Electric Cooking and Carbon Financing

- Briefing Note for Members of Parliament -

June 2025

Glossary of terms

Carbon credit

A carbon credit is a certificate that projects can earn for reducing or removing one ton of carbon dioxide - like electric cooking, reforestation, or renewable energy.

Carbon financing

Carbon financing is a way to support technologies and projects that reduce carbon di oxide and other greenhouse gas emissions by giving them money in exchange for the carbon reduction credits they generate.

Paris Agreement

The Paris Agreement is a global climate treaty adopted in 2015 under the United Nations Framework Convention on Climate Change. Its main goal is to limit global warming to well below 2°C, and preferably to 1.5°C, compared to pre-industrial levels.

Lont Term – Low Emission Development Strategies

Long-Term Low Emission Development Strategies are national plans that outline how a country aims to achieve low-carbon, climate-resilient development over the long term, often through to 2050.

Nationally Determined Contributions

Nationally Determined Contributions are climate action plans that countries submit under the Paris Agreement. They outline each country's goals for reducing greenhouse gas emissions and adapting to climate change, based on their national circumstances and capabilities.

Conditional targets

Conditional climate targets are climate goals that a country commits to in its Nationally Determined Contributions only if it receives international support, such as finance, technology, or capacity-building.

Unconditional targets

Unconditional targets in Nationally Determined Contributions (NDCs) are the emission reduction goals a country commits to achieving on its own, without needing financial or technical support from other countries.

Fair revenue sharing

Fair revenue sharing refers to the equitable distribution of income generated from carbon credit projects among all stakeholders—especially local communities, project developers, and supporting partners.

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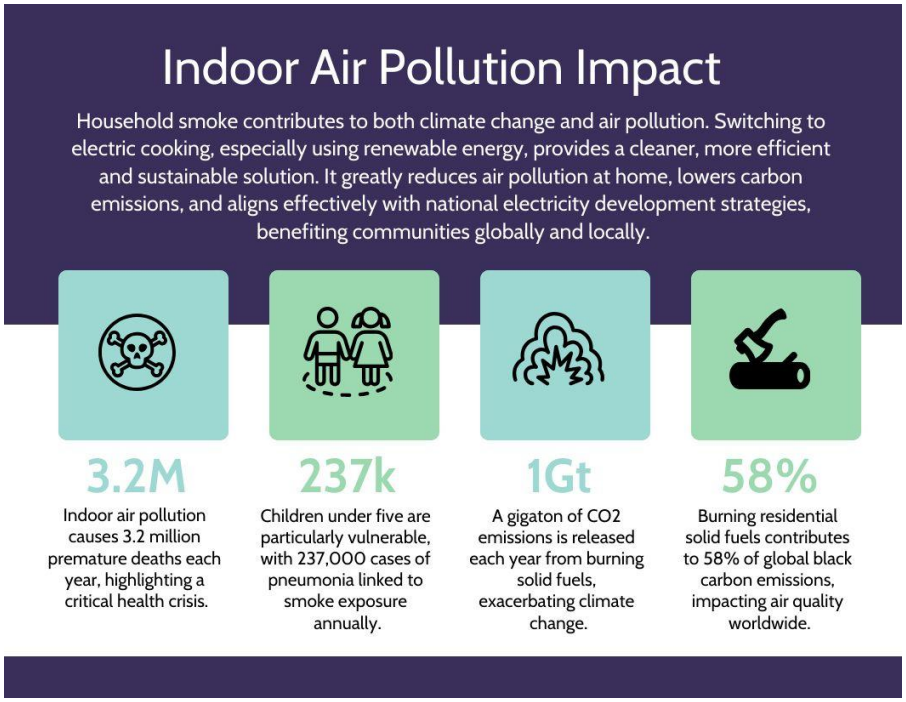
1. Introduction

Climate change is one of the biggest challenges we face today, and governments around the world are turning to innovative solutions like carbon financing to support the shift to a low-carbon economy. **Carbon Financing** is a way to support projects that reduce greenhouse gas emissions by giving them money in exchange for their carbon credits. These credits can then be sold or used to offset emissions elsewhere. Carbon financing helps countries, businesses, and communities cut greenhouse gas emissions while supporting sustainable development. It also opens new opportunities to attract funding for expanding electricity access and strengthening energy infrastructure—making it a valuable tool for driving economic growth, protecting the environment, and advancing social progress.

