



Myanmar Rural Renewable Energy Development Programme

Part I: Project Information

GEF ID

9890

Project Type

FSP

Type of Trust Fund

GET

Project Title

Myanmar Rural Renewable Energy Development Programme

Countries

Myanmar

Agency(ies)

UNDP

Other Executing Partner(s):

Department of Rural Development (DRD), Ministry of Agriculture, Livestock and Irrigation (MoALI)

Executing Partner Type

Government

GEF Focal Area

Climate Change

Taxonomy

Private Sector, Stakeholders, Focal Areas, Climate Change, Climate Change Mitigation, Renewable Energy, Influencing models, Demonstrate innovative approach, Beneficiaries, Type of Engagement, Information Dissemination, Consultation, Partnership, Participation, Civil Society, Community Based Organization, Non-Governmental Organization, SMEs, Financial intermediaries and market facilitators, Individuals/Entrepreneurs, Communications, Education, Awareness Raising, Local Communities, Gender Equality, Gender Mainstreaming, Gender-sensitive indicators, Gender results areas, Capacity Development, Access to benefits and services, Capacity, Knowledge and Research, Learning, Knowledge Exchange

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 0

Duration

60In Months

Agency Fee(\$)

468,752

A. Focal Area Strategy Framework and Program

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCM-1_P1	Promote the timely development, demonstration, and financing of low-carbon technologies and policies.	GET	4,934,228	37,950,000
		Total Project Cost(\$)		4,934,228 37,950,000

B. Project description summary

Project Objective

To facilitate expansion of rural renewable energy services and productive applications in Myanmar

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
I. Policy and regulatory de-risking for improved renewable energy (RE) services and productive application	Technical Assistance	1. Effective implementation of supportive policies and regulations at national and local level for enhanced RE utilisation in rural productive uses	1.1 DREI analysis conducted to support the implementation of the NEP 1.2 Advisory services provided to DRD, MoEE, ECD and to coordinate activities under NEP 1.3 Completed least-cost energy assessment and investment prospectus plans in RURED Project Areas	GET	741,215	2,400,000

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
II. Strengthened capacity and awareness for market enablers and beneficiaries on rural renewable energy application	Technical Assistance	2. Awareness and knowledge enhanced of government entities, market enablers and beneficiaries	<p>2.1 Capacity needs assessment conducted for national and local government entities, RE market actors and beneficiaries</p> <p>2.2 Capacity strengthening activities designed and delivered for government entities, market actors and beneficiaries</p> <p>2.3 Training on RE and off-grid systems institutionalised</p> <p>2.4 Experiences and knowledge captured, lessons learnt and info disseminated</p>	GET	1,002,465	2,025,000

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
III. Rural renewable energy investments	Technical Assistance	3a. Increased investments in rural RE to meet household demand, PUE and enterprise development	3.1 Designed and implemented off-grid RE solutions and models integrated with PUE implemented, total installed capacity 15 MW	GET	919,020	875,000
III. Rural renewable energy investments	Investment	3a. Increased investments in rural RE to meet household demand, PUE and enterprise development	3.1 Designed and implemented off-grid RE solutions and models integrated with PUE implemented, total installed capacity 15 MW	GET	1,600,000	31,500,000
III. Rural renewable energy investments	Technical Assistance	3b. Financial programmes supported	3.2 Assessed and facilitated commercial financial support for rural RE energy projects	GET	436,565	100,000
Sub Total (\$)					4,699,265	36,900,000
Project Management Cost (PMC)						
				GET	234,963	1,050,000

Project Management Cost (PMC)

Sub Total(\$)		234,963	1,050,000
Total Project Cost(\$)		4,934,228	37,950,000

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount(\$)
Donor Agency	MoALI-DRD	Grant	30,000,000
Donor Agency	MoALI-DRD	In-kind	1,250,000
Donor Agency	GIZ	In-kind	1,500,000
Others	Smart Power Myanmar	In-kind	5,000,000
GEF Agency	UNDP	Grant	80,000
GEF Agency	UNDP	In-kind	120,000
Total Co-Financing(\$)			37,950,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount(\$)	Fee(\$)
UNDP	GET	Myanmar	Climate Change		No	4,934,228	468,752
Total Grant Resources(\$)						4,934,228	468,752

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required

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PPG Amount (\$)

100,000

PPG Agency Fee (\$)

9,500

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount(\$)	Fee(\$)
Total Project Costs(\$)						0	0

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	0	527873	0	0
Expected metric tons of CO ₂ e (indirect)	0	1583591	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)		281,779.00		
Expected metric tons of CO ₂ e (indirect)		845,309.00		
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)		246,094		
Expected metric tons of CO ₂ e (indirect)		738,282		
Anticipated start year of accounting		2021		
Duration of accounting		5		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		123,640		
Male		123,640		
Total	0	247280	0	0

PART II: Project JUSTIFICATION

1. Project Description

The next section describes changes in the project design:

a) Since the approval of the PIF a number of changes have taken place in the policy-regulatory-institutional framework regarding off-grid RE and the implementation of rural RE projects in Myanmar. Implementation of the National Electrification Plan (NEP) of the Government of Myanmar is supported by the World Bank with USD 90 million for national grid extension and off-grid electrification solution by means of mini-grid systems and solar home systems. The NEP off-grid programme is being implemented by the Department of Rural Development (DRD) of the Ministry of Agriculture, Livelihood and Irrigation (MoALI) and has financially supported a large number of solar home systems and mini-grid systems. The DRD-NEP is described in detail in Annex E of the UNDP Project Document. In the current situation, there is a level of uncertainty on the timeline and reach of the national grid extension, including to which towns and villages will be connected to the national grid and at which point in time. This discourages developers and investors in off-grid mini-grid systems, especially as there is no mini-grid policy that provides solutions to mini-grid developers once the national grid arrives before investments in the mini-grid have been paid back. GIZ is working with the WB-supported DRD-NEP (and Ministry of Energy and Electricity, responsible for national grid electrification) in providing technical advice, including the development of Union and State/region level regulations that deal with future grid connection of the isolated mini-grid systems.

b) Where the PIF referred to a subsidy level of 100% (for solar home systems), this has currently been reduced to 80% for SHS and 60% for mini-grid systems. Although the subsidy level is reduced, the subvention in the government (DRD-NEP) programme is still substantial. For mini-grid development, two rounds of Call for Proposals have been organized with a third one forthcoming in 2018-19. This has given a boost to the further expansion of mini-grid systems in Myanmar. On the other hand, not all areas have profited equally from the Call for Proposals, with e.g. relatively few proposals coming from Shan State and Tanintharyi Region (Project Areas identified for RURED project activities; see point e). A second observation is that most of the applications in the mini-grid Call for Proposals are based on solar technology, with only a few mini/micro hydropower or biomass applications. This may be caused by longer lead times for mini/micro hydropower proposals as compared to proposals for solar mini-grids. Third, there is a tendency to focus on supply-side targets and installation (number of villages and installed capacity) and less so on demand-side aspects (e.g. current and future electricity demand, demand stimulation and productive uses, tariffs and ability to pay) as well as the longer-term operation and maintenance aspects. As a result, projects may be oversized and the revenue stream from tariff payments may not be sufficient to cover running cost. Also, projects may run into trouble on the longer term due to insufficient local capacity to perform maintenance and gaps in locally based management and administration of the RE system. The economic viability of RE mini-grid systems can be improved by clustering villages in order for RE developers to achieve economies of scale. Doing so, RE developers can service villages from a central point in the cluster rather than from Yangon. Standardization of equipment can also lead to improved cost effectiveness.

c) The technology focus was not yet clearly defined in the PIF, ranging from solar home systems to hydro, solar, biomass technology and mini-grids. In the ProDoc, the focus has been narrowed to mini-grid systems. Given the focus of the RURED project on encouraging productive use of energy in order to trigger multiple sustainable development goals, best chances are to integrate productive use in mini-grid development at the level of village and cluster of villages[1]¹. Deviation from SHSs is further advised by the high subsidy levels which makes it difficult to introduce SHSs on a more commercial (less-subsidized) basis, while at the same time SHSs have already been widely disseminated in Shan State, one of RURED's Project Areas.

d) The RURED ProDoc is more explicit on the role of demand stimulation and productive uses of energy. In the first year of operation it often happens that not all potential clients are connected, and if they are, the demand can remain low as households cannot afford to buy appliances and small business cannot yet purchase the equipment needed. In order to overcome such challenges, feasibility assessment and proposal formulation will incorporate demand stimulation and productive uses of energy at the design stage of the village mini-grid project.

e) For a country the size of Myanmar, there is a limit on what can be done with the GEF funds (USD 4.93 million). The RURED project will avoid disbursing funds over a large number of geographical and thematic areas, and instead emphasize on interconnection between activities to guarantee long-term impact and sustainability. In the PPG phase it was therefore decided to focus on new mini-grid (or upgrading existing) mini-grid systems in two or three States only. In consultation with the project partners and stakeholders, it was decided to have a geographical focus on zones in eastern/southern Shan, the Dry Zone and/or the coastal areas of Tanintharyi.

f) Several communities and local private companies in Myanmar already have considerable experience with 'home-grown' mini-grids based on pico/micro/mini-hydropower and biomass gasifier technology. Many of these have been developed with little or no grant money, using locally developed technology and were implemented in close cooperation with the beneficiary community. This experience of the local private sector has not been well reported, and this may be one reason why the sector has not received much attention yet from development partners whose efforts have benefitted solar home systems and solar mini-grids. In the DRD-NEP the majority of mini-grid proposals were submitted for the Dry Zone and most have been based on solar mini-grid technology. Shan State has an excellent hydropower potential and mini/micro hydropower is therefore a 'niche' area for the RURED project, thereby complementing the efforts of DRD-NEP. Solar mini-grids are considered where hydro resources are far away from demand and where solar mini-grids are more cost-effective. There may also be cases where a hydro-solar hybrid configuration is most promising. In Thanintaryi State, the RURED project will focus on the coastal area where solar mini-grids may be the most appropriate technology. The Project will work closely with members of REAM and RE associations (HyCEN, UMFCCCI Solar Group). Biomass gasifier

mini-grids can be important in some areas in Myanmar, notably the Ayeyarwaddy delta area. Gasifier mini-grids will not be the centre of attention in the RURED project although they can still be considered in case they may be the most sensible option for a specific location.

g) Access to finance will become increasingly important for the longer-term sustainability of the off-grid mini-grid sector. At one point in time, donor support (such as the current WB funding for NEP) will come to an end at which point other solutions for rural off-grid electrification will be needed, based on higher shares of private sector involvement. Currently, RE developers finance the mini-grid project with a 60% contribution from the DRD-NEP grant, and 20% contribution by their own equity (the remaining 20% is community-mobilised) but is seldomly linked with finance to stimulate demand or the simultaneous development of productive uses. Organisations such as PACT have experience with micro-finance. The PACT-led Smart Power Myanmar will closely work with the project in micro-finance for demand stimulation (households and small businesses). However, the financing needs of mini-grid systems (USD 100,000-USD 1 million) and in associated larger productive uses of energy go beyond what micro-finance can provide. Financial institutions may be able to make project finance available for large infrastructure, but there is a gap in affordable finance for businesses and RE developers between the micro-finance and multi-million-dollar range. The PIF mentions that “for most banks, the maximum loan period is 1 year and high collateral of between 40% and 200% of the loan value is required with restrictive collateral requirements. Such conditions are not conducive for accessing finance for rural RE developments”. On top of this, interest rates are capped at 13% while the banking sector is generally unfamiliar with rural RE projects which usually require larger tenors of 7-10 years. However, the situation is slowly improving with some financial reforms on the horizon. Some banks are now considering to provide loans to RE entrepreneurs for rural energy initiatives, accepting larger tenors. The RURED project will support access to finance for RE developers and will work with financial institutions in providing capacity building and training on mini-grid finance.

