active participation, such as establishing a high female ratio and gender quotas in the management structures of the organisation. Moreover, communication and training activities are important vehicles for women's participation at the cooperative level. In general, decentralised, democratic and pluralist energy strengthens the agency and capabilities of women and men and promotes human well-being beyond access to energy solutions.

Achieving gender justice in an energy cooperative thus requires intentional efforts to address gender inequalities and ensure that women and men have equal access to the benefits of the cooperative. The following steps can be taken to achieve gender justice in an energy cooperative (Cecelski & Dutta, 2011; Karakislak, et al., 2023; IRENA, 2019)

1. **Develop a gender-sensitive cooperative structure:** This includes ensuring that the cooperative's constitution and bylaws are gender-sensitive and that women have equal representation and participation in the cooperative's decision-making processes.
2. **Conduct a gender analysis:** A gender analysis should be conducted to identify the gender-specific needs, roles, and responsibilities of women and men in the community. This will inform the cooperative's approach to developing gender-sensitive products and services.
3. **Provide gender-sensitive training and capacity building:** The cooperative should provide training and capacity building to both women and men to ensure equal access to information, resources, and opportunities. This includes training on energy production, management, and distribution.
4. **Ensure equal access to resources:** The cooperative should ensure that women and men have equal access to financial resources, equipment, and technology. This will require addressing existing gender inequalities in access to finance and resources.

- [Addis Ababa University, Institute of Technology. "About"](#)
- [Makerere University. "Renewable Energy"](#)

5. **Incorporate gender-sensitive policies and practices:** The cooperative should incorporate gender-sensitive policies and practices in all aspects of its operations, including recruitment and employment, marketing, and customer service.
6. **Engage women in leadership roles:** The cooperative should actively encourage women to take on leadership roles within the organisation and provide them with the necessary support and resources to succeed.
7. **Partner with gender-focused organisations:** The cooperative should partner with organisations focusing on gender equality and women's empowerment to leverage their expertise and support in achieving gender justice.

By taking these steps, the energy cooperative can promote gender justice and ensure that women and men have equal access to the benefits of the cooperative.

3.5 Business idea and business plan

3.5.1 Business model

As renewable energy sources offer great opportunities for entrepreneurship in production, installation as well as distribution and supply, market opportunities are only sufficient if a sound business strategy accompanies the business idea. Entrepreneurs need to understand and deal with a wide range of issues and challenges beyond each technology's particularities to ensure positive economic, social, and environmental impacts. This includes the consideration of legal frameworks, financing, social contexts, and marketing strategies.

3.5.2 Designing a business model – Magic Triangle Method

The business model design can be done with the magic triangle method, which is compact and straightforward. It focuses on four central questions:

- **Who** are the clients?
- **What** does the cooperative deliver?
- **How** is the offering created?
- **Why** is it financially viable?

Those questions are displayed in a triangle and support to stimulate the discussion about the three business' core elements, the

- **value proposition,**
- **value chain** and
- **revenue model.**

As shown in figure 1, the central dimension of the triangle identifies the target customer (**who?**) because their needs define why and how the cooperative works. The second dimension (**what?**) focuses on the company's products and services to the customer. The third dimension (**how?**) describes activities, resources and processes the company needs to operate. Lastly, the fourth dimension (**value?**) explains the mechanisms for financial sustainability, such as the cost structure and the revenue stream (Gassman, et al., 2014).

Founding a gender-just energy cooperative



Figure 1. The Magic Triangle (Gassman, et al., 2014)

An example of the magic triangle for an energy cooperative can be seen below.

