



Government of Nepal
Ministry of Environment
Alternative Energy Promotion Centre (AEPC)

CLIMATE AND CARBON UNIT

Climate Sensitising Nepal's Renewable Energy Sector



With Financial and Technical Support from



Foreword

The interconnected nature of renewable energy dissemination and the mitigation of climate change has long been recognised, however, the contribution of energy systems to increasing poor people's resilience and capacity to react to climate change has still to be properly addressed in the Nepalese context.

The Alternative Energy promotion Centre's Climate and Carbon Unit (CCU) was established in March 2010 and has sought to fully integrate climate change into Nepal's renewable energy sector. The AEPC with financial support from The UK's Department for International Development and technical assistance from SNV Netherlands Development Organisation has undertaken a comprehensive analysis of the global experience of climate change and energy integration and established a specialised unit within AEPC's operations to internalise climate and carbon agenda.

This initiative has shown that access to energy is vital to help people adapt to climate change, providing people with new options for better livelihood reducing and their reliance on climate vulnerable sectors and sub sectors.

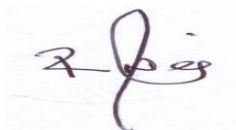
If new energy supplies are not low carbon we risk making the impacts of climate change worse, so renewables have to be a part of the solution if Nepal's development is to be equitable and sustainable. The work of the CCU has put these principles in practice in a number of ways, with local level planning climate and energy planning, Clean Development Mechanism (CDM) programmes and attracting additional funding for renewables.

Within just two years the CCU has made remarkable progress with the registration of two bundled biogas projects under the CDM with many more RETs in the registration process. District Climate Change and Energy Plans (DCEPs) are being implemented in three districts and have been recognised as a key energy planning tool in Nepal that contributes to increasing climate change resilience in Nepal.

The CCU has made a unique contribution to designing and implementing climate change compatible development processes. It is hoped that the CCU will continue to support climate sensitised RET development across Nepal and will share experience in a wider regional and global context. We would like to thank all the stakeholders for their kind support in this regard.



Prof. Govinda Pokharel
Executive Director,
Alternative Energy
Promotion Centre,
Ministry of Environment



Rem Nefjees
Country Director,
SNV Netherlands Development
Organisation,
Nepal



Dominic O'Neill
Head of Office,
DFID Nepal,



Acknowledgments

The CCU has clearly demonstrated SNV's capacity building approach. SNV through its advisors has been supporting the Alternative Energy Promotion Centre (AEPC) and local stakeholders from the establishment of the CCU through to full implementation of the unit. SNV has been encouraging and developing skills and capacities within AEPC and local level organisations to develop responsibility and accountability for running of the CCU and implementing all of the energy and climate change initiatives including CDM registration and DCEP preparation and implementation.

SNV will now happily phase out its involvement in the CCU from March 2012 and hand over all activities and management to AEPC with the knowledge that it is in very capable hands.

We would like to recognise the contribution and support of everyone involved in the CCU from initiation through to implementation. Special thanks goes to Simon Lucas at DFID for his guidance throughout the programme and all of the dedicated AEPC and CCU staff including CCU manager Raju Laudari, Programme Officers Prem Pokharel and Sandip Joshi, and all SNV district advisors for their comprehensive technical input and facilitation in the design and implementation of the CCU. Additional thanks to Prof Govind Pokharel for his steering throughout the programme.

We would also like to acknowledge the contribution from all individual experts and organisations that have supported the development of the CCU and DCEPs including Practical Action Consulting, Vipramshree Consulting and CEPAD Engineering.

Additionally we would like to acknowledge the commitment of all of the stakeholders within the District Development Committees (DDCs) and District Energy and Environment Units (DEEUs) for taking ownership for development and implementation of DCEPs.

SNV is happy to acknowledge the ongoing financial commitment of DFID for supporting Ministry of Environment for further works of the CCU and is looking forward to seeing as much success as the first phase.

Jeremy Stone



Programme Leader
Climate and Carbon Unit
SNV Netherlands Development Organisation, Nepal



CONTENTS

1. INTRODUCTION AND BACKGROUND	4
1.1 RATIONAL AND APPROACHES	4
1.1.1 Carbon Finance	4
1.1.2 District Energy and Climate Plans	5
1.1.3 Coordinataion with Nepal’s Climate Frameworks and policy	6
1.1.4 Gender and Social Inclusion	6
1.1.5 Specific Goals and Objectives	7
1.1.6 Actors and Stakeholders	7
1.1.7 Working Areas	9
2. PROGRESS AND PERFORMANCE	10
2.1 CCU ACHIEVEMENTS	10
3. EXPERIENCES AND LESSONS LEARNT	11
3.1 PROGRESS TOWARDS PROJECT OBJECTIVES	11
3.2 LESSONS LEARNED	11
3.3 FUTURE OF CCU	12
3. FINANCIAL STATEMENT	13
CCU PUBLICATIONS	13



CLIMATE AND CARBON UNIT

Climate Sensitising Nepal's Renewable Energy Sector



'GIVEN THE IMPORTANCE OF ENERGY IN ANY ECONOMY AND IN ANY DEVELOPMENT EFFORTS, IT IS VITAL THAT VULNERABILITIES WITHIN THE ENERGY SECTOR ITSELF BE REDUCED SUBSTANTIALLY'

The CCU forms a core organisational practice within AEPC

1. INTRODUCTION AND BACKGROUND

The requirement for energy through Renewable Energy Technologies (RETs) in the development of any country or economy is clearly understood by the development community; however, climate change has the potential to significantly impact on the supply and demand of energy.

