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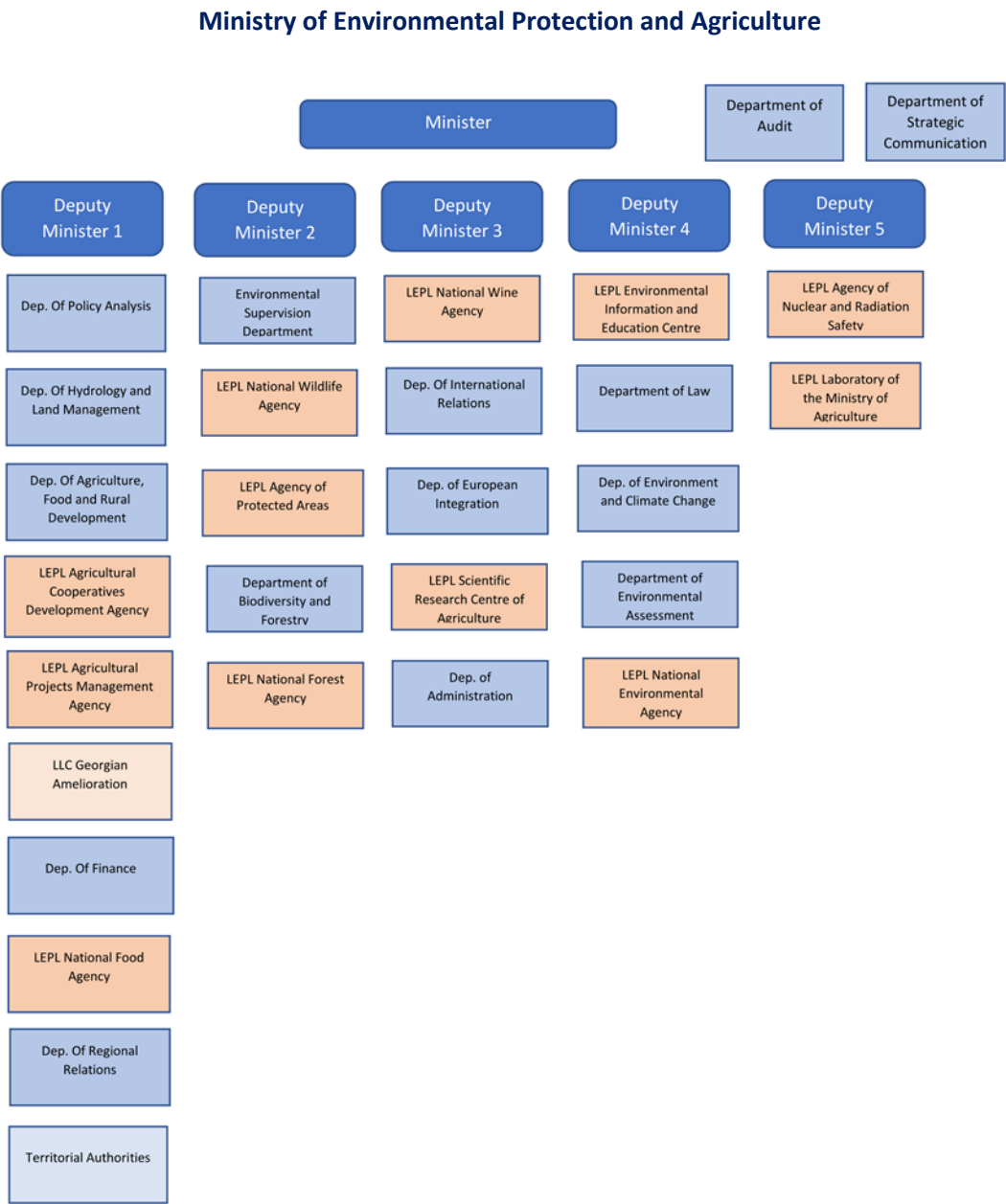
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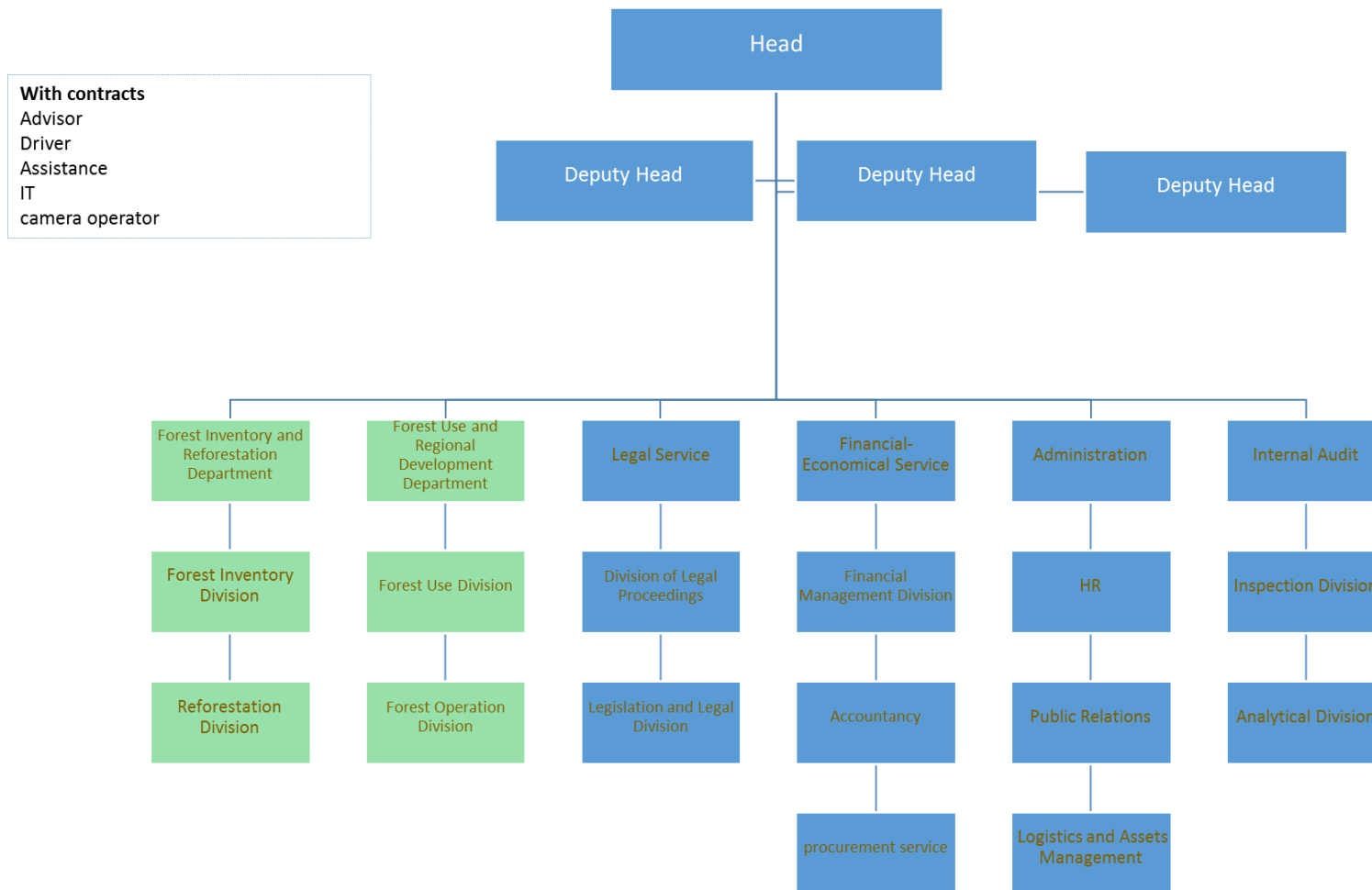
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Appendix 1 Organizational charts project partners



