



**Alternative Energy Promotion Centre**  
**National Rural and Renewable Energy Programme**  
**(NRREP)**

**Inception cum Semi Annual**  
**Progress Report**  
(July 2012 –March 2013)

**April 2013**

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## Abbreviations

EPC	Alternative Energy Promotion Centre
ADB	Asian Development Bank
AW&B	Annual Work Plan and Budget
BDS	Business Development Service
BEE	Biomass Energy Engineer
BMO	Business cum Mobilization Officers
CDM	Clean Development Mechanism
CCS	Clean Cooking Solution
CCU	Climate Carbon Unit
CEDBL	Clean Energy Development Bank Limited
CPA	CDM Programme of Activities
CREF	Central Renewable Energy Fund
DAG	Disadvantaged Groups
DCEP	District Climate and Energy Plan
DDC	District Development Committee
DEES	District Energy and Environment Section
DEEU	District Energy and Environment Unit
DGPS	Differentially corrected GPS
DIFID	UK Department for International Development
DoED	Department of Electricity Development
EOI	Expression of Interest
ER	Emission Reduction
ESAP	Energy Sector Assistance Programme
FNCCI	Federation of Nepal Chamber and Commerce Industry
FY	Fiscal Year
GIS	Geographical Information System
GIZ	Germany Cooperation Programme
GoN	Government of Nepal
GPS	Global Positioning System
GESI	Gender and Social Inclusion
HH	Household
ICS	Improved Cooking Stove
GA	Income Generating Activities
IICS	Institutional Cooking Stove
IoE/TU	Institute of Engineering/Tribhuvan University
IAP	Indoor Air Pollution
ISPS	Institutional Solar PV System
IWM	Improved Water Mill
IWMCF	Improved Water Mill Credit Fund
kW	kilo Watt
kWh	kilo Watt hour
LAPA	Local Adaptation Plan of Action
LCEDS	Low Carbon Economic Development Strategy
LDO	Local Development Officer

LED	Light Emitting Diodes
LFA	Logical Framework Approach
LPO	Local Partner Organisation
M & E	Monitoring and Evaluation
MEDEP	Micro Enterprises Development Programme
MHP	Micro Hydro Plant
MICS	Metallic Improve Cooking Stove
MIS	Management Information System
MIRMS	Management Information Reporting and Monitoring System
MoSTE	Ministry of Science, Technology and Environment
MoE	Ministry of Energy
MoFALD	Ministry of Federal Affairs and Local Development
MoU	Memorandum of Understanding
MQA	Monitoring and Quality Assurance
MSME	Medium, Small and Micro Enterprise
MW	Mega Watt = 1,000 kW
NAST	Nepal Academy of Science and Technology
NEA	Nepal Electricity Authority
NEEP	Nepal Energy Efficiency Programme
NEFEJ	Nepal Forum for Environmental Journalist
NGO	Non Governmental Organisation
NEPQA	Nepal Photo Voltaic Quality Assurance
NPR	Nepalese Rupee
NRREP	National Rural and Renewable Energy Programme
O&M	Operations and Maintenance
PA	Project Activity
PDD	Project Design Document
PCC	Project Completion Certificate
PEU	Productive Energy Use
PoA	Programme of Activities
PPP	Private Public Partnership
PQ	Pre Qualified
PREIP	Plant Rehabilitation and Efficiency Improvement Project
PV	Photo Voltaic (electricity generating technology)
PVPS	Photo Voltaic Pumping System
PSC	Programme Steering Committee
QA & M	Quality Assurance and Monitoring
RE	Renewable Energy
RECCP	Renewable Energy for Climate Change Programme
REF	Rural Energy Fund
RERL	Renewable Energy for Rural Livelihood
RET	Renewable Energy Technology
RETS	Renewable Energy Test Station
RSC	Regional Service Centre
R&D	Research and Development
RRESC	Regional Renewable Energy Service Center

SAF	Subsidy Application Form
SEMAN	Solar Electricity Manufacturer’s Association Nepal
SESC	Solar Energy Subcomponent
SGBP	Saheri Gharelu Biogas Plants
SHS	Solar Home System
SNV	Netherland Development Organization
SOD	Strategic and Organizational Development
SREP	RE scaling up project
SSHS	Small Solar Home System
TA	Technical Assistance
TOR	Terms of References
TOT	Training of Trainers’
TRC	Technical Review Committee
TWG	Thematic Sector Working Group
UK	United Kingdom
ULAB	Used Lead-Acid Battery
UNCDF	United Nations Capital Development Fund
UNFCCC	United Nations Framework Convention for Climate Change
UNDP	United Nations Development Programme
USD	United States Dollars
VDC	Village Development Committee
VVS	Validation and Verification Standards
Wp	Watt peak
WOCAN	Women Organizing for Change in Agriculture and Natural Resource Management
WWF	World Wildlife Fund

## Section one: Programme Overview

### 1.1 Salient features of the programme:

Programme start date	16 July 2012
Programme completion date	15 July 2017
Budget	USD 184 Million
Programme key targets	<ol style="list-style-type: none"> <li>1. Mini and Micro Hydro power 25,000kW <ul style="list-style-type: none"> <li>• Households benefiting from the community electrifications 150,000</li> </ul> </li> <li>2. Solar Home Systems 600,000</li> <li>3. Improved Cooking Stoves 475,000</li> <li>4. Household Biogas systems 130,000</li> <li>5. New MSMEs establishment 1,300</li> <li>6. Employment increased by MSMEs 19,000</li> <li>7. AEPC is recognized by stakeholders as an effective and efficient service institution for development of the Renewable Energy sector</li> </ol>
Programme components/sub component/units	<ol style="list-style-type: none"> <li>1. Central Renewable Energy Fund Component</li> <li>2. Business Development for Renewable Energy and Productive Energy Use component</li> <li>3. Solar Energy sub component</li> <li>4. Solid Biomass Energy sub component</li> <li>5. Biogas sub component</li> <li>6. Community Electrification sub component</li> <li>7. Institutional Support sub component</li> <li>8. Carbon and Climate Change Unit</li> <li>9. Monitoring and Quality Assurance Unit</li> <li>10. Gender and Social Inclusion Unit</li> </ol>
Development Partners	Denmark, Norway, DFID/UK, Germany, SNV, UNDP/UNCDF, ADB, The World Bank

- NRREP follows the single program modality. It will not be considered as a continuation (or a new phase) of any project/programs. It however takes-up the best practices of the past renewable and rural energy programme/projects. Its support package consists of financial resources, technical assistance and capacity building.
- The NRREP is firmly aligned to the existing and evolving GoN policy framework. The programme follows the GoN subsidy policy and subsidy delivery mechanisms. The M&E systems are aligned towards the GoN monitoring requirements.
- The NRREP adopts a strong focus on poverty reduction and mainstreaming GESI into the programme including awareness rising activities related to HIV/AIDS, gender based violence and trafficking.



- The NRREP envisions positive effects on environment and climate change in Nepal with due focus to increase and maximise carbon market revenue.
- Democratization and good governance are addressed in different ways into the programme. It works in coordination/collaboration with DDC/DEESs/RSCs, local organizations and private companies following the principles of PPP.
- It emphasizes decentralized energy systems, integrated programmes, environmental sustainability, partnership & coordination, research and technology transfer.
- The overall management of NRREP is carried out by the Programme Steering Committee chaired by Secretary, Ministry of Science, Technology and Environment. With AEPC being the executing agency, the NRREP Programme Director is the Executive Director of AEPC.
- Each component/sub-component is managed by a team led by a Programme Manager and the team is supported by National Advisor, and other programme staff.

## 1.2 Overall Progress Trends:

### 1.2.1 Physical Progress of key targets:

Sn	Activities	Unit	Annual Target	Achievement as of March 2013			
				On the basis of installation		On the basis of subsidy release	
1.	Mini/Micro Hydro Power	KW	4,000	1,702.4	43%	1,546.0	39%
		HHs	24,000	15,943	66%	-	-
2.	Improved Water Mill	No.	1,000	755	76%	755	76%
3.	Solar PV Home Systems	No.	80,000	63,552	79%	37,570	47%
4.	Small Solar PV Home Systems (Solar Tuki)	No.	25,000	2,041	8%	2,041	8%
5.	Institutional Solar PV Systems	No.	40	-	-	-	-
6.	Drinking Water Pumping Systems	No.	25	14	58%	13	52%
7.	Improved Cooking Stoves (ICS): Mud ICS* Metallic ICS	No.	88,000	83,216	95%	-	-
			7,000	1,977	28%	1,687	24%
8.	Domestic Biogas Plants	No.	22,000	47	0.2%	-	-
9.	Community Biogas Plants	No.	30	3	10%	-	-
10.	Institutional Biogas Plants	No.	40	20	50%	-	-
11.	Productive End-uses	No.	50 MHPs	15	30%	15	30%

\*There is no direct subsidy for Mud ICS

### 1.2.2 Overall status of Subsidy Disbursement:

Sn	Key activities	Annual budget (‘000 NPR)	Achievement	
			Disbursed amount (‘000 NPR)	%
1.	Mini/Micro Hydro Power	600,000	224,499	37%
2.	Improved Water Mill	22,000	14,404	65%
3.	Solar PV Home Systems	640,000	290,598	45%
4.	Small Solar PV Home Systems	50,000	4,082	8%
5.	Institutional Solar PV Systems	40,000	0	0%
6.	Drinking Water Pumping	25,000	13,000	52%
7.	Metallic Improved Cooking	28,000	6,411	23%
8.	Domestic Biogas Plants	320,000	0	0%
9.	Community Biogas Plants	1,440	0	0%
10.	Institutional Biogas Plants	540	0	0%
11.	Productive End-uses	15,000	2,760	18%
	<b>Total</b>	<b>1,741,980</b>	<b>555,755</b>	<b>32%</b>

### 1.2.3 ESAP II Expenses Status:

The table shows that the actual expenditure of ESAP-II during July 2012 - Dec 2012.

Fiscal Year 2069/70	
Areas	Amount (NPR)
Institutional Development	91,326,559
Subsidy Disbursement	516,375,284
Technical Support - Rural Energy Fund	6,139,559
Biomass Energy	56,215,460
Solar Energy	17,023,808
Micro- hydro	34,766,480
<b>Total</b>	<b>721,847,149</b>

Note: Total expense is equal to total budgeted amount of the period.

#### 1.2.4 NREEP Budget utilization:

(NRs)

<b>Particular/Component/Unit</b>	<b>5-years plan*</b>	<b>Annual Budget **</b>	<b>YTD Expenses</b>	<b>Budget Balance</b>	<b>Fund Utilization (%)</b>
Central Renewable Energy fund Component	9,923,394,000	1,842,260,000	523,703,806	1,318,556,194	28.43%
Technical Support Component	3,518,374,000	629,178,000	32,043,397	597,134,603	5.09%
Business Dev. For RE and productive Energy use	737,016,000	52,800,000	2,684,417	50,115,583	5.08%
NRREP Management	447,474,000	140,150,000	19,964,475	120,185,525	26.79%
Studies, audit, review	298,316,000				-
<b>Grand Total</b>	<b>14,924,574,000</b>	<b>2,664,388,000</b>	<b>578,396,095</b>	<b>2,085,991,904</b>	<b>21.71%</b>

#### Notes:

\* Since 5-years plan is forecasted in USD. It is converted into NRs applying Rs 87.74/USD (Source: 18 Jul 2012 -Nepal Rastra bank)

\*\*Annual budget is computed as per the budget allocations in the detailed work plan.

