Government of Nepal

Ministry of Energy, Water Resources and Irrigation

Alternative Energy Promotion Centre

Project Operation Manual for CCS Project (FP172):

Mitigating Greenhouse Gas Emissions through Modern, Efficient and Climate-friendly Clean Cooking Solutions

20 July 2023

PROJECT AT A GLANCE			
Project	**Mitigating Greenhouse Gas Emissions through Modern, Efficient and Climate-friendly Clean Cooking Solutions**		
Proposed Interventions	To mitigate an impact of climate change and strengthen resilience of the most vulnerable communities to adapt to climate change, Alternative Energy Promotion Centre (AEPC) has proposed to implement the project. The main objective of the project is to increase the use of Clean Cooking Solutions by instigating innovative concepts in Nepal of (i) bulk tendering via reverse auctioning for cost effectiveness (ii) output-based financing for de-risking of investments and (iii) mainstreaming and capacitating local governments in renewable energy (RE) sector. The project aims to promote clean cooking solutions, such as Tier 3+ Improved Cooking Stoves (ICS), Domestic Biogas and Electric Cook Stoves (ECS) in 1,000,000 Households (HHs) of Terai (Plain) region. It will be implemented around 150 municipalities and rural municipalities spread across the 22 districts of the Terai region. The project targets to switch 500,000 households from LPG and fuel-wood stoves to electric stoves; 490,000 households from loose biomass, dung cake and fuel wood to Tier 3+ ICS; and to introduce domestic biogas system for 10,000 households that have minimum livestock.		
GCF Results Area	In terms of the GCF results area, the project aims to reduce emissions from buildings, cities, industries and household appliances. In addition, the project will support to improve the health and well-being of the most vulnerable people and communities of the target region.		
Beneficiaries	1 million households	**Local Government**	150
Expected mitigation impact	6,513,629 tCO_{2eq}	**GCF ESS Category**	C
Implementation period	60 Months	**Effective lifespan of investment**	24 Years

GLOSSARY

Alternative Energy Promotion Centre (AEPC) connotes both the Accredited Entity (AE) and Executing Entity (EE) of the Project as per the Green Climate Fund (GCF) terminology.

Beneficiaries refer to selected end users of Clean Cooking Solutions (CCS) based on the selection criteria.

Bioenergy Section under AEPC shall be responsible for the operation of the project and fulfilling the responsibilities to deliver the outcomes of the project.

Bulk Tendering denotes the practice of procuring products (Electric cook stoves, tier 3+ Improved Cook stoves (ICS) and domestic biogas plants) in a bulk process or clustered among the provinces.

Clean Cooking Solutions represents Tier 3+ ICS, Domestic Biogas Plant and Electric Cook stoves. For brevity, Clean Cooking Solutions is denoted by CCS throughout the document.

Local Governments (LGs) refers to the targeted 150 Municipalities and/or Rural Municipalities of the 22 districts of the Terai Region.

Independent Evaluation Unit (IEU) is an evaluation unit of the GCF which shall be supporting the impact evaluation activities of the project based on the Learning Oriented Real Time Impact Assessment (LORTA).

Mitigating GHG emission through modern, efficient and climate friendly clean cooking solutions (CCS) for brevity will be mentioned as FP172.

Reverse Auctioning denotes the Least Cost Based Selection (LCBS) process as per the Public Procurement Act (PPA) 2063 and Public Procurement Regulation (PPR) 2064 for procurement of goods and services.

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ABBREVIATIONS

AE	Accredited Entity
AEPC	Alternative Energy Promotion Centre
AMA	Accreditation Master Agreement
AWP	Annual Work Plan
CCS	Clean Cooking Solutions
CO2	Carbon Dioxide
CPRF	Common Percentage Reduction Factor
CTEVT	Council for Technical Education and Vocational Training
DA	Designated Account
DCS	Distribution and Consumer Services
DP	Development Partner
ECS	Electric Cook Stoves
ED	Executive Director
EE	Executing Entity
EOI	Expression of Interest
FAA	Funded Activity Agreement
FCGO	Financial Comptroller General Office
FHH	Female Headed Households
FY	Fiscal Year
GAP	Gender Action Plan
GCF	Green Climate Fund
GESI	Gender Equality and Social Inclusion
GHG	Greenhouse Gas
GoN	Government of Nepal
HR	Human Resource
HAP	Household Air Pollution
ICS	Improved Cook Stoves
IEU	Independent Evaluation Unit of GCF
IUFR	Interim Unaudited Financial Report
LCBS	Least Cost Based Selection
LMBIS	Line Ministry Budget Information System
LG	Local Government
LORTA	Learning Oriented Real Time Impact Assessment
LPG	Liquefied Petroleum Gas
MEP	Municipal Energy Plan
M&E	Monitoring and Evaluation
MIS	Management Information System
MoEWRI	Ministry of Energy, Water Resources and Irrigation
MoFE	Ministry of Forests and Environment
MoF	Ministry of Finance
MoU	Memorandum of Understanding
MuAN	Municipal Association of Nepal
NAST	Nepal Academy of Science and Technology
NARMIN	National Association of Rural Municipalities in Nepal
NBSM	Nepal Bureau of Standards and Metrology
NDC	Nationally Determined Contributions
NEA	Nepal Electricity Authority
NGO	Non-Governmental Organization

OAG	Office of the Auditor General
POM	Project Operational Manual
PPA	Public Procurement Act 2063
PPR	Public Procurement Regulation 2064
PIU	Project Implementation Unit
PMC	Project Management Committee
PMU	Project Management Unit
PPMU	Provincial Project Management Unit
RE	Renewable Energy
RETS	Renewable Energy Test Station
SDGs	Sustainable Development Goals
TCS	Traditional Cook Stoves
USD	United States dollar

1. INTRODUCTION

1.1 Background

The project will promote adoption of Clean Cooking Solutions (CCS) in the Terai region of the country. While there has been progress in both urban and rural areas, the share of population with access to clean cooking solutions remains low – at approximately one third of the population. Use of Liquefied Petroleum Gas (LPG) for cooking is much higher as compared to electricity. Nepal relies heavily on hydropower for its electricity generation, which is a clean and renewable energy source. Country has enormous potential for hydroelectricity with estimated potential of around 83GW. Although, the Terai region has a higher electricity access rate than the Hills and Mountains, the use of electricity for cooking remains relatively low. The project will be implemented in 22 districts of the Terai region, including some parts of the Churia. In Terai, around 22% of households are using dried dung cake as a cooking fuel as this source of fuel is easily available and free to collect. This specific pattern of fuel use is more common in the Terai region as compared to other topographical areas of the country. While consumption of fuel wood has remained relatively constant in the Terai, the 2021 census shows the rise in the consumption of LPG by households with 21% in 2011 to 44% in 2021.

1.2 Project Overview

The project will promote and increase access to clean cooking through a range of innovative concepts that targets both households and local authorities, including bulk tendering via reverse auctioning for cost effectiveness; output-based financing for de-risking of investments and institutional capacity building of 150 Local Governments (LGs) in the renewable energy (RE) sector. Activities will include scaling up the deployment of clean cooking technologies through accelerated investment and market development, as well as installing 500,000 Electric Stoves, 490,000 Tier 3+ ICS and 10,000 domestic biogas plants. The promotion of electric cooking is a shift from existing RE technologies under the current subsidy regime. The brief details on the overall project components and outputs are mentioned in Annex 1.

1.3 Structure of Manual

This Project Operational Manual (POM) describes the overall implementation process of the GCF-funded CCS Project (FP172). The GCF has given the concurrence on 7th July 2023. The POM is structured as follows.

- Section 1 deals with the background followed by a brief overview of the clean cooking solutions (FP172) project as well as contains an overview of the proposed POM. Section 2 provides top-to-bottom structure of project governance highlighting roles and responsibilities of project stakeholders and units and sub-units.
- Section 3 provides elaborated details of the project implementation modality including the selection process municipalities and rural municipalities and beneficiaries based on technology dissemination prioritization.
- Section 4 provides information on financial management and reporting structure including fund flow. Section 5 describes monitoring and evaluation mechanism and grievance handling mechanism.

2. PROJECT GOVERNANCE STRUCTURE

A Project Management Committee (PMC) will oversee the project with a dedicated Project Implementation Unit (PIU) set up at AEPC for day-to-day administration. Four Provincial Project Management Units (PPMU) will be established. The following Figure 2.1 illustrates the project structure.

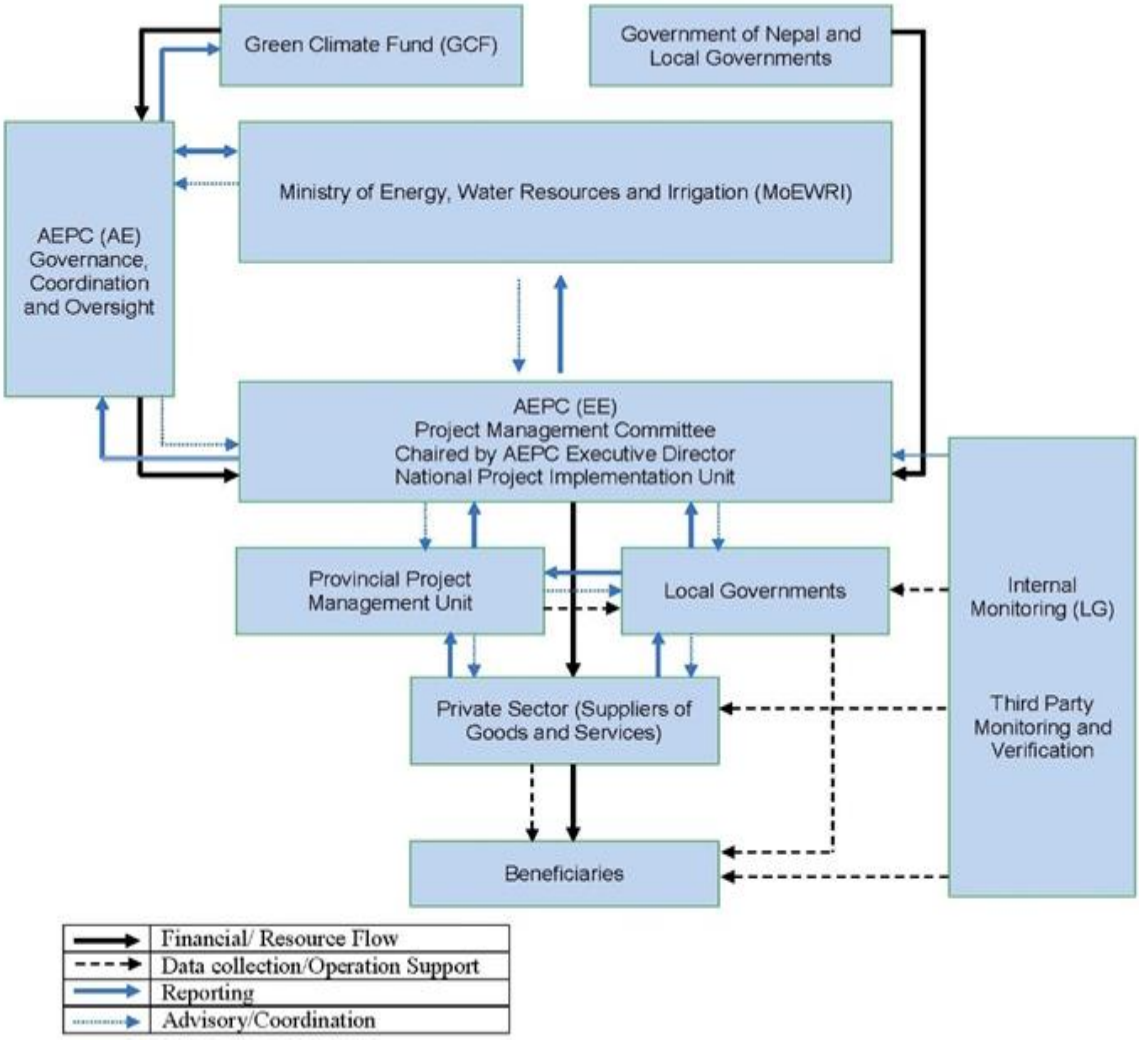


Figure 2.1: Project structure

Ministry of Energy, Water Resources and Irrigation (MoEWRI): The MoEWRI is the line ministry of AEPC and provides policy guidance, resources and strategic support.

AEPC Board: AEPC is governed by a 11-member Alternative Energy Development Board with representations from different government institutions and sectors viz. MoEWRI; National Planning Commission; Ministry of Industry, Commerce and Supplies; Ministry of Finance, Ministry of Forests and Environment, Nepal Electricity Authority (NEA), the Banking Sector, the Private Sector, NGO sector and AEPC. The Board provides oversight including decision on major aspects and strategic guidance and support. AEPC will perform the activities as per mandate on behalf of the board.

Local Governments (LGs): The LGs play a very important role in project implementation at the local level. LGs will be instrumental in supporting the PIU to implement project activities at the ground level. LGs will be mainly responsible in targeted beneficiary selection, project co-financing, and preparation

of Municipal Energy Plan (MEP). Further role of LGs includes assistance in CCS technologies installation, their monitoring and evaluation.