'Given the importance of energy in any economy and in any development efforts, it is vital that vulnerabilities within the energy sector itself be reduced substantially.'¹

Whilst climate change could have significant impact on energy systems unless properly addressed, RETs also have huge potential to support households and communities to increase their resilience to climate change by developing adaptive capacities.

As a hub of off-grid renewable energy in Nepal, The Alternative Energy Promotion Centre (AEPC) is ideally positioned to provide an integrated approach for clean energy and climate change by developing local, on-the-ground adaptation and mitigation practices which is linked to Nepal's climate change policy, programmes and strategies.

AEPC has been actively building its knowledge and expertise—through support from SNV Netherlands Development Organisation with funding from the United Kingdom's Department for International Development (DFID)—to be able to better address climate change issues. As part of this effort, AEPC has established a dedicated Climate and Carbon Unit (CCU).

Given the high potential for RETs to contribute to both climate mitigation and adaptation, it is increasingly important to address climate change issues when planning for RET dissemination. However, sustainable utilisation of Nepal's available energy resources will only be possible if planning is carried out at the local level with the involvement of the related stakeholders². To address this, AEPC and SNV in consultation with a number of experts in the field of energy and climate have designed a district-level, multi-sector approach to renewable energy planning that is anticipatory and reactive to climate issues.

District Climate and Energy Plans (DCEPs) are designed to build on existing planning processes that are sensitised to the potential impacts of climate change. A DCEP aims to incorporate low carbon activities into local energy practices, but also to scope out energy adaptation needs and opportunities at district level providing an integrated approach linking the demand for renewable energy technologies with the potential of these technologies for climate change mitigation and adaptation. Implementation of the DCEP requires linkage of supply and demand for technologies, building public-private sector partnerships and ensuring access to finance.

1.1 Rational and Approaches

The CCU supports RE-related carbon finance activities and prepares and implements DCEPs at local level. The overall objective of the CCU is to improve the coordination and efficiency of the CDM registration process and increase knowledge of carbon finance in Nepal.

1.1.1 Carbon Finance

¹ Williamson et al, 'Climate proofing energy systems'. Helios International

² Practical Action (2008) 'Village Development Committee Energy Planning (VDCEP) – Gumda and Uiya VDCs Gorkha District'.



Carbon financing is an important mechanism for ensuring the long term sustainability of RET programmes and delivery in countries like Nepal. It is therefore essential to have a designated unit that has the knowledge and capacity to support RET programme developers and managers to prepare their programmes and support documentation for the complicated Clean Development Mechanism (CDM) registration process.

1.1.2 District Energy and Climate Plans



Photograph of DCEP Task Force meeting Ilam

The DCEP is a district-based energy planning tool with the overarching objective of ensuring renewable energy systems are climate proofed and are contributing to climate change adaptation and mitigation at the local level. It presents a detailed implementation plan which ensures Gender and Social Inclusion issues are mainstreamed within energy and climate change planning.

DCEPs are integrated into Nepal’s local planning systems and processes and efforts are made to ensure that the District Development Committees (DDCs) are in the lead in the formulation of the plans. To ensure effective implementation of the plans, the DDCs with support from dedicated District Energy and Environment Units or Sections (DEEU/Ss) need to take ownership of the plans and allocate their own funds to support implementation.

A DCEP guideline has been developed that helps energy planners to integrate climate change and gender consideration into the energy planning process as shown in figure 1 and 2 below.

