Concept Note

The Green Climate Fund (GCF) is seeking high-quality projects or programmes.

The Accredited Entity is encouraged to submit a concept note, in consultation with the National Designated Authority, to present a project or programme idea and receive early feedback and recommendation.

Project/Programme Title: Implementation of Myanmar’s National REDD+ Strategy

Country(ies): Myanmar

National Designated Authority(ies) (NDA): Environmental Conservation Department (ECD)

Accredited Entity(ies) (AE): United Nations Development Programme (UNDP)

Date of first submission/ version number: [2017-12-30] [V.0]

Date of current submission/ version number [2017-12-30] [V.0]

Please submit the completed form to fundingproposal@gcfund.org. Please use the following naming convention in the subject line and the file name: ‘CN-[Accredited Entity or Country]-yyyymmdd’
A. Project / Programme Information (max. 1 page)

<table>
<thead>
<tr>
<th>A.1. Project or programme</th>
<th>☒ Project</th>
<th>☐ Programme</th>
<th>A.2. Public or private sector</th>
<th>☐ Public sector</th>
<th>☒ Private sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.3. Is the CN submitted in response to an RFP?</td>
<td>Yes ☐ No ☒</td>
<td></td>
<td>A.4. Confidentiality</td>
<td>☐ Confidential</td>
<td>☒ Not confidential</td>
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<td></td>
<td>If yes, specify the RFP:</td>
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</table>

A.5. Indicate the result areas for the project/programme

**Mitigation:** Reduced emissions from:
- ☒ Energy access and power generation
- ☐ Low emission transport
- ☐ Buildings, cities and industries and appliances
- ☒ Forestry and land use

**Adaptation:** Increased resilience of:
- ☐ Most vulnerable people and communities
- ☐ Health and well-being, and food and water security
- ☐ Infrastructure and built environment
- ☐ Ecosystem and ecosystem services

A.6. Estimated mitigation impact (tCO2eq over lifespan)

| Amount: 13.5 million tCO2e |

A.7. Estimated adaptation impact (number of direct beneficiaries and % of population)

Tbd

A.8. Indicative total project cost (GCF + co-finance)

| Amount: USD 120 m |

A.9. Indicative GCF funding requested

| Amount: USD 40m |

A.10. Mark the type of financial instrument requested for the GCF funding

- ☒ Grant  
- ☐ Reimbursable grant  
- ☐ Guarantees  
- ☐ Equity
- ☐ Subordinated loan  
- ☒ Senior Loan  
- ☐ Other: specify________

A.11. Estimated duration of project/programme:

| a) Disbursement period: 2019-2023 |

A.12. Estimated project/Programme lifespan

| 2019-2034 |

A.13. Is funding from the Project Preparation Facility requested?1

| Yes ☒ No ☐ |

Other support received ☐ If so, by who:

A.14. ESS category2

| ☐ A or I-1  
| ☒ B or I-2  
| ☐ C or I-3 |

A.15. Is the CN aligned with your accreditation standard?

| Yes ☒ No ☐ |

A.16. Has the CN been shared with the NDA?

| Yes ☒ No ☐ |

A.17. AMA signed (if submitted by AE)

| Yes ☒ No ☐ |

If no, specify the status of AMA negotiations and expected date of signing:

A.18. Is the CN included in the Entity Work Programme?

| Yes ☒ No ☐ |

A.19. Project/Programme rationale, objectives and approach of programme/project (max 100 words)

The objective of this project is to reduce net greenhouse gas (GHG) emissions from land use, land use change and forestry and through access to modern energy sources in Myanmar. It will do so by providing targeted investments to implement priority measures of the National REDD+ Strategy for 2018-2022 that will address drivers of deforestation and forest degradation, such as firewood collection and charcoal production, as well as barriers to increased removals by forests, through reforestation and restoration of climate-critical forest areas.

The expected result from the implementation of this GCF funding proposal is 13.5 MtCO2eq reduced or avoided.

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1 See [here](#) for access to project preparation support request template and guidelines

2 Refer to the Fund’s environmental and social safeguards ([Decision B.07/02](#))
B. Project / Programme details (max. 8 pages)

B.1. Context and Baseline (max. 2 pages)

1. Brief description of Myanmar and forest cover changes

The Republic of the Union of Myanmar is the largest mainland Southeast Asian country with a population of 51.48 million of which 70.4% (36.58 million) lives in rural areas. The remaining 29.6% (14.9 million) lives in urban areas of which 20% live in Yangon and Mandalay. About 135 different ethnic minorities and 100 different languages make the country diverse. Agriculture is the main source of livelihoods for a large proportion of the population (61% of the labour force) and is dominated by small-scale landholders. About 30% of the population has access to electricity and the rest relies on other forms of energy of which about 70% comes from biomass (mainly fuelwood and charcoal).

Myanmar is the fastest growing economy in Asia with a growth rate of 7.7 percent in 2017 which is projected to rise to 8 percent in 2018. However, despite a high rate of growth, concerns have been raised on the social, sectoral and regional inclusivity of the current nature and pattern of economic growth and the prospects of bringing down poverty levels at par with comparator countries in the ASEAN region. Overall, the macro-economic environment over the course of 2016/17 has remained stable. With the return of normal weather this year, agriculture is recovering from flooding last year. Crop production is benefiting as well from higher demand and strong international prices for agricultural commodities, while services are getting a boost from buoyant tourism and expansion in the nascent telecommunications industry. While FDI trends have significantly improved, public investment is hampered by limited room for fiscal manoeuvre, the economy underlying structural weaknesses including a narrow undiversified economic base, is reliant disproportionately on primary commodities and productivity constraints persist particularly in the agricultural sector.

Changes in forest cover are shown in Figure 1. Up to about 2006, most changes in forest cover were degradation, as closed forest was converted to open forest. However, since 2006, while closed forest has continued to decline, open forest has increased much more slowly, thus indicating a greater role of deforestation.

![Figure 1: Changes in forest cover, 2000-2015](image)

These patterns correlate with the politico-economic situation of the country. With limited foreign direct investment (FDI) in the early years of the millennium, wood production was a major source of revenue from the forest sector. However, since political liberalization, FDI has increased dramatically (Figure 2). The pattern of sectoral FDI has changed over time, with dramatic increases in support to manufacturing and strong support for oil and gas, while FDI in agriculture has tailed off. Nevertheless, the increase in FDI overall has lessened pressure on natural resource exploitation for revenue generation.