A Memorandum of Understanding (MoU) or project implementation agreement between each Local Government and AEPC will stipulate the co-financing mechanism. Installers selected and contracted through bulk tendering will be responsible for the supply, distribution or installation of the CCS technologies and after sales services to the beneficiaries.

2.1 Project Management Committee

The Project Management Committee (PMC) will provide strategic oversight on the design, implementation, monitoring and reporting of the project whilst ensuring multi-stakeholder participation. The Committee is led by the Executive Director (ED) of AEPC. The other members will include the head of each division of AEPC, and a representative from MoEWRI. Head of the Bioenergy Section of AEPC will be the member secretary of the committee that coordinates the project. The Committee will provide guidance to all outcomes, outputs and activities related to the project. The Committee with the following composition will oversee project activities and will convene at least in a quarterly basis.

Executive Director, AEPC	Chairperson
Deputy Executive Director, AEPC	Member
Director, Technology Promotion Division, AEPC	Member
Director, Planning and Monitoring Division, AEPC	Member
Director, Administration Division, AEPC	Member
Representative (Under Secretary), MoEWRI	Member
Chief Account Comptroller, AEPC	Member
Section Head, Bioenergy Section, AEPC	Member Secretary

National Association of Rural Municipalities in Nepal (NARMIN), Municipal Association of Nepal (MuAN), and institutions such as Nepal Academy of Science and Technology (NAST), Renewable Energy Test Station (RETS), and relevant AEPC staffs can be invited to the PMC as required.

2.1.1 Roles and Responsibility

- Provide strategic guidance and direction to the project. Draft annual work plans and prepare budgets requirement for approval from the GoN.
- Approve implementation plan, procurement plan and monitoring plan for project activities.
- Approve project management arrangements with the approval process required for the outcome. Components and project management component including the approval of human resources plan, terms of reference, facilities and benefits (remuneration, incentives, gratuity, leave, etc.).
- Define and approve the activities to be performed through AE Fee.
- Review periodic progress and ensure project outcomes are achieved in a timely manner. Monitor and evaluate the project activities.
- Ensure coordination between and amongst stakeholders, including federal, provincial and local governments, private sector and civil society organizations.
- Resolve the implementation issues at the field level. Identify and monitor potential risks and provide strategic guidance for minimizing and mitigating such risks. Steer the institutionalization process of the project.
- Consider Development Partner programs and provide guidance to align them with the project.
- Make amendments in Annexes of the POM.

In addition to the PMC, a Provincial Coordination Committee (PCC) including the representative of PGs, Local Government, AEPC and other relevant organizations can be established as and when required. The PCC will support in the coordination of policies and programs, resource allocations, information sharing and communications, monitoring and evaluation and conflict resolution.

2.2 Project Implementation Unit

The Project Implementation Unit (PIU) will be established within AEPC to oversee, coordinate and manage the project. Under strategic guidance of the PMC, the PIU will be responsible for day-to-day coordination, management and monitoring of the project activities according to approved annual work plans and budgets. The PIU will comprise of one Project Coordinator, one Financial Management Officer, one Procurement Officer, two Energy Officers and two Engineers at the central level. The PIU will ensure that the results of the project are achieved. Staffs under the PIU shall receive remuneration, DSA and other benefits as per the NIM Guideline. Further elaboration of the indicative remuneration is given in Table 3 6: Human resource allotment. The procurement process of goods, works and services shall be conducted as per the PPA/PPR. Details of PIU and the indicative terms of reference is provided in Annex-5. PMC shall reserve the right to review and update the indicative remuneration and terms of reference of the human resources.

2.3 Provincial Project Management Unit

The project area covers the Terai region which includes six provinces of Nepal. Within the purview of the PIU, four Provincial Project Management Unit (PPMU) will be established, that shall cover all the LGs, to optimize resource allocation. One Technical Officer, one CCS Coordinator, and one administrative support staff would be deployed at each PPMU. The PPMU will be responsible for provincial-federal coordination of the project. PPMU will be primarily responsible for facilitating, coordinating, correspondence with LGs, beneficiary verification, and their prioritization according to socio-economic vulnerability indicators.

3. PROJECT IMPLEMENTATION MODALITY

This section presents the overall implementation process of the project in terms of technology dissemination. In terms of the installation and dissemination of CCS, there are four major stages.

1. Local Government selection
2. Municipal Energy Plan and required technology identification.
3. Demand prioritization and beneficiary identification.
4. Demand allocation

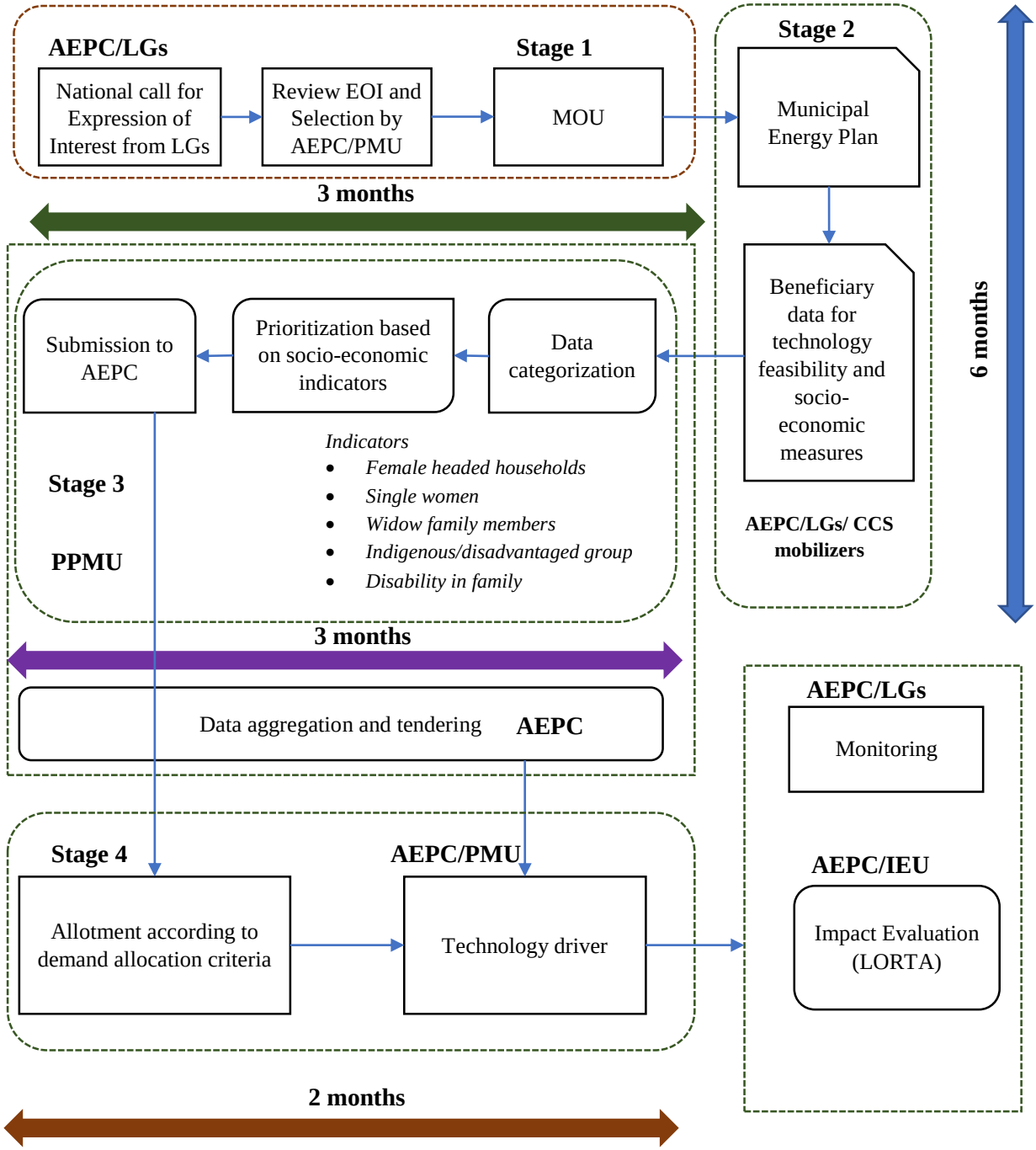


Figure 3.1: CCS Installation Timeline

3.1 Local Government Selection

There are 284 LGs that includes metropolitan cities, sub-metropolitan cities, municipalities, and rural municipalities in the 22 districts of Terai region in Nepal. The project targets 150 LGs based on the prioritized demand of targeted technologies (Figure 3.2). The following sequential steps are adopted for selection of LGs/project area and is applicable for all three Tier 3+ ICS, domestic biogas and electric cook stove technologies:

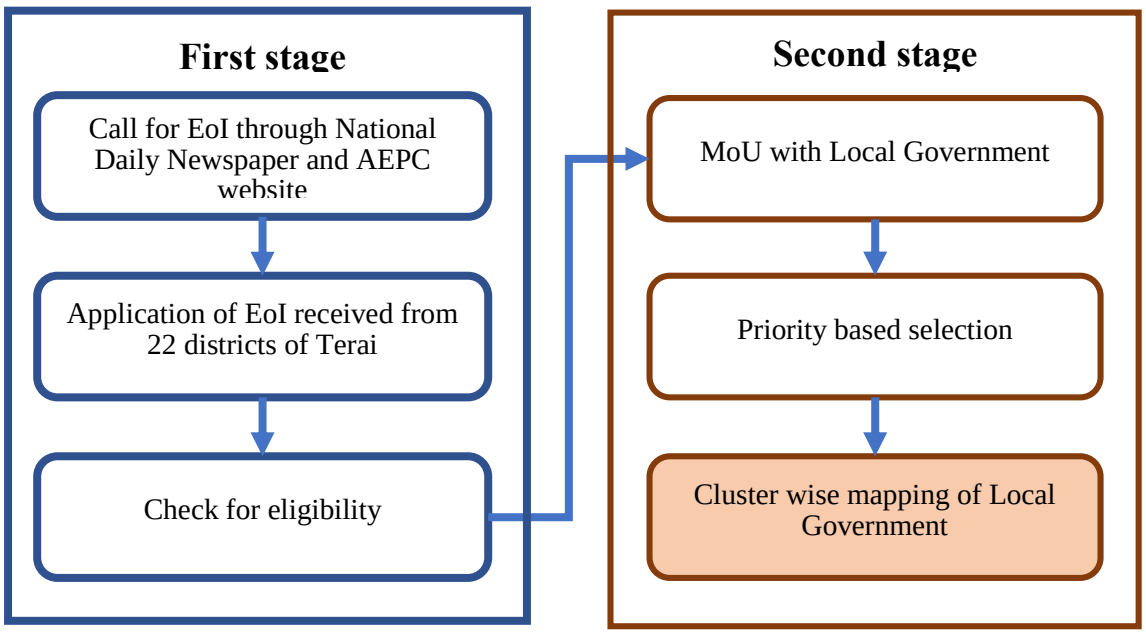


Figure 3.2: Local Government Selection Process

3.1.1 First Stage

AEPC calls Expression of Interest (EOI) from LGs through a public notice in national newspapers and its website. The EOI shall comprise of co-financing commitment letter (Annex 2) as per cost sharing structure, details on technology feasibility, and socio-economic status of beneficiaries (inclusiveness of project-targeted beneficiaries) as per the request form provided (Annex 3). The LLs will ensure co-financing from the beneficiaries as well. Call is extended if initial applicants are less than 150. If the LGs are unable to submit the technology request form and co-financing commitment letter, the LGs will not be eligible for further evaluation.

3.1.2 Second Stage

The project encourages adoption of CCS by low income or poor households in rural, urban and peri-urban areas. In case of the number of eligible LGs is greater than the project target (i.e.,150 LGs) then the LGs will be categorized in four different clusters. Division of cluster according to districts is shown in table below:

Table 3-1: Terai District Distribution

Cluster 1 (PPMU 1)	Cluster 2 (PPMU 2)	Cluster 3 (PPMU 3)	Cluster 4 (PPMU 4)
Saptari, Udayapur, Sunsari, Morang, Jhapa, Siraha.	Sarlahi, Mahotari, Dhanusa, Parsa, Bara, Rautahat.	Nawalparasi Paschim, Nawalparasi Purba, Chitwan, Kapilvastu, Rupandehi.	Kanchanpur, Kailali, Bardiya, Banke, Dang.

With an objective of rational dissemination of technologies in all 22 districts of Terai and technology penetration in their respective LGs, a benchmark is set for each cluster. A base number is defined, as a maximum or upper limit, which equals to 53% of total LGs of each cluster calculated as 150 LGs out of the total 284 LGs. If eligible LGs from any cluster are less than the base number, all LGs will be selected, and remaining percentage value will be equally distributed to other clusters. If clusters have more LGs than its base number, priority-based selection will be followed as discussed below:

Table 3-2: Priority allocation based on technology demand

Priority 1	• Demand call for all three CCS technologies by LGs • Peri-urban and rural LGs (Municipalities and Rural Municipalities)
Priority 2	• Demand call for any two CCS technologies • Peri-urban and rural LGs (Municipalities and Rural Municipalities)
Priority 3	• Demand calls for only one CCS technology • Urban, peri-urban and rural LGs (Metropolitans, Sub-Metropolitans, municipalities and rural municipalities)

Steps for priority-based selection

- Case I: If sum of P1 LGs is equal to base number in each cluster, then select all LGs for MoU.
- Case II: If sum of P1 LGs is more than base number, following factors are taken in account:
    - Further assurance of co-financing from the LGs.
    - Higher number of project-targeted beneficiaries
    - Human Development Index, baseline study and relevant Central Bureau of Statistics data
    - Realistic Distribution and Consumer Services (DCS) data and its critical evaluation.
- Case III: If sum of P1 LGs is less than base number, select all LGs for MoU and remaining quantity after selection of P1 will be fulfilled as per cases I, II and III for P2 and P3 respectively.