During the PPG phase it was concluded that the financial sector is still too immature to introduce a financial scheme. While the PIF suggested to introduce a financial mechanism such as a guarantee scheme, further examination of the sector during the PPG phase demonstrated that there is hardly commercial lending existing for mini-grid development. It became apparent that the banking sector first needs to become more familiar with RE mini-grid financing, e.g. by means of training and networking with similar banks in the region (e.g. Sri Lanka, Nepal) that have extensive experience with rural RE project lending. In addition, awareness-raising events for the banking sector and training on how to appraise rural RE projects are crucial pre-conditions before considering introduction of advanced finance instruments. RURED will engage with one or more banks in exploring the possibilities to provide loans for the RURED supported village RE projects (Output 3.2). In output 3.1, USD 1.6 million of GEF funding is made available to support off-grid RE facilities in selected groups of villages, a) to accommodate larger PUE (USD 1,060,000,000), b) for refurbishment and hybridization of existing mini-grid systems (USD 190,000) and c) to support project developers in purchasing credit guarantee insurance (USD 350,000).

h) Limited capacity and information remain important barriers as identified in the PIF. RURED supports capacity strengthening and awareness raising activities in Component 2 on planning, technology management and business models (government staff, subnational government, RE project developers, energy service companies) and at technical and vocational level (technicians for installation, operation and maintenance. On village beneficiary level village technicians and officials will be trained in planning, O&M and administration.

i) The RURED project will cooperate closely with the Ministry of Education, especially the Department of Innovation and Research (DRI) and the Renewable Energy and Electronic Technology Centre (REETC) in organizing trainings. The RURED project will work with the Department of Technical and Vocational Education (DTVE) and regional TVE training centres on vocational training. In this respect, the objective and focus of the project is off-grid electrification with *proven* technologies rather than supporting development of new or untested technology. The PIF mentions ‘setting up a testing facility’ with USD 1 million support. While research and local development of technology has its own merits, it was decided that R&D is outside the scope of RURED, and that these funds be better used to directly support off-grid RE facilities in the village supported by RURED. However, some funds are made available for the strengthening of REETC itself in delivering these training in Yangon and in the regions (see Output 2.3).

The table below presents correspondence of outcomes and outputs at PIF with those at CEO ER stage:

ProDoc / CEO ER	PIF	Rational for change
1. Effective implementation of supportive policies and regulations at national and local level for enhanced RE utilisation in rural PUE	1. Policy and regulatory de-risking for improved renewable energy (RE) services and productive application	No change; minor rewording to clarify Outcome statement
1.1 DREI analysis conducted to support the implementation of the NEP	1.1 Conducting DREI (Derisking Renewable Energy Investment) analysis and market study to support implementation of the NEP	No change; minor rewording to clarify Outcome statement
1.2 Advisory services provided to DRD, MoEE, ECD and to coordinate activities under NEP	1.2 Feasibility analysis of policy tools and incentives for promoting rural RE planning and investments completed 1.5 Technical assistance to Rural RE Focal Point to coordinate and facilitate project implementation and cooperation among various market actors	The wording has changed and outputs are merged. However, these re-appear in the list of activities: <ul style="list-style-type: none"> - Review of policy instruments (subvention) and regulation (standards; grid connection) - Rural RE and GHG reporting - Promote inter-institutional and inter-stakeholder coordination

1.3 Completed least-cost energy assessment and investment prospectus plans in RURED Project Areas	1.3 Toolkit of procedures for planning and developing rural renewable energy at state and township level developed and operational 1.4 Inclusion of productive uses of RE applications in national and state level rural livelihoods policies for key livelihood sectors in rural areas 3.1 Completed RE resource assessments	The wording has changed and outputs are merged. However, these re-appear in the list of activities: - Regional/area least-cost energy assessment (and link with development and PUE) identification of investment opportunities - Tools developed for sub-national level rural and RE planning (toolkit; software, GIS, database)
2. Awareness and knowledge enhanced of government entities, market enablers and beneficiaries	2. Strengthened market demand for affordable RE technologies for rural livelihoods application	The wording in the PIF does not fully reflect the essence of this component, which awareness raising, capacity building and increasing knowledge
2.1 Capacity needs assessment conducted for national and local government entities, RE market actors and beneficiaries	2.1 Capacity needs assessment conducted for various market actors including policymakers, local government, project developers.	No change; minor rewording to clarify Outcome statement
2.2 Capacity strengthening activities designed and delivered for government entities, market actors and beneficiaries	2.2 Technical guidelines and reference handbook on design, financing, installation and operation of rural RE for technicians and developers developed and disseminated 2.3 Developed and completed trainings for village electricity committees and community representatives 2.4 Developed and completed trainings for RE developers, installers and service providers on technical, financing and management 2.6 Developed and executed multi-media awareness campaigns on RE and productive uses	In the ProDoc these are grouped under <i>one</i> output, and re-appear as activities but re-organised per stakeholder group: - Awareness raising and knowledge enhancement for decision-makers (national and local government, companies); - Technical training designed and delivered for RE companies, energy service companies and village organizations on various aspects of rural RE electrification and PUE - Managerial and technical skills enhancement at local level and awareness creation on RE systems and productive uses (this includes development of operators' and administrators' manuals and materials in local languages)
2.3 Training on RE and off-grid systems institutionalised	2.8 DRD RE focal point and Ministry of Education technicians trained in RE technology testing and quality monitoring 2.9 RE technology testing facility hosted by the Ministry of Education	Rather than setting up a specific testing facility, the output focusses on strengthening entities of Ministry of Education (DRI: RTE Technology Centre and DTVE: local vocational institutes) to deliver RE-relevant training
2.4 Experiences and knowledge captured, lessons learnt and info disseminated; 2.5 M&E	2.7 Documented experiences and lessons on RE applications on rural livelihoods	No change; minor rewording to clarify Outcome statement. M&E is mentioned separately as an output.
3a Increased investments in rural RE to meet household demand, PUE and enterprise development	3. Increased investments in rural RE for productive uses and enterprise development	No change; minor rewording

3.1 Designed and implemented off-grid RE solutions and models integrated with PUE implemented, total installed capacity 15 MW	3.2 Completed assessment of productive activities and their energy demand levels 3.4 Formulated and demonstrated modalities for Public-Private-Partnerships (PPP) are put in place 3.6 Operational RE systems with total installed capacity at least 15 MW	The three outputs have been merged as these are actually steps in realizing off-grid systems in a village (or cluster of villages), starting with a) stakeholder consultations and assessment, b) followed by business and finance plan formulation (incl. the business model PPP, c) resulting in construction, commissioning and operation. The same steps are repeated in each cluster of villages the Project will support
3b Financial programmes supported		Outcome 3 in PIF has been subdivided on two outcomes (3a and 3b) in the same Component 3
3.2 Assessed and facilitated financial support programmes for rural	3.3 Completed assessments on RE sector financial services and products demand and on financial support mechanism partners selected and design 3.5 Designed and delivered capacity development trainings for financial support mechanism	The two outputs have been merged into one, encompassing three activities: · Training for financial institutions on financing rural RE and PUE · As-needed advice to local banks (e.g. technical appraisal of proposals) · Assessment of the financial sector, service providers and products offered
N/A	3.7 An appropriate financial support mechanism, if found to be necessary (during the PPG) will be designed and put in place.	The need for a financial mechanism, but analysis found that the financial sector is not ready for such a mechanism to work in the context of the Project

[1] In the village RE systems selected to be supported under Output 3.1, RURED may include solar PV, but rather as a complimentary electrification option for households in the village that cannot be easily connected due to their distance to the mini-grid backbone distribution/transmission line.

A.2. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

N/A

A.3. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

The Stakeholder Engagement Plan is given in Annex H of the UNDP Project Document. The following table provides a summary.

Stakeholder group or organisation	Means of engagement
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Ministry of Agriculture, Livestock and Irrigation (MoALI) – Department of Rural Development (DRD)	MoALI-DRD implements the off-grid component of the National Electrification Plan (NEP). DRD is the Implementing Partner of the Project. DRD staff will work closely with full-time project staff and short-term experts. DRD will also take a leadership role in the Project Board in providing direction to the Project. A few key DOE staff will work side-by-side with the project team on many aspects of implementation, particularly policy-related aspects, institutional aspects, capacity building and off-grid RE implementation and monitoring.
Ministry of Energy and Electricity (MoEE)	Promoting coordination between DRD, MoEE and utilities to achieve a well-planned, mutually complementing, on-grid and off-grid electrification is one activity of RURED
Environmental Conservation Department (ECD) of MoNREC	The GEF operational focal point is the Environmental Conservation Department (ECD). ECD is responsible for climate change and greenhouse gas emission monitoring, reporting, and verification (MRV). ECD is responsible for managing natural resources conservation and sustainable utilisation, pollution control on water, air and land. The Project will work with ECD on improving GHG MRV methodology regarding the contribution of off-grid energy systems. Also, ECD plays a role in ensuring that PV related wastes (lead-acid/lithium batteries) are disposed of nationwide in a way that does not endanger the health of the natural environment. The Project will work with together in natural resources management and watershed protection of the river basins in which the mini/micro hydro activities will be based.
Ministry of Education	The Project will work with technology universities in mainstreaming RE and electrification elements in existing curricula. Further, the Project will provide assistance for the strengthening DRI's Renewable Energy and Electronic Technology Centre (REETC) and with DTVE to integrate technical training on O&M of small RE systems (solar, hydro) education at the regional Technical and Vocational Education and Training (TVET) centres.
UNDP programmes in Myanmar	RURED will actively seek synergies between the various thematic areas of livelihoods, governance, disaster risk reduction, environmental protection, climate change adaptation and mitigation. These synergies will be pursued through UNDP's umbrella Governance for Resilience and Sustainability Project (GRSP). Through GRSP, RURED will be coordinated with ongoing projects, such as the UNDP/GEF R2R Integrated Protected Area Land and Seascape Management in Tanintharyi and the UN-REDD+ National Programme, which are providing valuable lesson-learned for navigating interim arrangements in the peace process, and engagement with representatives of both Ethnic Armed Organizations (EAOs) and Civil Society Organization (CSOs) that represent indigenous peoples in the local area.
World Bank, GIZ, New Zealand, Italy and other development partners	<p>The off-grid electrification component of the National Electrification Plan (NEP) is implemented by DRD with financial and technical assistance support from World Bank and TA support from GIZ. The Project will provide further TA to DRD in a concerted effort with WB and GIZ focussing on 'niche' areas such the integration of PUE and demand engagement in village-level project design, and sustainable (less subsidy-dependent) financing, as well as capacity development of government entities. The development partners coordinate their activities in an energy sector coordination (with an energy access) working group that includes IFC, GIZ, KfW, and a number of other development agencies working in the energy sector in Myanmar. RURED will actively participate in this energy sector coordination.</p> <p>Donors will be kept abreast of project activities, as relevant. Particularly, RURED's village off-grid RE power generation management model of the project will be shared with the donor projects pursuing village-scale RE power installations, where the model may also provide a solution to the sustainability problem (subsidy dependence) that highly concerns all donors working in this area</p>
PACT/Smart Power Myanmar	The Smart Power Myanmar facility aims to mobilize financing and provide technical assistance to support the rollout of mini-grids and other rural electrification solutions that are in line with Myanmar's NEP and with a focus on customer-centred solutions, provided by local energy service providers demand stimulation and PUE, and mobilizing local financial resources. Given the similarity between RURED and SPM's approach, the Project will cooperate closely with SPM in the selected village off-grid RE, especially on micro-finance and productive uses of energy to mutually complement objectives of both programs.

<p>REAM HyCEM UMFCCI Solar Group RE developers / rural service companies (RESCOs)</p>	<p>REAM works with local inhabitants, professionals, technicians, micro or small enterprises and other like-minded organization on renewable energy Information, education, and communication and supports small development projects in Myanmar. REAM has helped setting up professional associations of RE developers and entrepreneurs, such as HYCEM (mini-/micro hydropower) and the Solar Group (solar PV and mini-grids). The Project will work with these NGOS in Component 2 on information sharing, capturing experiences in off-grid electrification, and knowledge and dissemination, as well as capacity, needs assessment and formulation of capacity building activities, and in Component 3 in the joint implementation of Output 3.1 in the selection of supported mini-grid development, consumer engagement design and design and implementation of off-grid RE systems, and work together in organising the financing of the RE systems as well (micro-)finance for energy uses. RE companies will be invited to be involved in the project both as learners and as contracted companies to design and install off-grid RE systems. The project will offer training in both the mini/micro-hydro area and the PV area (technical, business models, socio-economic aspects). The project will be conducting work in identifying best cost channels for sourcing quality projects and providing expected cost breakdowns for overall systems</p>
Financial service providers	<p>The Project will engage one (or more) local financial service providers, such as A-Bank, in setting a loan programme for small RE and electrification projects. The Project will promote cooperation and exchange with similar banks abroad. The project will invite commercial banks (and equity investors) to attend its capacity building program for the banks on the financing of RE technologies</p>
Engineers / technical persons:	<p>These will be persons with an education in engineering or extensive experience in technical trade. These persons will either already be involved in the RE sector or interested to get involved in PV and/or mini/micro-hydro. The project will invite such person to participate in its training on the design and installation and operations of micro/mini-grids and PV mini-grids</p>
<p>Beneficiaries (rural electricians; operators/ administrators; local villagers)</p> <p>Indigenous people</p> <p>Women</p>	<p>Rural electricians will have experience in electrical wiring and repairing electrical equipment. The project will provide training for such persons both through its training programs (in cooperation with TVET centres) so that these persons can become certified and be involved in installation and O&M and basic technical troubleshooting of RE systems in their village. Similarly, the RURED Project will select and train a few operators from each village at which there is a RE project in business development and administration (preparing bills and collecting payment, transferring funds to required account).</p> <p>The project will put special emphasis on the engagement of local villagers, a significant portion of who are indigenous peoples. The project will during its early stages conduct appropriately scaled environmental and social impact assessments at each of the 40 demo sites as part of its Environmental and Social Management Framework (ESMF). The assessments will include in-depth consultation with local people, with FPIC conducted with affected IPs as required, particularly in any cases where land acquisition may be required, or access to land or resources is affected. The project will further carry out activities to confirm land availability (and consensus thereof) for the local RE projects as needed, and to confirm the continued willingness of local villagers to volunteer labor for demo installation. Lastly, the project will continue to consult local villagers (including, indigenous peoples) regarding productive uses and how the project may assist them in starting or expanding their businesses with productive uses of RE.</p> <p>The project will put special emphasis on the involvement of women in village community meetings with the project, ensuring that consultations are carried out in a gender-sensitive manner with proportional representation of women(or at least decision-making participants) at such meetings are women. The project will also proactively seek the involvement of women in productive use initiatives, assuring that a part of project funds for productive uses go to initiatives mainly involving women.</p>

Documents

Title

Submitted

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier;

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor;

Other (Please explain)

A.4. Gender Equality and Women's Empowerment

Please briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

The RURED Project envisages prioritizing communities and projects that support productive uses of renewable energy and that focus on gender goals including women-owned RE enterprises. The professional job capacity development interventions of the project will be designed in such a way that equal opportunities exist for all genders and ages, like the number of trained and employed women in new RE-based power generation facilities. The M&E of the project activities will include tracking a number of human development indicators, and among them would be gender equity, as the number of trained and employed women in new RE-based power generation facilities.