Source: Provided by MoEPA for project preparation

Organizational chart for NFA

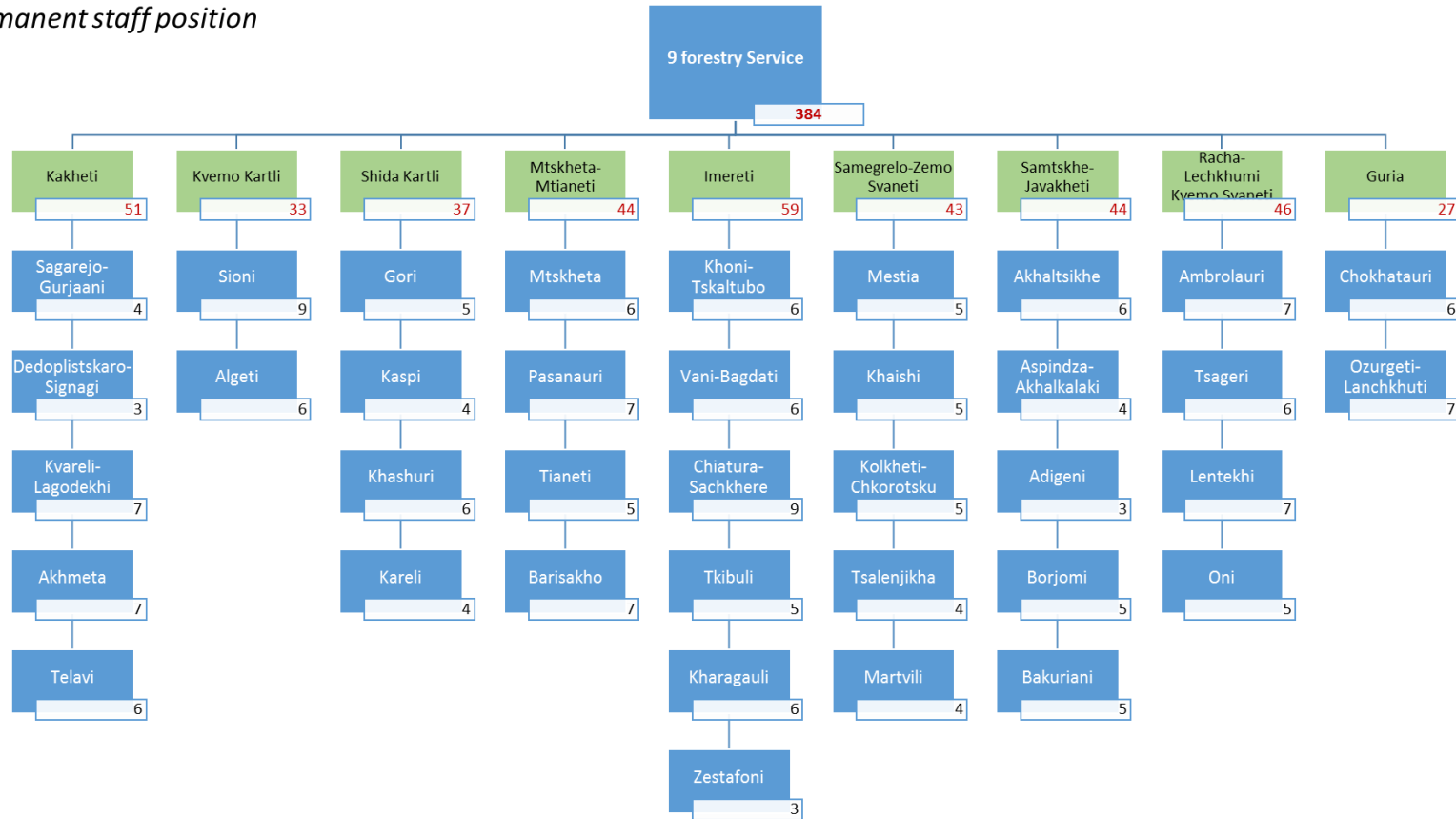


Source: Provided by NFA for project preparation

Organizational chart and staff for NFA regional forestry service offices

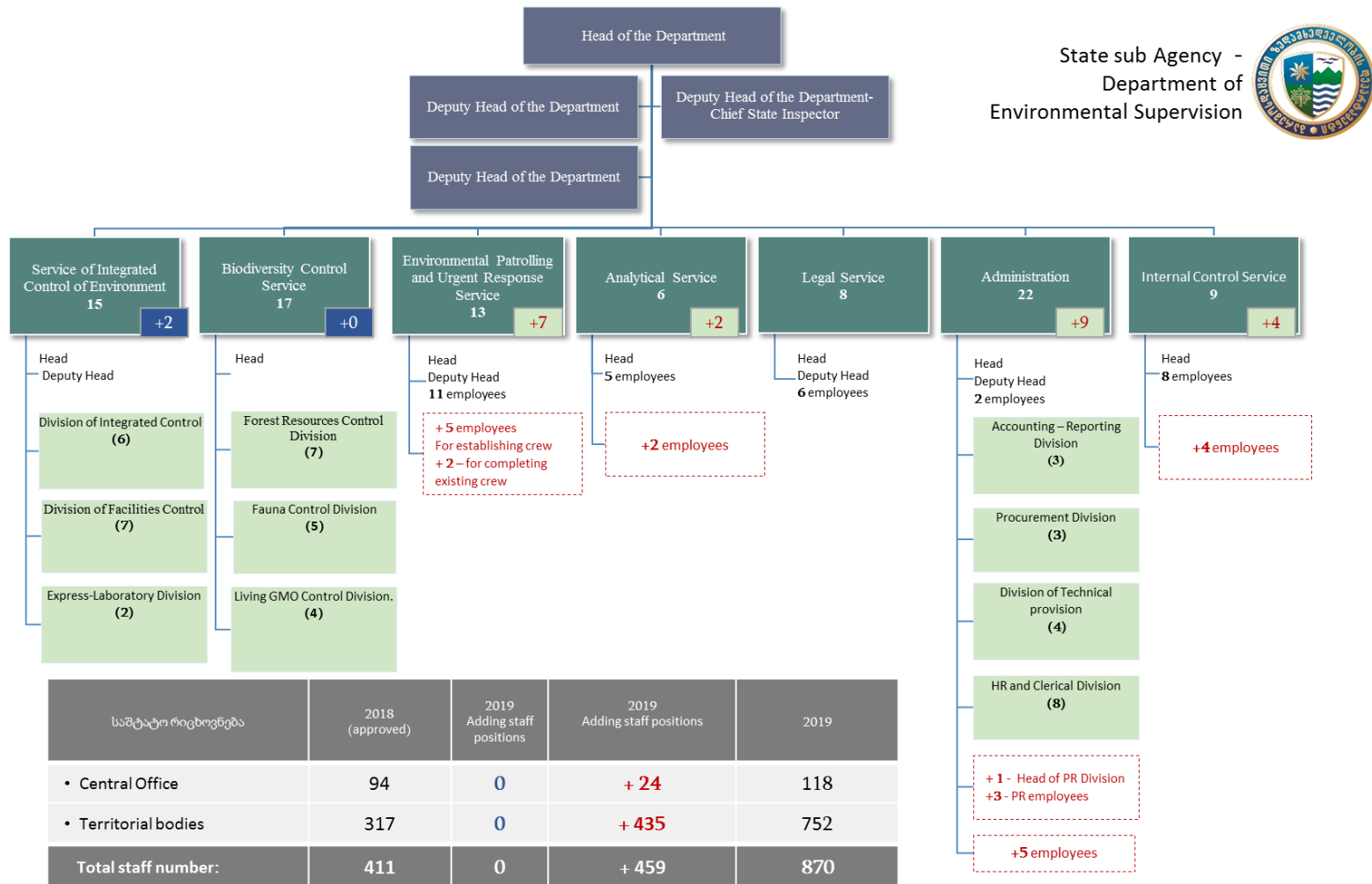
Regional Forestry Services / Forestry Districts

Permanent staff position



Source: Provided by NFA for project preparation

Organizational chart for DES

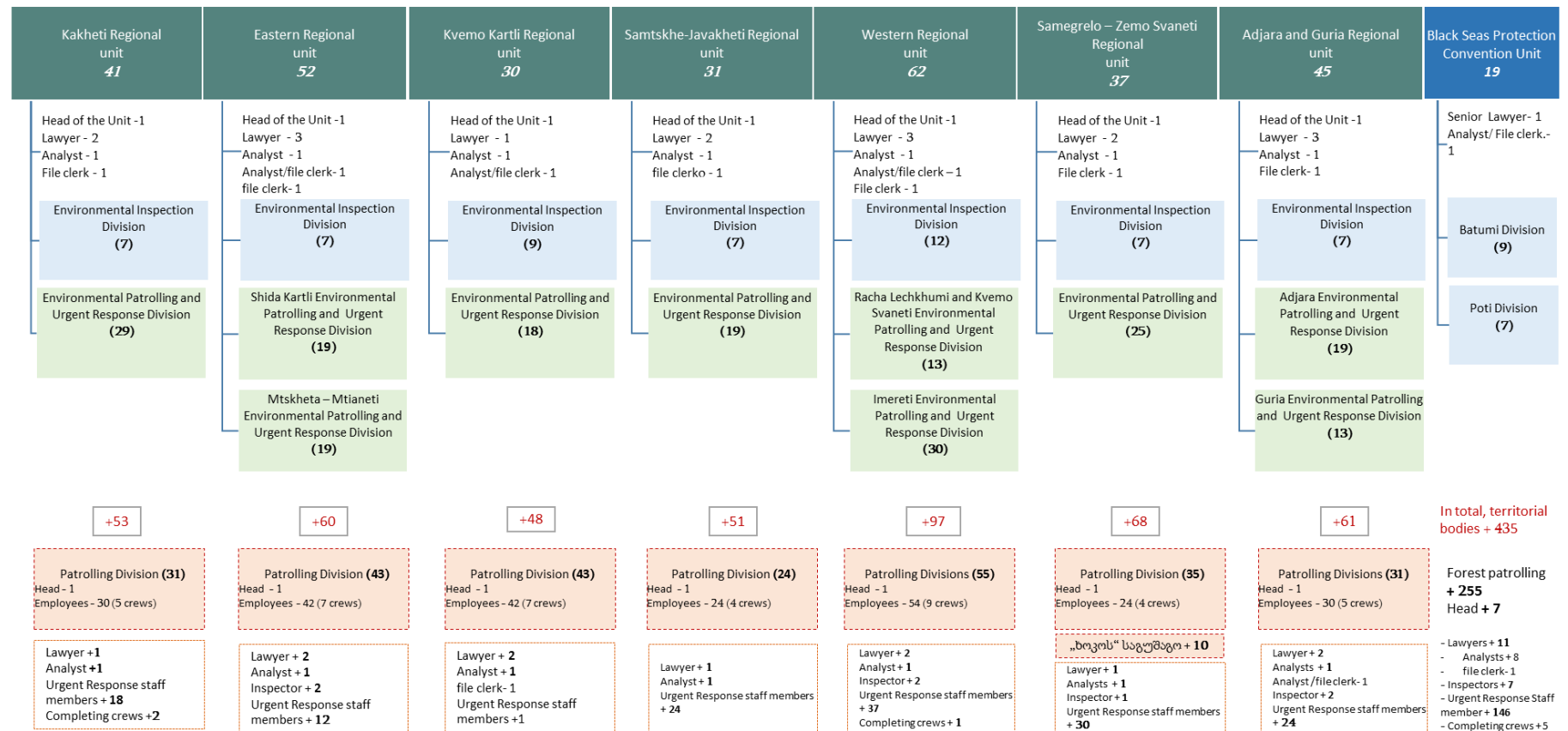


Source: Provided by DES for project preparation

Organizational chart for DES: Regional Units

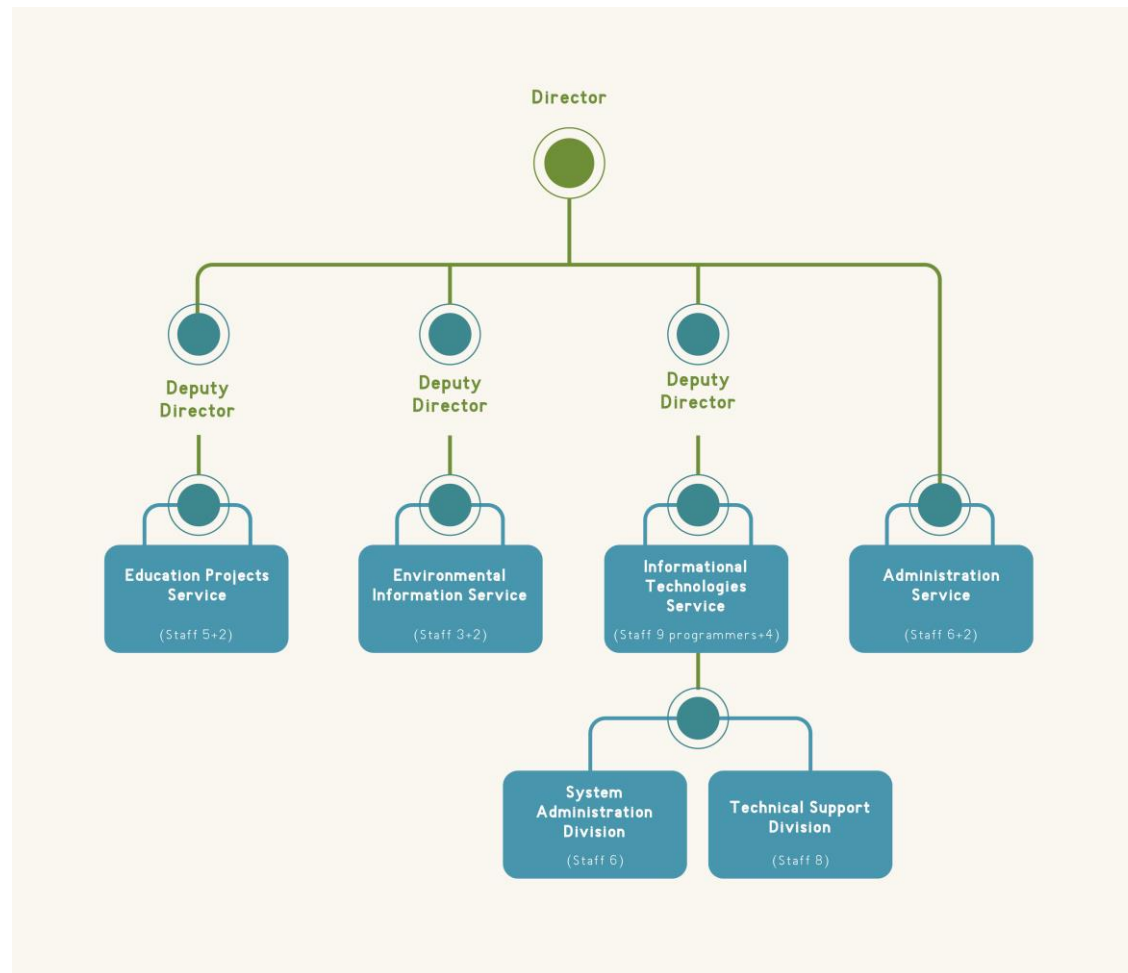


Staff number	2018 (current)	Addition to staff number	2019 (projected)
• Territorial bodies	317	+ 435	752