As a Member of Parliament (MP), you have a vital role in shaping policies that unlock the full potential of carbon financing—attracting clean energy investments and supporting local climate-resilient projects. One key opportunity is electric cooking, which can generate **high-value carbon credits** by replacing polluting biomass and fossil fuel-based methods. Shifting to electric cooking cuts emissions, improves health, reduces burdens on women and girls, and curbs deforestation. Even with urbanisation, people continue using charcoal and firewood, causing deforestation in rural areas. This transition strengthens energy security which directly supports several UN Sustainable Development Goals, including **SDG 3 (Health and Well-being), SDG 5 (Gender Equality), SDG 7 (Clean Energy), and SDG 13 (Climate Action).**

2. Context

Household smoke contributes to both climate change and air pollution. Switching to electric cooking, especially using renewable energy, provides a cleaner, efficient and sustainable solution. It greatly reduces air pollution at home, lowers carbon emissions, and aligns effectively with national electricity development strategies, benefiting communities globally and locally.



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3. Paris Agreement, Nationally Determined Contributions (NDCs) and Long-term Low Emission Development Strategies (LT-LEDS)

The NDC serves as a step towards achieving the broader objectives outlined in a country's LT-LEDS. For instance, an LT-LEDS might set a long-term vision for nationwide renewable energy use aiming at net-zero emissions, while the NDC complements this with specific shorter-term goals, such as reducing emissions from electric cooking by 30% by 2030. NDCs are updated every five years, providing opportunities to enhance the ambitions of LT-LEDS, such as moving the net-zero target from 2050 to 2045. Although LT-LEDS are voluntary, 76 countries have already submitted theirs, with several - including Cambodia, India, and Nepal -explicitly setting goals for clean and electric cooking, and which are also reflected in their NDCs (See Box 1). The following table compares NDCs and LT-LEDS.

Box 1: ESMAP Clean Cooking Planning Tool

Several tools are available to help develop national strategies, including the Clean Cooking Planning Tool developed by the World Bank's Energy Sector Management Assistance Program (ESMAP). This tool aids policymakers in evaluating options and pathways for shifting to electric cooking solutions by providing detailed analysis on fuel choices, costs, infrastructure needs, and social and economic impacts. It enables governments, particularly in developing and least-developed countries, to make informed decisions that speed up the adoption of electric cooking. These strategies can be integrated into national plans like LT-LEDS and NDCs, especially in areas with growing electricity access. For instance, in Sierra Leone, switching to electric cooking could generate around $4.7 billion in benefits, guiding strategic investment in renewable energy infrastructure.

Aspect	NDCs	LT-LEDS
Timeframe	Medium-term, (5–10 yrs)	Long-term (to mid-century, e.g. 2050)
Purpose	Commitments to reduce GHG emissions and adapt to climate change	Strategic vision for achieving low-carbon and resilient development over decades
Nature	Mandatory to update every 5 years	Voluntary, but strongly encouraged
Focus	Specific targets and actions (e.g. 25% emissions reduction by 2030)	Economy-wide transformation pathways toward net-zero
Relationship	LT-LEDS should inform and guide the ambition and design of NDCs	NDCs act as steps toward the goals and directions outlined in LT-LEDS

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4. Integrity and ambition with electric cooking in carbon financing

Electric cooking, supported by carbon financing, boosts ambition and integrity in achieving climate and development goals. More countries are expected to incorporate long-term electric cooking strategies into their LT-LEDS and set related targets in their NDCs.