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3 [https://www.adb.org/countries/myanmar/economy](https://www.adb.org/countries/myanmar/economy)
According to the National Greenhouse Gas Inventory which was part of the first National Communication of Myanmar (MOECAF, 2011) presented to the UNFCCC Secretariat in 2012 (COP 16), the GHG emissions and removals from land use/land use change and forestry for the year 2000 were estimated as follows:

Table 1: Annual GHG emissions/ removals of the land use change and forestry sector in Myanmar for the base year 2000

<table>
<thead>
<tr>
<th>Activity</th>
<th>GHG emission (in tons of CO2e)</th>
<th>GHG removals (in tons of CO2e)</th>
<th>Net GHG emission (in tons of CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest plantations</td>
<td>1,863,210</td>
<td>-11,750,040</td>
<td>-9,886,830</td>
</tr>
<tr>
<td>Home garden trees</td>
<td>-470,070</td>
<td>-470,070</td>
<td>-470,070</td>
</tr>
<tr>
<td>Road side trees</td>
<td>-162,490</td>
<td>-162,490</td>
<td>-162,490</td>
</tr>
<tr>
<td>Industrial wood removal</td>
<td>2,177,000</td>
<td></td>
<td>2,177,000</td>
</tr>
<tr>
<td>Fuelwood harvest</td>
<td>26,936,418</td>
<td></td>
<td>26,936,418</td>
</tr>
<tr>
<td>Shifting cultivation</td>
<td>1,200,670</td>
<td></td>
<td>1,200,670</td>
</tr>
<tr>
<td>Deforestation</td>
<td>37,340,970</td>
<td></td>
<td>37,340,970</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>69,518,268</strong></td>
<td><strong>-142,221,190</strong></td>
<td><strong>-72,702,922</strong></td>
</tr>
</tbody>
</table>

Source: National Greenhouse Gas Inventory, 2011, chapter 3

2. Drivers of deforestation and forest degradation/sources of emissions

Major drivers of deforestation and forest degradation, include conversion to agriculture, timber harvesting (legal and illegal), collection of firewood, charcoal production, and shifting cultivation. Mining, infrastructure development, fires and forest grazing are locally important.

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6 The data for industrial wood removal and fuelwood harvest in the GHG study are indicated to be in Gg (1000 tons) of Carbon. However, the unit is more likely to be CO2 given the figures for the harvest data of industrial round wood and approximations for firewood for the year 2000: 2,162,000 m3 of timber and approx. 35,000,000 m3 fresh biomass for fuelwood respectively (CSO, 2007; 2nd draft Renewable Energy Policy of Myanmar, 2016)

7 Calculated based on 15,000 ha slashed and burnt annually (FRA, 2005)

8 Calculated with 80 tons of CO2 per ha and an annualized deforestation rate of 466,500 ha (FRA 2005)
Overall, Forest Department analyses of forest cover change between 2005-2015 indicates that it is likely that a significant portion of the loss of 7,181,850 ha from closed forests contributed to the increase of 1,458,590 ha in open forests and the addition of 4,801,920 ha to the other lands category, which includes cropland, settlement areas, and wetlands.

More than 70% of households in Myanmar rely on biomass as their primary source of energy for heating and cooking. Fuelwood accounts for more than 90% of biomass-sourced energy, most of which is harvested from natural forests, and is used in both urban and rural areas. The average annual consumption of fuelwood per household is estimated to be roughly 2.5 cubic tons (4.5 m³) for rural and 1.4 cubic tons (2.5 m³) for urban households. Charcoal exports to China, which were almost non-existent in the early 2000s, boomed between 2006 and 2008, with volumes increasing by more than 2,500%. Overall volumes have stabilized around 0.5 million m³, and charcoal now represents 32% of Myanmar’s total wood product exports to China.

The highest recent 10-year deforestation rates are found in the Delta region (Ayeyawady) and the Dryzone regions of Mandalay, Magwe and Sagaing. These are also areas where charcoal production for domestic use and fuelwood collection are particularly significant and leading to forest degradation on a large scale – leading to the establishment of the Dry-Zone Greening Department in 1997.

3. Myanmar’s NDC

In its Intended Nationally Determined Contribution, Myanmar proposes to undertake mitigation actions in line with its sustainable development needs, in two sectors: Forestry/Land Use and Energy. Under the first of these, a target for the national permanent forest estate (PFE) target is established, that by 2030, the area of Reserved Forest (RF) and Protected Public Forest (PPF) is 30%, and Protected Area Systems (PAs) are 10% of the total national land area. These three categories constitute the PFE.

As a means to reach this target, the focus is on implementation of the 30-Year National Forestry Master Plan (2001-30). To develop its capacity to meet such ambitious targets, the NDC emphasises Implementation of the Myanmar REDD+ Readiness Roadmap and the European Union’s Forest Law Enforcement Governance Trade (FLEGT) programme.

The NDC text on the energy sector includes reduction of GHG emissions in the rapidly developing industrial production sector by:
  a) Improving energy efficiency within the Myanmar industry (including the textile, rubber, pharmaceutical, food and beverage, leather processing, and biochemical industries)
  b) Focusing on the implementation of energy management systems compatible with the international standard ISO50001
  c) Energy system optimization

The NDC also proposes that 260,000 new energy efficient cook stoves will be distributed between 2016 – 2030 in order to reduce fuelwood use for energy purposes, especially for the Dry Zone of Myanmar.

B.2. Project / Programme description (max. 3 pages)

Project Objective
The project aims to reduce emissions from deforestation and forest degradation and to enhance forest carbon stocks in Myanmar to support the implementation of Myanmar’s Nationally Intended Contribution (NDC). Reduction of emissions will derive from addressing both demand- and supply-side management of fuelwood and charcoal supplies. Demand-side management will focus on adoption of modern energy sources such as liquid petroleum gas (LPG) for both industrial and household energy needs, with an initial focus on urban and peri-urban areas. Supply-side management will include support to Myanmar’s ambitious National Reforestation and Rehabilitation Programme in promoting afforestation and reforestation of village-managed plantations, which will also contribute to enhancement of forest carbon stocks. This represents implementation of a significant part of Myanmar’s National REDD+ Strategy.

The project will also generate benefits that go beyond climate change mitigation. Myanmar is one of the most vulnerable countries on frequently occurring natural disasters such as flooding and cyclones being exacerbated further by climate change, and improved management of Myanmar’s forests will contribute to reduced risk from such disasters.

To achieve the project objective, the following 4 outputs are proposed:

9 https://www.adb.org/documents/myanmar-energy-sector-initial-assessment
11 Source: Planning and Statistics Division, FD, 2016
12 http://www4.unfccc.int/ndcregistry/PublishedDocuments/Myanmar%20First/Myanmar%27s%20INDC.pdf
The geographical scope of the project will be national, but with a focus for outputs 1 and 2 on Ayeyarwady, Yangon, and the Dry Zone. These are the areas where industrial production is concentrated, and which have the highest percentage of urban households, since household adoption of alternative energy sources will be most rapid in such areas. They are also regions where high potential for village-managed fuelwood plantations exists, and where protection plantations are very relevant. Notwithstanding this focus, some activities will be implemented in other provinces – where partnerships and potential for emissions reductions exist.

**Description of Outputs and Activities**

**Output 1: Stimulation of adoption of alternative, clean energy sources such as LPG for industrial and household use**

Fuelwood is used for heating and cooking purposes by 76% of the total Myanmar population both in urban and rural areas. Charcoal accounts to only 4% - 5% of total fuelwood consumption and is mainly used in urban areas. The estimate of wood biomass consumption by rural (including peri-urban) households in 2012 was around 8 MTOE (out of total biomass consumption of 10.35 MTOE), and the forecast for 2030 is about 9.3 MTOE.\(^\text{13}\)

The residential sector is the largest consumer of energy, with 75% of total consumption in 2012, mainly in the form of biomass (fuelwood and charcoal), followed by the industry sector (9%), transport sector (8%), and other sectors (6%).\(^\text{14}\)

There is very little data on industrial consumption of biomass energy. This lack of information led the ADB to conduct a preliminary survey of private industry energy use in 2013.\(^\text{15}\) Data was collected from 36 businesses, representing a wide range of production processes and products. Wood chips or charcoal were utilized in only 4 of these businesses (i.e. garments, box/carton, sugar and printed fabric). Another survey, conducted by SMART/Myanmar, revealed that 6 out of 19 garment factories surveyed used wood as a fuel source. One of the factories studied in detail utilized 1,900 tonnes of fuelwood a year. If these figures are representative of the industry as a whole, garment factories may consume as much as 0.25M tonnes of fuelwood each year, equivalent to 80,000 MTOE. While this is only 1% of household consumption, across all industries, fuelwood consumption may account for 5-10% of household consumption.