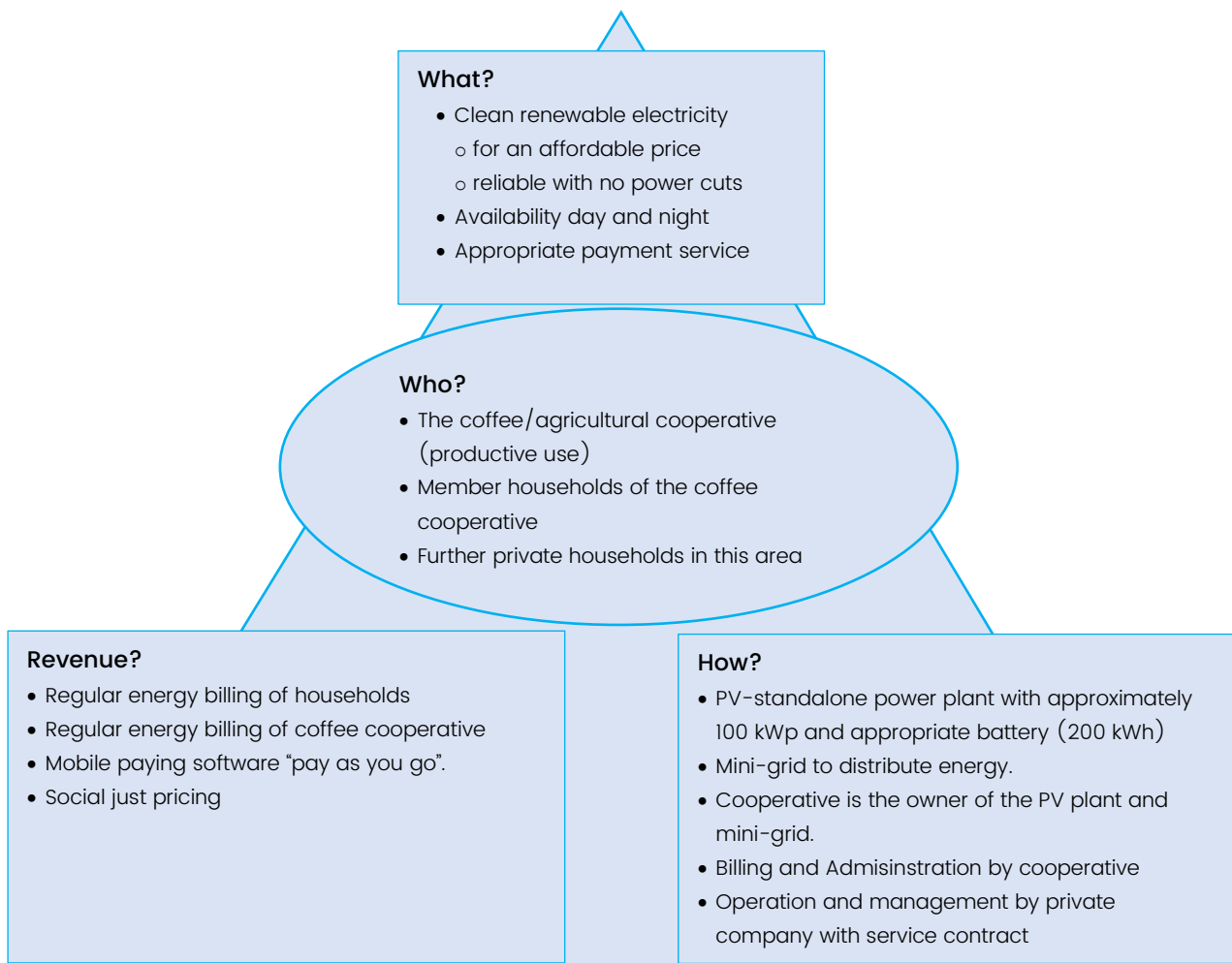


Figure 2. Example of The Magic Triangle (authors)

3.5.3 Business plan

After a promising business model is designed with the magic triangle method, the next stage lies in developing a comprehensive business plan. It is a written document in which the cooperative systematically details the critical information about objectives and core activities and intends to arrange marketing, financial and operational aspects to achieve the objectives. In this sense, the business plan has an internal function (as it is a guide for the company's operations and management) and an external function to provide information about the operational, social, and environmental viability as well as the financial profitability of the project (to find appropriate financing) (Friends of the Earth Europe; REScoop. eu; Energy Cities, 2020). To do so, it is necessary to research the resources needed, the procedure to be followed, the obstacles to overcome, the goals to be achieved, and the strategies and tactics to reach the objectives.

The following section describes all elements of a business plan (Friend & Zehle, 2004).

1. Executive summary

The executive summary is best described as a brief overview of the most relevant aspects of the business plan. It should be clear, concise, and attractive as it is the means to attract potential investors' attention. It should provide critical information about the profile of the business and the cooperative, the product or service (*what*), the customers (*who*), the activities, processes, and necessary resources (*how*), as well as the expected financial results and financial indicators of the plan (*value*).