National Level

At the national level, countries set climate targets in their NDCs as either unconditional (achievable through their own resources) or conditional (dependent on external support). Carbon financing, along with bilateral and multilateral climate funding, can support these conditional targets. For instance, carbon financing for electric cooking can complement climate finance aimed at clean power systems and mini-grid expansion, to help scale up electric cooking under an ambitious NDC plan.

When a country sells carbon emission reductions internationally under conditional carbon financing, it must ensure that these are not double counted. This is known as 'corresponding adjustment' (See Box 2). This ensures accurate national accounting and helps the country plan how much additional emission reduction is needed to meet its goals. The same applies to the buyer country, which can count the purchased reductions toward its NDC, but still needs to plan for any remaining reductions. These adjustments are considered during the preparation of the NDCs – which allow countries to evaluate each other's climate commitments and assess the integrity and ambition of their actions.

Box 2: Corresponding Adjustment (CA)
Corresponding Adjustments (CA) ensure carbon emission reductions from projects aren't counted twice. When emission reductions are sold, they're credited to the buyer country's NDC and deducted from the seller country's NDC. This helps countries accurately track progress toward their climate goals and prevents overselling, especially from projects which costs less to implement. For instance, Ghana charges a fee of US $3 to 5 per tonne for CA to manage risks and use revenues to further support its climate targets. Even with CA, countries can still benefit from broader sustainable development outcomes.

Project Level

Carbon financing through electric cooking is much more accurate and helps restore integrity at the project level. Earlier clean cooking projects often overestimated their impact—sometimes by up to nine times— due to unreliable surveys where households couldn't recall how much firewood or charcoal, they used. In contrast, (Figure 1), electric cooking enables precise tracking of electricity use by using built-in meters in cookstoves that transmit data remotely using the internet. This data can then be used to accurately calculate the amount of carbon dioxide emissions reduced.

Figure 1: Outline of the ATEC 'Cook to Earn' model implemented in Cambodia and Bangladesh

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Additionally, the digital nature of electric cooking and its carbon financing opens new possibilities for equitable sharing of carbon revenues, such as direct mobile payments to users (Figure 1). Such revenue-sharing models not only promote fairness but also encourage sustained use of electric cookstoves, supporting the growth of required electric infrastructure. While governments and project developers can share revenues in various ways often depending on the country's financing infrastructure, partnering with established banks and financial institutions can further ensure transparent and secure transactions because of their established due diligence procedures.

Digital technologies help carbon finance projects reach a broader range of consumers, including vulnerable and marginalized groups—who are often excluded due to high transaction costs in traditional systems. Including these stakeholders strengthens the integrity and ambition of climate efforts. To do this effectively, it's important to understand consumer needs and the current policy landscape. A set of guiding questions is therefore provided to help MPs deepen their understanding and ensure these perspectives are reflected in national strategies like NDCs and LT-LEDS.

Box 3: Fair revenue sharing possibilities
Banks and financial institutions using digital payment systems can efficiently track subsidies provided to help consumers purchase electric cookstoves through carbon projects. If governments choose to subsidize interest rates for charcoal users switching to electric cooking, digital systems can simplify payments by adjusting monthly loan instalments. Additionally, these institutions can offer expert advice on creatively using carbon revenues, such as leveraging them as guarantees for mini-grid investments. Transparent digital tracking ensures clear accountability for electricity consumption and the fair sharing of carbon revenues.

5. Questions for MPs

The questions below are intended to help Members of Parliament (MPs) explore electric cooking with different groups. The question set is useful for the broader community of MPs who are not actively and directly involved in the process of developing the NDCs, LT-LEDS or preparing carbon market regulations and frameworks. These questions allow parliamentarians to engage in understanding how carbon financing and electric cooking are placed in terms of their need, awareness and national policy making. The set of questions are provided in two sections together with each question followed by the rationale as to why these questions matter, and what aspects MPs get to understand, and why they should be ensured.