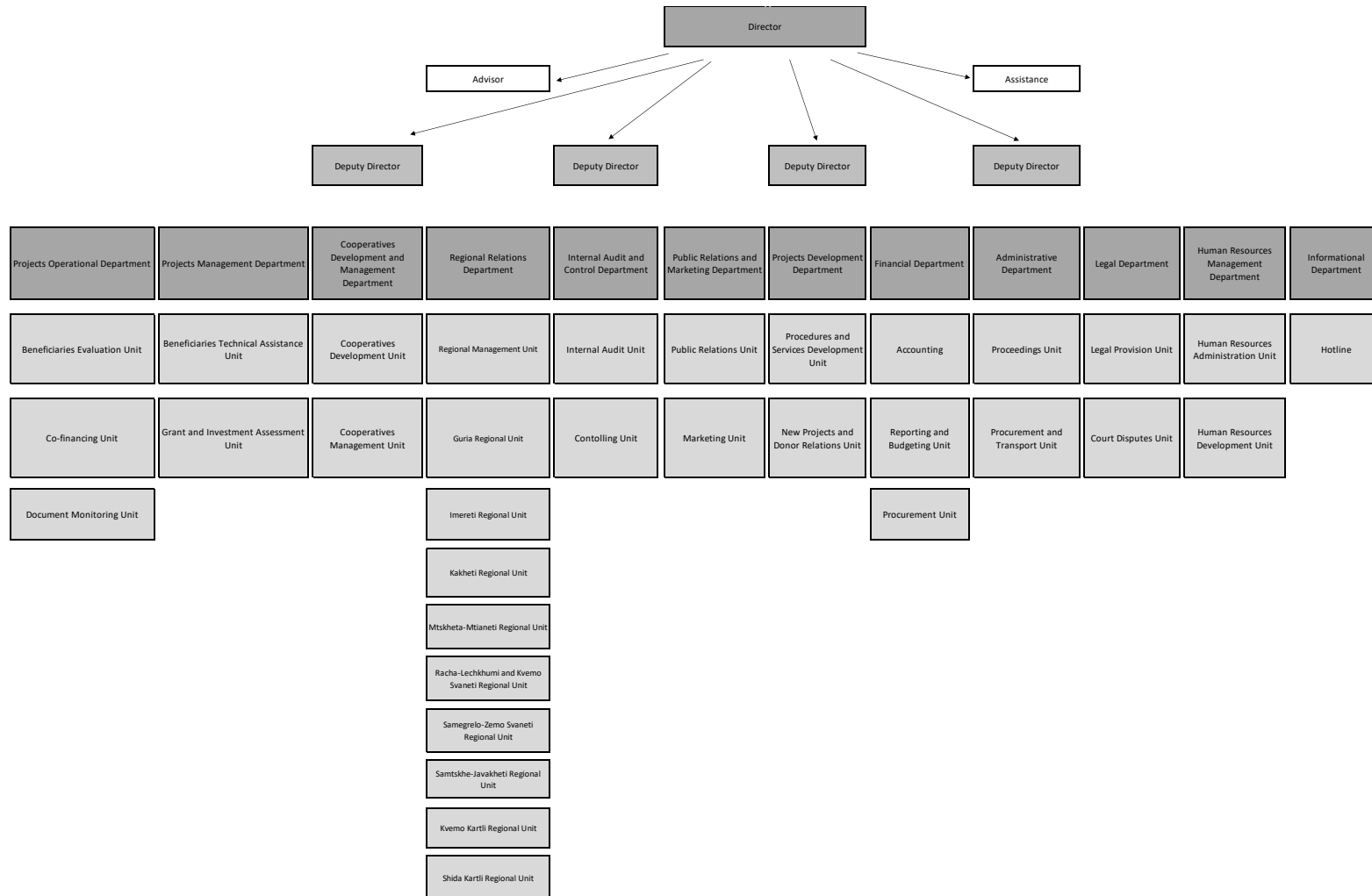
Source: Provided by DES for project preparation

Organizational chart for EIEC



Source: Shared by EIEC for proposal development

Organizational chart for ARDA



Source: Provided by ARDA for project preparation

Appendix 2 Status of targets/achievements for NEAP3 and National Biodiversity Strategy and Action Plan

Status of targets/ achievements under NEAP3 related to forest management (2017-2021)

#	Activities	Sources of additional financing	Time frame	Current status and/or additional comments
Target 1: Improvement of legal framework and implementation of the Sustainable Forest Management system				
1.1	Finalization of the "Forest Code"	WB, EU	2017-2018	The document has already elaborated. At this stage, the procedure for review is underway in the government of Georgia
1.2	Development and adoption of bylaws relevant to the Forest code	WB, GIZ	2018-2019	The sub legal acts will be prepared and adopted after approval of the new Forest Code. Although with the support of GIZ in the framework of ECO serve program the Ministry start working on four sub-legal acts under the draft Forest Code. Including: Rule of Forest Use; Rule on Forest Protection, Restoration and Maintenance; Rule on Categorization and Management of Forests of Georgia and The Rule on Inventory System and Monitoring of Forests of Georgia. On this stage the process for the elaboration of sub-legal acts is closed for public.
1.3	Development and introduction of national principles, criteria and indicators for SFM	GIZ	2018-2021	Elaborated Criteria and Indicators for SFM on national level (draft) Elaborated Criteria and Indicators for ecosystem-based forest management (operational level, draft)
1.4	National forest Inventory	GIZ	2017-2020	The methodology is already elaborated. In 2018 year tender was announced for the procurement of service, but the relevant contractor was not revealed. The process will be updated in the spring of 2019.
1.5	Forest management and development inventory in priority regions and development of forest management plans	State budget	2017-2021	Processes has not started.

#	Activities	Sources of additional financing	Time frame	Current status and/or additional comments
1.6	Verification of Georgian Forest borders and their registration	Donor	2018-2021	This depends on the conduct of forest inventory (on the management level).
1.7	Development of Forest monitoring and information system	GIZ	2017-2020	At this stage there is no uniform system of monitoring and evaluation. Work for the creation of FIMS is ongoing, with the support of GIZ. Also The Ministry, UNEP and World Resource Institute (WRI) start the implementation of GEF funded project Global forest Watch 2.0. Since September 2016 there is ongoing work for data collection as well as on Forestry Monitoring System Test version (Green Altenrnative, 2016).
1.8	Categorization of the forests and forest lands according to the functional purpose	State budget	2019-2021	This depends on the conduct of forest inventory (on the management level). Also important, that this issues will regulated by new forest code, which has not adopted.

Target 2: Reduction of pressure on forests through promoting the use of alternative fuel sources and the improvement of qualitative and quantitative characteristics of forests

2.1	Development and approval of a state program for providing population and public entities with fuel resources	Donor	2018-2021	In the framework of CENN's project "Sustainable Forest Management - Phase 2" the project of the interagency state action plan for provision of fuel resources for public institutions and population" (non-publicized version)
2.2	Promotion of access to alternative fuel sources for population and public entities	State	2018-2021	There is no special program. Although with the support of UNDP, Several projects were implemented, which concerning the preparation of energy briquettes using forest waste.
2.3	Development of national plan for restoration of degraded forest areas and restoration of identified priority areas	Donor	2018-2021	Processes has not started in 2018, because elaboration of this plan mainly depends on the materials of forest inventory.

#	Activities	Sources of additional financing	Time frame	Current status and/or additional comments
2.4	Regulation of grazing in forest	State budget, Donor	2019-2021	Under the existing regulation, the grazing in the forest is prohibited. But new Forest Code to be considered regulation of this issues, quotas, etc.
2.5	Conduct studies related to spreading of pests and diseases, planning and implementation of combat measures	State budget, Donor	2017-2021	Fragmented studies are carried out by the NFA.

Target 3: Capacity building for forest policy development, management and control entities

3.1	Assessment of the capacity of forest policy making body, determination of necessities, and institutional strengthening	GIZ, EU	2017-2021	Empowerment of Biodiversity and Forest Policy Department was strengthened by human resources (3 vacant units were added during 2018).
3.2	Evaluation of capacities, identifying needs and institutional strengthening of the forest management entities	GIZ; WWF; EU	2017-2021	Within the framework of the Twinning project, has been evaluated capacity and Institutional arrangement of NFA (partly).
3.3	Evaluation of capacities, identifying needs and institutional strengthening of the forest control entities	GIZ; EU	2017-2021	Within the framework of the Twinning project, has been evaluated capacity of DES and decision has been made to increase the authority on forest control (needs support for strengthen capacity in this direction).

Target 4: Promotion of the use of forest ecosystem services

4.1	Evaluation of multifunctional potential of forests	State budget, Donors	2017-2021	It has not estimated. For the evaluation of multifunctional potential of forests needs relevant materials of forest inventory.
4.2	Improvement of necessary infrastructure required for tourism development on the	State, Donor	2017-2021	Activities are not implemented in this direction.

#	Activities	Sources of additional financing	Time frame	Current status and/or additional comments
	Georgian forest fund territory			

Target 5: Promoting development of forest education and public awareness.

5.1	Creating a continuous system of training / retraining of the employees in the forest sector	State, Donor	2018-2021	Within the framework of the Twinning project, has been elaborated The Concept of learning program for DES (with Annex 1. DES Competence model, Annex 2. Guidelines for ToT, Annex 3. Proposed visualization of e-learning tool, excel file of competence model) - needs updating
5.2	Strengthening cooperation with scientific research institutes in the field of forestry and organizing research	Donor	2018-2021	The cooperation with the Agricultural University's Vasil Gulisashvili Institute of Forestry is being planned.
5.3	Enhancing awareness campaign on the importance of forest functions for interested groups	State, Donor	2018-2021	Last year, with the participation of the Forest Policy Division, NFA, DES and the Environmental Information and Education center, the draft for forestry sector communication strategy and action plan was designed.

