

Funding Proposal

FP132: Enabling Implementation of Forest Sector Reform in Georgia to Reduce GHG Emissions from Forest Degradation

Georgia | Deutsche Gesellschaft fuer Internationale Zusammenarbeit GmbH(GIZ) | Decision
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Funding Proposal

Project Title:	Enabling Implementation of Forest Sector Reform in Georgia to Reduce GHG Emissions from Forest Degradation
Country:	Georgia
Accredited Entity:	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
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Note to Accredited Entities on the use of the funding proposal template

- Accredited Entities should provide summary information in the proposal with cross-reference to annexes such as feasibility studies, gender action plan, term sheet, etc.
- Accredited Entities should ensure that annexes provided are consistent with the details provided in the funding proposal. Updates to the funding proposal and/or annexes must be reflected in all relevant documents.
- The total number of pages for the funding proposal (excluding annexes) **should not exceed 60**. Proposals exceeding the prescribed length will not be assessed within the usual service standard time.
- The recommended font is Arial, size 11.
- Under the [GCF Information Disclosure Policy](#), project and programme funding proposals will be disclosed on the GCF website, simultaneous with the submission to the Board, subject to the redaction of any information that may not be disclosed pursuant to the IDP. Accredited Entities are asked to fill out information on disclosure in section G.4.

Please submit the completed proposal to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

"FP-[Accredited Entity Short Name]-[Country/Region]-[Dates]"

A. PROJECT SUMMARY			
A.1. Project or programme	Project	A.2. Public or private sector	Public
A.3. Request for Proposals (RFP)	Not applicable		
	Mitigation: Reduced emissions from: <input type="checkbox"/> Energy access and power generation: <input type="checkbox"/> Low-emission transport: <input type="checkbox"/> Buildings, cities, industries and appliances: <input checked="" type="checkbox"/> Forestry and land use: Adaptation: Increased resilience of: <input type="checkbox"/> Most vulnerable people, communities and regions: <input type="checkbox"/> Health and well-being, and food and water security: <input type="checkbox"/> Infrastructure and built environment: <input type="checkbox"/> Ecosystem and ecosystem services:		GCF contribution: <u>Enter number</u> % <u>Enter number</u> % <u>Enter number</u> % 100% <u>Enter number</u> % <u>Enter number</u> % <u>Enter number</u> % <u>Enter number</u> %
A.5. Expected mitigation impact	16.14 million tCO ₂ eq	A.6. Expected adaptation impact	Direct beneficiaries: 98,337 Indirect beneficiaries: 1,000,000 Direct beneficiaries: 3% of national population Indirect beneficiaries: 27% of national population
A.7. Total financing (GCF + co-finance)	<u>177.69 million Euros</u>	A.9. Project size	Medium (Upto USD 250 million)
A.8. Total GCF funding requested	<u>32.79 million Euros</u>		
A.10. Financial instrument(s) requested for the GCF funding	<input checked="" type="checkbox"/> Grant <u>32.79 million Euros</u> <input type="checkbox"/> Equity <u>Enter number</u> <input type="checkbox"/> Loan <u>Enter number</u> <input type="checkbox"/> Results-based payment <u>Enter number</u> <input type="checkbox"/> Guarantee <u>Enter number</u>		
A.11. Implementation period	7 years (84 months)	A.12. Total lifespan	20 years
A.13. Expected date of AE internal approval	7/4/2019	A.14. ESS category	B
A.15. Has this FP been submitted as a CN before?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	A.16. Has Readiness or PPF support been used to prepare this FP?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
A.17. Is this FP included in the entity work programme?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	A.18. Is this FP included in the country programme?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
A.19. Complementarity and coherence	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

A.20. Executing Entity information

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH besides being the Accredited Entity (AE) of the project, acts as well as an Executing Entity (EE). Besides GIZ, there will be the following other Executing Entities:

- National Forestry Agency (**NFA**), a Legal Entity of Public Law (LEPL) of the Ministry of Environmental Protection and Agriculture (MoEPA) (Georgia).
- Department of Environmental Supervision (**DES**) representing the Government of Georgia, State Sub-Agency of MoEPA (Georgia).
- Environmental Information and Education Centre (**EIEC**), a LEPL of MoEPA (Georgia).
- Agricultural and Rural Development Agency (**ARDA**)¹, a Non-Entrepreneurial (Non-Commercial) Legal Entity (N(N)LE) of MoEPA (Georgia).

MoEPA acts as the National Designated Authority (**NDA**) for GCF in Georgia.

A.21. Executive summary

1. Georgia's forests play a pivotal role in securing net removal of GHG emissions, which are expected to rise by approx. 70 % to 28,690 Gg CO₂eq in 2030 in the BAU scenarios. However, **LULUCF sector absorption capacity is rapidly decreasing**. Climate change impacts and the demand for fuelwood from rural population puts significant pressure on Georgia's forests: up to 90% of rural households (1.43 million people) rely on fuel wood for their energy needs. This leads to forest degradation and loss of carbon absorption capacity, which is projected to decrease by five times between 1990 and 2030. The Government of Georgia therefore prioritized the forest sector in its Nationally Determined Contribution (NDC) aiming at reducing GHG emissions by 6 million tCO₂eq by introducing the sustainable forest management (SFM) on 250,000 ha of state-managed forest lands over a period of 2020-2030².
2. The project will enable the Government of Georgia to implement its **transformational forest sector reform agenda** to put the entire nation's forests under the SFM framework. It will do so by supporting establishment of a nation-wide SFM system under Component 1 and in parallel, under Component 2, promoting market development for energy efficient (EE) and alternative fuels (AF)³ to address main driver of Georgia's forest degradation, the unsustainable fuelwood consumption by rural population. Component 3, addressing potential adverse effects of the forest sector reform, safeguards the reform implementation by diversifying livelihood opportunities and strengthening local self-governance in forest adjoining rural communities.
3. The first component will help the Government put in place main building blocks of SFM at national level in the form of appropriate policy and regulatory environment, knowledge and data, as well as human and institutional capacities. At the regional level, the project will **implement SFM in the three target regions** of Kakheti, Mtskheta-Mtianeti and Guria. By doing so, the project will help develop an appropriate institutional structure and a business model for SFM, which will then be replicated to cover all forest areas in the country. Under second component, the project will **accelerate growth of the nascent EE-AF sector** in Georgia by pushing the development of supply chain and in parallel pulling the demand via consumer awareness raising, provision of financial incentives and consumer financing products in partnership with financial institutions, as well as creating conducive policy and regulatory framework for the sector in line with *EU aquis*, which the Government of Georgia has committed to implement. The third component will build up capacities of local authorities and citizens to participate in the sustainable management of forests and will enable communities of the target regions to benefit from diversified income opportunities by improved forest-related value chains and better access to forest-related knowledge and skills.
4. The project will cover 270,807 ha of state-managed forests in the target regions with SFM (over-achieving the NDC target of 250,000 ha).⁴ This will lead to the improvement of quantitative and qualitative characteristics of the forests and gradual build-up of carbon stock: Broader SFM implementation will lead to a reduction of forest degradation in the range of 0.8 t biomass per ha and year (1.3 tCO₂/ha/year); in addition forest biomass will increase by 1.7 t biomass per ha and year (2.9 tCO₂/ha/year) as a result of direct SFM measures. Further, **availability of sustainably harvested fuelwood** in the target districts will increase 5-fold from 50,000 m³ up to 285,575 m³ by the project end.

¹ From July 1, 2019 the official title of Agricultural Projects Management Agency (APMA) was changed into Agricultural and Rural Development Agency (ARDA).

² Conditional commitment.

³ Alternative fuels (AF) in the context of this Funding Proposal refer to different forms of upgraded solid biofuels (USB), which can be produced from woody or vegetable material by modern processes and technologies, such as briquettes, pellets, or chips sourced from forestry and agricultural residues (hazelnut shells, wine pruning, etc.). Please refer to Section 5.3.3.1 of the Feasibility Study for the full account of available AFs in Georgia

⁴ Note on the project area: The total forest area within the selected forest districts is 293,824 ha. The area analyzed in terms of forest degradation and mitigation impacts amounts to 270,807 ha. The area difference is due to the fact that some areas could not be attributed to a specific forest formation for which information on carbon stocks is available. See Feasibility Study Chapter 4 for more detail.

In addition, the Project will promote accelerated deployment of EE stoves and AF in the target regions to ensure up to 30% penetration by project end and up to 75% in the long-run. This will significantly **diminish** pressure on forest resources and **demand for fuelwood** from 100,000 rural households, i.e. by up to 360,000 m³ or 50% compared to baseline. Taken together, SFM and EE-AF adoption will make sure that supply of sustainably harvested biomass in the target regions can meet the demand thus effectively reducing the **fuelwood gap**, which currently stands at 580,000 m³.

5. Tackling both, the underlying driver of the degradation by making fuelwood use more efficient and by improving the management of the undervalued forest resource, will translate in a **direct climate impact**: unsustainable biomass extraction will be reduced on one hand and on the other incremental growth in the more resilient forest will increase. The amount of CO₂eq remaining sequestered in standing forest will increase thereby **reducing GHG emissions from forest degradation and enhancing carbon stock** by at least **5.30 million tCO₂eq by the project end** at a cost to the GCF of EUR 6.81/tCO₂eq and **16.14 million tCO₂eq over a 20-year project lifetime** at a cost to the GCF of EUR 2.0/tCO₂eq.
6. The project will also bring about important **social, environmental and health benefits**. It will directly benefit close to 100,000 rural residents, fuelwood users, by enabling investment in energy efficiency and alternative fuels and, as a result, will lower energy poverty, improve thermal comfort and the quality of indoor and outdoor environment by reducing NO_x and particles emissions from fuelwood combustion by inefficient heat stoves. The population of the three target regions will a) participate in decision-making processes at the local level, b) have access to mechanisms to protect their interests, and c) gain additional economic benefits through the improved livelihood opportunities, education and job creation activities of Component 3.
7. To scale-up public and private investment in low-carbon transformation of Georgia's forestry and rural energy sector, the project will set-up, as an overarching financing framework, the **Georgia Forest and Rural Energy Investment Facility (GFREIF)**. Via GFREIF, the project will mobilize significant **co-finance** from the government, the financial sector and donors at the ratio of 1:2 (GCF – confirmed co-finance). The GCF grant, by filling selected funding gaps while minimizing concessionality, will be crucial to the successful execution of the project. In addition, it will **leverage** a considerable public and private sector contribution – EUR 123.57 million – from the households, EE-AF suppliers, forest private sector contractors, National Forestry Agency and financial sector. The project's cumulative total finance leveraged ratio is therefore 1:6 (GCF – total leverage).

B. PROJECT INFORMATION

B.1. Climate rationale and context

8. After the collapse of the economic system of the Soviet period, Georgia's GHG emissions decreased rapidly and reached their lowest point in 1995 (8,799 Gg CO₂eq). Since 1995, at a time of economic recovery, emissions started to increase and have doubled by 2013 (16,679 Gg in CO₂eq), but still remained at 35% of 1990 emissions⁵. **Land use, land-use change and forestry (LULUCF) is one of the most significant sectors in Georgia's GHG emission profile.** Georgia's forests, covering approximately 40% of the total territory, play a pivotal role in regulating net GHG emissions of Georgia removing an average of ~5,400 Gg CO₂eq annually from 2010-2013, i.e. one-third of the national emissions. The importance of forest resources and their sustainable management is highlighted in the country's highest climate level policies: **Georgia's Nationally Determined Contribution (NDC)** singled out forests as the key sector for national climate actions and the only one with quantified commitments to scale-up sustainable forest management (SFM) on the territory of 250,000 hectares by 2030 (conditional commitment).
9. Based on the current trend, GHG emissions are expected to continue rising until 2030: By approx. 70% to 28,690 Gg CO₂eq in 2030 in the BAU scenarios and by 33% even under the low-emission development scenario⁶. The sink potential is therefore critical in securing net removal of forecasted GHG emissions. However, **LULUCF sector absorption capacity is decreasing:** The projected annual absorption of CO₂ by the managed forests will decrease by five times between 1990 and 2030, and by 1.5 times between the years 2015 and 2030 (see Figure 1 below).⁷

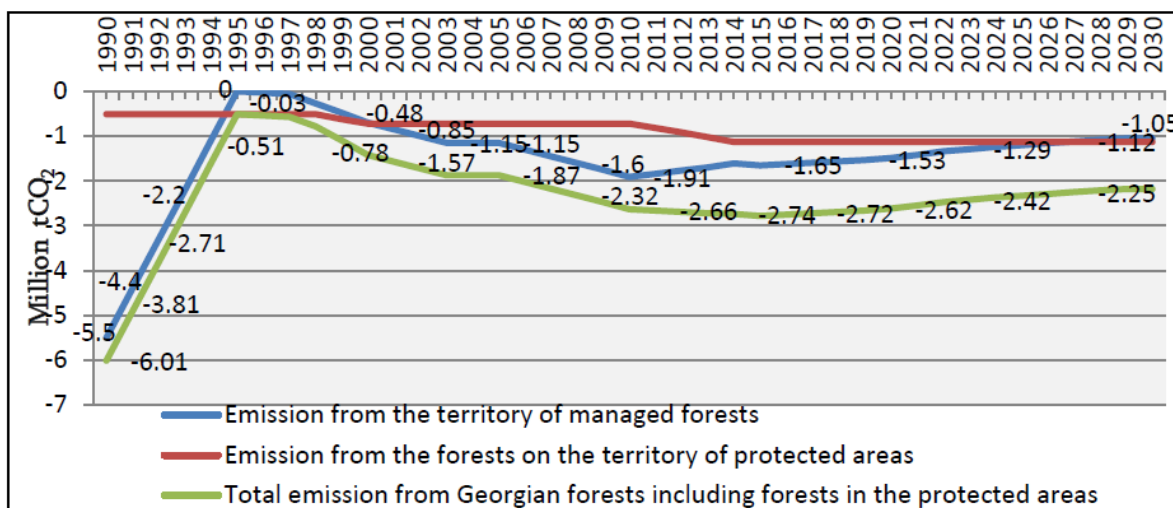


Figure 1: Trend in CO₂ absorption by Georgian forests from 1990-2030

10. Climate change also has negative but varying impacts on Georgia's forests: due to the diversity of agro-climatic zones in Georgia and distribution of tree varieties, it is challenging to draw uniform conclusions on forests' vulnerability. The main climate signal is continued trend of increased temperature, which has resulted in various impacts to the forest ecosystems, such as greater occurrence of pests and diseases in some areas, altitudinal

⁵ MoENRP 2016. First Biennial Update Report on Climate Change. Tbilisi, Georgia.

⁶ USAID 2017. Low Emission Development Strategy. Tbilisi, Georgia

⁷ Ibid.

shift in forest lines, increased fire hazard and occurrence of droughts. These observed impacts are already expected to intensify further exacerbating forest degradation⁸ and the loss in carbon absorption capacity.⁹

11. Forests mostly natural forests, covering around 40% of the land cover of Georgia are a critical resource for socio-economic development, especially for Georgia's rural population, in particular in terms of supplying them with timber and fuelwood necessary for everyday life. However, the unsustainable use of forest resources, primarily for **fuelwood – the main source of energy in rural areas** - has resulted in over-harvesting and **degradation** of Georgia's forest resources. Up to 90% of rural households (i.e. 37% of total population or up to 1.43 million people) rely partially or completely on fuel wood for space and domestic hot water heating, as well as for cooking.¹⁰ The problem is exacerbated by the fact that households use obsolete technologies, such as traditional stoves with a lifetime of two years and an efficiency of 35% or less. Fuelwood demand exceeds sustainable harvesting levels, considering reduced productivity of many forests in the country because of **extensive forest degradation**¹¹. As the result of ongoing degradation, the capacity of Georgian forests to provide goods and services has declined, most notably the carbon capturing potential.¹²
12. Without action, the degradation of Georgian forests will continue to prevail under business as usual practices.

Info Box. 1: Sustainable Forest Management definition in the Georgian context

The preamble to Georgia's New (draft) Forest Code states "Georgia's forests shall be managed based on the system established in accordance with the principles of sustainable development, which will provide improvement of quantitative and qualitative parameters of Georgia's forests, protection of biodiversity, rational use of forest's economic potential taking into consideration its ecological value, public involvement in forest management and access to forest resources."^[1] SFM is further defined in the New (draft) Forest Code as the *"management and use of forests and forest lands in such a way and rate that maintains its biodiversity, productivity, regeneration capacity, vitality and their potential so that at present and in the future relevant ecological, economic and social functions will be fulfilled on local, national and global levels and that does not cause damage to other ecosystems."*^[2] Sustainable Forest Management in the case of Georgia is specified in the National Criteria and Indicators (C&I). The National C&I detail the social, societal, economic and ecological (ecosystem-based) dimension of forest management in Georgia. In Georgian context, the term *ecosystem-based forest management* is used to describe the ecological dimension. This dimension is further specified in draft Management Criteria and Indicators.

There is a need to promote the transition to **sustainable forest management** nationally¹³, while simultaneously promoting the adoption of energy efficient technologies and alternative fuels to reduce the rural population's reliance on fuelwood. Such practices will reduce forest degradation and enhance forest carbon stocks, strengthening the sink potential of Georgia's forests to regulate net GHG emissions. It further generates numerous sustainable development benefits.

⁸ Georgia currently does not have an official definition of forest degradation. In Resolution 241 (Regulation of Forest Protection, Reforestation and Maintenance), a degraded stand is defined as a *"stand, where the main features have started to degrade, deteriorate"* (page 4). The new forest code does not include a definition of forest degradation.

For the purpose of the first NFI in Georgia forest degradation is assessed and has been defined as follows: Forest degradation status defines the level of deviation from an undisturbed natural or well managed development of the forest. It is determined on the basis of: Tree coverage (canopy), the tree species composition in relation to a natural potential to be expected on the site, the relationship between the main and accompanying tree species, damages of trees and surface, humus and soil. It should be noted that there are ongoing discussions in Georgia whether or not the official forest definition should consider canopy cover or density as both approaches have their own unique advantages and disadvantages. There is a preference to move towards density, as it is a more precise measuring unit that eliminates possible errors from assessing crown cover with spatial tools. This language and approach will be integrated into the forest code. In the latest version of the draft Forest Code, the term 'Forest' is defined as *"Areas covered with forest forming species and other territories within the forest contour that are an integral part of the forest ecosystem"*. The draft Forest Code further defines 'Area covered with forest forming species' as *"land plot with the width of minimum 10m and area of not less than 0.5 ha covered with one or several forest forming timber species, where the tree density per area is not less than 0.1"*. Thus, the updated definition will likely use the term 'density'. For the assessment of carbon associated with forest degradation, the FAO Ex-ante Carbon-balance Tool was utilized, where different forest degradation levels are assessed using the % of biomass lost and compared in the baseline and the project scenario. The different available states of degradation within EX-ACT correspond to an average level of degradation, also expressed in terms of percentage of degraded area. For more detailed information refer to Chapter 5.2 and 9.1.1 in the Feasibility Study.

⁹ See Section 3.1.2 of the Feasibility Study for detailed presentation of forest vulnerabilities in Georgia.

¹⁰ See Feasibility Study Chapter 5.1.3.1 for detailed presentation of the fuelwood consumption by households and assessments of the various studies.

¹¹ Please refer to Chapter 5.2 of the Feasibility Study for details.

¹² In 2014, the forest resources assessment of the Borjomi-Bakuriani Forest District showed the reduction in forest biomass by almost 20% over the past 15 years.

¹³ All forests in Georgia are state owned (except the church forests) and managed by the National Forestry Agency and other public forest management bodies, please also refer to Chapter 1.4 of the Feasibility Study.

13. The project will focus on **three target regions** that serve as a model for the implementation of SFM: Guria, Kakheti, and Mtskheta-Mtianeti (see Figure 2). All three target regions are included in the upcoming Fourth National Communication of the UNFCCC, with a noted focus on forest vulnerability assessments for these regions. In the target regions, eight out of 14 forest districts were selected, **totaling 270,807 ha of forest**, which will be subject to SFM planning and implementation within the frame of this project. The area represents a balance of forest types in Western and Eastern Georgia and account for 14% of Georgia's forests. The selection of target districts is a result of thorough process, including ranking of the districts against a set of established criteria, quantitative and qualitative considerations as well as stakeholder consultations.¹⁴ The map below depicts the project's target districts:

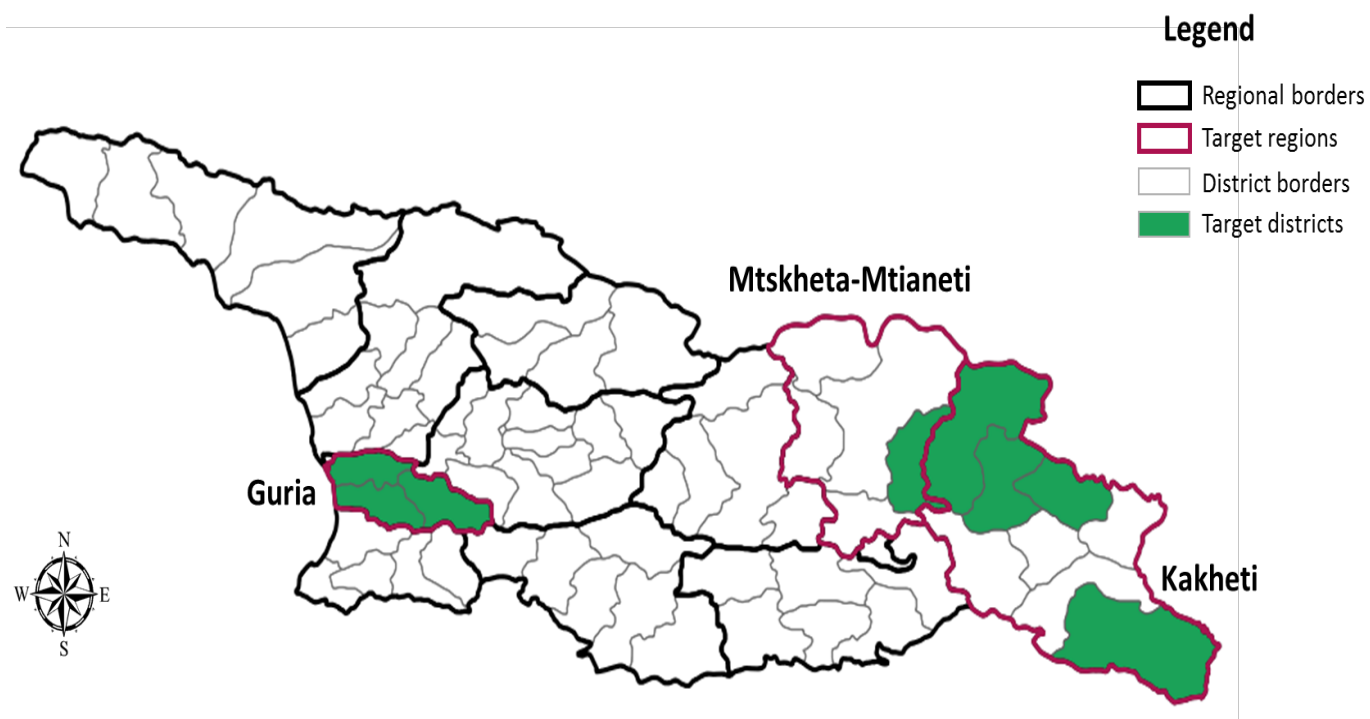


Figure 2: Map of target regions and districts

14. As a result of large-scale forest degradation, **carbon stocks** in the target regions has estimated to decline by 20.2% from 1998-2014 (historical reference period) and is expected to further **decline by 15.4% in 2040** if business as usual practices would continue (baseline scenario)¹⁵. As illustrated in Figure 3, this negative trend is largely caused by **massive fuelwood consumption by the local population**. The demand for fuelwood greatly exceeded the amount of legally harvested fuelwood (212,042 m³) resulting in the illegal harvesting of an additional 547,699 m³ or around 75% of total wood removals in the three project regions.

¹⁴ See Feasibility Study, Chapter 4.1.1.

¹⁵ See Feasibility Study, Chapter 5.1.1.2.

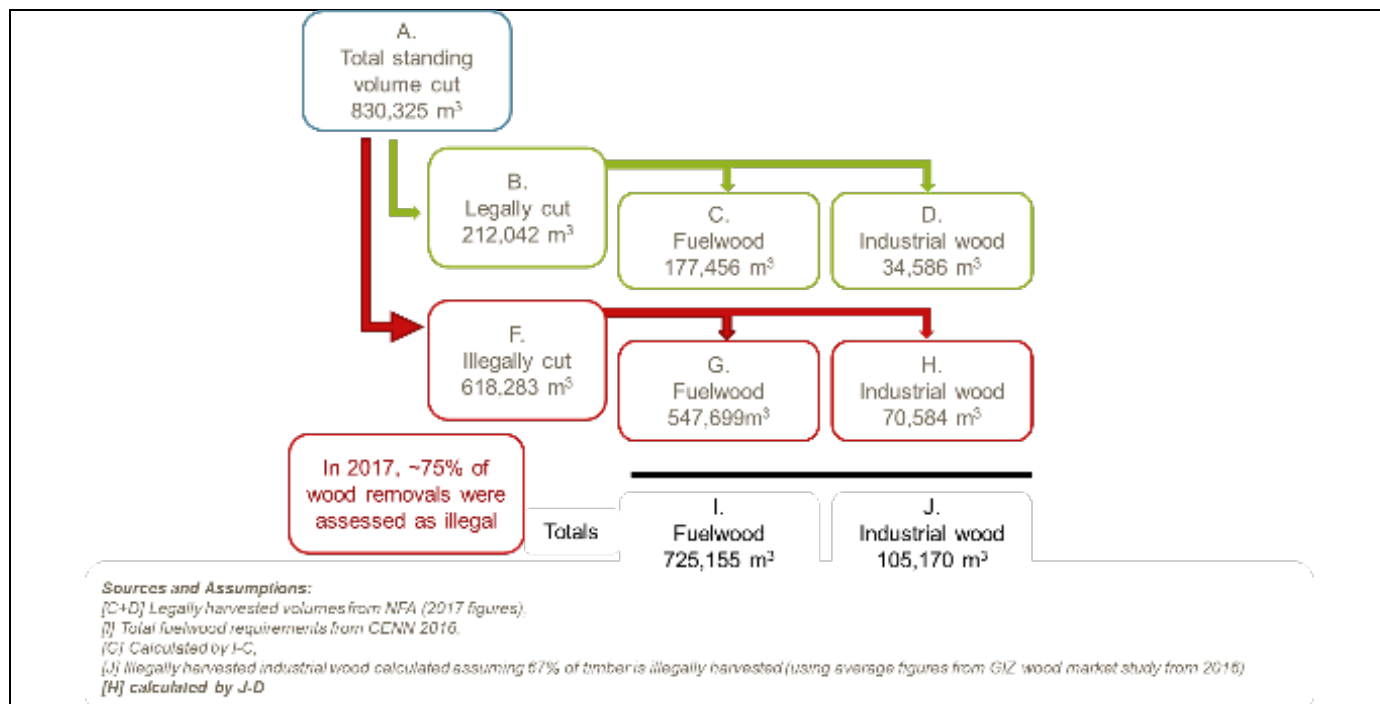


Figure 3: Legal and illegal wood removals in Kakheti, Mtskheta-Mtianeti and Guria in 2017

15. In order to address unsustainable forest management practices, the Government of Georgia has initiated an extensive **forest sector reform** back in 2013. The aims of the forest sector reform are (a) to change current approaches to forest use and management, (b) to develop a unified legal system of forest management and (c) to improve the institutional and technical capacities of forest management and supervision bodies. Key milestones of this ambitious reform process include:

- Adoption by the Georgian Parliament of the **National Forest Concept** in December 2013, which is aimed to establish “a system of sustainable forest management that will ensure the improvement of quantitative and qualitative characteristics of the Georgian forests, protection of biological diversity, effective use of the economic potential of forests taking into account their ecological values, public participation in forest management and fair distribution of derived benefits”.
- Launch of the **National Forest Program** (NFP) process in September 2013 as an instrument to involve of stakeholders in the decision-making processes in order to support the Forestry Sector Reform.
- The development of a **New Forest Code** based on the SFM principles, as stipulated in the National Forest Concept. The Code envisages a number of innovations that are expected to radically change existing practices in the forestry sector, such as: Introduction of forest information and monitoring system; reform and transformation of the National Forestry Agency (NFA): the new management model envisions a gradual transformation of the NFA to a multipurpose forest management body. In this role, the NFA will be authorized to manage forest and reinvest revenues from multiple uses into forest restoration, fire prevention, infrastructure, and other forest management activities; phasing out of all longer-term forest management concessions and the social wood programme¹⁶. Wood-related commercial activities in state forest will exclusively be implemented by forest management bodies.¹⁷

16. GIZ has been active in the Georgia’s forest sector since 2013 via the regional (South Caucasus) project **Integrated Biodiversity Management South Caucasus** (IBIS, ends in 11/2019; funded by BMZ and the

¹⁶ Georgia’s social wood programme was introduced in the 2000s to address energy poverty and economic crisis, ultimately providing the rural population with an affordable supply of fuelwood. Households register as timber users at the municipality level, and purchase fuelwood harvesting permits (hereby referred to as ‘social tickets’), from NFA that allow the recipients of social tickets to harvest fuelwood in an area allocated by the NFA regional office. Allocation of forest areas for social felling is done without a thorough analysis of the optimal volume of yearly extractable timber at sustainable level, due to the inexistence of up-to-date forest information and lack of FMPs. The State Audit Report (2016b) agreed stating that it is difficult to estimate with confidence both the impact of social felling on the forests and its negative impacts on the environment as the MoEPA and forest management bodies allocate forest resources for the social felling activities without having accurate and exhaustive information necessary for the sustainable management of forests (State Audit Office 2016a). However, as described in Chapter 5.1.2 of the Feasibility Study, consumption of fuelwood is 4-8 times higher than legal allocation – resulting in substantial illegality within fuelwood supply chains (State Audit Office 2016a).

¹⁷ The New (Draft) Forest Code sets out the organizational arrangements, rights and responsibilities of forest management bodies in Georgia, including the state forest management body, as well as the management bodies of autonomous republics and self-governments.

Austrian Development Agency, ADA), and its successor programme **ECOserve** (started in 01/2019). It supported the development of the Forest Sector Reform Strategy based on the principles of Sustainable Forest Management, new forest code and other policy and regulatory provisions enabling transition to SFM. IBIS has initiated the elaboration of national C&I for SFM including a detailed set of management level C&I for ecosystem-based forest management (ecological dimension of SFM), the National Forest Programme (NFP) process, training of forest work specialists at vocational training centers, the improvement of university forestry education, the on-going process of National Forest Inventory, the improvement of forest management inventories and forest management planning and pilots the implementation of SFM in Akhmeta municipality (Kakheti region). These GIZ-supported activities lay an important foundation for the proposed GCF project and provide an opportunity to scale-up SFM in line with the national climate commitments of the NDC. Several other international initiatives and institutions (such as EU Twinning and ADA) are supporting the Government of Georgia in the forestry sector and on promoting sustainability and climate change agenda more broadly. The design of the GCF project builds upon the lessons learned from other donor projects and experiences in the country and seeks to address and complement them.¹⁸

B.2. Theory of change

17. The Project will enable the Government of Georgia, in a socially compatible manner, to implement its **transformational forest sector reform agenda** to put the entire nation's forests under the SFM framework. As a starting point for establishing a nation-wide system and in line with NDC 2030 target (250,000 ha), it will cover 270,807 hectares of NFA-managed forests with SFM. The transformation process will entail the following qualitative and quantitative changes in the sector:
18. First of all, a new approach to forest management based on SFM principles and integration of climate change adaptation in forest sector governing framework will lead to **improvement of quantitative and qualitative characteristics of the forests and gradual build-up of carbon stock**, such as a reduction of forest degradation in the range of 0.8t biomass per ha and year (1.3 tCO₂/ha/year) and increase in forest biomass by 1.7 t biomass per ha and year (2.9 tCO₂/ha/year) as illustrated in Figure 4 below.

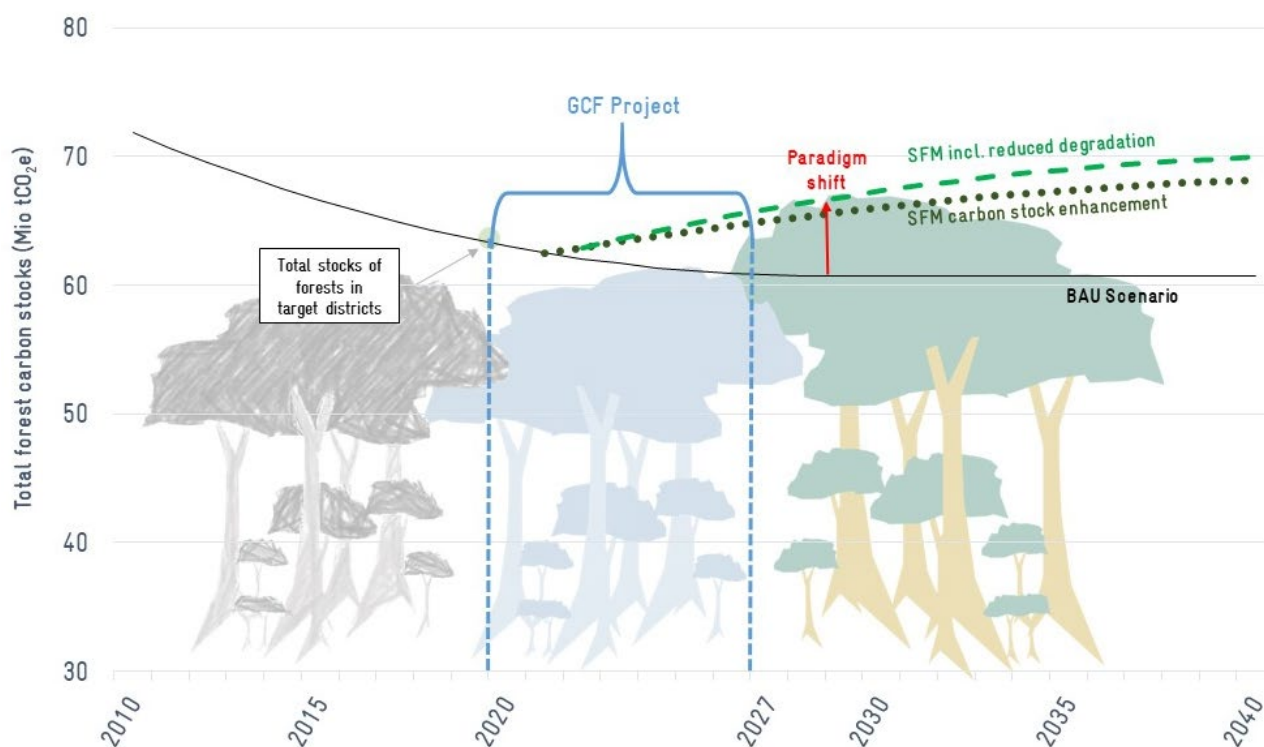


Figure 4: Carbon stocks in the forests

19. Second, enhanced forest supervision and introduction of new fuelwood provision mechanism by NFA will eliminate illegal logging currently estimated at 618,283 m³ (85% of the residential fuelwood demand), while at the same time lead to five-fold increase in the availability of the sustainably harvested biomass in the 8 target districts from around 50,489 m³¹⁹ up to 285,575 m³ by the project end.

¹⁸ Please refer to Chapter 5.4 of the Feasibility Study for further details about past and on-going projects.

¹⁹ Estimated volume of sustainably harvested fuelwood which NFA would be able to supply at current level of its operational capacities.

20. In parallel, in order to address main driver of Georgia's forest degradation, the unsustainable fuelwood consumption by rural population, the Project will promote market development for energy efficient (EE) and alternative fuels (AF), which is currently at a very nascent stage. There is only a limited number of local manufacturers or technology suppliers (e.g. 15 producers of EE stoves and 3 briquette manufacturers), the quality of their products and services are largely limited and so does the capacity to improve and expand their offer to the market, and the total annual sales volume for EE-AF products does not exceed 1 million EUR.
21. The project will adopt a “push and pull” approach to stimulate development of EE-AF market. It will push the supply chain to prepare the sector for expedited growth by providing EE-AF producers with access to finance and advisory support for business development and product certification. It will also pull the demand to jump-start the market via consumer awareness raising, provision of financial incentive and dedicated financing products in partnership with financial institutions. The volume of EE-AF production and sales will increase manifold to reach 30,730 EE stoves and 28,600 tonnes of AF or 15 million EUR/year (Figure 5), market penetration of EE stoves in target region will be at least 30% by the project end.

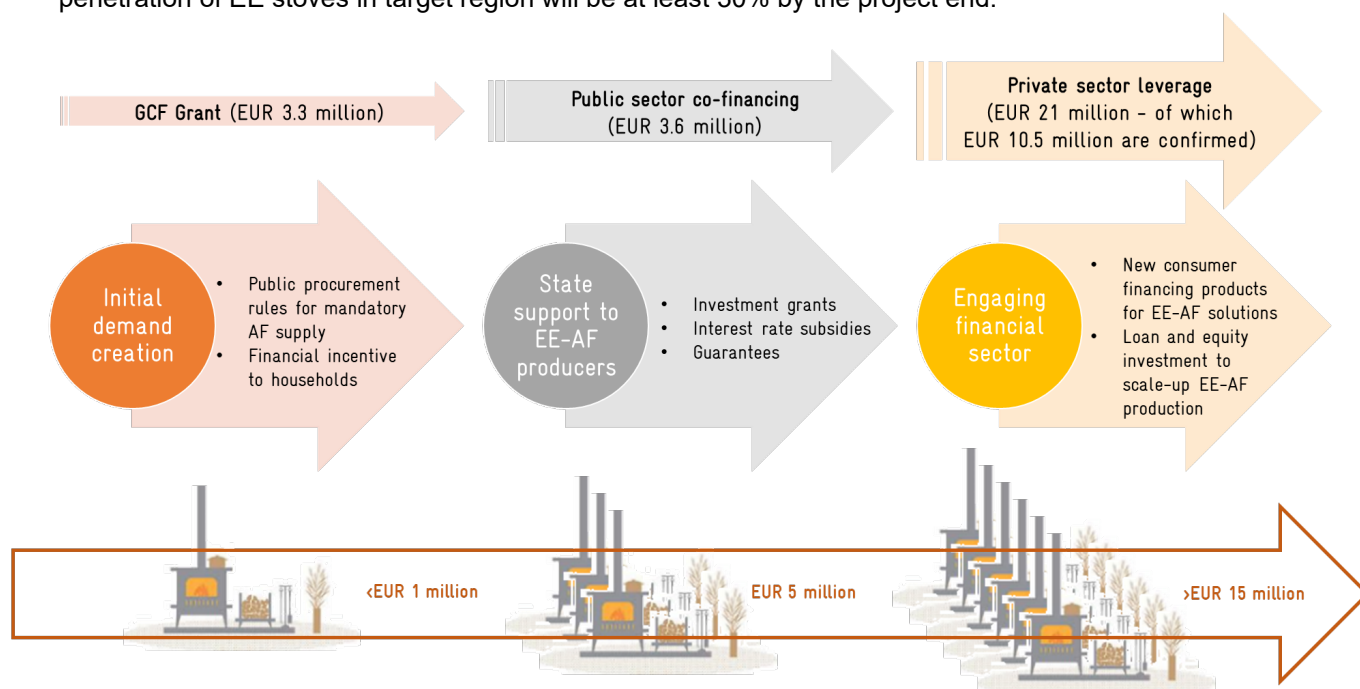


Figure 5: Market development for EE stoves

22. As a result of EE-AF market growth, **fuelwood consumption in the three target regions will reduce** by 50%: from 725,000 m³ down to 366,000 m³. Taken together, SFM and EE-AF adoption will ensure that supply of sustainably harvested biomass in the target regions can meet the demand in year 7 of implementation Figure 6).