5.1. Consumers and Communities

This section contains a set of questions that the MPs can ask potential consumers and communities within their constituency. The questions are self-explanatory and comprehensive in understanding the existing fuel choices, awareness of carbon financing, and the willingness to adopt electric cooking. The questions are formatted such that they could be used for individual users as well as for communities, primarily in areas where there is access to electricity.

1. ***What fuels do you use for cooking? Do you collect or do you pay for your cooking fuels?***

Households in the urban and rural areas use different fuels and often use multiple fuels. MPS should understand users existing fuel choices and how they organise those fuels, either by paying in the market and/or by collecting for example from forests, woodlots or other sources e.g. from on-farm trees.

2. ***If you pay, where do you buy them from, how far is the market, is the supply reliable, and how is the price?***

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Mostly urban consumers pay for their fuels, but often the supply is not reliable due to various reasons for example due to government regulation and seasonality that could increase prices. Therefore, understanding the market condition, their location - either locally produced or imported, and price volatility is important.

3. ***If you collect, how many hours a day do you spend collecting firewood or sourcing other kinds of cooking fuel?***

In rural areas, firewood and other biomass fuels e.g. rice husk, wheat straws take considerable time and labour to collect. This question highlights the hidden costs of traditional cooking in time and labour, helps understanding who from the households and communities are involved, how they organise, either individually or collectively.

4. ***What do you find to be the biggest drawbacks with the cooking fuel you use now?***

It helps identify the real-life challenges households face - such as smoke, cost, or unreliable supply—which often go unaddressed, and is often contextual depending on the communities and geographies and how they relate the problems with their cooking practices and technologies.

5. ***Do you know that with grid connection cooking with electricity can be the cheapest form of cooking?***

This highlights a key but often overlooked fact: electric cooking can be more affordable than traditional fuels when a household is connected to the grid. Many people assume electricity is too expensive, but modern appliances and stable tariffs can make it the most cost-effective option. This insight can shift public perception and support policies that promote electric cooking access and affordability.

6. ***Did you know that electric cooking is possible even in places with unreliable electricity supply such as in refugee camps?***

Many assume electric cooking requires a perfect power supply, but technologies like battery-supported systems and smart appliances make it viable even in challenging settings. Highlighting this helps consumers and communities see electric cooking as a realistic and scalable option, including in off-grid and humanitarian contexts.

7. ***Are you interested in switching to electric cooking if it helped reduce the cost of cooking in your home?***

It helps assess how appealing electric cooking is when its key benefits—lower cooking costs—are made clear. It helps identify whether upfront costs, such as appliances, are a major barrier—opening space to discuss solutions like paying in instalments or reducing prices through subsidies or bulk procurement.

8. ***What are the other factors that would hold you back from switching to electricity?***

It further digs deeper into the social, cultural, and practical factors that may prevent households from making the switch - such as cooking preferences, trust in new technologies, or fear of change. It recognizes that the decision to switch is not just about affordability or access, but also about habits, identity, and convenience.

9. ***Have you heard about carbon credits and carbon revenues?***

Understanding whether people have heard of carbon credits and revenues is the first step toward building integrity and ambition towards scaling up electric cooking with carbon financing. It also helps identify the need for education and outreach to ensure communities can benefit fairly from carbon financing.

10. ***Do you think government and other organisations should help promote electric cooking with carbon financing?***

This question explores whether people see a role for government and organizations in using carbon financing to promote electric cooking. It helps gauge support for leveraging international climate funds to make clean cooking

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more affordable and widespread. If there's public backing, it strengthens the case for integrating carbon finance into national energy and development policies.

5.2. Questions for the Ministries, Policy Makers, and Regulators

This section contains the set of questions that MPs can use to ask the relevant ministries, policy makers and regulators e.g. parliamentary committees to assess and understand the status and the progress in policies and legislations around carbon financing and their implementation. The rationale for each question explains the relation to electric cooking and how they could enhance ambition and integrity.

