NEPAL
THE NATIONAL MONITORING AND EVALUATION SYSTEM AND THE SREP INVESTMENT PLAN

ASIAN DEVELOPMENT BANK

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Abbreviations

ADB	Asian Development Bank
AEPC	Alternative Energy Promotion Centre
CIFs	Climate Investment Funds
GHG	greenhouse gas
M&E	monitoring and evaluation
M&R	monitoring and reporting
MDAC	Ministerial Development Action Committee
MDB	multilateral development bank
MfDR	Managing for Development Results
MIS	management information system
MoEn	Ministry of Energy
MoSTE	Ministry of Science, Technology and Environment
NDAC	National Development Action Committee
NPC	National Planning Commission
NRREP	National Rural and Renewable Energy Program
RBME	results-based monitoring and evaluation
SREP	Scaling Up Renewable Energy Program in Low Income Countries

Background

1

The Scaling Up Renewable Energy Program in Low Income Countries (SREP) is a targeted program of the Strategic Climate Fund (SCF), one of the two funds that compose the Climate Investment Funds (CIFs).[1] The SREP helps low-income developing countries demonstrate the economic, social, and environmental viability of low-carbon development in the energy sector. Currently, there are eight pilot countries and five reserve countries (including the Pacific Region) in the SREP country list.[2]

Nepal is one of the eight pilot countries. Its SREP Investment Plan was first endorsed by the SREP Sub-Committee in November 2011 and was confirmed in May 2012 together with the Note on Proposed Revision to the Investment Plan for Nepal. The total SREP envelope of $40 million is channeled into two program components—the private sector Small Hydropower Development and the public sector Mini and Micro Energy Initiatives. The Asian Development Bank (ADB), the World Bank, and the International Finance Corporation are further developing these programs.

Integral to the development of the SREP Investment Plan is the SREP results framework. Using this framework, participating governments are expected to monitor and report on the implementation of their country investment plans, primarily to ensure accountability, evidence-based decision making, and learning. Since the SREP is country led and builds on national policies and initiatives, the SREP results framework must be part of the monitoring and evaluation (M&E) system of a country and individual programs and projects must be linked with that country's SREP program

[1] The CIFs comprise four window funds: the Clean Technology Fund (CTF) and the three funding programs under the Strategic Climate Fund (the Pilot Program for Climate Resilience [PPCR], the Forest Investment Program [FIP], and the SREP).

[2] Pilot countries: Ethiopia, Honduras, Kenya, Liberia, Maldives, Mali, Nepal, and Tanzania. Reserve countries: Armenia, Mongolia, Pacific Region (Solomon Islands and Vanuatu), and Yemen.

Interaction with rural households on renewable energy benefits and reasons for adoption
(Source: Winrock International)

outcomes. An integrated and effective national M&E system is needed for the SREP to operate well at the country level.

In November 2011, a joint meeting of the Clean Technology Fund (CTF) and SCF trust fund committees led to a request directed to the CIF administrative unit to identify a few showcase countries from among the pilot countries. At an SREP Pilot Country Meeting in Nairobi, Kenya, in March 2012, the Government of Nepal offered to be one of the showcase countries and to work with multilateral development banks (MDBs) to share experiences and lessons throughout the development of the SREP M&E system.

In this context, this paper presents a brief summary of Nepal's national M&E system and practices, explains the SREP results framework, highlights strengths and challenges in integrating the framework within the M&E system, and proposes future actions.

The paper gathers together information mainly from the proceedings of the SREP M&E workshop in Kathmandu, Nepal, on 12 October 2012 and other relevant government reports and CIF documents.

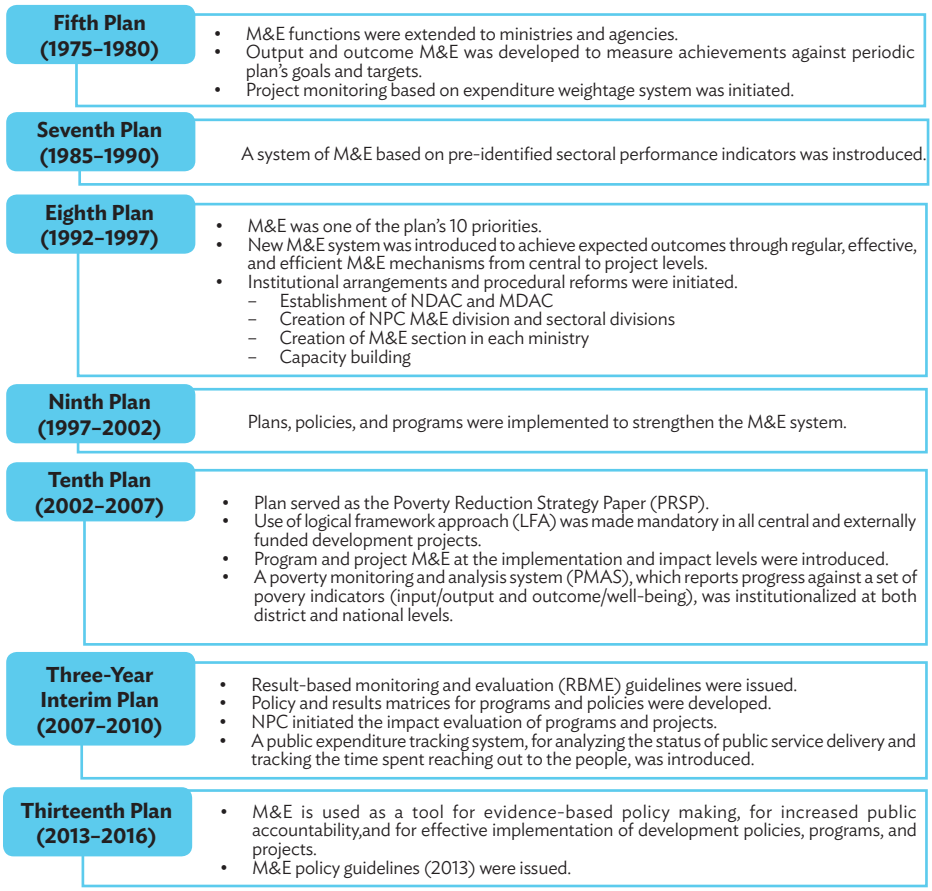
2

National Monitoring and Evaluation System and Practices

BRIEF OVERVIEW

The Government of Nepal has been continually improving its national M&E system. Institutional arrangements and procedural reforms were made under the Fifth Plan (1975–1980) and the Eighth Plan (1992–1997) to strengthen the system. The Thirteenth Plan (2013–2016) emphasizes the importance of M&E as a management tool for evidence-based policy making, greater public accountability, and effective development planning and implementation. Figure 1 outlines and summarizes the evolution of the M&E system in Nepal according to the country's periodic plan.

Figure 1: Evolution of the Monitoring and Evaluation System in Nepal



MDAC = Ministerial Development Action Committee, NDAC = National Development Action Committee, NPC = National Planning Commission.
Sources: NPC (2013a); Fisher and Slaney (2013).

At present, Nepal's M&E methods and systems comprise the following:

- **M&E forms,** to systematize, simplify, and harmonize the various M&E initiatives at the different levels of government;
- **Technical audit,** to identify shortfalls and weaknesses in selected infrastructure-related projects and to point out necessary improvements through technical analyses of cost estimates, design features, technology, and materials used;
- A **performance-based budget release system**, linking budget release to project performance; and
- A **public expenditure tracking survey (PETS),** tracing the course of budget and project implementation to determine whether program resources and budgets reach relevant agencies and target groups on time.

LEVELS OF MONITORING AND EVALUATION

The M&E arrangement and structures vary according to government level, as shown in Table 1. At the national level, the Office of the Prime Minister and the Council of Ministers, the National Planning Commission, and concerned ministries monitor and evaluate policies, periodic plans, and Priority One programs and projects. At the regional and district levels, on the other hand, M&E implementation is concerned with specific programs and projects.

Table 1: Monitoring and Evaluation System in Nepal

Level of Government	Monitoring and Evaluation Specifics			
	What?	Who?	When?	How?
National	Policy	Office of the Prime Minister and Council of Ministers, National Planning Commission, and concerned ministries	During policy implementation	Third-party evaluation
	Periodic plan	National Planning Commission	Entire plan period	Continuous monitoring and third-party evaluation
	Priority One programs and projects	Office of the Prime Minister and Council of Ministers, National Planning Commission, Ministry of Finance, and concerned ministries	As required	Joint monitoring, sustainable monitoring, third-party evaluation
Regional	Programs and projects	Departments and regional offices	As required	Continuous monitoring and third-party evaluation
District	Programs and projects	District development committee and concerned district line agencies	As required	Continuous monitoring and third-party evaluation

Source: NPC (2013a).

INSTITUTIONAL FRAMEWORK

National Development Action Committee

The National Development Action Committee (NDAC) is the highest-level M&E committee. It is chaired by the prime minister and is composed of ministers, representatives from the National Planning Commission (NPC), and the chief secretary. It reviews program and project implementation by the various ministries, discusses problems that are not dealt with at the Ministerial Development Action Committee (MDAC) level, and addresses interministerial coordination issues, including policy and legal matters.

National Planning Commission Monitoring and Evaluation Division

The NPC advises the government on development planning, policy making, and plan and policy implementation. It is also the central M&E agency for plans, policies, and programs. The NPC's M&E division coordinates and facilitates national M&E activities and serves as NDAC secretariat. It monitors Priority One projects, including donor-funded projects (e.g., SREP programs and projects), while the NPC's sectoral divisions monitor Priority Two and Three projects.