To better realize the gender mainstreaming of technical assistance projects, , the following strategies will be applied:

- To be effective and improving access to resources and services for marginalized women and girls as well as contributing to advancing gender equity and women's economic empowerment, specific budget lines will be allocated for reducing barriers and gaps in access, opportunity, or participation in project intervention areas;
- Images and narratives in documents often unintentionally reinforce gender bias. Words and images that challenge gender stereotype and bias as well as portray gender equality will create a supportive and inclusive environment for women and girls. During the implementation of Myanmar Rural Renewable Energy Development Programme,

graphics and narratives used in training, workshop, media statement, press release, even speaking points at meeting or information/ awareness session will be prepared through gender sensitivity lens;

- Disaggregated statistical data and gender-related findings on project outcomes and indicators will provide the evidence that gender issues are taken seriously and will ensure better planning and activities, enforce changes accordingly in the project design, and advocate the policy development for better addressing gender inequality;
- Positions in projects will be reserved for women to achieve equal participation of women and men in all areas of the project intervention as well as project management level. Women’s participation in existing hydro-power projects is significantly low. To promote their meaningful and active participation in the project design, implementation and monitoring and management phases, special measures should be considered (e.g. quota for VEC membership and capacity-building opportunities according to their roles at VEC). A separate series of consultations with women only will help achieve effective community consultations by giving more opportunities for women to join and voice their priorities and concerns about renewable energy.

The UNDP Project Document has a section on ‘mainstreaming gender’ (see its Section 4.6) with further details provided in its Annex D.1

Documents

Title

Submitted

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

If yes, please upload document or equivalent here

Below is the Gender Action Plan. It is also attached as Annex D.2 to the Project Document

Gender and social inclusion action plan: a gender mainstreaming measurement tool

Gender-related activity	Output	Indicator	Possible Output
Ensure full representation of vulnerable groups including women, and their meaningful participation in projects	Functional physical integration	Ensure women representation in all capacity building workshops and trainings, as well as at any working group or committee for project implementation and monitoring Identify design features that impact positively on women and implement them and remove those that negatively impact the project.	A well represented governing structure that involves all groups of society is in place and participates meaningfully in the design of projects. All bottlenecks that prevent the full and meaningful participation of women are identified and removed.

and programs Strengthen women economic empowerment	Social integration and sustainability	Support women and girls to voice issues and concerns about decisions and process of the project that affect their lives	Concerns of vulnerable groups, including women and girls, are addressed and their voices are integrated into all development projects and programmes through participatory approaches.
	Economic integration and sustainability	<p>Ensure access to loan financing by women entrepreneurs and vulnerable groups</p> <p>Support women to save their time in participating in other productive activities such as education, health, and entrepreneurial activities by reducing their time and effort in doing household chores with renewable energy</p> <p>Improve information and knowledge access such as operation of RE systems, financial services, market information, agricultural information and techniques and weather updates for the community (both males and females) by mobile, radio, and TV through renewable energy</p> <p>Strengthen the technical capacity of women and girls for renewable energy by providing training on maintenance and repair, thus enhance their livelihood opportunity</p>	<p>All vulnerable groups' needs, including women's, are incorporated into the project cycle at all the phases of the projects to ensure economic sustainability.</p> <p>Women's participation in previous hydro-power projects is significantly low. To promote their meaningful and active participation in the project design, implementation in addition to monitoring and management phases, special measures should be considered (e.g., quota for VEC membership and capacity-building opportunities according to their roles at VEC).</p>
Capacity building and cost-related issues disaggregated by gender	An Increased number of women receive technical training and participate in projects. The energy sector has sufficient women working in it and no longer lags behind with women representation.	<p>Strengthen the technical capacity of women and girls for renewable energy by providing training on maintenance and repair, thus enhance their livelihood opportunity</p> <p>Opportunities to empower and capacitate women including training needs are identified and tailor-made to suit projects being implemented.</p> <p>Possible sources of funding for various aspects of the value chain are identified and followed through.</p> <p>Ensure equitable allocation of resources for the implementation of appropriate implementation measures</p>	<p>At least one area where skills lack mostly among women entrepreneurs is identified and a matching training programme to address this shortage is implemented.</p> <p>A set target of women entrepreneurs is assisted to secure funding for financing various aspects in the value chain.</p> <p>A set and agreed to selection criteria is established and applied equally to ensure and encourage the participation of all.</p>

Gender-responsive budget allocation to mainstream gender through the project preparation, implementation, and monitoring	An increased number of women who are more accessible to public participation, energy access, and safety	<p>Women and girls are supported with spending some gender-responsive budget such as childcare, transportation, additional small-group meetings, translation etc to provide more access and inclusiveness to the participation of the project implementation.</p> <p>Energy access for female-headed households is promoted by spending some gender budget allocation if needed accordingly</p> <p>The lighting at the public area is supported to help women and girls feel safety and security for going out at night time and to prevent potential violence</p>	<p>A set target of women can reduce their obstacles to access public services and participation</p> <p>Female-headed households with poverty and vulnerability are identified and provided support for access to electricity</p> <p>Women and girls are protected and prevented from potential harm</p>
Gender-sensitive communication	Safe and inclusive environment is created for the vulnerable groups and women to enhance their participation, to challenge gender bias and to portray gender equality	Ensure content of training materials, project documents, IEC materials including written text as well as audio and visual developed with inclusive language and appropriate illustrations without gender bias and stereotype	Significant women participation and representation are encouraged during capacity building trainings or workshops
Enable better planning and actions through disaggregated data	Disaggregated statistical data and gender-related findings on project outcomes and indicators policy integration of gender considerations	<p>Data are collected and tabulated separately for women and men with specific indicators measuring changes to gender equality and empowerment for adjustments to activities and implementation approaches to better outcomes of gender equality.</p> <p>The case study or success story is collected as for gender-related findings at the intervention area to prove the results of gender mainstreaming</p>	Evidence that adapts the better program accordingly, measure changes to gender equality, policy integration of gender considerations
Sensitization of project stakeholders with regards to gender equality	Effective gender mainstreaming for renewable energy project	<p>Invest in developing competency and knowledge on gender mainstreaming for Government's counterparts, community leaders and partner agency as well as UNDP's project staff</p> <p>Integrate gender session in each capacity-building training or workshop</p>	Targeted and trained stakeholders are well oriented on gender issues and more confident to mainstream gender throughout the whole project circle

Monitoring on gender mainstreaming implementation	Adjustments to activities and implementation approaches and accountability to gender equality	<p>Make sure gender balance practice applying in project staff recruitment process and hire gender-oriented staff (both male and female) for project implementation</p> <p>Project staff is assigned and designated to implement and monitor the gender mainstreaming activities accordingly and their performance appraisal is evaluated by accomplishment on the assigned gender tasks.</p> <p>Ensure Gender Analysis (UNDP in-house gender specialist) getting involved in the gender-mainstreaming activities as oversight, providing technical advice for implementation of the whole project circle through a gender lens.</p> <p>Carry out impact assessments on how the development of energy investments contribute to gender equality and economic empowerment</p>	
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If possible, indicate in which results area(s) the project is expected to contribute to gender equality:

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

A.5. Risks

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being, achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.

On the basis of UNDP's Social and Environmental Safeguards Standards and UNDP's Social and Environmental Safeguards Screening process, several potential social and environmental risks have been identified and appropriate mitigation measures selected. Apart from the risks identified and addressed below, additional efforts have been undertaken to address potential environmental and social risks by means of the development of an Environmental and Social Management Framework (ESMF), which was submitted as a separate

Annex to the ProDoc for this project. The ESMF has been developed on the basis of the project risk categorization and outlines the processes that will be undertaken during the project inception/implementation phases for the additional assessment of potential impacts and identification and development of appropriate risk management measures, consistent with UNDP's Social and Environmental Standards (SES).

The ESMF identifies the steps that will be followed during the inception/implementation phases for the completion of stand-alone management plans as justified based on the results of the SESP for the moderate risks identified. The ESMF also details the roles and responsibilities for its implementation and includes a detailed budget and monitoring and evaluation plan.

Description	Type	Impact Probability Significance	Mitigation Measures	Owner	Status
1. The project can potentially have adverse impacts on gender equality and/or the situation of women and girls in case the activities related to productive use of renewable energy reinforce or promote occupational gender stereotypes.	Social	I=3 P=2 Moderate	<p>The RURED Project envisages prioritizing communities and projects that support productive uses of renewable energy and that focus on gender goals including women-owned RE enterprises. The professional job capacity development interventions of the project will be designed in such a way that equal opportunities exist for all genders and ages, like the number of trained and employed women in new RE-based power generation facilities. The M&E of the project activities will include tracking a number of human development indicators, and among them would be gender equity, as the number of trained and employed women in new RE-based power generation facilities.</p> <p>Women's participation in existing hydro-power projects is significantly low. To promote their meaningful and active participation in the project design, implementation and monitoring and management phases, special measures should be considered (e.g. quota for VEC membership and capacity-building opportunities according to their roles at VEC). A separate series of consultations with women only will help achieve effective community consultations by giving more opportunities for women to join and voice their priorities and concerns about renewable energy.</p>	PMU	Reducing (due to incorporation of mitigation into design)

Description	Type	Impact Probability Significance	Mitigation Measures	Owner	Status
2. The construction and operation of the demo low carbon technology application projects may pose potential safety risks to local communities.	Social	I=2 P=2 Low	The selection of project sites will include safety aspects (occupational and general) as one of the criteria to be considered. The project includes a quality framework including RE standards and protocols in Component 1 and capacity building and testing in Component 2 which reduce the risk of poor-quality technology. Capacity building will create high-quality technical skills in the sector. The RE technologies considered in the project are all technically mature, minimizing the risk of technical failure		
3. The operation of the demo projects (particularly those on RE technology applications) may potentially damage the environment. Potential cases could be: (1) solar PV power generation does not address battery waste disposal; and, (2) hydropower project does not take into account impacts on downstream uses of the water resource.	Environ-mental	I=3 P=2 Moderate	The RE projects that will be developed and implemented will be required to adhere to the standard design practices that involve taking into account environmental impacts of RE resource preparation, utilization and the recycling of batteries while also having general design requirements and standards that have to be complied with.	PMU DRD ECD	Reducing (due to requirement of social and environ- mental assessment)

Description	Type	Impact Probability Significance	Mitigation Measures	Owner	Status
4. The construction and operation of the RE mini-grid projects may pose potential adverse impacts to habitats, cultural heritage, diversion of surface water (micro-hydro) or could be impacted by potential impacts of climate change (micro-hydro)	Social & environ-mental	I=2 P=3 Moderate	<p>The RE projects that will be developed and implemented will be required to adhere to the standard design practices and the siting, design, development, and implementation of the demo projects will be considered in line with avoidance of any potential impact to habitats, cultural heritage or surface water. For projects such as micro/mini-hydropower facilities, the conduct of environmental impact assessments will be mandatory and should also include the potential impact of climate change affecting the output of the hydropower facilities as well as risk mitigation measures to such impact. Since no large reservoirs are required, no resettlement program is needed. Run-of-the-river schemes divert only part of the stream water away from a portion of the river to power the turbine which joins the river downstream again. However, they tend to create small, shallow pools which can cause problems such as sedimentation as well as eutrophication and can thus affect water quality.</p> <p>The RURED project will take an integral approach to issues as vulnerability (e.g., based on food security and climate-linked disasters, such as flooding and droughts) and management of natural resources in the watersheds where off-grid and on-grid hydropower projects are developed. In fact, the hydropower projects can have a positive impact by raising the awareness of proper watershed management and reforestation to secure the sustainable use of water resources.</p>	PMU DRD ECD	Reducing (due to requirement of social and environ-mental assessment)