If there is any ambiguity or dispute in the procedure of selection, then PIU will notify the PMC which shall have the authority to make final decision within the scope of project document.

3.2 Beneficiary Selection

LGs will offer a need basis with targeted reservations for inclusiveness. Beneficiaries will be selected by a two-step process:

- Eligibility criteria; and,
- Prioritization.

3.2.1 Eligibility Criteria

Eligibility criteria includes mandatory technical feasibility for different cook stove solutions, such as:

- Cattle and livestock ownership for biogas;
- 15-Amp MCB connection along with reliable electricity supply for electric cook stoves;
- Accessibility, affordability and regular supply of solid biomass for improved cook stoves.

Technology feasibility criteria for beneficiaries is illustrated in the following table:

Table 3-3 Technology feasibility criteria for beneficiary identification

Technology	Feasibility Criteria
Electric cook stoves	➢ Availability of 15-amp MCB with reliable electricity supply ➢ Willingness to pay (If not, commitment for up gradation to 15-amp MCB before installation of electric cook stove) ➢ Households with the average annual income ranging between USD 250 to USD 2000.
Biogas	➢ Minimum cattle or livestock ownership ➢ Willingness to pay
Tier 3+ ICS	➢ Firewood affordability and availability ➢ Willingness to pay

Local levels will ensure users' contribution during initial identification of beneficiaries i.e. Local Levels will only sort out those beneficiaries who readily commits to co-finance the CCS technologies as per cost sharing structure and purchase utensils associated with each technologies (mainly ECS).

3.2.2 Prioritization

After feasibility criteria are met, demand of each LGs will be prioritized in two levels as per Table 3-4.

Table 3-4 Priority criteria as per Socio-economic indicators

Priority 1 (P1)	Household with at least one of below mentioned indicators: a) Female headed households b) Single women c) Widow family member d) Indigenous or disadvantaged groups e) Disability in family
Priority 2 (P2)	Remaining others (apart from P1 indicators)

PPMU will segregate the demand as per the above Table 3-4. Prioritization will be based on socio-economic vulnerability indicators scoring system including the level of income, disability in the family, female headed households, single women, widows, indigenous people, and degree of affordability factor.

3.2.3 Demand Allotment

The allotment of the clean cooking solutions based on the demand received from the beneficiaries will follow a priority-based demand allotment process further described in this section.

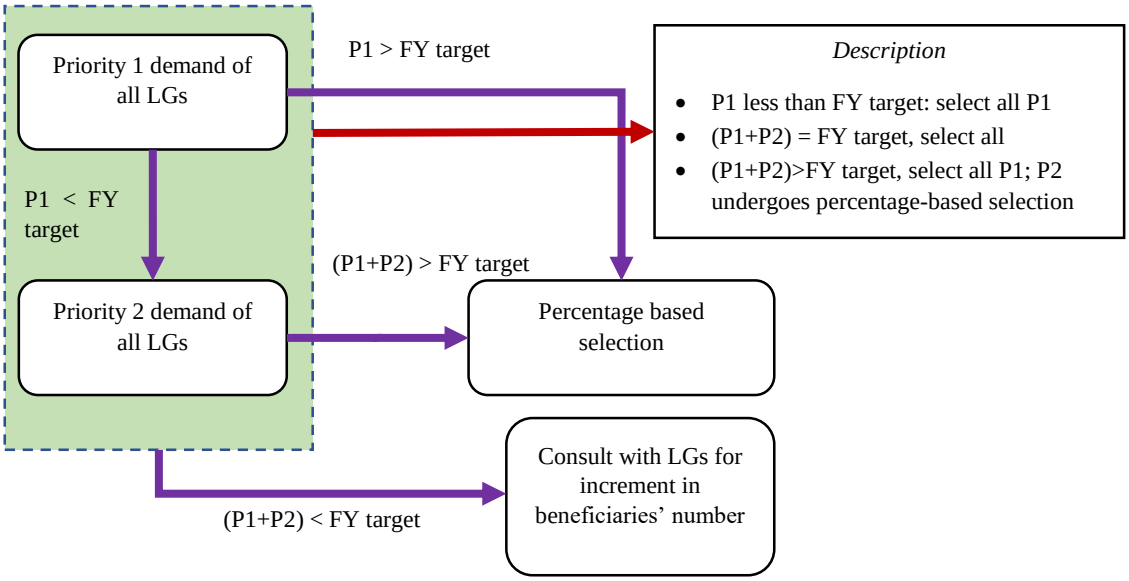


Figure 3.3: Priority based process flow for demand allotment

Figure 3.3 depicts the stepwise process flow for demand allocation based on the priority criteria. A technology demand allotment model is devised (Table 3-5), specifically highlighting percentage-based selection criteria that ensures even distribution of technologies for applicant LGs based on their priority wise demand. This criterion narrows down the total annual demand of LGs to respective fiscal year's target.

Table 3-5 : Technology Demand Allotment Model

	LG 1	**LG 2**	**LG 3**	**LG……**	**LG n**	**Sum**
Initial demand	X_1	X_2	X_3	……	X_n	$\sum_{n=1}^{n} X_n$
Priority 1 (P1)	A_1	A_2	A_3	……	A_n	$\sum_{n=1}^{n} A_n$
Case 1: P1 equals to FY target: All P1 are selected.						
Case 2: P1 greater than FY target A Common Percentage Reduction Factor (CPRF) is attributed to each LGs' P1 demand such that $\text{CPRF} = \frac{Total\ fiscal\ year\ target}{\sum_{n=1}^{n} A_n}$ Allotted quantity to each LGs ($a_{1,2,3…..n}$) = CPRF × $A_{1,2,3,…..n}$						
Case 3: P1 is less than FY target: All P1 are selected and proceed by followed cases for further allotment.						
Remaining Target (R1)	$\boldsymbol{R1 = FY\ target - \sum_{n=1}^{n} A_n}$					
Priority 2 (P2)	B_1	B_2	B_3	……..	B_n	$\sum_{n=1}^{n} B_n$
Case 4: P2 = R1: All P2 are selected i.e. (P1+P2) = Total FY target						

Case 5: P2 greater than R1

$$\text{CPRF} = \frac{R1}{\sum_{n=1}^{n} Bn}$$

P2 Allotted quantity to each LGs ($b_{1,2,3....n}$) = CPRF × $B_{1,2,3.....n}$

Allotted quantity to each LGs = $(a_n + b_n)_{n = 1,2,3.....n}$

Case 6: P2 is less than R1: All P2 are selected and further consultation with LGs for increment in beneficiaries' number will be carried out.

3.3 Procurement

The procurement shall be conducted as per the PPA/PPR. The cost estimate for the procurement of the CCS shall be based upon the contribution from the GCF, AEPC, LGs and beneficiaries as per the budget plan. The fund flow mechanism described later in the POM provisions for co-financing stages and approaches. The procurement shall follow the LCBS method of the PPA/PPR (Figure 3-4). It ensures that technology is available in the most cost-effective way.

Figure 3.4: Least Cost Based Selection (LCBS) Process

Contribution from GCF, APEC, LLs and beneficiaries on unit cost of CCS technology is depicted in table 4-1. While funds are allocated based on the estimated unit cost for each technology, these costs may be liable to change according to Maximum Retail price (MRP) calculated during reverse auctioning on each fiscal year.

3.4 Human Resource (HR) Management

The project document has envisaged Project Management Units (PIU in AEPC and PPMU at the provincial level). As per the project document, there will be five professional HR working for PIU which includes one Project Coordinator, one Financial Management Officer, one Procurement Officer, and two Energy Officers. Similarly, there will be one Province Coordinator, and one Engineer working at each provincial cluster (4-PPMU). Moreover, with support from AE fee, two engineers for PIU and one support staff (admin) at each provincial cluster will be recruited. The HR considered in the project, their minimum qualification and roles and responsibilities is presented under Annex-5.

Table 3-6 : Human resource allotment

S.N.	Position	Number	Budget category	Station	Indicative Remuneration[1]
1	Project Coordinator	1	Project management	PIU	SB5 Peg1
2	Financial Management officer	1	Project management	PIU	SB4 Peg3
3	Procurement Officer	1	Project management	PIU	SB3 Peg4
4	Energy Officer	2	Project management	PIU	SB3 Peg2
6	Province Coordinator	4	Project management	PPMU	SB3 Peg2
5	Engineer	2	AE fees	PIU	SB3 Peg1
7	Province Energy Officer	4	Project management	PPMU	SB3 Peg1
8	Drivers	2	AE fees	PIU	PMC Decision with preference to GoN scale
9	Admin Support Staff	4	AE fees	PIU	PMC Decision with preference to GoN scale
10	Admin Support Staff	4	AE fees	PPMU	PMC Decision with preference to GoN scale
	Total	25			

Additionally, there will be 150 CCS Mobilizers in each selected LGs and 450 CCS Champions trained.

3.4.1 Recruitment of Human Resource

All project staffs under the PIU will be hired / recruited through competitive basis. Competition will be ensured by providing equal opportunity to potential candidates to participate in competition by publishing a vacancy notice in national daily newspaper and uploading the same in AEPC website. Shortlisting, examining, ranking and recommending for recruitment will be done by a committee formed at AEPC. AEPC will recruit them for the project period. AEPC will assign appropriate staff as Project Coordinator by providing project facilities. In addition, AEPC management can procure the services of individual consultants and consulting firms through the AE fees for project

[1] Equivalent UN NIM Guideline Service Band where applicable.

supervision, oversight and reporting requirements. The AE fees can be further utilized to recruit other office support staffs that are not covered by project management component.

3.4.2 Benefits and Services for Human Resource

AEPC will set staff benefits for the PIU (Table 3-6). The CCS mobilisers shall be provided their remuneration as per the budget allocated in the budget plan of approved funding proposal (FP 172). The PMC can appoint necessary short-term consultants and staffs from the AE Fee heading. In addition, the PMC shall provision for incentives to the staff members from AEPC based on their involvement and additional works of the project activities as per the approved AE Fees.

3.4.3 Travel

The travel cost during the project period to the project areas shall be for a period of maximum one week for one time with the DSA applicable as per the UN NIM Guideline for personnel representing the AE and EE. The officials from the PGs, LGs shall be provided the DSA as per their prevalent regulations or GoN rate.

4. FINANCIAL MANAGEMENT AND REPORTING

This chapter describes the role of AEPC in carrying financial management and reporting function

4.1 Provision of Fund

The Grant from the GCF to the AEPC shall be deposited in the Designated Account (DA) of FP172 as per the disbursement plan prepared by AEPC. Besides the remuneration rates as prescribed in the Human Resource Section of the POM, all other financial procedure shall be as per the Government of Nepal rules and regulations. The Financial Procedure and Financial Accountability Act, 2076 BS and Financial Procedure and Financial Accountability Rule, 2077 BS of the GoN shall be followed for overall fund management.

4.2 Provision of Budget

The project shall follow the government planning and budgeting procedure. PIU will prepare overall budget and work program based on approved funding proposal and submit to the PMC. The budget will be proposed through the Line Ministry Budget Information System (LMBIS), which ensures the detailed basis of required activities and nature of expenditures for the budget preparation. The project shall prepare Annual Work Plan based on budget allocated by the GoN and all the activities for each Fiscal Year shall be based on the AWP. Implementation of these budgets and work programs will be monitored and reported on a quarterly basis through the Interim Unaudited Financial Reports (IUFRs). The implementation of project activities shall be effective only after approval of budget and program by the GoN (Ministry of Finance, Nepal). Further detail of the activities and budget within the LMBIS can be done by AEPC board.

4.3 Operation of Bank Accounts

The DA shall be operated with joint signatures of the Executive Director, AEPC and the Head of Finance, AEPC. The project shall also open accounts in a Class 'A' Commercial Bank for operation of project activities. LGs shall be responsible for depositing theirs and the beneficiary contribution of the total amount in the designated bank accounts as per the MoU or agreement between AEPC and respective LGs.

4.4 Funds Flow

FP172 has envisaged fund from GCF, GoN/AEPC, Local Governments and beneficiaries (Table 4-1) All the fund contributed from beneficiaries, local governments and corresponding fund from GCF and GoN/AEPC will be used for installation and construction of CCS technologies.