This output will work with government and private sector entities to stimulate a paradigm shift from reliance on biomass energy to widespread use of alternatives such as LPG and CNG. As the activities under this output potentially lead to commercially viable enterprises, GCF loan financing will be administered by the Asian Development Bank (ADB) (*subject to confirmation*) – specifically for activities 1.1 and 1.2. Private sector equity finance would be used in activity 1.1.

**Activity 1.1. Establish distribution networks for clean fuels such as LPG, CNG, and biogas.** There are several options for alternative fuels, each of which may be suited for different circumstances. Where feasible (adequate and reliable supply of low-cost raw materials), biogas is an attractive option as a clean, renewable source of energy. In some areas with appropriate topography, micro-hydro may be feasible. However, the best short-term solution for large-scale adoption of alternative energy is LPG. Although a fossil-fuel product, its carbon footprint is much lower than fuelwood, and it is therefore a viable short- to medium-term solution, pending adoption of other, renewable energy sources. Adoption of alternative fuels requires accessibility. For LPG and CNG, this requires the establishment of a distribution network. Experience from pilot trials suggest that, for household use, a multi-level-level distribution network is most likely to be effective, with primary distribution to re-distribution centres, where the gas is bottled in 47kg canisters and distributed to a re-bottling centre/retailer, where it is re-bottled into 6kg or 11kg canisters for local distribution. For industrial consumers, gas is distributed directly by tanker (see diagram below).

The project will support the establishment of biogas or other renewable energy sources where feasible and in other cases, the development of redistribution and re-bottling centres by providing financing in the form of loans to local businesses for purchase of storage tanks, containers and equipment needed for processing, such as decanting pumps, transfer pumps and compressors. The project will also cover the costs associated with conduct of the required environmental impact assessments and required safety infrastructure.

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\(^{15}\) [https://www.adb.org/sites/default/files/publication/368626/myanmar-energy-consumption-surveys.pdf](https://www.adb.org/sites/default/files/publication/368626/myanmar-energy-consumption-surveys.pdf)
Excluding fully-urbanized districts, for which LPG accessibility already exists, in the five priority regions/state of the project, one bottling centre per district and one re-bottling centre per township is equivalent to 24 bottling centres and 117 re-bottling centres, which would serve a population of 24.3 million, 46% of the population of Myanmar (Annex 1).

**Activity 1.2. Incentivize the adoption of alternative fuels.** There are few initiatives incentivizing the adoption of alternative energy sources at present. Several private sector entities are developing the infrastructure for distribution of alternative energy sources (see activity 1.1), and market forces will lead to a drop in the prices of such alternatives. However, additional measures are needed to accelerate adoption of alternative fuel sources, including awareness raising (see activity 1.3) and measures to incentivize adoption. Individual households’ propensity to adopt alternative fuels may be influenced by village-level use levels (i.e. village use increases quickly as a function of household use).

The project will incentivize adoption of alternative fuel sources by working with financial institutions and the government to design a subsidy scheme to capitalize purchase of burners and bottle by households. Urban areas with a high share of fuelwood-dependent households can be a priority target, together with peri-urban households. The 22 districts included in the proposal account for 44% of the population of the country, so prioritizing these districts yields the most cost-effective results in converting household energy demands away from biomass. Finance for subsidies will come from government and/or donor co-financing

**Activity 1.3. Distribution of efficient woodstoves.** This activity addresses both demand-side and supply-side management, and also directly addresses a target in the NDC. Adoption of efficient cookstoves will reduce harvesting of fuelwood. Some evidence suggests that adoption of efficient stoves is often low. For example, just 45% of households in 26 villages in Peru (ranging between 6 and 71% depending on the village) used more efficient wood-burning stoves that were provided free of charge. Reasons for low levels of adoption include problems with stove quality, the lack of expected gains in fuel efficiency, and the difficulty or changes in cooking methods that are required for successful use.

The project will incentivize adoption of efficient stoves through support to the industrial- or semi-industrial production of energy-efficient stoves, that enable the production of much higher quality stoves (energy efficiency, durability), with a much more positive image and at a more affordable price. This would address the shortcomings mentioned above and enable production at a scale that can impact the driver. The few artisanal jobs lost through industrial production will be more than compensated for by the jobs created in distribution of the stoves. In the five priority regions/state of the project, there are about 6,220,000 households. Even if only 5% of those households adopt an improved stove produced by the project, it would exceed the NDC target of 260,000 (assuming one cook-stove per household).

Women, given their roles in households, will be a key stakeholder in this activity, of whom will be actively consulted with and targeted when undertaking this activity, including in capacity building. Without women’s buy-in in the cookstoves, and their understanding and willingness to use them, this activity will not achieve its goals. Also included will be training to a selected number of stakeholders (targeting women to be at least 40% of those trained) to repair the cookstoves, as another problem with use of cookstoves in the past has been the lack of knowledge and capacity (or resources available) to repair them.

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16 2014 census data. National average of 4.4 persons/household
17 See the following website for the Global Alliance for Clean Cookstoves for more information: [http://cleancookstoves.org/impact-areas/women/](http://cleancookstoves.org/impact-areas/women/)
Activity 1.4. Raise awareness of in-door air pollution and sustainability of fuelwood sources, and charcoal sustainability issues, and advantages of alternative fuels. As noted above, another barrier to adoption of alternatives is lack of awareness on a number of issues, including health and environmental issues associated with fuelwood use, sustainability issues affecting charcoal production, and how to use LPG/CNG.

Given the differences in audience and subject matter, a diversified awareness raising programme is called for. Among the audiences are women, youth, ethnic minorities, etc., groups who are very reliant on fuelwood for energy use, but often not have access to all media types and/or face barriers to understanding its messaging (e.g. language, literacy and education levels, etc.). The awareness raising will be designed and implemented in a socially inclusive and gender-responsive manner. The media can play a significant role in awareness raising for the general public – for example, MRTV operate radio channels in 14 languages, which are already used for raising awareness about REDD+. Awareness raising for government officials or members of the Anti-Corruption Commission (ACC) will need to be undertaken by government agencies or NGOs.

One aspect of awareness raising is that it does not need to be an on-going process. For example, once awareness on how to use alternative fuels has been raised, leading to widespread adoption, further awareness raising is not necessary. The project will play a direct role by working with the media on appropriate venues of public awareness raising and by commissioning other partners for more targeted awareness raising.

Output 2: Establishment of village-managed fuelwood plantations and protective plantations on hillsides and in coastal areas

The 10-year Reforestation and Rehabilitation Programme (NRPM; 2017-2026) is to be implemented in all 15 states and regions and all 68 forest districts, to: (1) restore biodiversity and ecosystems in the areas affected by deforestation and forest degradation to their original condition by using proper silvicultural operations; and (2) support national socio-economic development and sustainable forest management. The Programme is very broad and ambitious, including planting trees by government, communities and the private sector. Fuelwood plantations are included, as are plantations to protect against climate-related threats such as landslides and storm surges.