Status of targets/ achievements under National Biodiversity Strategy and Action Plan 2014-2020

#	Action	Sources of financing	Time frame	Current Status and additional comments
National Target B.1. By 2020, negative factors directly affecting threatened natural habitats have been significantly reduced through the sustainable management of at least 60% of these habitats, including at least 60% of forests, 80% of wetlands and 70% of grasslands.				
Objective B.1 - o1: Develop a legal and institutional base for the sustainable use of forests and other natural habitats				
	B.1-o1. Develop and submit to the Parliament for approval a forestry legislation that is fully based on the principles of sustainable use	State budget, Donors	2014	The document is already elaborated. At this stage, the procedure for review is underway in the government of Georgia. The sub legal acts will be prepared and adopted after approval of the new Forest Code.
	B.1-o1.2. Set up optimal entities for forest management	State budget, Donors	2014-2015	Not until now. The new Forest Code provides institutional changes
Objective B.1-o2. Reduce pressures on forest ecosystems				
	B.1-o2.1. Monitor the rate of the loss and degradation of forest habitats	State budget, Donors	2014-2020	At this stage there is no uniform system of monitoring and evaluation. Work for the creation of FIMS is ongoing, with the support of GIZ.
	B.1-o2.2. Improve the existing system of wood tracking to ensure timely detection of illegal logging	State budget, Donors	2014-2015	Improvement of existing electronic system of timber control is planned.
	B.1-o2.3. Establish fast growing forest plantations in forest clearances so that timber and fuel wood can be produced and provided primarily to local communities	Private investments	2014-2020	The construction of acacia plantation was carried out in Kakheti region on a small scale.
	B.1-o2.4. Evaluate illegal logging at the regional and national levels	State, Donor	2014-2020	The state bases of DES, NFA and APA. There are also separate studies concerning to this issues (Wood Market Study, GIZ, 2016; Assessment of Firewood Consumption and Firewood Production Potential in Georgia, CENN, 2016; Potential of woody power resources of Georgia and their efficient use, USAID (ECI), 2010)
	B.1-o2.5. Evaluate the impact of grazing on forests at the regional and national levels	International donors	2014-2016	This is not evaluated.

#	Action	Sources of financing	Time frame	Current Status and additional comments
	B.1-o2.6. Conduct pilot projects that demonstrate sustainable grazing methods and modern approaches that help reduce grazing pressure on the forest; promote the replication of successful approaches	International donors	2014-2020	Unknown
	B.1-o2.7 Elaborate a policy document on the combating of forest fires and support its implementation	International donors	2014	Information about such a document is not available.
	B.1-o2.8. Ensure a clear definition and distribution of roles and responsibilities of central and local entities with respect to the detection of and response to wild fires	State budget, Donors	2014	This is partly defined, but needs further clarification is based on the new Forest Code
	B.1-o2.9. Conduct assessments to identify forested areas that are affected by pests and pathogens	State budget. donors	2014-2015	This should be carried out by NFA for the first steps, and after that detailed survey will take place where necessary.
	B.1-o2.10. Elaborate an action plan for the combating of forest pests and diseases and support its implementation	State budget. donors	2015	This is not evaluated.

National Target C.2. By 2020, the status of species - including 75% of “Red List” species - has been considerably improved through effective conservation measures and sustainable use

Objective C.2 - o1. Implement effective species-specific conservation measures including reintroductions and encouragement of natural growth

C.2-o1.19 Develop and implement conservation management plans for the stands of wooded plants affected by diseases and other factors (chestnut, Colchis box, Imeretian oak, pine, zelkova and elm)	State budget; donors	2014-2020	Conservation management plans is not developed. There are separate programme, which is implemented by NFA and APA. e.g. Colchis box and Imeretian oak conservation programme.
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National Target C.3. By 2020, forest biodiversity is safeguarded through sustainable management policies and practices

Objective C.3-o1. Develop an optimal institutional framework for the Georgian forestry sector.

C.3-o1.1. Develop a forest policy, strategy and action plan in a participatory manner	State budget; donors	2014 - 2015	This document was elaborated, but not accepted as a separate document (activities was transmitted to NEAP3).
C.3-o1.2. Promote active participation of the Georgian forestry authorities in international forestry	State budget; donors	2014 - 2020	This is implemented gradually within the framework of various projects (e.g. last year finished Twinning project, also within the AA, the process of harmonize national

#	Action	Sources of financing	Time frame	Current Status and additional comments
	processes (including Forest Europe); harmonize the Georgian forest policy, legislation and standards with EU requirements			legislation and policy with EU requirements is implemented).
	C.3-o1.3. Define and implement an optimal institutional structure for the Georgian forestry sector: define the roles and responsibilities of the state and private sectors, local communities and local self-government authorities	State budget; donors	2015 - 2016	This is ongoing process and depends on approval of Forest Code. The project of the new Forest Code envisages institutional changes. But the role and functions of private sector and local municipalities are not properly explained
Objective C.3- o2. Elaborate and adopt new forestry legislation that promotes sustainable management of all forests, including community forests				
	C.3-o2.1. Revise the forest code in a participatory manner	State budget; donors	2014 - 2015	A lot of changes has been made.
	C.3-o2.2. Adopt relevant forest regulations and standards, in a participatory way, that promote sustainable use of non-wood products, the restoration of natural forest landscape and adaptation to and mitigation of climate change	State budget; donors	2014 - 2017	There are no such regulations and standards. Only regulated extraction of Caucasian fir Pinecone (<i>Abies nordmanniana</i>), snowdrops bulb (<i>Galanthus woronowii</i>) and cyclamen tuber (<i>Cyclamen vernalis</i>) is regulated, although there is no mechanism for sustainability.
	C.3-o2.3 Elaborate and implement an optimal system of forest categorization: identify category V (IUCN) ecological corridors and forests of High Conservation Value (HCV) and assign them a relevant status	State budget; donors	2014 - 2017	Implementation of forest categorization with new system (IUCN) depends on approval of Forest Code, because at this stage there is no legal basis. It does not concern the IUCN categories, but the GIZ's IBIS Project is underway to create an Emerald Network project based on the Berne Convention's obligations. Complete intersection of the Forest Fund and Emerald Network (approved, nominated and offered) is 817 858.6 ha, out of which the surfaces are approved - 590 103.6 ha.
	C.3-o2.4. Assess the potential for the implementation of community forestry schemes; consider the role	State budget; donors	2014-2020	Separate studies were carried out, however, at this stage the issue is not considered at the strategic level. ¹

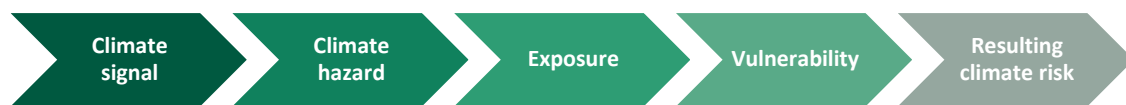
¹ For example: http://rec-caucasus.org/files/publications/pub_1327481481.pdf.

#	Action	Sources of financing	Time frame	Current Status and additional comments
	of women in the use of forest resources; implement pilot projects and support the replication of successful pilot projects			
National Target E.1. By 2020, knowledge has been enhanced on the values, functioning, status and trends of biodiversity and the consequences of its loss; the corresponding science base has been improved				
Objective E.1-o2. Improve, widely share and apply the professional knowledge and scientific base of forestry, rangeland management, hunting, fishing, and protected areas				
E1-o2.1. Conduct training and extension activities for biodiversity monitoring experts, foresters, wild fire fighters, wildlife managers, freshwater fishing specialists and protected areas personnel	State budget; donors	2014-2020	<p>The course for individual training in certain areas was developed with the GIZ support (eg forest inventory), with the implementation of accompanying training modules.</p> <p>The Concept of learning program for DES (i.e. DES Competence model, proposed visualization of e-learning tool, excel file of competence model) - needs to be updated.</p> <p>Additional job training on sustainable development and knowledge systems needed.</p>	
E1-o2.2. Update the current forestry curricula at universities	State budget; donors	2014-2016	Updated regularly. New standard of forestry education was developed. A vocational forest education program was created, which is carried out in four vocational schools.	

Appendix 3 Methodology for assessing climate risk and vulnerability

Climate Risk and Vulnerability Assessment (CRVA) was carried out as part of the Feasibility Study for the GCF Funding Proposal “Enabling implementation of forest sector reform in Georgia to reduce GHG emissions from forest degradation and build ecosystem resilience to climate change.” The CRVA methodology utilized the IPCC AR5 concept of ‘risk’, and was adapted to the context of Georgia. To identify measures to reduce GHG emissions and build ecosystem resilience, a detailed understanding climate risk and vulnerability was necessary. The Figure below outlines the general logic of these value chains. The resulting “climate impact chain” that explains the relationship between cause and identified problem.

Climate Risk and Vulnerability simplified impact chain.



Climate risk, as defined by the IPCC (2014), is made up of the following components:

- Climate signal: The actual physical projected climate change, expressed in changing temperatures, precipitation, sea level rise, both as slow onset and extremes.
- Climate hazard: The physical impacts of the climate signal, e.g. droughts, landslides, inundation.
- Exposure: The presence of people or valuable assets in the area where climate hazards take place.
- Vulnerability: The sensitivity of the system to the identified climate hazards and the lack of capacities to cope and adapt.

CRVA analysis was carried out based on the available literature on climate change in Georgia, available assessments on forest vulnerability, greenhouse gas emissions context, and national climate priorities of Georgia. Specifically, the CRVA analyzed the risk of climate change on the forest ecosystems of Georgia and their capacity to absorb carbon taking into consideration the socio-economic context.