1. **What is the status of our national electricity grid and off-grid infrastructure in supporting widespread adoption of electric cooking?**

Reliable electricity is essential, especially in rural and peri-urban areas - so MPs should ask if grid upgrades, mini-grids, or distributed renewables are part of the plan. Aligning energy infrastructure with electric cooking ensures opportunities for carbon financing to realise really equitable and sustainable access for all.

2. ***What are the sectors and mitigation activities that we have included in the NDC and LT-LEDS? Is transition to clean and modern cooking included as part of the NDC and LT-LEDS and how?***

It is key to include clean and modern cooking in a country's NDC and LT-LEDS. For instance, Nepal's NDC includes a target to reach 2.1 million households with electric cookstoves by 2035, with 500,000 as unconditional support. If the LT-LEDS is not submitted yet or under development, MPs shall lobby for their submission with electric cooking.

3. ***What is the status of Article 6 of the Paris Agreement?***

Countries can access two main international carbon market mechanisms under the PA. Article 6.2 enables bilateral agreements to develop projects—such as electric cooking—and trade carbon credits. Article 6.4 establishes the UN-supervised carbon market with formal procedures and standards that governments and its entities can use to generate and trade credits[1].

4. ***Do we have a Memorandum of Understanding or a Bilateral Agreement?***

It is important to determine if your country is ready to engage or engaging through formal agreements. For example, Switzerland and Malawi has an Article 6.2 agreement to distribute induction cookers, using real-time data to generate carbon credits and return part of the revenue directly to users.

5. ***Do we have a Regulation on trading carbon credits and financing?***

As the certainty in carbon markets grows, it is increasingly important for countries to develop clear carbon financing regulations to guide project approval, credit issuance, and revenue use. Such regulations ensure transparency, define roles and responsibilities, and align domestic activities with international carbon market mechanisms. Kenya, Tanzania, and Ghana have already developed or updated their regulations based on their national acts. Tailored regulation is a critical foundation for credible and effective carbon financing.

5.1. ***What are the requirements on technology transfer, participation, capacity building, and monitoring/reporting?***

[1] In parallel, the voluntary carbon market operates independently to support company and individual climate goals, often funding early-stage or beyond-NDC projects.

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Technology transfer and capacity building are also essential to achieve long-term climate and development goals. Local authorities and partners play a key role in implementation but often need more technical and legal capacity, which can be strengthened through training, and peer learning. Regulations should support community participation, monitoring of outcomes and safeguards to ensure transparency and prevent misuse.

5.2. What are the requirements towards the fees, contribution and use of the revenues?

Regulations should have clear requirements on fees and contributions. For example, Ghana requires US $ 2 to 5 per tonne of credits correspondingly adjusted based on scale and type of credits. Transparency in how revenues are shared with the users is increasingly important. Kenya's regulation requires 25% of revenues to be shared with the community projects. ATEC's innovative revenue sharing based on the electricity measurement are ways of operationalising these requirements.

5.3. What penalties exist for non-compliance or fraudulent carbon trading activities?

It is important to lay out penalties to deter fraud and misconduct. Past cases of over-crediting, especially in clean cooking projects, have occurred due to inaccurate data, such as misreported fuel use during surveys. Tanzania has introduced strong penalties, including fines up to 10 billion Tanzanian Shillings (over USD 3 million) and imprisonment of up to 12 years for providing false data or failing to share revenues.

6. If not, what are the reasons for not yet preparing a carbon financing regulation?

Some countries delay carbon financing regulations while awaiting the finalisation of overarching laws like the Environment Protection Act. Others may choose not to pursue carbon finance due to limited potential or opt instead to focus on broader development and climate funding. In some cases, countries wait to secure bilateral agreements before committing to regulatory development.

Appendix 1 elaborates the questions designed to be asked to the ministries, policy makers and regulators – which could be referenced to further understand the context of electric cooking and carbon financing.