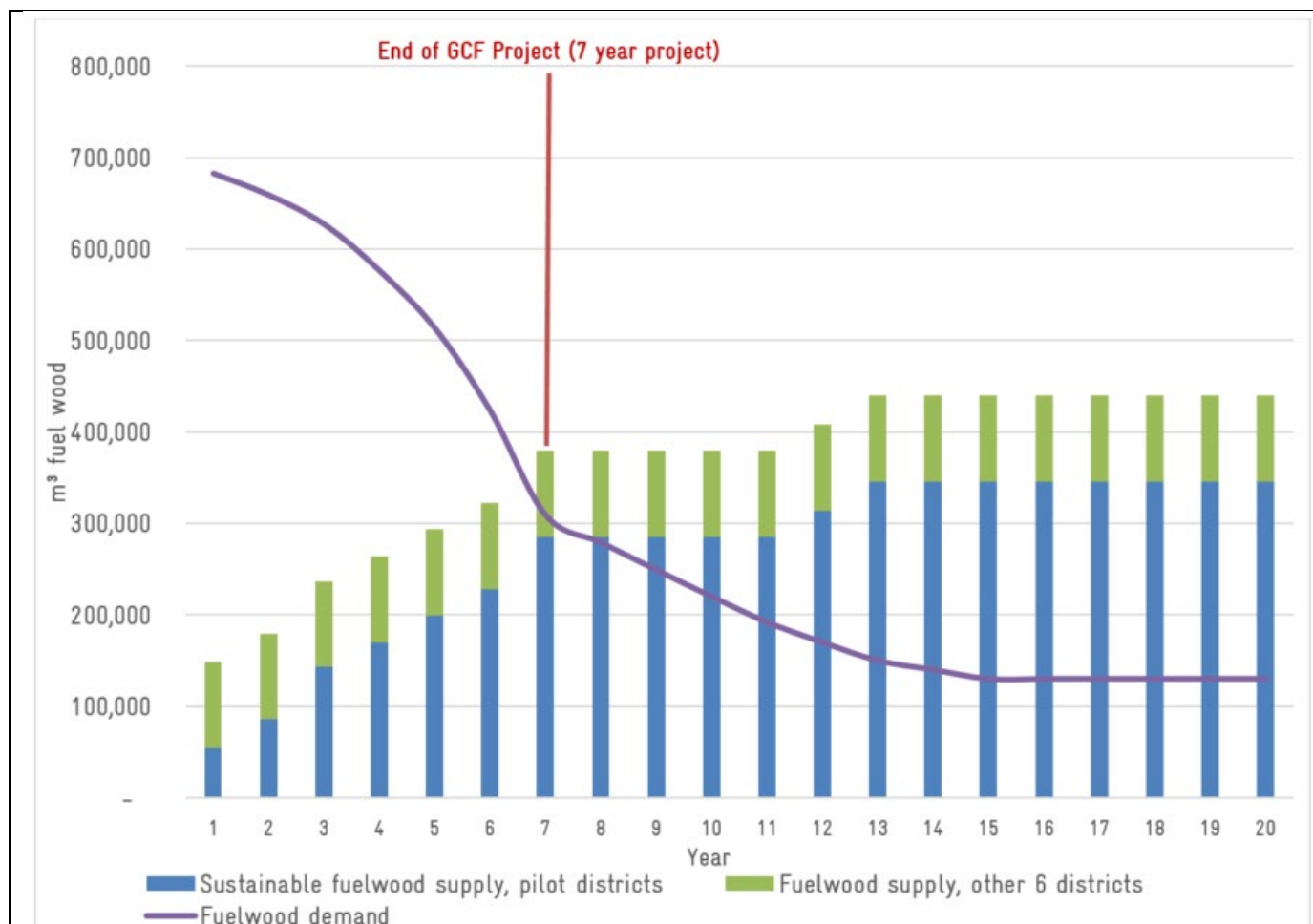


Figure 6: Overview of fuelwood demand and supply from sustainably harvested forests in the three project regions (Guria, Mtskheta-Mtianeti, and Kakheti)

Source: Fuelwood supply based on SFM scenario developed²⁰ for project development; Fuelwood demand baseline in year 1 from CENN Household Study (2016)

23. To sustain results in target regions, as well as to enable nation-wide SFM roll out, the project will introduce a number of critical policy changes by supporting implementation of the new Forest Code and EE-AF policy framework. This will entail full internalization of SFM principles in the regulatory framework of forest sector and operationalization of cross-sector coordination mechanism. It will also gradually phase-out inefficient stoves from the market and create strong demand for EE and AF products by introducing minimum energy efficiency and environmental performance standards for domestic heating appliances, as well as energy efficient public procurement policies.
24. To support a socially just implementation of the forest sector reform in the target regions, the project a) strengthens municipal authorities' and citizens' technical and human capacities to participate in sustainable forest management and b) it establishes forest related value chains as well as access to knowledge and education opportunities for local communities to facilitate employment and income generation. These alternative livelihood opportunities and participation measures mitigate potential adverse social effects through the new management of forest products and reduce potential conflicts between state institutions (NFA, DES and MoEPA) and the local population in the implementation of the provisions of the new forest code.
25. The project will follow a two-pronged approach to address underlying root cause of forest degradation, i.e. inadequate forest management and high demand for fuelwood (see Theory of Change - Figure 7): with Component 1 aiming at operationalizing and scaling-up implementation of SFM, while Component 2 aiming at promoting development of EE-AF market, specifically for rural areas. A socially just transition to the new forest management approach in Component 1 and 2 is facilitated by Component 3: Strengthened municipal institutions

²⁰ Refer to Feasibility Study Chapter 5.2.3.4.3 for more detailed information on the SFM scenario/ model developed to inform project design.

and intensified citizens' participation in forest management, combined with diversified livelihood opportunities through the generation of employment and income.

26. The following five key results will be achieved, with Results 1-3 and 5 focusing on target regions and Result 4 - on scaling-up results from the target region nation-wide:
- Result 1: Reduced forest degradation and enhanced timber/carbon stocks
 - Result 2: Illegal logging eliminated and legal and sustainable fuelwood supply established
 - Result 3: EE-AF market reached critical share and self-sustaining level of growth
 - Result 4: Policy and regulatory framework for SFM and EE-AF market created enabling environment to continued SFM roll-out and EE-AF market development post-project
 - Result 5: Diversified livelihood opportunities and strengthened local self-governance in forest management to reduce pressure on forests.
27. Tackling both, the underlying driver of the degradation by making fuelwood use more efficient and by improving the management of the undervalued forest resource, has the potential for a paradigm shift if social, ecological and economic criteria are integrated in the new management regime. This will translate in a direct climate impact: the amount of CO₂eq remaining sequestered in standing forest will increase, thereby reducing GHG emissions from forest degradation and enhancing carbon stock by at least 5.30 million tCO₂eq by the project end and 16.14 million tCO₂eq over a 20-year project lifetime.

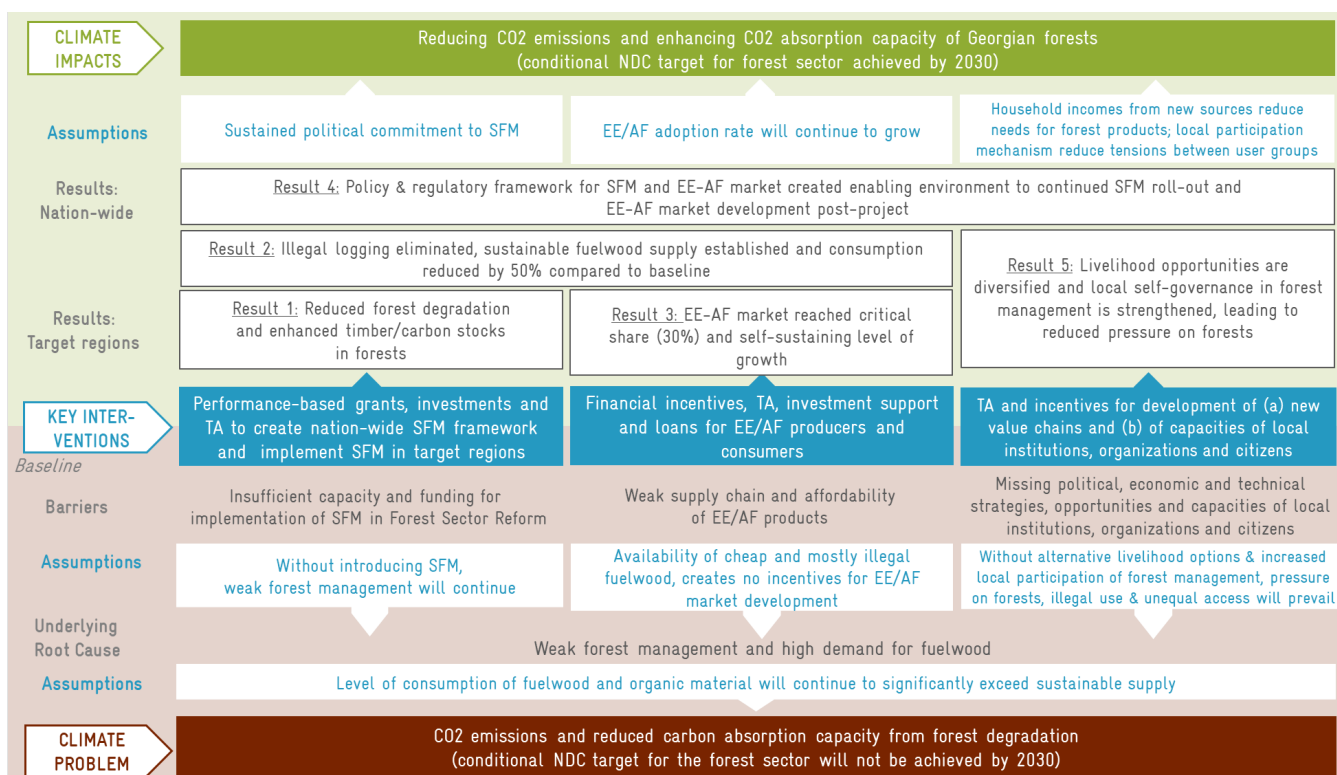


Figure 7: Theory of Change

Project Financing Framework: Georgia Forest and Rural Energy Investment Facility (GFREIF)

28. As an overarching financing framework for GCF project implementation, the **Georgia Forest and Rural Energy Investment Facility (GFREIF)** will be formed to coordinate and scale-up public and private investment in low-carbon transformation of Georgia's forestry and rural energy sectors (Figure 8). In line with proposed two-pronged approach, the Facility will consist of two funding windows²¹.
29. Under the **GFREIF Public Investment Window**, the Facility will establish a **sustainable financial mechanism** to channel public investment in Sustainable Forest Management (SFM) by creating a viable business model for sustainable biomass supply to consumers and a revolving financing scheme to enable accumulation of NFA

²¹ Please see table 3 in Section B.3 for more information on funding windows and respective project activities.

revenues and their re-investment to scale-up SFM across Georgia. A **performance-based GCF investment grant** will be used to kick-start and initiate SFM implementation in three target regions of Georgia, and, via technical assistance, to build the capacity of NFA to roll-out SFM to other forest districts across the country. In addition, financial support is granted to NFA for the construction of Business Service Yards for the processing and sales of timber and fuelwood. The mechanism will become self-sustainable from year 15 of reformed NFA operations. Sustainability of the mechanism will be ensured by the NFA financial independence from the state budget and earmarking its revenues for re-investment in SFM implementation across the country (see financial analysis and projections for NFA operations in Annex 3b of the FP and FP section B.6). Under the Public Investment Window, **additional grant support** for the procurement of equipment to improve the **forest supervision capacities** of the Department of Environmental Supervision (DES) is provided.

30. The **GFREIF Private Investment Window** will facilitate private investment in the forestry and rural energy sector. It will do so by providing a range of de-risking instruments in the form of technical assistance (TA), grants, interest rate subsidies and guarantees to be deployed alongside market loans by the Georgian commercial banks. The following private investments will be supported and de-risked: a) investment in domestic EE-AF production and supply chain; b) Providing private forestry service companies with investment capital to carry out SFM works; and c) Investment by households and other fuelwood users in EE-AF solutions. GCF grant resources, along with BMZ co-financing in the form of TA, will be used to design and operate de-risking instruments in a more targeted, efficient and result-oriented manner (e.g. only producers of appliances which meet EU Eco-design standards will be eligible to be supported). De-risking instruments such as interest rate subsidies and guarantees will be co-financed by the Government and financial partners. To ensure sustainability of the **GFREIF Private Investment Window** SIDA will provide co-financing to mainstream de-risking instruments in the ARDA core activities, along with capacity building for ARDA and its partner banks to implement and expand the scope of support to cover other EE-AF solutions for rural areas. A limited amount of GCF funds (less than 10%) will be used to provide financial incentives via a result-based grant voucher scheme to households to jump-start demand for EE stoves and enable rapid growth and capitalization of this new market segment (See section B.5.2 for justification).

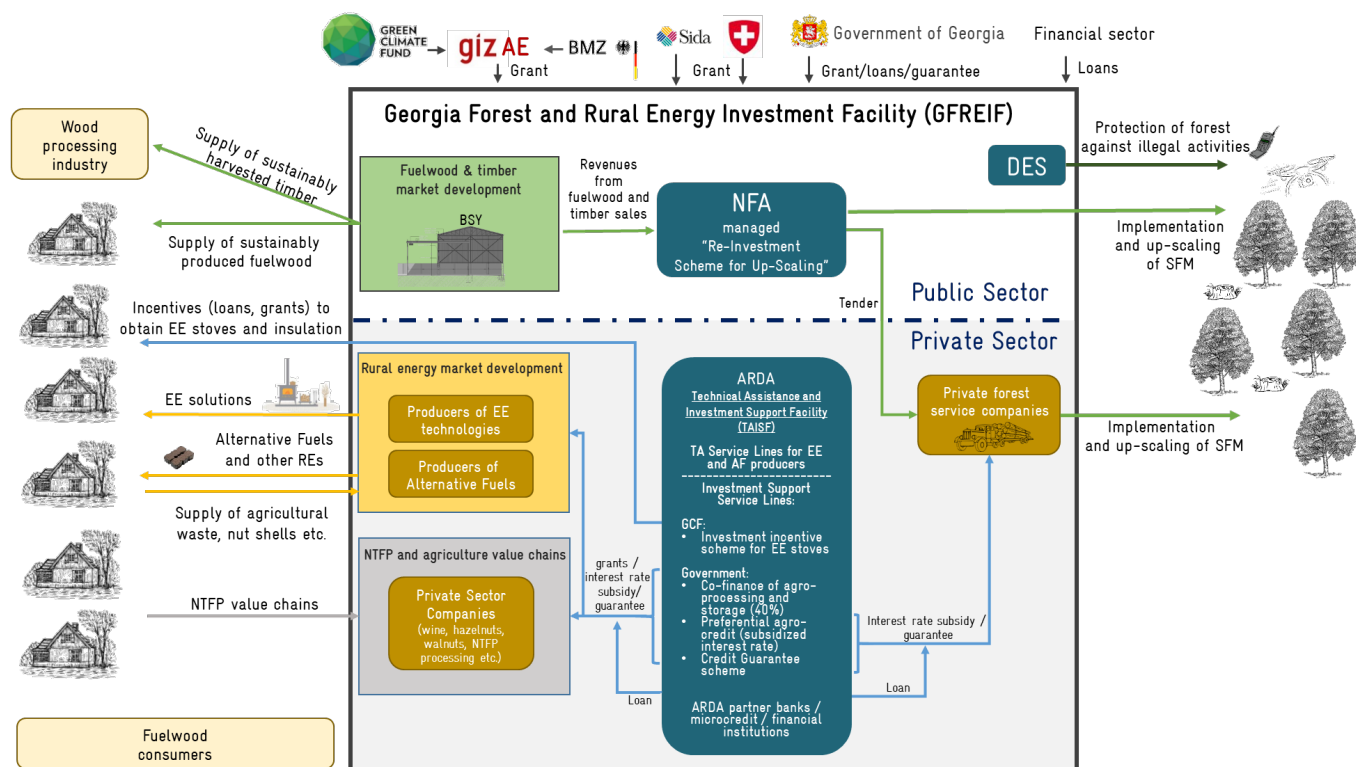


Figure 8: Georgia Forest and Rural Energy Investment Facility (larger version available in Annex 22c)

Component 1: Sustainable Forest Management (SFM)

31. **Component 1 “Sustainable Forest Management”** carries a dual objective and works at two level. First it supports NFA to implement SFM in line with NDC target in three target regions, while in parallel it works with NFA, other forest management bodies, forest supervision and MoEPA to create enabling environment, capacities and sustainable financing mechanism for SFM nation-wide. Implementation of the Component 1 will

be primarily enabled through the GFREIF Public Investment Window and partially through the GFREIF Private Investment Window to stimulate involvement of private forestry service companies in SFM works.

32. Component 1 is aimed at addressing the following barriers to implementation of SFM:²²

33. **Limited capacities, practical skills and experience of forest sector institutions:**

- **Capacities for SFM:** NFA as the main forest management body is heavily understaffed. Substantial efforts are needed to train NFA workforce (existing and new hires) on SFM, where 90 full-time forest work specialists and 428 seasonal employees are required to implement SFM in the target districts. (compared to the existing 3 chief forest officers, 3 forest operation managers, and 33 forest work specialists in the three project regions – i.e. covering 14 districts) In addition, NFA has either no or outdated/inadequate equipment for implementation of SFM measures. Private sector service companies in the forest sector, supposed to implement 70% of the SFM measures under the New Forest Concept, face the same challenge, where 270 jobs are expected to be generated for private sector forest work specialists.²³
- **Capacities for forest supervision:** The supervision of natural resources is under the auspices of the Department of Environmental Supervision (DES), which is responsible for controlling the transportation and trade of forest products outside of the forests. The protection inside the forests has recently been mandated to DES as well but is not implemented yet. The new mandate requires the hiring of 270 staff for the new forest patrolling and inspection directorates. These directorates presently are lacking staff, adequate and modern equipment as well as know-how on standard operating procedures and forest patrolling.
- **Capacities for sustainable fuelwood provision:** The forest sector reform envisages a new mechanism for the sustainable provision of fuelwood and timber through NFA-operated business service yards (BSYs). While a draft concept and business model exists, standard operating procedures, detailed business plans and staff with adequate know-how are missing. Construction of the first BSY has only begun in 2019 with the support of GIZ but covers only the simple physical infrastructure. Nationwide, 54 BSYs need to be constructed, in the project regions alone, at least 15 yards are needed, which require substantial investment in construction and equipment.

34. **Inadequate financing for the forest sector:** Since gaining independence from the Soviet Union, Georgia's forestry sector has suffered from declining budgets and salaries for forest management, severely undermining its capacity to properly implement SFM. Existing Government budgets, and NFA revenues are insufficient. Years of under-investment in the sector have greatly limited the adoption of SFM: While official statistics in Georgia are not available, experts have estimated that current forest road infrastructure is equivalent to 3m/ha of forest (compared to 10-30m/ha in Central and Eastern European countries),²⁴ and skidding road infrastructure 9m/ha (where a target of ca. 40-50 m/ha is more suitable for SFM in an area with primarily mountainous terrain, where skidding roads secure the application of low impact logging strategies). In the three project regions, only 12.1 km of new forest roads were constructed, and 105.2km of roads were rehabilitated during 2015-2017²⁵. From 2013 to 2017 for example, only 3.4 ha were reforested and 18.2ha were supported in natural regeneration in the three target regions²⁶. Existing Government budgets, and NFA revenues are insufficient to cover the investment needs for forest infrastructure and implementation of concrete SFM measures²⁷. See also Section B.5 of the FP for further details.

35. **Policy and regulatory gaps: The state of the regulatory framework for Georgian forestry is inadequate** for the application of sustainable forest management practices. The new (draft) forest code will establish the legal framework for SFM, however, secondary forest legislation will have to be developed to align with SFM principles.²⁸ Examples of policy and regulatory gaps are related to the lack of regulations/requirements for low-impact forest infrastructure (e.g. forest access roads and skidding trails), the lack of a comprehensive prescription for best practice low-impact cutting operations, insufficient guidance to support the identification and transformation of forests that do not represent natural forest types to close to nature forests, among others²⁹.

²² See Feasibility Study Chapters 5.1, 5.2 and 6.2 for more detailed information on the barriers for SFM.

²³ It is estimated that the implementation of SFM requires additional 250 private sector workers.

²⁴ See Feasibility Study Chapter 5.2.3.4.3 for additional benchmarking information, including information from the European Forest Information Scenario Model, among other sources.

²⁵ NFA, unpublished figures.

²⁶ NFA, unpublished figures.

²⁷ See Feasibility Study Chapter 5.2.4 on the analysis of the past, current and projected budget situation in the forest sector.

²⁸ MoENRP 2014. National Biodiversity Strategy and Action Plan of Georgia 2014-2020. Tbilisi, Georgia; MoENRP and NFA, Ministry of Environment and Natural Resources Protection and the National Forestry Agency. 2014. National Forest Concept for Georgia. Tbilisi, Georgia.

²⁹ See Feasibility Study, Chapter 5.1.3.3.2.

36. In addition, the regulatory system of fuelwood provision currently in use is flawed and contributes to extensive forest degradation. Allocation of forest areas for social felling is done without a thorough analysis of the optimal volume of yearly extractable timber at sustainable level. Thus, annual allowable cuts are not based on the actual forest condition and status. Under the “**social wood programme**”, logging is often carried out by ‘intermediaries’, who are unregistered yet purchase social tickets from local people. Thus, their identification, recording of revenues and payment of taxes is not possible under this system. Given the high degree of informality it is extremely difficult to determine exact harvested fuelwood volumes, and ultimately to differentiate between legally and illegally-sourced fuelwood.³⁰ The cost of social tickets is highly subsidized and does not reflect the true economic and environmental value of the natural resources resulting in major losses to the sector. One study noted that the programme “constitutes a substantial financial loss for forestry and the state”, with state losses of at least GEL 30 million (over EUR 10 million) per year due to the program. Furthermore, some of the trees marked for fuelwood could be sold for higher prices as industrial timber.³¹ Harvesting practices are often carried out by unqualified persons and often lead to environmental degradation, and even to accidents and injuries due to the lack of suitable equipment (incl. both harvesting equipment and safety equipment).³²
37. **Incomplete, unreliable and outdated data on forest inventories:** One challenge for forest management in Georgia in general is the lack of up-to-date forest inventories. Forest inventories in Georgia are outdated, with many conducted 20-30 years ago, resulting in patchy information on the status and quality of forests in Georgia.³³ Specifically, in majority of the target districts, the date of the last inventory is within the range of 1987 to 1995.³⁴ In the absence of up-to-date inventories and forest management plans, majority of forest districts have been managed by short-term (often ad hoc) forest utilization plans and in the framework of the social wood programme, often independent of forest stand conditions. Such practices put forests at risk of unsustainable management, particularly unsustainable harvesting levels that are not aligned with forest conditions and growth rates.
38. **The lack of a comprehensive forest information and monitoring system limits sustainable planning, management and monitoring.** A system is needed that includes a forest resource database, information on land registration, forest inventories, forest site and forest function mapping, utilization rights, forest operations (including an activity registry, and an electronic system of timber resources management), and forest incidence mapping. The lack of such a system prevents transparent oversight and traceability in the sector, enabling illegality. It further limits national and international monitoring and reporting on the LULUCF sector, including the robustness and accuracy of emissions reporting, and NDC monitoring.

Component 2: Market development for energy efficiency and alternative fuels

39. **Component 2 “Market development for energy efficiency and alternative fuels”** will tackle the main driver of forest degradation, unsustainable fuelwood consumption, by promoting the development of a market for energy efficient (EE) technologies and alternative low-carbon fuels (AFs). The primary focus will be on the population of the target regions to be first affected by the Forest Sector reform and therefore the first to demand EE-AF products. At the same time, to ensure sustainability and scaling-up EE-AF market, the project will at the national level support policy, regulatory, and investment framework for EE-AF sector in partnership with EE-AF suppliers, financial sector and the Government (see Figure 10 in the next section for illustration of the national and regional scope of activities). GCF funds and co-financing for Component 2 will be provided via the GFREIF Private Investment Window as described earlier and illustrated in the Figure 8.
40. Component 2 is designed to address demand-side, supply-side and policy barriers to EE-AF market, specifically:
41. **Under-developed supply chain for EE technologies and alternative fuels:** So far, there are only 15 producers of efficient stoves and 3 producers of AF on the market, with limited annual production volumes (500 stoves, 3,500 tons of briquettes). Producers are restricted in their ability to raise capital in order to invest in building up new or expansion of existing production and distribution capacities, as well as in supply of raw

³⁰ Ibid.

³¹ Garforth, M., Nilsson, S., Torchinava, P. 2016. Wood market study. Integrated Biodiversity Management, South Caucasus (IBiS) Program. GIZ, Tbilisi, Georgia. The current practice of timber harvesting under the social ticket system does not differentiate between high- and low-quality timber, where high quality/ value timber is used fuelwood – resulting in economic losses and the inefficient use of natural resources.

³² NFA. 2019. Comparative analysis of activities carried out by National Forestry Agency 2015-2018. [Unpublished presentation]. Tbilisi, Georgia.

³³ Garforth et al. 2016.

³⁴ Information provided by NFA, Forest Fund Single Inventory Data Indicators [unpublished].

materials (in case of AF). Quality issues and absence of testing, standardization and certification services further hinder the market upscaling. Entrepreneurs involved in AF supply chain are lacking detailed information on availability and territorial distribution of raw materials, as well as expertise to conduct such resource assessment and develop feasible business models.

42. **Affordability of EE-AFs and access to finance, especially for poor households:** High up-front costs of energy efficient technologies is a major barrier to their wide-spread adoption by households, which is being further exacerbated by low level of incomes in rural Georgia and households' restricted access to bank financing.
43. Prices for EE technologies vary significantly, but even the cheapest alternative is hardly affordable for an average rural household. Depending on the source and quality, the price of an EE stove ranges between GEL 300-500³⁵ for a locally produced non-certified stove and GEL 800-1500 for an imported EU-certified appliance. Only 10% of rural households earn more than GEL 800 per month and another 68% of households have monthly earnings below GEL 400. In other words, for the vast majority of Georgian rural households, their monthly disposal income is not sufficient to cover even the cost of a basic EE stove, let alone invest in a more expensive and efficient technologies, such as thermal insulation or central heating system.
44. The situation is being exacerbated by households' restricted access to bank financing. In the last several years, household debt in Georgia has been growing rapidly and the value of overdue loans is high. The National Bank of Georgia therefore has enacted as of January 1, 2019 tight regulations, which significantly restrict banks' abilities to provide individual unsecured consumer loans without detailed analysis of customer's solvency. In particular, banks and micro-finance institutions (MFIs) have to calculate the loan amount based on the income of the potential borrower, so that the borrower should not take the amount more than its financial capabilities allow. For example, anyone earning up to GEL 1,000 per month will be able to receive a loan in the amount at which monthly loan payments would not exceed 20% of income.³⁶
45. **Low consumer awareness** about technologies and fuel alternatives and reduction of fuel wood consumption: Awareness about energy efficiency and sustainable/low-carbon alternative fuels is very low among rural Georgian households: Only 20% of the local population are aware about energy efficiency while the rest of rural residents are either not sure or not aware at all.³⁷ The population is also concerned about availability and potential disruption and instability of AF supply to rural areas.
46. **Absence of enabling policy and regulatory framework:** Slow progress and insufficient capacities within the Government to effectively transpose and implement relevant provisions of the EU energy acquis in the areas of energy efficiency and alternative fuels, such as: regulations, which establish minimum allowed level of energy efficiency and environmental performance for domestic appliances, in particular heat stoves; roadmap and capacities for introduction of EE labelling for heat stoves; support and promotion scheme for renewable heat supply, or energy efficient public procurement policies.

Component 3: Livelihood opportunities and local self-governance in forest management

47. The focus of Component 3 will be on municipal institutions, policies and the population in the three target regions. These communities will be among the first to be affected by the implementation of the new forest management regime in the country. To ensure a just transition to the new forest management approach via transparent and active participation of local communities in forest management and the diversification of livelihood options the project will address notably the following barriers:
48. **Absence of strategies, tools, instruments and capacities for municipal authorities to participate in sustainable forest management and conservation:** The new Forest Code (article 20 "Competence of a Municipality" and article 21 "Forest Management Body") foresees in the medium- to long-term the optional management of forests by municipalities. However, this concept is at a very nascent stage in Georgia. For the time being, most municipalities lack a strategic approach, practical instruments and tools, economic and technical planning, awareness and human skills and capacities to actively engage in sustainable forest management as stipulated in the new Forest Code.

³⁵ 1 EUR = ca. 3 Georgian Lari (GEL)

³⁶ <https://commerciant.ge/en/post/loans-and-real-estate-will-fall-in-price-after-the-central-banks-regulations-come-into-effect>

³⁷ Deloitte Consulting LLP 2014. Household Energy End-Use Survey. Final Report under USAID Hydro Power and Energy Planning Project.

49. **Insufficient participation and representation of local stakeholders in forest management related decision-making:** To date, participation in e.g. FMP-development is implemented on a very basic level without providing sufficient opportunities for local stakeholders to participate in decision-making or to benefit from forest management plan implementation. The Forest Sector Reform foresees intensive stakeholder engagement, when planning and implementing SFM. However, existing mechanisms or instruments are insufficient to materialize this approach nor is an awareness or capacities in local communities available to participate in potential mechanisms.
50. **Lack of qualified personnel and insufficient education opportunities in the forest sector:** The implementation of the Forest Sector Reform will require in future a large number of new forest workers to be employed either in NFA or in private sector companies. Moreover, the introduction of forest-related value-chains will further require organizational and business skills related to production, processing and marketing of forest products. Vocational training colleges lack capacities, equipment, curricula and educated teaching staff to expand their already existing program. Moreover, forest related education programmes at universities need improvement in terms of curricula strengthening, expansion of research activities and building up networks with international research and university institutes. International partnerships with qualified centers of knowledge would allow to acquire efficiently necessary expertise and solutions.
51. **Under-utilisation of economic opportunities in forest-related value chains:** Forest-related value chains such as timber value chain, Non-Timber-Forest Products (NTFP) value chains and eco-tourism opportunities offer potential income sources for local communities. The economic, but ecological sustainable utilization of these value chains is below the potential. Reasons include lack of data, sector analyses for the identification of economic opportunities, lack of business plans and strategies, missing human, technical and economic capacities and capital.
52. The project **Components 1,2 and 3 are inter-dependent and complementary** and reinforce the outcomes of each other, as illustrated in Figure 9. On one side, addressing the root cause of forest degradation, i.e. unsustainable fuelwood consumption, is made possible by providing affordable and more efficient alternatives to current stoves thus reducing by at least 50% the demand for fuelwood from households and consequently the pressure on forest. On the other side, introduction and strict enforcement of SFM practices along with new business model for supply of sustainably harvested and quality fuelwood provides strong impetus for the growth of EE-AF market because the abundant supply of illegally sourced fuel will gradually phase out. Component 3 ensures that the gradual transition to the new forest management system is socially just and provides employment and income opportunities for forest adjoining communities.

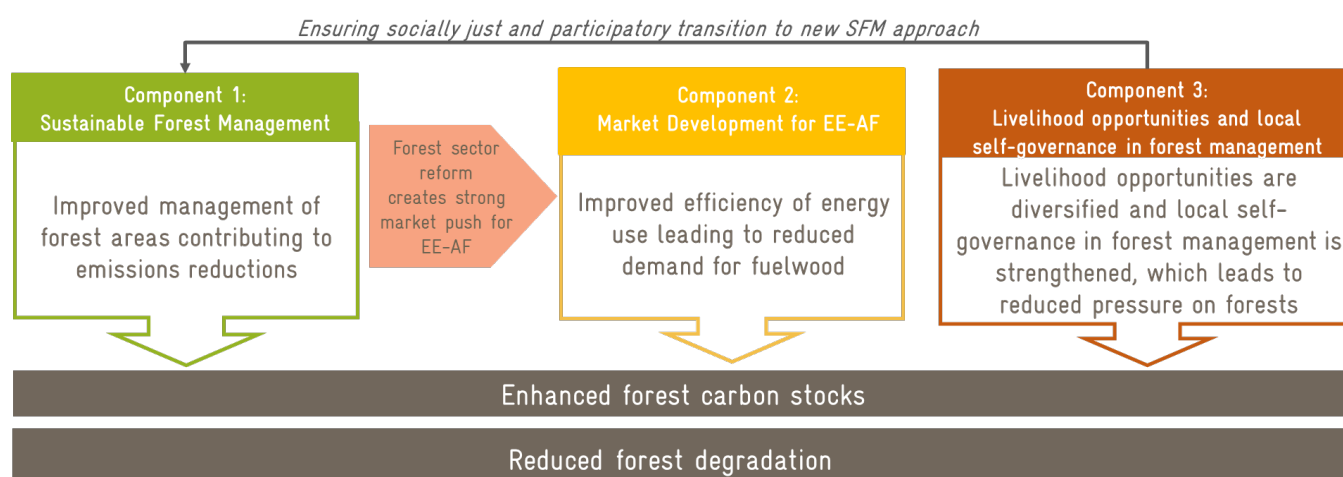


Figure 9: Complementarity of project objectives

53. The on-going process of forest sector reform in Georgia represents a unique opportunity to put into practice SFM principles embedded in the new (draft) Forest Code and kick start its implementation by creating enabling environment for SFM nation-wide and scaling-up SFM on the ground in the target regions. Apart from better forest protection, improved governance structure will also help to establish a sound revenue base for the forestry administration, which makes the sector more financially independent in the future.³⁸ At the same time, the increased energy efficiency, the more formalized value chain for rural energy supply and diversified income

³⁸ See Feasibility Study, Chapter 8 "Potential for Scaling-up and Replication".

opportunities for local population de-incentivize illegal wood harvest in the forests. The project shall function as a catalyst for upscaling SFM model to the whole country.

54. Sustainably reducing the need for fuelwood on the one hand and improving the management of the forests based on SFM principles on the other will have an impact on how the resource is valued – both from an environmental and from an economical perspective. A higher value of the forest resource will sustain the long-term improvement in management and result in better protection of the resource. In its new Forest Code, Georgia puts strong emphasis on the ecosystem services the forests shall provide and sees their protection as a prime objective. This requires strengthening management structures, reducing informal and often unsustainable use of the forests, better participation of local communities in forest management and to provide alternative livelihood options for community members previously engaged in informal or illegal activities. At the same time, income generation for the forest administration shall come from multi-purpose forest use including more formalized markets and higher prices for forest products, particularly timber and fuel wood.
55. Having personnel and capacity to do this both increases the potential of ecosystem services in revitalized forests and for higher value forest products. A significant potential for revenue generation for the forest administration lies in sustainable harvest rates for higher quality timber from well managed forests. Reliable supply of quality timber allows more value adding down the supply chain and a more formalized forest sector general. On the energy side, more conscious and efficient use of the resource combined with a more conducive environment for small business should transform the energy consumption patterns away from short-term, opportunistic use of the forests.

B.3. Project description

56. The overall project structure, including interlinkages between individual components and activities and their geographical focus is presented in Figure 10. An overview table with the selection of appropriate instruments (technical assistance and financing instruments) applied in the project per activity and the justification for their application is provided at the end of this chapter (Table 3).

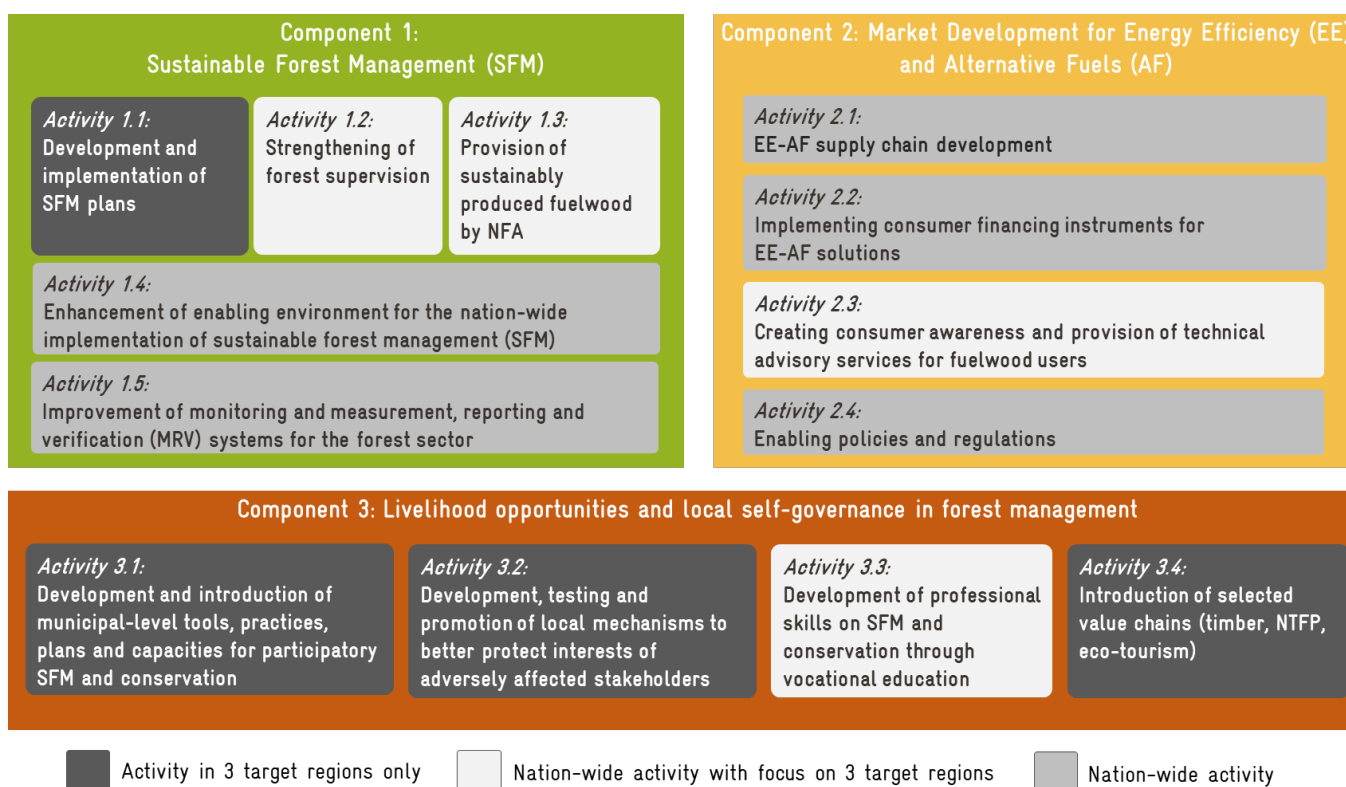


Figure 10: Project structure

Component 1: Sustainable Forest Management (SFM)

57. This component supports MoEPA, NFA and other public forest management bodies, EIEC and DES in putting in place the main building blocks of SFM at national level in the form of appropriate policy and regulatory environment, knowledge and data, as well as institutional capacities. At the regional level, the project will enable SFM implementation in the three targeted regions of Kakheti, Mtskheta-Mtianeti and Guria covering 270,807 ha of NFA-managed forest land, in line with Georgia's NDC conditional target hectares. By doing so, the project will help develop an appropriate institutional structure and a business model for SFM, which will then be replicated by the NFA, other public forest management bodies and DES to cover all forest areas under their mandate in the long-run.

Activity 1.1 Development and implementation of SFM plans:

58. This Activity supports the implementation of sustainable forest management practices in eight forest districts (Kvareli, Dedoplistskaro, Telavi, Tianeti, Chokhatauri, Ozurgeti, Lanchkhuti, and Akhmeta) within the three target regions (Kakheti, Guria and Mtskheta-Mtianeti) by a) the elaboration and development of 10 year sustainable forest management plans (FMPs), based on forest management inventories, data analysis, and multi-stakeholder consultations (Sub-activity 1.1.1) and b) by the implementation of active interventions on 170,539 ha (refer to Figure 11), including restoration and maintenance (incl. fire, pest and disease management, restoration and reforestation measures), cutting operations (maintenance and final cuts), and the construction of resilient forest infrastructure, among other activities (Sub-activity 1.1.2). SFM will result in reduced forest degradation, the sustainable production and harvesting of fuelwood for the rural population, and further enhancement of forest carbon stocks.

59. For forests and forest lands under the authority of NFA, NFA is obliged to develop and implement forest management plans following secondary legal acts/ regulations. The new (draft) Forest Code has a stronger emphasis on sustainable forest management, where SFM is defined as the *"management and use of forests and forest lands in such a way and rate that maintains its biodiversity, productivity, regeneration capacity, vitality and their potential so that at present and in the future relevant ecological, economic and social functions will be fulfilled on local, national and global levels and that does not cause damage to other ecosystems."*³⁹ To support ongoing forest sector reforms and the new (draft) Forest Code, Georgia has developed national political-level criteria and indicators for ecosystem-based forest management, and is in the process of developing Management-level C&I for forest management that will be considered in the elaboration of secondary legal acts⁴⁰. The implementation of the FMPs will be in line with provisions of new forest code, related secondary legal acts, as well as national and management-level criteria and indicators (C&I) for forest management.⁴¹

60. With this activity the project addresses the barrier of capacities for SFM by supporting training of NFA, public forest management bodies and private sector contractors on FMP development and the operationalization of best practices for SFM (e.g. low-impact cutting operations, low-impact and resilient forest infrastructure planning and construction, among others⁴²). It further addresses the barrier associated with inadequate financing for SFM implementation by supporting NFA and private sector contractors to invest in SFM.⁴³

61. **Sub-activity 1.1.1 Development of SFM plans:** The project will support the (a) development of FMPs by technical assistance in four districts: Kvareli, Dedoplistskaro, Telavi and Tianeti. The development of the plans will follow a participatory multi-stakeholder engagement process to ensure that needs of local communities are addressed properly, whilst promoting improved cooperation between NFA and local communities⁴⁴ and (b) elaboration of FMPs in the other 4 target districts (Chokhatauri, Ozurgeti, Lanchkhuti, and Akhmeta) that are currently being developed as well as completion and approval of those FMPs by project inception. This enables a phased approach and prevents over-burdening the NFA and private sector to develop the plans, whilst building up capacities. For all 8 target districts, this Sub-activity will support the development of business plans to support

³⁹ Draft Forest Code – Version submitted to the Georgian Parliament in February 2019.

⁴⁰ Forest code is expected to be approved in mid-to-late 2019. See Activity 1.4 for a description of the project's support for the revision of select acts, and Annex 2 for a detailed description of the main secondary legal acts that need to be revised under the forest code.

⁴¹ Once the new forest code is approved, related secondary legal acts will be revised and/or elaborated to ensure their compliance with the forest code. GIZ will support the elaboration of the three legal sub-acts that are the most relevant for forest management plan development, forest inventory, restoration, management and utilization (currently Resolutions 179, 241 and 242 of Government of Georgia), and it is expected this work will be initiated prior to project start – as soon as the new code is approved.

⁴² See Feasibility Study, Chapter 5.2.3.4 and 6.

⁴³ For more detailed information on how the project addresses key barriers, please refer to Chapter 6.2 of the Feasibility Study.

⁴⁴ For more detailed information on the specific steps in FMP development see Chapter 6.3 of the Feasibility Study and the Environmental and Social Management Plan (Annex 6b) for ensuring participatory approaches.

NFA with improved financial and business planning in line with SFM principles and the newly developed FMPs. In addition, annual action plans will be elaborated, which support the operationalization of the FMP (budgeting, detailed technical planning, etc.).