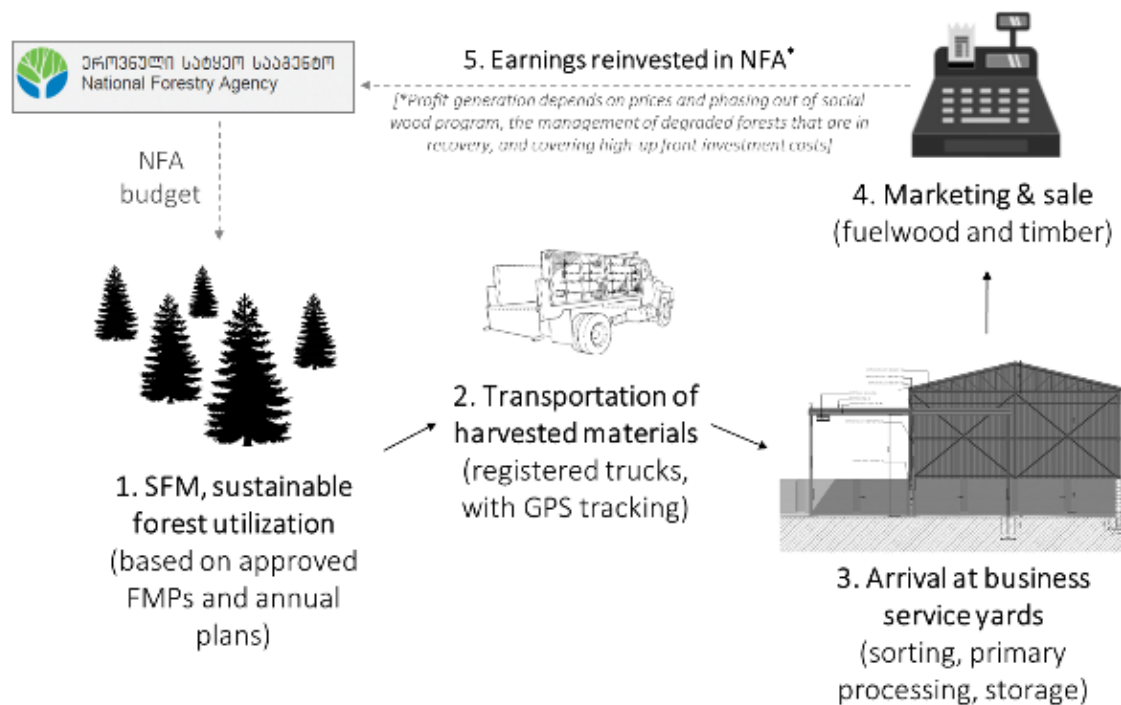
However, information on Georgian forests’ vulnerability to climate change is scarce: the Third National Communication to UNFCCC has conducted assessment in three regions (western Georgia). Due to its bio-geophysical and climatic diversity, more regional assessments on forests’ vulnerability to climate change are needed to fully understand the full range of climate impacts on Georgia’s forest ecosystems. Lack of up-to-date forest inventory and local climate information are one of the obstacles for such analysis.

Appendix 4 BSY construction information and costs

Overview of mechanism

Under the new forest code, NFA will be responsible for the provision of legally and sustainably sourced fuelwood and commercial timber in the country from NFA-managed forest land.² A concept for the new fuelwood and timber provision mechanism under the NFA has been drafted by the Government (see Figure below, and refer to Feasibility Study Chapter 5.2.3 for additional information)).

Overview of the NFA's concept for the provision of sustainably sourced timber and fuelwood



The mechanism is as follows:

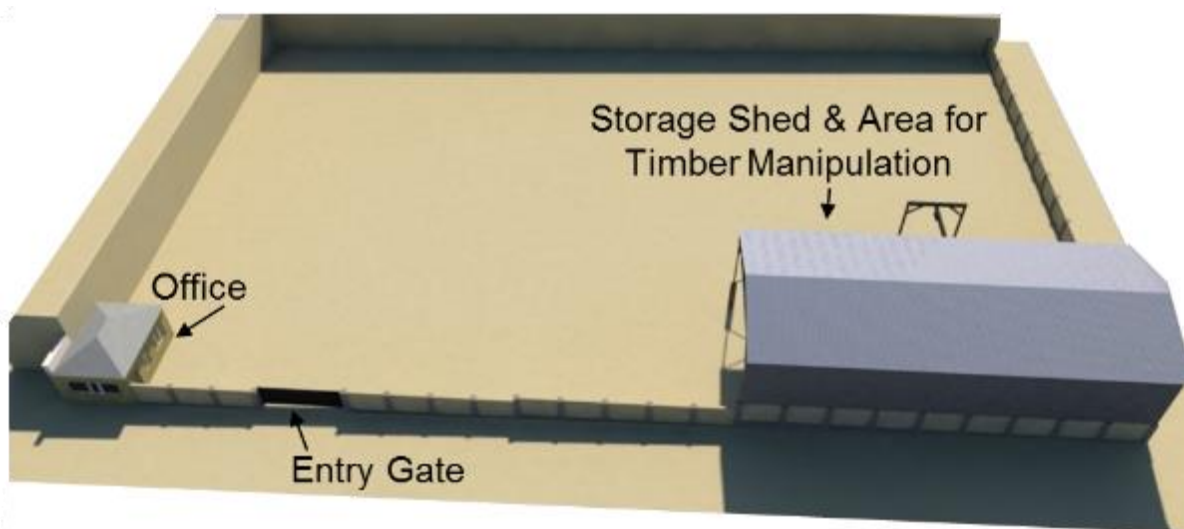
1. Timber and fuelwood will be sustainably harvested from NFA forest land. SFM, in particular ecosystem-based forest management, will be implemented based on new Forest Management Plans and annual plans aligned with the new forest code, and updated regulations/secondary legal acts, which also set the sustainable level of fuelwood and timber to be removed.
2. Once harvested and transported to forest roads, harvested wood will be placed in registered wood trucks, containing installed GPS trackers to ensure that wood can be traced from the forest to business service yards (see step 3).
3. The wood will arrive at 'business service yards', newly constructed centers where wood will be sorted into four qualities of timber, chopped (if necessary), and stored and fuelwood air

² Draft Forest Code, Version submitted to Georgian Parliament in February 2019.

dried. Timber will be sorted into four qualities of wood, which will reflect their prices. Only category IV, and if necessary category III timber will be used for fuelwood.

4. Each business service yard will contain the following infrastructure (see Figure below):
- Concrete re-enforced fence: To limit entry into the yard, and prevent theft.
 - Office and entrance gate: Support registration of timber trucks, and serve as the administrative center for the business yard. In some instances the sites selected for BSY development have existing office buildings (although often renovations are required), while in other cases office buildings need to be constructed from scratch.
 - Covered shed for wood storage and manipulation: A covered area is needed for the drying and storage of harvested wood, prior to sale. Also, preliminary wood manipulation can occur under the sheds if necessary (e.g. chopping of fuelwood).
 - Equipment: freight tractor, trailer with a crane for roundwood manipulation, trailer for fuelwood manipulation, semi-automatic chopper, and a loading tractor.

Potential BSY layout and overview of key infrastructure



Source: Drafted for GIZ to support the construction of the first BSY, to be established in Akhmeta District in 2019

5. Wood registered, and stored at BSYs will be marketed and sold to private businesses, and local people. Understanding that the location of BSYs may be a limitation for local people to access fuelwood, a delivery service will be established where it can be transported for a fee to municipalities, businesses and local people. For the delivery service an average transport distance of 15-25 km was considered, resulting in costs of ca. 9 GEL/m³.
6. The earnings from BSYs, in particular the sale of commercial timber and fuelwood, will be reinvested into the NFA, supporting them to reinvest in the sustainable management of the country's forest resources.

BSY costs

BSY costs can be broken down into the following categories:

- Design and construction costs
- Equipment costs
- Staff costs
- Other operation and maintenance costs.

Design and construction costs³

On average, each BSY will cost around EUR 60,000 (GEL 178,800) for the construction. Construction costs may vary depending on the location (if entire new offices need to be constructed, or if there are existing structures that need only minor renovation). These costs are based on detailed costs and planning conducted for the country's first BSY that is currently being constructed in Akhmeta district, with support from BMZ (GIZ). Detailed costs are available upon request (excel workbook with the detailed cost breakdown is available in German and Georgian).

Equipment:

Each BSY will be equipped with the following equipment:

- Trailer with a crane for roundwood manipulation
- Freight tractor
- Fuelwood chopper (semi-automatic)
- Loading tractor

In addition safety equipment (fire extinguishers, first aid kits), and security equipment (security cameras) will be required.

In total, equipment costs per BSY are around EUR 298,994 (GEL 891,000). In addition, future investments are needed for the operation and maintenance of the equipment (covered below in the cost category "other operations and maintenance costs").

Staff costs:

Each BSY will have 5 workers, responsible for the day-to-day tasks at the BSY (sale of wood, manipulation of fuelwood and wood, offloading trucks, among other tasks). In addition, each BSY will have a manager who is in charge of overseeing the BSY and regularly reporting to the NFA regional services offices and HQ.

The annual staff costs are EUR 92,618 (GEL 276,000) per BSY per year.

Other operations and maintenance costs:

Other operations and maintenance costs include various costs, such as:

- Repairing, and maintaining equipment
- Fuel
- Utilities (electricity, water, etc.)

³ Note: BSYs will be built on government land, and will not require the acquisition of land. They will also not require the clearing of forested land.

Average O&M costs are within the range of EUR 512,419-835,598 (GEL 1.52-2.49 million) per BSY per year (not including staff costs). The O&M costs differ per year, as the older equipment is, more investments in maintenance or even replacing the equipment might be needed.

Summary of costs

The following table provides a summary of BSY costs per BSY (including up-front investment costs in construction and equipment, as well as annual costs such as staff and other operation and maintenance costs).

Costs per BSY

Item	Cost	
	GEL	EUR**
BSY Design and Construction	178,800 per BSY	60,000 per BSY
BSY Equipment (transportation fuelwood manipulation, tractors, loading tractors, and fuelwood choppers)	891,000 per BSY	298,994 per BSY
Staff costs (5 workers, 1 manager per BSY)	276,000 per BSY/ year	92,618 per BSY/ year
Average* O&M Costs (Not including staff)	1,527,008 – 2,490,080 per BSY/ year	512,419 – 835,598 per BSY/ year
Average* O&M Costs (Including staff)	1,803,008 – 2,766,080 per BSY/ year	605,037 – 928,215 per BSY/ year

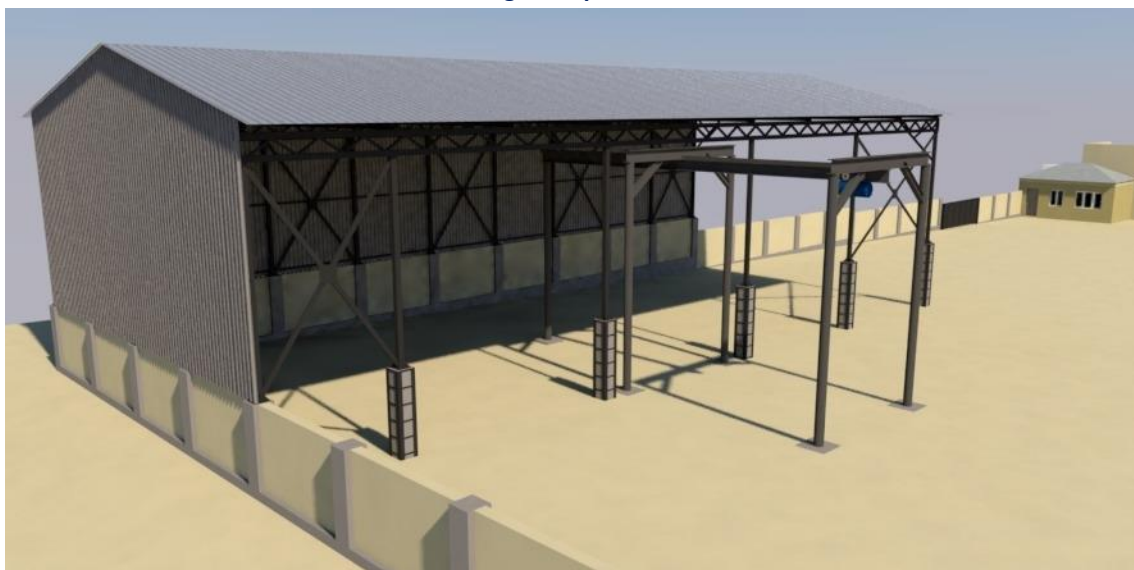
*Note: O&M costs differ over time, including needed re-investments in equipment. Detailed calculations and yearly estimates are included within the financial and economic analysis excel file.