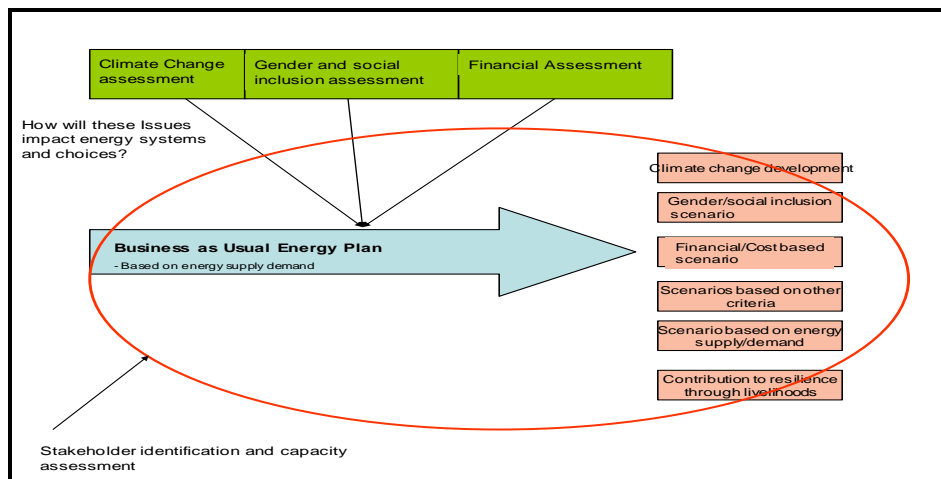


Figure 1 Criteria Selection and Scenario Development Process

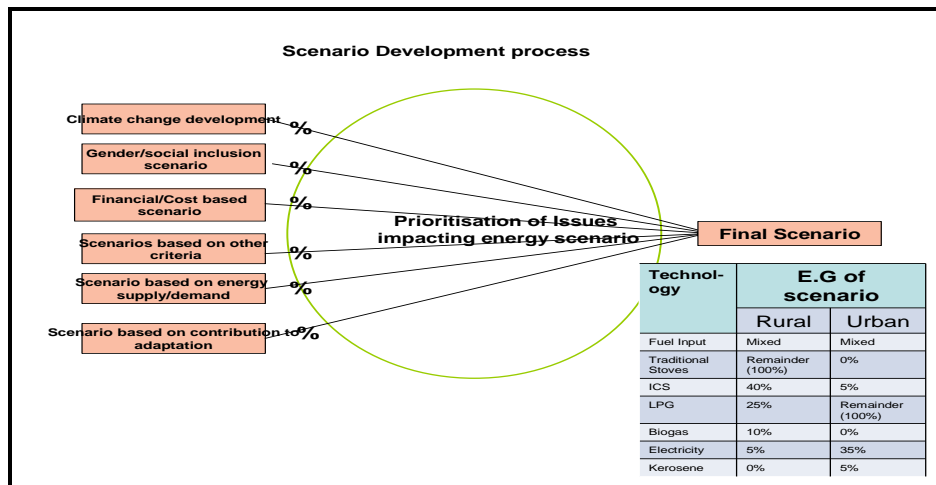


Figure 2 DCEP Scenario Development Finalisation process

Implementation Plans

Unlike some previous attempts to produce district energy planning, the DCEP's emphasis is on implementation. RET targets are not enough to ensure that access to climate and GSI appropriate RETs is achieved. The planning process has to go one step beyond and carry out detailed institutional and capacity assessments to identify the most appropriate implementing organisations and what skills are required to deliver on the targeted impact.

Each DCEP has a longer term perspective of 10 years; however, has a detailed implementation plan that covers 3 years. The implementation plan spells out in detail

- The numbers and types of targeted RETs
- Supporting activities to ensure capacity and quality
- Responsibilities for implementation
- Activities to ensure linkage with climate adaptation and GSI
- Financial requirements and tentative identification of budget sources

1.1.3 Coordination with Nepal's Climate Frameworks and policy

The CCU and DCEPs have been designed to backstop and support Nepal's Climate Change Policy 2011 in terms of its commitment to:

'Address the adverse impacts of climate change and utilize the opportunities created from it to improve livelihoods and achieve climate-friendly physical, social and economic development'.³

The CCU addresses both the goals of climate change mitigation and low carbon development and supporting climate change adaptation and increasing resilience.

The National Planning Commission (NPC) has additionally highlighted in its approach paper to the three-year interim plan of 2011-2013, the need to adopt a mechanism to screen development plans and programs and make them climate resilient⁴.

The DCEPs serve as a piloted tool to show how development planning can be climate screened and adaptation measures identified for implementation. The DCEPs should be directly linked with Nepal's Climate Change Support Programme (NCSSP) and to National and Local Adaptations Programmes of Action (NAPA/LAPA). DCEPs and DDCs should support LAPAs prepared at community and village level to identify the additional energy requirements to implement the identified adaptation interventions.

1.1.4 Gender and Social Inclusion

³ Government of Nepal (2011) Climate Change Policy Unofficial translation Approved by the Government of Nepal on 17 January 2011

⁴ NPC (2011) Climate Resilient Planning, A tool for long term climate adaptation



It is generally accepted that women and excluded groups will be the hardest hit by potential impacts of climate change as they have more restricted access to resources, less decision making power and fewer rights⁵

Addressing Gender and Social Inclusion within the CCU programme has been given a strong focus, especially in preparation and implementation of DCEPs. Ensuring that women and marginalised or excluded groups are able to access RETs and are ensured a voice in decision making is an important part of equity in the CCU programme.

GSI experts have been involved in the whole process to ensure that the initial analysis was addressing the right questions and collecting the right data to be able to assess the status of GSI in the energy and climate sectors of the pilot districts. The DCEP documents have integrated GSI concerns onto the three year implementation plan and have provided recommendations on how to ensure access and participation of women and excluded groups into the sector.