Ministerial Development Action Committee

The MDAC is chaired by a minister and is composed of representatives from the finance and general administration ministries, concerned sectoral divisions, department heads, and other offices. The committee reviews the implementation status of programs and projects, discusses and resolves problems that cannot be sorted out at the project level, and reports to the NDAC any issues that need interministerial coordination.

Monitoring and Evaluation Divisions or Sections within the Ministries

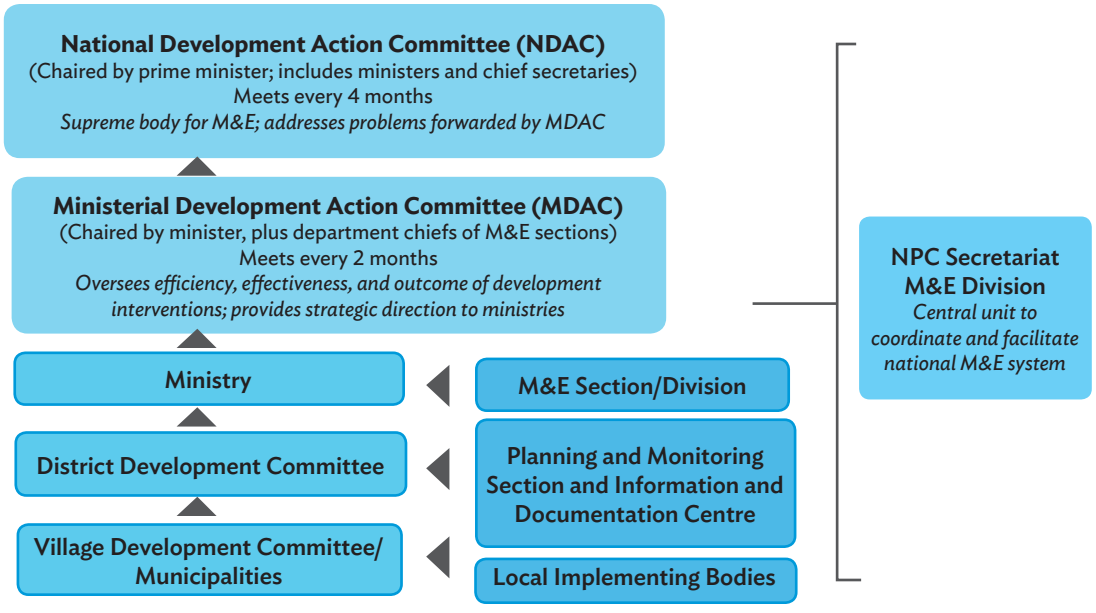
Within the ministries, a separate M&E division or section or a designated unit (e.g., planning division) is in charge of M&E activities. The division, section, or unit reports periodically on the progress of its ministry's programs and projects to NPC's M&E division and sectoral divisions. It is also responsible for scheduling and coordinating MDAC meetings.

Regional, District, and Local Programs and Projects

Regional offices and directorates monitor and evaluate their programs and projects and submit progress reports to the central ministries. In the districts, the supervision and monitoring committees are responsible for all development projects in their respective districts. The committees discuss the progress of ongoing programs and projects, and assess resources and action plans. At the local level, the district development committees and local bodies monitor projects implemented by the village development committees and the municipalities.

Figure 2 shows the M&E institutional arrangements at the national level.

Figure 2: National Institutional Arrangements for Monitoring and Evaluation in Nepal



M&E = monitoring and evaluation, NPC = National Planning Commission.
Sources: NPC (2013a); Fisher and Slaney (2013).

MONITORING AND EVALUATION PRACTICES IN SELECTED GOVERNMENT AGENCIES IN THE ENERGY SECTOR

Ministry of Energy

The Ministry of Energy (MoEn) manages energy production for industrial and economic growth. It drafts policies governing hydropower development and energy conservation and regulation. It does energy research, promotes multipurpose power projects, encourages the participation of the private sector in power development, and coordinates the activities of institutions within the sector. The ministry oversees one department and two institutions.

The M&E section under the ministry's planning and program division coordinates physical and budget progress reporting on programs and projects to the concerned implementing agencies.

Nepal Electricity Authority

The Nepal Electricity Authority (NEA), a state agency under the MoEn, is responsible for electricity generation, transmission, and distribution. It recommends plans, policies, and tariffs for the power sector and facilitates power purchase agreements between utilities and independent power producers for the sale of power to the grid.

The implementation, output, and outcomes of the agency's programs and projects are monitored by its corporate planning and monitoring department.

Department of Electricity Development

The Department of Electricity Development (DoED) assists the MoEn in the implementation of national government policies for the power sector. The department ensures the transparency of the regulatory framework for the sector, and accommodates, promotes, and facilitates private sector participation in sector projects through "one-window" services and licensing.

The planning section in the project study division of the department prepares programs and budgets, submits monthly and quarterly progress reports, and monitors the activities of the department.

Solar home system in use

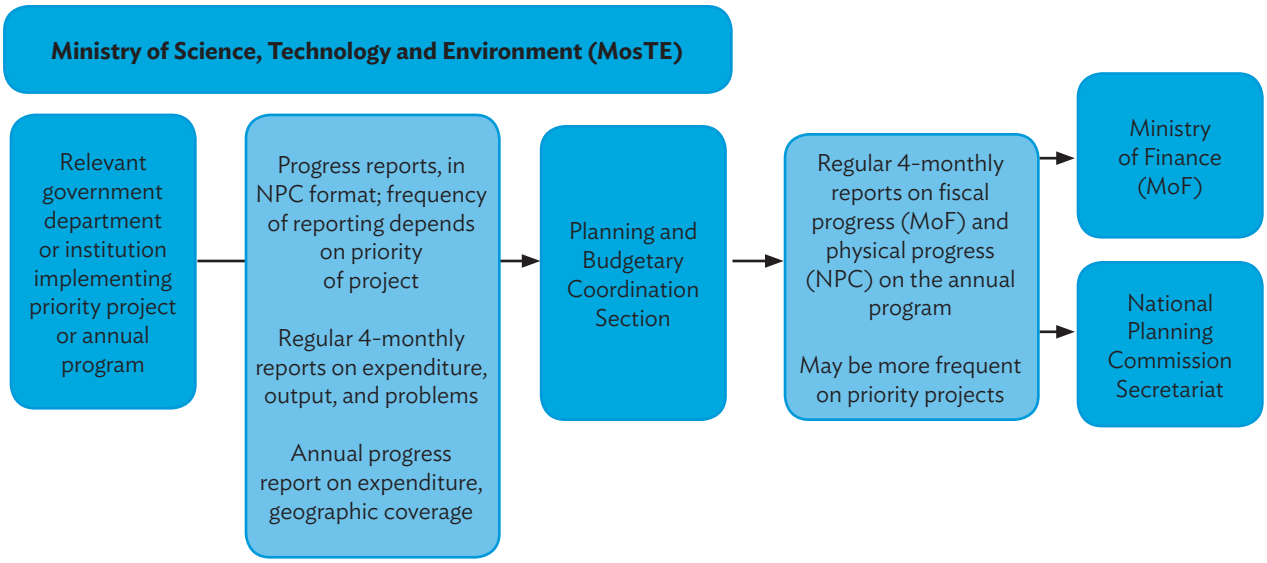
Ministry of Science, Technology and Environment

The Ministry of Science, Technology and Environment (MoSTE) formulates and implements policies, plans, and programs pertaining to science, technology, and the environment. It serves as liaison and coordinating body; promotes alternative energy; and performs research, surveys, and exploration for the advancement of its sectoral areas. The ministry has 14 institutions under it, including the Alternative Energy Promotion Centre (AEPC).

The ministry's M&E unit (Figure 3) is under its planning and budgetary coordination section. The section prepares annual monitoring plans of action, which cover both physical and budgetary progress reporting. It coordinates progress reporting through program and project implementing institutions.

The ministry meets monthly to assess annual policies and programs and submits physical

Figure 3: Main Monitoring and Evaluation Practices at the Ministry of Science, Technology and Environment



NPC=National Planning Commission.
Source: Fisher and Slaney (2013).

progress reports to the Prime Minister's Office; every other month, for programs and projects that have priority, are larger in size, or are of public concern; and trimester, through the MDAC, to review overall progress and submits physical and budgetary progress reports to the NPC secretariat and to the Ministry of Finance.

Alternative Energy Promotion Centre

The AEPC, under the MoSTE, develops and promotes the use of renewable energy technologies. It acts as an intermediary institution between operational-level nongovernment organizations and private promoters of renewable energy, on the one hand, and policy decision makers in relevant ministries, on the other. It takes part in formulating and implementing renewable energy policies and plans, supports the development of technical standards and guidelines for renewable energy technologies, and facilitates the spread of information to partner stakeholders.

The AEPC now implements two programs—the National Rural and Renewable Energy Program (NRREP) and the Renewable Energy for Rural Livelihood (RERL) program. The NRREP, which includes all AEPC programs and projects, is aimed at improving rural living standards by integrating alternative energy with socioeconomic activities. The RERL is a joint project of the Government of Nepal, United Nations Development Programme, and the World Bank with main focus on enhancing rural livelihood.