## 2 Section Two: Executive Summary

Government of Nepal established the Alternative Energy Promotion Centre (AEPC) in 1996 with the objective of developing and promoting renewable energy technologies in Nepal. In due course of time, it has positioned itself as an established national focal agency for the Renewable Energy sector development in Nepal. As the results of past learning of different programmes and projects, the GoN and development partners jointly agreed to support for the implementation of a National Rural and Renewable Energy Programme (NRREP) which follows single programme modality started from 16 July 2012 and will end on 15 July 2017 with 184 Million USD estimated budget.

The NRREP has been fully operational in terms of staffing. NRREP components/subcomponents/units are being led by AEPC managers who are supported by National Advisors and programme staff. The Bilateral agreements with Denmark and Norway, and Joint Financing Arrangement have been signed; compact arrangement has been signed by the TA providers (GiZ, UNDP and SNV). RE scaling up project (SREP) has made some progress in terms of drafting guidelines and implementation modality. The Subsidy Policy for Renewable Energy 2069 has been approved by GoN. Detail Subsidy Delivery Mechanism is in final stage for approval. The AEPC Strategic and Organizational Development (SoD) plan has been revisited, reviewed and rewritten. The final draft of the SoD has been prepared as a prime vehicle for institutional development. NRREP Administration and Financial Guidelines including all operational processes, Technical Assistance Pool Guidelines, Regional Service Centers Guidelines, and DEEU Guideline have been drafted. Key processes such as RSC selection, defining roles and responsibilities of DEES/DEEUs are underway. Renewable energy week 2013 was celebrated with great success and exceptional participation and media coverage arousing public awareness in renewable energy technologies. AEPC Staff Performance gap analysis has been conducted with common understanding and approval for learning aimed at filling identified gaps.

MQA and GESI have been successfully instituted with development of Operational Strategies (with outputs and success indicators). Some of the vital MQA processes have been started such as preparation of integrated MIS, NRREP result framework, programme baseline, verification mechanism (also known as random monitoring) and progress reporting mechanism. The assignment for preparation of GESI tool box has been outsourced; GAP analysis document is under the approval process. GESI related indicators are being incorporated in the NRREP result framework to ensure its integration in planning, monitoring and evaluation systems.

Utmost efforts was made to increase portfolio of Climate Change and securing additional finances for AEPC with finalizing proposal to Embassy of India titled “Renewable Energy for Climate Change Programme (RECCP)-3 Projects” planned for three years. AEPC/NRREP also engaged in preparing/finalizing documents for validation and registration of Nepal Biogas Support Program as ‘Programme of Activities (PoA)’ for CDM project under UNFCCC secretariat.

The concept of CREF, to institutionalize renewable energy funding mechanism, is at the final stage. The achievement on subsidy disbursement as of March 2013 is around 32% against the

plan. Conditional approval to 45 micro hydro projects having total capacity of 1.3 MW has been provided. Subsidy amounting to Rs. 202 million (based on old subsidy rate) has been committed to these MH projects.

A MOU has been signed between AEPC and FNCCI. This will help in carrying out PEU related activities in districts where FNCCI is operational. A guideline to implement PEU has been prepared to streamline PEU activities. During the reporting period, significant numbers of business plans have been prepared together with relevant training.

The NRREP has achieved moderate physical progress against the set annual target during the reporting period. The current progress of Micro hydro is 43%, water mill 76%, SHS 79%, SSHS 8%, solar drinking water projects 58%, mud ICS-95%, metallic ICS 28%, domestic biogas 0.2%, community biogas 10%, institutional biogas 50% and productive energy use 30%. Remaining works will be covered in the remaining part of the fiscal year.

Apart from specific targets, there are encouraging progresses in renewable energy sector in Nepal.

- Solar Energy activities are centered on promoting high quality and reliable SSHS, SHS, ISPS and SPDWPS. The Solar Energy Subcomponent activities are going on as per the annual work plan. Only major deviation under solar is that there is need to change the target for Solar Home System, Solar Photovoltaic Pumping System and Solar Thermal System.
- Renewal and PQ of biogas companies (32 new companies are recognized targeting to boost up their activities at low biogas constructed districts, 6 other companies are approved to work in the similar location, existing 54 companies are Pre-Qualified for current FY 2012/13. Activities are expedited on the promotion of Urban Domestic Biogas Plants. Orientation programme on waste to energy in 7 municipalities conducted. TORs related to waste to energy has been approved by World Bank and AEPC. Similarly, ToR related to business plan for large biogas systems and quality standardization of large biogas plants has been prepared.
- The Rt. Hon. Prime Minister has announced 'clean cooking solutions to all households of Nepal by 2017' (CCS 2017). This is a crucial milestone towards promoting biomass and other household energy solutions in Nepal which is touching us as a big challenges as well as an opportunity. Celebration of 500,000 plus ICS disseminated was organized on 18 July 2012 and awards & appreciations were distributed to different stakeholders, partners & partner staffs and Promoters/Stove Masters. Various relevant training and orientations programme were organized during the reporting period. Initiation of dialogues with NAST and RETS for establishment of biomass testing lab at RETS are other key milestones.
- Various processes under community electrification have been initiated. During this period, ToRs for respective sub activities prepared and procurement guideline preparation process initiated. No fund has been allocated for IWM in last two quarters. During the reporting period, 89 No. of micro/mini hydro projects equivalent to 1,702.4 kW benefiting 15,943 households have been commissioned. During the period 755 (out of 1000) numbers of Project Implementation certificate (PCC) has been processed and approved.

The government is in process of formulating acts and policies related to RE including the RE resource act, wind energy policy and 20 years RE perspective plan. The renewable energy sector and its actors remain fragmented and a sector wide consultation and consolidation remains a challenge. Although AEPC is actively coordinating the effort of development partners and private sector organizations, a closer collaboration among major actors still requires additional investment.

The lower progress against the targeted plan caused due to various reasons such as efforts required on closure of ESAP II by December 2012, recruitment for NRREP, approval of annual work plan, preparation of administrative & financial, and TA pool guidelines, selection of RSCs, delay in approval of new subsidy policy, establishment of CREF etc. However, AEPC effectively utilized the remaining funds form ESAP programme to establish the foundation, and combined budget utilization is satisfactory.

A total expense of ESAP during July to December is NRs. 721,847,149 which is same as the budgeted amount of the period. In the reporting period, total NRREP expenses is NRs. 578,396,095 till March 2013. That is budget utilization rate of NREEP is only 21.71% of the annual budget allocation. AEPC has designed risk management strategies for major operational challenges of fund utilization and accelerated implementation of agreed AWP&B. AEPC is continually working to improve the efficiency of NRREP. These efforts are beginning to show measurable results. Additional improvements are expected when new policy/delivery mechanisms are fully implemented. For detailed financial statement of the NREEP, please refer to the attached **Annexes 1-4**.

## 3 Section Three: Renewable Energy Sector Overview

### 3.1 Sector policy/strategies

The renewable energy sector in Nepal is guided by various legislations and policies framed by the Government of Nepal.

**Rural Energy Policy, 2006** - The overall goal of this policy is to contribute to rural poverty reduction and environmental conservation by ensuring access to clean, reliable and appropriate energy in the rural areas.

**Hydropower Policy, 2001** – The policy aims to render support to the development of rural economy by extending the rural electrification and to implement small, medium, large and storage projects for hydropower development.

**Subsidy for Renewable Energy 2006** - This policy was formulated to make the already existing subsidy policy equitable, inclusive and effective.

**Three Year Development Plan (2010/11-2012/13)** - The three year development plan of Alternative Energy Sector has the ambitious targets and programmes. The objective is to improve the living standard of rural people, increase employment and productivity, reduce dependency on traditional energy and attain sustainable development through integrating the alternative energy with the socioeconomic activities of rural communities. The main strategies of the plan are

- Emphasize the development and expansion of renewable energy under decentralized energy system.
- Give priority on integrated programs for improving the socioeconomic standard of rural people and environmental sustainability through alternative energy.
- Promote partnership and coordination with related stakeholders like local bodies, private sector etc. for the development and expansion of alternative energy.
- Develop the rural energy in consideration with sustainability and appropriateness.
- Give emphasis on research and technology transfer of alternative energy.

The plan has the target of providing electricity to additional 7 percent of the total rural population from alternative energy sources.

**Electricity Act 1992-** The Government of Nepal is in process of revising the subsidy policy, subsidy delivery mechanism and in process of developing a wind energy policy. These policy improvements are aimed to scale up adoption of renewable energy technology in Nepal.

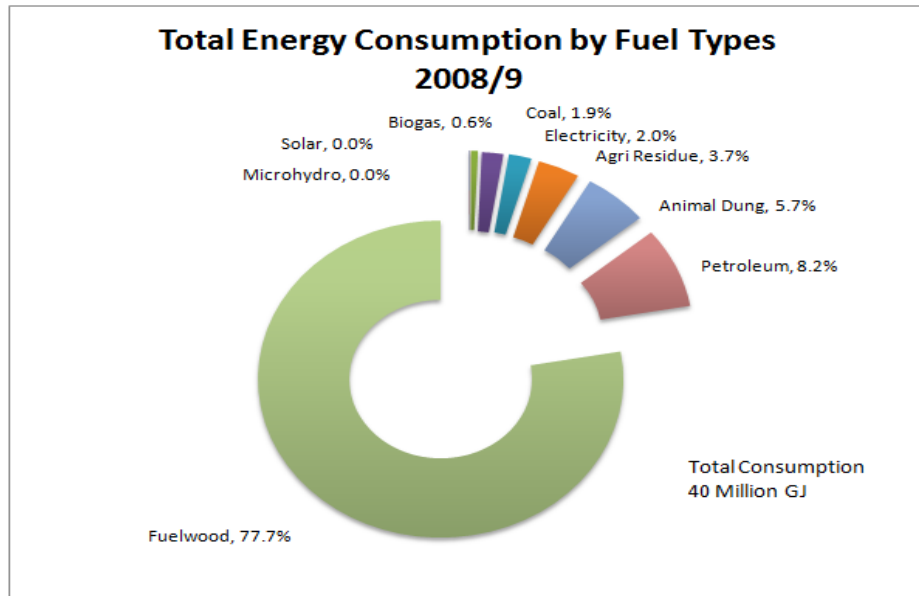
### 3.2 Sector Coordination

NRREP envisages greater role for AEPC to organize sector coordination in the field of renewable energy. The NRREP Coordination Committee comprises of the Ministry of Science, Technology and Environment, the National Planning Commission, the Ministries of Finance, Energy, federal Affairs and Local Development and Women & Social Affairs, a representative from each of the associations supplying Renewable Energy Technologies (Micro Hydro Power, Solar and Biogas), a representative from an organisation of women and socially excluded, a representative from the association of Village Development Committees, a representative from the private financial sector, a representative from the private sector with extensive knowledge on MSME development as well as a representative from each of the Development Partners

supporting NRREP. The AEPC Executive Director will be Member Secretary. This coordination committee can coordinate the renewable energy sector related to NRREP. But there is another informal forum called the Rural and Renewable Energy Partnership Forum chaired by the Secretary of the MoSTE, which is the right forum for the coordination of the sector.

### 3.3 Current national coverage estimates

Recent national statistics in terms of energy mix of Nepal is not present. Existing national statistics of 2008/9 show marginal penetration of renewable energy technologies in the energy mix.



Source: WECS (2010)

### 3.4 Sector challenges

Major challenges that the sector faces are:

**Policy instrument:** Although the government is in process of designing acts and policies related to RE including the RE act, delivery mechanism, wind policy, 20 years RE perspective plan; these policy instruments are still not finalized.

**Sector steering:** The renewable energy sector and its actors remain fragmented and a sector wide consultation and consolidation remains a challenge. Although AEPC is actively coordinating the effort of development partners and private sector organizations, a closer collaboration among major actors still requires additional investment.