The project will support non-commercial establishment of fuelwood and protection plantations under community/village management or co-management. In the five priority regions/state of the project, there are currently 729 community forestry user groups (Annex 1), amounting to 36% of all such groups in Myanmar and managing XX hectares of forests.

Activity 2.1. Incentivize community plantations, including investment in short-rotation species. Among the reasons for the overall low area under plantations are a lack of interest from communities, which in turn is related to barriers such as unclear land tenure, a major focus on teak or other long-rotation species, and a consequent lack of clear revenue generation opportunities. Eliminating these barriers would stimulate greater efforts by communities in plantation establishment. The new Land-Use Policy (2016) and Community Forestry Instructions (2016) address some of these barriers – effective implementation of these revised regulations will be supported by the project as part of a package to incentivize community plantation establishment. Only native species will be used in plantation establishment.

An analysis of experiences from multiple countries (http://www.fao.org/docrep/010/a1346e/a1346e14.htm) has demonstrated that the most important enabling conditions for smallholder plantation establishment are favourable policies across different aspects of management and marketing; and clear and secure land tenure and rights over crops, including the right to manage, harvest, transport and market produced wood. This includes appropriate policies to promote and regulate new private investment need to include safeguards that protect farmers’ rights, and incentives that encourage investors to work with farmers in ways that ensure they benefit from the new opportunities created. It is also vital that policies make it easier for both men and women to register land, and recognize community and customary tenure. The project will establish the required enabling conditions, for example, by strengthening the technical support for Community Forestry Enterprises (CFEs) available through the Forest Department, and by facilitating market access for products from CFE’s.

Activity 2.2. Build capacities for plantation establishment and maintenance. Field inspections conducted in 2010 revealed that of 840,000 hectares of plantations established by the Forest Department up to 2009, 56%, or 470,000 hectares were destroyed or had failed. Among the reasons for such a high failure rate were inadequate financial and human resources, illegal cutting (i.e. the failure to remove drivers), and lack of a clear plantation policy. The project will contribute directly to overcoming these barriers by formulating a plantation policy (specifying, for example species selection criteria, standard maintenance schedules, harvesting and revenue generation practices, etc.). Other interventions supported by the Myanmar REDD+ Programme, for example, revising government officials’ incentivization schemes can also help to overcome the financial and human resources barriers.

Activity 2.3. Promote use of alternative sources of biomass energy. Substantial quantities of alternative sources of biomass energy, such as bamboo and agricultural wastes are available, but scarcely used. The low level of adoption is due partly to the low price of fuelwood, partly to the costs associated with collection and (in the case of agricultural wastes) processing of alternatives, and partly due to a lack of experience with alternatives. The project will overcome these
barriers through support to community-based enterprises to develop such sources of biomass energy, together with awareness raising of the processes and the benefits of alternatives.

Output 3: Strengthened stakeholder engagement in management and coordination of REDD+

REDD+ management structures have already been established, with the National REDD+ Taskforce supported by three Technical Working Groups. These include representation of all relevant stakeholder groups. However, further capacities need to be developed to strengthen their engagement. Capacity development includes targeted training of specific groups and general awareness raising. In building the necessary capacities, attention will be paid to ensuring that gender equality and social inclusion are explicit objectives in policies and programs, institutional rules, and procedures at all levels, and that gender responsive methodologies are introduced and specific gender-related targets are established.

Activity 3.1. Establish gender-responsive forestry and agro-forestry extension services. Despite a long history of agricultural extension in Myanmar, numerous capacity gaps remain. The recently-issued Community Forestry Instructions (2016) established the concept of CFE’s. The role of the Forestry Department in relation to CFE development includes:

- Build capacity of local people through providing technical and socio-economic related training courses.
- Organize community forest products-based economic associations.
- Coordinate between producers and buyers/traders for market and market access.
- Support networking at village level, township level, regional/state level and national level to become strong Community Forests (CF)/CFE.
- Facilitate for required investment to develop CFE.
- Facilitate international certification of timber and non-timber forest products as well as forest based services of CF.
- Implement nature-based tourism under CF based enterprises.

The Forest Department does not itself have the necessary capacity to provide such support. Therefore, the project will (a) develop the capacity of the Forest Department to provide the support required by the Community Forestry Instructions, including capacity on “gender responsive and socially inclusive” CFE’s; and (b) mobilize direct technical gender-responsive support to community forest user groups, particularly targeting women and other marginalized groups (youth, ethnic minorities, etc.) within the FUGs, building on the work of existing projects such as ILO’s Entrepreneurship Development and Small & Medium Enterprise (SME) support in Myanmar, and FAO’s Sustainable cropland and forest management in priority agro-ecosystems of Myanmar.

Activity 3.2. Empower and incentivize law enforcement agencies to prioritize legal action. One reason why fuelwood is cheaply available is that it is harvested illegally, or quasi-legally without payment of taxes as required under the Constitution. In the case of charcoal, there is also an enormous volume of charcoal illegally exported across the border with China, which reportedly saw a 2,500% increase in volume between 2006 and 2008, since then volumes have stabilized around 0.5 million m³ (2013)\(^\text{19}\).

Violations of the Forest Law involving harvesting of forest products are rarely successfully prosecuted. Application of the Forest Law requires not only knowledge of the law, associated regulations, and the standards and application of evidentiary process, but also the application of good judgement. Prosecution of minor offences while more serious offences are not pursued is counter-productive. Therefore, officials need both knowledge, which is frequently lacking, and the ability to prioritize legal action. This issue is also related to corruption, since the more serious offences often involve influential individuals.

The project will contribute to enhanced capacity of officials to apply the Forest Law, to collect and process evidence to the required standard, and to prioritize actions appropriately. It can do this by partnering with other organizations such as UNODC (regarding illegal cross-border trade) and the EU in developing interventions to incentivize more effective application of relevant laws.

Output 4: Project management

The project will be managed by an existing unit that supports the operations of the Myanmar “REDD+ Office”, and also serves as the UN-REDD Programme Management Unit, based in Yezin (Nay Pyi Taw).

Activity 4.1. Overall project coordination and management including human and financial resources, monitoring, reporting and evaluation. Additional support staff, including a communications specialist and a monitoring specialist will be recruited to supplement the technical support available through the PMU.

Theory of Change

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\(^{18}\) TWGs cover: (a) Drivers & Strategy; (b) MRV; (c) Stakeholder Engagement & Safeguards

The project’s theory of change (ToC) is based on the fact that high GHG emissions from deforestation and forest degradation related to fuelwood collection and charcoal production need to be addressed through a combination of three approaches.

- **Demand-side management.** Biomass energy sources (especially fuelwood and charcoal) are widely used because they are less expensive than alternative fuels, and there is a strong cultural/awareness barrier to adoption of alternatives.
- **Supply-side management.** Although adoption of clean energy alternatives is the long-term solution, short- and medium-term changes are most likely in the industrial sector and urban/peri-urban households. Rural households will switch to alternatives in time, but in the short- to medium-term, there will also need to be sustainable production and supplies of fuelwood and charcoal.
- **Enabling policy environment.** Despite recent policy developments such as an updated Forest Law, an inclusive Land Use Policy, and less restrictive Community Forestry Instructions, these are not yet leading to more inclusive development due to continuing capacity barriers.