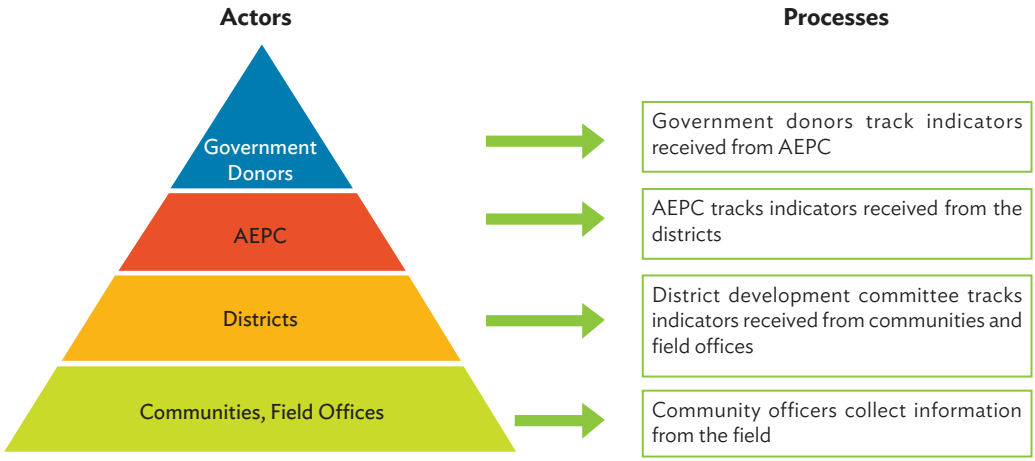
A three-tier system is used by the AEPC monitoring unit in monitoring the development and application of renewable energy technologies (micro hydro, solar photovoltaic, solar thermal, biogas, biomass, wind power, etc.). This three-tier approach, involving field verification, impact assessment, and technical audit, covers all phases of project implementation, from installation to operation and post-operation. The AEPC encourages program implementing partners to form separate monitoring units, and prepares annual monitoring work plans and annual reports together with those implementing partners.

In all 75 districts, the AEPC coordinates and supports the district environment and energy units or sections in the performance of their functions. The units or sections maintain a renewable energy technology database, undertake field verification in the districts after receiving installation reports, conduct impact assessments and technical audits, and prepare and submit quarterly reports to AEPC.

Figure 4 shows the flow of information from the communities or field offices up to the national government and donors.

The Renewable (Rural) Energy Subsidy Delivery Mechanism (2006) guides the monitoring of the use of renewable energy technologies promoted by the AEPC. It states the principles and rules for the grant of a subsidy for each type of technology, as well as the monitoring provisions. The working modality of those implementing the renewable energy technologies also determines the nature and extent of monitoring. Table 2 lists the AEPC monitoring provisions and areas for each type of renewable energy technology and Table 3 defines the different levels of M&E activities.

Figure 4: Information Gathering and Consolidation by the Alternative Energy Promotion Centre



Source: Samad (2009).

Table 2: Monitoring of Renewable Energy Technologies by the Alternative Energy Promotion Centre

Monitoring Provisions	Monitoring Areas
Solar dryer/cooker	
• AEPC or independent consultants • 10% random sampling • AEPC field monitoring and verification • Penalty for complaints or manipulation	• Socioeconomic status of users • Using behaviors • Price and financing • User satisfaction, awareness • Impact on daily life • After-sales service, etc.
Institutional solar photovoltaic system (ISPS) and solar photovoltaic pumping system (PVPS)	
• AEPC through independent consultants • Penalty for subsidy claim without installation, or other form of manipulation	• No monitoring done so far • 10% amount withheld is normally released at village development committee's recommendation
Biogas technology	
• At least 5% sampling for quality assurance and field monitoring • Penalty for subsidy claim without installation or for noncompliance with approved standards	• Technical verification: approved model, construction requirements, quality of appliances used • Performance monitoring and supervision of operating practices • Socioeconomic impact: health, agriculture, gender issues • Monitoring of Clean Development Mechanism requirements i.e., emission reduction, energy, and environmental impact • Financing parameters: loan amounts

continued on next page

Table 2 *continued*

Monitoring Provisions	Monitoring Areas
Biomass technology	
• 10% randomly selected sample • By RRESC with trained technicians • Disqualification in case of inadequate performance • AEPC/ESAP field verification (regular or when complaints are received)	Not applicable
Improved water mills	
• By technicians from implementing agency • 10% randomly selected sample • Monitoring of program and performance of the implementing agency by AEPC	
Solar home systems and small solar home systems	
• 5% randomly selected sample, by qualified trained technician • NIPQA compliance and other quality control by RETs • Field monitoring/verification by AEPC (regular or as required).	• Investment details (loan, subsidy) • Awareness, consumer's satisfaction • After-sales service • End users of solar PV • Technical aspects: panel, battery, control unit, wiring, appliances, etc. • Other parameters, by RETs
Micro-hydro and mini-grid	
Mini-Grid Support Programme (ESAP modality) • POHCV of all MHPs above 5 kW and 25% for lower capacity • Annual impact assessment by independent consultant • Public hearing before construction • Annual study of user satisfaction and performance • AEPC through independent consultants • Penalty for claim of subsidy without installation, or other manipulation **Community micro hydro (REDP modality)** • PMU prepares an exclusive monitoring plan • PMC, PMU, AEPC, WB, and UNDP carry out regular monitoring • Emphasis on participatory monitoring approach	• Truth and Reconciliation Commission approval • Testing and commissioning/Power output test – Physical test – Performance check at static and dynamic conditions, and other tests – Power output test • Verification of power output and household connection – Verification of power output – Verification of plant specification – Verification of MHP equipment – Estimation of minimum flow using MIP • 1-year-guarantee checkup – Working performance – Institutional aspects – Financial aspects

ESAP = Energy Sector Assistance Programme, kW = kilowatt, MHP = MHP = micro hydropower plant, MIP = Medium Irrigation Project, NIPQA = Nepal Interim Photovoltaic Quality Assurance, PMC=project management consultant, PMU = project management unit, POHCV=power output and household connection verification, PV= photovoltaic, REDP= Rural Energy Development Programme, RRESC = regional renewable energy service center, RETs = renewable energy technology, WB=World Bank.

Table 3: Different Levels of Monitoring

Beneficiary Level	Project Level	Central Level
• Public hearing before project construction • Meetings with all household beneficiaries for major decisions • Public audit to clear all income and expenditure issues during activities	• Monitoring officer • Input–output monitoring (based on annual plan) • MIS database • Regular quality assurance/ quality check of sampled plants • Sampled monitoring by independent third party	• Input–output/outcome monitoring (based on government format) • Quarterly progress reporting • MIS database • Annual financial audit by attorney general • Performance of prequalified private companies (reward and punishment) • Overall impact evaluation by independent third party – Employment generation – Technical operation and maintenance, efficiency – Socioeconomic impact, e.g., SMEs, empowerment of women and disadvantaged groups, social capital – Environmental impact, e.g., GHG emission, indoor air pollution

GHG = greenhouse gas, SMEs = small and medium enterprises, MIS = management information system.

SELECTED FINAL AND INTERIM NATIONAL INDICATORS FOR THE ENERGY SECTOR

Table 4 lists selected national indicators—three final and nine interim—for the energy sector. All indicators except for one (number of village development committees with access to electricity) are collected yearly.

Table 4: Final and Interim National Indicators for Nepal's Energy Sector

Sector	Theme	Indicators	Disaggregation Level	Source	Frequency	Agency
Final (Impact) Indicators						
Environment		Per capita energy consumption (gigajoule/ megajoule)	Subnational, by category	National account	Annual	NPC/CBS
		Carbon emission measure ('000 metric tons and metric tons per person)	National	MIS/Survey	Annual	MoSTE
Energy (power)		Households benefiting from energy sources (%)	- Source: traditional, hydro (grid connected/off-grid connected), renewable - Type: electricity/ power, petroleum, fuel, traditional sources, alternative	Census/NLSS/ NEA annual report	Annual/ Every 5 years	MoEn/ NEA/ MoSTE/ AEPC/CBS

continued on next page

Table 4 *continued*

Sector	Theme	Indicators	Disaggregation Level	Source	Frequency	Agency
Interim (Input, Process, Output) Indicators						
Environment	Atmosphere	Emission of greenhouse gases into the atmosphere	- Types of greenhouse gases	MIS	Annual	MoSTE
Energy (Power)	Energy	Total electricity generation capacity (megawatt)	Subnational, ecology	MIS	Annual	MoEn/NEA
		Status of electricity supply (%)	Subnational, ecology	MIS	Annual	MoEn/NEA
		Percentage of electricity leakage	Subnational, ecology - Type of loss: technical and nontechnical loss	MIS	Annual	MoEn/NEA
	Increase in consumption	Per capita utility of rural electricity	Subnational, ecology	MIS	Annual	MoEn/NEA
		Number of village development committees with access to electricity	Subnational, ecology	NLSS/Census	Every 5/10 years	NPC/CBS
		Population (%) benefited by micro-hydro energy source in rural areas	Subnational, ecology	MIS	Annual	MoEn/NEA/ MoSTE
	Demand and supply	Difference between electricity demand and supply	Subnational, ecology	MIS	Annual	MoEn/NEA
		Annual load shedding (hours)	Subnational, ecology, by season	MIS	Annual	MoEn/NEA

CBS = Central Bureau of Statistics; MIS = management information system; MoEn = Ministry of Energy; MoSTE = Ministry of Science; Technology and Environment; NEA = Nepal Electricity Authority; NPC = National Planning Commission; NLSS = Nepal Living Standards Survey.