62. **Sub-activity 1.1.2 Implementation of SFM plans:** As a result of this Sub-activity, FMPs will be approved and implemented for 270,870 ha of forests, as described in the following Figure. The specific activities and areas within the 8 districts mentioned above will be confirmed based on the approved FMPs, see Feasibility Study Chapter 5.2.3.4 for more detailed discussion on the forest model used for designing the project.

Forest where there is no information (not covered by 6 main forest formation types): 23,017 ha*

Forest area covered by 6 main forest formation types: 270,807 ha*

Areas with more intensive SFM interventions: 157,359 ha

- Thinning and harvesting: tending on 900 ha, thinning on 43,000 ha
- Final harvest followed by natural regeneration: 10,000 ha
- Forest and skidding roads (well-planned, low impact and resilient construction): access improved on 51,300 ha, and all roads are annually maintained
- Restoration of degraded forest areas (including forests of high protection value, and other degraded areas): 9,000 ha natural regeneration, 900 ha enrichment planting



Areas managed with lower intensity SFM (minimal or no interventions):
113,448 ha

- Preservation of reference forest areas
- Conservation of protection forests (e.g. buffer areas along bodies of water, forests on slopes above 35°, etc.)
- Recreation forests
- Some forest areas will remain inaccessible due to steep slopes and to remoteness of high altitudes.



Figure 11: SFM implementation in target regions⁴⁵

63. The Sub-activity supports NFA and the private sector in the implementation of the FMPs by technical assistance, a targeted performance-based grant mechanism (for NFA) and an investment support scheme for private sector contractors:
64. **Technical assistance** (financed by GCF and BMZ) will be provided to NFA staff and forest-sector contractors to develop capacities on best practices for implementing SFM. This includes dedicated project management staff and national and international experts to provide targeted support where needed for the implementation of SFM. This includes on-the job training, the development of guidelines and protocols for the implementation of best practices for SFM, and the development of training modules, training trainers and conducting trainings supporting the operationalization of SFM.⁴⁶
65. **Performance-based grant mechanism** (financed by GCF): NFA faces severe constraints in financing the necessary investments in equipment and forest road construction to actually enable the institution to implement

⁴⁵ Detailed SFM planning, and the analysis of forest degradation and mitigation impacts was only possible for 270,807 ha, as there were information gaps for 23,017 ha. This area will nonetheless be included within FMIs and FMPs, which will fill information gaps and promote sustainable management in the entire NFA managed forest area in the 8 target districts

⁴⁶ Examples of suggested training modules to develop, could include: Data collection for Forest Management Inventories (FMIs), and planning for SFM; Ecosystem-based SFM: Implications for the revision and endorsement of FMPs; Business plan development to support FMP elaboration and implementation, combined with long-term financial planning for SFM; Climate change risks and best practices for strengthening climate resilience; new roles and responsibilities for operationalizing SFM; forest cutting for ecosystem-based SFM; construction of sustainable and resilient forest infrastructure for SFM; forest regeneration, restoration and management under SFM; gender, and occupational health and safety.

the above described SFM measures (see barriers above and Section B.5 for more details). Based on the performance of NFA in the implementation of the measures in the 8 target districts (approved FMPs, forest/skidding road construction, thinning and harvesting, restoration), the project provides a 50% contribution in year 1, 3 and 5 of project implementation to the procurement of advanced, low-impact SFM machinery and to forest road construction.⁴⁷

66. **Investment support scheme for private sector contractors** (financed by Government of Georgia through ARDA and ARDA partner (M)FIs and banks): The implementation of 70% of the necessary forest measures will be tendered by NFA to the private sector. Private sector forest service contractors have to invest in new, SFM specific equipment to comply with the SFM approach. To incentivize necessary investments ARDA will provide an interest rate subsidy and a guarantee scheme via its existing investment support instruments for the agricultural sector (see Activity 2.1 and Section B.5 for more details). These incentives will be coupled with loans from ARDA partner banks. The application mechanism for the support and loans is the same as for the existing support mechanisms of ARDA. Together with long-term contracts provided by NFA this support scheme will stimulate investment of the private sector into modern equipment. Eligible for the incentives and loans are all forest service contractors, which comply with the eligibility criteria set out in the existing ARDA instruments and which pass the due diligence of ARDA partner (M)FIs and banks. Eligible investment items are any technical equipment for forest management activities, except trucks. GIZ will require ARDA to implement this Sub-activity in accordance with these criteria and investment items.

Activity 1.2 Strengthening of forest supervision

67. The Activity supports the Department of Environmental Supervision (DES) to reduce the illegal use of forested areas, including illegal logging for fuelwood and industrial timber and to assess the forest management practice of forest management bodies, such as NFA. The project supports DES on the national level to manage their new mandate by developing standard operating procedures (SOPs) and training their staff. In the target regions, DES will be equipped with advanced equipment and technology (e.g. drones, GPS devices for registered logging trucks, satellite cameras, etc.). This improves the efficiency and effectiveness of forest supervision and law enforcement.
68. **Sub-activity 1.2.1 Strengthening of procedures, standards and protocols for enhanced forest supervision:** TA will be provided on the national level to develop new procedures, standards and protocols for the newly established forest patrolling and inspectorate divisions and to harmonize them with the standards and procedures of the existing environmental patrolling divisions. In addition, the TA will support the development of training modules for DES staff on SOPs, newly revised regulations, practices for patrolling and forest inspection and assessment of environmental damages, including such cross-cutting themes as gender, occupational health and safety (incl. safety of forest patrols) and conflict management.
69. **Sub-activity 1.2.2 Implementation of improved forest supervision measures and technologies:** This sub-activity includes a combination of TA and investment support to DES. Technical assistance (project management staff, international and national experts) will be provided to implement improved forest supervision practices, including the collection and analysis of improved information and provision of trainings. GCF-financed investment support will provide DES with advanced, modern technology for reaching remote forest areas and to collect evidence of illegal activities in the forest areas for effective prosecution. A detailed list of technology to be procured by DES with the GCF grants in the 3 target regions is provided in Chapter 6.4.1.2 in the Feasibility Study⁴⁸.

Activity 1.3. Provision of sustainably produced fuelwood by NFA

70. This Activity supports NFA to establish a model sustainable fuelwood supply chain in the above mentioned 8 target districts within 3 regions. It supports NFA, who is responsible for the procurement and construction, in the development and operation of Business Service Yards (BSY) by construction of the yards, purchase of equipment, training BSY staff, supporting operational planning, and ensure active monitoring of the yards. As a result, it facilitates the transition from the social wood programme to a new system of NFA-run 'BSYs' for fuelwood supply, which increase transparency and traceability in the forestry sector, and ensures harvesting levels are based on eco-system-based forest management. BSYs will be owned and operated by NFA.

⁴⁷ For more details on the performance-based grant mechanism, please refer to Chapter 6.4.1.1 in the Feasibility Study (p. 244).

⁴⁸ GIZ AE will sign a subsidiary agreement with DES and DES will procure the equipment.

71. It is anticipated that as a result of this Activity, NFA will reach the **sustainable level of fuelwood** outtake of **285,575 m³** per year by the project end, applying sustainable forest management practices in the project's target districts.
72. **Sub-activity 1.3.1 Support establishment of the new mechanism for fuelwood provision to local population:** Technical assistance (financed by GCF) will be provided to establish the new mechanism for fuelwood provision to local population by NFA-operated business service yards (BSY), including elaboration of SOPs, training modules⁴⁹ and operational regulations, and technical guidelines for the newly established BSYs to ensure their transparent and efficient operation. This will also include trainings on sorting tree trunks into different qualities of timber to optimize the sale of higher-quality timber for higher prices and ensuring that fuelwood is comprised of low-quality timber (to the greatest extent possible), as well as training on timber and fuelwood marketing and cross-cutting themes such as gender, occupational health and safety. This Sub-activity also envisages the provision of ongoing technical support by project management staff and experts to ensure effective controlling, and continuous improvement services to strengthen the operation and monitoring of BSYs, ensure alignment of FMPs, business development plans and timber marketing at BSYs.
73. **Sub-activity 1.3.2 Construction of 14 new and refurbishment of 1 existing business service yards (BSY)** in the target districts (GCF and Government of Georgia investment). BSYs will include a check-point, office, drying and storage facilities (open air structure with a roof), and equipment for primary timber site manipulation.⁵⁰ Co-investments by GCF and government⁵¹ will be made available to construct 14 new BSY facilities, and purchase equipment for 15 BSYs (including the 14 new facilities, plus a BSY that is undergoing construction in 2019 in Akhmeta district, supported by GIZ as a model case).

Activity 1.4 Enhancement of enabling environment for the nation-wide implementation of sustainable forest management (SFM)

74. This activity strengthens the enabling environment to facilitate the nation-wide adoption of SFM. The project provides targeted support for adjusting the regulatory framework, improving forest sector training and vocational education, strengthening cross-sectoral planning through the establishment of a multi-stakeholder platform and high-level inter-ministerial working group. Finally, climate risks and suitable adaptation strategies in forest ecosystems in the 3 project regions will be assessed to inform sector planning and forest management, where the results will be mainstreamed into national sector policies, trainings and guidelines, as well as FMPs.
75. **Sub-activity 1.4.1 Strengthening of the legal framework for SFM:** The majority of revisions of the key regulations for SFM, in particular current resolutions 179 (The Rule of Forest Registration, Planning and Monitoring), 241 (Regulation of Forest Protection, Reforestation and Maintenance) and 242 (Resolution of the Government of Georgia on Approval of the Forest Use Regulation) will be completed prior to project start by the ongoing BMZ funded IBIS project. However, it is likely that some additional revisions may be required. BMZ co-finance will be dedicated to providing targeted support for regulatory revisions, building on GIZ and government efforts prior to project start. In addition to revising three of the main secondary legal acts for forest management and utilization, and elaborating secondary legal acts for the liability law, the project will also support the elaboration of a regulation on the commercial use of non-timber-forest products, including: types of non-timber forest resources that can be commercially harvested, amounts for each NTFP that can be commercially harvested to ensure sustainable management based on the principles of SFM, fees for commercial harvesting, processes for commercial harvesting (applications, forms, monitoring, timing / zones, among others).
76. **Sub-activity 1.4.2 Improvement of sector steering and coordination between involved sectors:** This activity makes use of the NFP process, which facilitates improved cross-sectoral cooperation and coordination, as well as information sharing via the working groups of the NFP.⁵² The Biodiversity and Forestry Department of MoEPA will coordinate the NFP process with technical assistance from GIZ. BMZ co-finance will cover the costs of external technical experts and facilitators. Under this sub-activity, the project will support a high-level sector coordination committee, consisting of representatives of the forestry, rural development and energy sectors which will play a critical role in overseeing and guiding the implementation of the project financing platform, the GFREIF (see Activity 1.4.2 in Feasibility Study, page 244).

⁴⁹ Training modules (incl. an e-course, training trainers, and regional BSY trainings conducted by NFA trainers) will be integrated in the knowledge management and training platform (Activity 1.4), where training materials, videos, protocols and other information will be stored and easily accessible.

⁵⁰ Appendix 5 of the Feasibility Study provides more detailed construction specifics for the technical design of the yards.

⁵¹ Government funds will cover 50% of the investment costs, while grant finance will cover the remaining 50%.

⁵² The status of NFP, including the evaluation and plan to upgrade the process, are included in the Feasibility Study within Chapter 5.2.

77. **Sub-activity 1.4.3 Development of online knowledge management and training platform for the forest sector:** This sub-activity supports the development of an online knowledge management and training platform for the forest sector (Target group: MoEPA, NFA and other public forest management bodies, DES and forest private sector companies). Training modules and informational materials developed in the other activities will be integrated into a knowledge management and training platform (KMTP). The system will include e-learning elements, videos, knowledge storage, and ultimately strengthen the management and dissemination of information. The KMTP will ensure that people engaged in forestry sector have adequate knowledge and skills to effectively implement the actions considered under SFM under the new forest code through improved knowledge management and dissemination, and the institutionalization of key sector trainings. While each module will have a lead institution who provides insight on training content and oversees module development, EIEC is expected to oversee the broader functioning of the platform providing key coordination and logistical support (e.g. informing different stakeholders about training opportunities/ awareness raising, organizing venues, ensuring standard quality of trainings is maintained, conducting evaluation of trainings, among other tasks).⁵³ A combination of GCF grants and BMZ co-finance will be used to set up the platform and to capacitate EIEC by supporting the development of the KMTP concept, programming the system and implementing trainings.
78. **Sub-activity 1.4.4 Improvement of vocational education and training for the forest sector:** The new (draft) forest code requires all foresters and forest workers, including existing staff and future staff to obtain a formal qualification by 2025. Thus, there is a strategic need to improve the forest education and vocational training situation in Georgia for both the medium- and long-term. GIZ, through its IBiS and ECOserve projects, supports the Georgian Government to strengthen vocational education programs in the forestry sector, including the development of accredited courses and trainings, and training of trainers, among other activities. BMZ co-finance will be dedicated to expand this support to strengthen vocational education and training for the forestry sector. It will support the integration of short-term trainings into accredited modules and trainings and will support NFA to design educational and training programs to support existing and new staff with different options to obtain official qualifications complying with the new forest code.⁵⁴
79. **Sub-activity 1.4.5 Enabling improved integration of climate change adaptation in forest sector planning, management and monitoring:** This sub-activity aims to improve knowledge on climate risk and adaptation strategies in forest ecosystems and enable integration of climate change adaptation in forest sector planning, management, and monitoring. It supports via GCF finance the: a) assessment of climate risk and vulnerability and suitable adaptation strategies for forest ecosystems in each of the three target regions (addressing key knowledge and information gaps that limit climate-resilient land use planning in the sector), b) mainstreaming of climate-resilient strategies into guidelines, training modules and annual action plans,) c) establishment of a national dialogue on adaptation strategies for forest ecosystems within the NFP process, and d) development and implementation of training modules on climate risks and adaptation strategies for forest ecosystems for NFA, other public management bodies and MoEPA (to be integrated into KMTP).

Activity 1.5 Improvement of monitoring and measurement, reporting and verification (MRV) systems for the forest sector

80. The Activity supports the development of a Forest Information and Monitoring System (FIMS), aligned with national MRV requirements by elaborating and operationalizing 10 FIMS modules and developing national emission factors. These will be utilized by 7 government institutions to sustainably manage and monitor Georgia's forest resources. The system improves the monitoring of forest resources, facilitating a more accurate monitoring of forest carbon stocks and other forest dynamics, which ultimately improves sector planning and forest management.
81. **Sub-activity 1.5.1 Strengthening of the national forest monitoring and MRV architecture:** The sub-activity will provide TA to cover the following needs:

⁵³ EIEC is performing a similar role in the GCF project "Scaling-up Multi-Hazard Early Warning Systems and the Use of Climate Information in Georgia", where UNDP and GCF support EIEC to strengthen their institutional capacities and develop a training curriculum related to various climate-related topics (disaster risk reduction, early warning systems, etc.). Within the framework of UNDP's project EIEC has a core role in raising public awareness and supporting capacity building at all levels, including training government institutions at all levels as well as community-members. A core element of their work further focuses on training trainers and strengthening knowledge retention within the institution. Thus, this project will build on the capacities developed and synergies with this project.

⁵⁴ Currently VET programs can be completed in 9 months, however NFA will need to develop a simplified approach for existing staff, as well as an approach to support the integration of local people who were formerly involved in the informal harvesting of fuelwood and timber.

- Regulatory Framework and Institutional set-up: Clarification of roles and responsibilities, establishment of standard operating procedures & methodologies for data collection/ analysis, integration of FIMS into secondary legal acts to be revised after the adoption of the forest code (BMZ-financed).
- Development of Georgia-specific accounting systems (default values, forest emission factors, equations): This includes providing international and national experts to develop allometric equations, which will involve a combination of field work, laboratory work and in-office analytical work (GCF-financed).
- Supporting the development of a carbon processing module as base for reporting on carbon (concept development) (GCF-financed).
- Support the concept development of a data warehouse module in FIMS allowing to report on NDC tracking and the Transparency Framework for Action and Support under the Paris Agreement, among other topics (GCF-financed).

82. **Sub-activity 1.5.2 Development of FIMS modules** will support the development and/or improvement of ten FIMS modules building on GIZ extensive previous and on-going activities.⁵⁵ The BMZ-financed support includes procurement of required equipment (database and server), experts to develop modules, provision of training for FIMS on MRV modules, as well as establishment of helpdesk and software support.

83. Table 1 details the many existing challenges for forest sector monitoring and explains how the proposed Sub-activity will address them.

Table 1: Forest sector MRV: BAU and Project Scenarios

Challenges for forest sector monitoring	How these challenges will be addressed within the project
Lack of national emission factors: The shift from Tier 1 to Tier 2/3 emission factors is one of the key principles under the Transparency Framework for Action and Support, supporting national accounting and reporting.	<ul style="list-style-type: none"> ▪ Since this project is primarily focusing on mitigation actions as a result of improved forest management (through SFM), the need for at least national level emission factors is more relevant than for afforestation/ reforestation activities since the IPCC provides less guidance (including Tier 1 default factors) for this specific IFM activities. This way it can even be seen as a showcase for many other countries in the region (and even globally) where this activity is relevant. ▪ Additional research on allometric equations, and soil carbon will be conducted within the project.
Insufficient harmonization of NFI data and the country's GHG inventory (e.g. variables collected, timing of collection)	<ul style="list-style-type: none"> ▪ The project supports the NFI analytical software and reporting tool. With the help of these tools a fully harmonized data provision to the GHG inventory will be provided.
Inconsistencies between official data and field data	<ul style="list-style-type: none"> ▪ Improved data collection is promoted within the FMP/FMI process through the utilization of FIMS modules and targeted trainings on best practices (Activity 1.1), as well as additional trainings on monitoring and MRV systems for end users will be supported by the project. ▪ The Activity will support improved data collection and processing measures, based on positive experiences with NFI and FMI in recent years improving data quality and quantity, and will further strengthen databases for both internal and public use. ▪ Trainings for staff in key forest sector institutions on FIMS, including data collection, analysis and implications for policy making (in both Activities 1.1- 1.5). Trainings will also discuss how to disclose and manage data inconsistencies (promoting transparency).
Insufficient capacities on monitoring and MRV across key institutions. Ongoing capacity development support has been provided in the FIMS development process, and	<ul style="list-style-type: none"> ▪ All involved institutions need to develop capacities to manage the respective software modules. The institutions responsible for a certain software module - like the NFA Inventory department for the FMP software - must be able to have full "ownership" on it. This means that the software concept must be fully understood as well as all related processes. This knowledge is obligatory for all users who are responsible

⁵⁵ Several of these activities are being currently supported under the GIZ IBiS programme, however continued support from 2020 onwards is necessary. A combination of BMZ and government co-finance has been targeted to support these activities.

continued support will be needed as it is increasingly operational.	<p>for the creation and update of forest related information (NFI, FMI, FMP⁵⁶).</p> <ul style="list-style-type: none"> ▪ In order to achieve this knowledge and understanding of the software and work processes, systematic and advanced trainings will to be provided within the Activity.
MRV roles and responsibilities are not comprehensively elaborated and assigned. While concepts for improved institutional set-ups (i.e. FIMS concept) exist, support is needed for putting such concepts into practice (clearly defining revised institutional mandates in official decrees, establishing SOPs, and awareness raising and training on the revised institutional set up).	<ul style="list-style-type: none"> ▪ Support will be provided to assign clear roles and responsibilities for MRV to avoid duplication of effort, build on existing synergies and improve the efficiency of the country's national monitoring and MRV architecture.

Component 2: Market development for energy efficiency (EE) and alternative fuels (AF)

84. Deployment of energy efficient (EE) technologies and alternative fuel (AF) solutions can substantially reduce demand for fuelwood in the household sector. However, the market for EE and AF products is at a very nascent stage. There is only a limited number of local manufacturers or technology suppliers (e.g. 15 producers of EE stoves and 3 briquette manufacturers), the quality of their products and services vary significantly and so does the capacity to improve and expand their offer to the market. The project will adopt a “push and pull” approach to stimulate development of EE-AF market: Activity 2.1 will push the supply chain to prepare the sector for expedited growth, while Activities 2.2 – 2.4 will pull the demand to jump-start the market via consumer awareness raising, financial incentive and consumer financing products in partnership with financial institutions, as well as by creating conducive policy and regulatory framework (See Figure 12).

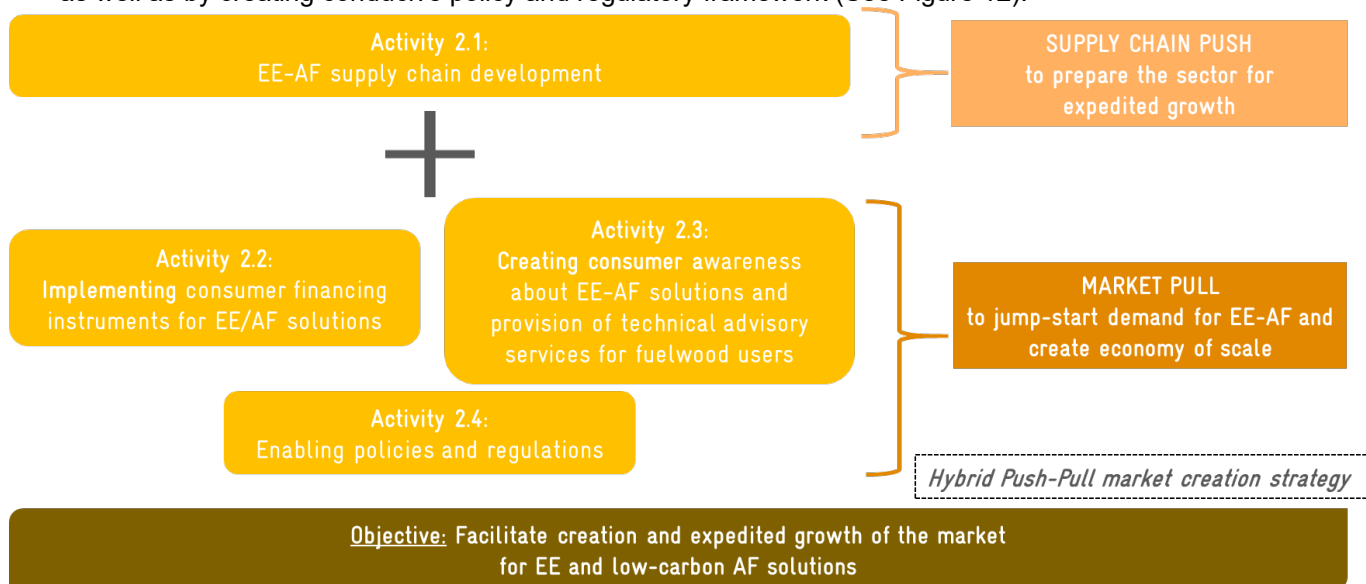


Figure 12: Push and Pull strategy for EE-AF market creation

85. A range of more energy efficient heating solutions is available in Georgia: opportunities vary between relatively simple and affordable locally-produced energy efficient wood stoves or imported analogous product with a higher price and quality to more sophisticated and much pricier boiler-powered central heating systems.

⁵⁶ Please refer to Chapter 5.2.3 of the Feasibility Study for detailed description.

86. **Energy efficiency technologies:**⁵⁷ The most affordable options are locally manufactured, but non-certified EE stoves, which are produced in small workshops in small towns and villages throughout Georgia. Improved woodstoves have three common features: they have combustion chambers, air inlet control, and smoke chambers. These stoves are made one-by-one by hand without patterns or modern manufacturing techniques. They are usually priced at GEL 300 – 500, depending on the season and producer. These stoves consume **25 to 50% less wood and their thermal efficiency**, according to the producer, is up to 75%. A range of even more energy efficient and durable imported wood stoves can also be found on the markets in urban centers. These products are characterized by much higher combustion efficiency and low level of emissions, most of them are EU-certified and compliant with requirements of EU Ecodesign Directive. However, due to the high price (between GEL 800 to 1,500), demand for such products is mainly concentrated in more affluent urban areas. See also Figure 13 below for illustration of a difference between locally manufactured and imported EE stoves.



	
<p>Made in Akhmeta, Georgia, Efficiency: 75%, Price: ⁵⁸ GEL 320.</p>	<p>Made in Bulgaria, EU, Efficiency: 75%. Price: ⁵⁹ GEL 1,400.</p>

Figure 13: EE stoves available in Georgia

87. Among all alternative household heating options, the most efficient one is the boiler-based central heating systems. There are several companies specializing in design and installation of such heating systems for individual households in Georgia offering a turn-key services (design, technology and installation) and range of technologies (electrical, gas-based and fuelwood-based boilers)⁶⁰. The major detriment to widespread adoption of the central heating systems is their very high cost: it would require GEL 2,500 – 3,000 per household to have such technology installed. Thermal insulation of rural houses has high theoretical technical potential to reduce heat demand: insulating the whole living space, including the ceiling, floor and equipping the external walls of the dwelling with additional insulation by professional workforce can bring up to 60% energy saving. This package, however, for an average rural house (140 m²) would come at a price of GEL 15,000, i.e. 3-times annual income of an average rural household. The very basic insulation package for 40 m² of living space could result in at least 30% in energy saving and would come at a price of about GEL 5,000. Figure 14 below illustrates the price difference and saving potential of the various EE alternatives. Among available alternatives, an EE stove can be considered as the most optimal solution because it has relatively large fuelwood saving potential at the lowest price.

⁵⁷ See Chapter 5.3.2 of the Feasibility Study for detailed description of available EE technologies in Georgia.

⁵⁸ The Greens Movement of Georgia 2015. Sustainable Management of Biodiversity, South Caucasus, Identification of Options to Improve Energy Situation in Dedoplistskaro Municipality.

⁵⁹ www.domino.com.ge

⁶⁰ See for example: https://www.hava.ge/en/heating/central-heating-boilers-c-1_24.html.

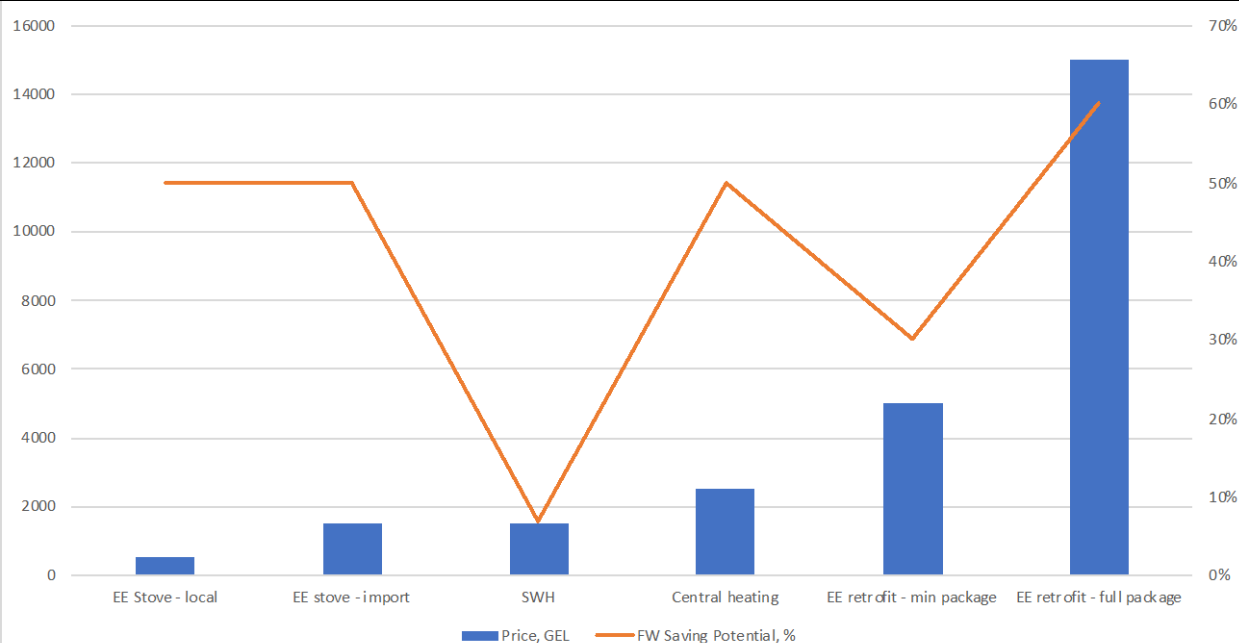


Figure 14: Price and fuelwood saving potential of EE alternatives

88. **Alternative fuels:** Georgia possesses significant volumes of solid woody biomass residue, currently not utilized, that can be used for heating through production of upgraded solid biofuels (briquettes, pellets and wood chips) and considerably satisfy heating needs in the regions thus reducing demand for fuelwood. Alternative fuels (AF), such as Upgraded Solid Biofuels (USB) can be produced from woody or agricultural residues by modern processes and technologies. The total potentially available supply of raw materials for USB in the three target regions has been estimated⁶¹ to be 129,548 tons, an equivalent of 590 GWh (Table 2). This would be sufficient to cover heating requirements of 33,000 households (using existing heating device) or up to 78,000 if more efficient devices are used. A local market for the simplest forms of USB, wood chips and hazelnut shells, does exist in Georgia. The scale of this market is however hard to assess due to its localized and largely informal nature, as well as high regional differences in availability/supply of raw materials and demand. Briquette industry is rather small, existing production capacities (ca. 3,500 t/year) are not fully utilized. There are no local pellet manufacturing plants in Georgia.

Table 2: Availability of raw materials for USB products in target regions

Type	t	GJ	MWh
Available forest residues	60,343	838,764	232,990
Available vineyards pruning residues	38,234	714,968	198,602
Available fruit orchard pruning residues	10,340	186,126	51,702
Available hazelnut orchard residues	20,632	385,815	107,171
Total	129,548	2,125,673	590,465

Activity 2.1 EE-AF supply chain development

89. Objective of this activity is to facilitate creation and expedited growth of the supply chain for EE and low-carbon AF solutions. It consists of two complementary sub-activities. Sub-activity 2.1.1 Establishing Technical Assistance and Investment Support Facility (TAISF) will focus on the two existing EE-AF supply chains: energy efficient stoves (solid fuel-based space heaters) and upgraded solid biofuel (USB) products from forest and agricultural residues. In parallel, Sub-activity 2.1.2 will support identification and feasibility assessment for other EE-AF alternatives for which the supply chain does not exist yet in Georgia.

90. **Sub-activity 2.1.1 Establishing Technical Assistance and Investment Support Facility (TAISF):** A TAISF will be established to facilitate the development of supply chain for efficient space heaters (EE stoves) and USB manufacturers. The key objectives of the TAISF are to:

⁶¹ To be on conservative side, estimates assume 50% availability of residues from perennial crops and in the forestry sector biomass residues from timber harvesting and logging activities in the forests have been excluded. Please refer to Chapter 5.3.3 of the Feasibility Study for detailed description of AFs and their availability in Georgia.

- Improve technical, managerial and financial capacities of SMEs, cooperatives and individuals involved in EE-AF supply chain
- Ensure availability of certified EE-AF products on the market in line with applicable international EE and environmental standards
- Facilitate access to financing for supply chain businesses to invest in new and/or expansion and improvement of existing EE-AF production and delivery capacities
- Facilitate EE-AF products marketing
- Support investment in EE-AF supply chain

91. TAISF will build on existing Technical Assistance and Investment Support Facilities established at the Agricultural and Rural Development Agency (ARDA) in line with ARDA's mandate to promote and stimulate development of agricultural production-oriented industries in the regions of Georgia.⁶² The TAISF is not a legal entity in its own. TAISF will operate as a one-stop-shop for Georgian enterprises involved in EE-AF supply chain and provide a range of services to existing and new EE-AF suppliers through the five dedicated service lines aligned with the Facility's key objectives. ARDA will host the Facility and ensure close coordination between its Technical Assistance (TA) and Investment Support components, as illustrated in the Figure below.

92. **Technical assistance** (consultants to run advisory services in service lines, portfolio development, capacity building) will be financed by GCF and BMZ. In addition, TA will be provided by Swedish International Development Agency (SIDA) to facilitate mainstreaming of environmental considerations in the scope of ARDA's investment support, as well as the design of new investment support instruments aimed specifically at green rural development and green energy solutions in rural areas.

93. **Investment support** (Service line 4) in the form of investment grants, interest rate subsidies and guarantees on commercial loans is going to be financed by the government of Georgia.

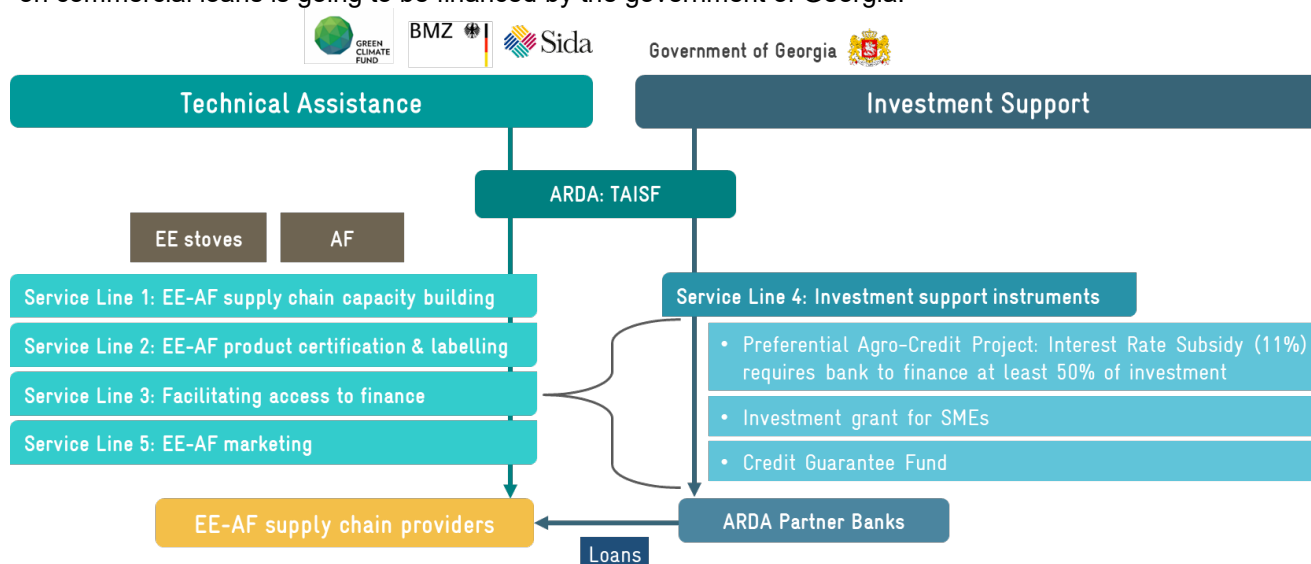


Figure 15: Technical Assistance and Investment Support Facility (TAISF)

94. Service line 1: TAISF will offer a package of training and capacity development activities to manufacturers of EE stoves and USB, including training on skills development, advisory services on technology application/improvement of production and delivery systems, provision of information on applicable standards and requirements (in coordination with Activity 2.4 which will support development and adoption of such standards nation-wide). Capacity building will be provided through the direct advisory services to enterprises, regular training events and workshops (as well as via production and dissemination of educational and learning materials).

⁶² ARDA's (former APMA) mandate has recently been expanded by the government to cover a broader agenda, including promoting investment in sustainable rural development, as reflected in the Agency's new title, Agricultural and Rural Development Agency, effective from July 1, 2019.

95. Service line 2: Stoves and USB currently available on the Georgian market are not subject to any mandatory standards, are often of low/inferior quality, and their energy/environmental/health performance characteristics cannot be verified by consumers (in particular for domestically produced heat stoves). Lack of quality standards leads to sub-standard, inefficient products being over-represented in the market. There are also quality control issues, which include the high cost and logistical challenges of accessing product certification services, which are not available in Georgia. To address this barrier TAISF will support certification of locally produced solid fuel-based space heaters and USB for compliance with EE and environmental standards set-forth by the EU Ecodesign Directive (See description of Activity 2.4 for further details about EU Eco-design Directive and the process of its transposition in Georgia). The following type of assistance is envisaged:
- Raising suppliers' awareness about applicable standards and requirements
 - On-site inspection of the manufacturing sites and of products and advising on how compliance with applicable standards can be improved
 - Preparing application for product certification by accredited certifiers/verifiers⁶³, including confirmation of the conformity of products and/or production processes with the requirements of the applicable standard.
- Only certified products will be eligible for participation in the GCF-supported financial incentive scheme to be implemented under Activity 2.2.
96. Service line 3: TAISF will support development of business plans for EE-AF suppliers to support their loan applications via ARDA partner banks, as well as to access investment support instruments offered by ARDA.
97. Service line 4: Implementation of investment support instruments: Under Service Line 4, TAISF will implement publicly-funded financial instruments to enable EE-AF suppliers' access to commercial loans via ARDA partner banks. Investment support instruments will be provided within ARDA's investment support portfolio, which includes the following instruments⁶⁴:
- **Preferential Agricultural Agro Credit Project** co-finances interest rate on commercial loans from ARDA Partner Banks for the investment in rural SMEs' production assets (up to 11% and 66 months) and working capital (up to 8% and 15-36 months). The former is mainly applicable to new manufacturers to finance their start-up investment needs, while the latter is an important instrument for existing producers, e.g. to ensure availability of the working capital to finance supply of raw materials. Up to now, the Agricultural Agro Credit Project has supported establishment of 145 new SMEs and re-equipped over 900 SMEs and facilitated loan financing in the amount of over 250 million USD in the agricultural sector.
 - **"Processing Enterprises and Storage Facilities Project"** co-finances up to 40% of the production costs (max. GEL 600,000). A minimum of 10% beneficiary's contribution is required and in addition at least 50% of the costs should be financed through a commercial loan with ARDA co-financing via an interest rate subsidy under the Preferential AgroCredit Project.
 - **Credit Guarantee Fund** to safeguard the loans under the interest rate subsidy scheme.
98. In addition to proposed service lines, technical assistance (co-financed by SIDA) will be provided to ARDA to support the development of new investment support scheme for green energy producers/equipment suppliers, as well as to facilitate mainstreaming environmental considerations in the scope of ARDA's investment support to agricultural sector, as follows:
- Scoping of current and pipeline portfolio of ARDA to identify opportunities for strengthening environmental dimension of investments and technical support programmes
 - Scoping of possible new investment directions considering environmental aspects as outlined above, e.g. private sector investment in forest management, promotion of EE technologies for rural development, dealing with hazardous waste in agriculture
 - Delineation of future ARDA portfolio with mandate of other state and non-state actors in rural development
 - Capacity Development for ARDA-"Department for Technical Assistance" to systematically embed environmental aspects in the portfolio.
99. Service line 5: EE-AF products marketing. Under this service line, TAISF will provide marketing support for EE-AF suppliers to help promote their products to potential customers. Specific support activities will include:
- Training and individual advice on marketing strategy and product branding
 - Support with identification of potential corporate and public sector customers through market research and in conjunction with Activity 2.5 (Implementing energy efficient public procurement program)

⁶³ In the absence of national regulations on EE product certification, organizations which are accredited against international standards and EU Directive can carry out such certification.

⁶⁴ An investment manual will be developed in year 1 of the project setting out the investment criteria and list of eligible products, plus the regular ARDA criteria. The procedures and processes of providing the support will follow the already established and proven standard operating procedures of ARDA for the 3 existing ARDA instruments

- Publication of catalogue of Georgian EE-AF products and its dissemination to potential clients at the national and local level (in conjunction with the Activity 2.3)

100. **Sub-activity 2.1.2 Feasibility assessment and pipeline development for new EE-AF solutions:** The aim of this sub-activity is to spearhead development of EE-AF sector and specific products/technology packages tailored to the need of rural households (in terms of specific energy needs, price, easiness of implementation and operation) beyond solutions and technologies which already exists on the market, such as EE stoves or briquettes. This may include, for instance, design and installation of energy efficient central heating systems in houses, implementation of comprehensive energy efficient retrofit measures (insulation), solar water heating (SWH) systems, biogas, production of pellets and utilization of wider range of agricultural residues (e.g. straw or energy plantations) for rural heat supply. None of these solutions is yet sufficiently localized and commercialized in Georgia. The BMZ-financed sub-activity will therefore support identification and promotion of new solutions for rural energy supply by conducting feasibility studies, market assessment and business plan development. The project will also collaborate closely with the Georgian Partnership Fund (GPF)⁶⁵ to identify and prepare investment projects which GPF could support with its equity. At the moment the market for EE-AF products is very nascent on supply and demand side and does not represent a viable large-scale investment case for GPF. As the market for EE-AF will grow and new opportunities for revenue generation in EE-AF sector will be identified, the scope and modality of GPF's investment in the sector will be more precisely defined.

Activity 2.2 Implementing consumer financing instruments for EE-AF solutions

101. The objective of this activity is to **jump-start the market and to significantly scale-up demand for EE-AF products in target regions - in the short-term and beyond – in the long-run**. It is also meant to provide meaningful and practical alternative to the population of the regions, which will be affected by the forestry sector reform by reduced availability and potentially higher price of fuelwood for some segments of the population (Component 1). This activity will consist of three sub-activities: Sub-activities 2.2.1 and 2.2.2 focusing on the most cost-effective and relatively available solutions, EE stoves and AFs, while Sub-activity 2.2.3 at other emerging solutions and products (to be identified and supported in parallel under Sub-activity 2.1.2.).
102. Among available alternatives, **an EE stove** can be considered as the most optimal solution because it has relatively large fuelwood saving potential at the lowest price, i.e. this technology is the most cost-efficient and offers attractive IRR of 45% (see Figure 14, Info Box 2 and Annex 3 – Financial and Economic Analysis). However, even the cheapest alternative, such as an EE stove is 5-10 times more expensive than a conventional, inefficient stove which are now priced at GEL 50-70 and have a lifetime of maximum 2 years.