Description	Type	Impact Probability Significance	Mitigation Measures	Owner	Status
5. The project can potentially have adverse impacts on human rights of marginalized and indigenous people, including economic displacement[1]	Social	I=4 P=3 High	In case mini-grid development will be located on indigenous land, FPIC (Free Prior and Informed Consent) processes will be required and documented during project implementation as a part of the limited, site-specific environmental and social impact assessments to be completed prior to any physical work beginning on the installations. For the FPIC process, extensive consultations will be conducted with local indigenous people communities. These more extensive consultations will include consultations with individual households and separate consultation meetings for women and men of the relevant clans. The FPIC processes and mutually agreed outcomes will be well documented as part of project implementation.	PMU DRD	Reducing (due to requirement of social and environmental assessment)
6. Shortage of local skills for maintenance or repair of the solar mini-grid or micro-hydro.systems may lead to abandonment of systems (and dumping of used batteries)	Social	I=3 P=3 Moderate	Enhancement of local skills and training villages (maintenance, operation, administration) is integral part of the RURED Project activities in Outcome 1, and this includes awareness creation on environmentally sound management	PMU DRD	Reducing (due to requirement of social and environmental assessment and local capacity building)
7. Off-grid RE power systems supported by project will lack the funds to carry out repairs and purchase new parts as needed.	Operational & financial	I=3 P=3 Moderate	RURED will design management mechanisms for village off-grid RE systems and build consensus among village officials for the system, which will prioritize fee collection and saving of a portion of revenues for repairs and parts	PMU	Reducing (due to local awareness raising and capacity building)
8. High cost of transport to remote sites will not allow regular access to project sites for project monitoring purposes.	Operational	I=2 P=2 Low	RURED will address the transport cost issue in two ways. First, the Project will have some staff (part-time) based in the State, cutting costs for visits. Second, the project will train and engage two to three local, rural villagers (technician, administrator) in the villages/sites to assist in monitoring the RE mini-grids and in guiding their operation, as a means of raising local capacity to promote sustainability.	PMU	Reducing (due to site selection and local training)

Description	Type	Impact Probability Significance	Mitigation Measures	Owner	Status
9. Unsuccessful productive use initiatives will result in lack of expected income generation.	Financial and economic	I=4 P=2 Moderate	The project will develop coordination with the various project partners (government, private sector) to identify promising productive uses in various locations. Further, RURED will have specific activities to design and finance productive uses, which will be selected via consultation with local communities and RE developers. Business advising will ensure that products have a good potential market and that business plans are viable.	PMU	Reducing (due to built-in linkage of village electrification with PUE in the Project, with; business plans that include both)
10. Lack of political will and coordination among government departments will result in RE standards, and off-grid regulation not being effective, and there is no good coordination between grid extension and off-grid electrification	Political	I=4 P=2 Moderate	The RURED project has specific activities to promote institutional coordination. Further, the Project will work with GIZ, DRD and MoEE on regulations for off-grid electrification, including the functioning of the mini-grid after connection (as power producer and/or distributor)	UNDP DRD	Reducing (strong DRD support and design of coordination in the Project)
11. Lack of acceptance by the community or community authorities; the ability and/or willingness to pay by customers is lower than anticipated in this study	Economic	I=4 P=2 Moderate	Developers will accompany the establishment of mini-grid and SHS systems with good info and awareness campaign (in cooperation with local organisations) at the target site on tariffs and load limitations of mini-grid and SHS options and the importance of income-generation through productive uses. RE developers will set up the RE system jointly with village representatives and/or entities	PMU	Reducing (due to local awareness raising and capacity building)
12. High cost of energy systems, due to use incorrect demand assessment leading to oversizing or under-sizing of the systems	Economic	I=3 P=3 Moderate	Achieving a reduction in project development costs (by clustering villages and pooling multiple projects, and standardization of equipment and mini-grid design, and reductions in financing costs as well as by using local technology. Better demand-supply matching in the RE project design to achieve a better plant capacity utilization (by stimulation demand by households and productive uses).	PMU	Reducing (due to feasibility assessments and business plans of mini-grid and PUE)

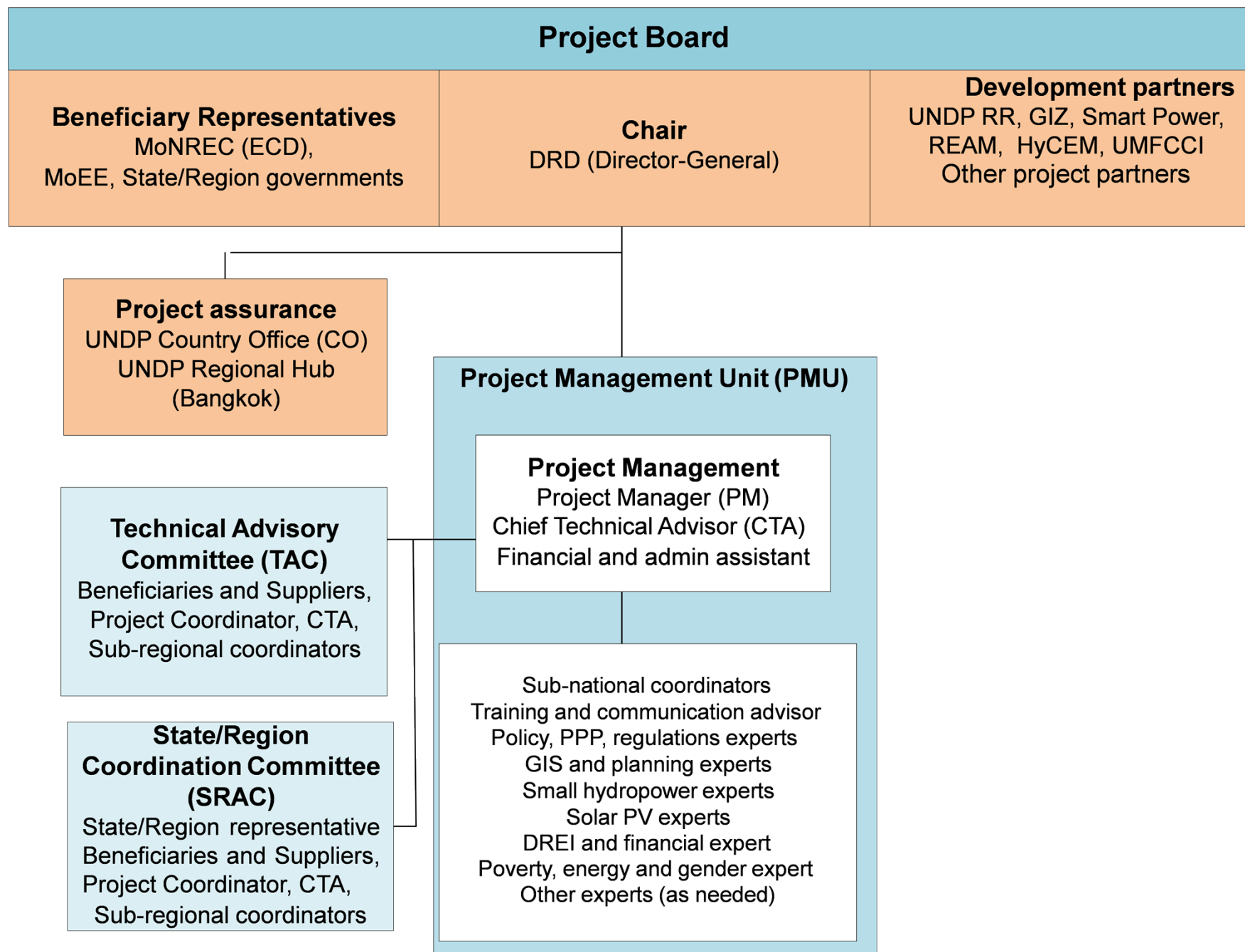
[1] E.g. if land is used for mini-grid structures are built on land owned by indigenous people and in case the project does not sufficiently include indigenous people in decision making or account for and address indigenous people's rights and traditional livelihoods

A.6. Institutional Arrangement and Coordination

Describe the Institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

The Box outlines Project's governance and management structures, including the different roles and responsibilities of the parties involved in governing and managing the project. The project governance structure will ensure UNDP's accountability for programming activities, results, monitoring and management of risks, and the use of resources, while at the same time fostering national ownership and alignment with national processes. The different roles and responsibilities within the Project's governance structure and project staffing are summarised in the Box and described in detail in the UNDP Project Document (Section 8). The Project Document's Annex C presents the Terms of Reference of the Project Board and of key Project staff positions.

The RURED initiative will work closely with the off-grid electrification component of the WB National Electrification Project (NEP; 2016-2021) which supports the DRD National Electrification Plan with funding and technical assistance. Similarly, GIZ (with German and New Zealand support) and Italy provide technical assistance to DRD and will coordinate activities with RURED. Other development partners (EU, DFID, AFD) are considering future technical assistance, grant, or lending support to off-grid electrification (described in Section 3, Box 7 and Annex E.7 of the Project Document). If this support materializes, RURED will cooperate with these new initiatives.



The project will be implemented following UNDP's National Implementation Modality (NIM). The Department of Rural Development (DRD) of the Ministry of Agriculture, Livelihoods, and Irrigation (MoALI) will be the Implementing Partner and the Environmental Conservation Department (ECD) of the Ministry of Natural Resources and Environmental Conservation as well as Shan State, Dry Zone and Tanintharyi State government and local government will act as key partners in the project

Additional Information not well elaborated at PIF Stage:

A.7. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The PIF is written in an older format that does not include this section A.7. A summary of benefits is provided below:

- *Stimulation of replication of the off-grid RE projects:* The project will invest in rural RE projects in selected villages, which will be critical in providing proof of concept and proof of costing and business models (including PUE), so that others will be willing to replicate them, thus leveraging in project funds far beyond the projects-supported RE systems (demos). The project will further provide technical assistance (TA) support in multiple areas to stimulate replication of the project demos. These areas include awareness raising that encourages local people to submit proposals of suitable sites, site identification work, preparation of a State/Region-level least-cost assessment plans, and liaison work for local project proponents, NGOs, and finance sector entities to facilitate replication of the project demos. This will thus lead to continued mini-grid development and consequently GHG emission reduction beyond the project lifetime.
- *Work in sourcing and costing of RE equipment and design/ installation services:* The project will carry out technical assistance in sourcing and costing with an aim of identifying good quality equipment for the least cost. This will increase the cost efficiency of the village off-grid RE projects, as well as the overall cost efficiency of the project.
- *Savings in the long run as compared to diesel generation:* Over time, with the sourcing and best cost pricing work, RE will provide greater cost efficiency for local communities than would the alternative of diesel generators (as explained in Annex G)
- *Leveraging of TA funds to promote investment by other parties in RE in Myanmar:* The project will invest a large proportion of GEF funds in TA in the capacity, awareness, policy, institutional, and financing areas, which are relatively low in cost, to leverage funding from other sources for actual installations of RE and EE equipment, which is relatively high in cost. There is a range of ways the project does this. The project includes activities that involve TA support to the commercial/private sector in designing EE and RE financing mechanisms but looks to other parties to provide the actual funds for the realization of these mechanisms (DRD, micro-finance, developers/investors).
- *Provision of TA support to ensure co-financed investments are sustainable:* With limited TA funds, the Project will address the gaps that may otherwise jeopardize the sustainability of a large amount of donor financing for RE installations in the PV and hydro areas. This includes support of extensive training in the islands for PV repairs, support to

develop local supplies of replacement PV system parts (especially batteries), and development of village-scale demand for energy services (including PUE) that can achieve the sustainability that has been so elusive to many off-grid installations thus far.

- *Combination of productive uses/ income generation with RE:* The project puts a strong emphasis on addressing the need for income generation activities and combines this with rural energy systems to ensure that installations generate revenues, in turn leading to a higher potential for sustainability
- The RURED project will take an integral approach to issues as vulnerability (e.g. based on food security and climate-linked disasters, such as flooding and droughts) and management of natural resources in the watersheds where off-grid and on-grid hydropower projects are developed. In fact, the hydro mini-grids can have a positive impact by raising the awareness of proper watershed management and reforestation to secure the sustainable use of water resources.