**Exchange rate of EUR 1 to GEL 2.98

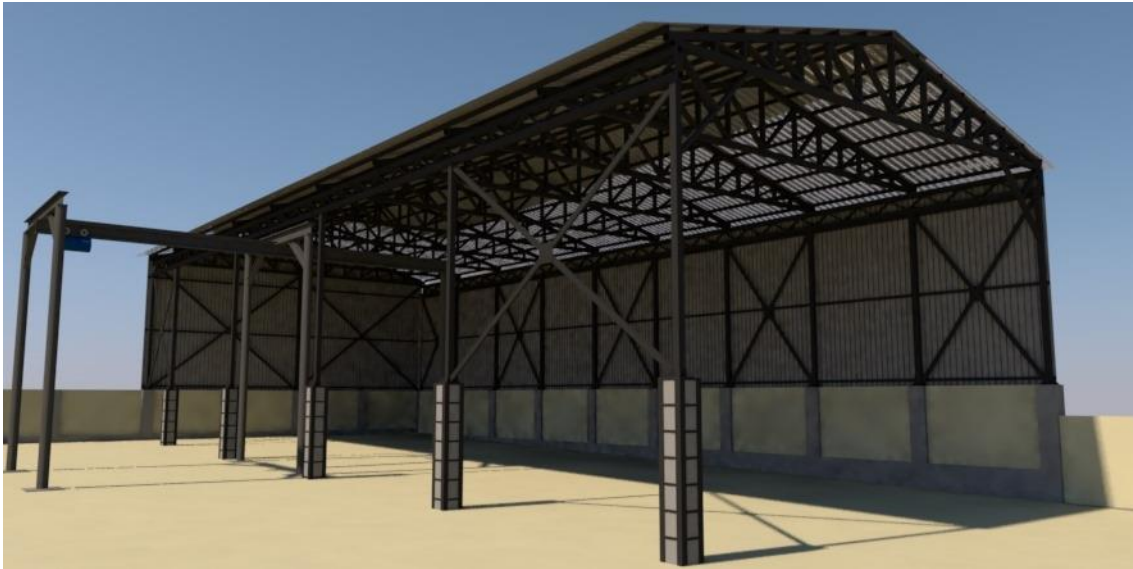
Modeling of BSY design schematic diagrams

The following Figures demonstrate the modeled BSY design for the first BSY (under construction) in Georgia, which is to be located in Akhmeta district:

BSY shed for wood storage and protection from the elements

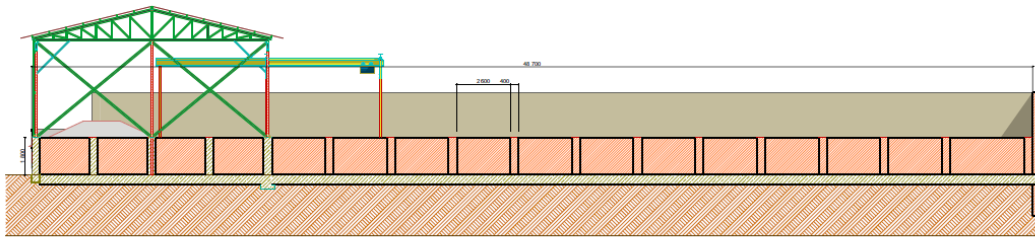


BSY shed from a different angle

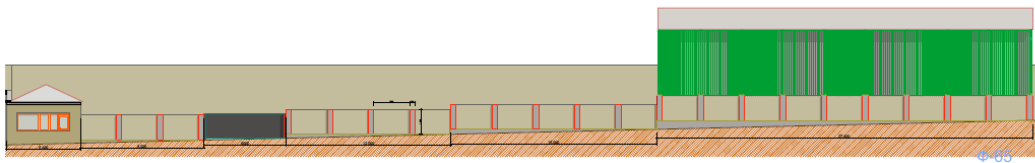


BSY shed design

ღობის ფასადი №1

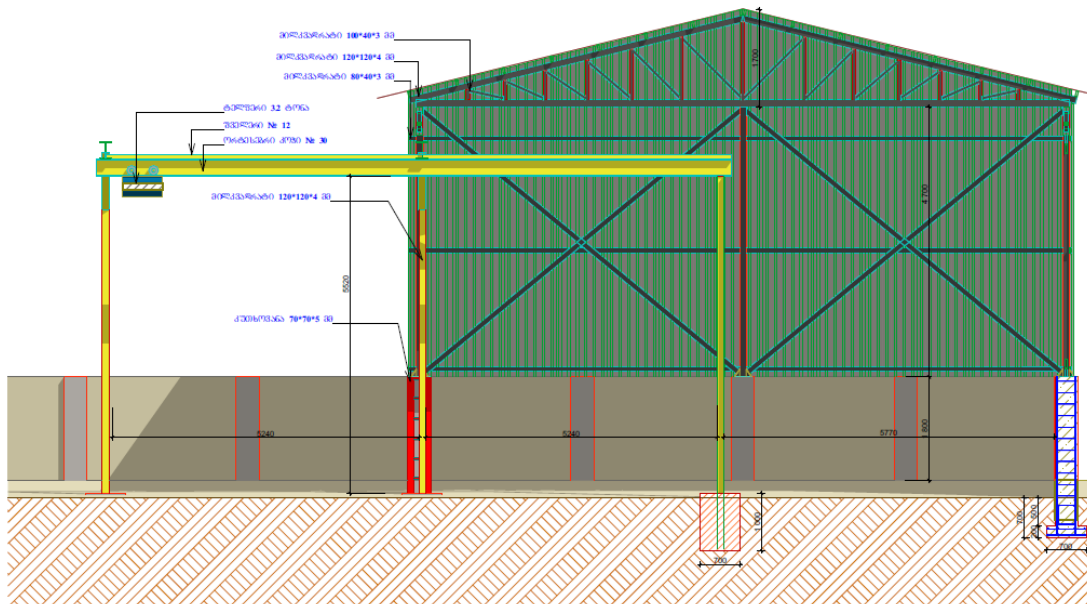


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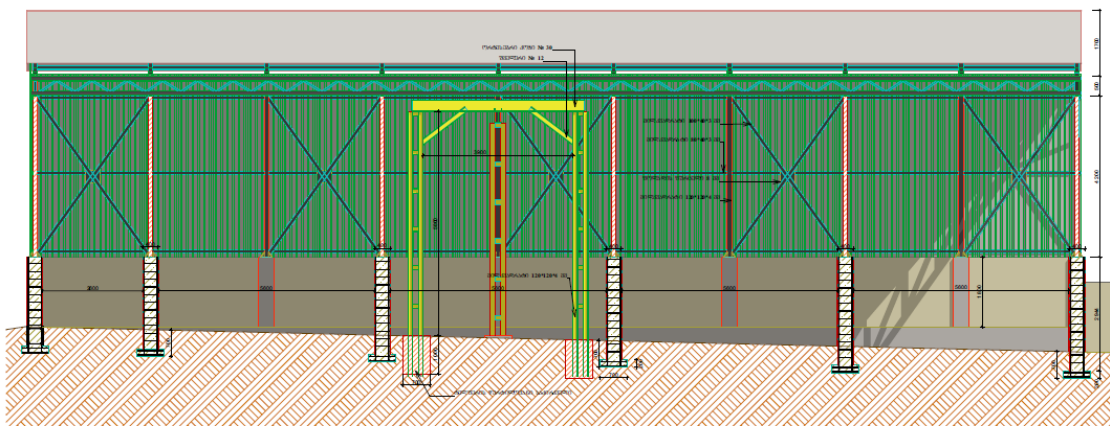


BSY shed design

საწყობის ფასადი №1

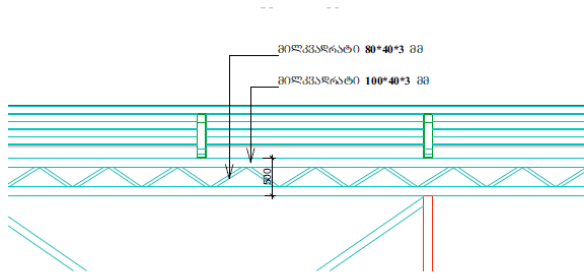


BSY shed design

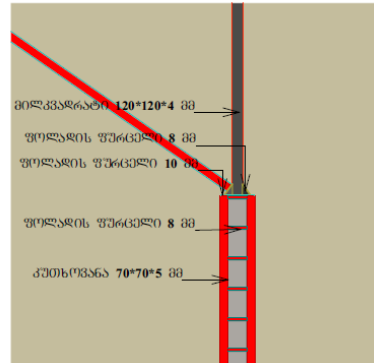


BSY technical specifications for the shed

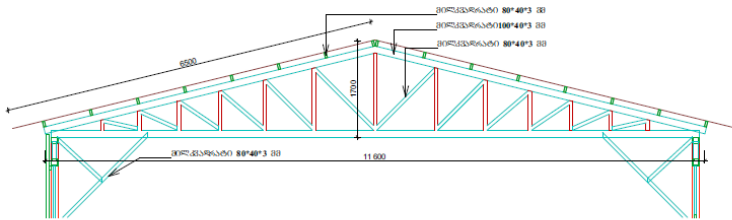
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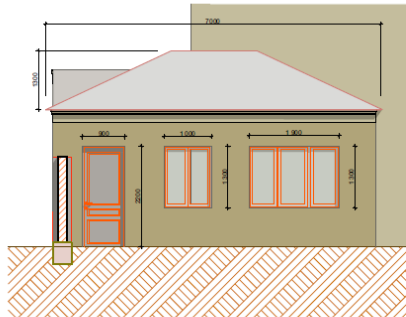
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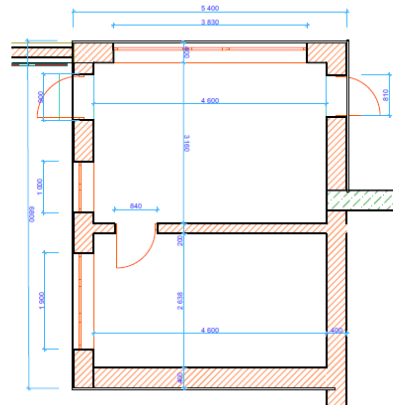
საკონსტრუქციო ტექნიკური : შპს "სიონი6+"			
შპს "სიონი6+"-ის საპროექტო სამსახურის მიერ მომზადებული საპროექტო დოკუმენტი (GZ) წარმომადგენელის			
პროექტის სახელი	ფურცელი	ფურცელი	ფურცელი
პროექტის სახელი	07	A-3	26.10.2018
პროექტის სახელი	პროექტის სახელი		
პროექტის სახელი	პროექტის სახელი		