Info box 2: EE stove price

Locally produced efficient stoves are priced between GEL 300 – 500, but they only last for an estimated 5 years and are not certified so their true efficiency is not known. In EU countries with high fuelwood consumption by households all wood stoves on the market must be certified, ecodesign-compliant; the prices vary from EUR 175 to around EUR 800 (GEL 525 to 2,400). It must be noted that the price depends on size (i.e. m² which can be heated) and the design. Levels of efficiency vary somewhat but all have efficiency over 70% (versus 30–40% typical in Georgia for non-efficiency stoves). Lifetime of modern EE stoves is usually 10–15 years. These are already on the market in Georgia – reported average of GEL 1,479 for retailers / imported stoves according to surveys of companies selling them and installing them. Based on this analysis, an average price of GEL 1,000 for an energy efficiency EU-certified stove has been assumed in the project scenario.

103. It is expected that the activity will stimulate demand for up to 30,000 stoves cumulatively until project end and additionally about 28,000 households will switch to AF. To do so the project will, in partnership with national financial organizations, local banks and MFIs, provide a package of consumer financing options focusing initially on EE stoves and USB, but gradually expanding to other more sophisticated EE-AF technologies (Sub-activity 2.2.3). The consumer financing support for EE stoves and AF features two interlinked financial instruments:
- **Result-based financial incentive** instrument (financed by GCF: EUR 3.6 million) in the form of price discount (via a voucher scheme) on the purchase of EE stove from certified suppliers for up to 30% of the market price (Sub-activity 2.2.1).
 - **Consumer loans instrument** (financed by local banks and micro-finance institutions: EUR 10.5 million) to households from local financial organizations will cover up to 70% of the costs of EE stove only or EE stove + annual USB supply package depending on the consumer choices.

⁶⁵ JSC Partnership Fund (PF) is a state-owned investment fund, established in 2011. PF's main objective is to promote investment in Georgia by providing co-financing (equity, mezzanine, etc.) in projects at their initial stage of development.

104. **Sub-activity 2.2.1 Design, implementation and marketing of the voucher programme for EE stoves for households:** GCF finance is used to design and implement a result-based financial incentive instrument to stimulate the demand for EE stoves among households. Initially, the size of the incentive has been set-up at 30% of the market price (see Info Box 2). However, the design of the scheme and the amount of incentive shall be progressively revised and adjusted over the project implementation in response to the overall market development, availability and price of certified products and consumers' demand. Initially, the scheme will target (via marketing and consumer awareness) the population of three target regions. As the SFM will scale-up and EE market grow, along with scale of EE stoves production, it is anticipated that the economy of scale will drive the cost of production and retail price down leading to reduced retail price of EE stove and progressively diminishing the need for financial incentive.
105. ARDA will be directly responsible for administration of the voucher programme and sub-contracts a service provider for implementation of the voucher scheme⁶⁶. Provision of the financial incentive will be result-based because ARDA will release the payment of the subsidy directly to suppliers of certified EE stoves upon them presenting the proof of EE stove sales to households (paid invoice and the voucher⁶⁷).
106. **Sub-activity 2.2.2 Providing consumer financing for EE stoves and AF for households (Co-financed by financial partners):** This Sub-activity will be implemented along the following three lines:
- a) Consumer loans will be provided by banks and micro-finance institutions⁶⁸ in conjunction with financial incentive for EE stoves to enable cash-constrained households to buy an EE stove and procure annual supply of AF (see Info Box 3 for details on confirmed co-finance for this by Crystal).
 - b) Technical assistance will be provided to MFIs and commercial banks to structure and promote such loan products for households in partnership with suppliers of certified EE-AF products.
 - c) In parallel, the project will also provide technical assistance to financial institutions to structure loan products for investment in EE-AF by local businesses, such as hotels and restaurants.
- A number of Georgia's financial institutions which have been consulted (Crystal, TBC Bank and ProCredit Bank) had expressed interest to partner with GIZ-GCF project on developing a consumer financing loan to complement GCF-supported financial incentive – see Info Box 3.

Info box 3: Consumer Loan for EE stoves and AF

Among potential financial partners consulted through the Funding Proposal development stage, Crystal⁶⁹, Georgia's largest MFI, is the most advanced in developing a new loan product specifically for EE-AF, but participation in the project is open for all financial institutions. Crystal has conducted in-depth market study for this product and is currently piloting a prototype scheme to collect additional data and information on consumers' readiness and willingness to finance and the impacts of EE stove adoption and switch to USB. Under this project, Crystal will set up an EE stove instalment financing programme: Crystal will finance the purchase of an EE stove through a 9-month loan, to be repaid in equal instalments. Crystal will realize an effective interest rate of 30% by negotiating with EE stove suppliers a discount (ca. 10%) on the purchase price (the instalment programme will therefore be presented as 0% interest to consumers). The financing programme can be extended to include the purchase of a 1-year supply of fuel (sustainably sourced fuelwood from the new NFA fuelwood supply system or AF products).

107. **Sub-activity 2.2.3 Supporting MFIs and partner banks to structure and promote consumer financing products for advanced EE-AF solutions:** The project, via GIZ and financed by BMZ, will provide technical assistance to MFIs and commercial banks to support the development of new consumer financing products for emerging technical solutions and new EE-AF products (to be identified and supported under Activity 2.1.2. These new solutions are not stoves and briquettes). For example, there is large potential and financing needs for building insulation works in residential sector. However, little sector information is available or exist regarding the costs of such projects, availability of skills and technical solutions and the resulting financial benefits for households. The project will be based on market analysis into residential sector potential for retrofits, training and knowledge transfer for banks on appraising investments (including risk assessment) and developing a pipeline of projects in residential sector. Loan products for renewable energy system installation by households, such as solar water heaters (SWH) or heat pumps, will also be explored.

⁶⁶ For details on the implementation structure of the voucher programme and responsibilities of the service provider please see Feasibility Study chapter 6, Activity sheet 2.2.

⁶⁷ For more details please see Feasibility Study Chapter 6.3.2.1 (Sub-Activity 2.2.1).

⁶⁸ Beneficiaries of the "consumer loans" will be chosen by partner banks based on their creditworthiness criteria established individually by each financial partner and in line with regulations of the Georgia's Central Bank

⁶⁹ The scheme is open for all banks and microfinance institutions and it does not give any kind of exclusivity to Crystal.

Activity 2.3 Creating consumer awareness and provision of technical advisory services for fuelwood users

108. The objective of this activity is to raise awareness about EE-AF solutions, national forest sector reforms and its implication for fuelwood supply, and participation options in forest management planning and implementation. The focus is on rural households (GCF funding will cover target regions, while SIDA will co-finance the same package of activities in the rest of the country). As a result of this activity in the target regions 82,000 households, including 27,000 women-headed households will be provided with information and assistance to identify and adopt EE-AF solutions in the target regions alone and additionally with SIDA support – 160,000 HHs (52,800 women-headed HHs) across the other regions of Georgia will be supported. In addition, 1 million people will be reached out nation-wide via awareness raising campaign. The Activity works on two levels: Localized awareness creation and advisory services in the municipalities and villages (Sub-activity 2.3.1, implemented by GIZ and SIDA) as well as on the national level via a national campaign (Sub-activity 2.3.2, implemented by EIEC).
109. **Sub-activity 2.3.1 Community-mobilization, advocacy and advisory services on EE-AF to fuelwood users:** On the local level, the project will provide extensive informational and technical advisory support to fuelwood users in the target regions and other locations across rural Georgia. This support will specifically cover a) provision of information about locally available EE-AF solutions; b) outreach and awareness raising about the implications of the forestry sector reform, the options for participating in forest management planning and implementation, the impact on fuelwood availability, price and available EE-AF alternatives, new supply chain of fuelwood via NFA (see Activity 1.3), as well as c) the provision of technical advisory services to fuelwood users to help them identify and apply optimal EE-AF solutions in their households. This activity will involve close collaboration with regional and municipal authorities, trustees of the local communities, community-based organizations (CBOs), women groups and local NGOs. A national organization, NGO or professional service provider, will be selected by GIZ through an open tender or grant awarding procedure to implement this activity. GCF-BMZ funding will be used to finance awareness and advisory work in three target regions, while SIDA co-financing will enable replicating and scaling-up the same approach to other Georgia's regions⁷⁰.
110. In the first stage, the project will reach out to and identify potential local partners and organize a series of meetings to provide information about awareness and communication strategy on EE-AF and the opportunities for local organizations to participate in its implementation. The project will run a micro-grant programme to select local partners and through them the establishment of the local information points (LIPs), i.e. public places where households and other fuelwood users can receive information about locally available EE-AF products, test/see them in operation, obtain contact information about EE-AF suppliers and financing options.
111. In the next stage, once local partners are identified and LIPs are established, the project will work through them to provide information materials, facilitate networking with EE-AF suppliers and will use local partners as a platform to communicate with and receive feedback from local communities throughout project duration. Further, through established LIPs technical advisory services will be provided to fuelwood users, in the form of simple (walk-through) energy audits and other type of energy advice to help households and local SMEs identify optimal technical and financial solutions for EE-AF.
112. **Sub-activity 2.3.2 National advocacy and awareness raising:** At the national level, the project will run a GCF-financed country-wide awareness raising and PR campaign to be implemented by the Environmental Information and Education Centre (EIEC) on sustainable forest management, forestry reform agenda and its linkages with climate change and sustainable energy, including:
- Informing important stakeholders at municipal level about their roles, responsibilities and opportunities related to the forest reform, including local authorities, citizens, community-based organizations, and commercial operators of the private sector
 - Engaging youth and children in SFM campaign through forestry knowledge publicity, tree species identification, voluntary actions, knowledge competition, art performance, and essay contest
 - Organization of forest visit programs for journalists, youth, and students (specifically in the three target regions)
 - Writing and publishing forestry related stories targeting radio, newspapers and TV, as well as using social media such as Facebook, YouTube, Twitter, and Instagram for scaling outreach

⁷⁰ For details of the implementation structure of this activity please see Feasibility Study, Chapter 6, Activity sheet 2.3.

- Production and dissemination of promotional items Communicating GCF project results and impacts to a wider range of stakeholders in Georgia and the region, including undertaking project impact and lessons learnt studies on the national campaigns.

Activity 2.4 Enabling policies and regulations

113. The objective of the Activity is to create a conducive policy and regulatory environment for EE-AF market development. First, it aims at gradual phase-out of inefficient stoves from the market by introducing and facilitating adoption of mandatory energy efficiency and environmental performance standards for domestic heating appliances. Second, to create initial strong demand for EE and AF products, it will support development and application of energy efficient public procurement policies. By doing so, this Activity will support implementation of the ambitious reform agenda of the Government of Georgia in the area of energy efficiency and renewable energy in line with its commitment as a member of the EU Energy Community, which the country joined in 2017. Technical assistance will be provided to the relevant public authorities to accelerate transposition and practical implementation of those policy and regulatory instruments envisaged in the EE and RE acquis, which have direct relevance and implications for the EE-AF sector and reduction of the fuelwood consumption in rural areas. There are two key policy instruments which the project via GIZ as responsible Executing Entity will support with BMZ funding:
- Introduction and enforcement of the energy efficiency and environmental standards and labelling scheme for EE heating appliances (stoves) in line with draft Energy Efficiency Law and National Energy Efficiency Action Plan (NEEAP) (Sub-activity 2.4.1)
 - Introduction of the energy efficiency procurement in the public sector, as per relevant provision of the Energy Efficiency Directive and Energy Efficiency Law (Sub-activity 2.4.2). The Ministry of Economy and Sustainable Development (MoESD) is the key governmental body in charge of developing and promoting Energy acquis and will be the primary partner and beneficiary of this Activity.
114. **Sub-activity 2.4.1 Capacity building for introduction and enforcement of energy efficiency and environmental standards and labelling for EE-AF solutions:** Due to the missing framework and low level of technical capacities, the appliance eco-design implementation will require extensive groundwork, in particular for domestically produced appliances, such as solid fuel local space heaters. That is why NEEAP envisages a phased approach to introduction of standards and labels, with only a limited number of appliances subject to regulation in the first phase.
115. Recognizing limited capacity of the Government and the market to simultaneously adopt and implement all Eco-design directive regulations, the project will spearhead adoption of EE and environmental standards and labels specifically for heat stoves by:
- Supporting MoESD in drafting and adopting of legislation and its delegated acts for EE standards and labels of solid fuel-based local space heaters
 - Identifying appropriate arrangements for stove testing and certification, in particular in view of the absence of such experience and capacities in Georgia (in parallel with Activity 2.1 which will support stove certification)
 - Capacity building of the designated EE Agency for stove market surveillance, including product data-base, rapid screening methods to identify non-compliant products. The project will do so by providing technical advice, training and facilitating learning from experience and best practices from EU and other countries
 - Recommendations on establishment of the social support programme for solid fuel local space heaters based on the results of Activity 2.2.
116. **Sub-activity 2.4.2 Facilitating introduction of EE procurement practices in public sector:** The Public Procurement Agency of Georgia has been entitled by the EE Law to integrate principles of energy efficiency public procurement in the public procurement practices in Georgia. MoESD and the Public Procurement Agency will be the main partners and beneficiaries under this sub-activity and will receive technical assistance for:
- Development of secondary legislation on Energy Efficient Public Procurement (EEPP)
 - Development of the National Guideline on EEPP, including appropriate methodologies, templates, case studies, etc. to aid with practical application of the EEPP
 - Provision of training and capacity building for public procurement authorities on EEPP application, including through familiarization with international best practices and approaches to EEPP
 - Pilot application of the EEPP in target regions, the support includes: the preparation and finalization of procurement documentation (tender dossiers, evaluation reports, draft contracts); attendance to pre-tender meetings, bid opening ceremonies (as observer) and clarification/negotiation meetings

- Advocacy and awareness raising on energy efficient procurement among Public Procurement Agency (PPA) staff, public procurement authorities, vendors and population at large.

Component 3: Livelihood opportunities and local-self-governance in forest management⁷¹

Note that SDC has expressed strong interest to co-finance this project for a duration of 4 years (see co-financing letter Annex 13e), however its formal decision about the contribution as described in the Funding Proposal has not been taken yet - but is expected for the end of June 2020.

117. This Component ensures a just and participatory transition to the new approach of managing forests sustainably in its social, economic and ecological functions with the ultimate goal to reduce pressure on forest areas.
118. Under the forest sector reform, the fuelwood supply mechanism and timber harvesting will be the sole responsibility of the NFA. Up to now, members of local communities depend partly on informal or illegal wood harvesting activities as source of income – a livelihood opportunity, which will disappear in the near future. At the same time, the new forest code and the new National Principles, Criteria and Indicators for Sustainable Forest Management put a much stronger focus on economic benefit sharing and participation of local authorities and population in forest management. Component 3 taps into these opportunities by:
 - Strengthening technical capacities of municipalities and citizens to engage in forest management and conservation (Activity 3.1)
 - Introducing participation and interest protection mechanisms in order to ensure a transparent and inclusive forest management planning and implementation (Activity 3.2)
 - Developing professional skills and knowledge for forest management and conservation through vocational education and international university partnerships with centers of knowledge (Activity 3.3)
 - Supporting the transition from informal fuelwood related income sources to formal livelihood options of various forest-related value chains (Activity 3.4)
119. These activities lead on the one hand to a more active participation of local authorities and local population in decision-making, SFM implementation and dispute settlement and thus to a more just transition. On the other hand, through increased education and value chain development the local population benefits from diversified, legal employment and business opportunities and thus increased incomes.
120. This Component will utilize technical assistance to implement the activities. The Component is solely financed by an SDC grant.
121. **Activity 3.1: Development and introduction of municipal-level tools, practices, plans and capacities for participatory SFM and conservation**
 Municipality-based SFM increases the forest ownership of local communities and thus supports the national forest protection and conservation efforts. In addition, the value-added of SFM remains in the communities for their benefits. This Activity prepares the framework conditions and introduction of municipal sustainable forest management in the country. The new Forest Code (article 20 “Competence of a Municipality” and article 21 “Forest Management Body”) foresees in the medium- to long-term the optional management of forests by municipalities. However, this concept is at a very nascent stage in Georgia, and only two forest areas are so far managed by a municipal administration (Akhmeta Municipality for the forest area of the Tusheti Protected Landscape and Tbilisi City Hall for the forest area of the city of Tbilisi).
 The project will develop and introduce tools, practices, plans and economic planning instruments specifically designed for utilisation in municipal forest management and conservation efforts. In addition, capacity development for municipal authorities will enable staff and community members to utilize the developed instruments and to participate in management and conservation activities.
122. **Activity 3.2: Development, testing and promotion of local mechanisms to better protect interests of adversely affected stakeholders**
 The new forest code and the Criteria and Indicators foresee a much stronger participation of local level stakeholders in decision-making and forest utilization than before. More active participation is foreseen in developing forest management plans, in decision-making on grazing areas and utilization of NTFP collection, as well as implementation of SFM in general⁷². In the course of implementation, forest management activities,

⁷¹ The exact wording of the results and activities might slightly change before formal decision by SDC.

⁷² Please also see description of Sub-activity 1.1.1.

including forest policing, will intensify, leading to potential more conflicts between authorities and local population. This Activity will put the new participation approach into “life”, acknowledging the need for conflict resolution mechanisms. To do so, the project will develop, promote and test interest protection mechanisms. The grievance mechanism developed for this project⁷³ will serve as a starting point for one of the mechanisms.

123. Activity 3.3: Development of professional skills on SFM and conservation through vocational education and international partnerships with centres of knowledge

To engage in formal forest-related employment as a forest worker, either as staff member of NFA or as part of service contractors, education in vocational training colleges and a respective degree is a formal requirement under the new forest code. Similar, foresters require now an official university degree. Employment opportunities via the forest sector reform are vast⁷⁴. The Criteria and Indicators clearly state that that preference for employment has to be given to members of local communities. Moreover, the introduction of forest-related value-chains will require organizational and business skills related to the production, processing and marketing of forest products. Vocational training colleges lack capacities, equipment, curricula and educated teaching staff to expand their already existing program in the forest and value chain sectors. To diversify income opportunities, the project will work with vocational training colleges to strengthen the educational capacities of the institutions, to foster intake of local community members and to promote the forest worker job profile in the three target regions. At university level, practically relevant research activities and forester education will be supported by establishing partnerships with international qualified centers of knowledge to efficiently build up necessary expertise and solutions in the respective forester education programmes.

124. Activity 3.4: Introduction of selected value chains (timber, NTFP, eco-tourism)

This Activity creates alternative livelihood opportunities for individuals and households in the target regions to

- support the transition from informal fuelwood related income sources of certain members of the community to other (more formal) sources of income, and thus compensate for loss of (informal) income sources caused by the Forest Sector Reform
- increase household incomes, which eventually supports potential fuel switch and purchase of legal, high quality fuelwood

125. The project facilitates the establishment of the new value chains as alternative livelihood options via technical assistance. Among several options, the following ones will be considered, in view of a final selection:

- Timber value chain: The market development for energy efficient technologies and alternative fuels (see Component 2) and the harvesting and processing of timber provide various income and labour opportunities through respective value chain development.
- Non-Timber Forest Products (NTFP): Up to now, the commercial build-up of NTFP (such as chestnuts, wild fruits, berries and mushrooms) value chains by private and community-based entrepreneurs, is legally restricted. The law allows the collection of these products free of charge for personal consumption. However, while local people often collect them for sale, no harvesting limits are specified beyond which the collection of a given product would be regarded as commercial. Community-run NTFP value chains are rare and under-developed, despite the economic potential. Community-run commercial value chains for NTFP will be promoted in the eight project forest districts in line with the new Forest Management Plans.
- Eco-tourism in forests and mountain areas: Tourism potential in Georgia, especially nature-based tourism, is a growing economic factor. The project could assist communities to develop and participate in eco-tourism value chain, based on the recreational use of forests.

Overview and justification of instruments being used by the project

126. The table below provides an overview of the financial instruments used in the project and the justification for the specific choice.

⁷³ See Annex 7a Stakeholder Engagement Plan and Grievance Mechanism

⁷⁴ See section D.3 Sustainable Benefits

Table 3: Justification for TA and Investment Support per Sub-activity

Sub-activities	Source of funds	Justification
TECHNICAL ASSISTANCE (TA)		
Grant support in the form of technical assistance (TA) is required to address a range of non-financial barriers to scale-up SFM and EE-AF market development, as detailed below at sub-activity level (please also refer to Section B.2 of the FP for description of barriers). In the absence of GCF project these barriers will continue to exist because on-going TA projects are not sufficient to comprehensively address them at the scale required to meet NDC target ⁷⁵ . GCF grant will be deployed alongside additional grant funding from BMZ and SIDA and partner contributions.		
Sub-activity 1.1.1 Development of SFM Plans	GCF, BMZ	TA support is required for this sub-activity to cover the costs of external expertise (international and national experts) required to support NFA with development forest management plans based on SFM principles and provisions of the new (draft) Forest Code.
Sub-activity 1.1.2 Implementation of SFM plans	GCF, BMZ	This sub-activity forms the core of the project. Implementation of the country's forest sector reform and SFM at the scale needed to meet Georgia's NDC target necessitates substantial capacity building at the individual, institutional and sectoral level. Dedicated project management staff and national and international experts are required to provide targeted support for the implementation of SFM, including on-the job training, the development of guidelines and protocols for the implementation of best practices ecosystem-based forest management, and the development of training modules, training trainers and conducting trainings to NFA staff and forest-sector contractors. While GIZ has been and will continue provision of technical assistance via the IBIS/ECOserve project to implement the sector reform, substantial capacity gap remains to enable sector transformation and therefore additional GCF and BMZ grant funding is being requested to address this gap.
Sub-activity 1.2.1 Strengthening of procedures, standards and protocols for enhanced forest supervision	BMZ	TA support is needed to reflect and mainstream forthcoming regulatory changes in the forest supervision practices, as well as to support staff awareness raising and training. DES has a growing work force and its staff is expected to double by the end of 2019, which is a substantial capacity building challenge for the organization.
Sub-activity 1.3.1 Support establishment of the new mechanism for fuelwood provision to local population	GCF	Fuelwood provision at scale is a new function of NFA, there is very limited human or institutional capacity within NFA to carry out such mandate. External professional expertise, as well as international knowledge and best practices, are required to establish and successfully implement new business model for NFA. Ongoing technical support on sustainable fuelwood supply management is also critical as there will be the need for adaptive management in the first years of operation.
Sub-activity 1.4.1 Strengthening of the legal framework for SFM	BMZ	TA is needed to operationalize SFM requirements and integrate them in national policy and regulatory framework. Secondary regulations, cross-sector coordination and technical knowledge are all essential elements of the enabling environment for nationwide roll-out of SFM. First, forest sector reform will not be complete without secondary regulations which reflect and operationalize the principles. While currently TA is available through GIZ to prepare first set of regulations, the need will remain beyond GIZ project's time-frame and will have to be addressed with additional TA from the GCF project. Without policy and regulatory changes, SFM implementation will remain at the "pilot" level.
Sub-activity 1.4.2 Improvement of sector steering and coordination between involved sectors	BMZ, Government	The new forest code has major implications not only for the forestry sector, but also on topics related to energy efficiency, alternative fuels, rural development, and public health, among others. Therefore, effective mechanism for cross-sectoral coordination and information sharing is needed. Technical assistance is required for this sub-activity to support an "upgraded NFP" process, specifically to provide expertise and operational support to the Forest Sector Reform Steering Committee, the key body in charge of the NFP and the work of the seven thematic working groups.
Sub-activity 1.4.3 Development of online knowledge management and training platform	GCF, BMZ, Government	Under this sub-activity one of the main barriers to SFM introduction will be addressed, i.e. insufficient capacities and knowledge of sector stakeholders. This involves moving from the current system of 'one off trainings' to an institutionalized knowledge management and training platform that enables improved knowledge management, as well as improved institutional and individual capacity development. It further utilizes diverse training formats and educational tools ranging from e-courses, in-class

⁷⁵ See Chapter 5.4 of the Feasibility Study for overview of TA in the targeted sector.

for the forest sector		trainings, and in-forest videos, and information can be uploaded to support knowledge management and learning. In view of the number of people involved in the sector and broad range of technical topics and areas of expertise to cover, substantial amount of technical assistance is required to address capacity barrier comprehensively and to provide a sustainable solution.
Sub-activity 1.4.4 Improvement of vocational education and training for the forest sector	BMZ, Government	The new (draft) forest code requires all foresters and forest workers, including existing NFA staff and future staff to obtain a formal qualification by 2025. This implies the need to develop certified courses and programs based on best practices for SFM, for existing staff and future staff. There is limited expertise either within NFA or Georgia's education sector to prepare such training programs in line with international standards and best practices, whilst ensuring accreditation by the Ministry of Education. TA support therefore is essential to address this capacity gap.
Sub-activity 1.4.5 Enabling improved integration of climate change adaptation in forest sector planning, management and monitoring	GCF, BMZ	Georgia is lacking comprehensive and evidence-based research on the vulnerability of forest ecosystems to climate change, which is necessary to plan detailed actions to increase the resilience of forest ecosystems, as well as to integrate climate change adaptation in forest sector governing framework. TA support is being requested to strengthen the knowledge base on climate risk and vulnerability ⁷⁶ , promote climate-responsive planning, processes and management, increase awareness on climate-risks, and building the necessary capacities on climate—resilient planning and adaptive ecosystem-based management.
Sub-activity 1.5.1 Strengthening of the national forest monitoring and MRV architecture	GCF, BMZ, Government	A comprehensive FIMS is required to provide, analyze and utilize data for the various stakeholders in the forest sector, enabling transparent supervision, monitoring, evaluation and reporting. In addition, an MRV module in the forestry sector is required for the sector and the GCF project to monitor and report on the results and impacts of forestry sector reform, as well as on the progress with achieving GHG emission reduction targets specified in NDC. No such MRV system exists in Georgia, and BAU practices on forest information and monitoring are very limited ⁷⁷ . GCF grant is being requested to build up the climate specific modules and systems of FIMS, whilst BMZ and Government funds are being requested to develop the overall system and the other FIMS modules.
Sub-activity 1.5.2 Development of FIMS modules		
Sub-activity 2.1.1 Establishing Technical Assistance and Investment Support Facility (TAISF)	GCF, BMZ, SIDA	TA will address capacity barriers on the side of EE-AF suppliers related to product quality, marketing and business development skills, as well as the capacity constraints at ARDA to integrate environmental and climate considerations in the scope of its investment support activities. Most of companies currently present on the EE-AF market are self-financing their business operations. In terms of access to finance, most producers cannot access finance through the commercial banking sector or micro-finance institutions (MFIs). This is not due to a lack of potential financing options, but rather due to the low level of financial literacy of the local SMEs and lack of experience and skills with development of bankable projects. TA is needed to assist nascent EE-AF sector in Georgia to make it from the early business planning stages through to operational and commercial sustainability in order to reach a break-even point.
Sub-activity 2.1.2 Feasibility assessment and pipeline development for new EE-AF solutions	BMZ	TA support under this Sub-activity will address market failure and the barriers typically faced by first movers on a un-established market when substantial up-front resources are need to develop a new product, but the risks of initial investment in market research and product development are too for individual entrepreneurs to bear due to a lack of strong demand for a product by consumers.
Sub-activity 2.2.1 Design, implementation and marketing of the voucher programme for EE stoves for households	GCF, BMZ	TA to ARDA is required to design voucher programme for EE stoves and enable its implementation, monitoring and evaluation.
Sub-activity 2.2.3 Supporting MFIs and partner banks	BMZ	Georgia's financial institutions have limited awareness about EE and AF solutions, in particular in rural context. A number of banks have experience with financing domestic EE appliances, but none has yet dealt with financing EE retrofit measures or installation

⁷⁶ See Chapter 3.1.2 of the Feasibility Study for a detailed information of climate risks and data gaps pertaining to climate change adaptation in the target region.

⁷⁷ See Feasibility Study, Chapter 5.2.3.3.

to structure and promote consumer financing products for advanced EE-AF solutions		of central heating systems, for example. TA is required to help financial institutions better understand potential market niche, technologies and develop new product for EE-AF market.
Sub-activity 2.3.1 Community-mobilization, advocacy and advisory services on EE-AF to fuelwood users	GCF, BMZ, SIDA	Low level of awareness, as well as concerns among households about the implications of forest sector reform on fuelwood supply and availability of alternatives has been identified through stakeholder consultations (see Section G.1) as the key barrier to both adoption and scaling-up SFM, as well as EE-AF market development. TA to raise awareness is essential to address this barrier, in particular through on the ground work and direct engagement with communities to be first affected by the forest sector reform.
Sub-activity 2.3.2 National advocacy and awareness raising	GCF, Government	This is relatively small, but an important activity within the project as it is meant to create understanding about SFM and its benefits among population at large, which is essential to secure broad support and buy-in of the forest sector reform in the country. TA support will address this need.
Sub-activity 2.4.1 Capacity building for introduction and enforcement of energy efficiency and environmental standards and labelling for EE-AF solutions	BMZ	Policy changes are required to create lasting effect on the EE-AF sector development as they would include clear signal to both suppliers and consumers about the sector development trajectory towards strict EE and environmental performance standards in line with international best practices. Existing and planned TA projects in energy sector, however, does not cover approximation of the Ecodesign Directive, as well as introduction of EEPF practices. These two regulations are important as the former will over time force the inefficient stoves off the market, while the latter will create strong demand to use alternative fuels in the public sector.
Sub-activity 2.4.2 Facilitating introduction of EE procurement practices in public sector	BMZ	
INVESTMENT SUPPORT through GFREIF		
<p>Investment support is required to address financial barriers and budgetary shortfall in the forestry and household sector. It will take various forms and come from a range of sources. Specifically, GCF funding is being requested to co-finance alongside BMZ and the Government the following investments:</p> <p><u>Under GFREIF Public Investment Window I:</u></p> <ul style="list-style-type: none">▪ Performance-based grant to NFA for implementation of FMPs (Sub-activity 1.1.2): EUR 9.6 million▪ Procurement of equipment and modern technologies for DES (Sub-activity 1.2.2): EUR 0.6 million▪ Construction of BSY facilities (Sub-activity 1.3.2): EUR 2.6 million <p><u>Under GFREIF Private Investment Window II:</u></p> <ul style="list-style-type: none">▪ Result-based financial incentive instrument (voucher program) for EE stoves for households (Sub-activity 2.2.1): EUR 3.6 million <p>In addition, the following investment needs will be 100% co-financed by project partners:</p> <p><u>Under GFREIF Private Investment Window II:</u></p> <ul style="list-style-type: none">▪ Development of EE-AF supply chain via Investment grants, interest-rate subsidies and guarantees to EE-AF suppliers by the Government via ARDA (Sub-activity 2.1.1): EUR 4.3 million▪ Interest-rate subsidies and guarantees to forestry companies by the Government via ARDA (Sub-activity 1.1.2): EUR 13.5 million▪ Procurement of EE-stoves and AF supplies by households with loan financing from Chrystal Bank and other FIs (Sub-activity 2.2.2): EUR 10.5 million <p>GCF grant for Component 1 (Investment support to NFA and DES) will contribute to alleviating budgetary shortfall faced by the Government⁷⁸. The government has committed to step in, out of budget sources, to fill in the funding gap with significant commitment exceeding its current funding for the forest management system.</p>		

⁷⁸ See Chapters 5.2 and 5.4 of the Feasibility Study for details on forest sector funding baseline, as well as Section B.5 of the FP for the concessionality arguments

Sub-activity 1.1.2 Implementation of SFM plans	GCF, Government	Based on the progress in FMP implementation, the project will provide a 50% contribution in year 1, 3 and 5 to the procurement of advanced, low-impact SFM machinery and to forest road construction. To minimize concessionality requirements, this investment support will be in the form of performance-based grants and linked to the achievement by the NFA of the agreed-upon milestones related to forest road construction, harvesting, planting, etc. ⁷⁹ NFA has no other means to finance investment required to scale-up SFM implementation: without GCF support, the expected financial IRR (FIRR) of Component 1 is 2.4%, which is well below Georgia's financial cost of capital of ~8.4%. ⁸⁰ The financial NPV, using such cost of capital as the discount rate, is negative EUR 9 million.
Sub-activity 1.2.2 Implementation of improved forest supervision measures and technologies	GCF, Government	DES is fully dependent on government budget for the implementation of their activities, since it is a non-revenue generating state function. State budget, however, covers only basic investments including uniforms, laboratory costs, office expenses, fuel and maintenance costs, standard vehicles and personnel (partial) insurance costs, basic equipment (flashlights, binoculars, truncheons, rescue vests, fire extinguishers and other low-cost equipment), and office building construction. It further covers the purchase of some patrolling vehicles, but often basic trucks are procured which are not suitable for many of the poorly maintained and rugged roads, especially in mountainous areas. ⁸¹ For 2019, DES requested a budget of GEL 28.9 million, however they were only appointed a budget of GEL 20.67 million, resulting in a deficiency of GEL 8.23 million. ⁸² The gap in financing particularly affected investments in off-road vehicles for mountainous areas, motorbikes, drones, video-audio devices, cameras, camera traps, and computers, among others. Such equipment is considered highly relevant and important for improving forest supervision in the country. ⁸³ Without GCF grant, deficiency DES's material base will continue to exist limiting its ability to effectively implement its mandate.
Sub-activity 1.3.2 Construction of 14 new and refurbishment of 1 existing business service yards (BSY)	GCF, Government	Phasing out the " <i>social wood programme</i> " by January 1, 2022, ⁸⁴ along with foreseen strengthened law enforcement to combat illegal logging (Activity 1.2), will support the transition to a new fuelwood provision mechanism overseen by the NFA that aims to provide sustainably produced fuelwood to local households. A concept for the new fuelwood provision model by the NFA envisages establishment of at least 54 BSYs across the country. Each BSY includes (at least) 1 office for BSY staff and guard(s), drying and storage facilities (a shelter with a roof) and an area for simple timber site manipulation. These facilities will improve transparency and legality in timber value chains and improve timber sorting (enabling added value by ensuring low-quality timber is prioritized for fuelwood – see FS Chapter 5.2.3.5). Without investment in BSYs facilities the new fuelwood supply model cannot be practically implemented, as a result population will be entirely cut-off from even limited source of fuelwood supply in their areas. This poses substantial social risks to the projects, because even with EE-AF market development residual demand for fuelwood will remain and will have to be addressed in a sustainable manner to improve legality of fuelwood supply households again to illegal suppliers/markets. Existing NFA budget and revenues fall short of being able to carry the investment at the required scale (see section B.5 for details)
Sub-activity 2.1.1 Establishing Technical Assistance and Investment Support Facility (TAISF)	Government	Investment support is required to help nascent EE-AF sector access much needed capital to grow and develop in the situation when prevailing market conditions are not conducive and the cost of capital (interest rate of 14-15%) makes such investment financially non-viable. Financial support to entrepreneurs will be supplied by ARDA under its existing support schemes, which include a combination of interest rate subsidies (applied to commercial loans offered to the entrepreneurs by ARDA partner banks), partial credit guarantees and contributions for the purchase of equipment. Entrepreneurs will also contribute equity (minimum 10% of the investment, actual level determined on a project-by-project basis by ARDA). Commercial lenders will bear the risk of loan default for the portion of the loan that is not guaranteed by ARDA.
Sub-activity 2.2.1 Design, implementation and marketing of the voucher	GCF	Several barriers hinder the adoption of EE stoves, the most important being the high price point of an EE stove (GEL 1,000 EE stove price vs. GEL 50-70 for a conventional one). Even though (theoretically) the IRR for such purchase at 45% is very attractive, the amount of up-front investment required is well beyond household's ability to self-finance. In addition to the product being very expensive (also in view of available much

⁷⁹ For detailed specification of equipment and works, please refer to the Feasibility Study, Chapter 6.3.1.1 its Appendix 4)

⁸⁰ Yield on Georgia's 10-year (longest-dated) sovereign bonds as of mid-June 2019.

⁸¹ Furthermore, in 2018 second hand cars were purchased that led to high maintenance costs, and resulted in many cars breaking down – ultimately limiting the effectiveness of such vehicles for forest supervision activities.

⁸² DES 2018.

⁸³ For justification of investment in specific equipment categories, please refer to Chapter 5.2.3.2, Table 38 of the Feasibility Study.

⁸⁴ Draft Forest Code, Version submitted to Georgian Parliament in February 2019.

programme for EE stoves for households		<p>cheaper alternative), it is very novel to consumers, with only few units sold currently in Georgia and lack of industry certifications of product quality. Provision of publicly sponsored subsidies is an established practice in OECD countries to stimulate consumer demand for new products, such as more EE stoves (See Section D.6.4 of the FP – description of best practices). Without financial incentive, households could only finance the purchase of an EE stove with a micro-finance loan at 30% effective interest rate, repaid in 9 monthly instalments (assuming they have access to and qualify for MFI loans). These terms are in line with those applied by MFIs and Banks in Georgia. The resulting monthly instalment of GEL 128 is, according to MFIs, not affordable to most of the target households. The amount of subsidy, i.e. 30% of the market price, has been established taking into account requirement to minimize concessionality in the GCF-funded project and enable the household to be eligible and afford complementary loan financing.</p> <p>The incentive scheme will be put in place in partnership with local financial institutions (banks and MFIs) that will offer loans at full commercial terms covering the remaining 70% of the purchase price. While loan rates and conditions will vary by lender, the example of an MFI loan at 30% effective rate points to a monthly instalment for the borrowing household in the range of GEL 80, which MFIs deem is within affordability limits.</p>
Sub-activity 2.2.2 Providing consumer financing for EE stoves and AF for households	Banks and Microfinance Institutions (Crystal, TBC, Bank of Georgia, Procredit Bank etc.	<p>There is currently a lack of an easy-to-tap financing product specifically targeted at the purchase of EE stoves, to help consumers bridge the price gap between an EE and a conventional stove and this sub-activity aims at bridging this funding gap via consumer loans to be provided by project's financial partners. Importantly, such loans will bear full commercial interest rates, which are currently in the 30% range for MFIs. In other words, no concessionality will be offered by the financial institutions. Households will have the option to apply for a consumer loan covering the EE stove purchase only, or the stove and the annual supply of AF. In addition, financial institutions will bear the risk of loan default (no government or other guarantees are attached to the EE stove loan program).</p>

B.4. Implementation arrangements

B.4.1 Institutional arrangements

127. **Accredited Entity** – Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. **GIZ** with its head office in Germany is the AE in this project. GIZ with its management structure in Georgia will operate as an Executing Entity. For the avoidance of doubt, these two GIZ functions will be strictly separated and are accountable to different management structures within GIZ. As the Accredited Entity (AE), GIZ has the oversight responsibility for the overall project as defined in the Accreditation Master Agreement (AMA) between GCF and GIZ. As AE, GIZ administers the funds on behalf of GCF and provides oversight guidance and quality assurance for the Executing Entities.

128. **Executing Entities:** The following Executing Entities will implement the project

1. National Forestry Agency (NFA)
2. Department of Environmental Supervision (DES), representing the Government of Georgia
3. Environmental Information and Education Centre (EIEC)
4. Agricultural and Rural Development Agency (ARDA)
5. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

129. The **National Forestry Agency (NFA)** is a Legal Entity of Public Law (LEPL) of the Ministry of Environmental Protection and Agriculture (MoEPA) of Georgia. NFA is responsible for managing 1.8 million hectares of forest in the country and is the sole entity responsible for forest management in these areas. Under the new forest code, NFA together with other forest management bodies will additionally be responsible for the provision of legally and sustainably sourced fuelwood in the country. NFA is experienced in working with international donors and development institutions, such as GIZ, EU, WB, ADA, US Forest Service, and other international institutions. For details of NFA involvement in international projects see chapter on donor projects in the forest sector. Within the logframe of the project, NFA is in charge of the following sub-activities:

Activity 1.1. Development and implementation of SFM plans	1.1.1 Development of SFM plans based on the principles of ecosystem-based SFM in selected forest districts
	1.1.2 Implementation of SFM plans in selected forest districts
	1.3.1. Support to new mechanism for fuelwood provision to local population

Activity 1.3. Provision of sustainably produced fuelwood by NFA	1.3.2. Establishment of business service yards (BSY)
Activity 1.4. Enhancement of enabling environment for the nation-wide implementation of sustainable forest management (SFM)	1.4.5 Enabling improved integration of climate change adaptation in forest sector planning, management and monitoring

130. NFA will receive EUR 14.87 million GCF grant funding for activities 1.1 and 1.3. GIZ AE will enter into a subsidiary agreement (grant agreement) with NFA. The contract will be legally binding and outline the detailed financial, procurement and implementation plan of the relevant elements of the project, incl. reporting and liability requirements, as well as ensuring compliance against GCF environmental, social and governance safeguards. The funds will be used for:

- Procurement of equipment
- Construction of forest roads and business service yards for wood sales
- Procurement of services, such as forest inventories, harvesting, timber transport, forest management plan development and other services
- International and national experts for developing training modules, and training of trainers
- Trainings

131. **Department of Environmental Supervision (DES) – representing the Government of Georgia** – is a State Sub-Agency of the Ministry of Environmental Protection and Agriculture (MoEPA) of Georgia. DES is responsible for the prevention and detection of illegal use of natural resources, the prevention and detection of environmental pollution, the control of natural resource license requirements and control of forest management based on management C&I for eco-system-based forest management. All forest supervision activities and the management of procurement of equipment (e.g. vehicles) and other services are executed by DES. Within the logframe of the project, DES is in charge of the following activities:

Activity 1.2. Strengthening of forest supervision	1.2.1. Strengthening of procedures, standards, systems for enhanced law enforcement
	1.2.2. Implementation of improved forest supervision measures and technologies

132. DES will receive GCF funds of up to EUR 0.69 million. GIZ AE will enter into a subsidiary agreement (grant agreement) with DES, **representing the Government of Georgia**. The contract will be legally binding and outline the detailed financial, procurement and implementation plan of the relevant elements of the project, incl. reporting and liability requirements and ensuring compliance against GCF environmental, social and governance safeguards.