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Appendix 1: Elaboration on the Questions for the Ministries, Policy Makers, and Regulators

1. ***What is the status of our national electricity grid and off-grid infrastructure in supporting widespread adoption of electric cooking?***

Reliable electricity access is a prerequisite for the widespread adoption of electric cooking. Understanding the current capacity and reach of the national grid—especially in rural and peri-urban areas where traditional fuels dominate—is essential. Gaps in grid reliability, load capacity, and off-grid solutions such as mini-grids or solar systems can limit the practicality of electric cooking. If poorly managed, the transition could burden low-income households with higher energy costs or strain the electricity system, leading to reliability issues.

Integrating electric cooking into national energy planning offers major benefits: improved public health, reduced indoor air pollution, and progress toward climate goals. Carbon revenues can help ensure equitable access and long-term sustainability in this dual process of improving energy access and infrastructure by reducing the upfront cost of electric cooking appliances, funding demand-side programs, and leveraging expansion of grid or off-grid infrastructure in underserved areas. A clear understanding of the current state of electricity infrastructure—combined with strategic use of carbon finance—can help ensure that the transition to modern cooking is inclusive, climate-aligned, and development-enhancing.

2. ***What are the sectors and mitigation activities that we have included in the NDC? Is transition to clean and modern cooking included as part of the NDC targets?***

Some NDCs such as Nepal[2] have specific targets for electric cooking included in the NDC. The following table shows the electricity generation and electric cooking targets with the financing conditions

Category	NDC2 (2020)	NDC3 (2025)
Electricity Generation Target	15,000 MW by 2030	28,500 MW by 2035
Renewables Share (Mini/micro hydro, solar, wind, bioenergy)	5-10% by 2030	15% by 2035
Unconditional Electricity Generation Target	5,000 MW	10,000 MW by 2035 (6,641 MW by 2030)
Electric Cooking Target (HHs)	25% of HHs by 2030	2.1 million HHs + 15,000 institutions by 2035
Electric Cooking - Unconditional Target (HHs)	Not specified	500,000 HHs + 1,500 institutions
Emission Reduction from Cooking (GgCO2eq)	465 $GgCO_2eq$ by 2025; 465 $GgCO_2eq$ by 2030	3,004 $GgCO_2eq$ by 2035 (electric cooking only)
Finance - Unconditional (Electricity Generation)	Not specified	USD 4.083B by 2030, USD 8.45B by 2035
Finance - Conditional (Electricity Generation)	Not specified	USD 9.607B by 2030, USD 24.05B by 2035
Finance - Unconditional (Electric Cooking)	Not specified	USD 8.14M
Finance - Conditional (Electric Cooking)	Not specified	USD 126.3M

[2] Nepal's NDC is taken as example since it is one of the most recent submissions that includes electric cooking.

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There is a stronger ambition in NDC3 in terms of the reductions in emissions from cooking compared to BAU scenarios, from overall 465 GgCO2eq from cooking sector to 3,004 $GgCO_2eq$ – only for electric cooking. Further, opportunities for carbon finance are now explicitly mentioned including for clean cooking (p7-8): "Distributed Renewable Energy (DRE) technologies, and clean cooking and heating will be promoted, including through carbon financing, and testing facilities will be strengthened". NDC2 did not mention carbon finance.
NDC3 also mentions black carbon and other Short-Lived Climate Pollutants. While it does not stipulate a BC reduction target, it does refer to the detrimental impacts of BC and the benefits of addressing this issue in the wording of the NDC text as part of carbon financing possibilities – joining only a handful of countries to do this in their NDCs (14 countries when this briefing note was put together).

3. ***What is the status in relation to Article 6 of the Paris Agreement?***

Countries can use two main international market components under the PA: As per Article 6.2 mechanism, countries can make bilateral or even multilateral agreements and develop electric cooking projects and trade credits as part of meeting the conditional NDC targets. Under Article 6.4, a structured global carbon market mechanism containing the procedures, standards, methodologies, and registries are being developed. This structure can be used by governments, public and private entities to develop and trade carbon credits. These credits thus generated can be used toward a country's climate targets (NDCs) or sold to others. The mechanism is supervised by a UN Supervisory Body. Besides Article 6, the voluntary carbon market that operates independently of the PA has also developed required structures for the development of carbon projects and trading of credits, primarily to meet the voluntary ambitions of the companies and individuals. These markets align with the goals of the PA by mobilising private funding often for projects beyond national commitments and early innovations[3]. These various market mechanisms can be used by countries, companies and individuals to simply support governments and their projects for enhanced integrity and ambition that these mechanisms bring without necessarily using purchased credits to compensate their emissions.