3 SREP Results Framework and Nepal's SREP Investment Programs

SREP RESULTS FRAMEWORK

The SREP advocates wider access to energy and more robust economic growth through the increased deployment of renewable energy solutions in low-income countries. It also triggers the transformation of the renewable energy market through a programmatic approach that involves government support for market creation, private sector participation, capacity building of key stakeholders, and productive energy use.

The CIF administrative unit developed the SREP results framework to provide a basis for monitoring and evaluating the impact, outcomes, and output of SREP-funded projects, and to guide countries and MDBs in developing their own results frameworks to integrate SREP-relevant results and indicators into their own country, project, and program M&E systems.

The SREP results framework was approved in its original form in November 2010 and was later revised in June 2012. The revised framework is a simplified version that gives greater emphasis to the key operating objectives of the SREP.

Small wind and solar hybrid renewable energy technology

The framework is based on three principles:

- **National M&E systems.** The results framework is designed to operate (i) within existing national M&E systems, and (ii) according to the MDBs' own Managing for Development Results (MfDR) approach.
- **Flexible and pragmatic approach.** Country circumstances must be taken into account in the selection of relevant indicators and in subsequent reporting.
- **Data collection and reporting standards.** In order to aggregate country-level results at the programmatic level (investment plan), a set of core indicators will be measured using compatible methodologies. This applies particularly to indicators for the core objectives of the SREP: reduced energy poverty and increased energy security.

SREP Core Indicators and Co-Benefits

The SREP results framework (Table 5) comprises five core indicators that cover two levels of M&E—the transformative impact (three indicators) and program outcomes (two indicators, to be used at the project level where relevant). The transformative impact cannot be achieved only through SREP interventions. But SREP programs and projects are expected to contribute directly to program outcomes and to the achievement of co-benefits, including avoidance of greenhouse gas (GHG) emissions, improvements in health and employment, and other co-benefits identified with the programs and projects.

Table 5: SREP Results Framework

Results	Indicators	Co-Benefits
Transformative Impact		
Support for low-carbon development pathways through reduced energy poverty and increased energy security	National measure of "energy poverty"	Avoidance of GHG emissions Better health Better employment opportunities
	Annual electricity output from RE (GWh)	
	Increased public and private investments ($) in targeted subsector(s) per country per year	
Program Outcomes		
Increased supply of RE	Annual electricity output from RE as a result of SREP interventions (GWh)	More reliable supply of energy (improved overall provision and more diversified sources) Improved economic viability (i.e., reduced RE cost, improved policy and regulatory framework)
Increased access to modern energy services	Number of men and women, businesses, and community services benefiting from improved access to electricity and fuels as a result of SREP interventions	

GHG = greenhouse gas, GWh = gigawatt-hour, RE = renewable energy.

NEPAL'S SREP INVESTMENT PLAN

Nepal has been allocated a $40 million SREP envelope to support the implementation of two investment programs in renewable energy: (i) Small Hydropower Development, with a $20 million loan fund, including technical assistance; and (ii) Mini and Micro Energy Initiatives, with a $20 million grant facility, including technical assistance.

Table 6 presents the financing plan for Nepal's SREP Investment Plan, while Table 7 summarizes the programs' indicative targets according to the SREP core indicators, and potential co-benefits.

Table 6: Nepal's SREP Investment Plan

Investment Components	Project	MDB	Estimated Financing ($ million)						SREP Sub-Committee Approval Status
			SREP Loan	SREP Grant	MDB	Gov't	Private Sector	Others	
Small Hydropower Development	Small hydropower	ADB	9.5	0.5			17.28	29.38	Approved in October 2012 but awaiting MDB approval
	Small hydropower	IFC	9.5	0.5			17.28	29.38	
Mini and Micro Energy Initiatives	Mini/Micro hydro	ADB		11.2	180.00	60.34		188.46	Approved on 09 May 2014
	Biogas	WB		7.90		18.17	9.83		Approved on 3 February 2014

ADB = Asian Development Bank, IFC = International Finance Corporation, MDB = multilateral development bank.
Source: SREP semi-annual operational report (SREP/SC.10/3 October 07, 2013), Small Hydropower Finance Program, Extended Biogas Program (IBRD) Proposal, and South Asia Sub-regional Economic Cooperation Power System Expansion Project: Rural Electrification through Renewable Energy Program Proposal

Table 7: SREP Results Indicators and Indicative Targets of Nepal's SREP Program (ADB-Administered Projects)

Indicators	Small Hydropower Development	Mini and Micro Energy Initiatives
National measure of energy poverty	Baseline: 65% in 2013 including off-grid solutions	Increase in electricity access rate to 92% in 2025 (baseline: 65% in 2013, including off-grid solutions)
Annual electricity output from RE (GWh)	GWh electricity output from RE	GWh electricity output from RE
Increased public and private investments ($) in targeted subsector(s) as a result of SREP interventions	For each project of ADB and IFC, expected co-financing: $7.28 million from private sector, $29.38 million from other sources	$180 million from ADB, $60.34 million from Government of Nepal, and $188.46 million from other sources as collaborative and counterpart funding ($60 million from Government of Norway, $120 million from European Investment Bank and $8.46 million from community contributions)
Annual electricity output from RE as a result of SREP interventions (GWh)	MWh energy produced from SHP projects financed through partner financial institutions	Annual electricity output of 25,228 MWh Up to an additional 4.8 MW of mini-grid-based renewable energy capacity (hydropower, solar and wind) established by 2020 in selected communities, with at least 33% of the households in those communities are women-headed or from excluded
Number of men and women, businesses, and community services benefiting from improved access to electricity and fuels as a result of SREP interventions	Number of men and women with increased access to electricity from SHP	30,500 additional households (around 143,350 people) supplied with renewable energy in rural communities by 2021
Co-Benefits		
Avoided GHG emissions	Tons of CO_2 emission reduction per year	Estimated at 18,000 tons of carbon dioxide equivalent per year
Improved health and environment	Smoke-free and healthier indoor air	Smoke-free and healthier indoor air, and reduced stress on forest resources
Employment opportunities	Extended hours for domestic work	Priority and preference will be given to local workforce, especially to the poor, disadvantaged, and marginalized ethnic groups.
Reliability	Increase in RE share to the total energy supply; improve energy security	Increase in RE share to the total energy supply; improve energy security
Economic viability	Creation of RE central coordination committee, Central RE Fund Regulation, and Alternative Energy Promotion Board Act	

ADB = Asian Development Bank, GHG = greenhouse gas, GWh = gigawatt-hour, MW = megagwatt, MWh = megawatt-hour, RE = renewable energy, SHP = small hydropower projects, SREP = Scaling Up Renewable Energy Program in Low Income Countries, WB = World Bank.
Source: MoSTE (2011); SREP semi-annual operational report(SREP/SC.10/3 October 07, 2013), South Asia Sub-regional Economic Cooperation Power System Expansion Project: Rural Electrification through Renewable Energy Program Proposal, and Small Hydropower Finance Program (ADB and IFC) Proposal.

STAKEHOLDERS' PARTICIPATION

Engaging stakeholders during SREP investment plan development, particularly in program and project planning, implementation, and monitoring, is important. Participation enables broader input and communication for more effective action, promotes greater transparency and accountability, and supports inclusive development. SREP stakeholders participate through various activities, including coordination meetings, partnerships, information sharing, dialogue, and consultation.

Workshop on the SREP investment plan and the national M&E System, Nepal, 12 October 2012

In Nepal, the stakeholder base comprises the national and local governments, development partners, bilateral and multilateral organizations, local banks and other private sector institutions, civil society organizations, industry associations, and local communities. During the preparation of Nepal's SREP Investment Plan, extensive discussions were held with these stakeholders to structure the fund and to determine the feasibility and social acceptability of the proposed programs and projects. Consultation activities were as follows:

- Stakeholder consultation workshops for the Small Hydropower Development Program and the Mini and Micro Energy Initiatives (6 July 2011);
- Stakeholder consultative workshop to review the draft SREP Investment Plan (9 September 2011);
- Consultation with local banks and donors, including associations and individuals, to elicit information and clarify matters;
- Public consultation through the posting of the draft SREP Investment Plan on the MoSTE website (15 September 2011); and
- External reviewer comments (25 September 2011).

The SREP Investment Plan and the National M&E System workshop hosted by the MoSTE in partnership with ADB and the World Bank was held on 10 October 2012 in Kathmandu. The workshop discussed the relationship between the SREP, other climate change initiatives, and the national M&E system; examined ways of linking individual operations, e.g., SREP investments, with country outcomes; and identified gaps in M&E capacity and potential partners that could address the issues. A total of 61 representatives from 34 different organizations—government ministries, the donor community, other development partners, and financial institutions—attended the workshop (Appendix A). The workshop ended with a commitment from the MoSTE to take the lead in harmonizing the various M&E systems in use in the country and facilitating collaboration between ministries and departments.

Nepal's SREP programs were also designed to involve stakeholders. During implementation, the Mini and Micro Energy Initiatives will partner with local communities (local electricity user cooperatives) in developing and implementing community-based mini and micro renewable energy projects. Together with other stakeholders, local communities are expected to participate in a series of consultative decision-making processes. The Small Hydropower Development Program, on the other hand, will link up with local financial institutions and independent power producers as partners and beneficiaries in developing small hydropower development project portfolios. The experience of partner financial institutions will be shared with relevant stakeholders for knowledge management and lesson sharing.