133. The funds will be used for:

- Procurement of services to harmonize new standards and systems for the forest patrolling division with the standards and procedures for the already existing environmental patrolling division
- Development of training modules and implementation of trainings
- Investments in improved technologies, equipment and vehicles for forest supervision

134. **Environmental Information and Education Centre (EIEC)** is an independently administered legal entity of public law (LEPL) of MoEPA. EIEC provides access to environmental education and ensures access to comprehensive information on the environment in Georgia. The center acts as a mediator between the environmental protection policy developing and implementing parties and ensure that strategies, legislation and policies are explained to the target groups in a simple language and format. Within the logframe of the project, EIEC is in charge of the following activities:

Activity 1.4. Enhancement of enabling environment for the nation-wide implementation of sustainable forest management (SFM)	1.4.3. Development of online knowledge management and training platform for the forest sector
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Activity 1.5. Improvement of monitoring and measurement, reporting and verification systems (MRV) for the forest sector	1.5.1. Strengthening of the national forest monitoring and MRV architecture
Activity 2.3. Creating consumer awareness and provision of advisory services for fuelwood users	2.3.2 National advocacy and awareness raising

135. EIEC will receive EUR 0.48 million GCF grant funding. GIZ AE GIZ will enter into a subsidiary agreement (grant agreement) with EIEC. The contract will be legally binding and outline the detailed financial, procurement and implementation plan of the relevant elements of the project, incl. reporting and liability requirements.

136. The GCF funds will be used for:

- Procurement of services for the development of online knowledge management and training platform (KMTP) for the forest sector
- Design and implementation of a national awareness campaign

137. **Agricultural and Rural Development Agency (ARDA)** was established in 2012 as a non-entrepreneurial (non-commercial) Legal Entity “Agricultural Projects Management Agency” (APMA) by the Ministry of Agriculture of Georgia in order to promote rural development. From July 1, 2019 the official title was changed into Agricultural and Rural Development Agency (ARDA). The Agency is functioning under the supervision of First Deputy Minister of Environmental Protection and Agriculture of Georgia. The agency implements a variety of projects initiated by MoEPA. Furthermore, it is responsible for managing subordinate agricultural companies. ARDA has a track record of delivering state and donor-funded TA and Investment Support Facilities in the agricultural and rural sector (e.g. DANIDA, IFAD and GEF). Within the logframe of the project, ARDA is in charge of the following activities:

Activity 2.1. EE-AF supply chain development	2.1.1 Establishing Technical Assistance and Investment Support Facility (TAISF)
Activity 2.2. Implementing consumer financing instruments for EE-AF solutions	2.2.1. Design, implementation and marketing of the voucher programme for EE stoves for households

138. ARDA will receive EUR 5.00 million GCF grant funding. GIZ AE GIZ will enter into a subsidiary agreement (grant agreement) with ARDA. The contract will be legally binding and outline the detailed financial, procurement and implementation plan of the relevant elements of the project, incl. reporting and liability requirements. The GCF funds will be used for:

- Procurement for services for the Technical Assistance and Investment Support Facility, TAISF (consultants, printing, workshops, trainings)
- Design and implementation of the household subsidy scheme (voucher programme)

139. **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH:** GIZ is one of the largest international providers of capacity development and technical assistance on climate change worldwide. GIZ is currently carrying out over 300 climate-related projects, with combined funding of over USD 1.9 billion. Mitigation and adaptation account for equal shares in the GIZ portfolio, supplemented by activities on climate financing. A significant part of GIZ's work is implemented in least developed countries. GIZ has been working in Georgia since 1992. GIZ's country office in Tbilisi primarily manages regional programmes that are being implemented in Georgia and the two neighbouring countries Armenia and Azerbaijan. Currently around 90 national and 25 international employees are working in the country. GIZ leads and provides overall management of the capacity development and technical assistance (TA) to the project at national and subnational levels in various activities. GIZ is in charge of the following specific activities:

Activity 1.4. Enhancement of enabling environment for the nation-wide implementation of sustainable forest management (SFM)	1.4.1. Strengthening of the legal framework for SFM
	1.4.2. Improvement of sector steering and coordination between involved sectors
	1.4.4 Improvement of vocational education and training for the forest sector

Activity 2.1. EE-AF supply chain development	2.1.2 Feasibility assessment and pipeline development for new EE-AF solutions
Activity 2.2. Implementing consumer financing instruments for EE-AF solutions	2.2.3. Supporting MFIs and partner banks to structure and promote consumer financing products for advanced EE-AF solutions
Activity 2.3. Creating consumer awareness and provision of technical advisory services for fuelwood users	2.3.1. Community-mobilization, advocacy and advisory services on EE-AF to fuelwood users
Activity 2.4. Enabling policies and regulations	2.4.1. Capacity building for introduction and enforcement of energy efficiency and environmental standards and labelling for EE-AF solutions
	2.4.2 Facilitating introduction of EE procurement practices in public sector
Component 3: Livelihood opportunities and local self-governance in forest management	Activity 3.1 Development and introduction of municipal-level tools, practices, plans and capacities for participatory SFM and conservation
	Activity 3.2: Development, testing and promotion of local mechanisms to better protect interests of adversely affected stakeholders
	Activity 3.3: Development of professional skills on SFM and conservation through vocational education and international partnerships with centres of knowledge
	Activity 3.4: Introduction of selected value chains (timber, NTFP, eco-tourism)

140. GIZ's additional responsibilities include:

- Managing the project budget of GIZ as Executing Entity that is spend in the country.
- Liaising with the GIZ Country Office regarding budget and finances, monitoring and reporting, staff and appraiser contracts.
- Reporting to the German Embassy and BMZ regarding their financial contributions to the project as well the overall progress of project implementation.
- Coordinating project implementation with the co-financing development partners and their projects and counterparts as well as other bi- and multilateral institutions operating in the same technical and/or geographical area.
- Liaising with, and reporting to, the Project Steering Committee.
- Coordinating with and reporting to the other four Executing Entities involved in the project (NFA, DES, ARDA, and EIEC).
- Representing the project in national working groups and stakeholder forums.

141. GIZ as an Executing Entity will be responsible for a GCF budget of EUR 11.75 million, which will be devoted to staff and travel costs, equipment, international and local consultants, execution of trainings, workshops and conferences as well as professional/contractual services.

142. **Project Partners** (providing co-financing to the project): Apart from the Executing Entities, GIZ will work closely with a number of governmental, development and private sector partners for the implementation of the Funded Activity, including:

- The **Government of Georgia (GoG)** represented by the Ministry of Environmental Protection and Agriculture (MoEPA) and the Ministry of Economy and Sustainable Development (MESD) will provide in-kind co-financing to the project in form of expert staff, project implementation unit staff, and office space.
- The **Public Procurement Agency (PPA)** is a governmental procurement institution that establishes policies for the regulation of state procurement processes and provides oversight to all government procurement procedures. PPA will provide in-kind parallel financing to the project in form of expert staff as well as training facilities.
- The **Swedish International Development Cooperation Agency (SIDA)** is a Swedish government agency and contributes co-financing to the project. SIDA provides technical assistance for the strategic and operational development of ARDA's portfolio in green rural development. Furthermore, SIDA will be involved in community mobilisation, advocacy and advisory services on energy efficiency and alternative fuels in form of a grant contribution to selected institutions. SIDA will provide co-finance of Swedish Krona 23.70 million (EUR 2.25 million) to the project in the form of a grant contribution to ARDA and a grant contribution to a national institution for the community mobilisation.
- The **Swiss Agency for Development and Cooperation (SDC)** is a Swiss government agency, which will provide co-financing of CHF 4.7 million (EUR 4.09 million) to the project in the form of a grant

contribution to GIZ.⁸⁵ SDC will finance a livelihood community component (Component 3). Its goal will be to provide alternative livelihood opportunities and self-governance in forest management for rural communities.

- **Crystal (and potentially other MFIs or banks, such as TBC, Bank of Georgia, Procredit Bank, etc.):** Crystal will provide co-financing of EUR 10.50 million to the project in the form of consumer loans for households on energy efficiency and alternative fuels. Based on the technical assistance of Sub-Activity 2.2.2 and 2.2.3, other MFIs and banks might develop further additional loan products in case the market development provide sufficient business opportunities. This may lead to further private sector leveraged finance (parallel financing).

143. Contractual arrangements: The graph below illustrates the contractual arrangements foreseen between the main partners of the project. The German Federal Ministry for Cooperation and Development (BMZ) will be commissioning GIZ with the implementation of the project (commissioning agreement). The GCF will transfer funds based on a Funded Activity Agreement (FAA) to the Accredited Entity GIZ. The Swiss Agency for Development and Cooperation (SDC) will sign a co-financing agreement with GIZ for the implementation of Component 3. This co-financing agreement will be established prior to the 2nd disbursement of GCF proceeds according to the FAA.

The Executing Entities – the National Forestry Agency (NFA), the Agricultural and Rural Development Agency (ARDA), the Department of Environmental Supervision (DES, representing the Government of Georgia) and the Environmental Education and Information Center (EIEC) - will sign subsidiary agreements with GIZ, based on GIZ standard operating procedures for grant agreements. These subsidiary agreements establish the legal basis on which GIZ makes the GCF Proceeds available to the Executing Entities for the measures to be implemented by the Executing Entities, in accordance with the AMA and FAA.

Furthermore, GIZ will sign co-operation agreements with SIDA, Crystal, in which their co-financing contributions as well as reporting responsibilities will be specified. GIZ will also sign a cooperation agreement with the Public Procurement Agency (PPA), covering its in-kind contribution to the project (parallel financing).

Finally, GIZ will conclude an implementation agreement with the Government of Georgia (represented by MoEPA and MESD), which will specify their in-kind contributions to the project. For the avoidance of doubt, PPA and the Government of Georgia, represented by MoEPA and MESD will not receive GCF proceeds but provide co-financing to the project.

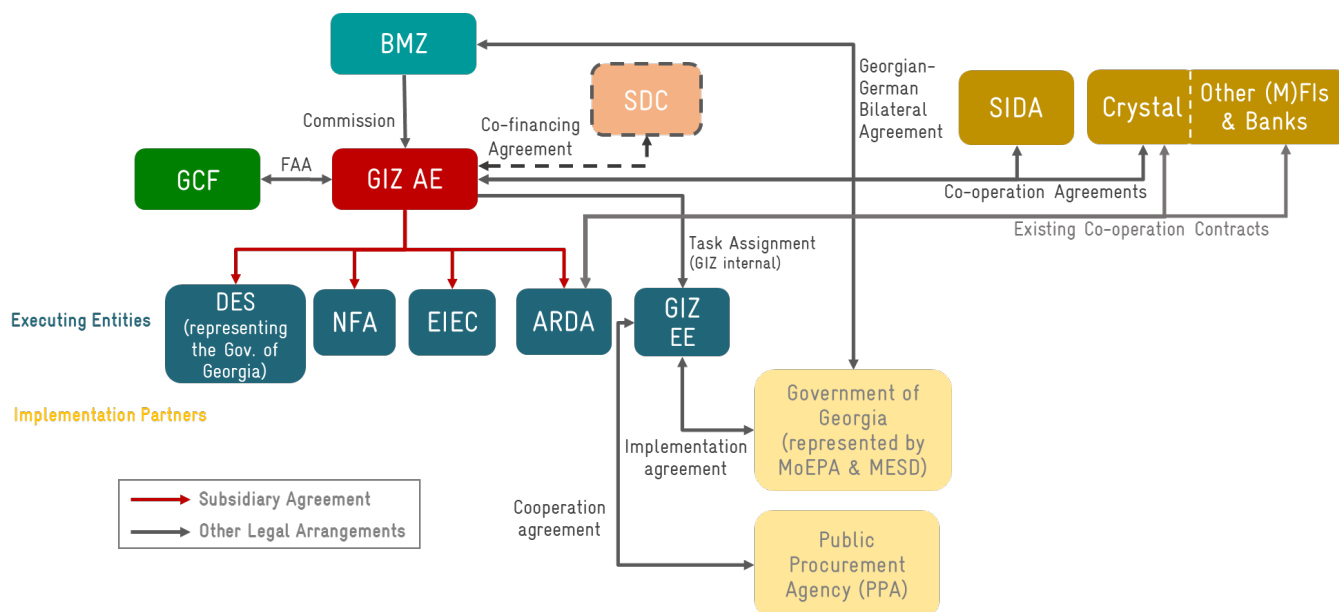


Figure 16: Contractual arrangements

144. Flow of Funds Structure: The graph below shows the overall fund flow of ODA funding and private sector funding in the project (government contributions are excluded). Direct co-finance will flow from BMZ, SDC and GCF to GIZ head office (AE). SIDA and (Micro)-finance institution provide indirect co-finance. GIZ (AE) will transfer GCF funds to the five Executing Entities⁸⁶. The Executing Entities NFA, EIEC and DES (representing

⁸⁵ Contribution of SDC is subject to the formal decision of the Swiss government, which is expected by the end of June 2020.

⁸⁶ The amounts mentioned in the previous pages only cover GCF proceeds. However, the grant agreements may also include additional BMZ funding and funding provided by other co-financiers.

the Government of Georgia) will all use the funds within the context of Component 1 Sustainable Forest Management. The funds to ARDA will flow into Component 2 Energy Efficiency and Alternative Fuels. ARDA transfers the GCF financed funding of the household subsidy scheme for EE stoves via a voucher programme to the consumers. Banks and Microfinance Institutions (Crystal, TBC, Bank of Georgia, Procredit Bank, etc.) provide EE-AF financing to consumers via a consumer loan. SIDA provides funding to ARDA for technical assistance and transfers funding to a national institution (to be identified) to implement community-mobilisation with consumers as final beneficiaries. The Georgian government allocates significant additional budget for the two project components⁸⁷. These funds, however, are not part of the diagram.

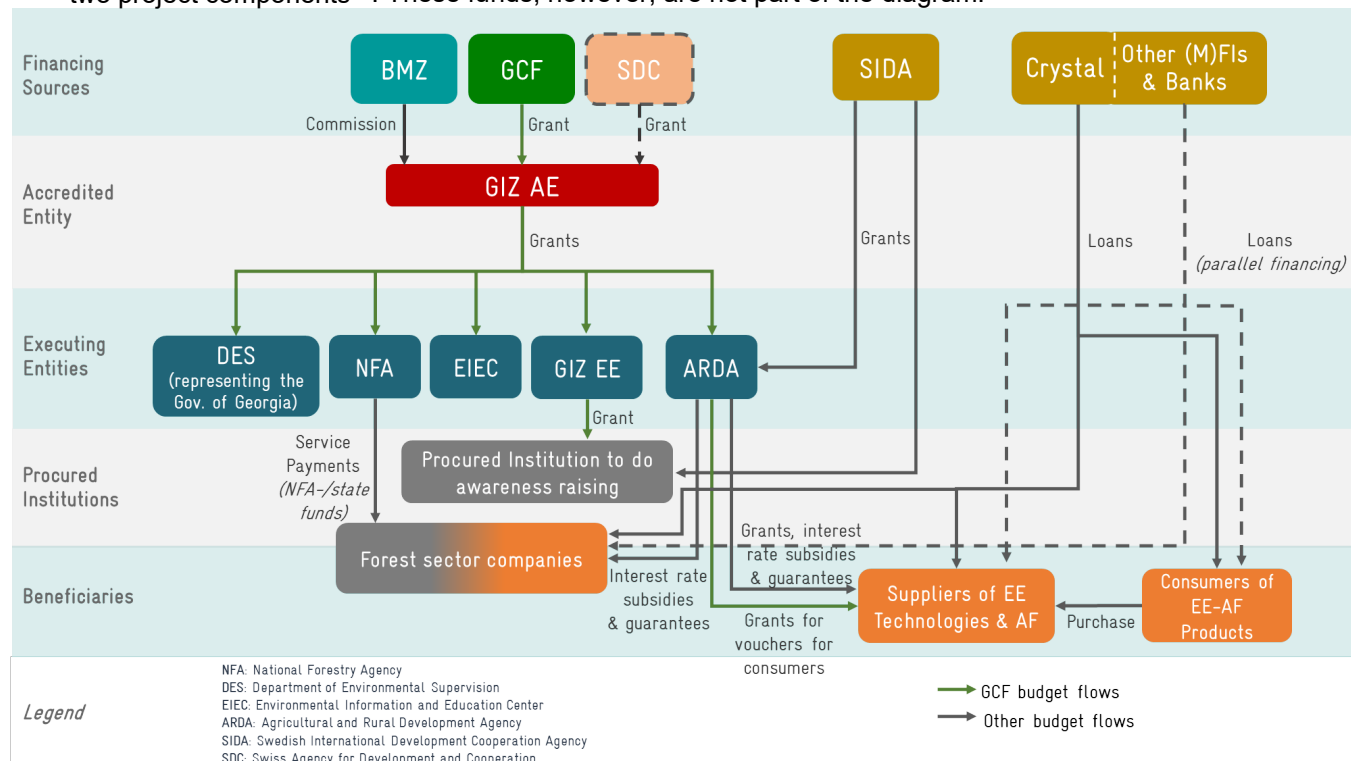


Figure 17: Flow of funds

145. Governance Structure: The project will establish a Steering Committee as the main governing body for the project, as shown in the Figure 18 below. The Committee will meet two times a year and members will consist of department heads/directors from MoEPA, NFA, DES, ARDA, MESD, MoF, EIEC, MRDI, NGOs, SIDA, SDC, BMZ and GIZ. The mandate of the Steering Committee includes:

- Providing overall guidance for the project
- Providing feedback and validation of annual work plans, annual reports and audits
- Ensuring project energy and coherence with the evolution of the international and national context
- Being informed of project adherence with E&S Safeguards and Gender Action plan objectives
- Supporting the coordination of project activities across different line ministries and between private and public sector and civil society.

146. The Project Implementation Unit (PIU) with representatives of project partners will be set up for the duration of the project. The mandate of the unit includes:

- Enhance common understanding among Executing Entities on the theory of change and how transformation in both sectors shall evolve
- Discuss, monitor, and promote best possible synchronisation of implementation between the Executing Entities
- Define, monitor and coordinate work plans
- Ensure that budgets and work plans are on track and monitor project progress
- Identify and resolve bottlenecks and implementation challenges relevant on project level
- Monitor adherence to environmental, social and fiduciary safeguards; monitor implementation of the Project's Environmental and Social Management Plan (ESMP) and Gender Action Plan (GAP), and steer review of these plans if needed

⁸⁷ Negotiations with the Georgian government are currently ongoing regarding government contributions to Component 3.

- Identify issues required to be brought to the attention of the steering committee and/or political decision makers
- Provide for information exchange and synergies between project Components
- Agree on terms of reference, recruitment of experts
- Discuss outcome and impact monitoring processes and results
- Prepare monitoring reports.

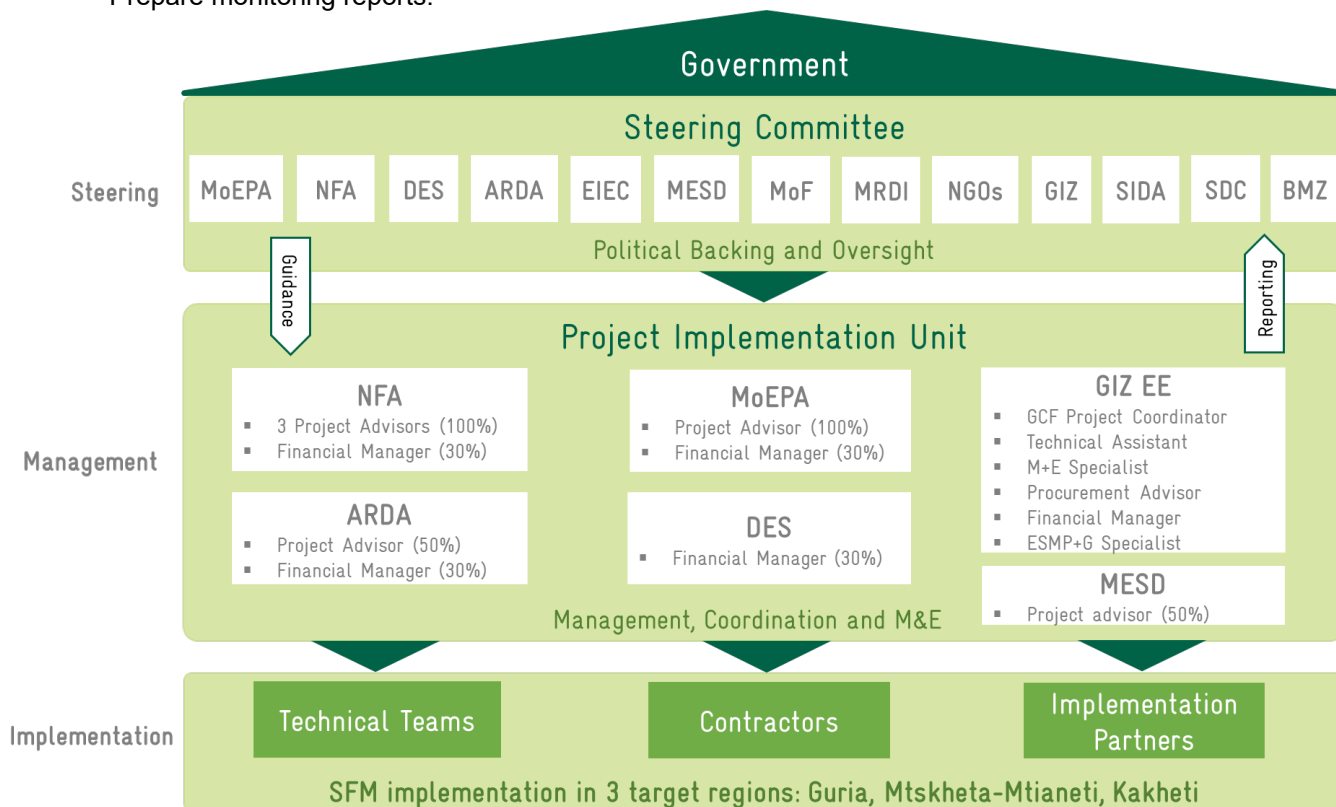


Figure 18: Governance and Implementation structure

B.4.2 Regulation, taxation and insurance

Privileges, immunities and taxation

147. The Federal Republic of Germany has concluded Framework Agreements on Technical Cooperation under international public law with the Government of Georgia, which provide for certain privileges and immunities to be applied in projects and programmes of technical cooperation, including exemptions for taxes, customs, duties and fees. GIZ will endeavour to reach arrangements to have these privileges and immunities also applied to this project, including GCF proceeds. However, formal agreements will only be entered into after the project has been approved.

Approvals, permits, licenses and land

148. Depending on the location of the Business Service Yards (BSY) of NFA, construction permits might have to be obtained. These permits will be obtained by NFA before disbursement of GCF proceeds for this specific activity. Other than that, GIZ is not aware of project requiring specific approvals, permits, licenses or land to allow for the implementation of planned activities.

Currency

149. The local currency in Georgia is the Georgian Lari (code: GEL). The project's local transactions will use GEL. The AE will manage GCF proceeds in Euro. GIZ will apply its standard rates for the conversion of currency.

Insurance

150. GIZ, as the AE, will ensure that project activities are adequately insured as per GIZ standard operating procedures and common practices. GIZ standard operating procedures require contractors to ensure required insurance cover. GIZ policies provide insurance cover for GIZ staff. At the time of submitting the Funding Proposal, GIZ does not anticipate additional insurance in order to cover special risks in this project.

B.5. Justification for GCF funding request

B.5.1. Funding gap: Forestry sector

151. After years of forest degradation, Georgia is actively seeking to implement an ambitious forest sector reform to preserve the ecological value (including carbon stocks), enhance the economic value and increase the social value of its forests. In the past, Georgia has put a lot of efforts and has closely worked with bilateral and multilateral donors to design the new SFM concept, which is now ready for implementation. The degree and complexity of the necessary change in both sectors, forestry and rural energy, is high, as is the need for technical support and investments for the implementation of the reform.
152. Since independence, Georgia's forestry sector has suffered from declining budgets for forest management and protection, severely undermining its capacity to properly enforce forest laws and regulations. NFA is dependent on state budget as well as its own revenues to cover its costs. In 2018, NFA budget expenditures reached EUR 9.66 million (GEL 28.88 million). Around 60% of NFA's budget was from their own generated income (EUR 6.15 million or GEL 18.45 million), and 40% was from state budget (EUR 3.45 million or GEL 10.35 million). This demonstrates a notable change since 2015, where 67% of NFA's budget was from state funding. While NFA's total budget has increased in recent years, the financing needs are also expanding due to the increased necessity for investing in the forestry sector. In 2018, the level of expenditures was EUR 4.86/ha (GEL 14.48/ha), which is very low. In comparison, SFM implementation in many middle-income countries often requires investments in the range of EUR 250-270 per hectare.⁸⁸
153. The budget is insufficient to cover the minimum basic forest management needs, as majority of it is dedicated to staff and administrative costs (60% of NFA's budget, of which 53% is from the state budget and 47% from NFA revenues). Forest use activities (cutting operations and harvesting) comprise an additional 30% of NFA's budget (20% is from state budget), which is deemed important as it is the potential principal revenue generating activity for NFA. Much needed forest maintenance and restoration activities comprise only 9% of NFA's budget (of which only 6% is from state budget). Forest inventory activities comprise less than 1% of the budget (entirely financed from NFA revenues). Such trends are similarly observed in the project regions (Guria, Kakheti and Mtskheta-Mtianeti)⁸⁹ where NFA had a budget of EUR 2.1 million (GEL 6.3 million) for above mentioned activities in 2018 (an average of EUR 3.36/ha, below national average).
154. Following the phased approach on implementation of the reform,⁹⁰ the government aims to start implementation of SFM in the eight target districts. According to calculations, for the first 15 years⁹¹, revenues from SFM activities in the districts will not be sufficient to cover investment and operation and maintenance costs, because of the timing required for forest management measures and wood supply system to reach maturity and timber/fuelwood sales volumes to increase accordingly. In the 8 districts the government would have to inject a total of EUR 32.80 million (of which EUR 18 million (ca. 60%) are required in the first seven years) to make up for the revenue shortfall in years 1-15, more than EUR 2 million on average p.a. To put this in context, this would be equivalent to half the government's expected budget support to the whole NFA in 2019, but for a forest area that is just 15% of the total. It fully exceeds the annual budget of NFA in the three regions (that include 14 districts). Additional substantial investments are needed to build up the capacities of DES for forest supervision, in addition to other technical assistance needs in the sector (e.g. building up capacities on forest management in NFA and for private sector contractors, improving vocational education and trainings, strengthening the regulatory framework and ensuring its alignment with the New Forest Code

⁸⁸ Costs for SFM in a permanent (i.e. non-rotational) forest in China, based on an International Climate Initiative Project. It should be noted that costs for SFM can differ greatly based on the country and regional context (accessibility, labour regulations, currency, and inflation, among other factors), however forestry experts noted that SFM in many countries with a developed forestry sector would require investments within the range reported.

⁸⁹ Comprising 15% of the NFA-managed forest area actually covered by forest.

⁹⁰ For more detail, please refer to the Feasibility Study Chapter 5.2.3.4.

⁹¹ From year 16 onwards, the NFA will make profit from forest management measures and wood supply system, see next section for details.

and the Management-level Criteria and Indicators for ecosystem-based forest management, among other investments.⁹²

155. As shown above, the need for additional financial and technical assistance to cover the costs of initiating and conducting SFM in Georgia is substantial. As regards technical assistance, several small-scale technical assistance projects are supporting the forestry and rural energy sector. The cooperation potentials are already identified.⁹³ However, the scope of required TA support is well beyond existing donors' commitment and partnership agreement with Georgia. To address this TA shortfall, the project in addition to GCF funding, has mobilized substantial additional commitments from BMZ, SIDA and potentially other development partners.
156. In order to address funding shortfall at NFA to cover SFM-related investment needs, the following options can be considered:
- **Option 1 – increase in public financing:** The Government already committed to contribute some substantial additional resources to reduce the funding gap for SFM measures and wood supply in the 8 target districts, i.e. EUR 19.60 million (GEL 58.80 million) for year 1-15 (in average EUR 1.31 million/year or GEL 3.92 million/year). This is the maximum the Ministry of Finance is able to provide to the sector. In addition, budget support will continue on the remaining 85% of the forest area not targeted by the project, which in 2019 would equate to approx. EUR 3.4 million.⁹⁴ In addition, the government makes available additional state budget contributions for DES to hire forest patrollers and to provide the basic equipment for forest supervision functions, as well as re-invest NFA's future revenues in SFM. Georgian Government is also increasing its commitment to provide investment support to EE-AF sector, beyond its current level of support to rural and agricultural SMEs.
 - **Option 2 – concessional loans:** Several activities for which GCF grant is requested will not directly result in revenue generation, but rather support the enabling environment for SFM planning and implementation. This includes investment in infrastructure to strengthen and enforce forest surveillance practices and prevent illegal logging via DES, none of this investment though is revenue-generating and therefore loan financing is not applicable. For revenue generating activities in SFM implementation and building up the NFA wood supply system, due to the prolonged period of negative cashflows, borrowing to cover the funding gap is not advisable, even at the concessional terms offered by GCF and development banks (grace periods typically do not exceed 5 years). In addition, the SFM represents a complete overhaul of Georgia's forest management system in the target districts. Information asymmetries deter commercial lenders from supporting the project, especially with the very long-dated loans that would be required due to cashflow profile (see details in B.5.3).
157. In addition, the two financing options described above are not advisable in light of Georgia's fiscal and debt situation. The government has committed to fiscal consolidation under an ongoing IMF program. Significant budget reforms were introduced in 2017 and no increase in current spending is envisaged in real terms in the coming 5-7 years. The budget deficit has been declining gradually since 2017/18 as envisaged by the IMF. The deficit is forecasted at 2.6% of GDP in 2019, has to be maintained under 3% in coming years and reduced gradually to 2.5% in the medium term starting from 2023. Maintaining the fiscal deficit within the above-mentioned limits is extremely important since this is the debt stabilizing level of fiscal deficit. Government debt is forecasted at 43.7% of GDP for 2019, which needs to be reduced gradually and maintained within 35%-40% of GDP in the medium term. Within this fiscal consolidation framework, the set limits of government debt and budget deficit allow only for increased spending in education and investments in infrastructure that maximizes the usage of Georgia's transit and tourism potential. At the same time, there are constraints on including new commitments in many other directions and no room for additional liabilities.
158. GCF funding is required to address, in the form of TA, extensive capacity building needs of the forest sector stakeholders, as well as financial gaps for investment in SFM by the Government. Currently, the Government with GIZ support is introducing forest management planning for 64,892 ha in Akhmeta, Kakheti, but available public resources are not sufficient to implement the FMP and reach the scale of NDC commitment. Under current framework, the value of forest is being depleted through unsustainable extraction of timber and fuelwood. The project seeks to address this market failure by supporting forest sector reform leading to scaling-up SFM approach and eventual increase in forest's economic, social and ecological values.

B.5.2. Funding gap: EE-AF Sector

⁹² For a more detailed assessment of the financial baseline, see Feasibility Study, Chapter 5.2.4.

⁹³ See Chapter 5.4 of the Feasibility Study on cooperation potentials.

⁹⁴ 85% of GEL 11.9 million (EUR 4 million), the state funding required for the NFA as a whole under the 2019 budget.

159. Affordability of EE-AF products is the **major financial barrier** for consumers. Even for the least cost solutions, such as an EE stove, there is a substantial funding gap and lack of incentive. Estimated price of a certified EE stove is GEL 1,000 whereas a conventional stove can be bought for GEL 50-70, i.e. 20 times cheaper. In addition to the product being **very expensive compared to much cheaper alternatives**, it is very novel to consumers, with only few units sold currently in Georgia and lack of industry certifications of product quality.
160. The amount of up-front investment required to purchase a new EE stove is well **beyond household's ability to self-finance**: average rural household monthly income is 270 GEL. Low revenues, which determine maximum borrowing capacity as per Central Bank regulation and banks' credit requirements, also restrict households' ability to obtain credit for the full cost of an EE stove. Under current conditions, households could only finance the purchase of an EE stove with a micro-finance loan at 30% effective interest rate, repaid in 9 monthly instalments (assuming they have access to and qualify for MFI loans). The resulting monthly instalment of GEL 128 is about 50% of the average household monthly income⁹⁵, it **exceeds the borrowing threshold established by the Central Bank** of Georgia for households.
161. Grant funding is therefore required **to address this gap and create a strong incentive** for "early adopters", those households willing to take the risk and invest in a much more expensive, unknown but promising alternative.
162. The amount of subsidy, i.e. up to 30% of the market price, has been established taking into account requirement to minimize concessionality in the GCF-funded project while **enabling households to be eligible and afford complementary loan financing**. The incentive scheme will be put in place in partnership with local financial institutions (banks and MFIs) that will offer loans at full commercial terms covering the remaining 70% of the purchase price. While loan rates and conditions will vary by lender, the example of an MFI loan at 30% effective rate points to a monthly instalment for the borrowing household in the range of GEL 80, which MFIs deem is within affordability limits and the Central Bank's threshold. Households will have the option to apply for a consumer loan covering the EE stove purchase only, or the stove and the annual supply of AF. Financial institutions will bear the risk of loan default (no government or other guarantees are attached to the EE stove loan programme).
163. Provision of publicly sponsored subsidies is an established practice in OECD countries to stimulate consumer demand for new products, such as more EE stoves (See Section D.6.4 of the FP – description of best practices). Similar consumer financing schemes in Georgia and elsewhere in the region, such as the EBRD's Sustainable Energy Financing Facility (SEFF), proved instrumental in stimulating demand of other household products, such as EE appliances.
164. On the supply side, in view of the barriers explained earlier in Section B.2, EE-AF sector does not represent a viable investment opportunity neither for suppliers, nor for consumers. As regards EE-AF suppliers, lack of effective market demand limits their ability to invest in EE-AF product development and manufacturing capacity expansion. At the same time, EE-AF suppliers are not covered by the existing state-sponsored investment support mechanisms for private sector, such as guarantees, interest rate subsidy, and investment grants. The Government of Georgia recognizing the need to support nascent EE-AF sector will co-finance investment support activities under the Project's Component 2. In addition, the Government of Georgia through the state-funded Georgian Partnership Fund (GPF) considers providing equity investment in the EE-AF sector development once there is a sufficient pipeline of bankable project to invest in. However, due to capacity constraints among EE-AF suppliers, such pipeline does not yet exist and there is a need for additional TA support. There is no on-going donor-supported project which would address, even partially, the TA needs in this sector.

B.5.3 Choice of instruments and concessionality

165. Both Components will catalyze significant co-finance from the government, the private sector and project beneficiaries. GCF grants, by filling selected funding gaps while minimizing concessionality, will be crucial to the successful execution of the project.

⁹⁵ According to WB (2018) "Georgia Forests, Livelihoods, and Poverty Linkages in the Forest Communities of Georgia", the median income is GEL 83 per capita per month and average number of people in Georgia's household is 3,2 members (Geostat 2018)

Component 1⁹⁶

166. The model for SFM implementation and wood supply under the NFA is meant to be financially sustainable in the long run, by generating revenues from timber and fuelwood sales that more than offset capex and operations and maintenance (O&M) costs. For the first 15 years, however, revenues will not be sufficient to cover capex and O&M, because of the timing required for SFM measures to reach maturity and timber/fuelwood sales volumes to increase accordingly. Without GCF support, the government would have to inject a total of EUR 32.8 million to make up for the revenue shortfall in years 1-15.
167. A EUR 13.2 million GCF grant for Activity 1.1 and 1.3 of the project will contribute to alleviating this shortfall. The government has committed to step in, out of budget sources, to fill the SFM's remaining funding gap of EUR 19.6 million in years 1-15 (EUR 1.3 million p.a. on average). This is a significant commitment that exceeds the current funding injected by the government to support the current forest management system, pro-rata in the target districts. In 2019, for instance, a budget support of GEL 11.9 million (~EUR 4 million) is expected for the NFA across the entire Georgia – the target districts represent 15% of the total NFA forest area.
168. Due to the prolonged period of negative cash flows, borrowing to cover the funding gap is not advisable, even at the concessional terms offered by GCF and development banks (grace periods typically do not exceed five years). In addition, the SFM approach represents a complete overhaul of Georgia's forest management system in the target districts. Information asymmetries deter commercial lenders from supporting the project, especially with the very long-dated loans that would be required due to cash flow profile described above.
169. Importantly, from year 16 onwards, the SFM will be consistently cashflow-positive, ensuring the long-term sustainability of the project without any additional concessional funding or budget support from the government. This long-term financial sustainability is indeed one of the reasons for the government to transition from the current system to the SFM.
170. Without concessionality, the expected financial IRR (FIRR) of Component 1 (SFM) is 2.4% over 20 years, the time period conventionally used to evaluate the effectiveness of SFM projects. This is well below Georgia's financial cost of capital of ~8.4%.⁹⁷ The financial NPV, using such cost of capital as the discount rate, is negative EUR 9 million. A EUR 13.2 million GCF grant, covering approx. 25% of the SFM's capex over the first 7 years, would increase the FIRR to 9.7%. In order to minimize concessionality, the grant is sized so that the FIRR reaches just above the sovereign cost of capital and does not create a financial windfall for the government.

Component 2

171. The objective of GCF grants in Component 2 is to kick start two markets that are currently in their infancy in Georgia and bring them to a meaningful scale: EE stoves and AF. On paper, the replacement of a conventional stove with an EE one is an attractive financial proposition for a household, generating a financial IRR of 45% without GCF support (see section D.6 for details). In practice, several barriers hinder the widespread adoption of EE stoves, including: (i) the high price point of an EE stove, considering local income levels (GEL 1,000 EE stove price vs. GEL 50-70 for a conventional one); (ii) product novelty, with only few units sold currently in Georgia and lack of industry certifications of product quality; (iii) lack of sizable domestic production of EE stoves or imports (and for the latter, particularly high prices); and (iv) lack of an easy-to-tap financing product specifically targeted at the purchase of EE stoves, to help consumers bridge the price gap between an EE and a conventional stove.
172. Through the financial incentive scheme, the project will stimulate demand for up to 30,000 EE stoves and related AF supply, creating a market opportunity for entrepreneurs that wish to start EE-AF production businesses and bring the scale of production to the level where economy of scale could drive the production cost and retail price down making the product eventually more affordable to consumers. GCF grants will not be used to provide financial support to such entrepreneurs, to minimize concessionality and market distortions. GCF support will be limited to funding technical assistance (via the Technical Assistance and Investment Support Facility, TAISF, based at the Agricultural and Rural Development Agency, ARDA), together with BMZ's co-finance.

⁹⁶ For details on the financial and economic model please see Annex 3.

⁹⁷ Yield on Georgia's 10-year (longest-dated) sovereign bonds as of mid-June 2019.

173. Financial support to entrepreneurs will be supplied by ARDA under its existing support schemes, which include a combination of interest rate subsidies (applied to commercial loans offered to the entrepreneurs by ARDA partner banks), partial credit guarantees and contributions for the purchase of equipment. Such support schemes are provided by ARDA to a variety of sectors.
174. The concessionality of ARDA's support is minimized by the requirement that the entrepreneur also contributes equity (minimum 10% of the investment, actual level determined on a project-by-project basis by ARDA). Commercial lenders bear the risk of loan default for the portion of the loan that is not guaranteed by ARDA. The entrepreneurs bear the risk of losing their equity should the ventures fail. The project, in other words, does not create a risk-free profit opportunity for the private sector.

B.6. Exit strategy and sustainability

175. The exit and sustainability strategy of the project focuses on a) anchoring approaches and methodologies in the legislative and regulative framework, b) creating financially self-sustaining structures (where necessary and possible) to avoid financial dependency on external sources and c) strengthening of institutions and individuals to perform their functions beyond the project's duration.
176. For component 1, the sustainability of the project is ensured in the following dimensions:
177. **In general:** The project is embedded in the ongoing national forestry sector reform in Georgia, which has high-level support and strong commitment from the Georgian government. The implementation of the reform country-wide is a long-term target and the project enables the kick-start of this implementation and provides the ground for replication (see Section D.2). Beyond this, it is well aligned with Georgia's national climate policies and commitments, including the country's Nationally Determined Contribution. The project enables Georgia to meet the conditional target of implementing SFM on at least 250,000 ha. In its draft Climate Action Plan (CAP), the Georgian government aims for an even higher number of ha to be covered (436,000ha). This GCF project was an important trigger for the increase in ambition and the expected projects results are incorporated in the updated NDC.
178. Furthermore:
- The creation of an enabling policy and regulatory environment for SFM and for market development of EE-AF at the national level ensures the long-term safeguard of the project approaches and benefits country-wide.
 - Demonstrating the benefits and feasibility of the proposed SFM approach in 8 districts leads to secured continuous political buy-in and commitments to implement the sector reform in other districts and other forest management bodies
 - Climate change risks (current and future) will be considered in forest management through in the target regions by improving the knowledge base on climate risks and suitable adaptation strategies for forest ecosystems. This especially addresses a major gap in information for Eastern Georgia, and will inform future planning, reporting and commitments (e.g. National Communication to UNFCCC, updated NDC, and National Adaptation Plans).