2. Description of the business model

This section describes the business model based on the identified opportunities or needs (based on the above-represented magic triangle method). It clearly defines the concept and essence of the business and presents information about its core competencies and differentials to existing business models.

3. Strategic analysis

It describes the analysis of the external environment, the technology, and the market. It considers the prevailing political, economic, social, and technological situation, known as PEST analysis and their trends (Co-operatives First, 2019). The results of the external analysis can be differentiated in a further step into *opportunities* and *threats* and afterwards brought together with the internal *strength* and *weaknesses* analyses of the product/service. This method is known as SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) (Terrados, et al., 2007).

4. Strategic planning

It declares the vision (what the business intends to do), mission (how the cooperative turns the vision into reality), objectives (specific targets for success), and strategies (way to reach objectives) of the business.

5. Cooperative overview

It describes the planned business's details and summarises the cooperative's background and history, including its legal structure and governance model. It moreover provides information about the products and/or services that will be offered (e.g., renewable electricity for households and productive use at the cooperative level) and ideas for possible support from public and private actors (ministries, energy service providers etc.).

6. Market analysis and marketing plan

Market analysis identifies the target market segments and explain how the cooperative plans to address their energy needs. It also encompasses an energy market analysis, including information about the trends, the competitors, and the regulatory environment.

The marketing plan describes the cooperative's marketing and sales approach, highlighting the methods for reaching and attracting customers. It should include information about the following:

- The characteristics of the product (e.g., renewable energy available day and night)
- The price strategy (e.g., information about how to plan the cooperative to offer lower prices than electricity from fossil fuels)
- The selected channels to promote the product (communication plan, demonstration days in communities, press release)
- The locations where the product will be available (e.g. geographic scope and channels)

7. Operational/production plan

It specifies the physical location of the cooperative, its facilities, equipment and machinery, sources of supply of key materials, personnel requirements, and details the production process.

8. Management and organisation

It focuses on the human capital of the business. It presents the organisation chart and describes the team's capabilities, responsibilities, and relationships. It also outlines the training plans and the costs associated with the employees. It also details the organisational structure of the cooperative, including the roles and responsibilities of key team members. It explains how the cooperative will operate, manage its resources, and ensure efficient delivery of products and services.

9. Financing / fundraising

As the generation of renewable energy requires significant capital investments, financial planning is critical for the realisation of the activities of the energy cooperative. Therefore, relevant financial sources must be identified, as well as the planning of the total costs and income, cash flows and assessment of the economic viability.

5.6. Drafting the statute

The statute is the legal backbone of the energy cooperative. It clarifies all primary targets, the bodies and further issues of the cooperative and must fulfil the requirements of the national cooperative law. Most of the cooperative associations provide a draft for statutes. The statute must include the following:

- Name and registered office of cooperative
- Aim and business purpose of the cooperative
- Amount of cooperative share
- Advisory board/management board: minimum numbers of board members, rights and duties
- General assembly for membership: number of meetings per year, right of members
- Cancellation options for members

The list is not exhaustive. It needs to be checked with the national requirements. Some countries have a national cooperative law, but other countries regulate the cooperative sector conditions in ministries like economy or trade. Cooperation with experienced law firm is recommended to check and prove the statute.

5.7. Founding the cooperative

Founding a cooperative involves several key steps that must be followed to ensure the cooperative's success:

1. **Registering the cooperative:** You will need to register the cooperative with the relevant government agency, which may vary depending on the cooperative and the agency's requirements. The registration process typically involves submitting the necessary paperwork and paying the required fees to obtain legal recognition as a cooperative.
2. **Drafting the bylaws:** The bylaws serve as the internal rules of the cooperative, which outline how the cooperative will operate and the rights and responsibilities of the members. The bylaws should be carefully crafted to ensure that they align with the cooperative's goals and values and comply with legal requirements.
3. **Holding an inaugural meeting:** This meeting is held to adopt the bylaws, elect the board of directors, and establish other key committees or roles within the cooperative. The inaugural meeting is a crucial step in the cooperative's formation as it creates its governance structure and leadership team.
4. **Opening a bank account:** The cooperative must open a bank account in its name, which will be used to manage its finances and transactions. This bank account will be essential for the cooperative to manage its financial affairs, including receiving payments from customers and suppliers, paying its bills and expenses, and keeping track of its financial transactions. The cooperative should select a reputable bank that offers suitable products and services to meet its financial needs.