The project will therefore address all three of these issues. Output 1 will address demand-side issues, reducing demand for fuelwood and charcoal by increasing adoption and use of alternative, clean energy sources. This will be achieved by improving distribution networks, offering subsidies for adoption of alternatives, and improving understanding and awareness of the benefits of alternatives and health/sustainability issues of biomass energy sources. Output 2 will address supply-side issues by incentivizing the establishment of village-managed fuelwood plantations, provision of required capacities for plantation management and use of biomass alternatives for wood charcoal, and through distribution of improved stoves (also a demand-side issue). Output 3 will strengthen stakeholder engagement in these processes by operationalizing policies and regulations that reward sustainable actions and penalize illegal activities (including illegal export of charcoal). Stakeholder engagement will include marginalized groups, such as women, youth, ethnic minorities, etc. This is illustrated in Annex 2.

### Key Risks and Mitigation Measures

Limited coordination and capacity among government and non-government institutions/bodies involved in the implementation of the project

- **Mitigation measure:** The National REDD+ Taskforce and associated Technical Working Groups provide the platforms needed to overcome this risk. The project will build capacities among all relevant stakeholder groups, which will further promote coordination.

**Industrial energy users are resistant to change**

- **Mitigation measures:** The key industrial segments, such as the garment industry are already moving towards greater sustainability, supported by initiatives such as the EU-funded SMART programme ([www.smartmyanmar.org/](http://www.smartmyanmar.org/)). Other organizations, such as the Myanmar Centre for Responsible Business ([www.myanmar-responsiblebusiness.org/](http://www.myanmar-responsiblebusiness.org/)) are also stimulating this change. The project will work alongside these initiatives to reinforce consistent messages about sustainability. Furthermore, measures introduced by the project to reduce the cost of alternatives will promote change.

**Householders are resistant to change**

- **Mitigation measures:** The project will undertake extensive awareness raising on the negative health and environmental issues of excessive use of biomass energy. The cost-reduction measures that will stimulate adoption by industrial stakeholders will also serve to overcome resistance from householders.

Current inequalities among women and men and between social groups could inadvertently exclude some groups from equitably participating in and benefiting from the project activities.

- **Mitigation measures:** Mainstreaming a gender-responsive and socially inclusive approach into the project to help promote the equitable participation of such groups in the project.

Plantation establishment is undermined by weak tenure rights and a history of marginalization of rural stakeholders

- **Mitigation measures:** This will be addressed through support to operationalization of a new policy environment that equitably supports both male and female rural stakeholder rights and facilitates increased benefits from sustainable management of natural resources.

### B.3. Expected project results aligned with the GCF investment criteria (max. 3 pages)

**Climate Mitigation Impact**

The scarcity of reliable and detailed information on energy consumption in Myanmar complicates an estimation of climate mitigation impact. The most reliable data exists for household consumption of fuelwood, which his estimated at about 8MTOE, with charcoal at about 80kTOE in 2012-13. Data for industrial consumption is much more difficult to compile. Estimates for the garment industry suggest that as much as 0.25MTOE may be consumed each year. Although the garment industry is rapidly becoming the dominant industry, consumption in other high-energy industries such as sugar
production mean that it can be assumed that the garment industry accounts for no more than 30% of all industrial energy consumption using fuelwood.

These figures would indicate emissions of about 27.0 Mt CO$_{2eq}$ of per year from firewood and charcoal use (ignoring exports of charcoal to China). These figures are trending upwards. Assuming that project activities can reduce consumption of fuelwood and charcoal by an average of 10% over the life of the project (starting from 0%, but increasing during the project lifetime), this would equate to 2.7 Mt CO$_{2eq}$ per year.

As per the UNFCCC Warsaw Framework for REDD+, the exact amount of emission reductions that Myanmar will achieve by implementing its National REDD+ Strategy at the national scale, during the lifetime of the GCF project (2019-2023), will be known once the BURs with the REDD+ technical annex are submitted to the UNFCCC. These results will be compared with the FREL. This information will be published on the REDD+ Information Hub on the REDD+ Web Platform, in accordance with UNFCCC decision 9/CP.19.

Paradigm Shift

Decision GCF/B.07/11 emphasizes the importance of projects having maximum potential for a paradigm shift towards low-carbon and climate-resilient sustainable development. This is defined as potential to catalyse impact beyond a one-off project or programme investment.

The paradigm-shift potential of this project comes from a fundamental change in energy sources for Myanmar industry and domestic users. Such changes, from a reliance on, and consequent over-exploitation of wood-based energy, to widespread use of clean energy sources has occurred in other countries of the Lower Mekong Sub-region, such as Thailand and Viet Nam. In these countries, the change occurred over many decades. Without the project, similar changes would eventually occur in Myanmar, but over a similarly long time-scale, during which GHG emissions from forests would be reduced only very slowly. Through this project, widespread adoption of alternative, clean energy sources will occur more quickly. Specifically, the project will generate a paradigm shift on two levels:

1) Adoption of alternative, modern energy sources, will be stimulated by reducing costs of the alternatives through development of efficient distribution networks, and through subsidizing capital expenditures associated with establishment of such networks. The changes will be supported by awareness raising on the benefits of using clean energy and the costs of health and environmental impacts of biomass energy. Once these changes have been introduced, reversals are extremely unlikely, especially as historical over-harvesting means that the price of biomass energy is likely to rise, rather than fall below the reduced costs of the alternatives; as well as due to the changed attitudes towards biomass energy.

2) It will institutionalize improved policies designed to promote inclusivity in decision-making and diversification of opportunities to generate income for rural communities.

Sustainable Development Potential

The project will contribute to the achievement of a number of the Sustainable Development Goals (SDGs):

- **SDG 1**: Poverty reduction: the project will build the capacity of rural stakeholders to diversify and increase their incomes from natural resources.
- **SDG5 on gender equality**: the gender-responsive approaches described in section B.2 will contribute to some of the targets for SDG5, such as:
  - Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws
  - Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
- **SDG 7**: Ensure access to affordable, reliable, sustainable and modern energy for all: this is the central focus of the project and, as such, it will contribute directly to several of the SDG7 targets, including:
  - By 2030, ensure universal access to affordable, reliable and modern energy services
  - By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
  - By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support
- **SDG 10**: Reduced inequalities: the project will help to empower rural stakeholders to play a constructive role in decision-making affecting their livelihoods. Specific SDG10 targets to which the project will contribute are:
  - By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status
  - Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard
Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes

- SDG 13: Climate Action: the project will enable Myanmar to take urgent action to combat climate change by reducing GHG emissions from the forest and land use and energy sectors. As such, it will contribute directly to many of the targets established in Myanmar's NDC.
- SDG 15: Life on Land: the project will serve to protect, restore and promote sustainable use of terrestrial ecosystems through the sustainable management of forests.

Co-benefits

As with all forest conservation and sustainable development initiatives, there will be benefits beyond climate mitigation benefits. As forests produce multiple benefits for society, the sustainable development potential of the project is clear and substantial. Forest-related benefits include climate adaptation benefits, such as protection against floods, droughts, and against cyclone-related impacts such as storm surges and landslides.

A focus on strengthening and expanding the engagement of communities in forest management will yield direct benefits to rural communities as well as indirect benefits, for example, through increased yields of non-timber forest products, and improved hydrological regulation for crop productivity.