Financial exit strategy and sustainability

179. The implementation of SFM (Activity 1.1) and the fuelwood supply (Activity 1.3) is in the medium-term cost-covering and generates revenues for NFA (see Section B.5 and Annex 3 Financial and Economic Model) and is therefore financially sustainable. During project implementation, NFA will generate revenues from timber and fuelwood sale of ca. EUR 84.5 million alone (over 7 years). Financial model demonstrates that after 15 years of implementing SFM, NFA has sufficient resources to re-invest in establishing SFM system in other regions. These revenues are used for re-investment into equipment (in need of replacement and/or repair), as well as operations and maintenance costs for the sustained implementation of forestry operations.
180. The Law of Georgia on Legal Entities of Public Laws provides for financial independence of NFA and enables NFA to generate and retain own funds through the activities relevant to their mandates. Based on this, the Charter of NFA has been approved by the Minister of MEPA which enlist eligible activities for NFA to generate income (special cut, rent for mobile antennas, etc.). Further, those eligible revenue-generating forest management activities are defined in the Resolution of the Government of Georgia (GoG) N242. NFA's revenues shall be accumulated at the special account opened in the State Treasury and reinvestment to scale-

up SFM made based on annual Procurement Plan to be approved by the MEPA and the Government of Georgia.

181. Forest supervision by DES is a pure state-budget funded function. The government of Georgia committed itself to provide the necessary long-term funding for forest patrollers and inspector staff, equipment replacement and operations and maintenance costs of equipment procured by government funding as well as GCF funding.
182. The FIMS and MRV to be established will increase efficiency of data collection, monitoring and analysis and thus will reduce costs. Once established, operations and maintenance costs will be covered by state budget commitments.
183. **Institutional sustainability is ensured by establishing the institutional and technical setup that sustains and expands the adoption of SFM by**
 - Developing clear standard operating procedures, manuals, guidelines, and other supporting documents, which will be available to all existing and futures staff. These documents and approaches ensure that SFM is streamlined in the operations of forest management bodies and DES.
 - Developing capacities (including specialized teams)⁹⁸ in the public and private sector to practically implement SFM and for forest supervision (DES). This capacity development is not only implemented for staff in the target regions but also for head quarter staff and other regional branches of NFA and DES to pave the ground for replication (see also below on knowledge and training platform).
 - Setting up a centralized knowledge management and training platform in EIEC that ensures long-term availability and continuation of training and knowledge materials and events after project finalisation to cater for ongoing learning needs of new/existing staff of MoEPA, NFA, DES and forest service companies in the future. By creating qualified staff and strengthening ownership over sustainability in the forestry sector via the platform future growth in the sector is enabled.
184. For Component 2, the EE-AF market development, the sustainability is ensured via the following approaches:
185. The key element of Project's sustainability as far as EE-AF market promotion is concerned is to create **lasting demand for EE-AF products**. This will be ensured by implementing and enforcing SFM: for as long as fuelwood supply will be managed by NFA and DES will prevent illegal logging, the need and demand for EE-AF among rural households will exist.
186. The project's design involves several innovative elements, such as provision of energy advisory services to rural population, support to producers, involvement of financial sector, and the grant/incentive scheme with high leveraging potential. While none of these models alone can address all barriers associated with EE-AF market in rural areas, taken together and in combination with policy and regulatory support at national level, they offer an integrated package of scalable solutions aimed at removing barriers to market development and ensuring sustainable demand for and supply of EE-AF solutions on the rural market.
187. **Sustainability of market demand:** A more formalized supply chain and a higher valuation of fuelwood as a result of new sector management model, along with strengthened consumer awareness will create lasting demand for EE-AF products among households, while EE public procurement policies will create demand for EE-AF in public sector. In addition, strict EE and environmental performance standards for EE stoves will gradually phase-out inefficient products from the market. Financial sector, banks and MFIs, will respond to this increase in demand with new, attractive consumer loan products for EE-AF. The GCF funded voucher programme will terminate in year 6 of project implementation, as does the awareness creation activities. At this point, the goal of the incentive scheme and awareness activities is achieved: EE stoves are adopted by 30,000 households and annual sales volume reaches at least 7,500 stoves. Due to economy of scale, the price of an EE stove will reduce significantly, while consumer awareness and confidence in the product enhances. A continuation of incentives is not necessary.
188. **Sustainability of EE-AF supply:** The need for and form of support required for EE-AF suppliers will largely be dictated by the prevailing market conditions and the strength of the demand. As regards TA support for the sector, it is expected that once high production/sales volumes (i.e. in the order of 7,500 – 10,000 stoves/year) are reached, there is no need any longer to build supplier's capacity for marketing, product quality, etc. As

⁹⁸ Specialized teams on restoration (natural regeneration and enrichment planting), cutting operations, timber transport, forest road and skidding road infrastructure development, and forest road maintenance.

regards investment support, it will, most likely, continue after the project end through ARDA in line with Agency's mandate to promote sustainable rural development.

189. The project will ensure that in the long-run environmental considerations and promotion of investment in green rural growth are part of ARDA's programme and capacities are in place to implement it. SIDA co-financing will contribute to this by building ARDA's capacities to design and implement investment support instruments for green and sustainable rural development. The (government funded) targeted financial support of EE-AF producers shall terminate in year 6 of the project (as per Project Implementation timetable). By that time ARDA will have mainstreamed green financing mechanism across all its operations and there won't be a need for a stand-alone E-AF support mechanism, such as TAISF.
190. In addition, Georgia's Partnership Fund is interested in supporting larger investment in the sector (over EUR 10 million) with its equity funding. By the project end, the scale of the sector and the demand will make such investment opportunity possible.
191. In regard to the **sustainability of gender equality and environmental mainstreaming** in the project: ESS and gender management plans will be implemented by the project. Several elements of the plans will be mainstreamed in the operations of NFA, DES and MoEPA to ensure continuation of ESS and gender equality practices after project end. In addition, ESS and gender training modules are part of the training platform at EIEC. Please refer to the ESMP in Annex 6b for details. For ARDA specifically, SIDA will provide dedicated support to the institution to institutionalise ESS management systems for their entire portfolio.

C. FINANCING INFORMATION							
C.1. Total financing							
(a) Requested GCF funding (i + ii + iii + iv + v + vi + vii)		Total amount		Currency			
		32.79		million euro (€)			
GCF financial instrument		Amount	Tenor	Grace period	Pricing		
(i)	Senior loans	Enter amount	Enter years	Enter years	Enter %		
(ii)	Subordinated loans	Enter amount	Enter years	Enter years	Enter %		
(iii)	Equity	Enter amount	Enter years		Enter % equity return		
(iv)	Guarantees	Enter amount					
(v)	Reimbursable grants	Enter amount					
(vi)	Grants	32.79 million euro (€)					
(vii)	Result-based payments	Enter amount					
(b) Co-financing information		Total amount		Currency			
		144.90		million euro (€)			
Name of institution		Financial instrument	Amount	Currency	Tenor & grace	Pricing	Seniority
Government of Georgia (GoG)		Grant In-Kind Guarantees	118.06 ⁹⁹	million euro (€)	Enter years Enter years	Enter%	Options
BMZ		<u>Grant</u>	10.00	million euro (€)	Enter years Enter years	Enter%	Options
SIDA		<u>Grant</u>	2.25	million euro (€)	Enter years Enter years	Enter%	Options
Crystal ¹⁰⁰		<u>Subordinate d Loans</u>	10.50	million euro (€)	Enter years Enter years	Enter%	Options
SDC ¹⁰¹		<u>Grant</u>	Ca. 4.09	million euro (€)	Enter years Enter years	Enter%	Options
(c) Total financing (c) = (a)+(b)		Amount		Currency			
		177.69		million euro (€)			
(d) Other financing arrangements and contributions (max 0.5 page)		n/a					

⁹⁹ Including EUR 84.7 million revenues of NFA to be reinvested in project activities.

¹⁰⁰ The scheme is open for all banks and microfinance institutions and it does not give any kind of exclusivity to Crystal.

¹⁰¹ Please note that this amount is indicative and is subject to final approval by SDC

C.2. Financing by component

Component	Activity	Indicative cost million euro (€)	GCF financing		Co-financing		
			Amount million euro (€)	Financial Instrument	Amount million euro (€)	Financial Instrument	Name of Institutions
Component 1: Sustainable Forest Management (SFM)	Activity 1.1. Development and implementation of SFM plans	107.14	14.21	Grants	92.93	Grants	GoG, BMZ
	Activity 1.2. Strengthening of forest supervision	5.57	1.34	Grants	4.23	Grants	GoG, BMZ
	Activity 1.3. Provision of sustainably produced fuelwood by NFA	16.92	3.55	Grants	13.37	Grants	GoG, BMZ
	Activity 1.4. Enhancement of enabling environment for the nation-wide implementation of sustainable forest management (SFM)	3.86	1.38	Grants	2.48	Grants	GoG, BMZ
	Activity 1.5. Improvement of monitoring and measurement, reporting and verification (MRV) systems for the forest sector	5.43	1.57	Grants	3.86	Grants	GoG, BMZ
Component 2: Market Development for Energy Efficiency (EE) and Alternative Fuels (AF)	Activity 2.1. EE-AF supply chain development	6.80	1.75	Grants	5.05	Grants	GoG, BMZ, SIDA
	Activity 2.2. Implementing consumer financing instruments for EE-AF solutions	15.70	4.33	Grants	11.37	Grants & Subordinated Loans	BMZ, Crystal ¹⁰²
	Activity 2.3. Creating consumer awareness and provision of technical advisory services for fuelwood users	4.21	2.04	Grants	2.17	Grants	GoG, BMZ, SIDA
	Activity 2.4. Enabling policies and regulations	1.63	0.35	Grants	1.28	Grants	GoG, BMZ
Component 3: Livelihood opportunities and local self-governance in forest management	Activity 3.1 Development and introduction of municipal-level tools, practices, plans and capacities for participatory SFM and conservation Activity 3.2: Development, testing and promotion of local mechanisms to better protect interests of	4.09	0		4.09	Grants	SDC

¹⁰² The scheme is open for all banks and microfinance institutions and it does not give any kind of exclusivity to Crystal.

	adversely affected stakeholders Activity 3.3: Development of professional skills on SFM and conservation through vocational education and international expertise Activity 3.4: Introduction of selected value chains (timber, NTFP, eco-tourism)						
Project Monitoring (M+E)		0.48	0.48	Grants			
Project Management Cost (PMC)		5.26	1.19	Grants	4.07	Grants	GoG, BMZ
Contingencies		0.6	0.6	Grants			
Indicative total cost (EUR)¹⁰³		177.69	32.79		144.90		

C.3 Capacity building and technology development/transfer

C.3.1 Does GCF financing fund capacity building activities?

Yes ☒ No ☐

C.3.2. Does GCF financing fund technology development/transfer?

Yes ☐ No ☒

192. Capacity building activities are strongly embedded in the project design and make for an integral part of all project activities, as explained in the Table .

Capacity Building measures include the following GCF Categories:

Staff costs; international consultants; local consultants, travel; training, workshops and conferences.

Table 4: Capacity building activities in project design

Sub-activity	Targeted beneficiary	GCF Funding (EUR)
Sub-activity 1.1.1: Development of SFM plans based on the principles of ecosystem-based SFM in selected forest districts <ul style="list-style-type: none"> Support to develop forest management plans (FMPs) and training module on regulatory changes Training on FMI, SOPs, guidelines and regulatory changes Support for development of infrastructure rehabilitation plans Support the elaboration of guidelines, manuals, and training modules on new roles and responsibilities of NFA, guidelines and manuals for multi-purpose SFM 	NFA staff and forest-sector contractors	879,255
Sub-activity 1.1.2 Implementation of SFM plans in selected forest districts <ul style="list-style-type: none"> Support of operational planning Advisory services on implementation of FMPs by GIZ international and regional advisors Knowledge exchange workshops on FMP development and implementation Stakeholder engagement events during FMP implementation at regional level Training trainers and trainings on ecosystem-based SFM 	NFA and forest-sector contractors	1,647,936
Sub-activity 1.2.2: Implementation of improved forest supervision measures and technologies	DES	103,819

¹⁰³ Please note: differences as a result of automatic rounding may occur!

<ul style="list-style-type: none"> • Trainings for DES staff on best-practices for patrolling, inspection assessing damages and revising mitigation/ restoration plans • Knowledge exchange workshops on forest supervision 		
<i>Sub-activity 1.3.1: Support establishment of the new mechanism for fuelwood provision to local population</i> <ul style="list-style-type: none"> • Capacity building to strengthen the operation and monitoring of BSYs • Advisory services by GIZ national advisor on fuelwood provision mechanism • Knowledge exchange workshops on provision of new fuelwood mechanism 	BSYs staff (NFA)	237,880
<i>Sub-activity 1.4.3: Development of online knowledge management and training platform for the forest sector</i> <ul style="list-style-type: none"> • Development of online knowledge management and training platform for the forest sector 	DES, EIEC, NFA, MoEPA, forest sector contractors	140,000
<i>Sub-activity 1.4.5: Enabling improved integration of climate change adaptation in forest sector planning, management and monitoring</i> <ul style="list-style-type: none"> • Support the assessment of climate risks in three target regions (adaptation co-benefit) • Support to mainstream assessment results in policies, management plans, guidelines and protocols and trainings • Stakeholder consultations on climate risks and adaptation strategies • Trainings on climate change adaptation in forest eco-systems 	NFA, MoEPA	584,550
<i>Sub-activity 1.5.1: Strengthening of the national forest monitoring and MRV architecture</i> <ul style="list-style-type: none"> • Support for establishment of M&E system and training for operation to PIU team • Support for research on allometric equations and national forest emission factors 	MoEPA, its relevant departments and other institutions responsible for FIMS modules (e.g. EIEC, NFA, etc.)	204,910
<i>Sub-activity 2.1.1: Establishing Technical Assistance and Investment Support Facility (TAISF)</i> <ul style="list-style-type: none"> • EE-AF supply chain capacity development and product certification • Advisory services on alternative fuels by GIZ national and regional advisors • Support for EE-AF product certification and marketing of EE-AF products 	EE-AF producers	1,161,140
<i>Sub-activity 2.3.1. Community-mobilization, advocacy and advisory services on EE-AF to fuelwood users</i> <ul style="list-style-type: none"> • Support of community mobilisation, advocacy and technical advisory services on EE-AF 	EE-AF producers	1,145,000
<i>Sub-activity 2.3.2 National advocacy and awareness raising</i> <ul style="list-style-type: none"> • National PR campaign on EE-AF products • Impact and baseline studies for awareness raising 	EIEC	365,000
Total		6,496,490

Additionally, other GIZ advisors are also providing capacity building services, which are mainstreamed throughout each activity in both components. These amount to additional EUR 1,466,438.

D. EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA

D.1. Impact potential

193. The project contributes to the GCF's objective and result area:
- M4.0 Reduced emissions from land use, reforestation, reduced deforestation, and through sustainable forest management and conservation and enhancement of forest carbon stock; and
194. GHG emission reduction impacts have been calculated in addition for the energy sector (increased uptake of stoves and alternative fuels). However, **to since this project is a forest project and to avoid double-counting only GHG emission reduction for result M.4.0 have been included** as the core impact indicator of the project.
195. **GHG emission reductions from SFM:** Mitigation potential in the project as a result of the introduction of SFM can be split into two impact components (see also Figure below):
- reducing degradation effects of illegal forest use and avoiding further degradation
 - Increasing/enhancing carbon stock through SFM
196. In the past decades, Georgia and the project region has experienced significant loss of carbon within the forests, therefore for the baseline scenario of the project period of 7 years as well as the project lifetime of 20 years a continuous yet conservative forest degradation is assumed. The transition towards practical application of SFM in Georgia first requires an overall planning and implementation phase for the entire forest areas, which includes elements such as multifunctional zoning, aiming to define ecological, environmental, social and other functions for all forest areas within a forest district with a view to balancing the sometimes divergent objectives of timber production, societal needs and nature conservation. This provides planners and managers alike with specific management prescriptions for particular forest sites depending on the identified forest functions. Direct implementation of these management prescriptions in Georgia range from better supervision, protection, to active silvicultural measures within the forests.¹⁰⁴ The first impact of the overall planning and better implementation of SFM will be the reduction of the degradation compared to the baseline. This impact component will affect all the forest areas where they will be just protected or also actively managed.

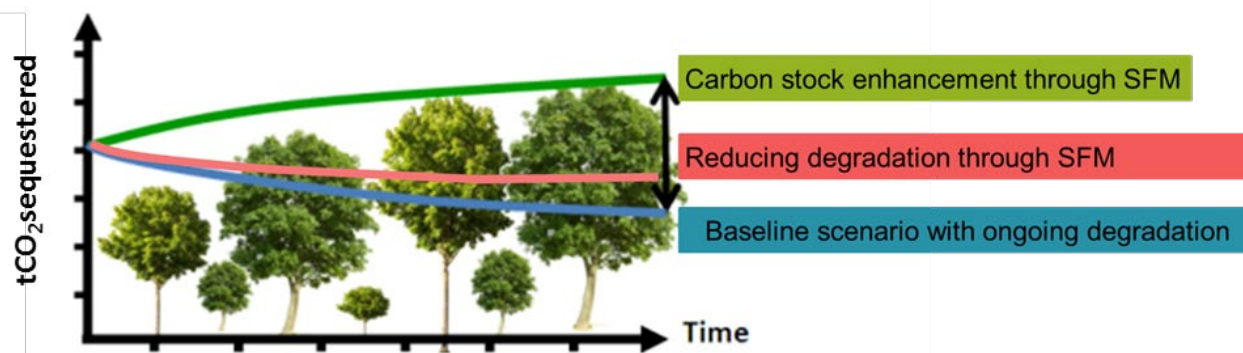


Figure 19: Mitigation concepts in the project as a result of the SFM introduction (Source: UNIQUE)

197. Secondly, those forests where direct silvicultural measures will be implemented such as promotion of natural regeneration and enrichment planting will actively increase carbon stocks over time. Such measure will be implemented only within those areas clearly identified as part of the multifunctional zoning, and therefore will include all protective function areas or areas not being eligible due to any other reason (e.g. not accessible, high altitudes, etc.).
198. These two impact components together sum up the total SFM mitigation potential in this project as illustrated in the summary figure below, which also highlights the main methodological approach followed for each of the two components – (1) reduced degradation and (2) enhancement of carbon stocks.¹⁰⁵

¹⁰⁴ See Chapter 5.2.3 of the Feasibility Study.

¹⁰⁵ See Chapters 10.1.1.1 and 10.1.1.2 of the Feasibility Study for description of methodological approach to calculations.

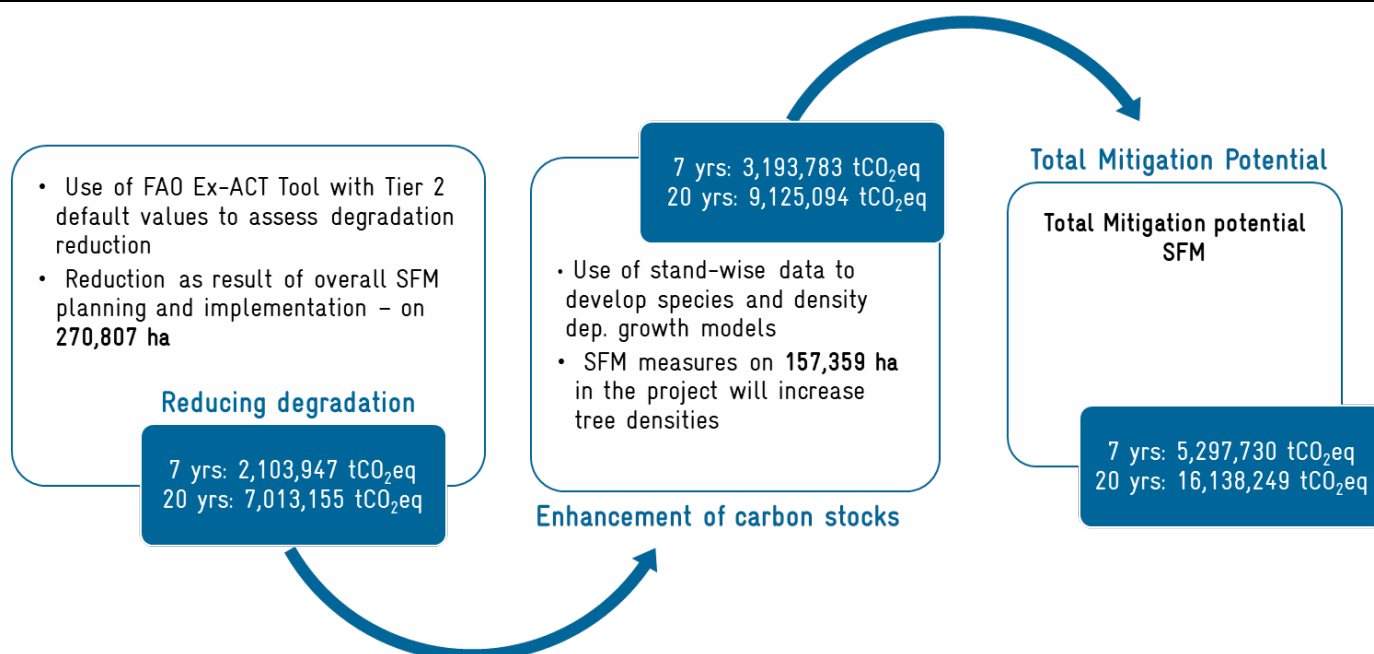


Figure 20: Mitigation potential in the project after 7 and 20 years for reducing forest degradation and enhancement of carbon stocks as a result of SFM implementation (Source: UNIQUE)

199. **For information purpose only: GHG emission reductions from EE-AF market development:** Adoption of EE and AF solutions by rural household will lead to substantial reduction in fuelwood consumption and consequently in GHG emissions too. This impact has been estimated based on a combination of UNFCCC Small-scale Methodologies AMS-I.E.: Switch from non-renewable biomass for thermal applications by the user. Version 9.0¹⁰⁶ and AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass. Version 10.0.¹⁰⁷ AMS-II.G comprises efficiency improvements in thermal applications of non-renewable biomass, including the introduction of high efficiency biomass fired project devices. AMS-I.E comprises of activities to displace the use of non-renewable biomass by introducing various renewable energy technologies.¹⁰⁸

200. Table 5 and Table 6 present results of EE-AF sector scenario development and corresponding GHG emissions reduction during project duration (direct) and during project's influence period (indirect). It is estimated that the direct GHG emission reduction from EE-AF sector will account for **1.83 million tCO₂eq** by the project end and additionally **6.59 million tCO₂eq** will be reduced over the project's influence period. As stated above, these emissions are displayed for information purposes only and were not considered in the fund level impacts and result areas.

Table 5: Direct GHG emission reduction from EE-AF sector

Project Period									
	BAU	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total (project)
EE stoves	500	500	2,000	2,500	5,000	5,000	7,500	7,500	
Incremental EE stoves		-	1,500	2,000	4,500	4,500	7,000	7,000	
AF, t	3,500	4,725	6,379	8,611	11,625	15,694	21,187	28,603	
Incremental AF, t		1,225	2,879	5,111	8,125	12,194	17,687	25,103	
AMS II-G (EE), tCO ₂ eq		-	88,000	117,333	264,000	264,000	410,667	410,667	1,554,667
AMS I-E (AF), tCO ₂ eq		4,690	11,021	19,567	31,106	46,682	67,710	96,099	276,874
Total		4,690	99,021	136,901	295,106	310,682	478,377	506,765	1,831,541

¹⁰⁶ <https://cdm.unfccc.int/methodologies/DB/IO5FJLJFWT91R6B8SO5BC7TXSK27I2>.

¹⁰⁷ <https://cdm.unfccc.int/methodologies/DB/HLXIKIIBAXBE4EHO24H5IAB824MBD8>.

¹⁰⁸ See Chapter 9.1.2.1 of the Feasibility Study for description of calculations.

Table 6: Indirect (post-project) GHG emission reduction from EE-AF sector

	Project Period													Total (post-project)
	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
EE stoves	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	
Incremental EE stoves	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	
AF, t	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	
Incremental AF, t	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	28,603	
AMS II-G (EE), tCO ₂ eq	410,667	410,667	410,667	410,667	410,667	410,667	410,667	410,667	410,667	410,667	410,667	410,667	410,667	5,338,667
AMS II-G (AF), tCO ₂ eq	96,099	96,099	96,099	96,099	96,099	96,099	96,099	96,099	96,099	96,099	96,099	96,099	96,099	1,249,283
Total	506,765	506,765	506,765	506,765	506,765	506,765	506,765	506,765	506,765	506,765	506,765	506,765	506,765	6,587,949

201. Apart from the mitigation benefits described above the project reaches 98,337 direct and 1,000,000 indirect beneficiaries as co-benefit (of which 52% or 51,135 and 520,000 are female respectively). Direct beneficiaries are considered to be the recipients of the project-funded financial incentive for EE stove, which will target 30% of the fuelwood consuming households in the target regions, i.e. 30,370 HHs. The number of direct beneficiaries has been calculated assuming average size of a Georgian household to be 3.2. Indirect beneficiaries are considered to be the people to receive information and advisory support through the project. The number has been calculated in line with target for corresponding activities in the project logframe.

D.2. Paradigm shift potential

D.2.1 Potential for scaling up and replication

202. There is substantial potential for scaling up and replication of SFM in Georgia: The 8 target districts, cover 14% of the forested area under NFA management¹⁰⁹. On NFA forest land alone, there is the potential to implement SFM on an additional ~1.5 million ha and the firm commitment by the Government to do so. This includes ~338,000 ha within the three project regions in the other 6 forest districts, and over 1.1 million ha outside of the three project regions. In addition, 805,000 ha of forest area are managed by other forest management bodies (e.g. Adjara Forestry Agency, Agency of Protected Areas, among others), which also are obliged to implement SFM under the new forest code. In the project approach, it will take 7 years for a fully operational SFM system and the enabling environment on the national level to be established. The latter one being a pre-condition for further up-scaling and replication¹¹⁰. A gradual approach is needed to not over-burden NFA, DES and the private sector during the kick-start of the forest sector reform in the eight districts, as they need to develop capacities and make the necessary investments.

203. The learning experience from implementation in the target districts will lead to efficiency gains and therefore shorter implementation periods in other districts and regions. Enabling policy and regulatory environment for SFM will create sound basis for its scaling-up nation-wide. Further, re-investment mechanism of the revenues to be generated in the medium-term will support replication and scaling up in other districts and regions.

204. Investments in vocational education and training, and the knowledge management and training platform will further strengthen the capacities of existing employees (public and private sector), as well as future foresters and forest workers on SFM – enabling replication and scaling up in other regions of the country.

205. There is substantial potential to further scale-up the EE-AF Market: There are about 100,000 households relying on fuelwood and conventional stoves in the target regions alone.¹¹¹ This translates into effective annual demand for heating appliances of around 50,000 stoves¹¹². The project will be able to realistically tap only 30% of this demand by the project end. However, assuming producers will retain annual EE stove production at the same level (ca. 7,500 stove per year) by 2030 - 75% of the fuelwood users in target regions will switch to EE appliances – see Figure 5 before. Nation-wide, there are 419,330 households relying on fuelwood for energy needs, a considerable market for both EE stove and adoption of AF. Potential for EE-AF market development is even greater if regional needs are considered: neighboring Armenia and Azerbaijan have similar rural energy consumption patterns and high reliance on fuelwood for heat supply.

¹⁰⁹ Considering NFA forested areas of which are actually covered by forest (i.e. 1.88 million ha).

¹¹⁰ See Section B.6 for details how the enabling environment at the national level creates pre-conditions for replication.

¹¹¹ CENN, Caucasus Environmental NGO Network. 2016. Cost-Benefit Analysis Fuelwood vs. Alternative Heating Resources. Tbilisi, Georgia.

¹¹² Maximum longevity of a conventional stove is 2 years, therefore annually at least half of stoves are being replaced.

206. On the financing side, GFREIF will play a critical role in ensuring realization of the project's significant potential for scaling-up and replication. First, the Facility will enable gradual accumulation of NFA revenues and their re-investment through the revolving financing mechanism to scale-up SFM across Georgia thus creating a lasting sustainable source of funding for SFM, completely independent from the state budget. Second, GFREIF will enable transformation of rural energy sector by deploying a range of public de-risking instruments to stimulate private investments in EE-AF supply chain and ensure the market is capable to respond to growing demand with quality and affordable EE-AF products. GFREIF will be anchored on two existing institutions, NFA (public sector window) and ARDA (private sector window) which will also help ensure sustainability of the Facility beyond the timeframe of the GCF project.

D.2.2 Potential for knowledge sharing and learning

207. The project builds on substantial work conducted by GIZ and other donors in the forest sector,¹¹³ which has generated a strong knowledge base. Knowledge management in the context of the project aims to strengthen the dissemination of information and knowledge to project stakeholders, including public institutions (e.g. MoFE, NFA, DES, EIEC, ARDA), private sector (private sector contractors, among others), local communities (in target districts on SFM, forests and climate change, and other citizens on the broader forest sector reform), Civil Society Organizations, academia, and international organizations (e.g. multi-lateral organizations, development cooperation). This involves improving communication and awareness raising, while also supporting targeted measures for capacity development (trainings, workshops, vocational education and training programs).

208. Systems for knowledge management and training will be strengthened through the development of the KMTP, which will institutionalize trainings and knowledge management. This will not only improve the efficiency and effectiveness of project measures, but will also support the long-term sustainability of the project. In addition, the project will support national efforts to raise awareness of the forest sector reform, ensuring that diverse stakeholders at all levels are aware of regulatory changes, as well as the importance of forests to support not only climate change action, but also sustainable development in the country.

209. The knowledge to be generated through this project, in particular the practical application of SFM in the project regions, is essential to help Georgia ensuring successful implementation of its forestry sector reform. A large share of the project's activities are dedicated to knowledge, learning, exchange and interaction, including:¹¹⁴

- Knowledge distribution via government and partner's websites
- Development of a forest sector knowledge management and training platform to strengthen knowledge management, dissemination and training
- SFM guidelines, manuals (incl. hard copies, soft copies, and other supporting material including e-courses, and videos), and other informative materials on SFM (brochures, posters, etc.)
- Training modules and materials, integrated into the proposed training platform, and materials for training trainers
- SOPs, manuals and procedures for SFM and regulatory changes for NFA and DES staff that improve institutional knowledge management and learning within government institutions
- Assessment reports on climate risks and potential adaptation strategies for forested ecosystems in the three project regions
- FIMS software modules, to support ongoing forest information data collection and monitoring
- Documentation of successful experiences and lessons learned from implementation of SFM, and promotion of energy efficient technologies and alternative fuels in the target districts
- Vocational education courses to support the education of forest workers and foresters, under the new forest code requirements
- Package of PR and promotional materials for households on EE-AF products and financing option
- Training and advisory packages for EE-AF suppliers and financial organizations.

210. The project's knowledge management approach aims to link to existing complementary information channels (e.g. the NFP process, local Civil Society Organisations (CSOs), community liaisons and municipalities).¹¹⁵

D.2.3 Contribution to the creation of an enabling environment

¹¹³ See Feasibility Study, Chapter 5.4.

¹¹⁴ The project has been designed taking into account the different needs of project beneficiaries, including considering what knowledge products are needed for what beneficiaries/ audiences.

¹¹⁵ More detailed information on the project's approach to knowledge management is provided in Feasibility Study, Chapter 7.8.

211. The project supports implementation of the forest sector reform thus creating **enabling environment for SFM**. The main building blocks of such enabling environment include legal and regulatory framework which set the normative frame for SFM (Activity 1.4), enhanced capacities of the NFA and the DES to fulfill their envisaged functions under the new Forest Code at national and local level, including supervision and law enforcement functions (Activity 1.1, 1.2 and 1.3), as well as enhanced sector steering and coordination between adjoining sectors such as energy and rural development (Activity 1.4). Furthermore, the Project also creates enabling environment for EE-AF sector, including EE, environmental and quality standards (Activity 2.4) in conjunction with assistance to suppliers to comply with standards (Activity 2.1), enhanced consumer awareness (Activity 2.4), as well as familiarity and readiness and of the financial sector to provide sector with the capital needed for growth (Activity 2.3).

D.2.4 Contribution to the regulatory framework and policies

212. With the approval of the new Forest Code, there are various secondary legal acts that will need to be revised and/or elaborated to enable SFM.¹¹⁶ In addition to revising main secondary legal acts for forest management and utilization and elaborating secondary legal acts for the liability law, the Project also supports the elaboration of a regulation on the commercial use of non-timber-forest products (NTFP), including definition of non-timber forest resources that can be commercially harvested, amounts for each NTFP that can be commercially harvested, fees for commercial harvesting, processes for commercial harvesting (applications, forms, monitoring, timing / zones, among others).
213. In addition, technical assistance will be provided to DES to support the harmonization of standards and systems including the development / revision of standard operating procedures and guidelines for forest supervision and enforcement under the new forest code and liability law, ensuring coherence with related revised secondary legal acts. Finally, the elaboration of standard operating procedures (SOPs), operational regulations, and technical guidelines for the newly established BSYs to ensure their transparent, sustainable, and efficient operation.
214. As regards EE and AF market development, the project will support MoESD and the Public Procurement Agency of Georgia to accelerate transposition and practical implementation of regulatory instruments envisaged in the EE and RE acquis, which have direct relevance and implications for the EE-AF sector and reduction of the fuelwood consumption in rural areas, specifically i) Introduction and enforcement of the energy efficiency and environmental standards and labelling scheme for domestic heating appliances (stoves) in line with draft EE Law and NEEAP; and ii) Introduction of the energy efficiency procurement in the public sector, as per relevant provision of the EED and draft EE Law.

D.2.5 Contribution to climate-resilient development pathways consistent with relevant national climate change adaptation strategies and plans

215. The NDC document for Georgia makes a particular reference to the forest sector due to its ability to contribute to climate change mitigation activities: It is the only sector with quantified and clearly spelled out unconditional and conditional targets for climate change mitigation measures. This reflects the importance the country attaches to this sector and the ongoing forestry sector reform process and its role in fulfilling national climate change commitment. The project has been designed to help the Government of Georgia to fully attain its stated NDC objective for the forest sector, i.e. to ensure at least 250,000 ha of forests under SFM by 2030. In the ongoing update of the NDC, the government plans to rise the ambitions in the forest sector: It is envisaged to increase the carbon sink capacity of the forest sector by 10%. In the draft Climate Action Plan (CAP) of Georgia a new conditional commitment to increase the forest area under SFM to 436,000ha by 2030 is included. This rise in ambition is a direct consequence of this GCF proposal, since expected project results were taken into account. In addition, Georgia's forest ecosystem are considered as particularly vulnerable to climate impacts and therefore prioritized for climate adaptation measures by the Government in the National Adaptation Plan (NAP), which is currently under preparation.

D.3. Sustainable development

216. The project will deliver a wide range of **sustainable development benefits** and directly contribute to 9 Sustainable Development Goals (SDGs), as summarized in the Table 7 below. **Environmental co-benefits:** The Project will reduce annual demand for fuelwood thus substantially reducing the pressure on forest resources. Further, by introducing SFM, it will reverse ongoing degradation trends, which currently lead to the reduced provision of

¹¹⁶ Detailed description available in Appendix 2 to Feasibility Study

ecosystem services, and loss of biodiversity. The project's activities represent an important stepping stone in Georgia to set a good example of best practice forest management planning processes, promoting ecosystem based "close-to-nature" SFM, and strengthening to role of biodiversity conservation and monitoring on the entire NFA-managed forest land. SFM promotes forest conservation, based on up-to-date forest inventories, resulting in suitable zoning and planning in FMPs. Thus, project activities will not only improve the management and monitoring capacities and capabilities of the government, but also will strengthen knowledge and information management and dissemination on biodiversity and forests in Georgia as a whole.

217. Adapted forest management practices implemented in the project will consider natural dynamics, key ecosystem services, and aim at restoring ecosystem health and diversity (improving species variety, supporting diverse age classes in degraded areas). Through the project's interventions, key areas for biodiversity protection can be identified and managed with a clear focus on protection and/or conservation through detailed FMP zoning and mapping. Key biodiversity sites identified in FMPs may even be flagged as a future site under the Emerald Network. Where suitable, FMPs will also identify key protection forest areas with stricter management to enhance protective forest functions (e.g. buffer areas along bodies of water, forests on steep slopes, reducing erosion in vulnerable areas, among others).
218. **Social and health co-benefits:** Social and health benefits of the project will arise from improvement in living and occupancy conditions for rural households. Due to low efficiency, combustion of fuelwood in conventional stoves result in emissions of PM_{2.5} and carbon monoxide (CO) – two major air pollutants. WHO¹¹⁷ links emissions from wood heating to serious health effects such as respiratory and cardiovascular mortality and morbidity, in particular for children. With installation of efficient stoves, the air quality in houses will be improved leading to better health outcomes for at least 30,370 rural households to be supported by the Project. This has positive effects on life expectancy, learning abilities of children and increases the chance of having work for adults¹¹⁸.
219. The new participatory approach to forest management planning, as outlined in the Forest Code and promoted under Activity 3.1 and 3.2, would ensure that locally important protective and recreational forest functions are further considered in forest management planning and the implementation of FMPs.
220. **Economic co-benefits:** The project will lead to long-term economic benefits for rural households, most of them considered poor or low-income. Installation of EE stove, for example, will result in reduction by 50% of yearly energy cost. Further, 867 jobs¹¹⁹ will be created in the forestry sector during the project life cycle for restoration, tending, harvesting, transportation and road building and maintaining activities in the project target regions. The development of the AF sector will also create new employment opportunities in rural areas: currently three existing briquette factories employ about 50 people. With anticipated 8-fold market growth for these products a comparable increase in sector work force will take place. In addition, the promotion of forest-related value chains will foster formal employment and income opportunities for communities in the three target regions.
221. **Gender sensitive development impacts:** Women in rural settings are highly dependent on natural resources, in particular fuelwood, for their livelihoods¹²⁰ and therefore, particularly women will benefit from the project, which will help secure the resources they are dependent on. Women-headed households constitute 33% of rural households in Georgia: Over 10,000 women-headed households will directly benefit from the project's Component 2. Additionally, the labor burden for women will be decreased such as less fuel wood needs to be brought in the room¹²¹. Please refer to Annex 8 for Gender Assessment and Gender Action Plan.

Table 7: Contribution to SDGs

SDG	Sustainable Development Benefits
SDG 1 "No poverty"	<ul style="list-style-type: none"> Lower energy expenses (up to 50% or GEL 300 on average per household per year) due to installation of energy efficient technologies by 30,370 households Increased household incomes through value chain development and formal education opportunities

¹¹⁷ http://www.euro.who.int/__data/assets/pdf_file/0009/271836/ResidentialHeatingWoodCoalHealthImpacts.pdf

¹¹⁸ WHO 2013. Health effects of particulate matter, World Health Organization.

¹¹⁹ 650 at NFA + ca. 217 at service contractors.

¹²⁰ UNEP, UN Women, PBSO and UNDP 2013. Women and Natural Resources - Unlocking the Peacebuilding Potential.

¹²¹ The Greens Movement of Georgia 2015. Sustainable Management of Biodiversity, South Caucasus, Identification of Options to Improve Energy Situation in Dedoplistskaro Municipality.

SDG 3 “Good Health and Well-being”	<ul style="list-style-type: none"> Reduced human health impact from fuelwood burning air pollution (30,370 households,) Women and children will particularly benefit from such measures because they usually spend more of their time at home.¹²² SFM will further provide additional physical and mental health benefits, where people can access ‘restorative environments’ to relax.¹²³ Forests can also provide diverse recreational activities, supporting improvements in physical fitness of the population.¹²⁴
SDG 5 “Gender Equality”	<ul style="list-style-type: none"> Women-headed households constitute 33% of all households in Georgia: over 10,000 women-headed households will directly benefit from the project Labor burden for women will be decreased such as less fuel wood needs to be brought in the room¹²⁵.
SDG-6 “Clean Water and Sanitation”	<ul style="list-style-type: none"> Reduced sedimentation and erosion in waterways and improving water quality due to the adoption of SFM. Over two-thirds of Georgia’s forests are located on medium and high inclination slopes, thus carry out key soil-protecting, water-preserving, water-regulating, sanitary and other protective functions.¹²⁶
SDG 7 “Affordable and Clean Energy”	<ul style="list-style-type: none"> Facilitating access to more efficient appliances and alternative fuels for 30,370 rural households.
SDG 8 “Decent Work and Economic Growth”	<ul style="list-style-type: none"> Creation of 867 jobs¹²⁷ in the forestry sector during the project life cycle for restoration, tending, harvesting, transportation and road building and maintaining activities in the project target regions. Increased emphasis on occupational health and safety, through required trainings, standard operating procedures, and manuals.¹²⁸ Vocational education and training provided will further strengthen this emphasis, along with the new forest code’s provision that all foresters and forest workers must hold formal qualifications by 2025. Development of AF sector will also create new employment opportunities in rural areas: currently three existing briquette factories employ about 50 people. With anticipated 8-fold market growth for these products a comparable increase in sector work force will take place. Value chain development will contribute to economic growth in local communities.
SDG 12 “Responsible Consumption and Production”	<ul style="list-style-type: none"> More efficient use of natural resources through the provision of sustainably harvested and dried fuelwood¹²⁹, and through investments in energy efficient technologies and alternative fuels to close the fuelwood gap.
SDG-13 “Climate Action”	<ul style="list-style-type: none"> Implementing NDC actions at scale, building climate-related knowledge and capacities, and raising awareness on climate change mitigation.

¹²² Schmall, S. 2015. Gender Analysis for the GIZ Programme “Integrated Biodiversity Management in the South Caucasus (IBiS)”. Tbilisi, Georgia.

¹²³ Hansmann, R., Hug, S.M., Seeland, K. 2007. Restoration and stress relief through physical activities in forests and parks. *Urban Forestry and Urban Greening*, 6(4): 213-225; Mitchell, R. 2013. Is physical activity in natural environments better for mental health than physical activity in other environments? *Social Science & Medicine*, 91: 130-134; FAO. 2019. Sustainable Forest Management Toolbox.