A.8. Knowledge Management

Elaborate on the Knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user- friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

Links for the associated Project website will be shared with relevant parties in those Asia-Pacific (and African) nations that have relatively low electrification levels. Among the available materials, information on sourcing and best cost pricing for RE parts and equipment will be highlighted to these nations, which all face similar challenges in terms of overpriced RE equipment and lack of transparency on reasonable pricing. The results of the project demos and, particularly, the local management systems developed and business models applied for the off-grid rural RE demos will also be highlighted. On the other hand, Myanmar can learn from countries elsewhere in the Asian region (India, Indonesia, Sri Lanka, or Philippines, for example) that have struggled with achieving sustainable management and business models for electrification with grid RE systems and have found innovative solutions. RURED will participate in the Hydro Empowerment Network for example by jointly organising workshops and training events in Myanmar on mini and micro-hydropower and facilitate partnering with organization and study tours with other HPNet countries in the region. The Project will facilitate exchanges of financial sector representatives (e.g. management of Myanmar banks) to the countries with banks actively involved in lending for off-grid RE projects.

Knowledge management elements are summarized below:

Project documents, thematic reports and publications	Various government departments and decision-makers	Direct dissemination (e.g. email or hard copy) to persons. Access via the Project website
------------------------------------------------------	----------------------------------------------------	----------------------------------------------------------------------------------------------

Technical reports and off-grid RE toolkit and other tools/software; web-based GIS tool	Local villagers that take initiatives to implement and manage systems Engineers and persons working or interested in working in off-grid RE National and regional energy planners Development partners and NGOs	Direct dissemination (e.g. email or hard copy/ u-drive) Access via the Project website to reports and documents as well as the GIS database
Project knowledge capturing and info dissemination	Government officials Financial and private sector Development partners and NGOs Stakeholders in other countries	Online access to all project materials and other off-grid RE and PUE information
Reports (feasibility assessments; non-confidential parts of business plans; monitoring) of RURED-supported off-grid RE systems, and PUE	Various national and local and regional level officials; CSOs Financial and private sector Development partners Technical professionals; -experts/ academics	Direct dissemination to person directly involved Summaries with non-confidential info access through website

B. Description of the consistency of the project with:

B.1. Consistency with National Priorities

Describe the consistency of the project with nation strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project falls within the **GEF-6 programme area** “Promote the timely development, demonstration, and financing of low-carbon technologies of the Climate Change focal area’s Objective #1 “Promote innovation, technology transfer and supportive policies and strategies”.

The 2015 Myanmar Energy Master Plan was put forward by the Asian Development Bank and Myanmar Ministry of Energy in order to analyse energy demand development from 2014 to 2035 along five supply expansion scenarios. The Plan feeds into a national investment strategy in energy sector infrastructure and form the basis for a recommendation on institution building for Myanmar's future national energy planning. The plan envisions an energy generation mix of 57% hydropower, 30% coal, 8% natural gas and 5% solar and wind by 2030.

Alongside the Energy Master Plan, the Myanmar Government released its **National Electrification Plan (NEP)**, with the ambitious goal of providing electricity access to all households by the year 2030. The plan aims to expand the national grid, under the responsibility of the Ministry of Electricity and Energy (MoEE), and develop off-grid electrification

for remote communities by means of mini-grid and renewable energy (RE) technologies, under the Ministry of Agriculture, Livelihood and Irrigation (MoALI) – *Department for Rural Development (DRD)*.

The ADB supported the development of a **Renewable Energy Policy** in 2014 (under the purview of the Ministry of Education), but this has remained in draft form. The Policy’s goal is to achieve a 27% share of renewable energy in the total installed capacity of primary energy by 2030.

Myanmar has ratified the **Intended Nationally Determined Contribution (INDC)** that was submitted to the Conference of Parties of the UN Framework Convention on Climate Change (UNFCCC) in advance of the Paris Meeting in 2015. Regarding ‘rural electrification – renewable energy’, the INDC mentions that Myanmar “has received co-funding from a number of international development partners to develop mitigation actions in this sub-sector” and that “as a final result of the overall action, 6 million people in rural areas will have access to electricity generated by a variety of sources, at least 30 % of which will be sourced from renewables such as of mini-hydro, biomass, solar, wind and solar mini-grid technologies”. The *Environment Conservation Department (ECD)* of the Ministry of Natural Resources and Environmental Conservation (MoNRC) has formulated the **Myanmar Climate Change Strategy and Action Plan 2016-2030 (MCCSAP)**. It stresses that the country's rich capacity to harness its rich natural and renewable energy resources and improve energy access will determine its ability to achieve its Sustainable Development Goals (SDGs)”.

C. Describe The Budgeted M & E Plan:

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget (US\$)		Time frame
		GEF grant	Co-financing	
Inception Workshop (IW)	UNDP CO	7,500	5,000	Within first 2 months of project start
Inception Report	Project Manager	None	None	No later than one month after the inception workshop
Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP	UNDP Country Office	None	None	Quarterly, annually
Risk management	Project Manager Country Office	None	None	Quarterly, annually
Monitoring of indicators in project results framework	Project Manager	20,000 (USD 4,000/year)	None	Annually before PIR
GEF Project Implementation Report (PIR)	Project Manager, UNDP CO, UNDP Hqs and UNDP GEF Team	None	None	Annually
Lessons learned and knowledge generation (end-of-project report)	Project Manager	6,500	10,000	End-of-project

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget (US\$)		Time frame
		GEF grant	Co-financing	
Monitoring of environmental and social risks; Corresponding management, stakeholder engagement and gender plans and addressing grievances as relevant (ESMP M&E)	Project Manager UNDP CO	6,500	35,000	Continuous
Addressing environmental and social grievances	Project Manager UNDP Country Office	20,000		On-going (see also ESMF)
Project Board meetings	Project Board, UNDP CO, Project Manager	None (covered by Agency Fee)	None	Twice a year
Supervision missions	UNDP Country Office	None	None	Annually
Oversight missions UNDP-GEF; GEF Secretariat learning missions/site visits	UNDP RTA	None, (covered by Agency Fee)	None	Troubleshooting as needed
Monitoring of indicators in project results framework, including updating GEF Core Indicators (at MTR and TE)	Project Manager and CTA	None	None	Before MTR and TE take place
Independent Mid-term Review (MTR) and management response (in English)	UNDP Country Office Project team UNDP GEF team	29,875	7,500	Between 2nd and 3rd PIR
Independent Terminal Evaluation (TE) including management response (in English)	UNDP Country Office Project team UNDP GEF team	29,875	7,500	At least 3 months before operational closure
End-of-project workshop	UNDP Country Office	7,500	5,000	Around the same time as TE
TOTAL indicative COST (excluding project team staff time, and UNDP staff and travel expenses)		127,750	70,000	

PART III: Certification by GEF partner agency(ies)

A. GEF Agency(ies) certification

GEF Agency Coordinator	Date	Project Contact Person	Telephone	Email
Pradeep Kurukulasuriya	5/24/2019	Milou Beerepoot	6623049100	Milou.beerepoot@undp.org

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target (2021)	Data collection methods and risks/assumptions
Project Objective: To facilitate expansion of rural renewable energy services and productive applications in Myanmar and avoid greenhouse gas emissions	1) <i>[GEF Core Indicator 6]</i> Lifetime direct GHG emissions avoided as a result of energy access projects	N/A	Mid-term target, 93,924 tCO ₂ is one-third of the end-of-project target	281,770 tCO ₂ over the 20-yr lifetime of small hydro and solar mini-grids (14,088 tCO ₂ per year), and corresponding energy production of 9,872 MWh per year ^[1]	<ul style="list-style-type: none"> · Market assessments and/or project data (see Indicators 3), 10) and 11) · Official DRD reporting · Project progress reports · See Annex G (for methodology and calculation assumptions)
	2) <i>[GEF Core Indicator 6]</i> Lifetime consequential GHG emissions avoided as a result of energy access projects	N/A	N/A	Indirect (consequential) emissions are 845,309 tCO ₂ over the 20-yr lifetime of the equipment	<u>Assumptions:</u> <ul style="list-style-type: none"> · Support from national and State governments for off-grid electrification · DRD remains responsible for off-grid electrification · Interest and support from beneficiary villages and from project developers · Proposed rural RE project proposals are developed and reach operational stage
	3) Number of households (and # of female-headed HH) provided with electricity services <i>[GEF Core Indicator 11: number of direct beneficiaries disaggregated by gender]</i>	RURED: N/A For baseline situation on off-grid RE, see Annex E	Mid-term target is 14,480 households in 70 villages target	49,762 households in 249 villages ^[2] will be connected (RE mini-grids plus SHS). At 4.4 person per HH, beneficiaries are 219,000 (50% male and 50% female).	

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target (2021)	Data collection methods and risks/assumptions
Outcome 1 Effective implementation of supportive policies and regulations at national and local level for enhanced RE utilisation in rural productive uses	4) Status of assessment and impact measurement of rural (off-grid) RE electrification[3] ³	See Annex E for a description of current off-grid electrification and DRD/WB PPP model	Extended baseline assessment report	One assessment report and one end-of-project impact measurement report with recommendations for post-project actions	<ul style="list-style-type: none"> · Project progress and technical report reports · Stakeholder reports and official documents · Evaluation and monitoring reports · Assessment report <p><i>Assumptions:</i> Continuing interest by government entities, project developers, NGOs in off-grid village electrification in general and in establishing PPPs</p>
	5) Number and status of least-cost assessment and investment plans for off-grid energy access	ADB project carried out least-cost assessment and investment plans in Magway, Mandalay, and Sagaing Regions (2015-17)	Least-cost assessment and off-grid investment plans in at least one State/Region	Least-cost assessment and off-grid investment plans for the focus area in southern Shan State, Dry Zone and coastal zone of Tanintharyi region	<ul style="list-style-type: none"> · Reports with off-grid assessment and listed rural RE project investment opportunities · Project progress reports · State documents <p><i>Assumptions:</i> <ul style="list-style-type: none"> · State-level government have off-grid RE electrification as a priority in their planning · Access to and availability of data and statistics (demographic, economic, energy resources) </p>

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target (2021)	Data collection methods and risks/assumptions
	6) Number of staff (and % women) from national and State governments with enhanced capacity that are effective in rural RE project planning (incl. procurement, financial management, community development)	N/A	60 staff trained (of which 40% women) in technical training (200 staff participated in workshops and seminars) of which 50% are effective	80 staff trained (of which 40% women) in technical training (of which 40 at national and 20 for each State/Region); and 300 staff participated in workshops and seminars, of which 75% are effective in rural RE planning	<ul style="list-style-type: none"> · Workshop and seminar reports · Project progress reports · Training materials · Post-training evaluations of officers involved in planning <p><u>Assumptions:</u></p> <ul style="list-style-type: none"> · <i>Commitment by national and city government</i> · <i>Willingness of staff to be trained</i>
Outcome 2 Awareness and knowledge enhanced of market enablers (project developers, RE companies, services, NGOs) and beneficiaries	7) Number of project developers, equipment providers and vendors (% females) trained that are effective in design, installation, operation and business models for rural RE	N/A	Target is 100 staff of end-of-project target, of which 50% are effective	150 staff trained (of which 25% women) in specific topics ^[4] , of which 75% are effective	<ul style="list-style-type: none"> · Workshop and training reports; Minutes of meeting · Project reports · Training materials · After-training evaluations
	8) Village level promoters, operators, technicians, administrators trained that are effective in relevant subjects for successful management and operation of off-grid RE systems (with % of women)	N/A	Target is 80 of end-of-project target (of which 30% women), of which 50% is effective management and operation	120 village-level people trained (with at least 30% being women), of which 75% are effective in off-grid RE management and operation	<p><u>Assumptions:</u></p> <ul style="list-style-type: none"> · <i>Willingness of stakeholders at national, regional and village to participate in trainings and of females to participate (see also Gender assessment)</i> · <i>Availability of good experts to deliver trainings and workshops</i>

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target (2021)	Data collection methods and risks/assumptions
	9) Operational status of RE and electrification training centre at a selected university or institute; and integration of (off-grid) RE in curricula of selected institutes	Individual and universities deal with RE on a theme-by-theme and occasional basis	One RE and electrification centre inaugurated with approved two-year work plan; RE and electrification topics incorporated in curricula of at least one (vocational training) institute	One RE and electrification centre operational at selected university/institute RE and electrification topics incorporated in curricula of at least two institutes, of which one vocational training	<ul style="list-style-type: none"> · Project reports; Minutes of meeting · Proposal and business plan for RE and electrification training facility · Reports by participating university and technological/vocational training institute · Course materials; Handbooks <p><u>Assumptions:</u></p> <ul style="list-style-type: none"> · Commitment and ability of the university and institutes to organize modules on RE and electrification and to host the training facility
Outcome 3a Increased investments in rural RE to meet household demand, PUE and enterprise development	10) Number of villages and/or projects off-grid areas that have off-grid RE (mini-grid) and SHS) systems, directly supported with GEF funds a) with proposals b) under construction c) in operation	N/A	20 villages have been supported, of which 4 in operation, 8 under construction and 8 with approved proposals	53 villages have been directly supported with project formulation TA support and GEF financial support (max 25% of investment), of which 16 in operation, 16 under construction and 20 with approved proposals <i>Note: the 53 villages are a subset of the number of villages (supported with GEF and all co-financing) of Indicator 3</i>	<ul style="list-style-type: none"> · Reports by DRD and stakeholders and project (progress and technical) · Individual project design reports and proposals; post-installation reports · Reports on installed RE systems and villages electrified and village surveys <p><u>Assumptions:</u></p> <ul style="list-style-type: none"> · Interest and support from beneficiary villages · Proposed rural RE project proposals get funded, are constructed, and reach operational