GSI specific indicators and activities are embedded into the implementation plan and into the monitoring and evaluation plan

1.1.5 Specific Goals and Objectives

The overall goal of the CCU is to increase financing and access to decentralised, climate and GSI appropriate technologies in Nepal

The CCU forms a core organisational practice within AEPC with the following clear objectives:

- a) Leverage the carbon mitigation and climate change adaptation potential of existing and future RE programmes and technologies
- b) Promote district level renewable energy-based mitigation and adaptation activities by overseeing and coordinating District Climate and Energy Plans (DCEPs);
- c) Act as a knowledge centre on clean energy, carbon finance and climate change for Nepal and the region

The CCU supports all national and local RET programmes in accessing finance from CDM and in planning at local level. By identifying the most appropriate RETs at local level, DCEPs support national RET programmes in their planning and target setting and local service providers in identifying where and how to promote their products.

1.1.6 Actors and Stakeholders

AEPC

AEPC is the coordinating and implementing agency in the CCU programme. It is responsible for running of the CCU and coordinating the preparation and implementation of DCEPs. AEPC has specialised staff responsible for coordinating carbon finance activities for RE, and experts in climate change and energy planning to facilitate DCEP preparation.

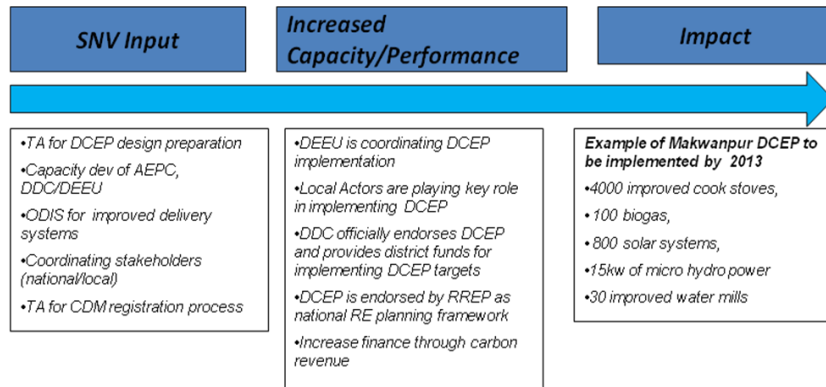
SNV

SNV has played a key role with AEPC in supporting the establishment of the CCU and in facilitating the design, preparation and implementation of three Pilot DCEPs. SNV provided technical expertise in designing the plans and the process. They actively engage with national and local stakeholders to implement the plans by identifying the major stakeholders and encouraging local ownership. SNV also supports skill and capacity development in renewable energy dissemination and climate sensitisation so that districts can realise the full adaptation potential of energy services.

SNV provides specific technical support in organizational and institutional development, energy dissemination models, carbon financing mechanisms, energy and climate change adaptation linkages and gender and social inclusion. SNV also facilitates networks and partnerships between stakeholders to ensure effective delivery of the

⁵ UNDP (2009), *Resource Guide Gender and Climate Change*.

DCEPs. The diagram below shows SNV's 'theory of change' which explains how SNV's capacity services will lead to the intended impacts.



DFID

DFID provides financial support and oversight for the CCU programme.

DDC/DEEU

The DDC and DEEU/Ss are key actors for preparation and implementation of DCEPs. They are responsible for coordinating experts for preparation of the DCEP through a DCEP task force. The DEEU/S is also responsible for ensuring that the plans are fully integrated into the district annual plan and is endorsed by the district council. Once the plan is finalised it is anticipated that the DDC will allocate funds to meet the RET targets set in the plan. The DEEU will also coordinate service providers and other stakeholders to implement the plan. The DEEU will also be the focal point for ensuring that climate change adaptation and GSI measures are fully integrated into implementation. They will also coordinate other actors and arrange capacity development activities where necessary.

Service Centres/Private Sector

The key actors for ensuring that the RET targets are met. Whilst the DDC will help coordinate and steer implementation, it will be the private sector and NGOs that will create demand, construct and maintain RETs. All implementing stakeholders will be oriented on climate change and GSI to ensure these issues are addressed during implementation.