A very significant co-benefit of the project will be in improved health of household members, especially women and children, through reduced exposure to particulate matter associated with the burning of solid biomass fuels like wood and charcoal. Although the major focus of the project is on urban and peri-urban communities, further dissemination of project benefits into increasingly rural areas is inevitable through the strong media campaign.

Gender-sensitive development impact

Myanmar is signatory to Convention on All Forms of Discrimination against Women (CEDAW) and thus the inclusion of a gender perspective ensures that the REDD+ framework respects international law. Myanmar scored 0.374 on the “Gender Inequality Index” (GII) in 2015. This ranks 80th in the world, which is actually much higher than its overall “Human Development Index”, for which Myanmar ranked 145th in 2015. On some GII components, Myanmar scores well – for example the percentage of women with at least some secondary education is significantly higher, at 27.1% than for men (20.0%). However, there are major gender considerations related to household energy sources. Inefficient cooking fuels and technologies produce high levels of in-door air pollution with a range of health-damaging pollutants, including small soot particles that penetrate deep into the lungs. The World Health Organization reports that in poorly ventilated dwellings, indoor smoke can be 100 times higher than acceptable levels for fine particles and that exposure is particularly high among women and young children, who spend the most time near the domestic hearth.

As in many similar countries, women play a disproportionately significant role in many community forestry user groups, as increasingly male members of rural households are involved in off-farm income-generating activities. The focus on further empowering community forestry user groups will therefore have a benefit in empowering women.

The Myanmar REDD+ stakeholder engagement guidelines, modelled on the UN-REDD/Myanmar guidelines, have a strong focus on applying gender-responsive processes to help support the effective implementation of REDD+ policies and measures. Such reinforcing processes will include developing gender-sensitive monitoring and reporting frameworks, allocating adequate financial resources to support implementation of gender-sensitive components within the National REDD+ Strategy (NRS); and undertaking corresponding capacity building efforts to support such gender-responsive monitoring, reporting, and budgeting activities. Integrating this gender perspective will help to: 1) ensure women’s and other marginalized groups’ (e.g. youth, ethnic minorities, etc.) meaningful and equitable representation and participation in the implementation of the NRS; 2) build capacity of women to enable them to actively engage in decision making on REDD+; 3) raise awareness and build capacity of stakeholders (e.g. REDD+ coordination entities, institutions, platforms, etc.) on the importance of and the ‘how to’ integrate gender considerations within their work on REDD+; 4) increase the involvement of women, youth and gender-focused state and non-state organizations in REDD+; and 5) promote women’s and men’s equitable access to information on safeguards.

Needs of Recipient

Despite the fact that Myanmar has recently graduated to lower-middle income status, it remains classified as a Least-Developed Country. Its economic growth (GDP/capita), at a projected 7.5% for 2017, and a forecast 7.9% for 2018, is the highest among Southeast Asian economies, but this rapid growth is from a very low level – Myanmar’s per capita GNI was larger only than Cambodia’s among Southeast Asian nations in 2017.

In terms of exports, Myanmar offers a narrow range of commodities, dominated by natural gas (mostly to Thailand), minerals (dominated by China), pulses (almost all to India), and garments to OECD markets. Together, China and

20 http://www.who.int/mediacentre/factsheets/fs292/en/
21 https://www.adb.org/countries/myanmar/economy#tabs-0-0
Thailand account for two-thirds of all exports from Myanmar. The growing importance of the garment industry—accounting for more than 14% of all exports by 2016, and growing year-by-year—is important in terms of energy demand.

The current government has established as policy priorities inclusive growth, greater social protection, alignment of economic development policies with environmental conservation, and reform of the civil service to be more ethical and effective in addressing complex challenges of peace, national reconciliation, corruption, and development, while better reflecting the diversity of the country. However, the ambitious vision reflected in these policy priorities needs to be built on a very weak foundation. Consequently, support to the establishment of the capacities necessary to deliver the vision is essential.

**Economic Needs**

The most recent Asian development outlook prepared by the ADB (2018) notes that with continued strong global growth, the external economic environment should remain favorable. GDP growth is projected at an annualized 6.8% in the 6 months from April to September 2018. Growth is forecast at 7.2% in FY2019 (ending 31 September 2019). Agriculture is forecast to continue to grow robustly, assuming normal weather and favorable commodity prices.

Growth in industry is projected to strengthen both this year and next. Services should expand further with solid growth in tourism and information technology services. Higher growth will likely stoke inflation, as will an expected rise in international oil prices. Inflation is thus forecast to accelerate to 6.2% this year before moderating slightly to 6.0% in FY2019. The current account deficit is forecast to widen to the equivalent of 5.4% of GDP in FY2018 and 5.5% in FY2019.

The fiscal deficit is projected to remain near 4.0% of GDP over the next 2 years as public spending increases to support the socioeconomic development agenda. While revenue collection has improved, requiring less financing of the fiscal deficit by the Central Bank of Myanmar in recent years, public financial management needs to be strengthened. The positive economic outlook depends on Myanmar augmenting limited public resources by effectively engaging development partners, foreign investors, and the domestic private sector to help finance its major infrastructure requirements, narrow regional socioeconomic disparities, and support the long-term development agenda.

**Social Needs**

The World Bank estimated that poverty was estimated to be 32.1% in 2015, down from 48.2% in 2004/05. The report also shows that poverty in Myanmar’s rural areas is substantially higher than that in urban areas: 38.8% of the rural population are estimated to be poor compared to 14.5% of those in its towns and cities. This amounts to 15.8 million poor in total, of which 13.8 million live in rural areas and 2.0 million in urban areas. The densely populated Dry Zone and Delta areas (the target areas for this proposal) account for 65% of Myanmar’s poor. Those who live near the poverty line are especially susceptible to economic shocks.

Among ASEAN countries, Myanmar has the second lowest life expectancy and the second-highest rate of infant and child mortality. Out of every 100 children, 6.2 die before their first birthday and 7.2 before their fifth. In terms of nutrition data, 29% of children under 5 are moderately stunted and 8% are severely stunted.

Access to basic infrastructure and services remain a challenge in both rural and urban areas. The National Electrification Plan (also referred to as National Electrification Programme or NEP) aims to provide electricity access to all Myanmar households by 2030, with a rural electrification rate of 33% in 2014. The NEP calls for the electrification rate milestones of 50% in 2020, 75% in 2025 and 100% in 2030. While long-term electricity access will chiefly be provided through the main grid, the short and mid-term will require substantial mini-grid and off-grid investments to ensure basic electricity services reaching large number of users in relatively little time. The NEP therefore takes a two-fold approach: (1) A grid extension programme and (2) an off-grid programme. The off-grid programme is composed of solar home systems and mini-grids with the target population being those who would have to wait especially long for the main grid to reach their homes and/or the regions where grid expansion entails prohibitive costs.

Road density remains low at 219.8 kilometers per 1,000 square kilometers of land area. However, with the recent liberalization of the telecommunications sector, mobile and internet penetration has increased significantly from less than 20% and 10% in 2014, to 60% and 25% respectively.

Myanmar is one of the world’s most disaster-prone countries exposed to multiple hazards, including floods, cyclones, earthquakes, landslides, and droughts, ranking 2nd out of 187 countries in the 2016 Global Climate Risk Index and 9th out of 191 countries in the INFORM Index for Risk Management.