## 4 Section Four: Program Updates

### 4.1 Central Renewable Energy Fund Component

#### 4.1.1 Update of key processes:

##### Approval of Intermediation mechanism:

The CREF has been approved as a financial intermediation mechanism by AEPC Board and NRREP Programme Steering Committee as documented 'CREF Financial Intermediation Mechanism' dated 7 March 2013 which paves the way for the establishment of the Central Renewable Energy Fund (CREF) as the main vehicle for the delivery of subsidy and credit support to renewable energy sector. For further details of the CREF Financial Intermediation Mechanism refer to Annex 1 of this report.

The Central Renewable Energy Fund (CREF) is a joint financial intermediation mechanism of the Government of Nepal and external development partners with long-term perspective of being sustainable in RE sector. It is envisaged that the CREF will be established in the beginning of next fiscal year.

- Subsidies should in the long-term be phased out and replaced by credit facilities and the management of credit facilities will be the responsibility of the private sector;
- As the core financial mechanism for the RET sector, CREF should be autonomous with its own mandate and well-defined management structures.
- In order to gradually achieve self-financing and long-term sustainability CREF should be allowed to place surplus funds in secure/low risk investments and thereby generate a source of income - applying the principles of an endowment fund;
- Retained earnings/surpluses should be fully re-invested within CREF in order to allow it to expand and consolidate its financial position;
- The legal and institutional foundation should be acceptable to the Government of Nepal as well as to all development partners for CREF managing grants as well as loan schemes e.g. from World Bank and ADB;
- The autonomy of CREF should allow it sufficient freedom in its operations with the objective of widely promoting access to financial services for the RET sector, e.g. open and transparent selection of partner financial institutions for the retailing of REF credit schemes; and
- The success of CREF will to a great extent hinge on the quality and competence of the management structure put in place for CREF as well as the management team and the staff.

#### 4.1.2 Achievements against planned outputs, targets and program principles

**Output 1: CREF established and operational as the core financial institution for the effective delivery of subsidies and credit support to the renewable sector**

- The CREF Senior Adviser started working on establishment and organizational development of CREF from the beginning of August 2012.

- The CREF financial intermediation mechanism has been developed and got it approved by AEPC Board and NRREP Programme Steering Committee. The CREF Financial Intermediation Mechanism will be implemented through private commercial and development banks selected on a transparent and competitive basis in accordance with well-defined eligibility criteria.

The following guiding design principles have been set out to determine the optimal institutional and legal framework for CREF.

- A conceptual framework of CREF Financial Intermediation Mechanism has been developed showing all relevant institutions associated with CREF. This conceptual frame work is shown in schematic form as below:
- The CREF Financial Intermediation Mechanism has been included in the RE delivery mechanism which is being approved by the government.
- Terms of reference for consultant to develop detailed documentation for the participating financial institutions, operational and management guidelines for subsidy management, credit operations and investment management has been prepared and agreed upon by AEPC and external development partners. The consultants are expected to start their work in May 2013.
- In order to formalise and establish full fledge CREF, the following Process Action Plan is established.

**Output 2: *Efficient and effective delivery of credit to RET sector through banks and MFIs***

- Under CREF/Credit for FY 012/13 AWP, majority of time was devoted to establishment of CREF as the mechanism. Meetings were conducted with Banks, relevant officials and donor communities in order to arrive at the final document.
- Tendering of partner banks was done for the administration of Improved Water Mill Credit Fund. IWMCF is a revolving fund of US\$ 400,000 which is to be provided to a competitively selected bank (Clean Energy Development Bank).
- Orientation to the potential MHPs were done here at AEPC so that they are better informed about the bank procedures for approving loans. Such MHPs approached AEPC for the necessary help.
- During the reporting period, bio-gas credit study has been initiated. The objective is to assess the different financial modalities of credit flow in installation of biogas plants, assess the lending policies and strategies of Financial Institutions for financing RET in general and biogas in particular, conduct a survey in order to find out the current status (number of plants, size of loan, number of loan, location, default rate, etc.) of banks and financial institutions' lending in the biogas sector, find out if remittance is also being used for the construction of biogas plants and assess the different sources of utilization of user's contribution for the installation of biogas plants. Therefore, this study is expected to expedite handing over of the credit fund to the handling bank easily.

**Output 3: *Efficient and effective delivery of subsidies to RET sector in close consultation with AEPC***

- Out of total budgeted subsidy amount of NRs 1,741,980, an amount of NRs. 555, 755 (32%) subsidy is disbursed to the RE technologies. The achievement in biogas is nil against the target of 22,070 including community and institutional plants. Subsidy application for biogas

programme has not yet been received for disbursement. However, the technical component is putting their effort to collect the subsidy application forms of domestic biogas installation with expectation to disburse subsidy during 4<sup>th</sup> quarter of this current year. It is also expected that the program technical components of NRREP will make revision of the programme target which cannot be met.

- REF opened up an account under the name of CREF at Everest Bank Ltd. The funds from GoN and external development partners have been deposited in the account maintained at Everest Bank. During this reporting period, the GoN has transferred funds for NPR 255.68 million as matching funds and NPR 522.59 million has been transferred from Norway. Until end of March 2013, subsidy for NPR 555.7 million has been disbursed to various RE technologies in total.
- Conditional approval to 45 micro hydro projects having total capacity of 1.3 MW has been provided. Subsidy amounting to Rs. 202 million (based on old subsidy rate) has been committed to these MH projects. For detail list of projects please refer to the **Annex-6**

#### **4.1.3 Assessment of program efficiency:**

During this transition phase, few MHPs as mentioned above have received the much needed loan. Efforts could have been more, but the fact that CREF itself being under the process of getting established, majority of those projects which were eligible for MHDF received loans from the two banks (CEDBL and HBL). Only a handful of projects received loans from other banks which were not the beneficiary of MHDF.

#### **4.1.4 Major deviations from plan**

In terms of promoting financing in the sector, Credit Financing Solar Home System, an initiative under ESAP II was discontinued as ESAP II itself is phased out. Once CREF is operational, this will be done by the partner banks. Micro Hydro sector has been receiving loan from the partner banks. Again, this will be done by partner banks under CREF. The availability of soft fund in the form of Micro Hydro Debt Fund has attracted many developers towards this. Therefore, the commercial lending for micro hydro has suffered a bit. Once CREF is established, the whole sector will benefit as there will be a plan in place for dealing with the individual technologies.

#### **4.1.5 Key monitoring and quality assurance findings**

The process of approval from the banks is lengthy. The collateral security (land/powerhouse, etc.) the banks take may sometimes fall in a public land. Therefore, such problems have been found in the past while implementing MHP financing.

Banks are still finding it difficult for obtaining required documents for processing a loan. That is partly due to the remoteness and partly due to the project developers' lack of understanding of the requirement of the banks. Banks have been lenient in some cases, but the problem is persisting.

GIZ/ENDEV has a very comprehensive reporting format. They also have a very strict documentary requirement. Banks are required to submit the report on a periodic basis. This has created a bit of problem for the rural people to fulfill all of them as banks ask for those documents from these beneficiaries, at the end. Therefore, while monitoring the performance of

banks, especially under CREF, the reporting has to be a single format to all the donors and it should be asking for the vital information only.

#### **4.1.6 Activities implementation status**

Support to the MHPs has been on-going so that more and more MHPs get the benefit of MHDF. Insurance has been supported as the part of the agreement between ESAPII and the banks. Over a dozen projects are in the pipeline and before monsoon; they are expected to receive a loan from the banks. Once CREF is operational, the up-scaling will be achieved. Since no such activities were conducted during the inception phase, no funds were utilized to compare the expenditure with the budget.

#### **4.1.7 Major risks & challenges**

Having an uninterrupted supply of projects for the banks to assess is a challenge. Making rural people understand different systems, procedures and documentary requirement of banks is difficult. The risk of default is always there.

#### **4.1.8 Synopsis of work plan ahead**

The plan is to continue support to MHPs till CREF is operational. The plan is also to make banks and rural communities understand each others' problems, issues, requirement, etc. to enhance the access of RET users to financial services more efficient. Following are the priority tasks for the remaining period of the year.

- Approval of CREF mechanism by AEPC Board
- Final Draft CREF Financial Intermediation Mechanism
- Inclusion of CREF Financial Intermediation mechanism in the Subsidy Delivery Mechanism.
- Recruitment of the two staff members for CREF Secretariat and the AEPC National Project Facilitation Adviser
- Final approval of the CREF Mechanism by Government of Nepal – Ministry of Finance
- Appoint members and establish the CREF Investment Committee
- Formally establish CREF Secretariat
- Develop operational guidelines for CREF Investment Committee and Secretariat
- Develop Operational Procedures and Guidelines for Handling Bank and Prequalified Partner Banks
- Develop Tender and Contacting Documents for Handling Bank and Prequalified Partner Banks
- Tender and contract the Handling Bank
- Tender and contract the Partner Banks
- CREF Launch.

#### **4.1.9 Major risks and assumptions**

Insurance schemes secure RETs from risks and perils. Appropriate policies need to be devised. This risk mitigating instrument should be the part of the package/parameter while selecting the handling and partner banks

## 4.2 Productive Energy Use Component

### 4.2.1 Major Activities

The major activities carried out during the period are as following:

- Supported to prepare AWP (2012/2013) of the component
- Finalized the Three-months (Jan – March, 2013) work plan of the component for RRESCs
- Inputs to subsidy policy and delivery mechanism for Renewable Energy related to Productive Energy Use
- Drafted the PEU Implementation Guidelines
- Selected consultants to carry out activities as planned in approved AWP
- Interaction with other similar organizations to develop enterprise development models
- MoU with FNCSI was signed as a part of coordination and linkage with other stakeholders

### 4.2.2 Achievements against planned outputs, targets and program principles

PEU component has been rigorously planning activities in line with the approved AWP. All activities as outlined in AWP are underway and outputs will be visible in coming quarters.

- PEU implementation guidelines have been drafted.
- An IGA guideline is being prepared.
- Database of MSMEs created by end-use subsidy (revolving fund) has been prepared.
- Interactions/meetings with stakeholders, such as MEDEP, GIZ, RVWRMP, Practical Action, NACCFL, Agro-Enterprise Center, BSP-Nepal, Fair Trade group have been conducted to identify potential area of collaboration.
- Interaction with Business Cum Mobilization Officers (BMOs) of RRESCs and Livelihood Promotion Officers (LPOs) of DEES for formulation of implementation guideline of PEU and data collection and reporting format

#### ***Output 3.1 Capacities of existing MSMEs are enhanced:***

- Value chain analysis training was conducted for better understanding of the value chain principles. PEU staff and LPOs attended the 5-days training.
- ToR for outsourcing the study on Value Chain Analysis for selected products/commodities for energy linked enterprises has been prepared.

#### ***Output 3.2 New and innovative MSMEs are created and operationalised, with an emphasis on integrating women and marginalized section of the population:***

- ToRs for outsourcing the studies on Promoting and piloting new and innovative ideas in the community and Carryout assessment and establishment of date base of existing enterprises established from the revolving fund through End Uses Subsidy for MHPs were published; proposals received and evaluated; consultant has been selected and contract signing is underway.
- ToR for outsourcing the study on Assessment of the economic potential and business opportunities focusing on GESI is being prepared.

- 19 number of new feasibility cum business plans of MHPs to establish end-uses were reviewed and forwarded to REF.

### **Output 3.3 *Appropriate BDS are available to MSMEs in RE catchment area***

- EOI for companies, NGOs or individuals interested to provide BDS in RE catchment areas was published; EOI received and roster has been prepared for BDS providers.
- ToR for outsourcing the study on Mapping the national level and local level BDS Providers is being prepared.
- MoU between AEPC and FNCSI has been signed. This will help in carrying out PEU related activities in districts where FNCSI is active.