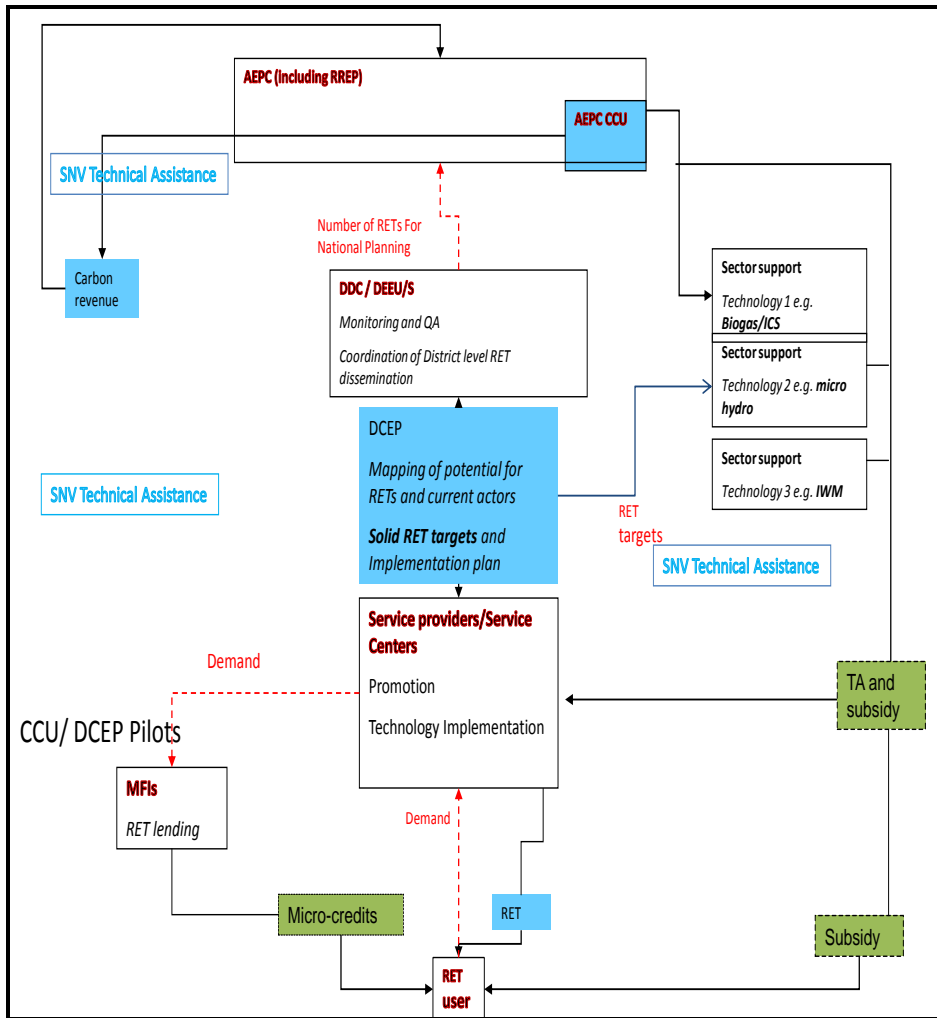


Figure 3 Diagram showing key stakeholders and implementation mechanisms for the CCU

1.1.7 Working Areas

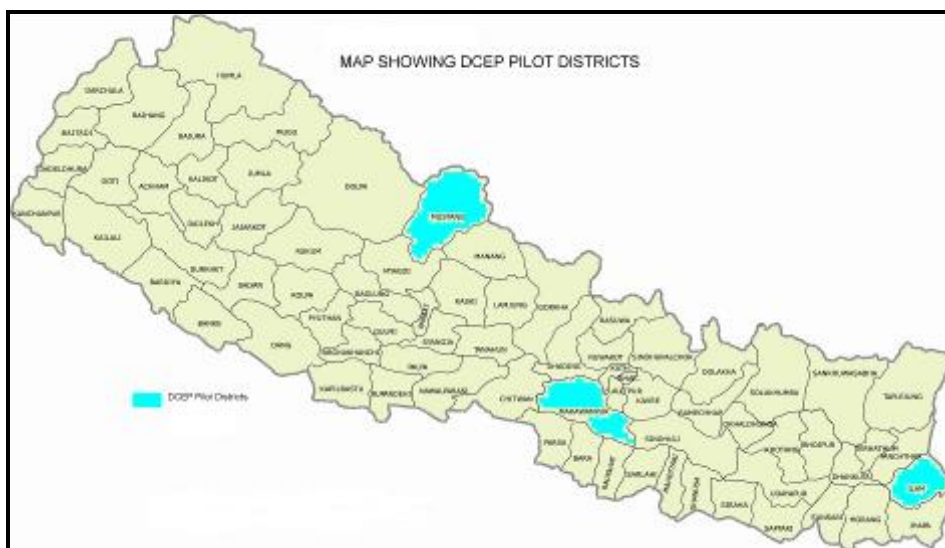


Figure 4 Map of DCEP pilot districts

Carbon finance activities of the CCU are not geographically limited and will depend on the working area and boundaries of the projects being registered.



In order to pilot and test DCEPs three pilot districts were selected. The districts were chosen to cover the three geographical regions of Nepal, the Terai (Makwanpur), the mid hills (Ilam) and the high mountains (Mustang).

The next phase of the CCU will see DCEPs being rolled out across Nepal's 75 districts.

2. PROGRESS AND PERFORMANCE

2.1 CCU Achievements

CCU

Since initiation of operations, with support from SNV, the CCU has achieved the following:

- Staff recruited, hired and positions fully operational and supported.
- CCU acknowledged in National (GoN) Three Year Approach Paper.
- CCU acknowledged in AEPC's Strategic Organisational Development Plan (SOD). Operational guidelines prepared for CCU. AEPC to start process to become a member of the Multi-stakeholder Climate Change Initiative Coordination Committed (MCCICC) of the MoE.
- Request from Climate Change Division Chief of MoE to support development of a (National) Carbon Trade Development Strategy and Certified/Verified Emission Reduction (CER/VER) revenue mobilisation guideline for Nepal.
- Expression of Interest prepared and submitted for Programme for Scaling up Renewable Energy (SREP)—Nepal selected as candidate country and CCU given responsibility by Ministry of Environment through AEPC for developing SREP draft proposal to the Climate Investment Fund.
- Started baseline survey and feasibility study of Improved Cook Stove (ICS), Solar and IWM (Improved Water Mill) programmes for carbon market opportunities. Started preparation of CER/VER revenue utilization guideline for RET sector. Micro-hydro Clean Development Mechanism (CDM) registration process initiated. Coordinated for Validation of Biogas POA and two additional biogas CDM projects (Project Activity 3 and Project Activity 4). Initiated preparation of Project Idea Note of Improved Cooking Stove and Improved Water Mills carbon Project