¹²⁴ FAO. 2019. Sustainable Forest Management Toolbox Available online: <http://www.fao.org/sustainable-forest-management/toolbox/en/>.

¹²⁵ The Greens Movement of Georgia 2015. Sustainable Management of Biodiversity, South Caucasus, Identification of Options to Improve Energy Situation in Dedoplistskaro Municipality.

¹²⁶ USAID. 2017. Climate Risk Profile Georgia. Tbilisi, Georgia.

¹²⁷ 650 at NFA + ca. 217 at service contractors.

¹²⁸ Fuelwood production is currently carried out by unqualified people lacking appropriate technical equipment and safety measures. This regularly causes fatal accidents (CENN, 2016). International best practices, such as those highlighted in the FAO SFM Toolbox on Occupational Health and Safety in Forestry: <http://www.fao.org/sustainable-forest-management/toolbox/modules/occupational-health-and-safety-in-forestry/basic-knowledge/en/>.

¹²⁹ Huhtinen, M. 2006. Wood biomass as a fuel. 5EURES Training Sessions, Supported by the EU Commission under the Intelligent Energy-Europe Program.

	<ul style="list-style-type: none"> Reducing GHG emissions due to the adoption of SFM (reduced degradation and enhancement of carbon stocks), and the adoption of more efficient technologies. Strengthening forest ecosystems' resilience to climate change, including through strengthening the protective function of forests, and restoring ecosystem health and diversity.
SDG 15 "Life on Land"	<ul style="list-style-type: none"> Improved provision of ecosystem services.¹³⁰ SFM will reverse ongoing degradation trends, which currently lead to the reduced provision of ecosystem services, and loss of biodiversity. Mountain ecosystems are a core focus of the project, given that 98% of Georgia's forests are in hilly and mountainous areas. Climate-responsive measures to be implemented that consider the higher vulnerability of mountainous ecosystems, and suitable adaptation strategies contributing to the sustainable management of and ultimately conservation of mountain ecosystems.¹³¹ Enhancement of biodiversity through SFM, considering improved planning processes (forest inventories, forest use zoning, and participatory multi-stakeholder processes), and implementation of SFM at scale. Improved monitoring of biodiversity through investments in FIMS, SFM planning processes and management activities. Protection of endemic species and restoration and rehabilitation of degraded forests through SFM. Targeted silvicultural practices will aim to restore ecosystem health, and diversity (improving species variety, supporting diverse age classes in degraded areas).¹³² SFM can reduce the incidence of and impacts from landslides,¹³³ support river bank stabilization, enhance soil carbon, improve soil moisture, among other benefits.¹³⁴
SDG 16 "Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels"	<ul style="list-style-type: none"> The improvement of the participatory approach to forest management planning and introduction of conflict resolution mechanisms contributes to transparency and accountability of institutions involved in forest management and forest supervision.

D.4. Needs of recipient

D.4.1 Vulnerability of the country and/or specific vulnerable groups, including gender aspects (for adaptation only)

222. Climate change and its adverse impacts on ecosystems and economy pose severe threats to Georgia's sustainable development. Vulnerability of forest sector to climate change impact is underscored in Georgia's NDC. Increasing temperature and changes in precipitation patterns have already had direct impacts on forests in Western and Eastern Georgia¹³⁵. As a result of these impacts, forest ecosystem services such as the soil protection and carbon storage functions, among others, will weaken if suitable adaptation strategies are not implemented. Currently Georgia is, however, lacking comprehensive and evidence-based research on the vulnerability of forest ecosystems to climate change (especially for eastern Georgia), which is necessary to plan detailed actions to increase the resilience of forest ecosystems. Different forest types, climate conditions and other localized conditions require regional level climate risk and vulnerability forest assessments.

¹³⁰ FAO. 2010. Managing forests for climate change. Available at: <http://www.fao.org/3/i1960e/i1960e00.pdf>.

¹³¹ Ibid.; Stritih, J., Stritih, A. 2018. Adjara Forest Climate Adaptation Strategy. Tbilisi, Georgia.

¹³² Stritih, J., Stritih, A. 2018. Adjara Forest Climate Adaptation Strategy. Tbilisi, Georgia.

¹³³ FAO. 2011. Forests and landslides. Bangkok, Thailand.

¹³⁴ FAO. 2010. Managing forests for climate change. Available at: <http://www.fao.org/3/i1960e/i1960e00.pdf>.

¹³⁵ Chapter 3.1.2 of the Feasibility Study provides detailed overview of the observed impacts, including increasing risk of fire, landslides, floods, pest and disease outbreaks, droughts, and changing species composition.

223. The project will increase the resilience of 270,807 ha of forests through the implementation of sustainable forest management. Strengthened resilience will be enabled by the:

- **Forest vulnerability assessments to inform sustainable forest management based on climate-responsive planning processes and management.** Three climate risk and vulnerability assessments for forest ecosystems in the three target regions will be carried out. This will fill a key information gap at the regional level, related to climate change risks and potential consequences, as well as suitable adaptation strategies that can be integrated into FMPs and annual plans. Recommendations will also be made to strengthen the monitoring of climate adaptation within FIMS. Ultimately, as a result of this action there will be strengthened awareness of climate risks, risk-reduction processes/ practices, and increased generation use of climate information in decision making.
- **Consideration of climate change risks (current and future) in forest management planning, and integration of suitable adaptation strategies into management plans** (amendments to FMPs, and mainstreamed into annual plans). This could include integrated fire management practices, the promotion of reforestation with resilient native species, forest regeneration on degraded slopes, maintenance of forest/ vegetative buffer zones along waterways, and improved forest health through regeneration, among others tailored to the local context. Such activities will enable climate-responsive management, and ultimately reduce the exposure and improve the response to climate risks and threats.
- **Implementation of FMPs, and adoption of adaptive ecosystem-based management strategies**, involving the continuous improvement of practices and active monitoring, including forest and climate-relevant indicators within FIMS.
- **Increasing awareness of local people of the multiple benefits, including climate benefits, of forest ecosystems and SFM for climate change mitigation and adaptation.** Participatory planning approaches will further enable local people to inform FMP development, including considerations to strengthen the resilience of forests and local forest-dependent communities.
- **Mainstreaming of best practices for climate change adaptation planning in forest ecosystems into training modules**, guidelines, and protocols of forest management and supervision bodies. This will guide forest sector practitioners to take into consideration climate change, and operationalize suitable adaptation strategies.
- **Strengthening of human capacities for adaptive management for forest sector actors** (MoEPA, NFA, DES, and private sector contractors) through providing trainings on best practices for SFM, including information on relevant climate risks, adaptation strategies, monitoring and evaluation. Workers, managers and other key sector stakeholders will thus be better equipped to plan, implement and monitor and evaluate the effectiveness of adaptive strategies.
- **Improved cooperation and coordination on adaptation in forest ecosystems through the NFP multi-stakeholder working groups and plenary meetings**, where a national dialogue on adaptation strategies for forest ecosystems will be established. Best practices, experiences, lessons learned and other knowledge will be shared and discussed within the working groups engaging CSOs, academia, private sector, among other stakeholders, strengthening their adaptive capacities.

224. Forest vulnerability assessments, integrated adaptive ecosystem-based management practices, and improved information on climate change and its impacts on forest ecosystems will **inform and support the country's national climate dialogue. The Fourth National Communication to UNFCCC** is in the planning phase where the project target regions (Kakheti, Mtskheta-Mtianeti and Guria) are included to assess climate risk impacts and the forestry sector is included as one of the priority areas in the upcoming **National Adaptation Plan**. Information from the project will inform these reports, plans and strategies. Finally, the project's activities will inform the country's updated NDC to the UNFCCC, which will cover the period from 2025 to 2030.

D.4.2 Economic and social development level of the country and the affected population

225. Georgia has a human development index (HDI)¹³⁶ of 0.78, ranking 70th globally.¹³⁷ Major strides have been made in reducing poverty, where the number of people living in poverty declined from 38.8% in 2007 to 21.9% in 2017.¹³⁸

¹³⁶ HDI takes into account three dimensions to provide an estimation of to assess the development of a country: long and healthy life (life expectancy at birth, knowledge (expected years of schooling, mean years of schooling), a decent standard of living (GNI per capita). Additional information on calculating HDI can be found online: <http://hdr.undp.org/en/content/human-development-index-hdi>

¹³⁷ UNDP, United Nations Development Program. 2019. Georgia, Human Development Indicators.

¹³⁸ Absolute poverty line of USD 2.50/day; UNDP 2019; GEOSTAT. 2019a. Living conditions.

However, the number of people living in poverty and extreme poverty in Georgia is higher than in other countries in Europe and Central Asia.¹³⁹ Also nearly half of the poor population is considered as “vulnerable to falling into poverty”.¹⁴⁰ Georgia has a Gini-coefficient of 36.5 in 2016, with inequality levels slightly lower than Turkey and Russia, and higher than Armenia and Azerbaijan.¹⁴¹

226. People in rural areas are more likely to be affected by poverty than people living in urban areas in the country, with rural and urban poverty rates of 24.3% and 17.6%, respectively.¹⁴² In terms of income, rural households in Georgia earn the equivalent of 80% of the average salary earned by urban households.¹⁴³ The gap between urban and rural poverty has remained relatively stable over the last decade.¹⁴⁴ Rural economic growth rates are much lower compared to urban areas, especially in Kakheti, Mtskheta-Mtianeti and Shida Kartli.¹⁴⁵ Reasons for lower production is limited access to markets, education, fragmentation of land and underdeveloped infrastructure.¹⁴⁶ In terms of education, the majority (78%) of the population with higher education is from urban areas, indicating a lower level of education in rural settlements.¹⁴⁷

227. **Vulnerability in target regions**¹⁴⁸: Project target regions are among the most socially vulnerable in Georgia: The region of Kakheti is ranked number three (after Tbilisi and Imereti) in terms of total number of households that receive social allowance, the region of Mtskheta-Mtianeti - number four and Guria – number five¹⁴⁹.

228. Poverty and low-income level are indeed an important social issue and also a major barrier to wider uptake of energy efficient technologies among rural households. Through the GFRIF, the project will work and support directly Georgia’s poor rural household by instituting a voucher program enabling households to afford more efficient heating appliances. Moreover, the SDC-supported component 3 directly addresses vulnerable groups, in terms of its support to improve livelihood opportunities, to strengthen citizens’ participation, and to develop mechanisms at local level to better protect the interests of adversely affected stakeholders.

D.4.3 Absence of alternative sources of financing (e.g. fiscal or balance of payments gap that prevents government from addressing the needs of the country; and lack of depth and history in the local capital market)

229. The government’s financing options are constrained by fiscal consolidation, to which the government has committed under an ongoing IMF program. Significant budget reforms were introduced in 2017 and no increase in current spending is envisaged in real terms in the coming 5-7 years. The budget deficit has been declining gradually since 2017/18 as envisaged by the IMF. The deficit is forecasted at 2.6% of GDP in 2019, has to be maintained under 3% in coming years and reduced gradually to 2.5% in the medium term starting from 2023. Maintaining the fiscal deficit within the above-mentioned limits is extremely important since this is the debt stabilizing level of fiscal deficit. Government debt is forecasted at 43.7% of GDP for 2019, which needs to be reduced gradually and maintained within 35%-40% of GDP in the medium term. Within this fiscal consolidation framework, the set limits of government debt and budget deficit allow only for increased spending in education and investments in infrastructure that maximizes the usage of Georgia’s transit and tourism potential. At the same time, there are constraints on including new commitments in many other directions and no room for additional liabilities.

D.4.4 Need for strengthening institutions and implementation capacity

230. Key government institutions in the forest sector for the implementation of this project are the Ministry of Environmental Protection and Agriculture (MoEPA), the National Forestry Agency (NFA), the Department of Supervision (DES) and the Environmental Information and Education Center (EIEC). The forest sector reform clarifies and strengthens the mandates of each institution to increase the overall management efficiency and effectiveness in the sector. In the course of the project design, capacity assessment has been undertaken to

¹³⁹ Garforth, M., Nilsson, S., Torchinava, P. 2016. Wood market study. Integrated Biodiversity Management, South Caucasus (IBiS) Program. GIZ, Tbilisi, Georgia; World Bank. 2019. Data, Georgia. Available online: <https://data.worldbank.org/country/georgia>.

¹⁴⁰ World Bank. 2018a. FY19-FY22 Country Partnership Framework for Georgia. Washington D.C., USA.

¹⁴¹ World Bank 2018a; Gini coefficients are a “Measure of the deviation of the distribution of income among individuals or households within a country from a perfectly equal distribution. A value of 0 represents absolute equality, a value of 100 absolute inequality” - World Bank. 2013. World Development Indicators.

¹⁴² IMF, International Monetary Fund. 2018a. Georgia. IMF Country Report No. 18/198.

¹⁴³ Ibid.

¹⁴⁴ World Bank. 2018a. FY19-FY22 Country Partnership Framework for Georgia. Washington D.C., USA.

¹⁴⁵ IMF, International Monetary Fund. 2018a. Georgia. IMF Country Report No. 18/198.

¹⁴⁶ Gassmann, F., Berulava, G., T’ok’mazišvili, M. 2013. Economic and Social Vulnerability in Georgia. UNDP. Tbilisi, Georgia.

¹⁴⁷ GEOSTAT. 2016. 2014 General Population Census Main Results.

¹⁴⁸ Please refer to Annex 6a for description of social vulnerabilities in the target regions.

¹⁴⁹ Government of Georgia. 2017. Rural Development Strategy of Georgia 2017-2020.

review and analyze each agency's mandate and adequacy of capacities, as well as to identify key areas where gaps exist and improvement needed. As described in Section B2 and in greater detail in Feasibility Study Chapter 5.2.4.3, these institutions face a major challenge as the onboard substantial new staff (e.g. NFA alone will require onboarding of over 50 permanent staff in the target regions, and the hiring of 428 seasonal NFA staff, in addition to hiring over 270 private sector contractors). Capacities are limited on best practices for SFM (e.g. cutting operations, low-impact infrastructure development), forest supervision (inspection and patrolling), among others. Trainings are often limited to one-off trainings, and there is a need to institutionalize trainings based on best practices to facilitate capacity development of existing and future government staff, as well as private sector forest contractors. Consequently, the project has been designed to comprehensively address identified barriers and gaps, including the institutionalization of trainings and improved knowledge management, as has been earlier summarized in Table .

D.5. Country ownership

D.5.1 National climate strategy

231. The government of Georgia commits to reduce its GHG emissions by 15% below the Business as usual scenario (BAU) for the year 2030 in its NDC submission to the UNFCCC. The committed mitigation target is a 34% reduction in emission intensity per unit of GDP from 2013 to 2030. The conditional reduction target is up to 25%, which is equivalent to 43% of emission intensity per unit of GDP from 2013-2030. Georgia's NDC singled out **forests as the key sector for national climate actions** and the only one with quantified unconditional and conditional commitments. By strengthening law enforcement and introducing SFM practices, it is estimated to reduce an overall emission of at least 1 million tCO₂eq over period of 10 years on 45,000 hectares and up to 6 million tCO₂eq on 250,000 ha of forest lands over a period of 2020-2030 (conditionally). In the ongoing update of the NDC the government plans to rise the ambitions in the forest sector: It is envisaged to increase the carbon sink capacity of the forest sector by 10%. In the draft Climate Action Plan (CAP) of Georgia a new conditional commitment to increase the forest area under SFM to 436,000ha by 2030 is included. This rise in ambition is a direct consequence of this GCF proposal, since expected project results were taken into account.

D.5.2 Existing GCF country programme

232. Georgia's Country Programme, which serves as the strategic framework for the country's engagement with GCF, identifies four priorities for mitigation and four priorities on adaptation, including specifically: „**Land use and Forests**“ under Mitigation; and „**Forests and Biodiversity**“ under Adaptation. In addition, **transition to sustainable financial system** is a cross-cutting priority to facilitate private investment in green assets and measures. The project is fully aligned with identified country priorities. Under „Land Use and Forests“, the Country Programme proposes the following actions where GCF funding is needed: scaling-up conservation and SFM; increasing forest cover, and reducing fuelwood consumption. Further under „Forests and Biodiversity“, the project will ensure forests are sustainably managed for multiple purposes, where 123,091 ha of forest ecosystems will be managed with lower intensity as some forest area will be dedicated to nature conservation purposes, or not managed and kept as reference forest areas. Other areas will remain inaccessible due to steep slopes, and their location in remote high-altitude areas. Partly forests will be managed with low or no interventions for protection (e.g. recreation, buffer areas along bodies of water), in line with Georgian regulations. The Project will also address cross-cutting priority by facilitating private investment in EE-AF and forestry sector, as well as by strengthening capacities of ARDA to mainstream green investment support in the scope of its regular operations and mandate.

D.5.3 Alignment with existing policies such as NDCs, NAMAs and NAPs

233. Project design has been informed and fully **aligned with NDC objective** for the forestry sector, i.e. to ensure 250,000 ha of forests under SFM by 2030. National Adaptation Plan (NAP), which is currently being drafted, also identifies forest among the key priorities for adaptation measures. In addition, it builds on and is aligned with the following **NAMAs**:

- Adaptive Sustainable Forest Management in Borjomi-Bakuriani Forest District (2014-2016) – completed. This NAMA set the foundation for the government's implementation of SFM in Borjomi-Bakuriani, in particular the unconditional contribution of the Government of Georgia outlined in their NDC¹⁵⁰.
- Efficient use of biomass for equitable, climate-proof and sustainable rural development – NAMA seeking financial support for implementation. The objective of this NAMA is to contribute to transformational change

¹⁵⁰ Georgia's INDC.

in the energy supply of rural areas, aiming for efficient use of biomass through the use and up-scaling of energy efficient technologies and alternative fuels.

D.5.4 Capacity of Accredited Entities and Executing Entities to deliver

234. GIZ is one of the largest international providers of capacity development and technical assistance on climate change worldwide. GIZ is currently carrying out over 300 climate-related projects worldwide, with combined funding of over USD 1.9 billion. Mitigation and adaptation account for equal shares in the GIZ portfolio, supplemented by activities on climate financing. A significant part of GIZ's work is implemented in least developed countries. GIZ is currently implementing projects in a range of forestry topics, including: REDD+, sustainable forest management and community-based forest management (SFM/CBFM), natural resource management (NRM), forest landscape restoration (FLR), forest law enforcement, governance and trade (FLEGT) and biodiversity. The current GIZ forestry portfolio amounts to EUR 467 million, allocated across 63 forestry projects worldwide.

235. In addition to GIZ, the following national Executing Entities will be involved in project implementation: National Forestry Agency (NFA); Department of Environmental Supervision (DES, representing the State of Georgia); Environmental Information and Education Centre (EIEC); Agricultural and Rural Development Agency (ARDA). All four national EEs are established as legal entities of public law under the Ministry of Environmental Protection and Agriculture (MoEPA) of Georgia. Their project management capacities have been assessed and confirmed through a due diligence process. See also section B.4.2 for details of the Executing Entities' experience and track record.

D.5.5 Role of National Designated Authority (NDA)

236. The project has been developed with active engagement from and under the strong leadership of the NDA (MoEPA). The initial project idea has been initiated by the NFA, MoEPA and the GIZ IBIS project in summer of 2017 and the Concept Note was prepared under close consultation of key stakeholders in the sector. The draft version of the CN was presented to the NDA and the government stakeholders and received approval for submission to the GCF Secretariat in July 2018 in form of an endorsement letter. Since then, the project has formed part of Georgia's GCF country programme. Representatives of the NDA have attended cross-sectoral multi-stakeholder workshops to provide feedback on the project. A letter of no-objection has been provided by the NDA (Annex 1), confirming the project conforms to the country's national priorities, strategies and plans, and that it is in accordance with relevant laws and regulations.

D.5.6 Stakeholder engagement

237. The project preparation team of GIZ met with a variety of stakeholders from government, private sector and civil society during several missions, including 25 planning workshops, a separate consultation workshop with NGOs and field trip and stakeholder consultations in the target regions. For details on the stakeholder engagement during project preparation and the stakeholder engagement plan please see Annex 7.

D.6. Efficiency and effectiveness

238. Within the GFREIF, the project will empower and capacitate ARDA to become an effective delivery mechanism for public de-risking instruments to leverage private investment in forestry, rural energy and agricultural sector. ARDA's capacities to design, implement and embed such instruments in its programming framework will be built through its leading role in project implementation. At the same time, public sector financing window of the GFREIF will enable reformed NFA to become self-sustainable and generate sufficient revenues to cover its capital needs for SFM implementation at national scale.

D.6.1 Cost-efficiency

239. The project will result in 16.1 million tCO₂eq of emission reductions over the project lifetime of 20 years. This equates to a mitigation cost to the GCF of **EUR 2/tCO₂eq** (see section E.2.2) and represents considerable value for money, particularly when the project's additional benefits (adaptation, economic-co-benefits etc.) are considered as well (see section B.5). Relevant international benchmarks for abatement costs in forestry sector are in the range of USD 5-20 tCO₂eq (Russia¹⁵¹) up to USD 30-40 /tCO₂eq (Australia¹⁵²). For additional reference,

¹⁵¹ McKinsey 2009. Pathways to an energy and carbon efficient Russia.

¹⁵² McKinsey 2008. An Australian Cost Curve for Greenhouse Gas Reduction.

the abatement cost of another approved GCF forestry project (FP19, Ecuador) is EUR 2.5/tCO₂eq. In terms of forestry projects on the voluntary carbon market, Voluntary Carbon Standard projects have an average market value of around USD 4-5/tCO₂eq. Comparing to these benchmarks, expected project's GHG emission reduction potential can be considered cost-effective.

D.6.2 Economic Rate of Return

240. **Economic Rate of Return:** The economic internal rate of return (EIRR) reflects two categories of incremental project benefits vs. baseline: (i) value of carbon sequestration from SFM activities and (ii) economic value added. The latter comprises: Incremental employment at the NFA and its contractors; (ii) incremental household income from adoption of EE stoves and related fuelwood savings; (iii) incremental profits for EE stove and USB producers, partially offset by profit decrease from sale of conventional stoves and fuelwood; (iv) incremental employment at USB producers. Based on a CO₂eq shadow price of EUR 24/t, the project produces an EIRR of 34% and NPV, using a 10% discount rate conventionally used in similar economic analyses, is a positive EUR 83 million. EUR 24/t is the price of CO₂ allowances on the EU Emission Trading Scheme (the most liquid carbon market worldwide) as of mid-June 2019. It is also consistent with the European Commission's recommended CO₂ price assumption of EUR 25/t in its *Guide to Cost-Benefit Analysis of Investment Projects*.¹⁵³ Carbon prices vary considerably across markets and over time. A sensitivity analysis indicates that, even with a ~60% decrease in carbon prices (to EUR 15/t) and a 20% decrease in economic value added, the EIRR would be 13%, above the 10% cost of capital used customarily in economic analyses. Additional, unquantified benefits come from the restoration of forest ecosystem, including avoided erosion, watershed protection, flood protection, biodiversity habitat, pollination and tourism revenues.

D.6.3 Financial Rate of Return

241. **Financial rate of return:** In Component 1 only Activity 1.1 (SFM implementation) and 1.3 (fuelwood supply) generate financial reflows for the sector (for NFA). Activities 1.2, 1.4 and 1.5 are entirely of public good nature and are suited to a grant. In Activity 1.1 and 1.3 the expected financial IRR (FIRR) without GCF support is 2.4% over 20 years, the time period conventionally used to evaluate the effectiveness of SFM projects. This is well below Georgia's financial cost of capital of ~8.5%.¹⁵⁴ Concessionality is therefore required. Because the NFA would produce negative cash flows for the first 15 years (until the SFM interventions reach maturity) under the new SFM approach, loans – even concessional ones – are not advisable and a grant is the most appropriate level of concessionality. Specifically, a GCF grant of EUR 13.2 million, covering ~25% of capex in years 1-7 for these activities, would increase the FIRR to 9.7%, just above sovereign cost of capital.

242. In Component 2, financial reflows will be generated by the producers of EE technologies and AF. These producers, however, are supported by government financed investment support instruments and not via GCF funding (except technical assistance via TAISF). GCF finance support is foreseen in Activity 2.2 on consumer finance to replace conventional fuelwood stoves. The FIRR for a household that replaces a conventional stove with an EE one is 45% without GCF support. This is as a result of fuelwood savings over the EE stove's 10-year useful life, partially offset by the incremental price of an EE stove over a conventional one and related financing costs.¹⁵⁵ The analysis assumes households will have to pay under the new fuelwood supply scheme of NFA an official fuelwood price of GEL 81/m³ (cost-covering price for NFA). As discussed in section B.5, despite this positive FIRR, the widespread adoption of EE stoves is hindered by their high price point, product novelty and lack of sizable production or imports. A GCF grant covering 30% (up to GEL 300 or EUR 100) of the EE stove's price is therefore recommended to significantly kick-start the market for this new product.

D.6.4 Best available technologies and practices

243. **Best practices for SFM:** Based on the revised regulations of key forest management regulations (once the forest code is approved) that ensures their alignment with the new forest code, national principles, criteria and indicators for SFM, and management-level criteria and indicators for ecosystem-based forest management, SFM will have

¹⁵³ European Commission 2014. Guide to Cost-Benefit Analysis of Investment Projects. Available online: https://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/cba_guide.pdf.

¹⁵⁴ Yield on Georgia's 10-year (longest-dated) sovereign bonds as of mid-June 2019.

¹⁵⁵ Assuming households finance the purchase of an EE stove with a microfinance loan bearing an effective interest rate of 30%.

a stronger legal basis enabling the adoption of international best practices for SFM, focusing on practices that are suitable and adapted to the Georgian context¹⁵⁶.

244. Best practices for EE-AF market development: The project is using best international experience and practices in designing EE-AF discount programme for households, in particular German experience with jump-starting the market for new products, such as biomass stoves and pellets. For example, under the German Market Rebate Programme for Renewable Energies (MAP)¹⁵⁷, bonuses for households have been provided to stimulate wider uptake of new EE-AF solutions (up to 50% of the investment cost for EE). MAP programme has resulted in substantial growth of EE-AF market in household segment. It is still in operation and is being progressively adjusted to stimulate uptake of more innovative and efficient solutions. The key lessons learnt is that in nascent markets, in particular for new household goods and services, financial incentives play an important role in generating the initial strong demand for new products. More detailed information about a range of investment support scheme for EE-AF in EU is presented in the Report along with lessons learnt¹⁵⁸.
245. As far as policy and regulatory environment is concerned, the project builds on and seeks to transpose applicable provisions of the following EU Directives, which are considered international best practices in the field:
- Energy Efficiency Directive (EED) 2012/27/EU;
 - Energy Performance in Buildings Directive (EPBD) 2010/31/EU;
 - Energy Labelling Directive 2010/30/EU;
 - Ecodesign Directive 2009/125/EC.

¹⁵⁶ Chapter 5.2.3 in the Feasibility Study provides a comparison of BAU practices with best practices for SFM promoted through the project.

¹⁵⁷ <https://www.solarthermalworld.org/content/germany-map-national-subsidy-scheme-renewable-heating-technologies> and <https://www.bmwi.de/Redaktion/EN/Meldung/20170815-bmwi-is-standardising-application-procedure-for-market-incentive-programme-for-renewables.html>

¹⁵⁸ https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/crossborderbioenergy_small_scale_heating_eu_market_handbook_en.pdf

E. LOGICAL FRAMEWORK

This section refers to the project logical framework in accordance with the GCF's Performance Measurement Frameworks under the Results Management Framework to which the project/programme contributes as a whole, including in respect of any co-financing.

E.1. Paradigm shift objectives

- ☒ Shift to low-emission sustainable development pathways
☐ Increased climate resilient sustainable development

E.2. Core indicator targets

E.2.1. Expected tonnes of carbon dioxide equivalent (tCO ₂ eq) to be reduced or avoided (mitigation only)	Annual	805,000 tCO ₂ eq
	Lifetime ¹⁵⁹	16.14 million tCO ₂ eq
E.2.2. Estimated cost per tCO ₂ eq, defined as total investment cost / expected lifetime emission reductions (mitigation only)	(a) Total project financing ¹⁶⁰	<u>177.69 million</u> Euros
	(b) Requested GCF amount	<u>32.79</u> million Euros
	(c) Expected lifetime emission reductions	<u>16.14 million</u> t CO ₂ eq
	(d) Estimated cost per tCO₂eq (d = a / c)	<u>11.06</u> Euros / t CO ₂ eq
	(e) Estimated GCF cost per tCO₂eq removed (e = b / c)	<u>2.0</u> Euros / t CO ₂ eq
E.2.3. Expected volume of finance to be leveraged by the proposed project/programme as a result of the Fund's financing, disaggregated by public and private sources (mitigation only)	(f) Total finance leveraged	<u>184.71 million</u> Euros
	(g) Public source co-financed ¹⁶¹	<u>61.40 million</u> Euros
	(h) Private source finance leveraged ¹⁶²	<u>123.57 million</u> Euros
	(i) Total Leverage ratio (i = f / b)	<u>1:6</u>
	(j) Public source co-financing ratio (j = g / b)	<u>1:2</u>
	(k) Private source leverage ratio (k = h / b)	<u>1:4</u>
E.2.4. Expected total number of direct and indirect beneficiaries, (disaggregated by sex)	Direct	98,337 52% of female (51,135 women)
	Indirect	1,000,000 52% of female (520,000 women)
	Direct beneficiaries are considered to be the recipients of the project-funded financial incentive for EE stove, which will target 30% of the fuelwood consuming households in the target regions, i.e. 30,370 HHs. The number of direct beneficiaries has been calculated assuming average size of a Georgian household to be 3.2 ¹⁶³ .	
	Indirect beneficiaries are considered to be the people to receive information and advisory support through the project. The number has been calculated in line with target for corresponding activities in the project logframe.	
E.2.5. Number of beneficiaries relative to total population (disaggregated by sex)	Direct	3.7% (1.9% female)
	Indirect	27.0% (14% female)

¹⁵⁹ Over 20 years of investment life-time.

¹⁶⁰ Includes all confirmed sources of co-financing to the project (including e.g. SIDA and Chrystal) which will contribute to the achievement of the project climate objectives

¹⁶¹ Including confirmed co-financing from Crystal for EE stoves and AF loans.

¹⁶² Including reinvestment of NFA revenues - see Annex 3 Financial and Economic Analysis.

¹⁶³ GEOSTAT 2018. Women and Men in Georgia: http://www.geostat.ge/cms/site_images/_files/english/health/W&M%20ENG-2018.pdf.

E.3. Fund-level impacts

Expected Results	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term (end-of year 4)	Final	
M4.0 Reduced emissions from land use, reforestation, reduced deforestation, and through sustainable forest management and conservation and enhancement of forest carbon stocks	M4.1 Tonnes of carbon dioxide equivalent (t CO ₂ eq) reduced or avoided (including increased removals) - forest and land use	<p>Government Sources:</p> <ul style="list-style-type: none"> Biennial update report to the UNFCCC FIMS activity logs <p>Project Sources:</p> <ul style="list-style-type: none"> Project M&E 	0 tCO ₂ eq	3.13 million tCO ₂ eq	5.3 million tCO ₂ eq	GHG estimates are based on the 7-year GCF project duration ¹⁶⁴ . Additional GHGs will be reduced during the project's lifetime (20 years), leading to 16.14 million tCO ₂ eq over lifetime (see Section D.1. ¹⁶⁵

E.4. Fund-level outcomes

Expected Outcomes	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term)	Final	
M6.0 Increased number of small, medium and large low-emission power suppliers	M6.2 Number of households and individuals (males and females) with improved access to low-emission energy sources	Annual reports from the Voucher Programme under Activity 2.2	< 1,000 HHs	10,200 HHs; (32,640 beneficiaries (15,667 male and 16,973 female))	30,730 HHs; (98,337 beneficiaries (47,202 male and 51,135 female))	Voucher Programme provides sufficient incentives to jump-start demand for EE solutions
M9.0 Improved management of land or forest areas contributing to emissions reductions	M9.1 Hectares of land or forests under improved and effective management that contributes to CO ₂ emission reductions	<p>Forest management plans approved by MoEPA</p> <p>Annual use plans approved by MoEPA</p>	0 ha	130,000 ha	270,807ha	Forest code approved and secondary legal acts revised prior to project start No delays in developing and approving SFM plans

¹⁶⁴ Methodology to estimate fund level impact for indicator M.4.0. is available in FS, section 9.1, pp. 335-349

¹⁶⁵ For more detail on the methodology and assumptions, also refer to the Feasibility Study Chapter 9.1.

E.5. Project performance indicators						
Expected Results	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
Result 1: Reduced forest degradation and enhanced timber stocks.	I1.1: Rate of forest degradation: Baseline degradation rate in % of biomass lost, project reduction of degradation in tCO ₂ /ha/year	1) FMP and activity records of NFA 2) Annual growth model-based update of the forest resource database (FIMS) (Volume, biomass, carbon) 3) Verification in the field: Annually by DES supervision of implemented activities.	Historical degradation: 26% biomass lost Conservative baseline scenario: 15% biomass lost Detailed baseline to be provided with new/update of FMPs.	Reduction of forest degradation compared to baseline: 1.3 tCO ₂ /ha/year; results in per ha reduction of 5.2 tCO ₂ /ha after 4 years	Reduction of forest degradation compared to baseline: 1.3 tCO ₂ /ha/year; results in per ha reduction of 9.1 tCO ₂ /ha after 7 years	The baseline and targets are calculated on basis of the forest model elaborated for project design ¹⁶⁶
	I1.2: Change in long-term average forest biomass in tCO ₂ /ha and project carbon increase in tCO ₂ per ha and year	In year 7: Systematic field control if SFM measures are successfully applied in all 8 districts, followed by model-based recalculation of indicators I1.1 and I1.2	Long-term average baseline forest carbon: 228 tCO ₂ /ha Detailed baseline to be provided with new/update of FMPs.	Increase in forest biomass 2.9 tCO ₂ /ha/year; results in per ha increase of 11.6 tCO ₂ /ha after 4 years	Increase in forest biomass 2.9 tCO ₂ /ha/year; results in per ha increase of 20.4 tCO ₂ /ha after 7 years	
	I1.3: NFA capacitated to implement sustainable forest management activities following the performance-based grant mechanism schedule	NFA monitoring reports, FIMS activity recording and monitoring	<i>Low capacity:</i> No FMP approved according to new approach Implementation of forest management measures (forest road construction, thinning and harvesting,	<i>Medium capacity:</i> ▪ 8 FMPs approved according to new approach ▪ Implementation of forest management measures (forest road construction, thinning and harvesting, restoration etc.) at	<i>High capacity:</i> ▪ FMPs implemented according to schedule ▪ Implementation of forest management measures (forest road construction, thinning and harvesting, restoration etc.) at 100 %.	Procurement of equipment and services by NFA to capacitate the forest implementation teams is not delayed significantly.

¹⁶⁶ Described assumptions included in Feasibility Study Chapter 5.2.3.4.2 & see Risk 1 in Section G below

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			restoration etc.) at 0.3 to 19 % (depending on measure).	25-35% (depending on measure).		
Result 2: Fuelwood supply switch from illegal outtakes to sustainable level of outtakes by NFA for the population of the 3 target regions.	I2.1: Cubic meters (m ³) of fuelwood sustainably harvested by NFA in the 8 districts ¹⁶⁷ applying eco-system-based forest management practices in year 7 of project implementation.	Annual plans, harvested fuelwood intake records, BSY records, ¹⁶⁸ Information recorded by FIMS modules for tracking and recording timber harvests	50,489m ³	169.917m ³	285,575m ³	NFA reaches the sustainable level of fuelwood outtake of 285,575 m ³ in the 8 districts with 100% of implementation capacity in year 7. Population purchases fuelwood from NFA and does not use illegal sources.
	I2.2: Residential fuelwood consumption reduced for 3 target regions ¹⁶⁹	Residential energy use survey in the target regions	725,000m ³	633,000m ³	366,000m ³	EE-AF market development trends are consistent with projections. Forest supervision measures are effective and there is no spillover effect (i.e. illegal withdrawal and sales to other regions/consumers)
Result 3: Self-sustaining level of growth of EE-AF market reached (30% market share for EE stoves / 15% market share for AF)	I3.1: Market volume of sold stoves and AF	Annual reports from the Voucher Programme under Activity 2.2 and energy use survey at mid-term and project end (see Result 2).	< 1,000 stoves and 3,500t AF	10,200 stoves and 8,600t AF	30,730 stoves and 28,600t AF	Manufacturers of EE stoves & AF have sufficient capacity to ensure supply of certified products on the market
	I3.2: Volume of investment (EUR) in EE-AF production sector, disaggregated by sources and instruments (loans, equity, grants)	ARDA portfolio analysis	0 - grants < EUR 0.1 million loans < EUR 0.1 million equity	EUR 0.8 million -grants EUR 1.8 million– loans EUR 0.2 million – equity	EUR 1.1 million -grants EUR 2.5 million– loans EUR 0.3 million – equity	Accelerated increase in market demand for EE-AF solutions (i.e. up to 40-50% per annum) as a result of forestry sector reform and limited availability of cheap fuelwood

¹⁶⁷ There are 14 forest districts in the 3 target regions. Of those 14 districts, SFM measures will be implemented by NFA in 8 districts within the framework of GCF-supported project. The total fuelwood supply in the target region will come from 8 pilot districts and 8 additional forest districts in the target regions.

¹⁶⁸ Registration of harvested timber, sale receipts.

¹⁶⁹ Please note: The figures are for the total of the 3 regions, covering 14 forest districts, whilst the NFA harvest figures in I2.1 are for the 8 target districts the project is working in.