Table 4-1: CCS Cost Sharing Plan

SN	Technology	Unit cost (USD)	Cost Sharing			
			GCF	AEPC	LGs	Beneficiaries
1.	Tier 3+ ICS	$ 38.96	40%	40%	15%	5%
2.	Biogas	$ 541.67	28%	48%	10%	14%
3.	ECS	$ 38.33	10%	48%	19%	23%

The fund will be directly deposited into Central Treasury Account operated by Financial Comptroller General Office (FCGO). The flow of the fund, transfer of the fund and other such transactions related to fund management shall be monitored through a separate ledger and dedicated bank account. The project shall make payment to the suppliers/consultants/service providers for expenditures incurred based on approved invoices as per the contract agreement. The Financial Procedure and Financial Accountability Act, 2076 BS and Financial Procedure and Financial Accountability Rule, 2077 BS of the GoN will be followed for overall fund management. The project will have one of the two options for mobilization of fund for the CCS technologies:

- Option 1: All fund will be deposited in any Class 'A' Bank in the name of the project. The fund shall constitute the contribution from GCF, GoN/AEPC, LGs and Beneficiaries. LGs will ensure fund the respective beneficiaries and/or can contribute the beneficiaries' contribution.
- Option 2: Fund from GCF and GoN/AEPC will be deposited in any Class 'A' Bank, whereas each LG will have separate project account as per their regulation. The portion of beneficiaries' contribution shall be made directly to the vendors/contractors before installation/construction after signing of the contract agreement between AEPC and respective vendors/contractors.

The most feasible option will be agreed as per the agreement with the LGs and the selected option shall be in effect during the entire project duration. In any case, the first installment to be disbursed to the vendors/installers shall be borne by the LGs and beneficiaries.

The disbursement from the GCF will be made on annual basis and contingent upon the fulfilment of the conditions precedents to disbursement as per the Funded Activity Agreement (FAA). In terms of disbursements to be made against the procurement of CCS, AEPC will disburse the fund (both GCF and GoN part) as follows:

1. Initial or advance amount not exceeding 20% will be provided against bank guarantee in two equal installments with 10% after signing of the agreement and the remainder 10% as per the progress.
2. The second payment 40% after the CCS is received at the LGs with the LGs issuing letters of confirmation to the AEPC. In case of biogas, payment shall be made against the running bill of the construction progress.
3. The final payment shall be made upon the installation of CCS at the identified households and third-party monitoring has been conducted.
4. To ensure after sales service and user satisfaction for a period of one year from the date of installation, a Performance Security will be retained for 30 days beyond the warranty period. In case of biogas, which qualifies as procurement works an additional 5% retention will apply per PPA/PPR.

4.5 Accounting, Financial Reporting and Internal Controls

The Government's cash basis accounting system will be followed. Based on the same, IUFRs will be prepared on quarterly basis and submitted to the GCF within forty-five days from the quarter end. The format and the content of IUFRs will be as per the format provided by the GCF. Accounting information will be maintained in the accounting software by AEPC. All the required ledgers related to disbursement including the Designated Account Ledger, Grant Register, etc. will be maintained by AEPC. The internal control mechanism of the Government will be applied, including the compliance and ethics sub-committee and internal audit committee. As per the Government policy, emphasis will be placed on ensuring that internal audit is conducted on a quarterly basis as an important tool of internal control system. The Financial Management Expert (FME) will support AEPC for timely and quality accounting, financial reporting and effective internal controls. The FME consultant will also support in ensuring establishment and operationalization of effective monitoring mechanism.

4.6 External Audit

The project financial statements including DA statements will be audited by an Independent Auditor and Office of the Auditor General (OAG). The external audit report for each year of project implementation will be submitted to the GCF within 6 months from the end of each fiscal year. To avert delays in audit report submission, AEPC will coordinate with OAG by the month of May of each year to ensure that the Project's audit is scheduled in a timely manner.

4.7 Reporting

The project reporting period will cover the implementation period of the Project, which is up to five (5) years starting from the date of FAA effectiveness until the Completion Date, subject to the Project calendar set forth below. The Annual Progress Reports, Financial Information and audited and unaudited financial statement shall be submitted as set out in the Accreditation Master Agreement (AMA) and FAA. The annual progress report will be made available in AEPC website whereas financial information and audited and unaudited statement shall be provided to project stakeholders upon their need and official statement of request.

Table 4-2: Project Calendar Milestones

Milestones	Timing
Start of Project Implementation	Effective Date
Inception Report	Within six (6) months of the Effective Date
Independent Interim Evaluation Report	Within two (2) years and nine (9) months from the Effective Date
End of Project Implementation	Completion Date
Project Completion Report	Within three (3) months after Completion Date
Independent Final Evaluation Report	Within three (3) months after submission of the Project Completion Report

5. MONITORING, EVALUATION, GENDER AND GRIEVANCE HANDLING

5.1 Monitoring

Independent third-party monitoring will be conducted, major chunk of the payment would be released only after the verification of the technologies. The output-based financing approach will have several mechanisms set in place for monitoring and verification purposes

Technical specifications for proposed CCS technologies are listed in Annex 6. Performance, emission, safety and durability test protocols for ICS will follow standard test guidelines as per Nepal Interim benchmark for solid biomass cookstoves (NIBC 2016)[2]. Biogas will be constructed according to *Gobar Gas Company (GGC 2047)* design model approved by AEPC. For testing of electric cookstoves, established guidelines of Water Boiling Test (WBT) will be followed. Furthermore, the existing standards on CCS will be analyzed and benchmarks will be set for the technologies required for project implementation. As standards on induction Stoves, ICS, and domestic biogas plants and have been set previously, these standards will be reviewed and updated, if needed. Batch testing for ICS and ECS will be carried out at RETS laboratory.

The vendor, in coordination with LLs, will install CCS technologies at identified beneficiaries household. A third party monitoring system will be conducted after three months of technology delivery and installation where verification of delivery and correct installation will take place through beneficiary feedback. Inspection of 10% of installed CCS technology will be carried out through monitoring questionnaires, as shown in Annex 4, including (i) technical parameters of the technologies along with its (ii) mitigation impact through replacement of fuel wood, dung cake and LPG and (iii) adaptation benefits in terms of vulnerable communities and remote areas. Identification of households to be monitored, which will majorly comprise of P1 beneficiaries, will be carried out in co-ordination with CCS mobilizers and LLs. In case of any biases, conflicts or deviations regarding technology delivery, installation or monitoring process, the prevailing Subsidy Delivery Mechanism and the given provision of penalties shall apply. In addition there are several another activities that contributes towards the monitoring and verification of the project activities throughout the project period in the area of ESS, Gender and Fiduciary Risk Assessment. The proposed monitoring and verification plan for the project FP 172 in given in Annex4.

5.2 Evaluation

The project evaluation will be technically assisted by Independent Evaluation Unit (IEU) of the GCF under the Learning Oriented Real Time Impact Assessment (LORTA) Program. For the purpose of evaluation, a Pre-Analysis Plan has been developed with the support from the IEU. The plan serves as a reference for the estimation of the impacts of certain components of the project and the interpretation of the impact evaluation findings. It outlines the hypotheses to be tested and the methodological approach to be used in the analysis. The theory of change for the project is illustrated in Figure 5.1.

[2] National Interim Benchmark for solid Biomass Cookstoves (aepc.gov.np)

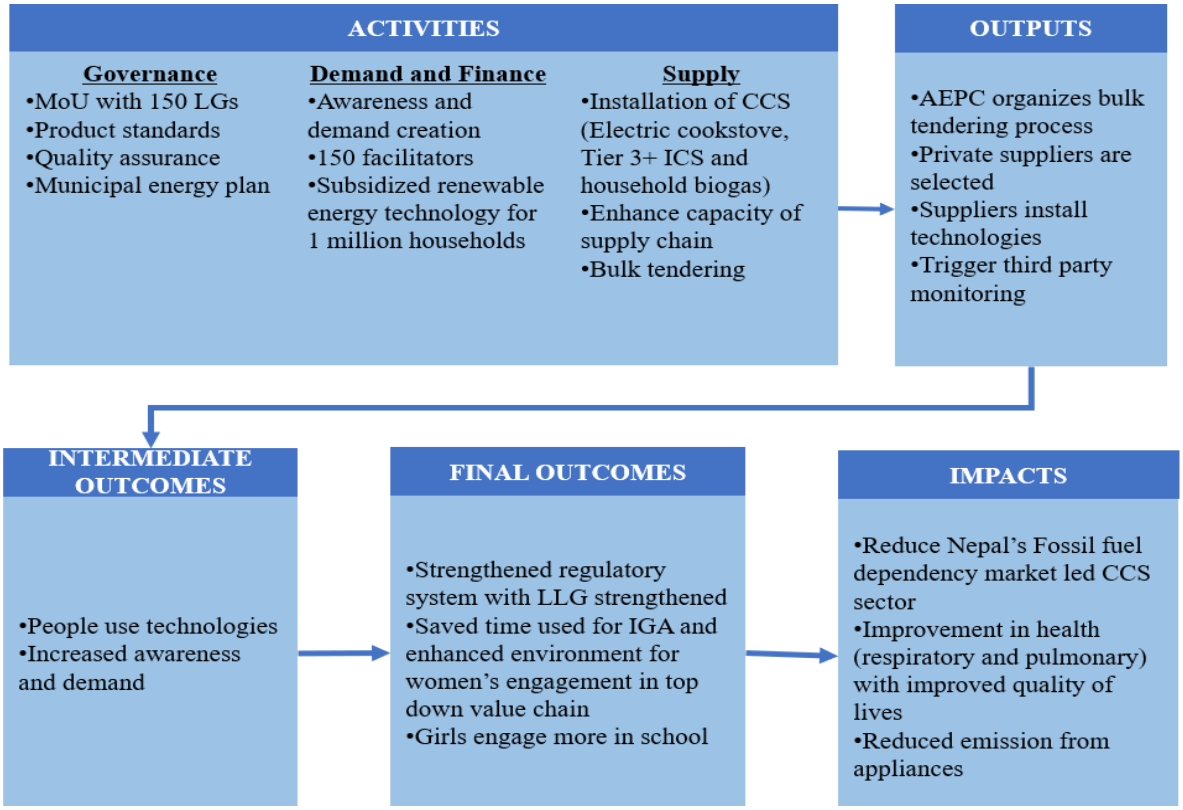


Figure 5.1: Theory of change

Within the theory of change, the three components of the project are categorised under changes to governance, demand and finance, as well as the supply and installation of CCS solutions through an enhanced supply chain and via bulk tendering. The main outputs from the project are that AEPC selects private suppliers and these firms register households and install technologies. Importantly, this will trigger third party monitoring mechanisms. The intermediate outcomes are an adoption and use of CCS as well an increased awareness and demand. The final outcomes include the reduced use of biomass for fuel, better air quality and fewer respiratory ailments. In addition, the project aims to save time for women and girls as well as provide an enhanced environment for women's engagement in top-down value chain. The final impacts of the project include reduced emissions from appliance and improvements in health (respiratory and pulmonary) with improved quality of lives. The evaluation design, questionnaires, data collection and other details are given in annex 7.

In terms of timeline under an AE Fee proponent of the project, the mid-term evaluation is planned two and half years after project implementation and the final evaluation report is planned six months after the end of project period. The mid-term review will be based on desk reviews and interviews with key staff and partners of all projects, and on field visits to two projects. The independent final evaluation will focus on the overall performance of the project, indicators, impacts and finances and on implementation of the recommendations given by the mid-term review.

5.3 Gender

The approved Gender Action Plan (GAP) forms the basis for operationalizing results and recommendations of the gender assessment. It incorporates gender elements during project formulation (and design), project implementation and project monitoring & evaluation. GAP ensures necessary intervention to mainstream gender and integrates gender-perspective in the project to maximize clean cooking benefits. It is compliant with GCF's updated gender policy and AEPC's Gender Equality &

Social Inclusion (GESI) policy. The GAP is aligned with the outputs of the log frame and planned output and activities. Additionally, the project will document the positive and negative effects of the project activity will have on gender relations by setting up adequate, gender-sensitive monitoring and collecting sex-disaggregated data.

5.4 Grievance Handling Mechanism

AEPC's Grievance Handling Mechanism will ensure that all complaints made by public are handled in an effective and consistent manner. AEPC's Procedure for Fraud Reporting an Investigation shall be adhered for handling complaint and grievances. The procedure is available under Annex 8 of the AEPC's Financial Mismanagement and Corruption Prevention Resource Book in AEPC's website.

6. ADAPTIVE MANAGEMENT PLAN

Adaptive management plan (AMP) allows for implementation of project activities to achieve expected outcomes, closely monitoring its effects during project duration, adapting and improvising future actions based on observed results to make sure that the project goals are met effectively and in time. Process flow of AMP is depicted in Figure 6-1. This project majorly aims to mitigate the problem of increasing GHG emissions and indoor air pollution due to inefficient cooking practices, by increasing climate resilience through CCS. The ultimate fund level impact the project will achieve is reduced GHG emissions from buildings, cities, industries and appliances.