5. **Holding regular meetings:** The cooperative must hold regular meetings with its members, board of directors, and other committees to manage its affairs and make decisions. These meetings should be conducted transparently and inclusively, with all members having an opportunity to participate and contribute to the cooperative's decision-making processes. The meetings should be conducted by the cooperative's bylaws and legal requirements.
6. **Building the cooperative's operations:** Once it is established, it will need to build its operations, including developing its products and services, establishing its distribution channels, and building partnerships with suppliers and other stakeholders. The cooperative should conduct market research to understand its target customers and their needs and develop a business plan that outlines its products, services, pricing, and marketing strategies. The cooperative should also establish partnerships with suppliers and other stakeholders to ensure a reliable supply chain and a strong support network.
7. **Promoting the cooperative:** The cooperative will need to engage in marketing and outreach activities to promote its products and services and build its reputation in the community. This may include developing a brand identity, creating marketing materials, attending trade shows and events, and engaging with customers through social media and other channels. The cooperative should also establish a customer service department to respond to customer inquiries and resolve complaints.
8. **Monitoring and evaluation:** The cooperative will need to monitor and evaluate its performance regularly to identify areas for improvement and ensure that it meets its goals and objectives. This may involve conducting regular surveys of customers and members, tracking key performance indicators, and analysing financial statements and other data. The cooperative should use this information to make data-driven decisions and continuously improve its operations.

Overall, founding a cooperative is a complex process that requires careful planning, effective communication, and collaboration with stakeholders. By following these steps and working with the relevant stakeholders, you can establish a solid and successful gender-just energy cooperative.

5.8. Managing the business operations

Many different types of actors make up energy cooperatives. Well-organised administrative procedures are uniquely relevant to manage an energy cooperative successfully and will ensure a long-standing successful energy business. The management of the business operations can be organised in the following steps:

- **Management of tasks and responsibilities**
The management board mainly takes over the management tasks. Steering and organising the business operations and developing the structure are core. In the beginning, it needs a transparent organisational structure, reflecting the targets of the

cooperative and the potential to grow in the next four to six years. The structure might be very lean in the beginning.

- **Acquisition, development and implementation of projects**

This is the core business of energy cooperatives. New projects will increase the turnover and the actors' experience is expanded. Networking with municipal representatives, landowners, local authority leaders and communities is vital to understanding the energy needs and providing appropriate cooperative concepts that are interesting and fit the local energy needs.

- **Project management: Operation of power plants**

All existing energy projects need to be managed and monitored regularly. A good knowledge of technologies and monitoring tools is necessary. Monitoring platforms provide regular data and also information about irregularities and system failures. Key performance indicators (KPIs) like produced kWh, stored energy in the battery, loading and unloading cycles, etc., are the basis for the monitoring. Qualifications will provide the skills and competencies.

- **Finance and bookkeeping**

Members, bank loans, grants and further funding opportunities can finance the projects. Professional financial planning and bookkeeping are implemented as fundamental management responsibility and will include national bookkeeping and tax rules.

- **Marketing and communication**

Regular and target group-oriented marketing and communication activities increase the visibility of the energy cooperative and inform different target groups about the activities and the business concepts. Recruitment of members, meetings with politicians, local authorities, gender-responsive communication, campaigns via relevant channels, and close contact with citizens and members are core and regular activities.

Many existing cooperatives (agricultural, credit, etc.) have the necessary skills and experience for management activities. National cooperative alliances offer training and qualifications for (energy) cooperatives. International organisations like [ICA \(International Cooperative Alliance\)](#) or RESCoop.eu also provide specific qualifications for the management of energy cooperatives.