#### **4.2.3 Major deviations from plan**

Component budget is yet to be released as most of the works have been carried out through in-house discussion. Time overrun in this period has occurred mainly due to delays in selection and establishment of RSCs, defining roles and responsibilities of DEES/Us, recruitment of staffs (such as, BDS officer), and finalizing NRREP guidelines.

#### **4.2.4 Key monitoring and quality assurance findings**

Not applicable in this period. Monitoring visits are planned for next quarter.

#### **4.2.5 Activities implementation status**

Considering that PEU is relatively a new component, the implementation status of activities is satisfactory. As a part of creating new MSMEs in RE catchment areas (Output 3.2), the component has appraised and forwarded 19 numbers of feasibility cum business plans received from RRESCs to REF. As a part of BDS mapping activities (Output 3.3), EoI has been published to prepare a roster of existing/potential BDS providers.

#### **4.2.6 Summary of the use of funds compared to budget**

Most of the activities during first two quarters have been carried out by component staff internally. During this period, PEU component has built some foundation and path to run for next 4.25 years.

#### **4.2.7 Major risks & challenges**

As PEU is relatively new component, the implementation modality is yet to be finalized. The component is still working on finalizing implementation guidelines, working modality, fund flow mechanism and monitoring framework. Furthermore, the component is facing challenges such as delay in office setup, completing recruitment process, setting up business promotion units in RSCs, etc. Such obstacles pose major risks in achieving the targets and time overrun in completing the desired outputs.

#### **4.2.8 Synopsis of work plan ahead**

The component plans to conduct all activities as outlined in the annual work plan. The component will focus on carrying out activities which have been transferred from previous quarters. Similarly, the activities which have been planned for the remaining quarters will also be carried out.

In order to carry out PEU activities, the component plans to adopt following approach:

- Explore and select existing MHPs with potential MSMEs
- Perform need assessment on selected MHP (maximum 5 MHPs with high prospect for MSMEs) to establish/upgrade MSMEs.
- Based on need assessment, potential entrepreneurs will be provided required services, such as awareness creation, skill development trainings, value chain analysis, appropriate technology providers, after sales service and linkage with BDS providers, creating access to finance and market
- Replicate best model/practices to other areas for gradual expansion of MSMEs to achieve PEU targets
- Collaborate with potential partners (such as MEDEP, GIZ, FNCSI, etc.) to support entrepreneurs/enterprises

## **4.3 Solar Energy Subcomponent:**

### **4.3.1 Updates of key progress**

#### **Subsidy Application Form Processing:**

- One of the major activities being carried out by Solar Energy Subcomponent (SESC) is processing and recommendation of subsidy application form (SAF) for Solar Home System (SHS) and Small Solar Home System (SSHS). During this period SESC has processed and recommended 63,552 Subsidy Application Form (SAF) of SHS and 2,041 SAF of SSHS.
- Sub-component activities are centered on promoting high quality and reliable SSHS, SHS, ISPS and PVPS. One of the major activities of SESC is screening and recommending subsidy application form (SAF). Till now there is paper based SAF, SESC is working towards implementing SMART monitoring system. SESC received proposal for implementation of SMART monitoring system from students from different college and universities. SESC now has a model and financial estimation for piloting of the system.

#### **Quality Assurance and Monitoring:**

- SESC concluded 9<sup>th</sup> round of quality assurance and monitoring. The companies were penalized for the deviation found and one company was disqualified.
- Verification of deviated cases found in 10<sup>th</sup> & 11<sup>th</sup> Round of Quality Assurance and Monitoring (QA & M) is going on.
- Initiated the process of qualification of solar companies to participate in subsidy programme of AEPC/NRREP. Solar Energy Subcomponent has received 93 applications. The process of screening these applications has been initiated. Final list of consultants for carrying out QA and M has been prepared.
- Finalized draft Nepal PV Quality Assurance Guideline.
- Prepared a tender document to purchase lab equipments for RETS to speed up and enhance the capacity of RETS. This tender has been floated. The last date of submission is May 05, 2013

#### **Training and Development:**

- Conducted Solar Design Engineering Training to 30 engineers from private companies, various organization and AEPC. These engineers are now working for different companies or working as freelancer and contributing in design of larger solar power system.
- Conducted awareness programme for the journalists in two places i.e. in Biratnagar (July 25-26, 2012) and Pokhara (July 27-28, 2012). In total 40 journalists participated in the awareness programme.
- Organized the workshop on the issues related to the subsidy application form processing and way forward in NRREP. 74 participants from 37 companies attended the workshop.
- Organized Solar Design Engineers Training Programme with support from Global Sustainable Electricity Partnership. In total 30 engineers from DEES/U, AEPC and private companies participated in the training programme. This training programme has helped in capacity build up of engineers at DEES/U.



- Requested proposal from SEMAN to carryout solar technician level I and Level II training. SESC in collaboration with SEMAN will conduct 5 solar technician level I training and one solar technician level II training.

**Solar Thermal:**

- Prepared technical standard for solar thermal systems. Till now we did not have any technical standard and testing facility to ensure the quality of the solar thermal system. The Renewable Energy Test Station (RETS) will test the solar thermal systems.
- Requested proposal for piloting large dryers, and also piloting Concentrated Solar Power
- Completed Solar Thermal Technician training manual, and it will publish the book by April 2013.

**Solar PV Drinking Water Pumping System (pumping systems):**

- 43 pumping systems are in different stages of construction. 20 pumping systems have been completed; and the remaining 23 pumping systems are in final stages of construction. Out of the 20 completed pumping systems, 60% subsidy has been disbursed to the 14 systems.
- In addition to the above 43 pumping systems, detailed feasibility study of another 20 pumping systems has been completed.

**Others:**

- Designed and called proposal for 40kW solar PV system to be installed at AEPC building. 8 proposals received and evaluated

**4.3.2 Achievements against planned outputs, targets and program principles**

Table 1: Achievements against planned outputs of Solar Energy Sub-component

<b>Output</b>	<b>Key Achievements</b>
Output 2.6.3: Training and Human Resource Development.	<ul style="list-style-type: none"> <li>• Trained 30 engineers from private companies on designing of institutional solar power systems and also trained DEEU/S engineers to build up their capacity in designing of solar power</li> </ul>
Output 2.6.4: Improved Quality Assurance System	<ul style="list-style-type: none"> <li>• Concluded 9<sup>th</sup> Round of QA &amp; M and verification of deviated cases found in 10<sup>th</sup> and 11<sup>th</sup> Round is going on.</li> <li>• Initiated the process of qualification of the solar companies to participate in subsidy programme.</li> </ul>
Output 2.9: Solar Thermal System	<ul style="list-style-type: none"> <li>• Developed technical standard for solar thermal system.</li> <li>• Is in the process of piloting industrial solar dryer and CSP.</li> </ul>

Table 2: Achievements against targets of Solar Energy Sub-component

SN	System	Target for FY 2012/13	SAF received	SAF recommended to REF	Progress till March, 2013 (%)
1	Solar Home System	80,000	111,905	63,552	79.44
2	Small Solar Home System	25,000	18,231	2,041	8.16
3	Institutional Solar	40	0	-	0
4	Solar Photovoltaic	25	42	14	58.3

District-wise installation detail is given in **Annex 5**.

#### 4.3.3 Major deviations from plan

SESC activities are going on as per plan and annual work plan. Only major deviation is that there is need to change the target for Solar Home System, Solar PV Drinking Water Pumping System and Solar Thermal System.

#### 4.3.4 Key monitoring and quality assurance findings

Solar Energy Subcomponent concluded the 9<sup>th</sup> round of QA and Monitoring of solar home system installed in field. For this 5,818 SHSs were sampled from total 58,179 SHSs. There were 107 monitoring trips. The monitoring consultants found 295 deviating cases. Out of those 160 cases were concluded by monitors. SEC carried out 35 verification trips and verified 102 cases. SEC verified those SHS which was concluded as not traced during monitoring by qualified consultants. The verification team concluded 29 cases as system found and 73 cases were concluded as case for penalty. SEC could not verify 16 cases as those cases were of companies who have been disqualified in earlier round of monitoring and verification. The details of the cases are given in the following Table.

Table 3: Deviated Cases found in 9<sup>th</sup> Round of Quality Assurance & Monitoring

Deviated cases	Number	Penalty
Subsidy Claimed without Installation	51	200%
Person not identified	12	200%
Double subsidy claimed in same house (two SHS installed)	3	50%
No Engrave Number	4	50%
System installed in different location	18	50%
Others (Technician did not come for verification)	1	200%

Table 4: Development Region wise Deviated Cases found in 9<sup>th</sup> Round of QA & M

Region	Total Cases	50%	200%
Eastern Development Region	8	4	4
Middle Development Region	10	2	8

Mid western Development Region	2	1	1
Western Development Region	55	14	41
Far western Development Region	14	4	10
<b>Total</b>	<b>89</b>	<b>25</b>	<b>64</b>

The compensation that company need to pay is calculated based on the agreed guideline. The compensation amount to be received from the companies for the manipulations and offences they made in 9<sup>th</sup> Round Monitoring is presented in below Table.

Table 5: Compensation of 9th Round of QA & M

<b>Description</b>	<b>Amount (NRs)</b>
Total Subsidy Paid for the FY 2008/09	431,882,911.00
10% retention amount	43,188,291.00
Compensation for deviated cases	10,782,340.52
Compensation for not providing	13,954,741.20
Total Compensation for 9th round of QA	24,737,081.72

Out of 5,818 SHS samples monitored, 63 SHS was concluded as not installed. The result shows that 98.92% SHSs are found to have installed in the field. Around 1.08% of SHSs were concluded as SHS not installed i.e. subsidy claimed without installation or person not identified. Average compensation amount (total compensation/numbers of system installed) to be taken from companies for deviating cases is around NRs. 185.33 per system which is lower than previous years compensation.

#### **Company Disqualification:**

One company Perennial Energy Pvt. Ltd. (PEN) was disqualified from the programme as the number of SHSs not installed in field by the company was found more than 5% of the total sample. In case of company, 3 SHSs out of 34 SHSs samples taken were concluded as subsidy claimed without installation which is 8.82% of sample.

#### **4.3.5 Major Risks & Challenges**

- There is more demand for installation of SHS in the remote and very remote areas, which needs the fund for subsidy. The annual target will not meet the demand. At present also for SHS; the target for fiscal year 2012/13 is 80,000 and the number of applications for subsidy is more than 111,905. There will be deficit of fund for 31,905 SHSs. At present programme has stopped installation of SHS and SSHS under subsidy programme. It is huge challenge for the programme to check and ensure that systems installed with full payment from users during no subsidy period are not claimed in subsidy programme later.
- To increase the speed of subsidy application form processing, the programme has hired 18 short term consultants and it is great challenge to maintain the standard and quality of subsidy application form processing.
- The import of solar PV technologies has greatly increased. Number of brands and range being imported has increased. The challenge now is to ensure that the products are of good quality and meets the standard.

#### 4.3.6 Synopsis of work plan ahead

Most of the activities of SESC are moving ahead as per the plan. Described below is the synopsis of work plan ahead:

Table 6: Processing plan for existing SHS & SSSHS Subsidy Application Forms

<b>SAF Screening process</b>	<b>Team</b>
First Layer SAF checking	8 staffs each processing 225 SAFs per day
Second layer SAF checking,	4 staffs each processing 400 SAFs per day
Third layer SAF recommendation	5 staffs each recommending 300 SAFs per day

#### **Solar Thermal Systems**

- SESC has finalized the pilot site and has conducted site survey, designed the system for the requirement and prepared the tender document. SESC has selected Staric Nepal as a consultant to prepare and design the CSP system for piloting. The consultant has submitted the inception report.
- SESC is completed Solar Thermal Technician training manual. SESC will publish the book by April 2013.