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	I3.3: Investments leveraged (EUR) in EE stoves, disaggregated by source	EE stoves: Voucher Programme Monitoring / Energy use survey at mid-term and by project end (see result 2)	< EUR 0.1 million from HHs 0 – from financial sector	EUR 0.3 million– from HHs; EUR 2.6 million - from financial sector in the form of loans	EUR 0.7 million– from HH EUR 6.5 million– from financial sector in the form of loans	Financial sector responds proactively to new market segment and offer appropriate and affordable consumer financing products
Result 4: Roll out of SFM and continuous EE-AF market development secured via enabling regulative framework	I4.1: Provisions of Forest Code mainstreamed into secondary regulations and applied in practice	Analysis of secondary regulations Analysis of FMP approval record of MoEPA Analysis of DES forest supervision cases on compliance with forest management principles by forest management bodies Analysis of education and training curricula	Secondary regulatory framework does not entail SFM provisions of the new Forest Code	Secondary regulatory framework entails SFM provisions of the new Forest Code	Secondary regulatory framework implemented accordingly by forest management bodies in Georgia in the following elements: All new FMPs in Georgia developed according to new approach 70% of reforestation, afforestation and forest maintenance is done according to regulations in the forest districts, which started implementation of new FMPs in Georgia All educational and training centres for forest workers have included SFM approach in their curricula	Political commitments to implementation reform remain high on the agenda of the Government of Georgia
	I4.2: Functioning enabling regulative framework to ensure sustainability of EE-AF market developments via obligatory technology standards and favorable public procurement regulations	Government annual report on the status of approximation and implementation of the EU Ecodesign Directive (as per Georgia's obligation under Energy Community Treaty)	Implementation of Ecodesign Directive, including EE standards for heat stoves, are included in the draft Climate and Energy Action plan for 2021-2030 (under preparation)	Standard approved by Government Public procurement regulations adopted	30% of new stoves in the target regions are compliant with the new standard (stove types/brands officially certified) Public procurement regulation applied in 3 target regions	Georgia fulfills its commitments under the Energy Community Treaty, including timely adoption of the EE Law and corresponding by-laws, e.g. primary regulation for transposition of the Eco-design directive as a precondition for adoption of standards and regulations

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		Annual report of the Public Procurement Agency	scheduled to be adopted in 2020 Introduction of the energy efficiency procurement regulations in the public sector is part of approved NEEAP.			
Result 5: Livelihood opportunities are diversified and local self-governance in forest management is strengthened, leading to reduced pressure on forests	To be defined	To be defined	To be defined	To be defined	To be defined	To be defined

E.6. Activities

Activity	Description	Sub-activities	Deliverables
1.1 Development and implementation of sustainable forest management plans in Guria, Kakheti and Mtskheta-Mtianeti	This Activity supports the implementation of sustainable forest management practices in 8 forest districts by a) the elaboration of 10 year sustainable forest management plans (FMPs) for eight target districts, based on forest management inventories, data analysis, and multi-stakeholder consultations and b) by the implementation of active interventions on 170,539 ha, including restoration and maintenance (incl. fire, pest and disease management, restoration and reforestation measures), cutting operations (maintenance and final cuts), and the construction of resilient forest infrastructure, among other activities. SFM will result in reduced forest degradation, the sustainable production and harvesting of	1.1.1 Development of SFM plans based on the principles of SFM in selected forest districts 1.1.2 Implementation of SFM plans in selected forest districts	<ul style="list-style-type: none"> 4 gender-sensitive business plans developed for Lanchkhuti, Ozurgeti, Chokhatauri and Akhmeta (Q4, year 1) Start of implementation of approved FMPs in Lanchkhuti, Ozurgeti and Chokhatauri districts in Guria, and Akhmeta district in Kakheti (Q4, Year 1) 4 gender-sensitive FMPs approved and 4 business plans developed for Kvareli, Telavi, Dedoplistskaro and Tianeti districts (Q4, Year 2) Start of implementation of approved FMPs in Kvareli, Telavi, Dedoplistskaro and Tianeti districts (Q1, Year 3) 3 tranches of equipment purchased for NFA (Q2 year 1, Q1 year 3, Q1 year 5) 526 NFA staff trained in target districts

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	fuelwood for the rural population, and further enhancement of forest carbon stocks.		
1.2 Strengthening of forest supervision	The Activity supports the Department of Environmental Supervision (DES) to reduce the illegal use of forested areas, including illegal logging for fuelwood and industrial timber. The project supports DES to develop standard operating procedures, to train their staff and to equip DES with suitable equipment and technology (e.g. drones, GPS devices for registered logging trucks, satellite cameras, etc.). This improves the efficiency and effectiveness of forest supervision and law enforcement. As a final result forest degradation is reduced, and NFA revenues increase through eliminating illegal forest use.	1.2.1 Strengthening of procedures, standards, protocols for enhanced forest supervision 1.2.2 Implementation of improved forest supervision measures and technologies	<ul style="list-style-type: none"> Standard operating procedures for forest patrol staff developed (Q3, year 1) Forest supervision teams¹⁷⁰ in the three target regions equipped with adequate equipment, technology, and vehicles (Q4, Year 1) 8 DES trainers trained to conduct training modules for DES staff (including gender equality component) 807 DES staff members trained on standard operating procedures, protocols and guidelines, including gender-specific forest and fuel use (Q1, Year 2) 306 forest patrol staff trained on best practices, equipment and technology for forest supervision (Q1, Year 2) 20 forest inspectors trained on best practices, and technology for improved forest inspections and evaluation of damages in forest ecosystems (Q3, Year 2)
1.3 Provision of sustainably produced fuelwood by NFA	This Activity supports NFA to establish a model sustainable fuelwood supply chain in 8 target districts within 3 regions. It supports NFA in the development and operation of Business Service Yards (BSY) by construction of the yards, purchase of equipment, training BSY staff, supporting operational planning, and ensure active monitoring of the yards. As a result, it facilitates the transition from the social wood programme to a new system of NFA-run 'BSYs' for fuelwood supply, which increase transparency and traceability in the forestry sector, and ensures harvesting levels are based on SFM.	1.3.1 Support to new mechanism for fuelwood provision to local population 1.3.2 Establishment of business service yards (BSY)	<ul style="list-style-type: none"> Selection of 14 BSY sites (Q4, year 1) SOPs, protocols and guidelines (gender-sensitive) for BSYs elaborated (Q4, Year 1) 15 BSYs operational through the project (Q2, Year 3) 90 BSY staff trained on SOPs, protocols, and wood marketing (Q3, Year 3) 50 NFA staff (in addition to BSY staff) trained on fuelwood and timber marketing
1.4 Enhancement of enabling environment for the nation-wide implementation of sustainable forest management (SFM)	This activity strengthens the enabling environment to facilitate the nation-wide adoption of SFM. The project provides targeted support for adjusting the regulatory framework, improving forest sector training and vocational education, strengthening cross-sectoral planning through the	1.4.1 Strengthening of the legal framework for SFM 1.4.2 Improvement of sector steering and coordination between involved sectors 1.4.3 Development of online knowledge management and training platform for the forest sector	<ul style="list-style-type: none"> Secondary legal act on the commercial use of NTFPs elaborated (Q4, Year 2) At least 1 multi-stakeholder plenary meeting per year for the forest sector reform platform (7 in total)

¹⁷⁰ For specification of equipment technologies and vehicles, see FS Chapter 5.2.3.2

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	establishment of a multi-stakeholder platform and high-level inter-ministerial working group. Finally, climate risks and suitable adaptation strategies in forest ecosystems in the 3 project regions will be assessed to inform sector planning and forest management, where the results will be mainstreamed into sector policies, trainings and guidelines, as well as FMPs.	1.4.4 Improvement of vocational education and training for the forest sector 1.4.5 Enabling improved integration of climate change adaptation in forest sector planning, management and monitoring	<ul style="list-style-type: none"> Knowledge management and training platform established for MoEPA, DES, NFA and private forest service companies (Q3, Year 2) 3 reports on climate risks for forest ecosystems in Guria, Kakheti and Mtskheta-Mtianeti¹⁷¹ (Q2, Year 3)
1.5 Improvement of monitoring and measurement, reporting and verification (MRV) systems for the forest sector	The Activity supports the development of a Forest Information and Monitoring System (FIMS), aligned with national MRV requirements by elaborating and operationalizing 10 FIMS modules and developing national emission factors. These will be utilized by (at least) 6 government institutions to sustainably manage and monitor Georgia's forest resources. The system improves the monitoring of forest resources, facilitating a more accurate monitoring of forest carbon stocks and other forest dynamics, which ultimately improves sector planning and forest management.	1.5.1 Strengthening of the national forest monitoring and MRV architecture 1.5.2 Development of FIMS modules	<ul style="list-style-type: none"> 1 set of national emission factors and Georgia-specific allometric equations developed (Q2, Year 3) Institutional framework, SOPs, and protocols for FIMS (incl. clear institutional arrangements) established (Q2, Year 2) FIMS technical units formed and trained 10 FIMS software modules are developed and operational (Q4, Year 3) Help desk and support facility established and operational 36 FIMS end users are trained on FIMS (including staff from 9 regional offices, NFA, DES, MoEPA, APA, AFA, among others) 6 government institutions are trained and use FIMS (Q4, year 4)
Activity 2.1 EE-AF supply chain development	This activity facilitates the creation and expedited growth of the supply chain for EE and low-carbon AF solutions. It will do so by providing technical assistance and investment support in the form of grants, interest rate subsidy and guarantees (co-financed) to existing and new EE-AF producers, as well as supporting development a pipeline of investment projects for new and emerging EE-AF solutions. Through this activity EUR 3.8 million of additional investment in EE-AF sector will be leveraged leading to 40-50% market growth rate in the volume of sales (currently 500 EE stoves/year and 3,500 t USB/year).	2.1.1 Establishing Technical Assistance and Investment Support Facility (TAISF) 2.1.2: Feasibility assessment and pipeline development for new EE-AF solutions	<ul style="list-style-type: none"> Data-base of EE-AF suppliers established First certified product available on the market (Q4, Year 1) Trainings/coaching sessions to min 100 employees of EE-AF supply chain stakeholders delivered (min 30% female representation) Business plans for investment in EE-AF production developed Investment support to EE-AF suppliers provided: <ul style="list-style-type: none"> 70% of the estimated market needs (Q4, Year 4) 100% of the estimated market needs (Q4, Year 7) Feasibility studies for new EE-AF solutions and products developed

¹⁷¹ Including the identification of suitable adaptation strategies to be mainstreamed into annual plans, FMPs, as well as regional and national strategies.

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<p>Activity 2.2 Implementing consumer financing instruments for EE-AF solutions</p>	<p>This Activity jump-starts the market and scaling-up demand for EE-AF products. It provides, in partnership with national financial organizations, local banks and MFIs, a package of consumer financing options (loans and financial incentives) focusing initially on EE stoves and briquettes, but gradually expanding to other EE-AF technologies. By project end, this activity will provide 30,370 households with structured financing products enabling the purchase of an EE stove and over 25,000 households – for the annual supply of AF.</p>	<p>2.2.1: Design, implementation and marketing of the voucher programme for EE stoves for households</p> <p>2.2.2: Providing consumer financing for EE stoves for households</p> <p>2.2.3: Supporting MFIs and partner banks to structure and promote consumer financing products for advanced EE-AF solutions</p>	<ul style="list-style-type: none"> ▪ Voucher Programme has started (Q4, year 1) ▪ Gender impact assessment of viability of financing schemes for stoves to ensure that loans and micro credits are accessible for women, especially women-led households and single parents ▪ Consumer financing products launched for EE stoves and briquettes (Q4, Year 1) ▪ Voucher programme finalised (with at least 25% of beneficiaries being women-headed households) (Q4, Year 6) ▪ Consumer financing products launched for other EE and AF solutions (Q4, Year 5)
<p>Activity 2.3 Creating consumer awareness and provision of technical advisory services for fuelwood users</p>	<p>This activity creates awareness among fuelwood users and Georgia's population at large about forestry sector reform process, its implications, as well as alternatives to fuelwood. It will involve the provision of informational and technical advisory support to fuelwood users in the target regions and other locations across rural Georgia, as well as undertaking a nation-wide awareness raising campaign. As a result, 82,000 households will be supported in the target regions, 160,000 households in other rural regions and at least 1 million people will be reached nationally. It is expected that the share of people supporting the main direction of the forestry sector reform will increase by at least 50%.</p>	<p>2.3.1: Community-mobilization, advocacy and advisory services on EE-AF to fuelwood users</p> <p>2.3.2: National advocacy and awareness raising</p>	<ul style="list-style-type: none"> ▪ Data-base of fuelwood consumers in the target regions established (Q4 Year 1) ▪ Advocacy and communication plan including gender-sensitive approach developed ▪ Gender-sensitive knowledge and information materials developed ▪ Local information points (LIP) established (Q2 Year 2): <ul style="list-style-type: none"> - 19 LIPs in target regions - 30 LIPs in other regions across Georgia ▪ Annual reports on information provision and technical advisory support to fuelwood users published ▪ Gender-sensitive nation-wide awareness raising campaign finalised (Q3, Year 6)
<p>Activity 2.4 Enabling policies and regulations</p>	<p>This Activity provides technical assistance to public authorities to accelerate transposition and practical implementation of policy and regulatory instruments envisaged in the EE and RE acquis, which have direct relevance and implications for the EE-AF sector and reduction of the fuelwood consumption in rural areas, namely:</p> <ul style="list-style-type: none"> ▪ energy efficiency and environmental standards and labelling for space heaters in line with EU Ecodesign directive 	<p>2.4.1: Capacity building for introduction and enforcement of energy efficiency and environmental standards and labelling for EE-AF solutions</p> <p>2.4.2: Facilitating introduction of EE procurement practices in public sector</p>	<ul style="list-style-type: none"> ▪ Standards for EE stove /secondary regulation drafted (Q4, Year 1) and adopted (Q4, Year 4) ▪ Certification and labelling scheme for EE stoves developed (Q4, Year 1) and officially adopted (Q4, Year 4) ▪ Market surveillance and MRV system established (Q4, Year 4) ▪ Secondary regulation on EE public procurement adopted (Q4, year 2) ▪ EE Public Procurement Guidelines developed (Q2, Year 2)

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	<ul style="list-style-type: none"> energy efficiency public procurement rules and regulation. <p>The objective is to create an enabling policy and regulatory framework for sustained EE-AF sector growth beyond GCF project timeframe.</p>		<ul style="list-style-type: none"> Training on EEPP with State Procurement Agency and Procurement Officers of national and local governments conducted Study tour on EEPP with State Procurement Agency and Procurement Officers of national and local governments conducted Awareness raising campaign on EEPP finalised Report on EEPP application in target regions (Q4, Year 3)
Activity 3.1: Development and introduction of municipal-level tools, practices, plans and capacities for participatory SFM and conservation	This activity prepares the framework conditions and introduction of municipal sustainable forest management in the country. The project will develop and introduce tools, practices, plans and economic planning instruments specifically designed for utilisation in municipal forest management and conservation efforts. In addition, capacity development for municipal authorities will enable staff and community members to utilize the developed instruments and to participate in management and conservation activities.	To be defined	To be defined
Activity 3.2: Development, testing and promotion of local mechanisms to better protect interests of adversely affected stakeholders	This activity will activate the new participation approach, acknowledging the need for conflict resolution mechanisms. To do so, the project will develop, promote and test interest protection mechanisms.	To be defined	To be defined
Activity 3.3: Development of professional skills on SFM and conservation through vocational education and international partnerships with centers of excellence	This activity will support the professional skill development on sustainable forest management and conservation of local foresters and other forest workers. The project will work with vocational training colleges to strengthen the educational capacities of the institutions, to foster intake of local community members and to promote the forester job profile in the three target regions. Eventually, Georgian forests face a number of forest pests and diseases which require efficient responses. International partnerships with qualified centers of knowledge would allow to acquire efficiently necessary expertise and solutions. The	To be defined	To be defined

	project will seek international partnerships with centres of knowledge.		
Activity 3.4: Introduction of selected value chains (timber, NTFP, eco-tourism)	This Activity creates alternative livelihood opportunities for individuals and households in the target regions to support the transition from informal fuelwood-related income sources to other (more formal) sources of income and thereby increasing household incomes, which eventually supports potential fuel switch and purchase of legal, high quality fuelwood. The project facilitates the establishment of timber-, NTFP-, and eco-tourism value chains via technical assistance.	To be defined	To be defined

E.7. Monitoring, reporting and evaluation arrangements

246. Monitoring, reporting and evaluation arrangements (in addition to ESMP and GAP monitoring) will comply with the relevant GCF policies, as stipulated in the AMA, FAA and project-related Financing Agreements and Implementation Agreements with Executing Entities and Implementation Partners, which EEs will extend to sub-grantees.
247. The project will apply a customized results-based Monitoring and Evaluation (M&E) system. The system will be based on:
- GIZ Standard Operating Procedures (“GIZ’s evaluation policy - principles, guidelines and requirements”)
 - The project logical framework
 - The project implementation schedule
 - Requirements of the GCF’s Annual Performance Report
 - Development partners’ Standard Operating Procedures
 - Procedures and requirements of project partners and stakeholders in Georgia
248. The M&E system will track project inputs, actions, activities, outputs, and impacts as well as associated financial flows across all Components in all project districts and at national level in Georgia. The overall responsibility and oversight for M&E and reporting lies with the GCF AE unit of GIZ head office. The national Project Management Unit (PMU) in Georgia will implement the M&E system and work closely with EEs, Government project partners and development partners.
249. **Recruitment of M&E staff.** Immediately when the project commences, GIZ’s GCF AE unit at head office in Germany will make available one expert to oversee, coordinate and manage the project M&E and reporting routines. He/she will cooperate closely with the PIU and GIZ Executing Entity staff to coordinate the implementation of the project’s M&E system. As soon as GCF proceeds become available in Georgia, the PIU will recruit one full-time M&E specialist. The PIU will additionally hire an international consultant/consulting company to design and to support the management of the M&E system and provide on-the- job training for PIU and other stakeholders of the system where requested.
250. **Interim evaluation:** GIZ’s AE unit will initiate an Interim Evaluation in year four of the project (or at any time that GIZ, the NDA and/or the Project Steering Committee consider necessary). GIZ will competitively select and assign an independent consultant for this task. The Interim Evaluation will duly involve project stakeholders, including target groups and beneficiaries, project partners and contributing development partners. The Interim Evaluation will include:

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- A review of the institutional, administrative, organizational, environmental, social, economic, technical and financial aspects of the project based on the assumptions and risks included in the design (among others as specified in the Funding Proposal and Feasibility Study) and M&E system.
- A review of covenants to assess whether they are still relevant or need to be changed or waived due to altered conditions.
- A review of the viability of remaining planned impacts.
- An assessment of the need to restructure or reformulate the project and the effects of such restructuring on the project's objective and long-term goals.

251. GIZ's AE unit will make available an MTR report to the GCF Secretariat and project stakeholders.

252. **Final evaluation:** In due time before the completion of the project, GIZ's AE unit will initiate a project completion mission, in which the implementation of the project based on the project-, financing- and implementation agreements, the delivery of outputs and the achievement of project targets will be evaluated. The mission will duly involve project stakeholders including target groups and beneficiaries, project partners and contributing development partners. At the time of the project's physical completion and commissioning, and before the expiry of the guarantee period, GIZ's AE unit will make available a final report to the GCF Secretariat and project stakeholders.

253. **Data collection and frequency:** The PIU will coordinate data collection for implemented activities (indicators, implementation challenges and financial status) through responsible executing departments / divisions at the national and regional level on a regular base. The PIU will supervise and guide the monitoring and evaluation.

F. RISK ASSESSMENT AND MANAGEMENT

F.1. Risk factors and mitigations measures

A detailed analysis of project risks is provided in Chapter 12 of the Feasibility Study (Annex 2). Environmental and social risks are considered in the Environmental and Social Impact Assessment (Annex 6a) and the Environmental and Social Management Plan (Annex 6b). Gender-specific risks are considered in the Gender Assessment (Annex 8a) and the Gender Action Plan (Annex 8b).

From a safeguards perspective, the ESIA rates the project risk as medium (Category B).

Selected Risk Factor 1

Category	Probability	Impact
Technical and operational	Medium	Medium

Description

254. Forest management inventories and FMPs developed may differ from the forest model, resulting in a different prioritization of SFM measures and potentially different targets (e.g. the amount of timber that can be sustainably harvested).

Mitigation Measure(s)

- The Feasibility Study emphasizes that while the forest model was developed using the best available information (existing studies, and extensive consultation with the Georgian government and other stakeholders) and using conservative estimates, all models are “simplifications of reality” and should be further informed by up-to-date forest inventories, particularly in the case of Georgia where data and information gaps in the forest sector are a major barrier facing the sector. Detailed forest management inventories conducted to inform FMPs will provide more accurate information and prioritize necessary SFM activities based on actual forest conditions.
- While the proposed SFM practices are not expected to drastically change, since SFM involves a broad toolbox of approaches that are aligned with the forest conditions, nonetheless some adjustments in the practices and targets may be required (e.g. areas where certain practices are implemented, annual allowable cut, etc.). Harvesting yields and annual allowable cut will be closely assessed based on FMIs and FMPs. Changes in SFM activities may also impact the revenues from SFM, however business plans will be developed based on FMPs that provide detailed financial and economic planning – ensuring revenue modeling and financial planning are based on the forest conditions and confirmed SFM activities.
- When necessary to change indicators/ targets, close communication will be ensured with GCF and other project partners. Information based on SFM best practices (and benchmarks) and a clear justification for any adjustments will be provided.¹⁷²

Selected Risk Factor 2

Category	Probability	Impact
Technical and operational	Low	Medium

Description

255. Over-commercialization of forest resources (timber and non-timber forest resources) to increase economic gains at the regional level, where forest management transitions from SFM to unsustainable forest management practices focusing on the over-exploitation of timber and fuelwood.

Mitigation Measure(s)

- Forest Management Inventories to be conducted as part of the FMP development process, based on best practices. FMPs will be directly linked to FMIs and revised by MoEPA. Trainings will be provided to MoEPA on key considerations for the revision process in the context of SFM, and additional trainings will be provided to NFA for conducting forest management inventories, developing FMPs based on inventories and stakeholder consultations, and developing business plans for each district to improve

¹⁷² The main assumptions for the forest model are provided in the Feasibility Study, Chapter 5.2.3.4.

sector planning and monitoring. This will improve transparency and support active management. The approval of FMPs by the Ministry will also ensure checks and balances are in place.

- The operation of BSYs will be closely linked with the FIMS and electronic system for timber resource management to ensure that timber entering and leaving BSYs are transparently monitored and tracked, ensuring a clear chain of custody. It will improve transparency in the sector as wood will be registered and sorted only at BSYs, reducing illegality within value chains.
- Financial auditing of BSYs will be conducted by the NFA and the State Audit Office of Georgia on a regular basis, ensuring alignment with approved FMPs and annual plans
- Trainings will be conducted for national, regional, and district NFA staff on BSYs, fuelwood provision and sustainable forest management to build capacities on SFM, and emphasize the need for forest management based on revised regulations (informed by national and management-level C&I for SFM)
- The new (draft) Forest Code, and associated regulatory changes (e.g. Activity 1.4) will further ensure that there is a strong regulatory foundation for SFM
- Support to DES in Activity 1.2 will further support risk mitigation, as they will be able to supervise forest use in a more efficient and effective manner. Transferring supervision responsibilities from NFA to DES will also support improved transparency, and accountability of NFA – ensuring forest management activities are sustainable and based on approved FMPs.

Selected Risk Factor 3

Category	Probability	Impact
Governance	Low	High

Description

256. While efforts to reduce corruption in the forest sector have been successful, there is still a risk that corruption could persist.

Mitigation Measure(s)

- The country's anti-corruption strategy has been strengthened within the sector under the National Forest Concept and ongoing reforms in recent years. For example, currently there is a regular change of patrol districts, their patrolling areas are not known to them in advance of their shift. In addition systems that were prone to corruption, namely the timber concession system, are being phased out, and more transparent systems promoted.
- The project will also strengthen Georgia's anti-corruption strategy through improving transparent monitoring of forest use through the procurement of key technology to improve supervision (e.g. cameras on forest roads), the strengthening of standard operational procedures and protocols, strengthening the training system, and implementing diverse trainings for patrols and inspection staff (ensuring staff are aware of best practices and protocols). A major contribution to reducing corruption in the sector will be the development and operationalization of FIMS, including the Electronic System of Timber Resources Management, among other modules, that make the entire sector more transparent (Activity 1.5 – Monitoring and MRV).
- FMPs developed by NFA will be revised and approved by MoEPA, ensuring a system of checks and balances within the government.

Selected Risk Factor 4

Category	Probability	Impact
Technical and operational	High	Low

Description

257. Staff turnover may result in loss of knowledge, information and capacities.

Mitigation Measure(s)

- Development of SOPs and secondary legal acts, and standardized training modules for onboarding of new staff members that ensure the consistent application of standard practices by new staff members, standardized basic training, and improved knowledge management.
- Pool of trainers within institutions will train additional trainers, and capacities will be built within institutions to ensure trainings are not only "one-off" trainings, but instead institutionalized that can be repeated, and scaled up to other districts/ regions in the country. Training modules will be integrated in the online platform (incl. e-courses, videos from in-person trainings, course materials, etc.).

- The project will strengthen Vocational Education and Training in the sector, where new and existing laborers in the sector can receive formal education qualifications based on best-practices and knowledge for SFM.
- Ongoing trainings, engaging diverse staff from national, regional, district and local level.

Selected Risk Factor 5

Category	Probability	Impact
Technical and operational	Medium	Medium

Description

258. Limited opportunities for local people to benefit from sustainable forest management under the new system (esp. those who previously were informally employed in the sector, or who harvested illegal fuelwood). Strengthened forest supervision and law enforcement combined with the pricing of fuelwood may negatively impact local livelihoods of vulnerable forest-dependent households.

Mitigation Measure(s)

- Past use of the forest was often conducted in illegal/informal ways and based on unsustainable utilization patterns where harvesting often exceeded sustainable utilization levels. The New Forest Code and national criteria and indicators for SFM, especially the latter under the social principle, recognize the importance of engaging diverse stakeholders within the FMP planning and implementation process. Community-outreach and continued engagement is a cross-cutting element throughout the project and is specifically addressed through Component 3.¹⁷³
- Local communities will be provided support and incentives to switch to more efficient energy appliances and alternative fuel (Component 2), to reduce their reliance on fuelwood (incl. illegal cutting).
- Component 3 provides alternative livelihood opportunities for rural communities through forest and energy related value chain development.
- Given the new opportunity for improved stakeholder consultation and engagement in the forest management planning process, the project aims to set a positive example of how such engagement could look like. For each new FMP at least three stakeholder consultations will be conducted (one each at the beginning, middle and final validation), and additional technical support provided to both NFA and local communities to ensure productive and fruitful consultations. Georgia promotes SFM, and thus this participatory process also is an important platform for local stakeholders to discuss local sustainable forest use (e.g. grazing, eco-tourism, recreation etc.). Targeted support will be provided to NFA and local communities to improve their awareness of opportunities for collaboration, and to strengthen local engagement.
- Awareness raising will be conducted at various levels and engaging diverse actors within Activity 2.3 – acknowledging the importance of a combined communications and awareness raising for forest sector reforms and alternative energy and energy efficiency. NGOs, local municipalities and community liaisons will play an important role in awareness raising and local capacity building.
- The new structure of the forest management will result in additional jobs for local people to support with management activities, including within NFA and in private businesses (permanent and seasonal staff). To the greatest extent possible the project will support the hiring of local people (through awareness raising campaigns, targeted local recruitment), facilitating formal job creation in the region.¹⁷⁴ This will help transform jobs from the informal to formal sector, providing more social security and stability.
- Currently the NFA plans to maintain prices currently paid by households, through formal networks, to facilitate the smooth transition to the new mechanism. However, some households receive additional subsidies (incl. poor households receiving municipal subsidies, others who go to the forest themselves), and it will be challenging for these households to pay GEL 81/m³.

Selected Risk Factor 6

Category	Probability	Impact
Technical and operational	Low	Medium

¹⁷³ This is further highlighted in Chapter 11 of the Feasibility Study (stakeholder engagement).

¹⁷⁴ Draft Forest Code, Version submitted to Georgian Parliament in February 2019.

Description		
259. The approval of policies and regulations is linked to political processes within the country, over which the project has no control. Thus, there is a risk that policies, secondary legal acts, forest management plans and annual plans supported by the project are not formally approved/ adopted. Delays in approval of the forest code, FMPs, and key regulations may also impact the project.		
Mitigation Measure(s)		
<ul style="list-style-type: none"> Specific measures to address this risk are limited given that this process (for Laws and regulations) is embedded within Parliament and is thus out of the project's control. Close collaboration and dialogue with key actors has been ensured in project development/design and will be maintained during project implementation. In terms of the forest code, in February 2019 it was accepted to the next session of Parliament and a speaker assigned, demonstrating a positive stride towards its timely approval. Strong ownership of the Government has been ensured throughout project development and will be maintained throughout project implementation through close coordination and cooperation. Thus, they are informed based on up-to-date information and partners are aware of its relevance for the project. For policies related to EE-AF this includes close collaboration and dialogue with EU and Energy community, as well as other stakeholder promoting EU integration agenda. For other forestry-related measures, this includes close coordination and cooperation with MoEPA and NFA, as well as other forest sector stakeholders, including local communities who will be consulted through the project on the proposed regulatory changes (e.g. regulations for the commercial use of non-timber forest resources). Delays could also impact the project, and while they are not ideal, a phased-approach is applied where the project already anticipates high-priority actions as soon as the project starts (e.g. enabling environment, elaboration of key secondary legal acts). The project will also support FMPs in various stages, including some which will be approved or will be nearly approved by project start. If there are delays in the elaboration, adjustment and/or approval of some FMPs, work on others can be continued. NFA has its own inventory team, which has been building its capacities through the implementation of NFI and FMIs, with the support from donors such as GIZ. Thus, the team is able to start relatively quickly given their experiences in implementing inventories based on best practices in the country. Outside of the project, GIZ has already committed to support the Government of Georgia with the revision of the current Regulations 179, 241 and 242 prior to project start, to ensure their timely revision. 		
Selected Risk Factor 7		
Category	Probability	Impact
Technical and operational	Medium	Medium
Description		
260. On-the-ground advocacy work is delayed due to ineffective implementation structure, insufficient capacities to engage effectively with households at the local/community level and lack of coordination with project's financial partners and EE-AF suppliers (Activity 2.3)		
Mitigation Measure(s)		
<ul style="list-style-type: none"> Selection of Local Partner/EE for Activity 2.3 will be based on assessment of local capacities and existence of established implementation structure and operational capacities in the target regions. Consequently, the risk of operational delay to occur will be lower. Full time Communication Specialist/Task leader will be recruited by GIZ to ensure coordination between sub-contractors and partners, including EE-AF suppliers, and financing partners Communication task force will be established comprising representatives of TAISF (Activity 2.1), Financing partners (Activity 2.2) and sub-contractors to be engaged under Activity 2.3 		
Selected Risk Factor 8		
Category	Probability	Impact
Technical and operational	Low	Medium
Description		
261. Investment in EE-AF sector growth do not materialize despite TAISF support.		

Mitigation Measure(s)		
<ul style="list-style-type: none"> Maintaining comprehensive data-base of suppliers and establishing regular and direct lines of communication/marketing Undertaking regular surveys and capacity gaps assessment to tailor TAISF offerings to sector's need and emerging opportunities Liaising with ARDA Partner Banks to identify bottlenecks and barriers faced by EE-AF suppliers in obtaining loans/meetings banks criteria Market research and dissemination of market intelligence about specific EE-AF business opportunities in Georgia and abroad among Georgian business and financing community (e.g. start-up fora, investment conferences, etc.) 		
Selected Risk Factor 9		
Category	Probability	Impact
Other	Medium	Medium
Description		
262. Insufficient uptake of EE stoves despite offered discount.		
Mitigation Measure(s)		
<ul style="list-style-type: none"> Annual review of the project implementation to monitor performance/sales of EE-AF along with household survey to better understand preferences and barriers Local marketing campaign and activities of Local Information Points (under Activity 2.4) and Business Support Yards (VSY) under Activity 1.3 Regular market survey/studies by partner FIs/MFIs to offer better tailored products to the need/profile of the targeted HHs 		
Selected Risk Factor 10		
Category	Probability	Impact
Technical and operational	Medium	Medium
Description		
263. Delay with adoption of EE policy package, including the new Energy and Climate Action Plan for 2020-2030 and other relevant provisions of EU Energy acquis		
Mitigation Measure(s)		
<ul style="list-style-type: none"> Close collaboration and dialogue with EU and Energy Community, as well as other stakeholders promoting EU integration agenda Ministry of Economy and Sustainable Development will act as the main beneficiary and counterpart for this Activity and will take the lead role in advising the project on risk mitigation measures 		

G. GCF POLICIES AND STANDARDS

G.1. Environmental and social risk assessment

264. The Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) have been prepared in support of the project and are presented in Annex 6. The project has been screened against the International Finance Corporation (IFC) Performance Standards and the GCF and GIZ Environmental and Social Safeguards. An assessment of the environmental and social impacts of the Project was undertaken, and the Project has been considered as **Medium risk** (Category B); potentially rare or locally limited occurrence, largely reversible consequences, easy to manage.
265. The project has the potential to cause **low to medium environmental and social impacts**. In total, 26 impacts were identified during the assessment; 11 were identified as low, 10 were rated as medium, and the rest as negligible or could not be rated since activities included the implementation of secondary laws not yet developed. A number of mitigations measures have been proposed to manage these impacts.
266. The impacts include low to medium risks due to minor civil works during the construction phase and logging and maintenance of roads during the operations phase and include impacts on wildlife, risks of sedimentation and erosion, risks of hazardous spills on soils and surface water. **Occupational, health and safety impacts** were also identified as risks for the project workers during construction and also logging activities, in particular in the mountain slopes. Minor impacts also include increased waste and minor disturbance related to noise and dust during both construction and operations.
267. **Social impacts** are mostly due to the application of the new Forest Code through the development of the individual SFM Plans which will forbid communities from felling trees for fuelwood and timber and impose restrictions on livestock grazing and gathering of Non-Timber Forest Products (NTFP). The main risk for communities concerns the **restriction imposed on harvesting trees**, due to the strong dependence of the communities to use fuelwood for cooking and heating community houses during the cold winter months and the high poverty status of rural communities. Appropriate actions are proposed to deal with these issues, e.g. activities under Component 3.
268. The project does not require any involuntary land acquisition and/or resettlement. It will require land for the construction of 14 Business Service Yards (BSYs). These BSYs will be constructed in land belonging to the state and or acquiring brownfield sites which have been abandoned. Access to the brownfield sites will only be undertaken through voluntary agreements. Where a voluntary agreement cannot be established, the land will not be used.
269. Prior to undertaking any of the project's interventions, additional stakeholder engagement will be conducted to ensure that the local population is fully consulted to ensure the project will not impact them and/or their livelihoods, culture and traditions. In addition, during the implementation of the project, participatory consultation of the SFM Plans will be one of the key activities of stakeholder engagement and strongly supported in Activity 3.1 and 3.2. Awareness raising regarding the sustainable use of forests and benefits of the forests will be carried out throughout the implementation of the project.
270. Capacity building of MoEPA, NFA and DES has been proposed as a tool to manage the project's impacts. This includes capacity building on a) conflict management, mediation and dispute resolution; b) communication and engagement with communities; c) occupational health and safety (a cross-cutting theme that will be integrated throughout training modules and project activities); d) environmental communication; and e) identification of critical ecosystems, fauna and flora and strengthened biodiversity awareness. The objective is to build institutional competencies for dialogue and cooperation and increase environmental communication capacities within the three institutions to build inclusive sustainable development.
271. Other appropriate and relevant avoidance and mitigation options have been proposed in ESMP, which will reduce the potential impacts of the project to an acceptable level (Annex 6b).
272. Annex 7a "Stakeholder Consultation and Engagement Plan and Grievances Mechanism Report" summarizes the process of extensive stakeholder consultations undertaken throughout project preparation process to obtain feedback and discuss recommendations and concerns, the environmental and social impacts, the preliminary measures proposed by the project to manage negative impacts and explore opportunities to maximize positive impacts. All in all, 364 people have been consulted in 25 working meetings and 2 workshops including:
- Regional, local and community consultations in the three selected project regions and 8 target districts.

- Meetings with the NGOs in Tbilisi: The purpose of the meetings was to obtain feedback regarding the project and understand their concerns and obtain their recommendations regarding impact mitigations.
- Two validation workshops were held in Tbilisi with Government, MDBs, and members of civil society to present the project and the ESIA/ESMP. These meetings were organized by the MoEPA and the GIZ.

273. A Stakeholder Engagement Plan is provided in Annex 7b, Chapter 3.4, including the grievance mechanism procedure, which is described in the Chapter 3.5 of the same report.

G.2. Gender assessment and action plan

274. The detailed findings of the Gender Assessment (GA) and the Gender Action Plan (GAP), can be found in the Annexes 8a and 8b to the FP. The process to develop these documents has been guided by the GCF Gender Policy and GCF and GIZ Gender Mainstreaming Guidelines and involved a) Review of all relevant project documentation, including regulatory documentation and the standards that the project will need to abide by; b) Analysis of secondary (existing documentation); c) Information gathering and stakeholder consultation in Tbilisi and the three target regions and preparation of the stakeholder engagement report; and d) Analysis of primary data from stakeholder engagement process.

275. The GA identified women as being particularly vulnerable. This is because while fuel wood is usually cut in the forest by men, further splitting of wood, carrying it home and putting it in stoves is performed by women. So in fact, women are rather the ones who control the consumption of fuel wood and carry the burden associated with regular provision of heat supply in homes. For example, those women who already have been exposed to the use of AFs, such as briquettes refer very positively to this experience as briquettes “are easy in use and depending on the type of tree they are made of, give much warmth”. Poor households are also vulnerable as regards their ability to invest in efficient stoves, which are pricier than conventional ones. This limitation is particular prominent for women-headed households, which comprise 33% of the total in rural areas.

276. Based on conducted assessment, the following key recommendations were made to address the identified vulnerabilities and ensure equal participation and benefits-sharing from the project:

- Strengthening gender competencies in partner structures
- Establishing gender-responsive framework conditions
- Include women as key actors and change agents in planning and decision-making processes; e.g. by promoting women cooperatives in the supply chain of raw materials for alternative fuel production
- Improve access of women to resources (fuel, forest, money, information); e.g. through household advisory services for EE-AF solutions and financing schemes that specifically focus on vulnerable households (women-led households and single parents)
- Ensure gender mainstreaming in information campaigns, organized and led by women's organization, to increase women's visibility and generate knowledge within the community on the key role women play for the successful implementation of EE-AF solutions;
- Support the collection of gender-disaggregated data

277. As a result of stakeholder consultation and conducted analysis, the following key gender-related results of the project has been agreed upon:

- Minimum 30% of participants in the FMP and business plan development consultations are women;
- All female representatives of municipal councils and gender focal points are invited to stakeholder consultations on forest related topics
- 70% of the female-headed households in the target regions state that they have easy access to fuelwood through the new system
- 100% of policies, regulations, training materials at the knowledge management and information platform, supported by the project are gender sensitive
- The FIMS has integrated gender-disaggregated data collection options in its concept
- At least 25%¹⁷⁵ of beneficiaries of the voucher programme are women-headed households

¹⁷⁵ The average number of women-headed households in Georgia is 39%. However, the share in urban areas is higher than in rural areas. The voucher programme targets rural areas; therefore a conservative approach is taken here.

- 25%¹⁷⁶ of the households visited by the technical advisers of the local information centers are female-headed.

278. In order to ensure that the GAP is implemented and expected gender-related results are achieved, regularly monitored and evaluated, gender mainstreaming and monitoring training will be conducted for all GIZ and Project Implementation Unit staff (representatives of NFA, DES, EIEC, ARDA, GIZ) and responsibilities assigned accordingly.

G.3. Financial management and procurement

279. **Financial management:** The financial management of the project will follow GIZ's internal rules and regulations. GIZ has bank accounts with Deutsche Bundesbank and Commerzbank. GIZ will not open a specific bank account for GCF proceeds and other GCF funds but will ensure that all funds provided are clearly identifiable from GIZ's other funds by setting up separate cost units exclusively for the funds disbursed by the GCF for each funded activity (ledger accounts). Funds received and expenditures incurred will be booked to the respective cost unit according to generally accepted accounting principles and procedures accepted by the German government. As a general principle, GIZ disburses funds to the recipients in accordance with the progress of the project. The Executing Entities will have to prove the proper use of funds and the defined progress as a prerequisite for any further disbursement. Independent external auditors will perform annual financial audits of the project in line with International Auditing Standards.

280. **Procurement:** In case of procurement by GIZ, GIZ will follow its own procurement guidelines. GIZ is required to comply with the relevant contracting rules as established in the German Act against Restraints of Competition (GWB), the German Regulation on the Award of Public Contracts (VgV) and, if applicable, the Contracting Rules for the Award of Public Service Contracts (VOB and UVgO) when procuring services, construction work, and supplies.

281. When awarding contracts for supplies and services (including consultancy services) to be financed in full or in part from the grant agreement, the external Executing Entities will observe their own national regulation for public procurement and will in any case comply with the provisions mentioned in the Procurement Guidelines for projects funded by GCF/GIZ.

282. The Procurement Guidelines shall not contradict the applicable national procurement law and/or regulations for public procurement, which apply in the Executing Entities country. In principle, the regulations of the Executing Entities country are to be observed; the procurement procedures mentioned in the Guidelines are obligatory minimum standards. While implementing a project with public funds the Executing Entities should take reasonable account of economic efficiency as well as ecological and social aspects.

G.4. Disclosure of funding proposal

☒ **No confidential information:** The accredited entity confirms that the funding proposal, including its annexes, may be disclosed in full by the GCF, as no information is being provided in confidence.

☐ **With confidential information:** The accredited entity declares that the funding proposal, including its annexes, may not be disclosed in full by the GCF, as certain information is being provided in confidence. Accordingly, the accredited entity is providing to the Secretariat the following two copies of the funding proposal, including all annexes:

- ☐ full copy for internal use of the GCF in which the confidential portions are marked accordingly, together with an explanatory note regarding the said portions and the corresponding reason for confidentiality under the accredited entity's disclosure policy, and
- ☐ Redacted copy for disclosure on the GCF website.

The funding proposal can only be processed upon receipt of the two copies above, if containing confidential information.

¹⁷⁶ The average number of women-headed households in Georgia is 39%. However, the share in urban areas is higher than in rural areas. The awareness activities target rural areas, therefore a conservative approach is taken here.

H. ANNEXES

H.1. Mandatory annexes

- ☒ Annex 1 NDA No-objection letter
- ☒ **Annex 2 Feasibility Study**
 - Annex 2a Feasibility Study
 - Annex 2b Appendices 1-6 and 10
 - Annex 2c Appendix 7: Private Sector Study
 - Annex 2d Appendix 8: Capacity Needs Assessment
 - Annex 2e Appendix 9: EE & Alternative market profile supplier – Survey results
- ☒ **Annex 3 Economic and financial analyses**
 - Annex 3a Economic and Financial Valuation Model
 - Annex 3b Economic and Financial Valuation Summary
- ☒ Annex 4 Project Budget
- ☒ Annex 5 Project Implementation Timetable
- ☒ **Annex 6 E&S document corresponding to the E&S category:**
 - Annex 6a Environmental and Social Impact Assessment (ESIA)
 - Annex 6b Environmental and Social Management Plan (ESMP)
 - Annex 6c ESIA Annex 1 - Environmental Assessment Code
 - Annex 6d ESIA Annex 2 - Exclusion List
- ☒ **Annex 7 Summary of consultations and stakeholder engagement plan**
 - Annex 7a Stakeholder Consultation and Engagement Plan & Grievance Mechanism
 - Annex 7b Annexes to Stakeholder Consultation and Engagement Plan & Grievance Mechanism
- ☒ **Annex 8 Gender assessment and project-level action plan**
 - Annex 8a Gender Assessment (GA)
 - Annex 8b Gender Action Plan (GAP)
- ☐ Annex 9 Legal due diligence (regulation, taxation and insurance)
- ☒ Annex 10 Procurement plan
- ☒ Annex 11 Monitoring and Evaluation Plan
- ☒ Annex 12 AE Fee Budget Request
- ☒ **Annex 13 Co-financing commitment letter**
 - Annex 13a Co-finance Letter – Government of Georgia
 - Annex 13b Co-finance Letter - BMZ
 - Annex 13c Co-finance Letter - SIDA
 - Annex 13d Co-finance Letter – Crystal
 - Annex 13e Co-finance Letter - SDC
- ☒ Annex 14 Term sheet

H.2. Other annexes as applicable

- ☒ **Annex 15 Evidence of internal approval**
 - Annex 15a GIZ Letter of Internal Technical Approval
 - Annex 15b GIZ Letter of Internal Legal Approval
 - Annex 15c GIZ Letter of Internal Approval – Safeguard and Gender Desk
- ☐ Annex 16 Map(s) indicating the location of proposed interventions
- ☐ Annex 17 Multi-country project/programme information
- ☐ Annex 18 Appraisal, due diligence or evaluation report for proposals based on up-scaling/replicating a pilot project
- ☐ Annex 19 Procedures for controlling procurement by third parties or executing entities undertaking projects financed by the entity
- ☐ Annex 20 First level AML/CFT (KYC) assessment
- ☐ Annex 21 Operations manual (Operations and maintenance)
- ☒ **Annex 22 Other references**
 - Annex 22a GHG emissions calculations
 - Annex 22b Overview of Project Concept
 - Annex 22c Facility Graph
 - Annex 22d Temporary Annex on Co-financing