DCEPs

The first phase of the CCU, with support from SNV, has completed a comprehensive analysis of energy planning and integration of climate change and gender and social inclusion issues into the planning process. The following have been the major outcomes and achievements:

DCEP design

- Completion of energy planning analysis summary report produced
- Reference document produced by SNV and its consultants, 'Integration of Climate Change and Gender and Social Inclusion into District Climate and Energy Planning'
- DCEP guidelines produced. This is a tool for defining DCEPs, how to identify issues and tools and frameworks required to complete a DCEP.

DCEP preparation

- Consultant organisations selected and DCEP preparation activities completed in three pilot districts.
- Orientation meetings with all pilot districts carried out and DCEP task forces formed in all districts.
- Final Draft reports submitted for DCEP pilot districts Ilam, Makwanpur and Mustang
- Discussions initiated with wider stakeholders and NAPA/LAPA teams setting the stage for further cooperation and integration in the second phase.

DCEP Implementation

- Preparation for National and district implementation and sharing workshops in process
- Design of VDC demonstration site and assessment methodology in process.
- Local Capacity Development Organisations selected and capacity assignments in progress.

The CCU has become the government clearing house for RET related CDM projects and climate change activities



3. EXPERIENCES AND LESSONS LEARNT

In order to implement development projects it is often necessary to deal with complex problems and interactions between many different groups and stakeholders and accommodate for unpredictable change processes⁶. This has been the case in DCEP where implementation has involved a vast range of stakeholders in the design and implementation phase, from national and international consultant groups, national and local government stakeholders, NGOs and private sector service providers. This coupled with constant flux and change in Nepal's political and decision making processes requires long term assumptions to be made that have had to be revised during implementation.

3.1 Progress towards Project Objectives

The CCU has shown significant progress over the last six months it has been running. It has surpassed expectations and **become the government clearing house** for RET related CDM projects and climate related activities.

- CCU on AEPC website

The unit is now efficiently coordinating the registration process for CDM activities and providing advice and guidance for project developers.

The three DCEP pilot districts implementation is in progress and it is expected that technology delivery will be initiated early next year. The reports have already been approved by the DCEP task forces including the LDOs and will be formally submitted to the District Councils for endorsement by March 2012. It is expected that this will result in district financial allocation to DCEP implementation.

There have been a number of formal requests to AEPC from DDCs to prepare DCEPs in their districts.

3.2 Lessons Learned

CDM

Experience through the pilot phase of CCU for the most part been positive. A specialised unit equipped to deal with the complex procedures necessary to get CDM projects registered has vastly sped up the process. Before the CCU the micro hydro CDM registration took almost five years. Since the initiation of the unit more than four RETs are in the process of registration and a number are in the final stages of registration.

DCEP Guidelines

The DCEP guidelines serve as a comprehensive tool for planners and it has been suggested by implementers that it simplifies the planning process to have defined tools and processes to follow when preparing this type of energy plan.

Many tools have been presented in the DCEP guidelines to measure the vulnerability of RETs to climate change and to work out how RETs contribute to climate change adaptation. There was however some confusion when implementing these tools at local level. It is recommended that all stakeholders are given a thorough introduction to the linkages between renewable energy and climate change. This is especially true for the link to climate change adaptation and resilience. There is often confusion between adaptation and mitigation processes. Clear examples should be given of energy and adaptation.

DCEP processes

It has been shown by the DCEP process that it is essential to work within the local government planning systems to ensure local ownership of the process. The pilot DCEPs have shown good progress in creating interest and ownership at local level.

⁶ ODI (2011), *Briefing Paper, 'Taking Responsibility for Complexity, When is a policy problem complex?'*

Despite this, there have been some delays in getting activities finalised. This has been especially true for the DCEPs.

Due to the complexity of working through local governance systems and following the timings of DDC annual planning procedures, delays were encountered in getting formal approval from the District Councils which additionally resulted in delays in allocating money for DCEP implementation from the DDC.

In the current political climate in Nepal especially in terms of local governance and lack of elected bodies, there is significant transfers of national government appointed staff including Local Development Officers (LDOs), Planning Officers (POs) and Energy and Environment Officers (EEOs). This constant transfer of staff makes it extremely difficult to fully instil ownership of the plans into the DDCs as each new set of DDC staff requires orientation and awareness of the DCEPs.

The constant change of staff and lack of knowledge and capacity to deal with relatively new technical concepts about climate change and GSI mean that a significant amount of backstopping is required to make sure that both issues are fully integrated into DCEP implementation.

The major lesson learnt is that any replication of DCEPs should be timed to fit with the district annual planning process so that it can be formally submitted to the district council in March of each year. Additionally a wider set of local stakeholders with long term presence should be brought into the DCEP planning process to ensure ownership.