For monitoring and reporting activities, both programs will closely coordinate with concerned government ministries and agencies, as well as MDBs. The SREP annual monitoring and reporting likewise emphasizes and encourages stakeholders to review the annual results of the project or program before sharing the final results with the CIF administrative unit. The review could be part of a planned stakeholder coordination meeting, investment plan update, or other ongoing activities for this review.

SREP INSTITUTIONAL ARRANGEMENT

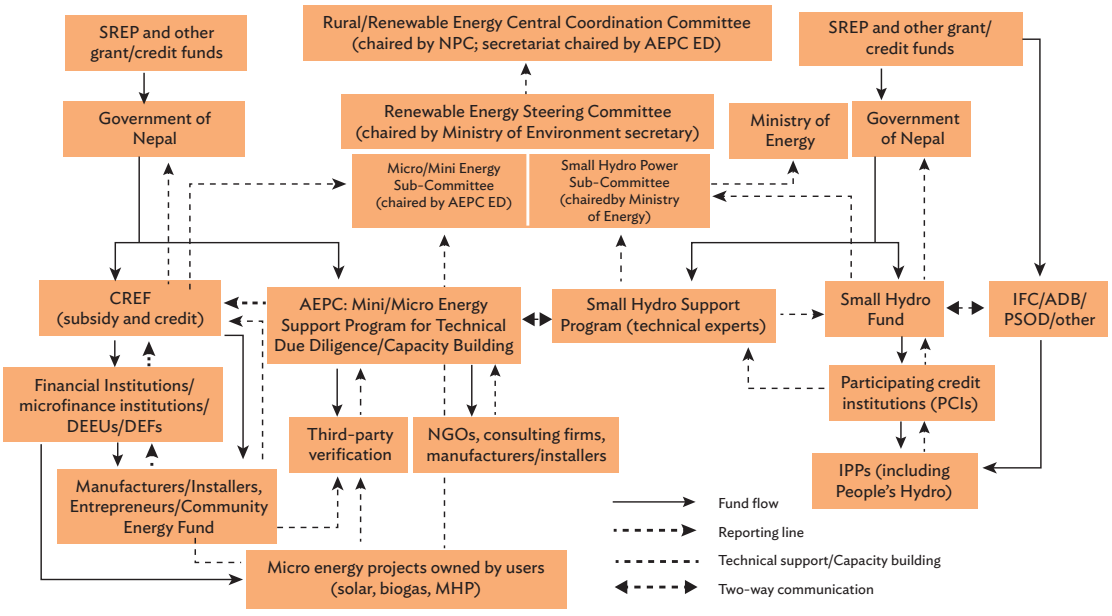
The Government of Nepal has nominated the Ministry of Finance and the MoSTE as focal agencies for SREP implementation. The Ministry of Finance will lead the overall coordination for all climate finance–related projects, including the SREP, and the MoSTE will be the executing agency and will be responsible for the implementation and monitoring of SREP project activities, including periodic reviews and coordination with stakeholders on behalf of the government.

According to the proposed SREP institutional arrangement (Figure 5), support programs and subcommittees will be created for each program component. The subcommittees will report to the NRREP steering committee chaired by the MoSTE. The rural/renewable energy central coordination committee will act as central coordinating body, receiving and monitoring all programs and projects related to rural electrification and renewable energy development, including the SREP programs.

For the private sector Small Hydropower Development Program, a group of technical experts will lead the implementation in close collaboration with the MoEn and industrial associations.

For the Mini and Micro Energy Initiatives, the AEPC will be the implementing agency. A program implementation unit within the agency will be created for overall program implementation and administrative management support (procurement, accounting, quality assurance, and safeguards).

Figure 5: Proposed SREP Institutional Arrangement for Nepal



ADB=Asian Development Bank, AEPC=Alternative Energy Promotion Centre, CREF=Central Renewable Energy Fund, DEEU = district energy and environment unit, DEF= district energy fund, ED=executive director, IFC=International Finance Corporation, IPP=Independent Power Producers, NGO = nongovernment organization, MHP=Micro/Mini Hydropower, NPC=National Planning Commission, PSOD=Private Sector Operations Department (ADB), SREP=Scaling Up Renewable Energy Programme in Low Income Countries.
Note: The above diagram is indicative in nature and is subject to further discussions and agreement. It shows multiple channels for flow of funds and information, which may be narrowed down during the formulation of the investment plan or thereafter.
Source: MoSTE (2011).

At the field level, regional service centers and social mobilizers will provide implementation support through capacity building, subproject selection, and supervision and monitoring of subproject construction and installation work, among others.

SREP ANNUAL MONITORING AND REPORTING

In line with the implementation of the results framework, the CIF administrative unit, in collaboration with the MDBs, prepared the SREP monitoring and reporting (M&R) toolkit, which consists of guidance and reporting tools for SREP indicators.

The toolkit is intended to guide MDBs and country program and project teams in providing consistent and accurate data on the projected results and actual achievements of programs and projects. It allows stakeholders to assess and report progress both at the national level and at the program and project level. Moreover, with a functional monitoring and reporting system in place, it supports accountability, learning, and evidence-based decision making.

Community electrification micro hydro: Woman operator (Source: http://www.aepc.gov.np/)

The M&R tables (Appendix B) outline the program outcome core and co-benefit indicators that each program or project is expected to contribute:

- Annual electricity output from renewable energy, as a result of SREP interventions (disaggregated by source of renewable energy);
- Number of women and men, businesses, and community services benefiting from improved access to electricity and fuels, as a result of SREP interventions;
- Increased public and private investments in targeted subsectors, as a result of SREP interventions;
- A gender impact indicator;
- Avoided GHG emission co-benefits; and
- Other co-benefits that were identified in the project or program documents.
  - Health (improved health and decreased air pollution),
  - Livelihood (e.g., income generation, temporary and long-term employment),
  - Energy reliability, and
  - Economic viability (economies of scale, regulatory frameworks).

Each year, the SREP MDB coordinators will need to collaborate with country focal points to complete the M&R tables. Actual data from the program or project monitoring system will be used for reporting. Other stakeholders are also encouraged to review the annual results. The information will be shared with the CIF administrative unit by May 31 of each year.

4 Challenges and Strengths in Integrating the SREP Results Framework into the National Monitoring and Evaluation System

INSTITUTIONAL AND TECHNICAL CHALLENGES

The national M&E system faces various institutional and technical challenges, including resource constraints that could limit its effective operationalization. Many of these challenges are already being addressed with ongoing government initiatives, but barriers remain. The challenges include finding ways to

- increase commitment among government institutions to implement the M&E system;
- create policies that will institutionalize and enable a results-based M&E system;
- increase human resources and enhance technical capacity to effectively implement M&E tools and activities;
- enforce effective coordination within and among institutions (between the program implementing unit and the M&E division, and among ministries and other government agencies) for data collection and management systems;
- implement regular monitoring of programs and projects at the input and output level, as well as at the outcome and impact level;
- ensure the accuracy and reliability of data through the use of simplified and uniform M&E forms and report formats;
- develop an effective information and record management system that can be linked and harmonized with other existing management information systems (MISs) to assist the local and national governments, development partners, and other stakeholders in obtaining reliable data, setting baselines, measuring program implementation progress, and evaluating program effectiveness; and
- increase access to and use of data for program and project performance assessment and for development planning and policy formulation.

CURRENT MONITORING AND EVALUATION INITIATIVES

Recognizing the challenges presented by the national M&E system, the government is adopting a results-based management system to improve effectiveness and efficiency. Current efforts made by the NPC to improve the M&E system involve systematizing processes, integrating and harmonizing

development frameworks, improving infrastructure, and promoting capacity building. These initiatives can also serve as platforms for integrating the SREP results framework.

Participants in the workshop on the SREP investment plan and the national M&E system, Nepal, 10 Oct 2012

National Monitoring and Evaluation Guidelines

In July 2013, the NPC issued the National Monitoring and Evaluation Guidelines, a comprehensive document that compiles existing M&E-related guidelines such as the poverty monitoring and analysis system, results-based monitoring and evaluation (RBME), and M&E forms and formats.

Integral to the guidelines is the application of a results-based management system. The guidelines underpin the importance of Managing for Development Results (MfDR) as an important strategy for results-based management to strengthen the internal capacity of the country, enhance the relevance and effectiveness of foreign aid, and improve relations with other countries. The use of RBME in monitoring and evaluating programs and projects is expected to promote systematic, regular, and results-oriented M&E through the preparation of a logical framework, result matrices, sources of information, MISs, and M&E plans.

With the MfDR strategy and RBME system in place, program and project monitoring will not be limited only to the input and output level. Input and activities will be linked with output, outcomes, and impact in the course of assessing the effectiveness of investments. These will directly support the SREP results framework and the SREP M&R requirements. Monitoring indicators should cover strategic indicators, performance indicators, and operational indicators, Laudari (2012) points out.

Management Information System

The MIS provides systematic, integrated, and reliable information for planning, decision making, and policy formulation. It can capture the process, output, outcome, and impact indicators of a program or a project.

A number of line ministries and agencies have been performing their M&E functions with information obtained from MISs. Some of these are the Ministry of Education (with its education MIS), the Ministry of Health (with its health MIS), and the Ministry of Federal Affairs and Local Development (with its population and district poverty monitoring and analysis systems). The NPC also provides links to project information in the project performance information system and on the information portal NepalInformation.