4. ***Do we have a Memorandum of Understanding or a Bilateral Agreement with any countries on carbon financing?***

Many countries are now realising the benefits of carbon finance and its possibilities in scaling up electric cooking and the power system infrastructure required for this. Partnerships between countries are in place now through the initial memoranda of understanding and further bilateral agreements as part of Article 6.2 mechanism. Japan, Singapore, Switzerland and Republic of Korea are in the forefront of making these agreements with the developing countries in Asia, Africa and South America. Switzerland and Malawi have signed an Article 6.2 agreement supporting the distribution of induction cookers, in partnership with ATEC Global. The project uses real-time electricity usage data gathered through internet to calculate carbon credits, and the design provisions a portion of the carbon revenues to lower the upfront costs and directly return to consumers based on the stove usage.

5. ***Do we have a Regulation on trading carbon credits and financing?***

[3] Gold Standard has developed a methodology called the metered and measured electric cooking devices (MMECD) for developing electric cooking and other modern cooking carbon projects. The methodology is being used for electric cooking projects developed under Article 6.2 agreement between Malawi and Switzerland. Another methodology called CLEAR which uses similar approach as MMECD to calculate the emission reductions from electric cooking and other modern cooking projects is being considered for the Article 6 use.

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While governments can carry out bilateral agreements under Article 6.2 approach, the certainty in the carbon market has increased significantly, therefore it is advisable to develop proper regulation on carbon financing. Regulations, backed by Acts, are much broader, transparent, ensuring a higher-level political ownership and commitment together with shared agreements about the roles and responsibilities.

A well-informed carbon financing regulation will explain the key steps that electric cooking activities need to take to be approved by the government to receive carbon revenues. This will involve how the projects are to be registered and emission reductions to be verified and issued, and how the revenues thus generated are to be utilised including the fees and contributions to the government. Most importantly, having proper regulations will lay out guidance and requirements on how projects under different mechanisms are expected to operate in country and how they are related and linked to the international market mechanisms.

Regulation can also create provisions to link carbon revenues with the possibility of climate finance as part of overall conditional finance and lay out requirements for capacity building and technology transfer support, ensuring broad participation of public and private institutions. Preparing such regulation is important to ensure transparency and accountability and address the issues of greenwashing that clean cooking-based carbon activities have been blamed for.

Regulations can be with the promulgation of climate change specific acts, such as in Kenya. Kenya amended Climate Change Act, 2016 in September 2023 to include the provisions to engage with the carbon market and non-market mechanisms gaining broad political ownership and then prepared its carbon market regulation in 2024. However, Tanzania finalised its regulation in October 2022, based on its Environmental Management Act that was prepared in 2004. Ghana on the other hand developed a Framework on International Carbon Markets and Non-market Approaches in December 2022 - based on its Environmental Protection Act, 1994. Ghana recently released the new Environmental Protection Act 2025 (Act 1124) enacted on 6th January 2025 –among others- consolidating the learnings from the implementation of the carbon framework. Therefore, depending on the country contexts and urgency, preparation of a regulation should be a cornerstone for carbon financing.

5.1. What are the requirements on technology transfer, participation, capacity building, and monitoring/reporting?

Governments can lay out their plans and intentions for the transfer of technologies, capacity building and the monitoring of emissions reduction in their regulations and agreements. Sometimes governments can specifically mention technologies such as electric cooking as part of a positive list, both in the bilateral agreements and the regulations, which allows project developers to think about carbon financing their projects at an early stage. E.g. Ghana includes introducing high-efficiency, electric cooking together with the other clean cooking technologies as part of the positive lists of clean cooking technologies, within the overall list of project-types the country supports for carbon finance.