Example of a BSY office blueprint

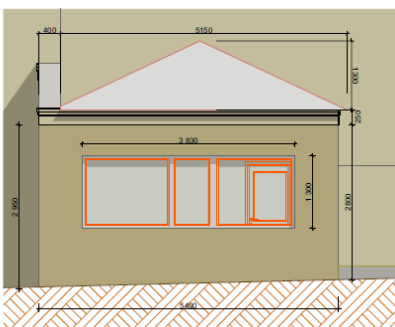
დარბაზის ოთახის ფასადი №1



დარბაზის ოთახის პირველი სართულის გეგმა



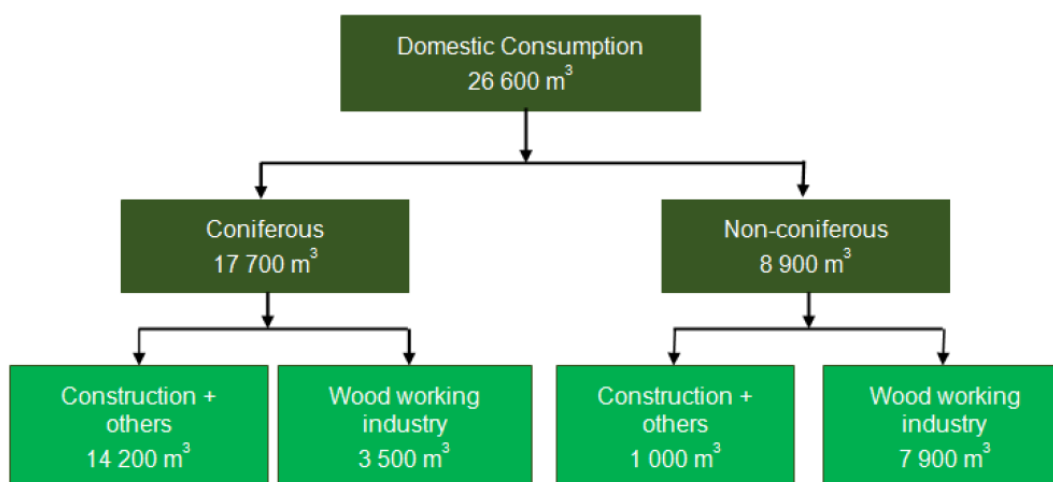
დარბაზის ოთახის ფასადი №2



საკონსტრუქციო ტექნიკური : შპს "სიონი6+"			
შპს "სიონი6+"-ის საპროექტო სამსახურის მიერ მომზადებული საპროექტო დოკუმენტი (GZ) წარმომადგენელის			
პროექტის სახელი	ფურცელი	ფურცელი	ფურცელი
პროექტის სახელი	08	A-3	26.10.2018
პროექტის სახელი	პროექტის სახელი		
პროექტის სახელი	პროექტის სახელი		

Appendix 5 Additional forest sector figures and tables

Domestic lumber consumption (m3) in secondary industry in 2014



Source: Garforth et al. 2016

Forest sector legislation amendments during 2008-2012

Legislation	Number of amendments	Percentage of amended articles from 2008-2012
Resolution No. 132 "Forest Use Licensing Terms and Conditions" (2005)	66	62%
Law on Licenses and Permits (2005)	60	70%
Government Resolution 242 on the "Rules of Use of Forest" (2010)	40	94%
Forest Code (1999)	20	85%
Law on Environmental Protection (1996)	18	53%
Law of the "Red List" and "Red Book" (2003)	7	77%

Source: State Audit Office 2016b

Forest characteristics in the project's target regions

Region	Districts	Forest fund land area (ha)	Area actually covered by forest (h)	Main species and Stand growing stock volume /1,000 m3					
				Spruce	Fir	Beech	Oak	Hornbeam	Alder
Guria	Ozurgeti-Lanchkhuti	33,646	32,178			2,426	2	175	876
	Chokhatauri	52,479	50,380	2812	1849	7,156		96	59
Guria total		86,125	82,558	2,812	1,849	9,582	2	271	935
Mtskheta-Mtianeti	Mtskheta	49,492	23,270			873	455	234	
	Barisakho	67,392	65,370			4,980	1,093	665	29
	pasanauri	50,692	49171			3,746	822	500	22
	Tianeti	49,492	48,502			7,129	148	439	32
	Akhalgori	55,041	51,739			4,730	943	58	8
Mtsketa-Mtianeti total		272,109	238,052			21,458	3,461	1,896	91
Kakheti	Akhmeta	64,892	61,647			8,052	243	1,024	57
	Telavi	57,124	53,125			6,985	357	1,269	32
	Kvareli-Lagodekhi	71,676	67,204			8,041	1,328	565	63
	Sagarejo-Gurjaani	71,426	66,714			4,524	1,629	1,047	16
	Signagi-Dedoplistskaro	23,259	20,719			36	641	97	3
Kakheti total		288,377	269,409			27,638	4,198	4,002	171
Total		646,611	590,019	2,812	1,849	58,678	7,661	6,169	1,197

Results of the multi-criteria analysis conducted during concept note development to support the selection of target regions

Districts in Georgia	Political priority	Climate change mitigation potential	Demand for fuel-wood / vulnerability of local population*	Economic potential	Synergy with other projects	Potential for co-financing	Data availability
1. Guria 16	+	+++	+++	+++	+	++	++
	The region is not mentioned in the strategic documents relevant to this topic	The region is characterized by good forest growth rates	The population density is high, the demand for firewood is great	High capacity forest	There is no data at this state	Forest degradation and increased emissions resulting from forest accounting allow for planning and mitigation measures	Recent inventory started in Guria
2. Imereti 14	+	+++	+++	+++	+	+	++
	Prone to forest fires (DRR Strategy)	This region is characterized by good forest growth rates	The population density is high, the demand for firewood is great	High capacity forests	There is no data at this stage	No data available	We have new data in Kharagauli and will soon be Zestaponi
3. Kakheti 15	+++ - top priority under forest NDC (conditional commitment) Prone to forest fires (DRR Strategy)	++	+++	++	There is not data at this stage	+++	++
		It is characterized by relatively dry climatic conditions. The Dedoplistskaro district is characterized by especially strict conditions, while Kvareli municipality is distinguished by a moderately humid climate, and in this	Population density Average, firewood demand is large, forest is particularly degraded near the settlements. The area of floodplain forests has been reduced	Mainly medium-capacity forests		According to NDC, the events planned in Akhmeta will enable the financing, as well as the signs of desertification revealed in Dedoplistskaro, to find financing for mitigation and adaptation measures	Inventory ongoing only in Akhmeta

Districts in Georgia	Political priority	Climate change mitigation potential	Demand for fuelwood / vulnerability of local population*	Economic potential	Synergy with other projects	Potential for co-financing	Data availability
		regard there are good conditions.					
4. Mckheta-Mtianeti 10	+	++	++	++	+	+	+
	The region is not mentioned in the relevant strategy documents.	It is characterized by relatively dry climatic conditions	Population density average, firewood demand is especially high in highland populated areas	Mainly medium-capacity forests	There no data at this stage	No data available	No updated inventory materials are available and so far no plans are planned
5. Racha-Lechkhum, Qvemo Svaneti 14	++	+++	++	+++	+	+	++
	very vulnerable to CC (2rd National communication UNFCCC)	The region is characterized by good forest growth rates	Population density is low (high migration level), high mountain areas are comparatively high in firewood	High capacity forests	There is no data at this stage	According to the Second National Communication, the forests of Lower Svaneti are vulnerable to climate change	Forest Registration/ inventory is planned in Racha in 2018
6. Samegrelo-Zemo Svaneti 13	+	+++	++	+++	+	++	+
	Establishing of forest nurseries (recommended in EC-LEDS)	This region is characterized by good forest growth rates, exception One part of Zemo Svaneti (Mestia) is relatively poor in this regard	Population density in Samegrelo is high and demand for firewood is great, unlike Zemo Svaneti	Mostly high capacity forests.	There is no data at this stage	In the framework of the Third National Communication, mitigation measures for climate change are planned in Zemo Svaneti, in order to attract financing of project proposals	Forest reserves will not be destroyed

Districts in Georgia	Political priority	Climate change mitigation potential	Demand for fuelwood / vulnerability of local population*	Economic potential	Synergy with other projects	Potential for co-financing	Data availability
7. Samckhe-Javakheti 8	<p>---⁴</p> <p>Borjomi-Bakuriani FD already mentioned as Georgian (unconditional) contribution under forest NDC</p> <p>Supporting natural regeneration of forests recommended in EC-LEDS</p> <p>Prone to forest fires (DRR Strategy)</p> <p>Concentration of other donors (no NFA priority)</p>	++ It is characterized by relatively dry climatic conditions, especially in Akhalkalaki district, while Borjomi-Bakuriani is distinguished by a moderately humid climate, according to which there are three conditions available	++ Population density low, high demand for firewood, especially in Borjomi-Bakuriani	++ Mainly medium-capacity forests	+ There is no data at this stage	+ No data	++ Borjomi inventory in Bakuriani has been held in Akhaltsikhe and Aspindza
8. Kvemo Kartli 15	+++ Establishment of a plantation and	++	+++ Population density is high, firewood demand is high.	+++ Mostly low-capacity forests, but on	+ There is no data at this stage.	+ No data.	++ Forestry is planned around Tbilisi

⁴ Negative rating is also possible if a region should be avoided for a certain criterion.

Districts in Georgia	Political priority	Climate change mitigation potential	Demand for fuelwood / vulnerability of local population*	Economic potential	Synergy with other projects	Potential for co-financing	Data availability
	<p>nurseries recommended in EC-LEDS</p> <p>An important area is the population density and high demand for firewood</p>	It is characterized by relatively dry climatic conditions	The forest is particularly degraded in the vicinity of the settlements.	the edge of the rivers, are flooded forests with high performance data. The pressure on urban forests is high			
9. Shida Kartli	<p>+</p> <p>Establishment of a plantation and nurseries recommended in EC-LEDS</p> <p>Prone to forest fires (DRR Strategy)</p>	++	++	+	+	+	+
9		It is characterized by relatively dry climatic conditions	Mass density average, firewood demand is high	Mostly low capacity forests	There is no data at this stage	No data	Forest inventory is not planned

Volume of legally felled timber* in Georgia (m³) in 2015, 2016 and 2017

	2015	2016	2017
Georgia	691 861	610 682	616 461
Tbilisi
Adjara AR	75 510	65 422	69 034
Guria	12 269	8 526	13 185
Imereti	80 775	57 443	53 277
Kakheti	140 086	121 773	132 067
Mtskheta-Mtianeti	74 956	63 545	66 790
Racha-Lechkhumi and Kvemo Svaneti	60 919	59 145	49 523
Samegrelo-Zemo Svaneti	29 019	39 538	49 564
Samtskhe-Javakheti	89 170	79 784	81 956
Kvemo Kartli	52 496	44 222	42 799
Shida Kartli	76 661	71 284	58 267

* The table does not include data about protected areas.