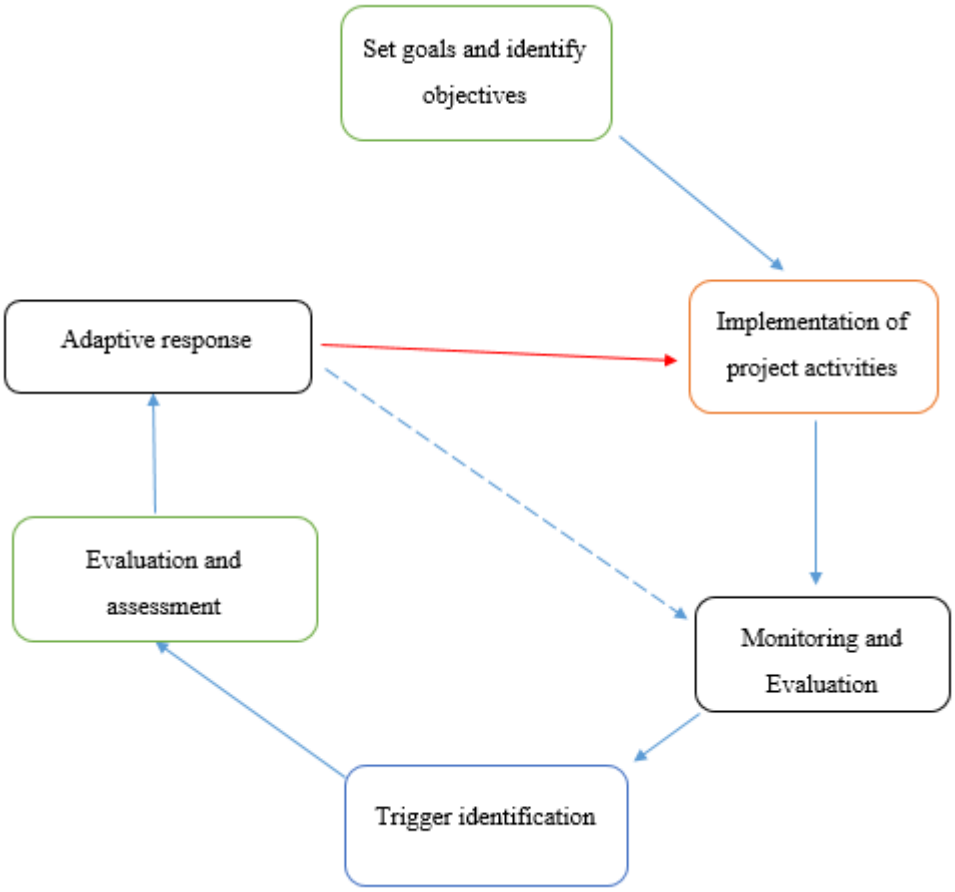


Figure 6.1 Adaptive management plan

As per the funded activities, project results will be monitored, analyzed and evaluated in terms of their tendency to acquire project outcomes, eventually converging towards meeting the goal of mitigating GHG emissions. Triggers, which corresponds to potential hindrances to meet project goal, will be identified, and information will be drawn to reduce risks in future. Finally, project activities will be modified, if necessary, as well as adaptive actions will be taken as per requirement in the form of management response. AMP will be an iterative process, and will be executed intuitively against encountered triggers after learnings from comparison of actual and desired project results.

ANNEX 1: DETAIL PROJECT COMPONENTS AND OUTPUTS

COMPONENT 1: SCALING UP THE DEPLOYMENT OF CLEAN COOKING TECHNOLOGIES THROUGH ACCELERATED INVESTMENT AND MARKET DEVELOPMENT

Output 1.1: 500,000 Electric Stoves, 490,000 Tier 3+ ICS and 10,000-biogas plants installed.

Activity 1.1.1: Development of Annual Procurement and Deployment plan
The Accredited Entity will develop the bidding documents for all three clean cooking solutions ("**CCS**") technologies (electric cook stove, Tier 3+ ICS and biogas plants) in line with the technical specification outlined in the Operations Manual and in line with the Government of Nepal's procurement policy (Least Cost Selection Method as per the Public Procurement Act, 2007 ("**PPA**") and Public Procurement Regulation, 2007 ("**PPR**")). The Accredited Entity will also introduce bulk tendering via reverse auctioning within the same procurement policies. The reverse auctioning model refers to the Least Cost Selection (LCS) Method of the PPR. The bidding document and procurement plan will be based on Table 1 below.

Activity 1.1.2: Procurement and Deployment of annual targeted number of CCS
The Accredited Entity will collect the CCS requirement from the Local Government units and based on the bidding document (Activity 1.1.1) carry out the procurement of the CCS technologies, to meet the targets set out in Table 1 below.

Table 1: Annual deployment target

Technologies	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Electric Cook Stoves	50,000	100,000	135,000	135,000	80,000	500,000
Tier 3+ ICS	50,000	100,000	130,000	130,000	80,000	490,000
Domestic Biogas Plant	2,000	2,000	2,000	2,000	2,000	10,000

Activity 1.1.3: Disbursement of initial 60% payment installment to the vendor upon delivery of CCS to respective municipalities
As further described in [Schedule 3, part (b)], the Accredited Entity will provide financing for the procured CCS technologies as follows:

1. Initial or advance amount not exceeding 20% will be provided to the private sector vendors selected by the Accredited Entity to provide CCS technologies (the "**Vendors**") against bank guarantee. This will also trigger a batch verification process, which includes product testing and certification of the procured technologies at the test facility. The sample for testing will be based on the methodology outlined in the Operations Manual.
2. The second payment (40%) to the Vendor will occur once the Vendor distributes the CCS technologies to the local governments participating in the Project (the "**Local Governments**") and the relevant Local Governments issue letters of acceptance to the Accredited Entity. This payment will also include the full contribution from the Final Beneficiaries.

Activity 1.1.4: Monitoring and Verification of Installed CCS units for Output Based Financing (OBF)
For the final payment of the remaining 40% to the Vendors, the Vendors, in coordination with Local Governments, will install CCS technologies at the identified households. A separate third party monitoring process will be conducted parallel to distribution of the technologies wherein the third party

will specifically assess appropriate percentage of total beneficiaries in terms of (i) technical parameters of the technologies along with its (ii) mitigation impact through replacement of fuel wood, dung cake and LPG and (iii) adaptation benefits in terms of vulnerable communities and remote areas, among others. The independent third party will collect disaggregated data based on sub-categories, including gender, income status, among others and undertake monitoring based on the methodology outlined in the Operations Manual.

Once the third party monitoring is completed and the relevant Local Government confirms the relevant technologies have been installed at the Final Beneficiaries in accordance with the Operations Manual, the Accredited Entity will provide the final disbursement of 40% to the relevant Vendors, based on the independent third party monitoring report and as further described in [Schedule 3, part (b)].

COMPONENT 2: STRENGTHEN ENABLING ENVIRONMENT THROUGH SECTOR BASED ASSESSMENTS AND QUALITY ASSURANCE OF THE TECHNOLOGIES

Output 2.1 Enhancing product standards, conducting assessments, surveys and analysis

Activity 2.1.1: Develop partnership agreement between AEPC, Province Governments, Local Government and other implementation Partners

The Accredited Entity will sign Memoranda of Understanding ("**MOUs**") with each provincial government and Local Government participating in the Project. The Accredited Entity will work with the provincial governments to develop and reinforce policy and strategy in promoting CCS, and as well as support Local Governments in Project implementation.

Activity 2.1.2: Update existing standards and set benchmarks for the technologies required for the project implementation

The Accredited Entity will evaluate the existing standards on CCS technologies. Based on the evaluation and analysis, the Accredited Entity will set benchmarks for the technologies required for Project implementation and incorporate the benchmarks in the Operations Manual.

Activity 2.1.3: Develop Municipal Energy Plan template by analyzing standards and formats

The Accredited Entity will procure third party consultant(s) to develop a Municipal Energy Plan template to be utilized by the Local Governments in the development and implementation of Municipal Energy Plans in a participatory manner.

Output 2.2 Strengthening quality assurance mechanisms

Activity 2.2.1: Strengthening and establishing testing centre for ensuring the quality of the proposed technologies

The Accredited Entity will strengthen the existing testing centre located at Nepal Academy of Science and Technology (NAST)/ Renewable Energy Test Stations (RETS) in Kathmandu in order to fulfil the testing requirements set out by the Operations Manual.

Activity 2.2.2: Development of Management Information System as a national monitoring system with real time data collection from LGs

The Accredited Entity will develop the Management Information System for national demand supply inventory of CCS. The Management Information System will provide real time data of CCS intervention in the country. The Management Information System will include data on aggregated demand from Local Governments, distribution and installation of CCS among the Final Beneficiaries and the performance of the installed technology, including the data collected during the independent third party monitoring under Activity 1.1.4.

COMPONENT 3: EMPOWERING INSTITUTIONS, CAPACITATE SUPPLY CHAIN AND ENSURE INCREASED ACCESS TO CLEAN COOKING SOLUTIONS

Output 3.1: Capacity development of sub-national institutions

Activity 3.1.1: Conduct national stakeholder consultation workshop between AEPC, PG and LG
The Accredited Entity will conduct gender inclusive national level stakeholder consultation workshop with provincial governments and the Local Governments to set up the groundwork for activities under Outputs 1 and 2.

At provincial level, the Accredited Entity, in coordination with the relevant provincial ministries, will set up 4 energy units with 2 energy officers (1 technical officer and 1 CCS coordinator) at each province, preferentially women targeted, in order to provide support to the Local Governments through the Project's implementation period and beyond. The Accredited Entity will have oversight of the provincial energy units.

At the Local Government level, the Project will allocate at least one Clean Cooking Mobilizer (as defined below in Activity 3.2.1), preferentially women, in each Local Government.

Activity 3.1.2: Develop LG Municipal Energy Plan
The Accredited Entity will procure third party consultant(s) to develop Municipal Energy Plans based on the Municipal Energy Plan template developed in Activity 2.3.1. The Municipal Energy Plans will identify best available resources at local level for energy generation and to assess consumption pattern of households and develop action plans for Local Governments.

Activity 3.1.3: Capacitating Local Governments and Provincial Governments
The Accredited Entity will provide technical assistance to the Local Governments to prioritize CCS promotion in periodic and annual plans and to formulate appropriate policies and mechanisms. The Accredited Entity will provide assistance to the provincial governments to create an enabling environment, including policies and procedures, at province level, which then will be passed on to the Local Governments. The Accredited Entity will also provide assistance to the Local Governments to support Project implementation, including engagement with the local community-based Forest User Groups and gender sensitive mechanisms to support coordination with the Final Beneficiaries.

Activity 3.1.4: Annual national level review and consultation meeting
The Accredited Entity will convene regular national level consultative meetings with outreach partners at the district or regional level to review the annual objectives and targets and improve Municipal Energy Plan guidelines and project materials as required.

Output 3.2: Increased awareness and outreach to enhance demand

Activity 3.2.1: Mobilize clean cooking mobilizers in each Local Government
The Accredited Entity will procure third party consultant(s) to mobilize a minimum of 150 clean cooking mobilizers, preferentially women, in the Project area (the "**Clean Cooking Mobilizers**"). The Clean Cooking Mobilizers will be trained to help in raising awareness on benefits of CCS, facilitate in bottom up need assessment and in designing bespoke technical assistance and capacity development programme for respective Local Governments.

Activity 3.2.2: Development of training materials
The Accredited Entity will conduct a series of consultation workshops at national level between corresponding ministries, Agencies, Local Governments, beneficiaries, Clean Cooking Champions (as

defined below), and local vendors and private sector service providers to identify the need and to develop materials/manual/guidelines on CCS awareness to local communities to strengthen the Project's implementation.

Activity 3.2.3: Identifying clean cooking champions
The Accredited Entity, in collaboration with the Local Governments, will identify in total 450 clean cooking champions (the "**Clean Cooking Champions**") (60% women targeted) (3 at each Local Government) who will be trained to provide installation, repair and maintenance services of the technologies and will also be the champions of technologies. The selection will follow the criteria outlined in the Operations Manual.

Activity 3.2.4: Develop materials for awareness on CCS (in national and local languages) with its impact potential on livelihoods and support to vulnerable communities:
The Accredited Entity will procure third party consultant(s) to develop awareness materials on national and local languages consisting of information, education and communication materials on the benefits of CCS in financial savings, cleanliness, health benefits and drudgery reduction compared to traditional cookstoves.

Activity 3.2.5 Campaigns and promotional activities in coordination with the provincial governments, Local Governments, community champions, NGOs and volunteers
Clean Cooking Mobilizers and Clean Cooking Champions will raise awareness on climate change impact, highlighting the benefits of CCS such as fuel saving, cleanliness, health benefits and drudgery reduction compared to traditional cookstoves.

Activity 3.2.6: Ameliorate awareness materials and guidelines
The Accredited Entity will conduct annual national review and planning meeting with its outreach partners at the district or regional level. At this stage, the awareness materials and guidelines will be improved if required.

Output 3.3: Strengthening service centres, biomass manufacturers to provide quality and affordable clean cooking solutions

Activity 3.3.1: Capacity and training needs assessment
The Accredited Entity will conduct national level stakeholder consultation workshops with Nepal Academy of Science and Technology (NAST)/ Renewable Energy Test Stations (RETS)/Nepal Bureau of Standards & Metrology (NBSM), Final Beneficiaries, local manufacturers, vendors, financial institutions, Local Governments, training institutions (e.g. CTEVT) and other relevant stakeholders to assess existing situation, capacity and training needs assessment of service centres for providing CCS services.

Activity 3.3.2: Ameliorate project materials and guidelines
The Accredited Entity will conduct an annual national level coordination and sharing meeting with the Project partners and review the progress, draw lesson and planning with the Accredited Entity's outreach partners at district or regional level. At this coordination meeting, the Project materials and guidelines will be improved.

Activity 3.3.3: Establish and strengthen service centres at provincial and local level
In collaboration with NAST and RETS, the Accredited Entity will strengthen the existing provincial service centres and capacitate them to work as AEPC focal point for their respective local service centres. In addition, the Accredited Entity will identify, establish and strengthen 900 local service

centres, with at least six service centres at each Local Government, and capacitate them to provide after sales services. The Accredited Entity will procure third party services to equip the local service centres.