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24 [https://data.worldbank.org/indicator/SP_DYN.IMRT.IN](https://data.worldbank.org/indicator/SP_DYN.IMRT.IN)
Institutional Needs

Myanmar has established a National Environmental Conservation and Climate Change Committee (NECCC), whose membership is Ministers, and which reports to the Vice President. Under the NECCC, there are six Working Groups, including one on Climate Mitigation and Adaptation. Members of the Working Groups are Permanent Secretaries and Director Generals of relevant departments. The National REDD+ Taskforce reports to the Climate Mitigation and Adaptation Working Group of the NECCC. The NECCC is progressively developing subnational committees and, at least in its intentions, should have committees at the Township level. It has created a national platform for coordination of climate change action with all ministries, the three main cities, the civil society and the private sector. Between 2015 and 2017 Myanmar developed its National Climate Change Policy, the Myanmar Climate Change Strategy and Action Plan 2016-2030, and six Sectoral Action Plans. The National REDD+ Strategy (to be completed and approved in XXXX) will contribute to the goals of the National Climate Change Policy.

Country Ownership

The key indicator of strong country ownership is the central role identified for the forest and energy sectors in Myanmar’s NDC. The activities and targets identified in the NDC are mirrored in the NRS. The NRS was developed through a broad consultation and multi-stakeholder engagement process. Participating stakeholder groups included Union government departments, state and regional government agencies, NGOs/civil society and the private sector. More than 20 separate consultation events have been/will be organized to support the development of the NRS between June 2017 and April 2018.

In the energy sector, the Ministry of Electricity and Energy will play a key role in supporting adoption of clean energy sources for industry and households. The Myanmar Petrochemical Enterprise will oversee the development of regulations related to the production and distribution of LPG and other fuels.

Efficiency and Effectiveness

Anticipated total carbon emission reductions from deforestation will be 13.5 MtCO₂eq or over five years. If US$5 per tCO₂eq is assumed, these figures would generate roughly US$ 67.5 m in results-based payments over the five-year period. Based on the estimation of CO₂ emission reductions presented in this proposal, the GCF will invest less than US$3.33 per tCO₂eq reduced.

Co-financing ratio (GCF: co-finance) – 1:2

C. Indicative financing / Cost information (max. 3 pages)

<table>
<thead>
<tr>
<th>Output</th>
<th>Indicative cost (USD)</th>
<th>GCF financing</th>
<th>Co-financing</th>
<th>Name of Institutions</th>
</tr>
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<td></td>
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<td>Financial Instrument</td>
<td>Amount (USD)</td>
</tr>
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<td></td>
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<td>ADB (subject to confirmation)</td>
<td>Loan 20m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grant 5m</td>
<td></td>
<td>Grant 15m</td>
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<td>Output 1: Stimulation of adoption of alternative, clean energy sources such as LPG for industrial and household use</td>
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<td>Loan 20m</td>
<td>Dickinson</td>
<td>Loan 20m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grant 5m</td>
<td></td>
<td>Grant 15m</td>
</tr>
<tr>
<td>Output 2: Establishment of village-managed fuelwood plantations and protective plantations on hillsides and in coastal areas</td>
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<td>Government budget 30m</td>
<td>Forest Department</td>
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<td></td>
<td></td>
<td>Grant 10m</td>
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<td>Grant 10m</td>
</tr>
<tr>
<td>Output 3: Strengthened stakeholder engagement</td>
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<td>Grant 5m</td>
<td>UNDP and other donors</td>
<td>Grant 5m</td>
</tr>
</tbody>
</table>
C.2. Justification of GCF funding request (max 1 page)

**Explain why the Project/Programme requires GCF funding:** Myanmar’s National REDD+ Strategy (NRS), expected to be finalized by June 2018, will be supported by an investment plan articulating the investment necessary to implement the first five years of the NRS. Multiple sources of finance are being called on for its implementation, from both public and private sectors. Yet start-up finance will be necessary to fund the overall coordination of implementing the investment plan (between government agencies across sectors, national and subnational, and among all relevant and implementing stakeholders, including the private sector and NGOs) and deliver technical assistance to stakeholders involved in implementation; as well as for policy reforms and interventions to address reliance on biomass energy.

The expected long-term goal of the NRS is to shift Myanmar to a low-emission sustainable development pathway. Some components of the NRS will require substantial investments in the creation of public goods such as reduced land degradation, for which grants are required in the short term, augmenting limited public resources26, while other components are more suited to loan financing due to the potential for business development. This includes interventions to address demand-side management related to adoption of clean energy and moving away from a reliance on biomass energy, especially fuelwood and charcoal. Consequently, loan financing is requested to deliver output 1, related to demand-side management.

Conversely, addressing supply-side management involves non-commercial establishment of fuelwood and protection plantations managed by communities/villages with support from the Forestry Department. A progressively diminishing level of investment will be required in the medium-term to consolidate the institutional, technical and capacity innovations introduced by the project. This level of investment will be maintained in the medium term by accessing results-based payments from REDD+ and channelling these resources towards the successful interventions.

Central to the concept of REDD+ is the provision of positive incentives and RBPs for emission reductions. These represent a global recognition of the value of forests in addressing climate change and the commitments developing countries are making towards sustainable management of forests. Financing of emission reductions requires both a realignment of financing to more effectively address the direct and indirect drivers of forest cover change, as well as additional investment to enable government agencies, civil society groups and the private sector to commit to a transformational change from business-as-usual activities to sustainable development in the forest and energy sectors. The requested grant from GCF for outputs 2 and 3 will address this critical financing gap to support Myanmar in achieving emissions reductions.

**Describe alternative funding options for the same activities being proposed in the Concept Note:** The co-financing for this proposal includes significant amounts from the private sector, for output 1, and the Union government budget, for output 2. Additional co-financing in the form of loans is being explored for output 1 – see co-financing table.

Barriers to the government accessing finance for proposed activities (see ‘Economic Needs’ section above): Myanmar’s narrow economic base, dependent on commodity exports, makes the economy highly vulnerable to price variations and therefore creates challenges to delivering on development planning as revenues are dependent on global markets. In addition, government debt, and limited physical and financial infrastructure all hinder government investment. Transforming the country's development trajectory towards low-carbon development requires an immediate financial injection to facilitate structural reforms that will enable job creation, investment and improved returns in low-carbon practices and technologies in the medium to long term.

Barriers to smallholders accessing financing for proposed activities: community forestry user groups remain relatively disorganized due to a combination of apathy because of current tenure uncertainties and limited government support. The new policy framework, including the Community Forestry Instructions of 2016, create a favourable enabling environment, but the development of capacities required to take advantage of this situation requires financial resources beyond the means of the communities themselves or the Union government.

The private sector will play a considerable role in this proposal, with the GCF project used to overcome barriers to more rapid adoption of alternative, clean energy sources. While LPG producers are already investing in the required infrastructure for LPG production (e.g. terminals, processing plants), the distribution infrastructure remains underdeveloped. Daily onshore gas production is currently about 1.5 million m$^3$ per day and offshore gas production is 55 million m$^3$ per day. The government is looking to liquefied petroleum gas (LPG) to meet the rapid growth of domestic power demand by 2020, and recently, the Ministry of Electricity and Energy has been developing international joint ventures on onshore seismic acquisition services, onshore drilling services, and onshore pipeline construction and
maintenance services\textsuperscript{27}. However, the high costs of establishing such infrastructure in the absence of an existing market deters small-scale businesses from making the required investments. GCF finance will address this financing gap to subsidize the required short-term investments.