An MIS for the energy and renewable energy sector could similarly improve M&E processes in the sector. A web-based MIS would be even more effective and efficient. Depending on its design, such a system would enable regular and reliable data collection, analysis, and project performance reporting across different projects, locations, time periods, and levels. The system could also be integrated with other statistical software for correlations and applications, such as the geographic information system (GIS) and geo-tagging for illustrative analysis. Stakeholders would thus have easier and more convenient access to renewable energy and climate change–related data and information. But subscribing to web-based M&E system entails cost, modern telecommunication infrastructure (internet access), and support services (technical capacity building).

The MIS should cover strategic indicators, performance indicators, and operational indicators, and should capture the following SREP-relevant indicators (Laudari 2012):

- Number of systems installed, and their capacity;
- Number of beneficiaries (gender disaggregated);
- GHG emission reduction;
- Number of new jobs generated; and
- Number of people trained.

Capacity Building

Besides improving M&E infrastructure and processes, the government must also continuously build the capacity of staff tasked to implement M&E. Staff should be able to respond to emerging concepts and areas to strengthen their M&E knowledge and skills.

In this regard, the government is now implementing the Strengthening the Monitoring and Evaluation System in Nepal (SMES) project funded by the Japan International Cooperation Agency (JICA). Phase 1 of the project, implemented in 2006–2009, focused on building human resource capacity to use M&E tools and processes. Phase 2 of the project, which started in 2011 and is expected to be finished in 2015, highlights the importance of M&E as a management tool for development planning and policy making through M&E information sharing and effective coordination between agencies. The intent is to enhance both the national capacity for implementing the RBME system, and information sharing and coordination among the NPC secretariat, five line ministries (Education, Agricultural Development, Federal Affairs and Local Development, Forestry and Soil Conservation, and Physical Planning, Works and Transport), and five districts involved in M&E.

Energy-related sector agencies can adopt and apply the new learning from the SMES project in responding to the increasing demand for effective project performance monitoring and reporting as required by the national government and most international funding entities, including the SREP. The existing M&E system for energy and climate change–related programs is considered weak, given the fact that many are not familiar enough with climate change and its significance.

Small wind and solar hybrid renewable energy technology

It is therefore important to

- assess the current capacity of M&E staff in terms of their skills in implementing RBME and their knowledge of climate change mitigation and adaptation, including gender impact; and
- on the basis of the assessment results, strengthen knowledge and skills by building capacity for the following:
  - RBME, M&E applications, methods, tools, and frameworks;
  - National M&E systems and processes, forms, and report formats, including sectoral development objectives and sets of indicators;
  - Energy, renewable energy, and climate change topics and indicators; and
  - The M&E results framework, monitoring and reporting requirements, and reporting formats of the SREP.

AEPC's NRREP Results Framework

The NRREP, as discussed above, is an AEPC program with the development objective of improving the living standards of rural women and men, increasing employment and productivity, reducing dependence on traditional energy, and attaining sustainable development by integrating the use of alternative energy into the socioeconomic activities of rural communities. The NRREP will be an umbrella program for donor-funded programs, and the SREP Mini and Micro Energy Initiatives program will be part of NRREP implementation. The NRREP and SREP results frameworks must therefore be harmonized and integrated.

The NRREP results-based framework is aimed at enhancing the results-based culture and management in the AEPC and in the program itself. The implementation of the results-based M&E method, processes, and tools will ensure the effective and efficient use of program resources. Fundamental elements of the NRREP results framework are the following:

- Baseline and regular feedback mechanisms within the M&E system;
- A web-based MIS, accessible to the public and all NRREP stakeholders; and
- An effective monitoring and reporting framework.

The SREP results framework will be integrated into the NRREP results framework. SREP indicators will be captured under the NRREP results chain objectives and set of indicators, which can be linked with national development indicators (Table 8). With the systems and infrastructure in place, monitoring and reporting for both the NRREP and the SREP program should improve and become more regular. The NRREP monitoring and reporting system is described in Box 1, and the NRREP results framework at the program objective level is summarized in Box 2.

Table 8: SREP and Selected National-Level Indicators

SREP				National Level		
Program	**Agency**	**Source**	**M&R Indicators**	**NRREP Program Objective Indicators**	**Interim (Input, Process, Output) Indicators**	**Final (Impact) Indicators**
Mini and Micro Energy Initiatives Small Hydropower Development	Regional service centers, AEPC, MoSTE MoEn	Annual project reports and SREP M&R	Annual electricity output from renewable energy as a result of SREP intervention	RE technologies (biomass, biogas, solar, mini/micro hydro systems)	Total electricity generation capacity (MW) Status of electricity supply (%)	
			Number of people, businesses, and community services benefiting from improved access to electricity and fuels as a result of SREP intervention	Number of rural people with access to RE Number of households dependent on traditional energy sources	Population (%) benefiting from micro-hydro energy source in rural areas Number of VDCs with access to electricity	Households benefiting from energy sources (%)
			GHG emissions reduced or avoided		Emissions of greenhouse gases into the atmosphere	Carbon emission measure ('000 metric tons and metric tons per person)
			Other co-benefits identified in the project Employment/Job creation Health improvement Etc.	Employment creation through RE technology services/MSMEs Number of registered/ upgraded MSMEs Increase in household income (revenues and/ or expenses) in the intervention areas Incidence of respiratory diseases in the intervention areas.	Other development indicators	Other development indicators

GHG = greenhouse gas; VDCs = Village Development Councils; M&R = monitoring and reporting; MoEn = Ministry of Energy; MoSTE = Ministry of Science, Technology and Environment; MSMEs = micro, small, and medium sized enterprises; MW = megawatt; NRREP = National Rural and Renewable Energy Program; RE = renewable energy; SREP = Scaling Up Renewable Energy Program in Low Income Countries; VDC = village development committee.

Box 1: National Rural and Renewable Energy Program Monitoring and Reporting

Monitoring

NRREP monitoring is viewed as a management tool that enables results-based management. Managing for results involves planning for results, implementing the program, and reviewing and assessing to track long-term impact. The objective of the M&E system is to provide systematic feedback to NRREP management. Regular feedback enables adjustments and corrective actions, if necessary, so that the program effectively attains the target outcomes with the designed implementation strategies and contributes to the development objective.

The NRREP M&E system will be aligned with the monitoring requirements of the government, particularly the NPC and the Ministry of Finance. Therefore, a more robust and integrated monitoring system within the AEPC framework is important. The NRREP will use monitoring data generated in the NPC format and supplement these with additional and specific impact and outcome assessments where required. The NRREP monitoring system will be maintained on the web, where it will be accessible to the public and all NRREP stakeholders. Regular assessments will be done at the development and immediate objective levels to assess progress.

The AEPC M&E staff and program staff under the guidance of the national monitoring adviser will be responsible for establishing the NRREP M&E system.

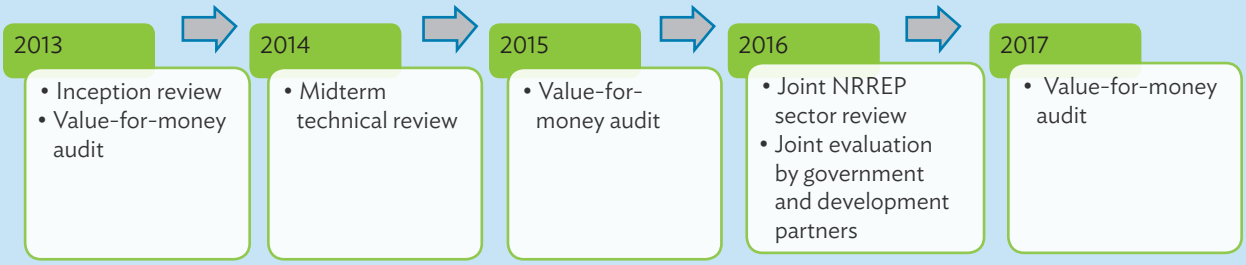
A baseline report produced in 2011 covers all the renewable energy technologies delivered through renewable energy programs and projects. Although it is based on secondary data, it is a proper starting point for the NRREP. As data on socioeconomic, income, and business activities have not been gathered in catchment areas where productive energy use will be promoted, additional baseline assessments will be made for the productive energy use component as an integrated part of the approach.

Reporting

The reports will follow an agreed format so they will be useful not only to AEPC but also to other government organizations and development partners. While the reporting should ideally follow the government's formats, there needs to be a clear focus especially on output, outcomes, and development impact. As the CREF is a financial organization, there will be special reporting requirements as requested by the CREF board.

Review and Evaluation

The NRREP will be reviewed at various points during its implementation.



Recommendations

- As there is a mandatory requirement to align the NRREP M&E and reporting system within the government's existing monitoring framework, an integrated monitoring system should be established within the AEPC framework.
- The institutional setup for the integrated monitoring system within AEPC should be clarified.
- AEPC's results-based monitoring framework should be developed.
- AEPC's web and GIS–based integrated monitoring system should be developed and implemented.
- The year 2012 should be the baseline year for the NRREP.
- A mechanism should be established to capture pre-intervention data from the program area.
- NRREP interventions at the district level should be routinely monitored.
- NRREP progress (achievements vs targets) should be regularly monitored.

AEPC = Alternative Energy Promotion Centre, CREF = Central Renewable Energy Fund, GIS = geographic information system, M&E = monitoring and evaluation, NPC = National Planning Commission, NRREP = National Rural and Renewable Energy Program.