	Objective and Outcome Indicators	Baseline (2017)	Mid-term target	End of Project (EoP) target (2021)	Data collection methods and risks/assumptions
	11) Number of villages and/or projects off-grid areas that have off-grid RE hydro or solar mini-grid (and SHS systems) linked with significant PUE	N/A	25% of villages (of the 20, mentioned in Indicator 10) have off-grid systems with significant PUE	25% of villages (of the 42, mentioned in Indicator 10) have off-grid systems with significant PUE	<i>stage</i> <ul style="list-style-type: none"> · Ability and willingness to pay for electricity connection and monthly fees · DRD remains responsible for off-grid electrification and provides funding through rounds of Call for Proposals
Outcome 3b Financial programmes supported	12) Status of loan and/or guarantee schemes to energy access and PUE projects under commercial or private sector financing	Apart from micro-finance, no commercial loans are provided for off-grid RE	At least one financial service provider (domestic banks) provide loans to project developers/RE companies for off-grid RE projects, and/or at least one guarantee scheme set up	At least three financial service providers (domestic banks) provide loans to project developers/RE companies for off-grid RE projects, and/or at least one guarantee scheme (for RE loans or loan portfolio) set up	<ul style="list-style-type: none"> · Individual project design reports and funding proposals (rural RE and PUE) · Project (progress) reports <p><u>Assumptions:</u> Private sector investors. Micro-finance organizations, and local banks interested in lending for rural energy access projects</p>

[1] Due to investments in solar and hydro mini-grids of about USD 47 million. This includes USD 4 million from GEF and USD 30,000,000 from government co-financing (DRD-NEP) and USD 14 million from community and other resources) at an average investment cost of USD 190,000 per village off-grid system (40% small hydro; 60% solar) in 249 villages

[2] As explained in previous footnote. Calculation details are given in Annex G

[3] Number and type of off-grid systems installed (DRD-donors; private, community), business and financing models, community engagement (and role of gender), tariff recovery and system management, role of subsidies and non-financial government support; costs of systems; assessment of RE supplier and project developer sector; role of domestic (micro-)finance, impact of mini-grids on SDG1, SDG3, SDG4 and SDG5.

[4] Planning, demand assessment and beneficiary engagement; hydro: design, installation and O&M; PV mini-grids: design, installation and O&M; use of software (HOMER, PVSYS, other) business models and finance; business plan formulation)

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

1) Comments GEF Secretariat at PIF stage with Agency response (10.11.2017)

Notes to ‘Recommendations’

- The project will invest a large proportion of GEF funds in TA in the capacity, awareness, policy, institutional, and financing areas, which are relatively low in cost, to leverage funding from other sources for actual installations of RE equipment, which is relatively high in cost. Some investment support (INV) is provided[1] (USD 1.6 million). This will leverage investment of about USD 45 million (of which USD 30 million from DRD, and USD 15 million from SPM, private developer and community contributions)

[1] Financial USD 1.6 million of GEF funding is made available to support off-grid RE facilities in selected groups of villages, a) to accommodate larger PUE (USD 1,060,000), for refurbishment and hybridization of existing mini-grid systems (USD 190,000) and to support project developers in purchasing credit guarantee insurance (USD 350,000).

2) Comments by STAP Scientific and Technical screening of the PIF (screened by L. Sunday; 06-11-2017) **STAP Advisory Response** (*see table below for explanation*)

Based on this PIF screening, STAP’s advisory response to the GEF Secretariat and GEF Agency(ies): **Concur**

Further guidance from STAP

Review Criteria	Questions	Secretariat Comment	Agency Response
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Review Criteria	Questions	Secretariat Comment	Agency Response
Project Consistency	1. Is the project aligned with the relevant GEF strategic objectives and results framework? ¹	9/6/2017 MY: Not at this time. The project is aligned with CCM Objective 1, Program 1: Promote the timely development, demonstration, and financing of low-carbon technologies and policies. Please revise the content in Table A on page 1. 9/28/2017, DER: Comment cleared.	9/25/17 Noted this was adjusted in Table A on page 1
	2. Is the project consistent with the recipient country's national strategies and plans or reports and assessments under relevant conventions?	9/6/2017 MY: Yes, this project is consistent to Myanmar's Nationally Determined Contributions and the National Communications to the UNFCCC.	
	3. Does the PIF sufficiently indicate the drivers ² of global environmental degradation, issues of sustainability, market transformation, scaling, and innovation?	9/6/2017 MY: Yes, it is stated on pages 6-7.	

Review Criteria	Questions	Secretariat Comment	Agency Response
Project Design	4. Is the project designed with sound incremental reasoning?	<p>9/6/2017 MY: Not clear yet at this time. Please use Table 2 to show how this proposed GEF project will generate incremental benefits over the existing baseline projects that are listed in Table 2. The Agency may need to add two columns in Table 2, one to show the major outputs of the existing baseline projects and another to show the outputs of the proposed GEF project.</p> <p>9/28/2017 DER: Comment cleared.</p>	<p>9/25/2017 Table 2 was revised to explain the incremental value of this proposed GEF project over the ongoing initiatives and projects as can be found in the PIF on pages 14, 15 and 16 .</p>
	5. Are the components in Table B sound and sufficiently clear and appropriate to achieve project objectives and the GEBs?	<p>9/6/2017 MY: Not at this time. Please specifically add numbers to each of targeted outputs. For example, in output 2.3, please specify and add the number of developed and completed trainings; please also add the number of people to be trained in each of the training programs. Please</p>	<p>9/25/2017 Response: 1) Table B explains the number of trainings; number of people and number of trainers being trained for each of the suggested training activities: - Village electricity committees and community representatives will be trained during 4 years on various aspects</p>

Review Criteria	Questions	Secretariat Comment	Agency Response
		<p>consider training trainers who will further train the local civilians.</p> <p>Output 2.7 is actually not INV. Please design a component for tangible investment in this project. For example, in terms of capacity building by training, the agency may work with the national government to build or develop a training center in rural renewable energy development if there is not such a center.</p> <p>Again, Component 3 is not really on tangible investments. Please consider tangible renewable energy technology demonstration under the refined policy and capacity development.</p> <p>9/28/2017 DER: Comments cleared. At CEO endorsement stage we expect further details on the specific tangible investments that will be targeted. We also expect an options analysis for component 3.7 that explains the type of financial solution that will be designed that is sensitive and responsive to market conditions. The goal should be to use scarce GEF investment dollars to accelerate commercial RE deals.</p>	<p>of rural RE by means of 4 trainings per year per states with 30 to 50 participants per training (960 to 1600 people in total). Train the trainers training will be organized to have a pool of 80 trainers by EOP in each state.</p> <ul style="list-style-type: none"> - RE developers, installers and service providers will be trained during 4 years by means of 3 trainings per year, with 30 to 50 participants per training (360 to 600 people in total). - Installers and service providers will be trained on standard compliance and quality certification by means of 3 trainings per year during 4 years with 30 to 50 participants per training (in total 360 to 600 people). <p>2) The INV was inadvertently misplaced in the original PIF, this has now been corrected by indicating the INV of 1,000,000 USD for activity 2.9 in order to establish an RE technology testing facility</p> <p>Component 3 has tangible renewable energy technology demonstration in activity 3.6 where it is aimed for to design and build "Operational RE systems with total installed capacity at least 15 MW for communities (e.g. solar, wind power, micro and mini-hydro and waste-to- energy)". Given the high economic costs of energy in rural areas and the</p>

Review Criteria	Questions	Secretariat Comment	Agency Response
	6. Are socio-economic aspects, including relevant gender elements, indigenous people, and CSOs considered?	9/6/2017 MY: Yes, it is stated on page 24.	
Availability of Resources	7. Is the proposed Grant (including the Agency fee) within the resources available from (mark all that apply):		
	· The STAR allocation?	9/6/2017 MY: Yes. Myanmar is an LDC. Its STAR allocation is not affected.	
	· The focal area allocation?	9/6/2017 MY: Yes. Myanmar is an LDC. Its CCM allocation is not affected.	
	· The LDCF under the principle of equitable access	9/6/2017 MY: N/A	
	· The SCCF (Adaptation or Technology Transfer)?	9/6/2017 MY: N/A	
	· Focal area set-aside?	9/6/2017 MY: N/A	

Review Criteria	Questions	Secretariat Comment	Agency Response
Recommendations	8. Is the PIF being recommended for clearance and PPG (if additional amount beyond the norm) justified?	<p>9/6/2017 MY: Not at this time. Please address comments in Boxes: 1, 4 and 5.</p> <p>9/28/2017 DER/MY: All comments cleared. the Program manager recommends technical clearance.</p> <p>At CEO endorsement stage we expect further details on the specific tangible investments that will be targeted. We also expect an options analysis for component 3.7. The results of the analysis should explain the type of financial solution to be designed, which is sensitive and responsive to market conditions. The goal should be to use scarce GEF investment dollars to accelerate commercial RE deals.</p> <p>At the CEO ER stage, the agency needs to put some cash as co-financing for the project.</p>	<p>During the PPG phase it was concluded that the financial sector is still too immature to introduce a financial scheme. While the PIF suggested to introduce a financial mechanism such as a guarantee scheme, further examination of the sector during the PPG phase demonstrated that there is hardly commercial lending existing for mini-grid development. It became apparent that the banking sector first needs to become more familiar with RE mini-grid financing, e.g. by means of training and networking with similar banks in the region (e.g. Sri Lanka, Nepal) that have extensive experience with rural RE project lending. In addition, awareness-raising events for the banking sector and training on how to appraise rural RE projects are crucial pre-conditions before considering introduction of advanced finance instruments. RURED will engage with one or more banks in exploring the possibilities to provide loans for the RURED supported village RE projects (Output 3.2). In output 3.1, USD 1.6 million of GEF Investment funding is made available to support off-grid RE facilities in selected groups of villages, a) for providing grant financing as 'viability gap funding' for mini-grid capacity in marginalized communities (USD 570,000), additional for the mini-grid to accommodate larger PUE</p>

Review Criteria	Questions	Secretariat Comment	Agency Response
Review Date	Review	September 06, 2017	
	Additional Review (as necessary)	September 28, 2017	
	Additional Review (as necessary)		

1. The project aims to facilitate the expansion of renewable energy deployment, particularly in rural areas of Myanmar where electricity access is low, by developing policies to reduce investment risks and barriers. Strengthening capacity and supporting market enablers are key components needed in a country with little or no RE policy, and inefficient subsidy systems.	OK
2. The involvement of several ministries which do not necessarily coordinate in the implementation of different RE technologies/systems makes RE project development challenging. The technical failure and poor operation of some existing RE projects confirm the need for implementing targeted training schemes.	The institutional situation has changed since PIF conception, in the sense that, within the National Electrification Plan (NEP) the ministry MoEE is in charge of national grid expansion and DRD (Department of Rural Development, of MoALI) responsible for off-grid electrification (mini-grids and stand-alone). The NEP has been financially and technically supported by WB (and other donors) and implementation of mini-grids has been supported in various Call for Proposals. However, coordination between MoEE and DRD on electrification planning (grid vs off-grid) needs improvement. The RURED project plans to support coordination (working with DRD, MoERE and GIZ; see Section A.3) The issue of poor O&M is carefully considered during project design and RURED therefore plans to support training schemes targeted at various stakeholders (RE companies and developers; local staff for O&M; see Output 2.1)
3. Solar PV systems, small- and micro-hydro, and rice husk gasifiers are example technologies available in the country. All are mature, so technical risks are limited, especially if overseas experience is reviewed and adapted.	In principle, RURED will focus on small grid systems powered by solar and mini/micro hydro, which are predominant for mini-grids in the focus areas of RURED (coastal Tarintharyi, Dry Zone and mountainous Southern Shan)
4. Some RE project developments already exist (as the baseline) supported by a range of finance organizations. The GEF project will glean lessons from these and help to deploy the information as part of the knowledge management component.	The Project will start with a sound assessment of these RE developments, including the mini/micro hydro installation put up in the past decades (e.g. in Shan State) and recent projects supported under the DRD-NEP Call for Proposals (mostly solar mini-grids). Lessons are important as RURED seeks to build on these experiences, and learn from what worked or didn't work and provide its support to fill the niche areas
5. The government's National Rural Development and Poverty Plan and National Electrification Plan (NEP) will be enhanced by this project. Rural communities will benefit from gaining electricity supplies.	OK