Activity 3.3.4: Conduct trainings to service centre operators and local manufacturers in collaboration with financial and CTEVT institutions

The Accredited Entity will procure third party consultant(s) to provide a total of 24 Province level trainings to service centres/providers in collaboration with CTEVT institutions.

Activity 3.3.5: Conduct skills development training to CCS beneficiaries and vulnerable groups in collaboration with CTEVT at Province level

The Accredited Entity will procure third party consultant(s) to provide a total of 24 Province level trainings to Final Beneficiaries and vulnerable groups in collaboration with CTEVT institutions.

Activity 3.3.6: Strengthen existing regional level service centres under AEPC's past CCS projects into fully operational province level service centres

The existing regional level service centres developed as part of previous CCS programmes of Nepal, will be assessed and strengthened by third party consultant(s) procured by the Accredited Entity to function as province level service centres.

ANNEX 2: CO-FINANCING LETTER TEMPLATE

"Electric Cookstove"

Rural Municipality/Municipality Office

Ward no. .....

..... District

Date: ……

Dispatch No: .....

Number: .....

Subject: Regarding the Commitment for Co-Financing

This is notified that the Rural Municipality/ Municipality has allocated/shall allocate the fund of NPR…… (In words: ……..) in the fiscal year…….. for the Co-Financing of Electric Cookstove in regards to the Clean Cooking Solution Project.

***Under Co-Financing, 23% of the total cost for the installation of electric cookstoves will be covered by the consumers, 19% by the LGs, and the remainder by AEPC.**

Chairperson/Mayor/Chief Administrative Officer of the Rural Municipality/Municipality

Signature:

Name:

Stamp of the Rural Municipality/Municipality

Enclosed Documents: (1) Copy of the Decision Made by the Rural Municipal/Municipal Executive

"Domestic Biogas Plant"

…….. Rural Municipality/Municipality Office

Ward no. .....

..... District

Date: ……

Dispatch No: .....

Number: .....

Subject: Regarding the Commitment for Co-Financing

This is notified that the Rural Municipality/ Municipality has allocated/shall allocate the fund of NPR…… (In words: ……..) in the fiscal year…….. for the Co-Financing of Domestic biogas plants in regards to the Clean Cooking Solution Project.

***Under Co-Financing, 14% of the total cost for the construction of domestic biogas plant will be covered by the consumers, 10% by the LGs, and the remainder by AEPC.**

Chairperson/Mayor/Chief Administrative Officer of the Rural Municipality/Municipality

Signature:

Name:

Stamp of the Rural Municipality/Municipality

Enclosed Documents: (1) Copy of the Decision Made by the Rural Municipal/Municipal Executive

"Tier 3+ Cookstove"

…….. Rural Municipality/Municipality Office

Ward no. .....

..... District

Date: ……

Dispatch No: .....

Number: .....

Subject: Regarding the Commitment for Co-Financing

This is notified that the Rural Municipality/ Municipality has allocated/shall allocate the fund of NPR…… (In words: ……..) in the fiscal year…….. for the Co-Financing of Tier 3+ Cookstove in regards to the Clean Cooking Solution Project.

***Under Co-Financing, 5% of the total cost of Tier 3+ cookstoves will be covered by the consumers, 15% by the LGs, and the remainder by AEPC.**

Chairperson/Mayor/Chief Administrative Officer of the Rural Municipality/Municipality

Signature:

Name:

Stamp of the Rural Municipality/Municipality

Additional Documents: (1) Copy of the Decision Made by the Rural Municipal/Municipal Executive

ANNEX 3: DEMAND REQUEST FORM

Alternative Energy Promotion Centre

Demand request Form for CCS Project

Date:

Name: Metropolitan/Sub-Metropolitan/Municipality/Rural Municipality Office

Address:

Feasibility of Technologies		
Particulars	Yes	No
- Reliable and Access of Electricity		
- Availability and Affordability of Firewood		
- Sufficient Livestock for Biogas Plants		

Approximation requirement of Technologies for Five Years			
Technology	Electric Cookstoves	Tire 3+ ICS	Domestic Biogas plant (4 m^3)
Potential Numbers of Households			

Total Number of Households Requiring CCS technologies: ……. HH

Current Socio-economic status

Indicators	**Households**
Female Headed (Earning of female member as major family income)	
Single women (Husband missing/ divorced/ unmarried women aged 35 years or above)	
Widowed family member	
Family belonging to indigenous or disadvantaged group	
Disability in the family	
Others (apart from above indicators), please specify…	
Total	

Representative details:

Name:

Phone no:

Position:

Stamp

ANNEX 4: MONITORING PLAN

Activities	Year					Data Source	Indicators	Deliverables
	1	2	3	4	5			
Activity 1: Conduct Third Party Monitoring and Verification of Installed CCS units for Output Based Financing **Related to component 1 Activity 1.1.4**						Demand Aggregation and Installation Reports (MIS)	Tonnes of carbon dioxide equivalent (tCO_{2eq}) reduced or avoided – buildings, cities, industries, and appliances	At least 19, 19 and 5 third party monitoring and verification reports for ICS, Electric cook stoves and biogas respectively including (i) technical parameters of the technologies along with its (ii) mitigation impact through replacement of fuel wood, dung cake and LPG and (iii) adaptation benefits in terms of vulnerable communities and remote areas, among others
Activity 2: Develop the baseline for the preparation of Municipal Energy Plan **Related to component 2 Activity 2.1.3**						Existing standards and formats	Detailed baseline for preparation of MEP of different municipalities	Template for MEP including (i) Energy baseline situation Prerequisites and parameters for electric cooking (ii) Renewable energy resource inventory (iii) Opportunities and challenges (iii) Energy vision, mission and goal (iv) Strategies to reach the goal (v) Energy intervention plan (vi) Annual target breakdown (vii) Estimated budget and financing source (viii) Estimated annual budget and (ix) Time frame
Activity 3: Batch Testing of RETs as per the developed standards and specification **Related to component 2 Activity 2.2.1**						Standards and specification of electric cook stove and tier 3+ ICS	Capacity assessment report	Capacity assessment report including the baseline and capacity enhancement required
Activity 4: Development of MIS database with real time data regarding CCS						Existing MIS, Third Party installation,	Operational MIS setup at LGs	Full developed MIS database installed at 150 LGs and capacitated LGs for using MIS

Activities	Year					Data Source	Indicators	Deliverables
	1	2	3	4	5			
Related to component 2 Activity 2.2.2						monitoring and verification reports	Database with details of the CCS entered in the MIS system	generating required monitoring and verification report
Activity 5: Development of the MEP and monitoring the progress **Related to component 3 Activity 3.1.2**						Template for the MEP	No. of LG with MEP	MEP reports of 150 LGs and, Implementation, monitoring and evaluation reports with detail assessment of the progress made based on the MEP and recommendations for necessary modification
Activity 6: Third party review of the annual objectives, targets, progress and guidelines etc. **Related to component 3 Activity 3.1.4**						Funding proposals, Project operation manual and other templates and guidelines	Institutional and regulatory systems that improve incentives for low-emission planning and development and their effective implementation	Annual progress report including the project progress against planned activities, update of MEP guideline, ESS and GESI, Fiduciary Risk assessment

ANNEX 5: TOR AND JOB DESCRIPTION OF HUMAN RESOURCES

(A) Project Management Unit

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
1	Project Coordinator (PIU)	1	• Master's Degree in energy/environment/ engineering /management and having at least seven years of experience in renewable energy sector. • Experience in technical standards and quality assurance of renewable energy technologies, mitigation and adaptation of climate change and carbon financing. • An understanding of cross-sectorial aspects of adaptation and mitigation, economic, social, environmental, and gender dimensions. • An understanding of the institutional and policy environment around climate change related policies and programming in Nepal. • Working experience on procedures required for accreditation and accessing fund from the GCF. • Demonstrated teamwork skills and ability to work independently. • Excellent analytical and writing skills. • Prior working experience with private sector, NGOs/ International DP program/projects, local and federal government.	• Day-to-day management of the project, including the coordination of consultants to ensure timely delivery of deliverables. Development and implementation of detailed work plans. Conduct the activities of the project as per the implementation and procurement plan. Prepare documents including the terms of references, expression of interest, and request for proposals and finalize the procurement of service providers. • Coordinate with federal and provincial level ministries, municipalities, and NGOs, private sector, vulnerable communities, and academia and research institutions, regional and international organizations. • Liaise with stakeholders to ensure effect execution of the project. • Conduct activities and fulfill the deliverables as per the logical framework of the approved FP172. • Coordination and monitoring of project activities in collaboration with the cross-cutting sections of AEPC (Monitoring, CCU, Procurement, Outreach and GESIU). • Supervise/monitor and coordinate the progress to ensure the timely delivery of outcomes and outputs.

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
			• Excellent written and verbal communication skills in English and Nepali is required. • Participated in relevant trainings, seminars and workshops.	• Review of work and activity plans, and budget, activity monitoring with respect to planning, progress report, and review of the project/program. • Prepare/update guidelines, standards, formats, and quality assurance of clean cooking technologies. • Make periodic visits to the organizations and institutions that are supported by the project. • Coordination, Supervision and Monitoring of provincial and local level staffs • Prepare/develop demonstration materials for benefits on CCS technology. • Support to prepare concept notes/funding proposals for climate and carbon projects including GCF. • Coordinate with other activities and other on-going programs in Nepal that has direct and indirect implication with clean cooking activities for possible complementarities and synergies. • Any other task assigned by the PMC.
2	Financial Management Officer (PIU)	1	• Master's degree in Management (Finance) or Chartered Accountant with minimum five years' experience in total and three years' experience in project financial management • Prior experience in finance and accounting at GoN and development partners funded programmes and projects is preferable.	• Provision of support to the Project Coordinator in the conducting the FP172 activities as described by the logical framework and the work plans. Provision of support to the Project Coordinator in progress tracking. • Review invoicing from service providers and ensure that payment requests are supported and justified. Facilitate the approval and payment process while ensuring compliance.

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
			• Prior experience of working in I/NGO environment with experience of coordinating with international donors on accounting/financial management is preferable. • Demonstrated computerized financial management system experience • Experience of working with donor agencies like World Bank, ADB, and GCF is preferred. • Skillful in explaining financial report to non-finance staff is a requirement. • Prior experience that includes handling and processing high volume and high value financial transactions in international standards. • Knowledge of specific Nepali rules and regulations regarding finance and accounting. • Strong written and oral presentation skills in English and Nepali are required. • Participated in relevant trainings. • Having excellent interpersonal, documentation and report writing skills.	• Support to organize meetings/training events related to the FP172 activities and preparation of meeting minutes. • Provide operational support during workshops/training sessions/meetings, and • Keeping track of the records of activities and documentation of all activities under the FP172. • Ensure implementation of general principles of budgeting, accounting, auditing and procurement that is fully integrated into AEPC/GCF FP172. • Ensure that the financial management practices endorsed by CREF are duly followed. • Ensure availability of financial information for examination, assessment and review by donor partners. • Ensure that ear-marked funds are used for explicitly stated purpose. • Ensure vetting of payments by relevant managers. • Establish consistency in financial planning and budgeting for all programs and components. • Plan day to day work and activity level day to day implementation of financial resources. • Ensure that all programs, components produce and manage semi-annual progress and financial reporting. • Organize annual audits in accordance with International Standards of Auditing and as advised by compliance unit.