Building capacity among different level of governments and stakeholders, both public and private, on carbon market regulations is essential for the successful and transparent implementation of carbon projects. Authorities at different levels can play a key role in approving, monitoring, and implementing these projects. They may however lack the technical knowledge and legal understanding needed to enforce standards, safeguard community interests, and ensure environmental integrity. Regulations can provision peer-learning, cross-border initiatives, and harmonize standards and methodologies.

By equipping them with the right skills, training, and resources based on the regulations, governments can foster informed decision-making, prevent mismanagement or exploitation, and promote fair benefit-sharing.

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Strengthening local capacity also helps build public trust, encourages community participation, and ensures that carbon market activities align with national climate goals and local development priorities.

Regulations can also highlight the conditions for capacity building such as on the needs of users and local communities during project stakeholder discussions. It can also lay out the details of the project that need to be shared with the stakeholders to improve the user's participation and project's transparency.

Monitoring is very important in the Paris Agreement world and regulations can layout high level conditions for a robust and transparent monitoring such as through on monitoring of the SD benefits and safeguards of the users, which are important considerations. Such requirements can then motivate project developers to use innovative techniques and technologies for example digital meters for measuring electricity consumption.

5.2. What are the requirements towards the fees, contribution and use of the revenues?

There are various ways in which carbon revenues can be utilised. Many existing carbon market regulations require project proponents to share the revenues as part of the multiple mitigation benefits. Regulations lay out the amount of fees and contributions that project proponents shall make during the project registration and its credit issuances.

These can be either as absolute amounts or as percentages of the revenues earned. For example, as per Ghana's regulation, project developers have to pay between US D1400 to 2400, depending on the expected number of credits, to obtain a letter of no objection from the Government. Regulations also recommend the shares of revenues to be shared with the government and with the consumers, which are often as percentages of the revenues earned. As per Nepal's draft regulation, projects would require 80% of the profit from the projects to be shared with the consumers.

Government can also require a share of the revenue to be contributed to special funds set up by the government which the government can use for various development and environmental purposes. Kenya's regulation requires 25% of the revenue to be earmarked for the Government's Environmental Fund. Transparency in the share of revenues, especially with the users is a new phenomenon, and not emphasised much previously. Sharing the revenues with consumers is going to be important in the future, however, as this is seen as part of improving the integrity of carbon credits and therefore buyers are expected to pay higher prices.

5.3. What penalties exist for non-compliance or fraudulent carbon project development and trading activities?

There have been fraudulent practices in the past with claiming credits for more emission reductions than being actually achieved. This happened because of various technical reasons. One of the reasons for overestimation is because of the incorrect calculation of quantity of firewood or charcoal consumption. This happened because during field surveys consumers were not able to clearly recall the quantity of fuels consumed correctly. One of the reasons is because often households continue to use traditional fuels alongside new technologies which makes it difficult to recall the different fuels used during cooking.

These accusations of over-crediting in the clean cooking sector have weakened the integrity of the carbon market by bringing down the trust among buyers, communities and governments. Therefore, regulations need to include conditions for penalties and pecuniary measures to avoid offences for example for providing false data based on unscientific approaches and failing to share revenues. As per Tanzania's regulation, these cases can lead to fines of up to 10 billion Tanzanian Shillings, well above US D 3 million or imprisonment of up to 12 years.

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6. ***If not, what are the reasons for not yet preparing a carbon financing regulation?***

Sometimes countries are waiting for the parent legislation such as the Environment Protection Act to be finalised based on which the carbon financing regulation can be prepared. It can be also that a country decides not to prepare a carbon financing regulation because there is not sufficient carbon financing potential. Countries can decide to focus on mobilising broad development and climate finance and not necessarily carbon financing. Countries might be waiting to establish memoranda of understanding or bilateral agreements, so that they can be sure of selling the credits and then decide to prepare the regulations.

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