Box 2: NRREP Results Framework at the Program Objective Level

Objective	Indicators of Work Performance
Program Objective: To improve the living standards of rural women and men, increase employment and productivity of women and men, reduce dependence on traditional energy, and attain sustainable development by integrating alternative energy into the socioeconomic activities of women and men in rural communities.	• 12% more rural people benefited by renewable energy systems, 50% of them women and 30% DAGs • Dependence on traditional energy sources reduced by 85% from 87.1% (baseline) • HH income increased by 20% in the intervention areas from baseline (revenues increased or expenses decreased) • Employment increased by 30,4001 through RET services from estimated 19,8142 baseline • 19,000 more people employed through MSMEs, 50% of them women and 30% DAGs
Immediate Objective 1: To establish the CREF as the core financial institution responsible for the effective delivery of subsidies and credit support to the renewable energy sector.	• CREF institutional setup established • CREF operations manual approved • Agreements signed with at least 6 commercial banks • Financial resources for the development of renewable energy more available (by 75%) than in base year • 75% of approved annual funds for credit disbursed
Immediate Objective 2: To accelerate the delivery of better-quality renewable energy services, comprising various technologies, to remote rural households, enterprises, and communities so as to benefit men and women from all social groups, leading to more equitable economic growth.	**Biomass** • 8.8% more ICS users, 50% belonging to DAGs and women, than in base year • 500 VDCs declared IAP free by 2017 • Cleaner cooking technologies in sustained use by 90% of ICS users • Respiratory diseases in the intervention areas reduced **Biogas** • 95,000 more people in the countryside, 50% of them women and 30% DAGs, benefited by 19,000 biogas plants yearly • 95% of supported biogas generation still in use 1 year after installation • Slurry used by 70% of biogas owners for agricultural purposes • Respiratory diseases in the intervention areas reduced **Solar** • 3 million more people benefited by 600,000 solar energy systems, 50% of them women and 30% from DAGs, by 2017 • Solar systems promoted and 95% of them (in terms of number) still functional and in use after 1 year **Community electrification** • Hydroelectric energy made accessible to 750,000 more people (150,000 HHs) in the countryside, 50% of them women and 30% DAGs, by 2017 • Mini- and micro-hydro systems promoted and 95% of them continue to be functional after a year **Institutional development** • More than 80% of financial expenditure achieved • Appropriate tools for capacity assessment and development, including GESI, designed and implemented • Government assisted with RE-related policy formulation and instruments, including subsidy policy and delivery mechanism **Monitoring and quality assurance** • Effective results-based, GESI-responsive planning, monitoring, and quality assurance systems established **GESI** GESI mainstreaming plan prepared and implemented
Immediate Objective 3: To contribute to an increase in income generation potential for micro, small, and medium enterprises (MSMEs) in rural areas, particularly for men and women belonging to socially and economically disadvantaged groups.	• 1,300 new MSMEs formally registered • 2,800 existing MSMEs upgraded and profit increased by 12% • Grant for IG/PEU activities received by 15,300 HHs, 50% of them DAG HHs • MSMEs created and 70% of them still operational a year later • Employment created for 19, 000 more people, 50% of them women and 30% DAG-owned MSMEs.

CREF= Central Renewable Energy Fund; DAG=disadvantaged group; GESI = gender equality and social inclusion; HH=household; IG = income generating; ICS=improved cook stove; MSMEs = micro, small, and medium enterprises; PEU = productive energy use; RET = renewable energy technology; VDC = Village Development Committees.

5 The Way Forward

"Monitoring and evaluation are at the center of sound governance arrangements" (Mackay 2007). Effective and efficient national M&E supports evidence-based planning and policy formulation, informed decision making, proper resource allocation, transparency and accountability, and learning through continuous feedback.

All development and climate change indicators should therefore be integrated into the national M&E system, clear roles and responsibilities for proper monitoring and reporting should be assigned to the various government agencies, and national M&E requirements, as well as the M&E requirements of bilateral and multilateral development partners, should be met with the same system.

COLLABORATION, CAPACITY BUILDING, AND MONITORING

To integrate the SREP results framework into the national M&E system, the government should consider the following:

- **Interministry collaboration.** Outcomes and impact should be monitored by the MoSTE for renewable energy projects, and by the MoEn for small hydropower projects. On the other hand, project-level M&E should be done by the AEPC.
- **Capacity building.** The government should strengthen the M&E capacity of the sections or units of the foregoing government agencies by
  - mainstreaming transformational and program-level indicators in the national M&E system so that the system automatically and effectively monitors the impact of various rural energy programs;
  - designing a web-based and indicator-based M&E system that is accessible to SREP stakeholders;
  - creating and strengthening a separate M&E section that is independent of planning tasks;
  - strengthening the human resource capacity of MoSTE, MoEn, and AEPC on the basis of the salience and needs of the SREP framework M&E indicators;
  - conducting training among assigned agencies and their M&E units in the SREP concept, the M&E results framework, M&R requirements, reporting formats, etc.; and
  - regularly updating stakeholders on SREP project implementation status and M&E results through briefing notes, interaction programs, etc.

Rural community benefiting from small wind and solar hybrid renewable energy technology

- **Regular monitoring and reporting.** These regular monitoring and reporting processes should be established (Laudari 2012):
  - Quarterly reporting to the MDBs and the Government of Nepal;
  - Annual monitoring by a third party and verification of the carbon market requirement (biogas and off-grid electrification) by the Department of Electricity Development;
  - Randomly sampled monitoring to verify systems installation and operation, and annual financial auditing by the attorney general or a firm of chartered accountants;
  - Regular (annual) supervision and review by MDBs;
  - Impact evaluation every 2 years by a third party to determine the following:
    - Increase in energy access (capacity of the sector, investment in renewable energy, energy security, cost of renewable energy technologies, access in remote areas);
    - Long-term economic viability (private sector involvement, productive end uses of renewable energy, local capacity);
    - Leveraging of funds from other public and private sources;
    - Transformative impact of the program (removal of barriers to renewable energy, replication of renewable energy investment, increase in renewable energy installation); and
    - Enabling environment (renewable energy policy and regulatory framework, policies and institutions, lowering of noneconomic barriers, governance).

NEXT STEPS

The Government of Nepal, in collaboration with the MDBs, should

- review, and if necessary update, the results framework of Nepal's SREP Investment Plan according to the revised SREP results framework;
- on the basis of the SREP program objectives and M&E framework, further develop the targets and expected outcomes;
- harmonize the various M&E frameworks in consultation with the government offices and donor organizations involved in renewable energy and climate change initiatives; and
- clarify and establish the proposed institutional setup for the implementation of Nepal's SREP Investment Plan, including the process of collaboration between the assigned government agencies and units and the MDBs in preparing and submitting the annual SREP M&R tables.

APPENDIX A

List of Participants in the Workshop on the SREP Investment Plan and the National Monitoring and Evaluation System, Nepal, 12 October 2012

Name	Position	Organization
Krishna Gyawali	Secretary	Ministry of Science, Technology and Environment (MoSTE)
Prakash Mathema	Joint Secretary	MoSTE
Akhanda Sharma	Under Secretary	MoSTE
Bhuban Karki	Under Secretary	Ministry of Finance
Sujan Subedi	Meteorologist	MoSTE
Naresh Sharma	Agricultural Economist	MoSTE
Jhanak Kumar Khatri	Environment Expert	MoSTE
Ritu Pantha	Director	MoSTE
Ek Raj Sigdel	Environmental Specialist	Ministry of Federal Affairs and Local Development (MoFALD)
Prof. Dr. Govinda Raj Pokharel	Executive Director	Alternative Energy Promotion Centre (AEPC)
Nawa Raj Dhakal	Assistant Director	AEPC
Bharat Poudel	Sr. Engineer	AEPC
C. K. Chaudhary	Account Officer	AEPC
L. P. Khanal	Account Officer	AEPC
Bhesh Raj Acharya	Consultant	AEPC
Raju Laudari	Climate and Carbon Manager	AEPC
Jagdish Kr. Khoju	Sr. Engineer	AEPC
Madhusudan Adhikari	National Advisor	AEPC/National Rural and Renewable Energy Program
Jiwan Acharya	Sr. Climate Change Specialist	Asian Development Bank (ADB)
Pryantha Wijayatunga	Head, Project Management Unit	ADB
Pushkar Manandhar	Consultant, SREP	ADB
Govind Nepal	Consultant	ADB
Guido Geissler	Senior M&E Specialist	CIF Administrative Unit
Aashish Shrestha	Operations Analyst	World Bank
Aashish Rauniyar	Operations Officer	International Finance Corporation, World Bank
Bibek Chapagain	Energy Advisor	Royal Norwegian Embassy
Shiva Poudel	Senior Programme Officer	Danish Embassy
Frank Boemer	Team Leader	GIZ/Nepal Energy Efficiency Program
Simon Anderson	Researcher	International Institute for Environment and Development (IIED)
Susannah Fisher	Researcher	IIED
Saroj Rai	Senior Renewable Energy Advisor	SNV Netherlands Development Organization (SNV/Nepal)