AEPC and other supporting organisations need to have a long term backstopping mechanisms for DDCs and local stakeholders to ensure all issues are fully integrated into the implementation process.

3.3 Future of CCU

The CCU has successfully completed its start up phase and is now ready for full implementation and up scaling.

The CCU is now in full flow and is in the process of supporting CDM registration for a number of RET projects. The Unit will now be fully integrated into AEPC systems and processes and take the leading role in coordinating carbon finance for RETs.

The DCEP guideline is a public document and it is anticipated that all districts in Nepal will be supported to prepare DCEPs to ensure that climate sensitive renewable energy development occurs in all districts. The CCU will support national RET programmes and DDC's to prepare DCEPs.

A number of requests have already been made by DCCs to replicate the process in their districts.

The CCU will further coordinate with GoN and all development partners to ensure effective delivery of the Nepal Climate Change Support Programme (NCCSP) and to make sure that energy components are fully integrated and are being utilised to support climate change adaptation and for the development of a low carbon pathway for Nepal.

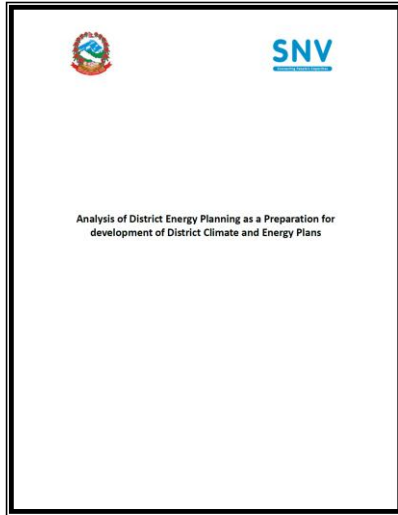
It is also anticipated that the CCU will serve as an example of climate sensitive development processes. The concepts of DCEP can be adapted to other countries in the region or wider to climate sensitise their energy development planning processes. Effort will be made to advocate DCEPs to a wider audience and act as a knowledge centre for interested parties.



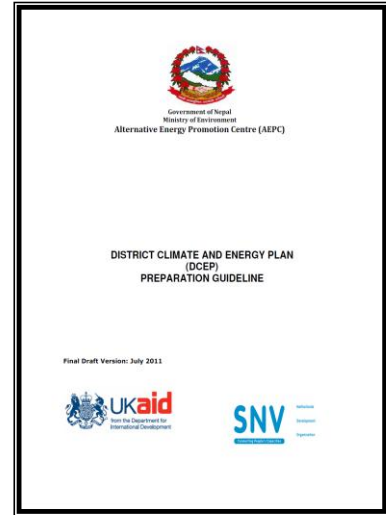
3. FINANCIAL STATEMENT

The CCU Start up phase ran from the 1st of April 2010 to 31st March 2012. The total budget was **GBP 469,437** for establishment and staffing of the CCU and for design preparation and implementation of DCEPs in three pilot districts.

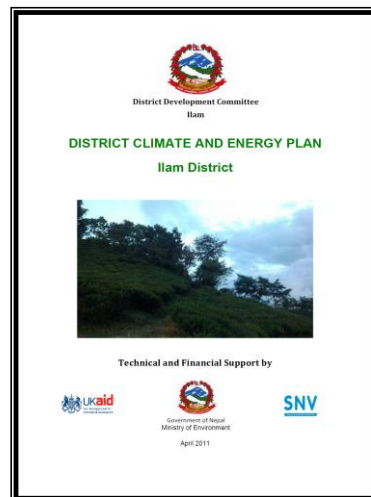
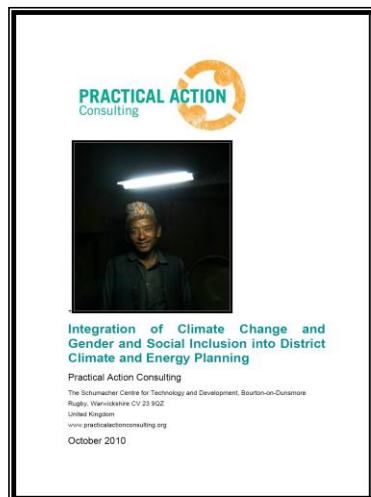
4. CCU PUBLICATIONS

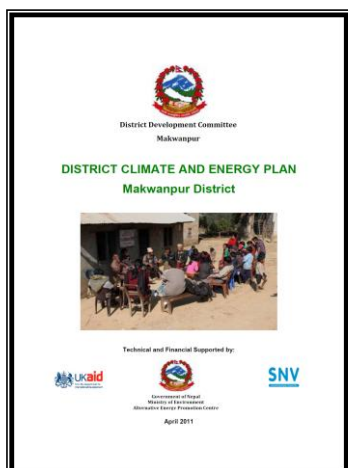


SNV (2010) Analysis of District Energy Planning as part of preparation for District Climate and Energy Plans