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
				• Institutionalize and implement internal auditing practice. • Follow GoN (PPA/PPR) and FP172 procurement guidelines for all Technical Support Component activities and productive end use. • Follow CREF guidelines for procurement of all other activities. • Support AEPC financial report preparation and analysis in duly manner as per the standard practice. • Follow up and guide for tax deposit & VAT refund of AEPC related activities. • Performance and Reporting Requirement (Periodic Deliverables) financial progress report, • Timely payment of staff salaries and expenditures and disbursement reports. • Any other task assigned by the Project Coordinator and the PMC.
3	Procurement Officer (PIU)	1	• Bachelor's degree in Civil Engineering, Management, Business, Economics, Law or in any other relevant field with seven years of experience in procurement management or Master's degree with five years of experience in procurement management related to RE sector which must include at least four years 'proven track record of procurement experience • Experience and knowledge in budgeting and reporting.	• Support AEPC/FP172 procurement unit for compliance with PPA/PPR and other guidelines of development partners including the procurement guideline of the GCF applicable to the implementation of the program; • Management of the administrative process including the document preparation for the procurement process, management of consultants and travel arrangements • Identify procurement activities under various categories in consultation with project management team, assist the project

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
			• Ported projects will be an added advantage. • Preferably fully conversant with Green Climate Fund procurement policies, Guidelines and procedures evidenced by her/his involvement in procurement functions under GCF financed projects. • Training certification in public procurement, anti-corruption and compliance is preferable. • Demonstrated computer skills in Microsoft Office applications including Word, Excel, PowerPoint, and Outlook • Output/result and teamwork oriented; • Strong written and oral presentation skills in English and Nepali are required.	management team on deciding optimal procurement/ selection methods, including slicing and packaging, where necessary, and carry out market survey to prepare realistic cost estimates to carry out the identified activities; • Preparation General Procurement Notice (GPN), Procurement Plan, and update periodically; • The Consultant shall assist in uploading/ updating the procurement plan/documents and all procurement processes on the system on a real time basis; Assist PMT (Project Management Team) in proceeding with procurement activities including advertising, pre-qualifying and short listing etc.; • Prepare procurement related documents such as Bidding Documents (SQ, NCB or ICB), Terms of Reference (ToR), Expression of Interest (EoI), Request for Proposals (RFP) required for the procurement of goods, works, non-consulting services, or consulting services; • Assist PMC to conduct pre-bid/pre-proposal meetings, prepare PMC response on queries sought from potential bidders, assist PMC in preparing and issuing clarification/ addendums, when necessary; • Assist PMC in receiving and opening of bids/proposals, evaluation of the bids/proposals (Technical, Financial and Combined) and preparation of evaluation reports; • Assist PMC in finalizing contract documents for approval and contract signing; • Prepare training materials for project staff and beneficiaries about procurement, and carry out training activities on

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
				procurement to concerned people (employee) of FP 172, beneficiaries and NSPs; • Support in monitoring to prepare quarterly progress reports to be submitted to FP 172 and Donor Agencies; • Coordinate with other on-going programs in Nepal that has direct and indirect implication with RE related; • Assist regarding issuing variation orders, contract extension and termination of contract; • Any other tasks assigned by the head of the procurement unit and project coordinator; • Manage different types of securities relating to the procurement (Bid Security, Performance Security, Advance Payment Securities, Retention and Professional Liability Insurance etc.); • Establish procurement documentation system; • The Consultant shall assist in maintaining records and other documentations required for audit, procurement post reviews and progress reporting purposes; • Assist FP172 in addressing/handling procurement related complaints; • Managing eProcurement system through eGP portal. • Prepare Monthly, Quarterly and Annual Progress Report. • Prepare and update the procurement plan

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
				• Any other task assigned by the Project Coordinator and the PMC.
4	Energy Officer (PIU)	2	• Bachelor's degree in Electrical/ Mechanical/ Civil/Agriculture/Electronics and Communication/ Industrial/Environment Engineering or relevant discipline with minimum three years' experience in renewable energy sector. • Demonstrated skills in CCS technology and coordination, energy plan preparation and demand supply measurement. • Knowledge of quality assurance mechanism, testing procedures and national and international technical standards of CCS technologies. • Demonstrated experience on working with different associations and LGs in Nepal would be an advantage. • Knowledge of specific gender issues in RE and sensitivity to local culture and traditions. • Experience in designing and implementing private sector capacity building and in training national and sub-national staff. • Ability to build and maintain relationships, particularly interacting productively, proactively, and comfortably with municipality staff, community leaders, government agencies, NGOs, private sector.	• Reviewing the received application for CCS technology as aimed by GCF projects in line with the prepared evaluation guidelines. • Review the LGs selection criteria and identification and verify the LGs for proceed to MoU. • Checking of specifications of the CCS technology as mentioned in GCF FP172 and assure the quality of such product, bought out items including after sales services and budget estimates. • Maintain a track record of the individual LGs and administer the projects for subsidy proceedings when the documentation is complete. • May need to visit the field/site to verify the parameters mentioned in the CCS request form of respective LGs for selected program. • Maintain proper documentation of the CCS technologies, database and other associated activities. • Liaise with the PPMU and concerned stakeholders as and when necessary. • Assist in organizing training and capacity building activities. • Any other task assigned by the Project Coordinator and the PMC.

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
			• Demonstrated strong written and oral communication, interpersonal and negotiation skills. • Demonstrated computer skills in MS Office applications including Word, Excel, PowerPoint, and Outlook. • Output/result and teamwork oriented • Participated in relevant trainings. • Strong written and oral presentation skills in English and Nepali are required.	
5	Engineer (PIU) *Recruitment from AE fee	2	• Bachelor's degree in Electrical/ Mechanical/ Civil/Agriculture/Electronics and Communication/ Industrial/Environment Engineering or relevant discipline with minimum three years' experience in renewable energy sector. • Demonstrated skills in CCS technology and coordination, energy plan preparation and demand supply measurement skill are required. • Prior experience on working with different associations, municipalities would be an advantage. • Knowledge of specific gender issues in RE and sensitivity to local culture and traditions in Nepal. • Experience in designing and implementing private sector capacity building and in training national and sub-national staff.	• Reviewing the received application for CCS technology as aimed by the project in line with the prepared evaluation guidelines. • Review the LGs selection criteria and identification and verify the LGs for proceed to MoU. • Maintain a track record of the individual LGs administer the projects for subsidy proceedings when the documentation is complete. • May need to visit the field/site to verify the parameters mentioned in the CCS request form of respective LGs for selected program. • Maintain proper documentation of the CCS technologies, database and other associated activities. • Liaise with the PPMU and concerned stakeholders as and when necessary.

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
			• Ability to build and maintain relationships, particularly interacting productively, proactively, and comfortably with municipality staff, community leaders, government agencies, NGOs, private sector. • Demonstrated strong written and oral communication, interpersonal and negotiation skills. • Demonstrated computer skills in MS Office applications including Word, Excel, PowerPoint, and Outlook. • Output/result and teamwork oriented • Participated in relevant trainings. • Strong written and oral presentation skills in English and Nepali are required.	• Assist in organizing training and capacity building activities. • Any other task assigned by the Project coordinator
6	Province Coordinator (PPMU)	4	• Bachelor's degree in Electrical/ Mechanical/ Civil/Agriculture/Electronics and Communication/ Industrial/Environment Engineering or relevant discipline with minimum three years' experience in renewable and must have at least two years' track record of work experience on CCS technologies. • The candidate should also have demonstrated skills in CCS technology and coordination, energy plan preparation and demand supply measurement skill are required.	• Assist the Bioenergy section and the Provincial and Local Government in day-to-day activities related to CCS technology, beneficiary verification, and overall execution of activity plans related to respective province. • Beneficiary Screening and verification of LGs. • Regularly ensure adequate follow-up, monitoring and reporting of program activities with monitoring and reporting team at centre. • Regularly follow up and monitor the implementation progress of the on-going subprojects

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
			• Demonstrated experience on working with different clean cooking associations and LGs in Nepal would be an advantage. • Knowledge of specific gender issues in renewable energy and sensitivity to local culture and traditions in Nepal. • Ability to build and maintain relationships, particularly interacting productively, proactively, and comfortably with municipality staff, community leaders, government agencies, NGOs, private sector groups. • Demonstrated strong written and oral communication, interpersonal and negotiation skills. • Demonstrated computer skills in MS Office applications including Word, Excel, PowerPoint, and Outlook. • Output/result and teamwork oriented • Participated in relevant trainings. • Strong written and oral presentation skills in English and Nepali are required.	• Coordinate/facilitate the Project Coordinator and Monitoring Officers in implementing the project activities in their respective provinces. • Assist for Gender and Social Inclusion (GESI) mainstreaming; and climate and carbon. • Ensure GESI issues are addressed in executing program activities. • Work in close cooperation with other programs of AEPC and other rural energy programs/projects of AEPC and ensure teamwork and coordination. • Coordinate with other on-going programs in Nepal that has direct and indirect implication with clean cooking sector: general liaison for sector development; • Any other tasks assigned by Project coordinator and the PMC to support in CCS project implementation. Coordination, Supervision of provincial staffs. • Market development plan of LGs. • Outreach materials to attract Government entities like Province Entity, LGs, Ward office of LGs, etc. enhance of CCS technologies. • Advertisement and make province, LGs and beneficiary understandable about benefits of CCS Technologies. • MoUs, Memos and minutes. • Prepare training/orientation reports to CCS Program.

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
				• Prepare and submit provincial periodic progress reports and project completion reports • Prepare and submit financial verification reports • Plan/participate in relevant trainings/orientations • Any other task assigned by the Project Coordinator.
7	Province Energy Officer (PPMU)	4	• Bachelor's degree in Electrical/ Mechanical/ Civil/Agriculture/Electronics and Communication/Industrial/Environment Engineering or relevant discipline with minimum three years' experience in renewable energy sector. • Demonstrated skills in CCS technology and coordination, energy plan preparation and demand supply measurement skill are required. • Prior experience on working with different associations, municipalities would be an advantage. • Knowledge of specific gender issues in RE and sensitivity to local culture and traditions in Nepal. • Experience in designing and implementing private sector capacity building and in training national and sub-national staff. • Ability to build and maintain relationships, particularly interacting productively, proactively, and comfortably with municipality staff, community leaders, government agencies, NGOs, private sector.	• Reviewing the received application for CCS technology as aimed by the project in line with the prepared evaluation guidelines. • Review the LGs selection criteria and identification and verify the LGs for proceed to MoU. • Maintain a track record of the individual LGs and administer the projects for subsidy proceedings when the documentation is complete. • May need to visit the field/site to verify the parameters mentioned in the CCS request form of respective LGs for selected program. • Maintain proper documentation of the CCS technologies, database and other associated activities. • Liaise with the PPMU and concerned stakeholders as and when necessary. • Assist in organizing training and capacity building activities. • Any other task assigned by the Provincial Coordinator, Project Coordinator and province coordinator.

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
			• Demonstrated strong written and oral communication, interpersonal and negotiation skills. • Demonstrated computer skills in MS office applications including Word, Excel, PowerPoint, and Outlook. • Output/result and teamwork oriented • Participated in relevant trainings. • Strong written and oral presentation skills in English and Nepali are required.	
8	Office Support Staffs *Recruitment from AE fee	10	• Intermediate degree in any discipline with one year of administrative experience. • Demonstrated strong written and oral communication, interpersonal and negotiation skills. • Demonstrated computer skills in MS office applications including Word, Excel, PowerPoint, and Outlook. • Demonstrated office management system and procedures. • Output/result and teamwork oriented • Good knowledge in reporting, administrative writing, organizing/analyzing information, supply management, inventory control etc. • Strong written and oral presentation skills in English and Nepali are required.	• Provides administrative support to ensure efficient operation of office. • Answers phone calls, schedules meetings and supports visitors. • Carries out administrative duties such as filing, typing, copying, binding, scanning etc. • Completes operational requirements by scheduling and assigning administrative projects and expediting work results. • Makes travel arrangements for senior staff such as booking flights, cars, and hotel or restaurant reservations. • Exhibits polite and professional communication via phone, e-mail, and mail. • Supports team by performing tasks related to organization and strong communication.

SN	Position	Nos.	Education and Experience	Roles and Responsibilities
				• Develops administrative staff by providing information, educational opportunities, and experiential growth opportunities. • Ensures operation of equipment by completing preventive maintenance requirements, calling for repairs, maintaining equipment inventories and evaluating new equipment and techniques. • Provides information by answering questions and requests. • Maintains supplies inventory by checking stock to determine inventory level, anticipating needed supplies, placing and expediting orders for supplies. • Contributes to team effort by accomplishing related results as needed.

(B) Clean Cooking Solutions Mobilizer

At least 150 CCS mobilizers, preferentially women will be mobilized in the project area. The CCS mobilizer will be trained to help in raising awareness on benefits of CCS, facilitate in bottom up need assessment and in designing bespoke technical assistance and capacity development programme for respective LGs.

SN	Position	Education and Experience	Roles and Responsibilities
1	CCS Mobilizer	• Intermediate degree in any discipline with minimum of three years' experience in community mobilization/campaign and renewable energy will be given priority consideration and Priority given to women and for indigenous community group. • Demonstrated computer skills in Microsoft Office Suite applications including Word, Excel, and PowerPoint etc. • Output/result and teamwork oriented • Participated in relevant trainings. • Strong written and oral presentation skills in English and Nepali are required. • Fluent Local language skills.	• Advocacy of health and socio-economic benefits with good understanding of the possibilities and tactics for influencing decision • Ability to communicate effectively with a wide range of audiences at local, provincial and national levels • Build and maintain relationships with partner agencies (government, Private sector, NGO and civil society). • Assist LGs in beneficiary identification • Record keeping and data management

(C) Clean Cooking Champions

At local level, the project will identify 450 clean cooking champions (60% women targeted; 3 at each local government) who will be trained to provide installation, repair and maintenance services of the technologies and will also be the advocates of technologies. The champions will also provide support to CCS Mobilizers.

SN	Position	Education and Experience	Roles and Responsibilities
1	CCS Champions	• Minimum of a year experience in community mobilization/campaign and renewable energy will be given priority consideration and Priority given to women and for indigenous community group representation. • Demonstrated computer skills in Microsoft Office Suite applications including Word, Excel, PowerPoint, and Outlook. • Output/result and teamwork oriented • Participated in relevant trainings. • Strong written and oral presentation skills in English and Nepali are required • Fluent Local language skills	• Advocacy of health and socio-economic benefits with good understanding of the possibilities and tactics for influencing decision • Ability to communicate effectively with a wide range of audiences at local, provincial and national levels • Build and maintain relationships with partner agencies (government, Private sector, NGO and civil society). • Assist LGs in beneficiary identification • Record keeping and data management • Provide installation, repair & maintenance services of the technologies • Assist and advocate communities/users for proper use of technologies, best practices, behavior change etc.