ENERGY2BUSINESS WITH GENDER JUST ENERGY COMMUNITIES

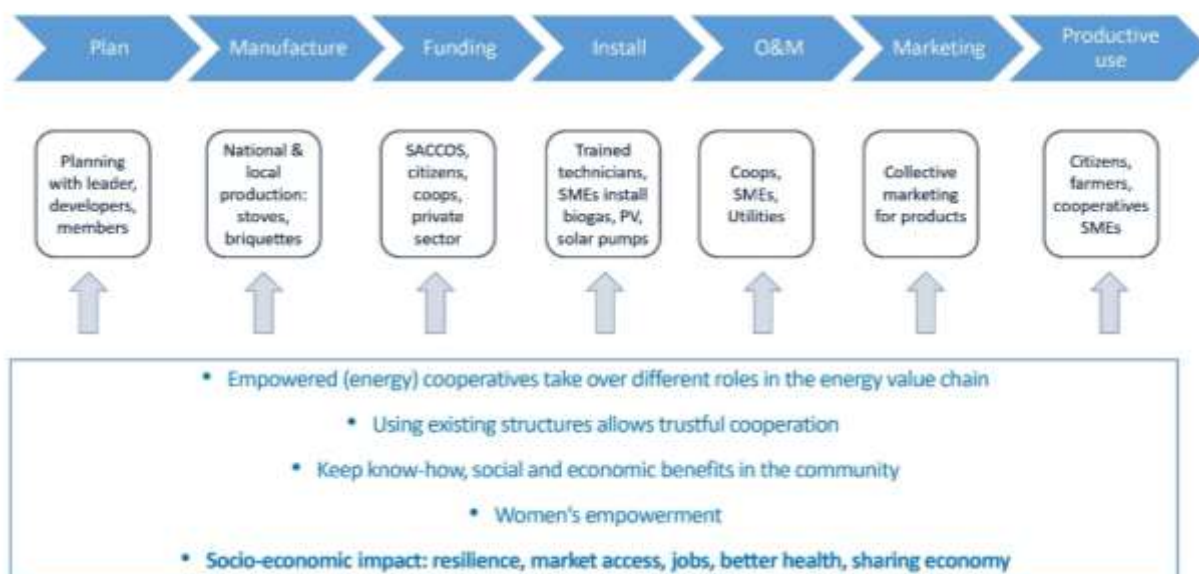


Figure 3. Energy to business with gender-just energy communities (authors)

Examples from Uganda and Ethiopia



Carbonisation process as activity of an energy cooperative in Uganda
(© ARUWE)

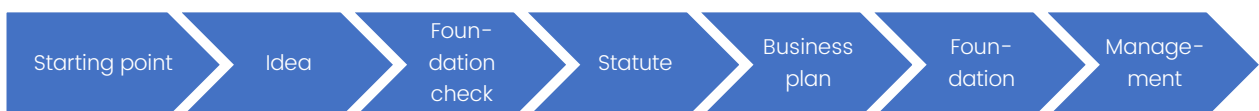
4 Examples from Uganda and Ethiopia

4.1 Good practice Uganda

In Uganda, WECF and ARUWE conduct trainings for new and existing cooperatives. The understanding of community-based business models is improved and especially the potential for joint energy production with energy cooperatives is explained and presented.

The activities cover the overall understanding of cooperatives, the potential for local development, the management and how to include energy as business model. The areas include:

- Elements of the cooperative. Members can clearly understand that cooperatives are member-owned and are supposed to participate in implementing all activities by themselves. This includes controlling operations and finances; they are the sole beneficiaries of all activities. This is done in a discussion where members can appreciate the cooperative approach to development.
- The seven cooperative principles are presented as guidelines by which cooperatives put their values into practice. To uplift and grow cooperative morals and culture, the emphasis was placed on the fact that members should embrace the values of self-help, self-responsibility, democracy, equality, equity, and solidarity, as well as ethical values of honesty, openness, social responsibility and caring for others.
- The foundation steps are explained with examples and feedback from the existing cooperatives.



- Members reflect on failures of cooperatives through a brainstorming approach and open discussion where members openly spoke regarding some limitations that are being faced in building solid roots of cooperation. Before the establishment of cooperatives, members often identify that a lack of trust in leadership is a concern to many members. Afterwards, they vote for leaders they trust.
- The relevance of the cooperative concept is explained. In open discussions, cooperatives are considered as the driver for regional and women's development due to numerous advantages of cooperation mentioned by the members, like regional engagement, high trust, women as experts, women as change agents, qualification for all, women's empowerment as an advantage for the whole community and society.