continued on next page

Appendix A *continued*

Name	Position	Organization
Ugan Manandhar	Program Manager, Climate Change, Energy and Fresh Water	World Wildlife Fund (WWF) Nepal Program
Michelle Slany	International Climate Change Advisor	Practical Action
Tapes Neupane	Energy Officer	Practical Action
Bhupendra Shakya	Renewable Energy Expert	Renewable Energy for Rural Livelihood (RERL)
Sony Baral	Consultant, Programme Development	World Conservation Union (IUCN) Nepal
Narendra Gurung	Chief Program Manager	Japan International Cooperation Agency (JICA)
S. R. Tamrakar	Deputy Manager	Nepal Electricity Authority
Ananta Man Singh Pradhan	Engineering Geologist	Department of Electricity Development (DoED)
Dr. Matrika Prasad Koirala	Engineering Geologist	DoED
Dr. Rabindra Prasad Dhakal	Sr. Scientist	National Academy for Science and Technology (NAST)
Dr. Uttam Kunwar	Energy and Environment Expert	Federation of Nepalese Chambers of Commerce and Industry (FNCCI)
Balram Shrestha	Executive Director	Biogas Support Program–Nepal (BSP-Nepal)
Nanda Ram Baidya	Management Advisor	Centre for Rural Technology, Nepal
Siddhant Raj Pandey	Chief Executive Officer	Ace Development Bank
Dipen M. S. Pradhan	Relationship Manager	Bank of Kathmandu
Dinesh Dulal	Relationship Manager	Clean Energy Development Bank
Kriti Shrestha	Program Officer	Clean Energy Nepal (CEN)
Rajan Thapa	Program Officer	Climate Change Network Nepal
Pradeep Gangol	Executive Manager	Independent Power Producers' Association, Nepal
Padam Hamal	Executive Chairperson	Neighbour Organization Nepal
Bishnu Belbase	Officiating Executive Director	Nepal Biogas Promotion Association
Krishna Chandra Subedi	President	Nepal Biogas Promotion Association
Hira Bahadur Khatri	Chairperson	Solar Electric Manufacturers' Association Nepal (SEMAN)
Sailesh K. C.	Vice Chairperson	SEMAN
Mona Sharma	Senior Program Officer	Winrock International
Nira Bhatta	Program Associate	Winrock International
Umesh Acharya	Program Associate	Winrock International
Bobby Thapa	Senior Admin. Assistant	Winrock International
Nabraj Dahal	Messenger	Winrock International
Ranjana Budhathoki	Intern	Winrock International

APPENDIX B

SREP Monitoring and Reporting Tables

Table A: Monitoring and Reporting for SREP Projects and Programs

v4.0

Date this report is submitted: mm/dd/yy

<country>	**Project/Program Title:**		
	Implementing MDB 1:	**Project/Program ID (from the SREP pipeline):**	
	Implementing MDB 2:	**Project/Program ID (from the SREP pipeline):**	
	Amount of SREP funding (million USD):	**Project lifetime:**	years
	Date of lead MDB Approval:	**Expected Reporting Closure Date:**	mm/dd/yy
	12-month Reporting Period used by the MDB: From: mm/dd/yy	To: mm/dd/yy	

Please complete all cells highlighted

Core indicators	Unit	Target indicated at the time of **SREP SC approval** cumulative over **project lifetime**	Target indicated at the time of **MDB approval** cumulative over **project lifetime**	Target indicated at the time of **MDB approval** as of the **expected reporting closure date**	Report Year 2014 Actual Cumulative	Report Year 2015 Actual Annual	Report Year 2016 Actual Annual	Report Year 2017 Actual Annual	Report Year 2018 Actual Annual	Report Year 2019 Actual Annual	Report Year 2020 Actual Annual	Total Actual to date
Core Indicator 1. Annual electricity output from renewable energy as a result of SREP interventions	MWh	**0 MWh**	**0 MWh**	**0 MWh**	**0 MWh**	0 MWh	0 MWh	0 MWh	0 MWh	0 MWh	0 MWh	**0 MWh**
Solar												0
Wind												0
Hydro												0
Geothermal												
Mixed /blended												0
Solar Home Systems (SHS)	MWp											**0**
Other: Please specify.												0
Comment on methods of calculation, especially if counting electricity generation avoided.												
Core Indicator 2. Number of people, businesses and community services benefitting from improved access to electricity and fuels as a result of SREP interventions												
Households benefitiing from improved access	household											0
Women	person											0
Men												0
Specify the definition used for improved access for households												
Businesses benefitting from improved access	business											0
Women	person											0
Men												0
Specify the definition used for improved access for businesses												
Community Services benefitting from improved access	entity											0
Women	person											0
Men												0
Specify the definition used for improved access for community services												
Total project size in US$ millions	US$ million	**US$m -**	**US$m -**	**US$m -**	**US$m -**	US$m -	US$m -	US$m -	US$m -	US$m -	US$m -	**US$m -**
Co-Benefit Indicator 1: Increased public and private investments in targeted subsectors as a result of SREP Interventions		**US$m -**	**US$m -**	**US$m -**	**US$m -**	US$m -	US$m -	US$m -	US$m -	US$m -	US$m -	**US$m -**
Reporting MDB												0
Other MDB: (please specify)												0
Government												0
Private sector: (*please specify*)												0
Bilateral:(*please specify*)												0
Other: (*please specify*)												0
Specify the US$ exchange rate used for non-US$ investments.	US$ 1 =											
Co-Benefit Indicator 2. Gender Indicator. Specify indicator,baseline	**Unit**		**Baseline**	**Target**	**RY2014**	RY2015	RY2016	RY2017	RY2018	RY2019	RY2020	**Total**
												0
Co-Benefit Indicator 3. GHG emissions reduced/avoided	Tons of CO2 equivalent											0
Where alternative methods are used specify related assumptions and remarks.												
Other co-benefits identified in the project/program proposal												
												0
												0
												0

General comments and/or highlights of project status *(optional)* .

Appendix B *continued*

TableB: Monitoring and Reporting for SREP Sub-Projects

v4.0

Date this report is submitted: mm/dd/yy

<country>	**Program Title:**		
	Program ID (from the SREP pipeline):		
	Private-Sector Sub-Project Title:		
	Implementing MDB:	**Project lifetime:**	years
	Amount of SREP Sub-Project funding (million USD):		
	Date of approval of Sub-Project by the MDB:	**Expected Reporting Closure Date:**	mm/dd/yy
	Reporting period covered in this sheet: From: mm/dd/yy	To: mm/dd/yy	

Please complete all cells highlighted

Core indicators	Unit	**Program target** indicated at the time of MDB approval cumulative over **program lifetime**	**Sub-project target** indicated at the time of MDB approval cumulative over **sub-project lifetime**	**Sub-project target** indicated at the time of MDB approval as of the **expected reporting closure date**	Report Year 2014 Actual Cumulative	Report Year 2015 Actual Annual	Report Year 2016 Actual Annual	Report Year 2017 Actual Annual	Report Year 2018 Actual Annual	Report Year 2019 Actual Annual	Report Year 2020 Actual Annual	Total Actual to date
Core Indicator 1. Annual electricity output from renewable energy as a result of SREP interventions		**0 MWh**	**0 MWh**	**0 MWh**	**0 MWh**	0 MWh	0 MWh	0 MWh	0 MWh	0 MWh	0 MWh	**0 MWh**
Solar	MWh											0
Wind												0
Hydro												0
Geothermal												
Mixed / blended												0
Solar Home Systems (SHS)	MWp											**0**
Other: Please specify.												0
Comment on methods of calculation, especially if counting electricity generation avoided.												
Core Indicator 2. Number of people, businesses and community services benefitting from improved access to electricity and fuels as a result of SREP interventions												
Households benefitiing from improved access	household											0
Women	person											0
Men												0
Specify the definition used for improved access for households												
Businesses benefitting from improved access	business											0
Women	person											0
Men												0
Specify the definition used for improved access for businesses												
Community Services benefitting from improved access	entity											0
Women	person											0
Men												0
Specify the definition used for improved access for community												
Total project size in US$ millions	US$ million	**US$m -**	**US$m -**	**US$m -**	**US$m -**	US$m -	US$m -	US$m -	US$m -	US$m -	US$m -	**US$m -**
Co-Benefit Indicator 1: Increased public and private investments in targeted subsectors as a result of SREP Interventions		**US$m -**	**US$m -**	**US$m -**	**US$m -**	US$m -	US$m -	US$m -	US$m -	US$m -	US$m -	**US$m -**
Reporting MDB												0
Other MDB: (please specify)												0
Government												0
Private sector: (*please specify*)												0
Bilateral:(*please specify*)												0
Other: (*please specify*)												0
Specify the US$ exchange rate used for non-US$ investments.	US$ 1 =											
Co-Benefit Indicator 2. Gender Indicator. Specify indicator,baseline	**Unit**		**Baseline**	**Target**	**RY2014**	RY2015	RY2016	RY2017	RY2018	RY2019	RY2020	
Co-Benefit Indicator 3. GHG emissions reduced/avoided	Tons of CO2 equivalent											
Where alternative methods are used specify related assumptions and remarks												
Other co-benefits identified in the project/program proposal												
												0
												0
												0

General comments and/or highlights of project status *(optional)* .

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Nepal: The National Monitoring and Evaluation System and the SREP Investment Plan

Effective monitoring and evaluation (M&E) is important for evidence-based planning and decision making. It promotes transparency, accountability, and learning. This publication presents a brief overview of the Nepal M&E system, and highlights the strengths and challenges in integrating Scaling Up Renewable Energy Program in Low Income Countries (SREP) results framework and investment plan with the national M&E system. Discussions are based on the results of the SREP M&E workshop held in Kathmandu, Nepal, on 12 October 2012.

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