#### **Others**

- Proposal called from SEMAN to carryout solar technician level I and Level II training. SESC in collaboration with SEMAN will conduct 5 solar technician level I training and one solar technician level II training. This activity will be completed by May 2013.
- Has planned to carry out solar thermal technician training and solar thermal engineer training in May 2013

## **4.4 Biogas Sub component:**

The Biogas Sub-component, along with the household plants dwells upon the promotion of community, large, institutional biogas plants and municipal scale waste to energy projects. Recently, AEPC has started the promotion of Urban Household Biogas Plants (UHBP) within the Kathmandu valley for piloting to see the impact. Upon launching NRREP, the sub component participated in the finalization of annual work plan and budget. This has been done in conjunction with the works on Scaling up Renewable Energy Programme (SREP) and the Plant Rehabilitation and Efficiency Improvement Project (PREIP). The preparation of remaining three months plan as well as the plan for next fiscal year has been done. This was carried out together with the internal capacity building activity on Biogas Technology Orientation to all the sub-components staff.

### **4.4.1 Updates of key progress**

#### **Domestic Biogas Plants:**

Sub-Component focuses equally on the harmony between the usages and progresses of biogas technologies in rural as well as urban areas. It has thus focused its activities in low biogas penetration districts. Similarly, it has scaled up its activities in urban areas for the maximum use of kitchen and other household waste to energy, and other large and reliable technologies to translate the energy (thermal and electric) through the large-scaled organic waste. The activities completed till present can be jotted down:

- Renewal and PQ of biogas companies (32 new companies are recognized targeting to boost up their activities at low biogas constructed districts, 6 other companies are approved to work in the similar location, existing 54 companies are Pre-Qualified for FY 2069/70).
- Preparation for workshop for appliance manufacturers for quality enhancement
- ToR for centralized database management for biogas subcomponent prepared (It will strengthen the MIS system, it will have a web link with the database servers of BSP/N and NBPA)
- Drafting of Tor and Publication of notice for the third party monitoring of biogas plants
- Study on Technical and Market Potential of household biogas Plants in Mid Terai Region
- 53 Supervisors and 106 masons were trained
- Acquisition of all the household plants data details from BSP/N (data from the FY 2051/52 to 2068/69) to manage it in the newer server planned to be developed at AEPC. Along with, the data are being separated in different formats. (E.g. Separation of data: district wise).
- For the efficiency test of biogas stoves, based on ToR a proposal is received from Renewable Energy Test Stations (RETS) and approved.
- Informative materials to promote biogas in Terai region, the companies submitted their proposals and Biogas Sub-Component is to select for the production materials.
- ToR for Market-mapping study for biogas construction is ready and to be advertised in the local newspapers soon.
- MoU drafted and sent to the Ministry for approval for the installation of the biogas plants in the WWF Terai Arc Landscape program areas.

### **Plant Rehabilitation and Efficiency Improvement Project (PREIP):**

The component has scaled up its activities even in the streamlining of old and non-functioning plants to assure their re-functioning through the PREIP projects

### **Urban Household Biogas plant:**

Activities are expedited on the promotion of Urban Household Biogas Plants with the target to support to 500 such plants in Kathmandu valley within this FY. Upon demonstration effects, it is planned to scale up in other urban areas. Till the date, the following key activities have been carried out:

- Publication of notice and demand collection
- Finalized design sent to manufacturer for manufacturing dye for mass production.
- Mobilization of the enumerators for regular surveillance of the prototype plants.
- Brochure and Training Manual is prepared
- Documentary prepared
- Training for Installers conducted and 10 Construction Material Shops (Hardware Shops) have been identified as the installers for UHBP.
- Design of UHBP has been finalized and in two locations the regular monitoring is ongoing for the data analysis where the gas has already been produced.

### **Productive Applications of Biogas Technology:**

Within the broader framework of the biogas use for different productive applications, the component has completed the following tasks:

- Orientation on Waste to Energy in 7 municipalities
- Data collection on waste resources from over 20 municipalities
- MoUs prepared and sent to all 20 municipalities, six have been signed
- Input to Subsidy policy of Biogas
- Preliminary selection of municipalities for wte plants
- Feasibility survey of institutional plants
  - Khadga Dal Gan, Dhulikhel, Kavre
  - Jagadal Gan, Chhauni, Kathmandu
  - Prasuti Griha, Thapathali, Kathmandu
- Selection of institutional, community and commercial plants for piloting
- PQ of consultant for the study of biogas potential in jails
- Documentation for PQ of biogas companies for large biogas construction
- Documentation for PQ of Individual consultant/consulting firms for feasibility study and design of large biogas
- MoU conducted with the Renewable World UK for the installation of the large community scale biogas plants.
- MoU conducted with HECAF and Health Care without Harm for waste management in hospitals and large biogas plants in hospitals.
- ToR for selection of consultants to conduct the training on waste to energy has been approved by World Bank and AEPC
- ToRs for preparation of business plan and quality standardization for large biogas systems has been prepared

- In conjunction with World Bank, the subcomponent has initiated the process of Waste to Energy Bazaar for the first time in the country. Under which the website creation, regional promotional workshops are conducted, promotional materials prepared, policy gap analysis and validation workshop is conducted.
- Call for entries of submitted application for different Waste to Energy Projects is underway.

#### **4.4.2 Achievements against planned outputs, targets and program principles**

**Output 2.1** *Scaled up implementation network is in place for biogas – Sector Commercialization and GESI and Regional concerns*

**Output 2.2** *Domestic, community and institutional (large) biogas plants are deployed/ established and new biogas (waste digestion, motive power, electricity production) technology is ready for piloting.*

Table 7: Achievements against targets of Biogas Sub-component

Outputs	Current FY (2012/13)		
	Target	Progress	%
Domestic Biogas Plants	22,000 Nos.	47	0.2%
Community Biogas Plants	30 Nos.		0
Institutional Biogas Plants	40 Nos.		0
Saheri Gharelu Biogas Plants (SGBP)	500 Nos.	3	0.6%

#### **4.4.3 Key monitoring and quality assurance findings**

The Third Party Monitoring Guideline is prepared and based on this the selected 10 Monitors to be assigned soon for monitoring activity.

#### **4.4.4 Activities implementation status**

As per the selected Resource Centres operational activities are in the ground. However the constructions of domestic biogas are largely dependent on the subsidy and the season. Hence the actual reporting of the plants will come during the end of summer time i.e. before ending fiscal year. UHBP is new area not only for AEPC but also for Nepal. The final design and preliminary demand collection process is over and expected that within two months of time it will take its course as expected

#### **4.4.5 Summary of the use of funds compared to budget**

The status of budget is presented below for the reference. In absence of complete recruiting of people and uncertainty of Service Centre the use of budget is below the line as it was planned.

#### **4.4.6 Major risks & challenges**

As waste to energy is a new component within the biogas sub-component for AEPC, the implementation modality is yet to be finalized. The component is still working on finalizing implementation guidelines, working modality, funding mechanism and monitoring framework. Similarly SGBP is also new front and it has challenges in meeting the target and as well as promotional activities.

#### **4.4.7 Synopsis of work plan ahead**

Biogas subcomponent has revised the work plan due to limited time for implementation. The component plans to conduct all activities as outlined in the annual work plan. The component will focus on carrying out activities which have been transferred from previous quarters. Similarly, the activities which have been planned for the remaining quarters will also be carried out.



## **4.5 Solid Biomass Energy subcomponent:**

### **4.5.1 Updates of key Processes:**

The following processes were conducted during three quarters.

- Celebration of 500,000 plus ICS dissemination on 18 July 2012 at Hotel Yak and Yeti. Hon. Minister of Science, Technology and Environment Dr. Keshab Man Shakya graced the occasion as the chief guest. Awards and appreciations were distributed to different stakeholders, partners & partner staffs and Promoters/Stove Masters.
- Training to Biomass Energy Engineers (BEEs) of different RRESCs on new and efficient models from 24-27 July 2012 at Palpa.
- Staffs recruited
- AWP (2012/2013) prepared and endorsed by steering committee.
- Six-month and additional three month (Jan-Mar 2013) work plan for RSCs prepared.
- Implementation Plan Formulation Workshop was organized on 7 October at Godawari Village Resort.
- Stove Testing Workshop on Benchmark, Performance and Safety Standards was conducted on 15 October at RETs meeting hall. The event was jointly organized with NEEP.
- Interaction on Subsidy Policy of Biomass Energy Technologies was organized on 6 November at AEPC meeting hall.
- 'Experience Sharing Workshop' of National ICS Forum was organized by AEPC on 12 November at AEPC meeting hall.
- Training of Trainers (ToT) for newly selected staffs of RSCs was organized from 11-19 December at Hotel Vishuwa, Birgunj.
- 32 events of Orientations and Demonstrations of MICS were organized in strategic locations of different districts.
- 30000 Users' Manual and 2000 MICS leaflet were printed.
- 83,216 household ICS, 180 IICS and 1123 MICS were installed by the end of March 2013.
- Declaration of IAP Free Declaration, District Level Consultative Workshops, District Level Orientation Program on CDM, Training of Promoters/Stove Masters and various awareness programs were conducted through RSCs.
- 2<sup>nd</sup> round random Sample Monitoring and verification of MICS and ICS were completed.
- Support to review of subsidy policy.
- Initiation taken on review of feasible sites for gasifier electrification piloting based on the recommended site from previous feasibility study conducted by AEPC.
- Discussion with WINROCK international for combined technical and financial support in piloting one gasifier plant for community electrification and one gasifier plant for captive electricity generation at one of the feasible small and medium sized entrepreneur eg. rice mill, saw mill etc for commercial purpose as a demonstration unit.
- Developed ToR and call for proposal on "Package Development and Conduction of Training on Biomass Densification with focus on Terai Regions". This activity has been initiated through AEPC budget.
- Developed ToR and call for proposal on "Design, Development and Publication of Brochure/Booklet on Biomass Densification". This activity has been initiated through AEPC budget.

- Initiation of dialogues with NAST and RETS for establishment of biomass testing lab at RETS.
- Support in development of specifications for lab structure and testing equipments for establishment of lab at RETS.
- Conducted Stakeholder's pre-meeting on "Clean Cooking Solutions for All by 2017" on Jan 15, 2013.
- Second Meeting of National ICS Forum on 4<sup>th</sup> March 2013 at SNV Office.
- Biomass Densification training to Biomass Energy Engineer's, District Coordinators and Entrepreneur District Coordinators at Vijaya Development resource center, Gaidakot Nawalparasi from 23-26 March 2013. Altogether, there were 22 participants (Female-3, Male-19)
- RSC work Plan for the period of April-June was prepared and Submitted to IDSC.
- Support to review of Renewable Energy Subsidy Policy and delivery mechanism.
- Developed ToR and call for proposal on 'Feasibility study and potential site identification for piloting biomass gasifier technology for electricity generation in rural community of Mid and Far Western Terai Regions" and selection of third part is in good progress.
- Developed ToR and call for proposal on "Call for Expression of Interest (EOI) for Pre-qualification of consulting firms to carry out third party Monitoring/Evaluation of Installed Metallic Improved Cooking Stoves" and selection is on the process.
- Support on Renewable Energy Week and announcement of 'Clean cooking solutions for all by 2017' by the then Prime Minister.
- 14 Regional Level Workshop for analysis for barriers to scaled-up implementation of ICS organized.
- Biomass Stove Testing Laboratory inaugurated on 9<sup>th</sup> April 2013 at RETS.
- Re-verification of second round random sample monitoring ongoing.
- Production of Video documentary of MICS has been completed through Media Majheri Pvt. Limited and delivered 200 copies of DVDs.
- Support to DDCs announcement of 'IAP Free Dolakha by 2016' and 'IAP Free Rautahat by 2017'
- Conduction of 'Business Promotion Training for MICS Companies' in which there were 31 participants (Female-2, Male-29).