**Justify the rationale and level of concessionality of the GCF financial instrument:** Numerous financing sources have been mobilized to support implementation of Myanmar’s NRS. As described previously, some components of the NRS, those associated with the creation of public goods, including afforestation and reforestation for non-commercial purposes, coordination of REDD+ implementation, and support of necessary policy reforms require short-term grant financing. Such grants will enable Myanmar to effectively reduce emissions and thereafter access RBPs.

From a global perspective, while reducing emissions from deforestation is a cost-effective mitigation option in most developing countries, public investments are required to create the enabling environment that will catalyse private investments towards the reducing forest loss. The global “market” for environmental services is incipient. In this respect, REDD+ RBPs are the main prospect for Myanmar. In existing results-based payment schemes (e.g., the voluntary carbon market)\textsuperscript{28} and the GCF’s RBP pilot programme, the price paid per tCO2eq is US$5. This price reflects the current willingness to pay of donors rather than an established carbon market price. It is clear, however, that at this stage a mechanism of payments based on results cannot represent a bankable guarantee in existing financial markets. Given the predominance of loan financing in the funds requested from the GCF (63%), the integrated financial package represents an appropriate level of concessionality for an LDC like Myanmar.

### C.3. Sustainability and replicability of the project (exit strategy) (max. 1 page)

**Activities to ensure long-term sustainability are embedded in the project outputs as described below**

The proposed project will support the implementation of PAMs described in Myanmar’s NRS that are designed to tackle the key drivers of deforestation and forest degradation. A number of measures will be implemented to ensure the sustainability of project achievements in the process of gradually winding-down GCF funding to ensure effective ownership by beneficiaries. In this regard, GCF’s exit strategy will entail the following:

**Private sector:**

- Establishment of a distribution network for alternative energy sources is a commercial venture yielding positive returns. Distribution will therefore be a financially viable (or profitable) activity by the end of the project.
- The project will provide incentives to industrial enterprises to switch from fuelwood to alternative energy sources. Once the switch has been made, reversal is unlikely, especially as prices for fuels such as LPG are expected to drop below those for fuelwood.

**Government:**

- The project will support implementation of the National Reforestation and Rehabilitation Programme. Data up to 2010 show that over 50% of plantations failed -- and the trend since 2010 is likely to be similar. The project will remove barriers that prevented higher plantation success rates, such as capacities for plantation management and the lack of a plantation policy.
- The role of the National REDD+ Taskforce will be strengthened, with a particular focus on ensuring cross-sectoral coordination and government-private sector-civil society cooperation.
- The success of this GCF project will demonstrate the feasibility and relevance of the implementation of the selected PAMs identified in the NRS, subsequently unlocking further financial resources from the government, donors and the private sector to ensure the sustainability of REDD+ in the country. The project is therefore expected to have a catalytic impact on REDD+ implementation, recognised at the highest political level and in the UNFCCC.
- A strong focus on communications (provided for in input 4) will ensure lessons learned from implementation are shared effectively and in a timely fashion with both stakeholders in Myanmar and with the international community (e.g. through official UNDP communications materials and channels, at UNFCCC COPs and other international fora).

**Civil Society:**

- The project will build awareness of the benefits of alternative energy sources and of sustainability issues related to the supply of fuelwood and charcoal. Evidence from other countries, such as Thailand and Viet Nam, shows that once households convert to alternative energy sources, they do not subsequently revert to biomass energy\textsuperscript{29}.

### C.4. Engagement among the NDA, AE, and/or other relevant stakeholders in the country (max ½ page)

\textsuperscript{27}http://www.thaibizmyanmar.com/upload/Nonpaper7%20Sep2017Opportunities%20for%20Investment%20in%20Gas%20Projects.pdf

\textsuperscript{28}https://www.cbd.int/financial/2017/docs/carbonmarket2017.pdf

\textsuperscript{29}http://www.un.org/esa/sustdev/publications/energy_indicators/chapter9.pdf (See Table 9.11)
The Environmental Conservation Department (ECD), Myanmar’s NDA to the GCF, and UNDP have an established and strong working relationship. UNDP’s support to the ECD has included the development of the latest Environmental Management Policy, and mobilization of resources from the GEF and Adaptation Fund to support specific environmental conservation activities.

On REDD+, the ECD is a member of the National REDD+ Taskforce, which oversees REDD+ in Myanmar. The lead agency for REDD+ is the Forest Department which, like the ECD, is part of the Ministry of Natural Resources and Environmental Conservation. Through the UN-REDD Programme, in which UNDP is the Lead Agency, a Project Management Unit (PMU) is established that will be in operation until the end of 2020 and is therefore expected to have a one-year overlap with the implementation of the GCF project to ensure strong cohesion and consistency with REDD+ efforts to date.

The NRS was developed over a two-year period in consultation with a wide range of stakeholders across the country. A multi-stakeholder Technical Working Group oversaw the process. Consultations were held with six Ministries. Multi-stakeholder consultations were held in each of the country’s 15 states and regions. In addition, targeted consultations were held with private sector entities, and the draft strategy was open for public inputs on the Myanmar REDD+ web-site over a two-month period.

The GCF project will be implemented under UNDP’s Country Office Support to National Implementation Modality (NIM), which is explicitly designed to ensure domestic stakeholders and systems are used to strengthen national ownership, accountability and capacity development. The project will comply with UNDP’s Social and Environmental Standards, including requirements related to stakeholder engagement and free, prior and informed consent; as well as Standard 6 on Indigenous Peoples. The project will also be implemented through the multi-stakeholder systems established for REDD+ readiness with NGOs and civil society groups as key partners in implementation.

D. Supporting documents submitted (OPTIONAL)

☒ Map indicating the location of the project/programme (Annex 1)
☒ Diagram of the theory of change (Annex 2)
☐ Financial Model
☐ Pre-feasibility Study
☐ Evaluation Report of previous project

Self-awareness check boxes

Are you aware that the full Funding Proposal and Annexes will require these documents? Yes ☒ No ☐

- Feasibility Study
- Environmental and social impact assessment or environmental and social management framework
- Stakeholder consultations at national and project level implementation including with indigenous people if relevant
- Gender assessment and action plan
- Operations and maintenance plan if relevant
- Loan or grant operation manual as appropriate
- Co-financing commitment letters

Are you aware that a funding proposal from an accredited entity without a signed AMA will be reviewed but not sent to the Board for consideration? Yes ☒ No ☐
Annex 1: Map of Myanmar showing priority regions/state
Relevant data from priority regions/state

<table>
<thead>
<tr>
<th>Region/state</th>
<th>District **</th>
<th>No. of Townships</th>
<th>Population</th>
<th>Mangroves</th>
<th>Community forests</th>
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<tr>
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** For Yangon, excludes completely urbanized districts

*** Number of CF User Groups in the 5 regions/state
Annex 2: Draft Theory of Change

Core climate-related problem

Direct driver

Indirect drivers

Activities

Outputs

Outcomes

Climate/socio-economic impact

More equitable and inclusive development pathway, based on lowered GHG emissions from forests and the energy sector