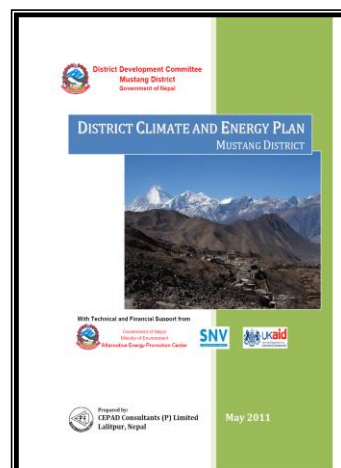


Ministry of Environment. (2011). District Climate and Energy Plan (DCEP) Preparation Guideline, Alternative Energy Promotion Centre, Lalitpur, Nepal

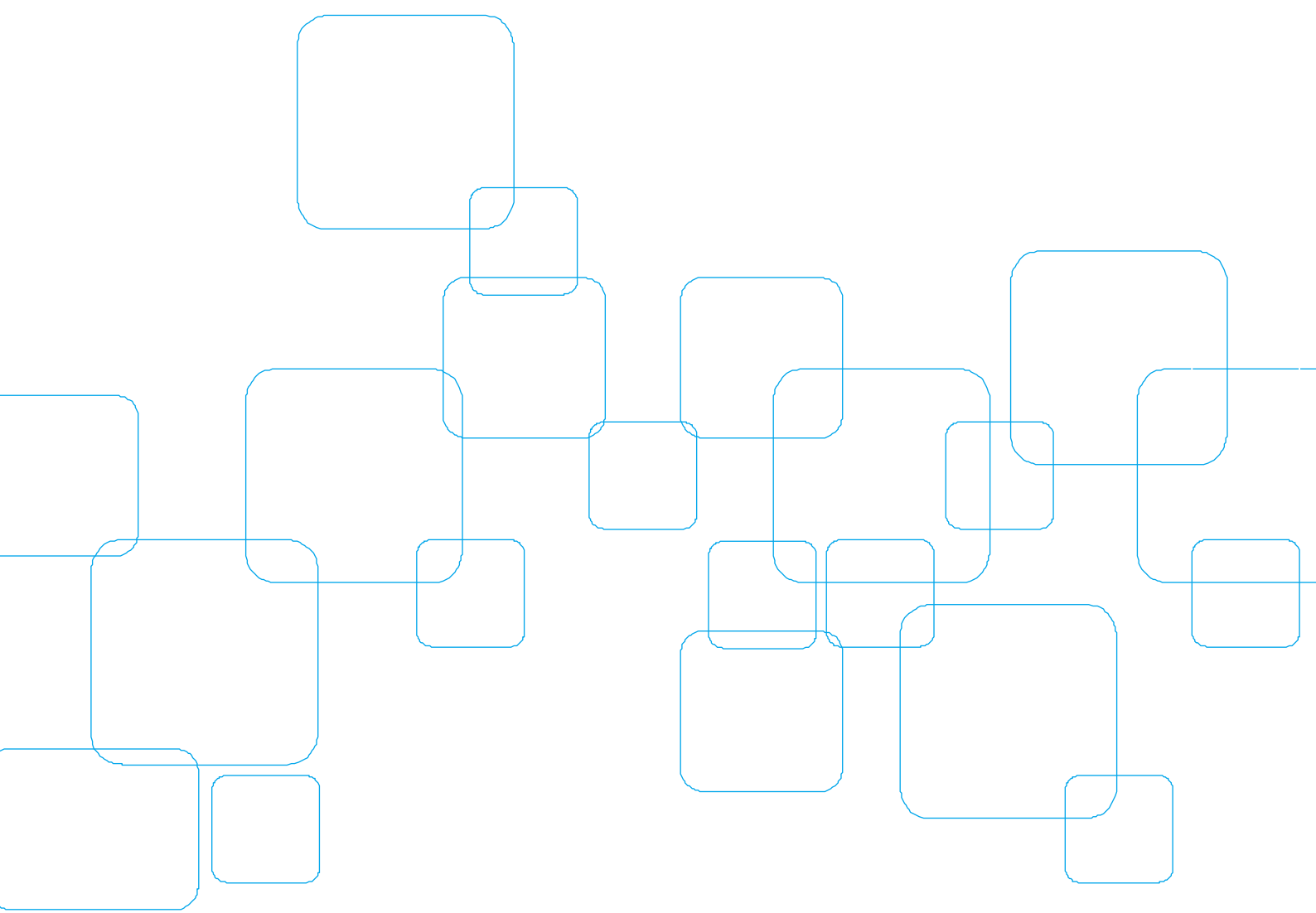




District Development Committee Makwanpur (2011). District Climate and Energy Plan Makwanpur. With support from Practical Action Consulting, AEPC and SNV



District Development Committee Mustang (2011). District Climate and Energy Plan Mustang. With support from CEPAD consulting, AEPC and SNV



Netherlands

Development

Organisation

SNV Netherlands Development Organisation

Nepal Field Office

Bakhundole, Lalitpur

P.O. Box: 1966, Kathmandu, Nepal

Phone: +977 1 5523444 Fax: +977 1 5523155

Email: nepal@snvworld.org

<http://www.snvworld.org>