#### **4.5.2 Conditional subsidy approvals and actual disbursement status**

1,977 MICSs have been forwarded to REF out of which subsidy has already been disbursed for 1,687 MICSs.

#### **4.5.3 Achievements against planned outputs, targets and program principles**

**Output 2.3: Scaled up implementation of ICS**

**Output 2.4: New & improved biomass energy technologies such as enterprise scale stoves, gasifies and bio-briquetting are ready & field tested.**

Table 8: Achievement against planned targets

SN	Description	Annual Target	Achievement till March 2012	Remarks
1	ICS Dissemination	88,000	83,216*	
2	MICS Dissemination	7,000	1,977**	
3	Orientation and Demonstration and other awareness campaign for MICS	38	32	

\* Installation data from few districts is yet to be updated

\*\* Total number of MICS recommended to REF

Table 9: MICS subsidy disbursement detail

Description	Quantity
Number of districts:	24
District wise MICS: Taplejung 15, Panchthar 47, Ilam 34, Sankhuwasabha 3 Terhathum 11, Solukhumbu 48, Okhaldhunga 2, Dolakha 101, Ramechhap 73, Sindhupalchowk 332, Kavrepalanchowk 25, Kathmandu 48, Rasuwa 74, Nuwakot 104, Makawanpur 35, Gorkha 163, Lamjung 200, Manang 46, Kaski 100, Mustang 42, Rukum 14, Jajarkot 51, Jumla 95, Humla 120	1,783

#### 4.5.4 Major deviations from plan

There are no major deviations according to plan. However, due to transition phase, activities that need to be conducted through RSCs were not completed in time due to delay in payment. Similarly, the progress at center were slow due to delay and finalizing NRREP guideline in this period

#### 4.5.5 Key monitoring and quality assurance findings

In the 2nd round monitoring, total 296 MICS samples were monitored through third party monitoring in which 90 samples were found to be deviated cases. Almost all deviated cases were re-verified by the center. Among deviated cases, only 5.5 % comes under major deviation and rest are minor deviation.

Altogether 7,561 mud ICS were monitored at field level through different layers of partners network (RSC/DSC/LPOs).

#### 4.5.6 Activities implementation status

Overall activity wise implementation status is satisfactory. For details, please refer to Annex 1e for details.

#### 4.5.7 Major risks & challenges

The major risks and challenges are as follows

- Delay in selection of RSCs
- Announcement of clean cooking solutions by 2017 (CCS2017) is crucial and challenging due to following aspects:

- Commitment of of funding & resource mobilization
- Deviation in planned activities of work plan and targets of Biomass energy sub component
- Ambitious target of CCS2017, i.e., 3.5 million households
- Timely organization and implementation of activities in changed context
- Maintaining homogeneity/consistency among various partners
- Improvised monitoring mechanism
- Earlier Plan to cover all the VDCs of the country could not be materialized due to delay in RSC selection and delay commitment of required resources, which might severely affect ambitious initiative – CCS 2017.

#### **4.5.8 Synopsis of work plan ahead**

- Printing of 2,500 MIC forms.
- Clean Cooking Technologies Expo and International Stove Entrepreneurs Summit
- Setting of BENCH MARK for biomass stoves

## **4.6 Community Electrification Sub Component:**

### **4.6.1 Updates of key processes**

The following processes were conducted during two quarter.

- Supported to draft AWP (2012/2013) of the subcomponent.
- Supported to finalize six-month and additional three month work plan for RSCs.
- Inputs to subsidy policy for renewable energy.

### **4.6.2 Projects recommended for subsidy approval**

During the period, 39 No. of micro/mini hydro projects equivalent to 1486.6 kW and 13823 household beneficiaries were recommended for subsidy approval

### **4.6.3 Achievements against planned outputs, targets and program principles**

**Output 2.10 : *Project management capacity is in place and performing, and number of completed projects increases at a faster rate***

Following ToR's for respective sub activities approved and RSCs activities are being conducted and monitored.

- Prequalification of survey/design installation companies

**Output 2.11 : *Community electrification projects better designed with regard to available potential, and operate at a higher load factor***

During this period, following ToR for respective sub activities approved and RSCs activities are being conducted and monitored.

- Update/upgrade MHP design guideline
- Preparation of procurement guideline
- Support to capacity building to communities

**Output 2.12 : *Community electrification technology is scaled-up and is of a higher standard***

During this period, following ToR for respective sub activities approved.

- Conduct study to assess status of identified projects upto 10 MW
- Techno socio-economic study of Baglung minigrid project
- Installation of real time technology

**Output 2.13 *Improved Water Mills promotion is scaled-up and the technology is of a higher standard***

Project Implementation Certificate (PCC) has been processed and approved for a total of 755 IWMs (out of the target 1000) in different 33 districts. ToR for *Prequalify the IWM KIT Manufactures' and LPOs* has been approved and the related activities are being carried out.

Please refer to **Annex 6** for project-wise micro-hydro related information.

#### **4.6.4 Major deviations from plan**

There are no major deviations according to plan. However, due to late recruitment of staffs, delay and finalizing NRREP guideline the progress was slow in this period.

#### **4.6.5 Key monitoring and quality assurance findings**

Not applicable in this period. Preparing implementing frameworks like preparing standard formats, work plans, staff hiring and adjustments and regular backstopping to RSCs for completion of pipeline project has been conducted. Monitoring visits are planned for next quarter.

#### **4.6.6 Activities implementation status**

Overall activity wise implementation status is satisfactory. For details, please refer to Annex 1f for details.

#### **4.6.7 Summary of the use of funds compared to budget**

Use of funds compared to allocated budget is low. Major reasons are being delay in finalizing NRREP guideline, slow hiring of staffs and budget being transferred to RSC through ESAP II funds.

#### **4.6.8 Major risks & challenges**

The major risks and challenges are as follows

- No financial resources for additional support to micro hydro projects in pipeline.
- Timely Implementation of e-bidding, procurement guideline.
- Selection of RSCs

#### **4.6.9 Synopsis of work plan ahead**

The sub component plans to carry out all activities as outlined in the annual work plan. Remaining activities during this period will be completed. Similarly, the activities which have been planned for the remaining quarters will also be carried out.

## 4.7 Carbon and Climate Change Unit

### 4.7.1 Updates of key progress

During this reporting period the CCS was mainly engaged in preparing/finalizing documents for validation and registration of Nepal Biogas Support Program as Programme of Activities (PoA) CDM project under UNFCCC secretariat. The CCS was further involved in finalizing documents related to ICS and IWM PoA Design Documents (DD) and facilitated validation of these PoAs. Verification of Biogas PA1, 2, 3 & 4 was also done during this reporting period. The CCS in coordination with IDS was also actively engaged in activities related to the formulation of DCEPs in additional 25 districts. To ensure efficient monitoring related to emission reduction through MHP CDM project, the CCS continued its efforts in energy meters procurement, their installation and installation of real time monitoring in 26 micro hydro projects.

Efforts was also made to increase portfolio of Climate Change and securing additional finances for AEPC with finalizing proposal to Embassy of India titled “Renewable Energy for Climate Change Programme (RECCP) - 3 Projects” planned for three years. The proposed financial support to implement this activity is estimated as 239,113,986 NRs.

Activities were also conducted for selecting consultants for conducting several studies. Biogas User Surveys 2011/12 (PA1, PA2, PA3, PA4 and PoA) were also finalized during this reporting period.

Though not part of NRREP, CCS staff provided inputs and managed in coordinating and facilitating several activities for Formulation of Low Carbon Economic Development Strategy for Nepal under Climate Change Programme.

### 4.7.2 Achievements against planned outputs, targets and program principles

#### *Output 2.5.1 Update knowledge of evolving rules and regulation in different carbon markets*

- Prepared AWP 2012/13 of carbon and climate change.
- Prepared proposal on “Renewable Energy for Climate Change Programme (RECCP) - 3 Projects” and submitted to Embassy of India, Kathmandu with funding request of 239,113,986 NRs.
- Activities related to a Research Study on Role of Renewable Energy Technologies in Nepal’s Climate Change Mitigation and Adaptation Options are initiated: consultant selected and inception phase activities ongoing.
- Carbon Revenue Utilization Guidelines drafted and forwarded to the MoSTE for approval.
- Support to Institute of Engineering/Tribhuvan University to develop MSc Curriculum in Climate change is ongoing.
- 500 copies of video documentaries “Climate Change and Renewable Energy” on climate change linkage with renewable energy prepared. The DVDs were distributed at the Renewable Energy Week organized from 20<sup>th</sup> to 26<sup>th</sup> January 2013. A brochure of Carbon and Climate Sub-component has been designed and distributed to the the interested stakeholders.

- AEPC becomes a member of a steering committee for the Asia Low Emission Development Strategy (LEDS) Partnership. Continuous participation in meetings and workshops of Asia LEDS Partnership and other climate change workshops/seminars to increase networking at the international level.
- The DEEU officers are aware of programs, activities and role of DEEU in carbon and climate change programs.

***Output 2.5.2: Develop a well diversified portfolio of projects using different mechanism***

- Proposals received for re published call for proposals for an Assessment and Identification of Potential/Feasible Carbon Program/projects in RE sector study. Consultant selecting process is ongoing.
- Activities related to an Assessment of Piloted DCEPs are initiated: consultant hired and inception phase activities ongoing.
- Draft Project Idea Note (PIN) for Solar Home System prepared and under finalization. Preparation of Project Design Document (PDD) for the same ongoing.  
Activities related to formulation of District Climate and Energy Plans in additional 25 districts ongoing: identification of potential districts based on vulnerability index, economical/social situation, RE potential etc completed; draft ToR prepared.

***Output 2.5.3: Put in Place quality and Performance assurance systems and monitor continuously***

- Consulting firms for following work has been selected and inception phases for all activities ongoing:
  - Biogas ER users Survey (PA 1,2,3,4 and PoA (4 CPAs)).
  - ICS ER Users Survey
  - IWM ER Users Survey
- Monitoring of energy meter reading and the logbook maintenance by users of MHP CDM project ongoing.
- 220 Digital Energy Meters and Current Transformers procurement process completed. Out of them, 20 Energy Meters and accessories are procured from NRREP budget.
- Procurement of real time monitoring system in coordination with Community Electrification Sub-component ongoing Proposals from the suppliers is invited.
- ToR for installing Energy Meters and Real Time Monitoring Systems being prepared.
- 500 Micro-hydro Logbook printing completed.

***Output 2.5.4 Support External Monitoring and Verification in Effective Manner***

- Received approval for renewal of Crediting Period of Biogas PA 1 and biogas PA 2.
- ICS PoA CDM validation ongoing.
- Biogas PoA CDM validation completed and submitted for registration.
- Finalization of Biogas User Survey 2011/12 (PA1, PA2, PA3, PA4))
- Field verification of Biogas PA1, PA2, PA3, & PA4 CDM projects by Designated Operational Entity for about 0.275 million CERs completed.
- Revision of MHP CDM PDD according to validation and verification standards (VVS) finalized.