6. The project will undertake RE resource assessments, which is commendable. A significant amount of finance for this is to be provided from the Government co-finance.	RE resource assessment will take place at two levels (in parts of the focus area of RURED, coastal Tarintharyi, Dry Zone and mountainous Southern Shan) and at village level. This will be supported by DRD (in-kind; and cash through its NEP Call for Proposal) as well as by development partners (GIZ, SPM) and local organisations. REAM and HyCEM are already involved in hydro resource assessment while the RURED project plans to strengthen these activities.
7. Public sector investment of US\$5.5M is planned but not yet confirmed. It is assumed the project will proceed even if this contribution proves to be unsuccessful.	Linked to its DRD-NEP off-grid programme, DRD has made available a signed co-fin letter with grant support (for investment) of USD 30 million
8. Around 0.9 Mt CO ₂ -eq (direct and indirect emissions) will be avoided by around 15 MW of new RE installations displacing diesel and kerosene mainly. Black carbon emissions from cooking and deforestation for fuelwood will also be reduced. Displacement of kerosene for lighting would also help avoid black carbon emissions as well as CO ₂ emissions	It is tricky to link mini-grid systems with cooking. Especially the solar mini-grid will be sized such that this will not allow much electric cooking (the investment cost would be prohibitive). Kerosene is used in some areas, but not the major source of fuel. We assume that in the absence of RE mini-grid the community will opt for a diesel mini-grid and have calculated GHG emission reduction accordingly
9. Overall, this project is well presented and should provide greater certainty to future investors by improving capacity, awareness, and financing so that the RE industry will evolve faster than otherwise projected and the development of more coal-fired plants will be unnecessary.	OK

3) Comments by Germany (06.12.2017)

Germany welcomes the proposed project proposal which aims at strengthening the enabling environment for renewable, rural electrification in Myanmar. There is a high need for coordination of several activities in Myanmar that the envisaged project addresses.

Suggestions for improvements to be made during the drafting of the final project proposal:

- It is not transparently described, how the private sector financial contribution (TBD, page 5) has been estimated and what conditions have to be fulfilled to enable these financial flows.

UNDP response: *In DRD-NEP proposals the usual contribution is DRD 60%, private sector 20% and community 60%. By taking this as a guideline, the part of DRD-NEP grant support that is RURED co-financing (USD 30 million) will thus mobilise about USD 10 million private sector contribution. The RURED project has the aim of off-grids becoming less dependent on the longer term on government grant, by promoting the role of commercial financing. In specific projects, the grant % in financing will be less, while debt financing for private sector/community contribution is introduced.*

- With regard to monitoring, reporting and verification (MRV) of the projects' results, it might be helpful to consider the design and implementation of an MRV system in the context of the envisaged focal point or another suitable institution. This MRV system could provide relevant data for national processes such as the National Communication or NDC progress.

UNDP response: *MRV of GHG emissions associated with rural and renewable energy this is a newly added activity (1.2.2) that will be implemented in cooperation with MoNREC-ECD (Environmental Conservation)*

· The ongoing project “Promoting Rural Electrification in Myanmar”, funded by the German Government, should be taken into account. While its focus is particularly on mini-grid solutions, core elements such as policy strategy development and regulations as well as capacity development might be redundant to the envisaged GEF activity. Also, both projects partner with the same Myanmar institutions, DRD and MOALI. Thus, it is recommended to envisage stronger coordination between these two activities.

UNDP response: *GIZ Myanmar was consulted intensively during project preparation and a close cooperation is envisaged as described in the Project Document (see Sections 4.1 and 4.2) and as expressed and mentioned in the GIZ co-financing letter.*

3) Comments by Norway

- o The proposal is addressing relevant challenges and obstacles against renewable energy developments in Myanmar.
- o The proposal is based on a large share of co-financing, seemingly non-confirmed. A main question is the completion of the project in case much less of the anticipated funding becomes available.

UNDP response: *Confirmed co-financing is USD 37.95 million Note: Grant financing (DRD and SPM co-financing with GEF INV support) for investment is about USD 33-34 million. This will mobilise an additional USD 13-14 million of third-party finance (project developer's equity, debt financing, community contribution).*

- o Attempts to address mechanisms for building the “tariff-bridge” between (somewhat expensive) off-grid systems and over to the (cheaper subsidized) on-grid systems should be addressed, in order to mitigate investment risks in renewable off-grid installations. Even if the full grid expansion plan according to the NEP will take many years, the mere assumption/hope for the grid to arrive might be enough to diminish the interest of potential renewable energy investors, for financial risk reasons.

UNDP response: *There is quite a difference between off-grid and on-grid tariffs. Regarding the latter, this is a political decision that cannot be remedied by projects such as RURED. Regarding off-grid tariffs, the project aims at striking a balance between recovery of the cost of investment and operation on one hand and willingness and the ability to pay (WTP/ATP) on the other hand. The Project will promote ways to reduce cost; for example, by better demand-supply matching in the RE project design to achieve a better plant capacity utilization (by stimulation demand by households and productive uses (PUE). Residential tariffs remain affordable through cross-subsidy with PUE tariffs. Costs can be further reduced by clustering villages and pooling multiple projects (economies of scale), and standardization of equipment and mini-grid design by using local technology. Regarding ATP/WTP, the Project will work with SPM and local entities on micro-finance for households and small businesses (for appliances and equipment).*

- o We suggest clarifying project outputs, especially of components 1 and 3. Ensure that duplication of existing/similar activities is avoided.

UNDP response: *Project outputs are revised and described in detail in Section 4.1 of the UNDP ProDoc, while Part II in this CEO ER template describes the changes in alignment with the project design with the original PIF. Duplicating activities is avoided or, alternatively, joined efforts are envisaged with project partners (such as SPM, WB and GIZ.) and local RE associations (REAM, HyCEM) Baseline activities are described in Part III (Exhibit 8, table) of the ProDoc.*

4) Comments by US

1) There would be a huge benefit from reducing GHG by moving entire rural village electricity access to renewable energy; particularly since a recent study showed that 55% of rural villages use diesel generators at present. Unfortunately, the specific targeted reductions related to these activities were hard to decipher in the PIF. Some clarification on this would be helpful.

UNDP response: *The aim of the Project is support village-level electrification, basically with RE mini-grids that replace diesel (or the role of diesel diminished to backup) and simultaneous stimulation of productive uses of energy in the village*

2) Regarding the private sector involvement in this project, perhaps a Southeast Asian energy corporation or NGOs could be considered for inclusion.

UNDP response: *The Project will work with regional networks (MeeNet, HPNet) and associations. The Project will facilitate exchanges of financial sector representatives (e.g. management of Myanmar banks, such as A-Bank) to the countries with banks actively involved in lending for off-grid RE projects (Nepal, or e.g. DFCC in Myanmar)*

3) The proposal does not provide enough specificity regarding the project beneficiaries and where they are located in the country. Further, it does not discuss whether the rural areas have indigenous peoples, such as hill tribes, or if certain village populations are economically disadvantaged. Please provide this information prior to CEO endorsement.

UNDP response: *The Project will focus in two or three States, a) Tanintharyi, in particular the coastal areas; and b) Shan State, in particular the mountainous areas of eastern/southern Shan and c) Dry Zone. Villages are in geographical areas outside the conflict zones. However, the situation on the ground can change over time. In principle the Project does not exclude any area. For example, the Project could work in eastern Shan which has more sensitive zones. The argument from a development viewpoint is that few NGOs work in these economically disadvantaged areas there and presence of the Project could encourage other organisations to follow suit. In such case, the project will ensure proper consultation with Shan government, township authorities, indigenous people representatives, NGOs and civil society organisations will take place before venturing into sensitive areas,*

4) Of the total \$4.67 million grant, it appears that \$2.4 million will be dedicated to the assessment, design, and establishment of public-private partnerships to make operational of at least 15MW of renewable energy. The remainder of the investment manages upstream risks by concentrating on trainings and providing on the ground technical assistance. We are somewhat concerned that risk mitigation measures are not adequately discussed in the PIF and we request that clearly planned and scoped risk mitigation procedures are identified in the final project document.

UNDP response: *Of the USD 4.67 million grant, USD 1.6 million is for INV, with USD 0.23 for project management and the remainder for TA. The project provides an integrated approach of outputs and activities that work together. In geographical terms, the Project will concentrate activities on the areas in Dry Zone, Tanintharyi and Shan rather than spreading resources over a multitude of non-connected activities all over the country. Second, there is a focus on two technologies, solar and hydro mini-grids. The component activities will be carried out in an integrated manner by linking the various thematic areas. For example, capacity building will address the same RE technology areas (e.g. solar PV, hydro) that will be implemented in the before-mentioned Project areas (and villages therein) and focus on training in project areas. The Project's approach to risks and sustainability is outlined in Section 4.3 and 4.7 of the UNDP ProDoc.*

In order to reflect in more detail on potential Social and Environmental Risks associated with the RURED project, an Environmental and Social Management Framework (ESMF) was developed and submitted as a separate Annex to the ProDoc for this project. The ESMF has been developed on the basis of the project risk categorization and outlines the processes that will be undertaken during the project inception/implementation phases for the additional assessment of potential impacts and identification and development of appropriate risk management measures, consistent with UNDP's Social and Environmental Standards (SES). The ESMF identifies the steps that will be followed during the

inception/implementation phases for the completion of stand-alone management plans as justified based on the results of the SESP for the moderate risks identified. The ESMF also details the roles and responsibilities for its implementation and includes a detailed budget and monitoring and evaluation plan.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS.

A. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: US\$ 100,000			
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
Conduct of Logical Framework Analysis (LFA) workshop, Validation Workshop	7,100	7,663	
Stakeholder consultation and site verification visits	29,150	29,150	
Preparation of the UNDP-GEF Project Document (ProDoc) -including conduct of studies and surveys, and GEF CEO Endorsement Request (CER) Document	63,750	58,787	4,400
Total	100,000	64,343	4,400

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

N/A

ANNEX E: GEF 7 Core Indicator Worksheet

Use this Worksheet to compute those indicator values as required in Part I, Table G to the extent applicable to your proposed project. Progress in programming against these targets for the program will be aggregated and reported at any time during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

Core indicator 6: Greenhouse gas emissions mitigated

GHG emission type	Metric tons CO ₂ -eq (expected at PIF)	Metric tons CO ₂ -eq (expected at CEO ER)	Metric tons CO ₂ -eq (expected at MTR)	Metric tons CO ₂ -eq (expected at TE)
Lifetime direct project GHG emissions mitigated	224,193	246,094		
Lifetime direct post-project emissions mitigated	--	246,094		
Lifetime indirect GHG emissions mitigated	672,576	738,282		

See for details Annex G in the UNDP Project Document

Core indicator 11: Number of direct beneficiaries disaggregated by gender (GEF and co-financing)

	Total number (expected at PIF)	Total number (expected at CEO ER)	Total number (achieved at MTR)	Total number (achieved at TE)
Women	--	123,640		
Men	--	123,640		
Total	--	247,280		

Note: assumes a household size of 4.4 (based on 2014 Census). Number of males and females are equal.