- The democratic governance structures are reviewed and drawn as an understandable structure with key major committees. This structure clearly portrays the hierarchy of the different bodies.
 - Annual General Meeting (AGM), Board committee, supervisory and search committees as elaborated below with their roles and responsibilities
 - Executive Committee, which implements the AGM activities on behalf of the members
 - Internal/audit/supervisory committee monitors all the cooperative activities to ensure compliance with the cooperative's standards.
 - Vetting Committee. This plays a crucial role in ensuring that all members aspiring to become board members are scrutinised and have the required skills to undertake such a position.
 - Board subcommittee. They give supportive roles to the executive, and they usually are two members. They advise and support the board in executing the board roles.
- The potential of decentralized production and consumption of renewable energy is shown, managed with a community-based approach like energy cooperatives. This was very interesting and eye-opening especially for women, what can be produced and organised on local level and how to improve the local value chain.

The combination of the input of the experienced members, the new and young community members and the expertise of ARUWE and WECF generate high interest, commitment and dynamics in the cooperative sector aiming to push renewable energies and gender equality and justice.

4.2 Financing for cooperative-led mini-grids in Ethiopia

In Ethiopia, mini-grid operation in rural areas is becoming an excellent approach not only to achieve electricity production and distribution in remote areas but also to integrate energy into value chains (productive use of energy). Given the long tradition of multi-purpose cooperatives in the country, the Ethiopian cooperative sector has the capacities to leverage existing resources and skills to integrate energy-related activities into its operations. For this reason, in order to provide guidance to new and existing cooperatives interested in starting a mini-grid operation and integrating it into their business, the GIZ "Green People's Energy" program commissioned the development of two reports that offer a comprehensive guide to cooperative-led mini-grid development and financing.

Examples from Uganda and Ethiopia

This section uses the contents of those publications to give a short overview on possible models and focuses on the case of a coffee cooperative that plan to establish an additional energy cooperative.

To establish a cooperative led mini-grid in Ethiopia, three viable models are possible (Inensus, 2022a):

- **Solely Cooperative Model**
(Owner and operator of mini-grid = Cooperative)
- **Operation & Management (O&M) Model**
(Owner of mini grid and electricity supply = Cooperative; Maintenance = Private sector)
- **Power Purchase Agreement (PPA) Model**
(Owner and Operator of mini grid = Private sector; Owner and Operator of distribution network to end-costumer = Cooperative)

In the case of an established coffee cooperative, the creation of an additional energy cooperative to meet its own and the community's power needs is the first step. The O&M model offers significant advantages for agricultural cooperatives as they have managerial and technical capacity to procure the mini-grid assets and manage the generation and distribution of electricity on its own but lacks the technical O&M capacities for running the mini-grid (e.g. repair or replacement of system components).

Figure 4 visualizes the O&M Model with the cooperative as energy supplier and receiving Q&M service through the contracted O&M Provider. Energy needs are generated through productive energy use for the cooperation and the households of the cooperative members.

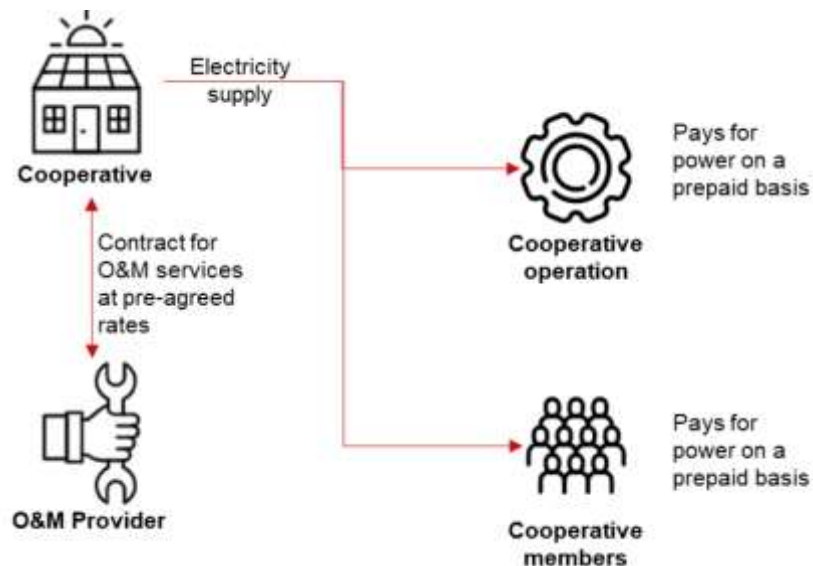


Figure 4. Visualisation of the O&M Model (Inensus, 2022a)