Besides activities under NRREP, CCS staffs are also involved in coordinating and facilitating several activities for Formulation of Low Carbon Economic Development Strategy for Nepal under Climate Change Programme which is a part of Nepal Climate Change Support Program (NCCSP). Under this program, following activities are completed:

- Central Level stakeholder workshop for formulating Low Carbon Economic Development Strategy (LCEDS) conducted on 26<sup>th</sup> July 2012.
- Selection of consultants for two tasks Phase 1: Data Collection and Analysis, Phase 2: Modeling, analysis and drafting LCEDS for Nepal is completed.
- Consultation workshop with selected consultants was conducted on 21<sup>st</sup> and 22<sup>nd</sup> February 2013.
- Different Thematic Sector Working Group (TWGs) and informal expert team have been formed to support for formulating strategy.
- Consultation workshop with TWG members was conducted on 27<sup>th</sup> March 2013.
- Consultation with all sector specific TWGs
- Selection of Consultant to analyze the linkage of renewable energy in implementation of Local Adaptation Program of Action is completed and received inception report.
- Selection of consultants for the assessments of fiduciary risk at AEPC to implement climate change and renewable energy program is completed and the inception meeting is also completed.

#### **4.7.3 Major deviations from plan**

The activity for conducting second field visit by DOE for IWM PoA validation was planned to be completed in 3<sup>rd</sup> quarter. However, the activity could not be initiated due to lack of provision for hiring international consultants in approved Administrative and Financial Guideline for National Rural and Renewable Energy Programme (NRREP). Since, DOE suggested by UNFCCC are in general international firms, there is urgent need for appropriate and practical provision for hiring the international consultants in the said guidelines. That will ensure timely validation, inclusion and verification of other CDM projects and PoA as well.

#### **4.7.4 Key monitoring and quality assurance findings**

The Designated Operational Entity inspected 380 digesters selected randomly as a part of verification process and found only four plants as non operational –all of them belonging to owners who migrated from original places of their residence.

#### **Output 2.5.1 Update knowledge of evolving rules and regulation in different carbon markets**

- Discussion with several organizations (Embassy of India, WWF) is ongoing for additional support to AEPC in area of climate change mitigation and adaptation.
- Activities related to a Research Study on Role of Renewable Energy Technologies in Nepal's Climate Change Mitigation and Adaptation Options ongoing.
- Coordination and networking related to climate change at the national and international levels ongoing.
- Continuously coordination with related ministries for approving the Carbon Revenue Utilization Guidelines is ongoing.

**Output 2.5.2: *Develop a well diversified portfolio of projects using different mechanism***

- Selection of the consultant for Assessment and Identification of Potential/Feasible Carbon Program/projects in RE sector study ongoing.
- Consulting firm for Assessment of Piloted DCEPs study selected Draft Project Idea Note (PIN) for Solar Home System prepared and finalized. Preparation of Project Design Document (PDD) for is the same ongoing.

Identification of additional 25 districts for formulation of District Climate and Energy Plans completed. Draft ToR prepared.

**Output 2.5.3: *Put in Place quality and Performance assurance systems and monitor continuously***

- Inception reports for Biogas User Survey, IWM ER User Survey and ICS User Survey received. Reviewing ongoing.
- Monitoring of energy meter reading and filling of logbook of MHP CDM project ongoing
- Procurement of real time monitoring system is in final stage.
- Energy meters procurement completed, efforts for their installation ongoing.
- Preparation/finalization of several documents/surveys for validation, registration and verification of several CDM projects (Biogas, ICS, IWM)

**Output 2.5.4 *Support External Monitoring and Verification in Effective Manner***

- ICS PoA CDM validation ongoing..
- Biogas PoA CDM validation completed and submitted for registration.
- Field verification of Biogas PA1, PA2, PA3, & PA4 CDM projects by Designated Operational Entity for about 0.275 million CERs completed. Awaiting the final document from DOE.
- Revision of MHP CDM PDD according to validation and verification standards (VVS) is completed and sent to World Bank and DOE for finalization. Awaiting the final document.

Besides NRREP work plan, CCS staffs are also involved in coordinating and facilitating several activities for Formulation of Low Carbon Economic Development Strategy for Nepal under Climate Change Programme which is a part of Nepal Climate Change Support Program (NCCSP). Under this program, stages of the activities are as following:

- Data Collection and Analysis from Consultant is underway for formulating Low Carbon Economic Development Strategy (LCEDS).
- Inception report is received from consultant on analyzing the linkage of renewable energy in implementation of Local Adaptation Program of Action and the data collection is underway.
- Inception report is received from the consultant for the assessments of fiduciary risk at AEPC to implement climate change and renewable energy program and information collection from consultant is underway.

**4.7.5 Summary of the use of funds compared to budget**

Due to the non-availability of the funds during first two months, most of the activities were initiated later compared to proposed framework. Initiations of most of the activities were delayed due to the late approval of financial guidelines. Selection of consultant for some specific work

has been completed. The actual release of all the funds has not been started yet. Out of the total budget of NPR 26,486,000 for this reporting period, NPR 1,308,244 is already spent.

#### **4.7.6 Synopsis of work plan ahead**

Initiation has been taken for carrying out various studies in timely manner to ensure completion as per AWP. More efforts will be given to monitoring, validation, inclusion and verification of CDM projects and program of activities CDM, DCEPs formulation, linking renewable energy for climate change mitigation as well as adaptation, supporting Government of Nepal on climate change issues and increasing portfolio of AEPC on climate change.

## **4.8 Monitoring and Quality Assurance Unit:**

### **4.8.1 Updates of key progress**

#### **MQA Operational Strategy**

Since the NRREP Program document does not specifically mention about the outputs of the M&E works including quality assurance aspects, the MQA unit has prepared AEPC Monitoring and Quality Assurance Operational Strategy primarily to define the MQA strategic output, its performance indicators and implementation strategies. This document also highlights the AEPC's MQA conceptual framework and priority deliverables. A draft document is already prepared in consultation with all components and sub components and forwarded for the finalization process.

NRREP Result Framework: NRREP programme document envisions establishment of Result Based M & E System of AEPC/NRREP. In the absence of a complete Result Framework (particularly performance indicators), some of the vital PME activities such as: identification of essential baseline indicators, designing of MIS framework, designing an effective reporting framework, creating a credible basis for future program evaluation, establishing proper linkages of results at different levels while planning etc. are being hindered. Therefore, the MQA unit has initiated necessary ground works towards developing a complete Result Framework to guide result based management system. It has broadly assessed the available result areas in the program document and gaps towards developing a Result Framework. Further to this, the MQA unit has also carried out rigorous analysis of national development indicators (NDI) in line to NRREP outputs, and has also identified the linkages where NRREP outputs can contribute to the NDI. Preliminary interactions with all components/subcomponents/units regarding the Result Framework have been completed. All components have realized the need of output/outcome indicators for an effective PME works. Preliminary draft Result Framework has already been prepared by the MQA unit, and has been circulated to all the NRREP components/subcomponents to work out further to refine the proposed 'indicators', 'means of verifications', & 'assumptions'.

#### **Random Monitoring**

Technology based components of the NRREP such as Community electrification; Solar, Biogas and Biomass have established internal monitoring and quality control mechanisms as per the mandates. However, it was realized to verify the monitoring data through MQA unit for the assurance. MQA unit has started to establish a regular and reliable verification mechanism covering all 75 districts. The MQA unit has prepared verification checklists, methodology and procedures in consultation with the relevant components. It is agreed that the MQA unit will randomly identify the households having RETs at the first stage, DEEUs and DEESs will visit the site and complete the questionnaire at the second stage, and the MQA unit will maintain a database system with the support from AEPC/DEEU unit and analyze them on regular basis. In February 2013, the first lot of monitoring was carried out in 25 districts; and report has already been produced. In March 2013, samples of RE systems to be monitored have already been forwarded to the next 25 districts; and completed forms are being received.

## Program MIS

MQA unit has initiated for designing an integrated program MIS. It has carried out discussion with all components focusing on 1) what type of data the particular component wants to see in the MIS and 2) what type of data can contribute into the MIS. In this connection, the MQA unit visited Gorkha district to observe the usefulness of existing MIRMS supported by RERL and realized that it can adopt this database system for the NRREP MIS requirement. As the very first step, the MQA unit has organized an orientation cum interaction program between MQA unit and the selected DEES/DEEUs towards assessing the usefulness of the existing MIS system, orientation on its technical aspects and to seek the possible way outs towards piloting the MIS in the selected districts. The MQA unit has finalized ToR for outsourcing the required consultancy/expert services for upgrading/customizing the existing MIRMS to tailor it to the requirements of NRREP-envisioned MIS. The ToR has been forwarded for the approval of the NRREP management.

## Baseline

MQA unit has prepared separate ToRs for 1) baseline preparation for rural renewable energy technologies, and 2) baseline preparation for rural renewable energy related National Development Indicators and other indicators related to NRREP outputs. The ToRs have been approved by the NRREP management. Call for proposal notice for the 2nd assignment (related to ToR no. 2) have been published in national daily news papers (Kantipur and Kathmandu Post), and the notice and ToR has been uploaded to AEPC website.

### 4.8.2 Achievements against planned outputs, targets and program principles

There was absence of MQA output/s in the NRREP Program document. However, as agreed, MQA unit has framed an output as an important component of the Operational Strategy document.

There are significant achievements against the set output of MQA during the reporting period. Initial momentum towards output (strengthening monitoring and evaluation mechanisms) is very much encouraging. Following table compares the achievement against the proposed output.

Table 10: Achievement against Planned Output of MQA Unit

Output	Key achievements
Output 18 (Revised) : Develop and Implement AEPC Monitoring and Quality Assurance systems for effective result -based management	MQA unit has been successfully instituted with its Operational Strategy in hand and full team on board. Vital processes (such as integrated MIS, program baseline, verification mechanism, progress reporting etc) towards development of Result based monitoring framework has begun. Attained a common understanding between MQA unit and all components/sub components regarding strategic directions, monitoring roles, expectations and areas of complementariness.

### 4.8.3 Key monitoring and quality assurance findings

It is evident that the programme document has highlighted programme objective, components outputs and major activities and it further recommends to develop result based monitoring

framework with DCED1 standards in case of 'Productive Energy Use'. In this light, the MQA unit has surfaced this necessary requirement and put forward for the decision making.

#### **4.8.4 Activities implementation status**

Implementation process of all the activities (budgeted or unbudgeted) is on the track.

#### **4.8.5 Major risks & challenges**

NRREP implementation process has already begun but we are still developing Monitoring and quality assurance mechanisms and tools. Therefore, there are risks of having monitoring lapses during the program implementation process.

#### **4.8.6 Synopsis of work plan ahead**

The MQA unit will focus on following activities during the remaining period of the fiscal year.

- Finalization of NRREP Result framework.
- Development of result based M&E framework based on Result framework
- Continuation of Random Monitoring system
- Development of programme MIS
- Establishment of Program Baseline
- Development and implementation of quality assurance mechanism

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<sup>1</sup> <http://www.enterprise-development.org/page/measuring-and-reporting-results>

## **4.9 Institutional Support Subcomponent**

### **4.9.1 Updates of key progress**

The Subsidy Policy for Renewable Energy 2069 has been drafted and sent to GoN for the approval and detail Subsidy delivery Mechanism is in process of drafting. AEPC Strategic and organizational Development (SoD) plan has been revisited, reviewed and rewritten. The final draft of SoD has been prepared. NRREP Administration and Financial Guidelines including all operational processes, Technical Assistance Pool Guidelines, Regional Service Centers Guidelines, and District Energy and Environment Guideline have been drafted and finalized.

The Consultant has been selected to evaluate the Proposals and Field Verifications of the Regional Service Centers as key implementation organizations of the NRREP.

The RSC selection process is well underway with 45 proposals have been received from the various NGOs/Organizations for RSC, independent analysis and field verification is completed and the consultants are expected to submit the final report by April 2013.

AEPC Staff Performance gap analysis has been conducted with common understanding and approval for learning initiatives aimed at filling identified gaps.

Roles responsibilities and authorities of Regional Service Centers and District Energy and Environment Units (DEEUs) have been drafted.