Other indicators:

<u>Core Indicator 1: Terrestrial protected areas created or under improved management for conservation and sustainable use (hectares)</u> <u>Core Indicator 2: Marine protected areas created or under improved management for conservation and sustainable use (hectares)</u> <u>Core Indicator 3: Area of land restored (hectares)</u> <u>Core Indicator 4: Area of landscapes under improved practices (hectares; excluding protected areas)</u> <u>Core Indicator 5: Area of marine habitat under improved practices to benefit biodiversity (hectares; excluding protected areas)</u> <u>Core Indicator 7: Number of shared water ecosystems (fresh or marine) under new or improved cooperative management</u> <u>Core Indicator 8: Globally over-exploited fisheries moved to more sustainable levels (metric tons)</u> <u>Core Indicator 9: Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials, and products (metric tons of toxic chemicals reduced)</u> <u>Core Indicator 10: Reduction, avoidance of emissions of POPS to air from point and non-point sources (gTEQ)</u>	N/A
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ANNEX F: Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part1 by ticking the most relevant keywords/topics//themes that best describes the project

Level 1	Level 2	Level 3	Level 4
<input checked="" type="checkbox"/> Influencing models			
	<input type="checkbox"/> Transform policy and regulatory environments		
	<input type="checkbox"/> Strengthen institutional capacity and decision-making		
	<input type="checkbox"/> Convene multi-stakeholder alliances		
	<input checked="" type="checkbox"/> Demonstrate innovative approaches		
	<input type="checkbox"/> Deploy innovative financial instruments		
<input checked="" type="checkbox"/> Stakeholders			
	<input type="checkbox"/> Indigenous Peoples		
	<input type="checkbox"/> Private Sector		
		<input type="checkbox"/> Capital providers	
		<input checked="" type="checkbox"/> Financial intermediaries and market facilitators	
		<input type="checkbox"/> Large corporations	
		<input checked="" type="checkbox"/> SMEs	
		<input checked="" type="checkbox"/> Individuals/Entrepreneurs	
		<input type="checkbox"/> Non-Grant Pilot	
		<input type="checkbox"/> Project Reflow	
	<input checked="" type="checkbox"/> Beneficiaries		
	<input checked="" type="checkbox"/> Local Communities		
	<input checked="" type="checkbox"/> Civil Society		
		<input checked="" type="checkbox"/> Community Based Organization	
		<input checked="" type="checkbox"/> Non-Governmental Organization	
		<input type="checkbox"/> Academia	
		<input type="checkbox"/> Trade Unions and Workers Unions	
	<input checked="" type="checkbox"/> Type of Engagement		
		<input checked="" type="checkbox"/> Information Dissemination	
		<input checked="" type="checkbox"/> Partnership	
		<input checked="" type="checkbox"/> Consultation	
		<input checked="" type="checkbox"/> Participation	
	<input checked="" type="checkbox"/> Communications		
		<input checked="" type="checkbox"/> Awareness Raising	
		<input checked="" type="checkbox"/> Education	
		<input type="checkbox"/> Public Campaigns	
		<input type="checkbox"/> Behavior Change	
<input checked="" type="checkbox"/> Capacity, Knowledge and Research			
	<input type="checkbox"/> Enabling Activities		
	<input checked="" type="checkbox"/> Capacity Development		
	<input checked="" type="checkbox"/> Knowledge Generation and Exchange		
	<input type="checkbox"/> Targeted Research		
	<input checked="" type="checkbox"/> Learning		
		<input checked="" type="checkbox"/> Theory of Change	
		<input type="checkbox"/> Adaptive Management	

	<input checked="" type="checkbox"/> Stakeholder Engagement Plan		
<input checked="" type="checkbox"/> Gender Equality			
	<input checked="" type="checkbox"/> Gender Mainstreaming		
		<input checked="" type="checkbox"/> Beneficiaries	
		<input type="checkbox"/> Women groups	
		<input type="checkbox"/> Sex-disaggregated indicators	
		<input checked="" type="checkbox"/> Gender-sensitive indicators	
	<input checked="" type="checkbox"/> Gender results areas		
		<input type="checkbox"/> Access and control over natural resources	
		<input type="checkbox"/> Participation and leadership	
		<input checked="" type="checkbox"/> Access to benefits and services	
		<input checked="" type="checkbox"/> Capacity development	
		<input checked="" type="checkbox"/> Awareness raising	
		<input type="checkbox"/> Knowledge generation	
<input checked="" type="checkbox"/> Focal Areas/Theme			
	<input type="checkbox"/> Integrated Programs		
		<input type="checkbox"/> Commodity Supply Chains (1st Good Growth Partnership)	
			<input type="checkbox"/> Sustainable Commodities Production
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Financial Screening Tools
			<input type="checkbox"/> High Conservation Value Forests
			<input type="checkbox"/> High Carbon Stocks Forests
			<input type="checkbox"/> Soybean Supply Chain
			<input type="checkbox"/> Oil Palm Supply Chain
			<input type="checkbox"/> Beef Supply Chain
			<input type="checkbox"/> Smallholder Farmers
			<input type="checkbox"/> Adaptive Management
		<input type="checkbox"/> Food Security in Sub-Saharan Africa	
			<input type="checkbox"/> Resilience (climate and shocks)
			<input type="checkbox"/> Sustainable Production Systems
			<input type="checkbox"/> Agroecosystems
			<input type="checkbox"/> Land and Soil Health
			<input type="checkbox"/> Diversified Farming
			<input type="checkbox"/> Integrated Land and Water Management
			<input type="checkbox"/> Smallholder Farming
			<input type="checkbox"/> Small and Medium Enterprises
			<input type="checkbox"/> Crop Genetic Diversity
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Gender Dimensions
			<input type="checkbox"/> Multi-stakeholder Platforms
		<input type="checkbox"/> Food Systems, Land Use and Restoration	
			<input type="checkbox"/> Sustainable Food Systems
			<input type="checkbox"/> Landscape Restoration
			<input type="checkbox"/> Sustainable Commodity Production
			<input type="checkbox"/> Comprehensive Land Use Planning
			<input type="checkbox"/> Integrated Landscapes
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Smallholder Farmers
		<input type="checkbox"/> Sustainable Cities	


			<input type="checkbox"/> Energy efficiency
			<input type="checkbox"/> Municipal Financing
			<input type="checkbox"/> Global Platform for Sustainable Cities
			<input type="checkbox"/> Urban Resilience
	<input type="checkbox"/> Biodiversity		
		<input type="checkbox"/> Protected Areas and Landscapes	
			<input type="checkbox"/> Terrestrial Protected Areas
			<input type="checkbox"/> Coastal and Marine Protected Areas
			<input type="checkbox"/> Productive Landscapes
			<input type="checkbox"/> Productive Seascapes
			<input type="checkbox"/> Community Based Natural Resource Management
		<input type="checkbox"/> Mainstreaming	
			<input type="checkbox"/> Extractive Industries (oil, gas, mining)
			<input type="checkbox"/> Forestry (Including HCVF and REDD+)
			<input type="checkbox"/> Tourism
			<input type="checkbox"/> Agriculture & agrobiodiversity
			<input type="checkbox"/> Fisheries
			<input type="checkbox"/> Infrastructure
			<input type="checkbox"/> Certification (National Standards)
			<input type="checkbox"/> Certification (International Standards)
		<input type="checkbox"/> Species	
			<input type="checkbox"/> Illegal Wildlife Trade
			<input type="checkbox"/> Threatened Species
			<input type="checkbox"/> Wildlife for Sustainable Development
			<input type="checkbox"/> Crop Wild Relatives
			<input type="checkbox"/> Plant Genetic Resources
			<input type="checkbox"/> Animal Genetic Resources
			<input type="checkbox"/> Livestock Wild Relatives
			<input type="checkbox"/> Invasive Alien Species (IAS)
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangroves
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Sea Grasses
			<input type="checkbox"/> Wetlands
			<input type="checkbox"/> Rivers
			<input type="checkbox"/> Lakes
			<input type="checkbox"/> Tropical Rain Forests
			<input type="checkbox"/> Tropical Dry Forests
			<input type="checkbox"/> Temperate Forests
			<input type="checkbox"/> Grasslands
			<input type="checkbox"/> Paramo
			<input type="checkbox"/> Desert
		<input type="checkbox"/> Financial and Accounting	
			<input type="checkbox"/> Payment for Ecosystem Services
			<input type="checkbox"/> Natural Capital Assessment and Accounting
			<input type="checkbox"/> Conservation Trust Funds
			<input type="checkbox"/> Conservation Finance
		<input type="checkbox"/> Supplementary Protocol to the CBD	
			<input type="checkbox"/> Biosafety
			<input type="checkbox"/> Access to Genetic Resources Benefit Sharing
	<input type="checkbox"/> Forests		
		<input type="checkbox"/> Forest and Landscape Restoration	
			<input type="checkbox"/> REDD+ (REDD+)

			approach
			<input type="checkbox"/> Community-Based NRM
			<input type="checkbox"/> Sustainable Livelihoods
			<input type="checkbox"/> Income Generating Activities
			<input type="checkbox"/> Sustainable Agriculture
			<input type="checkbox"/> Sustainable Pasture Management
			<input type="checkbox"/> Sustainable Forest/Woodland Management
			<input type="checkbox"/> Improved Soil and Water Management Techniques
			<input type="checkbox"/> Sustainable Fire Management
			<input type="checkbox"/> Drought Mitigation/Early Warning
		<input type="checkbox"/> Land Degradation Neutrality	
			<input type="checkbox"/> Land Productivity
			<input type="checkbox"/> Land Cover and Land cover change
			<input type="checkbox"/> Carbon stocks above or below ground
		<input type="checkbox"/> Food Security	
	<input type="checkbox"/> International Waters		
		<input type="checkbox"/> Ship	
		<input type="checkbox"/> Coastal	
		<input type="checkbox"/> Freshwater	
			<input type="checkbox"/> Aquifer
			<input type="checkbox"/> River Basin
			<input type="checkbox"/> Lake Basin
		<input type="checkbox"/> Learning	
		<input type="checkbox"/> Fisheries	
		<input type="checkbox"/> Persistent toxic substances	
		<input type="checkbox"/> SIDS : Small Island Dev States	
		<input type="checkbox"/> Targeted Research	
		<input type="checkbox"/> Pollution	
			<input type="checkbox"/> Persistent toxic substances
			<input type="checkbox"/> Plastics
			<input type="checkbox"/> Nutrient pollution from all sectors except wastewater
			<input type="checkbox"/> Nutrient pollution from Wastewater
		<input type="checkbox"/> Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
		<input type="checkbox"/> Strategic Action Plan Implementation	
		<input type="checkbox"/> Areas Beyond National Jurisdiction	
		<input type="checkbox"/> Large Marine Ecosystems	
		<input type="checkbox"/> Private Sector	
		<input type="checkbox"/> Aquaculture	
		<input type="checkbox"/> Marine Protected Area	
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangrove
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Seagrasses
			<input type="checkbox"/> Polar Ecosystems
			<input type="checkbox"/> Constructed Wetlands
	<input type="checkbox"/> Chemicals and Waste		
		<input type="checkbox"/> Mercury	
		<input type="checkbox"/> Artisanal and Scale Gold Mining	
		<input type="checkbox"/> Coal Fired Power Plants	
		<input type="checkbox"/> Coal Fired Industrial Boilers	
		<input type="checkbox"/> Cement	
		<input type="checkbox"/> Non-Ferrous Metals Production	
		<input type="checkbox"/> Ozone	

		<input type="checkbox"/> e-Waste
	<input type="checkbox"/> Emissions	
	<input type="checkbox"/> Disposal	
	<input type="checkbox"/> New Persistent Organic Pollutants	
	<input type="checkbox"/> Polychlorinated Biphenyls	
	<input type="checkbox"/> Plastics	
	<input type="checkbox"/> Eco-Efficiency	
	<input type="checkbox"/> Pesticides	
	<input type="checkbox"/> DDT - Vector Management	
	<input type="checkbox"/> DDT - Other	
	<input type="checkbox"/> Industrial Emissions	
	<input type="checkbox"/> Open Burning	
	<input type="checkbox"/> Best Available Technology / Best Environmental Practices	
	<input type="checkbox"/> Green Chemistry	
	<input checked="" type="checkbox"/> Climate Change	
	<input type="checkbox"/> Climate Change Adaptation	
		<input type="checkbox"/> Climate Finance
		<input type="checkbox"/> Least Developed Countries
		<input type="checkbox"/> Small Island Developing States
		<input type="checkbox"/> Disaster Risk Management
		<input type="checkbox"/> Sea-level rise
		<input type="checkbox"/> Climate Resilience
		<input type="checkbox"/> Climate information
		<input type="checkbox"/> Ecosystem-based Adaptation
		<input type="checkbox"/> Adaptation Tech Transfer
		<input type="checkbox"/> National Adaptation Programme of Action
		<input type="checkbox"/> National Adaptation Plan
		<input type="checkbox"/> Mainstreaming Adaptation
		<input type="checkbox"/> Private Sector
		<input type="checkbox"/> Innovation
		<input type="checkbox"/> Complementarity
		<input type="checkbox"/> Community-based Adaptation
		<input type="checkbox"/> Livelihoods
	<input checked="" type="checkbox"/> Climate Change Mitigation	
		<input type="checkbox"/> Agriculture, Forestry, and other Land Use
		<input type="checkbox"/> Energy Efficiency
		<input type="checkbox"/> Sustainable Urban Systems and Transport
		<input type="checkbox"/> Technology Transfer
		<input checked="" type="checkbox"/> Renewable Energy
		<input type="checkbox"/> Financing
		<input type="checkbox"/> Enabling Activities
	<input type="checkbox"/> Technology Transfer	
		<input type="checkbox"/> Poznan Strategic Programme on Technology Transfer
		<input type="checkbox"/> Climate Technology Centre & Network (CTCN)
		<input type="checkbox"/> Endogenous technology
		<input type="checkbox"/> Technology Needs Assessment
		<input type="checkbox"/> Adaptation Tech Transfer
	<input type="checkbox"/> United Nations Framework on Climate Change	
		<input type="checkbox"/> Nationally Determined Contribution

ANNEX G: Project Budget Table

Please attach a project budget table.



Submitted to GEF Secretariat Review

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