As upfront-costs for mini-grids in Ethiopia are currently around 4,400 € per kWp (including adequate battery capacity) the costs for a 100 kWp mini-grid with 200 kWh battery amount

Examples from Uganda and Ethiopia

to 400,000 €². A viable finance mechanism requires a mix of grants, equity and debt financing. Powerful grant funding mechanisms are the Minimum Subsidy Tender (MST) and Performance Based Grant (PBG), which have typically been used by World Bank and other development partners in many countries. For the MST the Ethiopian Electric Utility is pre-selecting possible mini-grid sites, which are then tendered to mini-grid developers. Under the PBG mini-grid developers can freely identify own sites for the establishment of mini-grids and receive a fixed grant amount per connection. Currently the Ethiopian Electric Utility is developing tender processes under MST and PBG schemes, which provide great opportunities for future financing of mini-grids in Ethiopia (Inensus, 2022b).

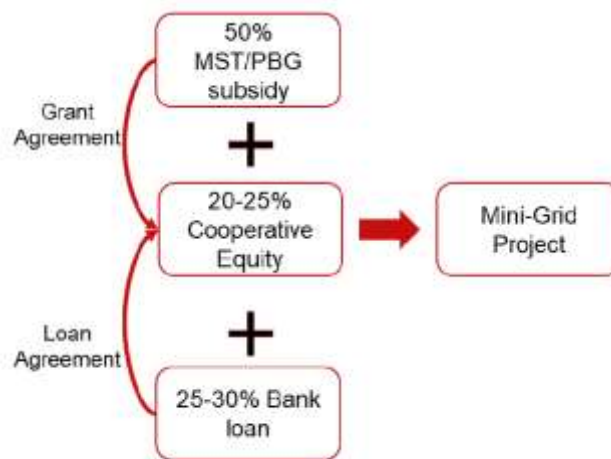


Figure 5. Possible funding structure for O&M Model (Inensus, 2022b) (Inensus, 2022b, p. 9)

Figure 5 displays a possible funding structure for the O&M model. Feasibility is secured with 50% subsidy under MST/PBG, 20–25% equity capital and 25–30% bank loan agreements.

² Own calculation based on planned mini-grid in Oromia, Oda Site, 680 connections

Conclusion and outlook



Female energy ambassador training in Ethiopia
(© OCFCU)

5 Conclusion and outlook

Establishing gender-just energy cooperatives in Ethiopia and Uganda represents a significant opportunity to address energy access challenges, promote sustainable development, and empower local communities. This foundation plan serves as a comprehensive guide to navigating the process of creating these cooperatives, considering each country's unique contexts and needs.

By adopting a decentralised and inclusive approach, energy cooperatives can not only provide clean and affordable energy solutions but also contribute to economic growth, social well-being, and environmental sustainability. The partnership between WECF, ARUWE, and OCFCU, along with the support of the "Green People's Energy" programme, has laid a solid foundation for collaboration and knowledge exchange, ensuring the success of this endeavour.

However, it is crucial to recognise that establishing gender-just energy cooperatives is a complex and multifaceted task that requires continuous commitment, collaboration, and adaptation. It is crucial to engage relevant stakeholders, including government agencies, financial institutions, local communities, and civil society organisations, to create an enabling environment and ensure the long-term sustainability of the cooperatives.

Looking ahead, the establishment of gender-just energy cooperatives in Ethiopia and Uganda holds immense potential for transformative change in the energy sector. These cooperatives can serve as sustainable and inclusive development models, inspiring replication and scaling up in other regions and countries.

To maximise the impact of the cooperatives, ongoing monitoring and evaluation will be essential to track progress, identify areas for improvement, and share lessons learned. This will contribute to the continuous learning and adaptation of strategies and approaches, enhancing the effectiveness and efficiency of the cooperatives' operations.

Furthermore, fostering international partnerships and collaborations will provide knowledge sharing, technical support, and resource mobilisation opportunities. By connecting with global networks and initiatives focused on energy access, gender equality, and sustainable development, the energy cooperatives can tap into additional expertise and leverage resources to accelerate their growth and impact.

In conclusion, establishing gender-just energy cooperatives in Ethiopia and Uganda is a vital step towards achieving universal energy access, promoting gender.

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