The Annual work Plan of NRREP has been finalized, support to steering committee and coordination committee meeting (drafting of agenda, drafting of minutes, and facilitation), extension of the contract of the Regional renewable Energy Service Centers, finalization of the 3 months work plan of the RRESCs.

### **4.9.2 Achievements against planned outputs, targets and program principles**

#### ***Output 2.14.1 AEPC is recognized as an effective, efficient institution for the promotion and development of the RE sector***

AEPC strategic and organizational development plan has been further reviewed, subsidy policy for renewable energy has been finalized, and approach paper for three year development plan of renewable energy sector (2013-2016) drafted and sent to National Planning Commission.

AEPC has completed filling up majority of NRREP positions including advisors, officers and assistant officers. The NRREP admin and finance guideline has been approved for implementation.

In order to increase public awareness in RE and to influence policy, a national Renewable Energy Week was successfully organised from 20<sup>th</sup>–26<sup>th</sup> January 2013. The week was celebrated throughout Nepal and included events including talk shows, seminar and a two day national expo.

AEPC organised a team-building workshop “boot camp 2013” on 4<sup>th</sup> February 2013. Second NRREP Coordination Committee Meeting and second NRREP Steering Committee Meeting were organised in February 2013.

**Output 2.15 DEEU/Ss become an integral part of DDCs and work to establish linkages between the AEPC and the needs of the rural population whilst promoting the interests of women and marginalized groups**

The operational guideline of district energy and environment unit/section has been drafted, initiated has been taken for support to DEEU/Ss in operation and programme activities, capacity building of DEEU/Ss. Four regional workshops between April to May, 2013 on NRREP orientation to key local government officials throughout Nepal, especially Local Development Officers (LDOs) and Planning Officers (POs) of District Development Officers have been planned which is currently being executed in collaboration with MoFLD in various locations. The expected output of conducting such orientation sessions has been to entice DDCs to earmark some fund from DDCs planning process to renewable energy projects and more importantly it further works as an impetus for the internalization process of DEEUs within DDCs which has long been under consideration.

**Output 2.16 RSCs are contracted and their capacity enhanced to facilitate the delivery of RE services and promote linkages at a local level as a resource of the AEPC.**

The ToRs for both the Consultant for the selection of NGOs/Cooperative/Private Company as RSCs have been finalized, consultant has been selected and the process for selection of the RSCs is nearing completion. In order to ensure smooth continuation of RSC services for NRREP, existing RRSCs' contracts has been extended till March to implement NRREP related activities. Considering some unavoidable circumstances causing the delay in RSC selection, existing RRESCs are likely to be contracted out on monthly basis starting April until the RSC selection becomes final; however, the contract with existing RRESCs will not extend beyond June 2013.

**4.9.3 Major deviations from plan**

There is no major deviation from planned activities.

**4.9.4 Key monitoring and quality assurance findings**

Institutional sub-component has identified inter-departmental coordination and cooperation as primary area of improvement. For this cultural interventions (more interaction, openness, teambuilding, bilateral conversations) as well as structural interventions (restructuring proposal) has been generated and implemented.

**4.9.5 Activities implementation status**

Activities implementation process is on track. Out of 39 sub activities planned for this year, 18 of them were budgeted to be initiated in Q1 and Q2. The component has accomplished 11 of these (green), with 2 of them ongoing (yellow).

**4.9.6 Summary of the use of funds compared to budget**

There are number of activities going on under this subcomponent and around NPR 13 million is committed for the ongoing activities.



#### **4.9.7 Major risks & challenges**

AEPC requires to implement a transitional structure that is capable of migrating to the desired structure (after approval of AEPC act) but robust enough to allocate responsibilities to present workforce to implement NRREP. Such a structural solution has been conceived and awaiting implementation. AEPC requires coherent project management framework that all programme managers adhere to. Such a framework and capacity to execute the framework needs to be built with urgency.

#### **4.9.8 Synopsis of work plan ahead**

Institutional development sub-component aspires to immediately implement a transitional structure with interim roles to existing workforce so as to implement NRREP with higher level of efficiency. A major focus on knowledge development/management and business development/strategic thinking is foreseen in the remainder of the year. There are number of immediate activities as follows:

- Finalisation of AEPC SoD plan
- Initiation for drafting of Renewable Energy Policy
- Drafting of three year development plan of renewable energy sector
- Finalisation of 20 Years RE Perspective Plan
- Selection and contract of the RSCs
- Orientation of the new RSCs
- Finalisation of the work plan of RSCs for remaining period of FY 2012/13
- Training to DEEU/S on NRREP, modality, new subsidy policy & delivery mechanism, RETs
- International exposure visit to policy makers
- Clear role and responsibilities of DEEU/Ss, RSCs

## 4.10 Gender and Social Inclusion Unit

NRREP document has emphasized GESI as one of the key elements to access RET to real poor of the society. GESI is inbuilt along with every component with set objective and target but the programme document do not clearly mentioned the operational modality Therefore during this reporting period, the most of the time of GESI unit has been spent for preparation of GESI operational strategy, designing the outputs and activities for whole program project period and preparation of terms of references for outsourcing consulting firm. Meeting was also conducted with different component of NRREP to understand the components approach to drive GESI along with their activities. Necessary inputs also provided on the documents to design GESI responsive activities.

As a progress till date according to workplan, consulting firm is selected for tool box preparation and the work is in progress. The work on GAP analysis is on progress. The evaluation of submitted proposal is ongoing. Similarly the social mobilization guideline is also under the preparation.

Capacity development training is under process, it will be conducted soon after approval by hiring resource persons. The purpose of this training is to sensitize professional staff on GESI and capacitate them on GESI responsive planning and budgeting. GESI team is also in close coordination with ENERGIA for capacity development of NRREP team. Development of Gender Action Plan will be one of the main tasks of capacity development.

Besides the activities related to program document, GESI unit is also involved in coordination and network development with other institutions working for empowerment of rural women by promoting rural enterprises. WOCAN is the institution working for empowerment of women. AEPC and WOCAN are going to sign MoU to work for the poor, women and marginalized groups of the society.

### 4.10.1 Achievements against planned outputs, targets and program principles

**Output 2.14: AEPC is recognized as an effective, efficient and GESI proactive institution for the promotion and development of the RE sector.**

- Evaluation of submitted proposals on GAP analysis at policy and institutional level ongoing
- Necessary inputs provided to make GESI responsive SOD
- Document is prepared to conduct capacity enhancement training to all professionals of NRREP. External resource persons having experience on GESI responsive planning and budgeting will be hired to conduct the training, the document is under the process of approval.
- Inputs is given while revising the RE subsidy policy to make the document GESI responsive. Once the policy is finalized, it will be supportive in mainstreaming GESI related activities.

- Consulting firm is working for development of GESI tool box to implement broad based RET for rural women, poor and excluded groups. The toolbox after preparation will be shared to all the staff to make them familiar the way it applies at the field level.
- Social mobilization guideline is under preparation

#### **4.10.2 Major deviations from plan**

As mentioned in the Work plan, the preparation of GESI framework has been embedded in the preparation of tool box.

#### **4.10.3 Summary of the use of funds compared to budget**

Due to the non-availability of the funds during first two months, most of the activities were initiated later compared to proposed framework. Most of the activities are in the consultant selection phase, and the actual release of the funds has not been started yet. Out of the total budget for this reporting period, NPR 20, 05,185 has been approved for tool box preparation and NPR 1482560 is approved for GAP analysis and work is on the progress. Social mobilization guideline is also under preparation and the approved budget for the assignment is NRs 598137. Capacity development training is under final stage but budget is still to be finalized.

#### **4.10.4 Synopsis of work plan ahead**

Effort will be given to timely completion of all the activities to bring the outputs as set in annual work plan. Terms of reference will be prepared on time to develop guidelines and implement GESI responsive activities and ensure completion as per AWP.

Efforts will be given to capacitate and sensitize staff from all level towards GESI and develop GESI mainstreaming planning and budgeting and implementation for poor, women and marginalized groups of the society. ENERGIA will also support in capacity development of NRREP staff and development of GESI responsive action plan for all components.

MoU will be done with WOCAN to empower rural women through means of agro based enterprise development.

The tool box after preparation will be shared to all the staff to make familiarize with the GESI tools. It is expected that the tools will provide clear direction to drive components towards GESI responsiveness.

The recommendation from gap analysis will be used to prepare gender action plan and develop capacity development activities. Social mobilization guideline will be developed and shared with social mobilizers to bring effective mobilization of all social groups in use of RE technologies.

## 5 Major Risks and Risk Management

**Key sector issue:** Policy instruments such as RE act, wind energy policy, 20 years RE perspective plan are still not finalized.

### Key Operational Challenges and Solutions:

Table 11: Challenges faced during the reporting period:

<b>Operational Challenges faced</b>	<b>Mitigation Measures/Solution</b>
1. Delay in staff recruitment (both internal and external) process resulted slow progress in NRREP implementation	Now almost all positions are fulfilled, the NRREP will put additional effort to accelerate the implementation process.
2. Delay in preparation and approval of annual Work Plan caused setback	The AWP is already approved and the NRREP is focusing on activity implementation.
3. Delay in the approval of Administrative & Financial, and TA Pool Guideline of the Programme caused confusion in many operational processes.	The Administrative and financial guideline is now approved and NRREP started implementing it.
4. Amount of unspent budget is relatively high and lacking on target meeting	NRREP has taken this issue very seriously and putting extra effort to compensate the loss in the remaining period.
5. Remaining works of the ESAP overlapped with NRREP	ESAP is now closed and NRREP works started.
6. Delay in approval of new subsidy policy caused confusion among stakeholders for sometimes that affected in achieving targets.	New RE Subsidy policy 2013 is approved, and subsidy delivery mechanism at approval stage.

Table 13: Emerging challenges and risks

<b>Emerging Operational Challenges</b>	<b>Possible Solutions</b>
1. Selection of the appropriate Regional Service Centers	Involve an independent evaluator and follow effective selection process.
2. Establishment of Central Renewable Energy Fund.	Intermediation Mechanism for the CREF modality is developed. Its operational guideline need to be drafted and approved for implementation.
3. Mainstreaming DEEU/DEES	A guideline defining clear roles and responsibility of DEEU/DEES need to be developed soon so that these institutions can be mainstreamed into the NRREP.
4. Meeting annual financial and physical targets	Since major policy guideline and start up process are now completed, the NRREP is now focused on the delivery side.

## 6 Conclusion and Recommendation

Despite various delays in completing initial startup activities like recruitment process and preparation of essential guidelines, NRREP has now gained the momentum toward delivery of the annual targets. Based on current scenario, it is certain that the previous slow progress trends will be overcome and the progress trends will be accelerated. It has been anticipated that the 70-80% of the annual targets will be met comfortably. AEPC/NRREP wants to reassure to its stakeholders that we will remain intact with the set plan and principles and accelerate the implementation process with improved effectiveness and diligence. The NRREP will follow the possible solutions to overcome emerging challenges and problems.

AEPC is continually working to improve the efficiency of its NRREP. As reported above, these efforts are beginning to show measurable results. Additional improvements are expected when new policy/delivery mechanisms are fully implemented and the transition to the single program modality approach has been completed. In addition, the comprehensive review of the program by the AEPC board, coordination committee and Steering committee is expected to recommend additional measures/suggestions to further improve the program effectiveness and speedy delivery mechanisms. To be more specific we recommend following key actions as the next steps.

- Accelerate the AWP implementation process so that there will be expected improvements in the existing slow financial delivery situation.
- Effectively implement new subsidy policy-2013 and its delivery mechanism.
- Conduct effective field verifications of RETs installed through NRREP support.

Thank you.