ANNEX 6: TECHNICAL SPECIFICATIONS

Technical Specification of Electric Cookstoves

SN	Description	Specification
1	Type	Cookstove-Single Pot
2	Rated Power	2000W
3	Keypad Power Mode Range for different cooking functions	100-2000W
4	Frequency	50 Hz
5	Rated voltage (Max)	250V
6	Power factor	0.8 lag to 0.95 lead
7	IGBT over heat protection	Yes
8	Efficiency	82% or above
9	Leakage Current	Shall not exceed 0.21mA, should not spread on the surface of induction hub
10	Top plate (hob)	A grade crystal glass plate
11	Supply cord (to connect to electricity mains)	3 core of minimum 1 mm^2 copper cable of a minimum of 1 m length
12	Cooking zone	Single with limitative marking on the surface of the hob
13	Control part for adjusting the power or temperature respectively of a **cooking zone**	Push-button/Touch button
14	Timer Function	Yes
15	Child lock function	Yes
16	Pan detector	Yes
17	Top control	Yes, digital display
18	Quick start function	Yes
19	Cooking functions	5 or more
20	Power and temperature setting	Yes
21	Warranty	minimum 1-year replacement warranty
22	Product identification	Unique serial number
23	Certification Requirements	IEC 60335-1 /NS 564 Bidder must provide certificates from an accredited independent laboratory

Technical Specifications of Electric Cookstoves Installation

SN	Description	Specification
1	**Power Socket**	
	Voltage	230 V
	Current	Minimum 20 A
	Type	3 Pin, compatible with the power cord of induction stove
	Additionalities	Switch and indicator light
	Standard	Must comply with Indian Standards (ISI)
	Quantity	1 for one household
2	**MCB**	
	Voltage	230 V
	Current	16 A

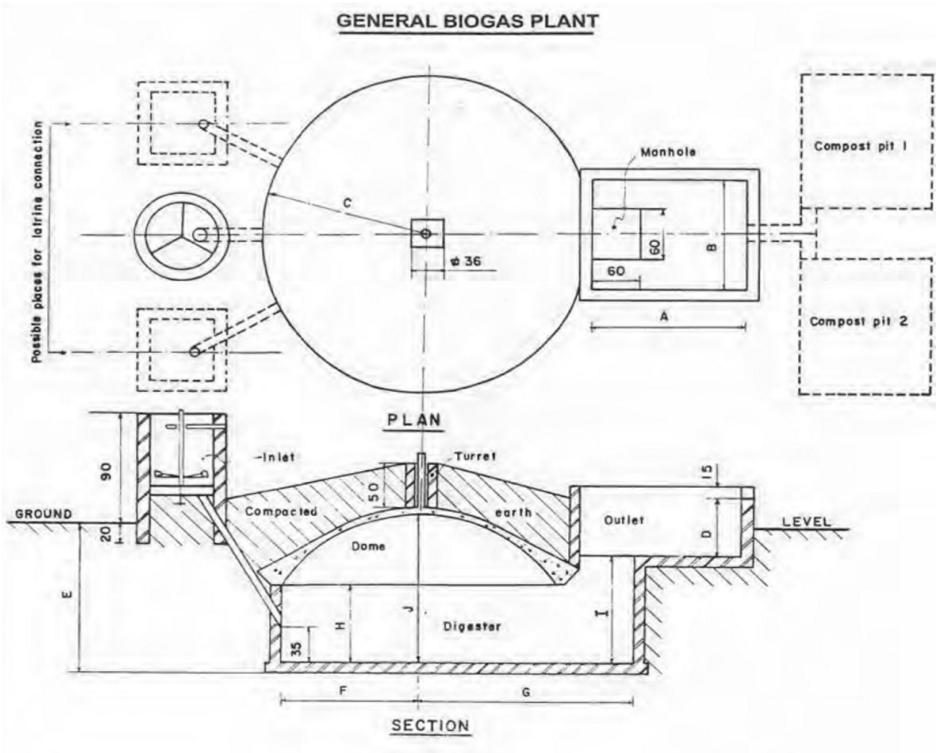
	Trip Curve	'C'
	Type	Double Pole with MCB Box
	Standard	Must comply with Indian Standards (ISI)
	Quantity	1 for one household
3	**Wire**	
	Type	Copper, multi-strand of size 7/22 i.e. 2.5 mm2 cross-section
	Current rating	Minimum 22 A
	Insulation thickness	Minimum 0.8 mm
	Standard	Must Comply with Nepalese Standards (NS)
	Quantity	10 m (20 m single wire) for one household
4	**Cord Cover**	
	Size	1"
	Type	PVC
	Standard	Must Comply with Nepalese Standards (NS)
	Quantity	10 m for one household

Technical Design of GoberGas Company (GGC) 2047/ Modified GGC 2047

- Fixed Dome type Bio Digester
- Available in 2, 4, 6, and 8 m^3 digester capacities
- Digester Wall (Brick wall or (Reinforced Cement Concrete) RCC wall)
- RCC moulded Fixed Dome gas Chamber (QC using Slump test)
- 60 mm Cover Blocks of PCC
- Gas Pipeline with good grade GI pipes
- Inlet Pit (with/ without toilet attachment)
- Consists of separate Compost Pits and Water Drain Pits
- Compost pits with a capacity equivalent to Biodigester
- Sloped bottom, baffle wall to improve slurry mixing and retention

Biodigester wall (under construction)

(Source: GGC 2047 Construction manual, AEPC/NRREP 2013)



Detailed parametric drawing of GGC 2047 (Source: GGC 2047)

Technical Specifications of Tier 3+ Improved Cooking Stoves:

ISO-IWA WBT Tier Criteria for ICS

IWA WBT tier Criteria	**Units**	**Tier 0**	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 4**
High power Thermal Efficiency	%	<0.15	≥0.150	≥0.250	≥ 0.350	≥ 0.450
Low Power Specific Consumption	MJ/min/L	>0.05	≤0.05	≤0.039	≤ 0.028	≤ 0.017
High Power CO	g/MJ_d	>16	≤16	≤11	≤ 9	≤ 8
Low Power CO	g/min/L	>0.2	≤0.2	≤0.13	≤ 0.1	≤ 0.09
High Power PM	mg/MJ_d	>979	≤979	≤386	≤ 168	≤ 41
Low Power PM	mg/min/L	>8	≤8	≤4	≤ 2	≤ 1
Indoor Emissions CO	g/min	>0.97	≤0.97	≤0.62	≤ 0.49	≤ 0.42
Indoor Emissions PM	Mg/min	>40	≤40	≤17	≤ 8	≤ 2
Safety	Johnsons	<45	≥45	≥ 75	≥ 88	≥ 95
Highlighted in green are mandatory Performance parameters as per NIBC 2016.						

Sample Tier 3+ Cookstove

RETS ID	Manufacturer Details	Cookstove Model/Type/Fuel	Performance Parameter	Values	Tier 3+	Picture
ICS1173	Mimi Moto BV, The Netherlands	Forced Draft/Metallic/One Pot/Gasifier Stove Model Mimi Moto	High power Thermal Efficiency	49.39%	√	
			High Power CO	2.07 g/MJ_d	√	
			High Power PM	55.45 mg/MJ_d	√	
			Safety	98 Johnsons	√	

ANNEX 7: QUESTIONNAIRES

Alternative Energy Promotion Centre

Observations for on-site monitoring of Electric cookstove for CCS Project

Name of house owner: Household size:

Address

Phone number:

Technical parameters:

1. Unique serial number :
2. Reliable supply of electricity (Grid connection) : Yes No
3. MCB current capacity : Above 16 amp Below 16 amp
4. Top plate crystal glass condition : Good Cracked Broken
5. Supply cord Length : Less than 1 meter 1 meter Above 1 meter
6. Push / touch button operations: All operational Non-operational
   ……Indicate name ……
7. Top control display : Operational Non-operational
8. Fan : Operational Non –operational
9. Actual power consumed to boil 1.5 liters of water …….. W
-
10. Deviation from rated power: ± …….. W
11. External body damages (if any) …….

- Mitigation impact

1. Before ECS, what was/were the means of cooking?
-

Firewood based mud stove	Firewood based improved stove	LPG
Biogas	Dung cake	

-
2. Is ECS, after adoption, primary mode of cooking? Yes No
3. Number of stoves utilization days per week …….

4. Number of utilization hours per day ……..

5. When ECS is only mode of cooking, approximate monthly decrement in amount of fuel in comparison to previous traditional cooking pattern :
   firewood …… kg Dung cake ….. kg

6. Approximate monthly reduction in amount of firewood (firewood and ECS fuel mix) ……kg

7. Approximate monthly reduction in dung cakes (ECS and dung cake fuel mix) …… kg

- Adaptation benefits

-

1. Cooking time reduction (per day) after use of ECS compared to previous technology

   < half hour about half hour more than half hour One hour > one hour

2. Reduced time spent in fire wood collection (per day) after adoption of ECS

   < half hour about half hour more than half hour One hour > one hour

3. Which of the following activities are performed, especially by women /girls/children, utilizing the reduced time for cooking and firewood collection?

   Income generating activities Skill training

   Increase in girls' school enrollment more time spent at school

   Improvement in school attendance better school achievements

   Better infant and child care

4. Do any family member have respiratory illness (like asthma, pneumonia, respiratory tract infections etc.) due to prolonged exposure to smoke and gases from previous traditional cooking technologies : Yes No
   If yes,

   Has there been alleviations in respiratory illnesses after usage of ECS? Yes No

5. Approximate monthly cooking cost in terms of electricity bills NRs ……..

6. Rate ECS in terms of ease to use based on following qualitative measures;

-

- Poor Good Better Excellent

Alternative Energy Promotion Centre

Observations for on-site monitoring of domestic biogas for CCS Project

Name of house owner: Household size:

Address

Phone number:

Technical parameters:

1. Dome gas pipe serial number :
2. No of cattle/livestock :

3. Gas leakage in valves and pipe connections from dome gas pipe to kitchen gas tap :
   Yes No

   Gas leakage from water drainage : Yes No
4. Burner blockage : Yes No
5. Gas pressure : …… psi

- Mitigation impacts

1. Before biogas, what was/were the means of cooking?

-

Firewood based mud stove	Firewood based improved stove	LPG
Electric cookstove	Dung cake	

-

2. Is biogas, after adoption, primary mode of cooking? Yes No

3. Number of stoves utilization days per week ……

4. Number of utilization hours per day ……..

5. When biogas is only mode of cooking, approximate monthly decrement in amount of fuel in comparison to previous traditional cooking pattern :
   firewood …… kg Dung cake …... kg

-

6. Approximate monthly reduction in amount of firewood (firewood and biogas fuel mix) ……kg

-

7. Approximate monthly reduction in dung cakes (biogas and dung cake fuel mix) …… kg

-

8. Approximate monthly reduction in number of LPG cylinders (biogas and LPG fuel mix) …….

-

- Adaptation benefits

1. Reduced time spent in fire wood collection (per day) after adoption of biogas
-
   - < half hour about half hour more than half hour One hour > one hour

2. Which of the following activities are performed, especially by women and children, utilizing the reduced time for cooking and firewood collection?

   Income generating activities Skill training

   Increase in girls' school enrollment more time spent at school

   Improvement in school attendance better school achievements

   Better infant and child care

3. Do any family member have respiratory illness (like asthma, pneumonia, respiratory tract infections etc.) due to prolonged exposure to smoke and gases from previous traditional cooking technologies : Yes No

   If yes

   Has there been alleviations in respiratory illnesses after usage of biogas? Yes No

4. Rate biogas in terms of ease to use based on following qualitative measures;
-
- Poor Good Better Excellent

Alternative Energy Promotion Centre

Observations for on-site monitoring of Tier 3+ ICS for CCS Project

Name of house owner: Household size:

Address

Phone number:

Technical parameters:

1. Serial number :
2. Availability of firewood : Yes No
3. Thickness of inner metallic sheet …….
4. Combustion chamber length ……
5. Combustion chamber material : Stainless steel Mild steel
6. Fan : operational Non operational
7. Outer wall temperature : ……. ° C

- Mitigation impacts

1. Before ICS, what was/were the means of cooking?

-

Firewood based mud stove	Biogas	LPG
Electric cookstove	Dung cake	

-

2. Is ICS, after adoption, primary mode of cooking? Yes No
3. Number of stoves utilization days per week …….
4. Number of utilization hours per day ……..
5. When ICS is only mode of cooking, approximate monthly decrement in amount of fuel in comparison to previous traditional cooking pattern :
   firewood …… kg Dung cake …... kg

-

6. Approximate monthly reduction in dung cakes (ICS firewood and dung cake fuel mix) …… kg

-

7. Approximate monthly reduction in number of LPG cylinders (ICS firewood and LPG fuel mix) …….

- Adaptation benefits

1. Reduced time spent in fire wood collection (per day) after adoption of ICS

-

- < half hour about half hour more than half hour One hour > one hour

2. Which of the following activities are performed, especially by women and children, utilizing the reduced time for cooking and firewood collection?

   Income generating activities Skill training

   Increase in girls' school enrollment more time spent at school

   Improvement in school attendance better school achievements

   Better infant and child care

3. Do any family member have respiratory illness (like asthma, pneumonia, respiratory tract infections etc.) due to prolonged exposure to smoke and gases from traditional cooking technologies : Yes No

   If yes

   Has there been alleviations in respiratory illnesses after usage of biogas? Yes NO

4. Rate ICS in terms of ease to use based on following qualitative measures;

-

   Poor Good Better Excellent