Source: Ministry of Environment Protection and Agriculture of Georgia. Forestry Agency of Adjara. National Forestry Agency.

Appendix 6 Suitable forest management practices included within the forest model⁵

See Table below:

⁵ Note: The detailed forest model excel book is available upon request.

Interventions modeled within the forest model⁶

Forest Formation - (Characterization)	Share of area % per species stratum	Stand Density Group	Share of area % per stand density stratum ²	Average Age class	SFM Measures	Average Vol per ha (m3)	Assumed total area in the GCF project (ha)	Management area in the GCF project (ha)	Average Bonitet	Increment yield table m ³ /ha/y	Yield per ha (m ³) for 10 years	Degradation-unstocked area	Area NatReg in % density	Enrichment Plant area in % density	Increment after 20 years (m ³ /ha/y)	Increment Diff after 20 years in %
Alder	6%	< 0.4	24%	0-29	Restoration: Natural regeneration, enrichment planting, tending, promotion of higher values species	22.7	3,273	1,902	1.6	1.5	4.5	0.48	0.40	0.08	1.9	31%
(fast growing pioneer dominating after overexploitation, low amount of higher value species, rotation 60-80 y, longer only if hornbeam, oak, beech in mix)				30-59	Restoration: Natural regeneration, enrichment planting, selective thinning – promotion of higher value species, removal of low qualities	60.5	574	333	1.1	3.8	26.6	0.47	0.40	0.07	5.0	30%
		0.5 - 0.6	28%	0-29	Restoration: Natural regeneration, tending, promotion of higher values species	69.2	3,516	2,043	1.4	4.5	13.8	0	0	0	5.3	18%
				30-59	Restoration: Natural regeneration, enrichment planting, selective thinning – promotion of higher value species, removal of low qualities	108.8	1,023	594	1.3	7.7	47.9	0	0	0	9.1	18%
		>0.7	48%	0-29	Tending and selective thinning – promotion of higher values species, removal of low qualities	148.9	4,595	2,670	1.2	10.6	61.1	0	0	0	11.9	13%
				30-59	Selective thinning – promotion of higher value species, removal of low qualities	172.4	3,203	1,861	1.3	10.9	75.9	0	0	0	12.2	12%

⁶ Note: please refer to Chapter 5.2.3.4 and 11 for more information on data limitations and the associated risks. All planned and implemented activities will be based on forest management inventories and FMPs developed within Activity 1.1.1, and thus there may be some variation in comparison to the modeled activities – as SFM practices will be based off of the actual forest conditions.

Forest Formation - (Characterization)	Share of area % per species stratum	Stand Density Group	Share of area % per stand density stratum2	Average Age class	SFM Measures	Average Vol per ha (m3)	Assumed toal area in the GCF project (ha)	Man- age- ment area in the GCF project (ha)	Aver- age Bonite t	Incre- ment yield ta- ble m³/ha/y	Yield per ha (m³) for 10 years	Degra- dation- un- stocked area	Area NatReg in % density	Enrich- ment Plant area in % den- sity	Incre- ment af- ter 20 years (m³/ha/ y)	Incre- ment Diff af- ter 20 years in %
Beech	51%	< 0.4	39%	0-29	Restoration: Natural regeneration, enrichment planting, tending, promotion of beech and conifers	6.8	9	5	2.7	0.3	0.2	0.47	0.40	0.07	0.4	30%
(Main formation with mix of oak, hornbeam in lower altitudes, fir and spruce in montane areas; When degraded shrubs, ferns, rhododenron need to be removed for restoration; Femel-system to group selection system in mix with conifers)				30-59	Restoration: Natural regeneration, enrichment planting, selective thinning – promotion of beech and conifers, removal of low qualities	34.5	159	93	2.7	1.6	3.4	0.47	0.40	0.07	2.0	30%
			60-89	80.5		14,013	8,143	2.7	2.4	7.2	0.47	0.40	0.07	3.1	30%	
			90-119	96.0		13,002	7,555	2.7	1.0	7.9	0.46	0.40	0.06	1.2	29%	
				120-149	Restoration: Natural regeneration, enrichment planting, final harvest in group selection to „femel“-cuts	126.5	31,537	18,325	2.7	1.3	9.1	0.46	0.40	0.06	1.6	29%
	0.5 - 0.6	57%	0-29	Restoration: Natural regeneration; tending, promotion of beech and conifers	14.3	14	8	2.7	0.7	0.4	0.23	0.23	0.00	0.8	18%	
			30-59	Restoration: Natural regeneration; Selective thinning – promotion of beech and conifers, removal of low qualities	72.3	234	136	2.7	3.3	7.2	0.23	0.23	0.00	3.8	18%	
			60-89		149.7	20,592	11,966	2.7	4.5	13.3	0.23	0.23	0.00	5.3	18%	
			90-119		178.5	19,106	11,102	2.7	1.8	14.6	0.23	0.23	0.00	2.1	18%	
			120-149	Restoration: Natural regeneration; Final harvest in group selection to „femel“-cuts	203.3	46,343	26,929	2.7	2.0	14.6	0.23	0.23	0.00	2.4	18%	
	>0.7	4%	0-29	Restoration: Natural regeneration; tending, promotion of beech and conifers	26.4	1	1	2.7	1.3	0.8	0.05	0.05	0.00	1.5	13%	
			30-59	Restoration: Natural regeneration; Selective thinning – promotion of	133.6	15	9	2.7	6.0	13.4	0.05	0.05	0.00	6.8	13%	
			60-89		293.0	1,342	780	2.7	8.8	26.1	0.05	0.05	0.00	10.0	13%	

Forest Formation - (Characterization)	Share of area % per species stratum	Stand Density Group	Share of area % per stand density stratum2	Average Age class	SFM Measures	Average Vol per ha (m3)	Assumed total area in the GCF project (ha)	Management area in the GCF project (ha)	Average Bonitet	Increment yield table m³/ha/y	Yield per ha (m³) for 10 years	Degradation-unstocked area	Area NatReg in % density	Enrichment Plant area in % density	Increment after 20 years (m³/ha/y)	Increment Diff after 20 years in %
				90-119	beech and conifers, removal of low qualities	349.5	1,245	723	2.7	3.5	28.7	0.00	0.00	0.00	3.9	13%
				120-149	Final harvest in group selection to „femel“-cuts	363.0	3,020	1,755	2.7	3.6	26.1	0.00	0.00	0.00	4.1	13%
Fir	8%	< 0.4	12%	60-89	Restoration: Natural regeneration, enrichment planting; Selective thinning – improvement of species mix, removal of low qualities	126.6	1,986	1,154	3.0	5.1	20.6	0.48	0.40	0.08	6.6	31%
(Dominating fir less frequent compared to beech, montane zones, less degraded but also remote and not accessible; When degraded shrubs, ferns, rhododendron need to be removed for restoration; Group selection system in mix with beech or selection system)		0.5 - 0.6	75%	90-119	Restoration: Natural regeneration, enrichment planting; Selection cuts - improvement of species mix, removal of low qualities first	64.0	378	220	4.0	1.3	6.3	0.48	0.40	0.08	1.7	31%
				150-179	Restoration: Natural regeneration, enrichment planting; Selection cuts - improvement of species mix, removal of low qualities first	442.0	527	306	3.0	4.4	14.6	0.40	0.40	0.00	5.5	25%
				60-89	Restoration: Natural regeneration; Selective thinning – improvement of species mix, removal of low qualities	232.6	7,296	4,240	2.9	9.3	37.9	0.25	0.25	0.00	11.0	18%
				90-119	Restoration: Natural regeneration; Selective thinning – improvement of species mix, removal of low qualities	343.3	8,715	5,064	3.0	6.9	33.6	0.25	0.25	0.00	8.1	18%
				120-149	Restoration: Natural regeneration; Selection cuts - improvement of species mix, removal of low qualities first	350.0	297	173	2.0	3.5	15.1	0.25	0.25	0.00	4.1	18%
				150-179	Restoration: Natural regeneration; Selection cuts - improvement of species mix, removal of low qualities first	373.0	176	102	2.0	3.7	12.3	0.25	0.25	0.00	4.4	18%
				180-209	Restoration: Natural regeneration; Selection cuts - improvement of species mix, removal of low qualities first	418.0	946	550	3.0	4.2	8.4	0.25	0.25	0.00	4.9	18%
				60-89	Restoration: Natural regeneration; Selective thinning – improvement of species mix, removal of low qualities	416.5	973	565	2.0	16.7	67.9	0.05	0.05	0.00	18.9	13%
				90-119	Restoration: Natural regeneration; Selective thinning – improvement of species mix, removal of low qualities	492.0	865	502	3.0	9.8	48.2	0.00	0.00	0.00	11.1	13%

Forest Formation - (Characterization)	Share of area % per species stratum	Stand Density Group	Share of area % per stand density stratum2	Average Age class	SFM Measures	Average Vol per ha (m3)	Assumed toal area in the GCF project (ha)	Management area in the GCF project (ha)	Average Bonitet	Increment yield table m³/ha/y	Yield per ha (m³) for 10 years	Degradation-unstocked area	Area NatReg in % density	Enrichment Plant area in % density	Increment after 20 years (m³/ha/y)	Increment Diff after 20 years in %
			13%	120-149	Selection cuts - improvement of species mix, removal of low qualities first	454.0	1,162	675	4.0	4.5	19.5	0.00	0.00	0.00	5.1	13%
Hornbeam	11%	< 0.4	60%	0-29	Restoration: Natural regeneration, enrichment planting;Tending, promotion of all higher values species	19.1	6,971	4,051	3.6	0.6	0.0	0.47	0.40	0.07	0.7	31%
(Often remaining dominant after overexploitation and removal of oak and beech, highly degraded; partly coppiced; support af high value species important; Selective thinning)				30-59	Restoration: Natural regeneration, enrichment planting; Selective thinning – promotion of all higher value species, removal of low qualities	46.2	11,504	6,685	3.1	2.3	4.6	0.46	0.40	0.06	3.0	29%
				60-89		85.7	1,115	648	2.9	3.4	12.2	0.42	0.40	0.02	4.3	26%
		0.5 - 0.6	40%	0-29	Restoration: Natural regeneration, tending, promotion of all higher values species	38.3	554	322	3.2	1.1	0.0	0.27	0.27	0.00	1.4	19%
				30-59	Restoration: Natural regeneration;	83.0	8,470	4,922	3.0	4.2	8.2	0.27	0.27	0.00	4.9	19%
				60-89	Selective thinning – promotion of all higher value species, removal of low qualities	138.7	3,851	2,237	2.7	5.5	19.4	0.25	0.25	0.00	6.6	18%
Oak	12%	< 0.4	39%	30-59	Restoration: Natural regeneration, enrichment planting; Selective thinning – promotion of oak, removal of low qualities	29.4	9,540	5,543	4.1	1.2	5.0	0.51	0.40	0.11	1.6	34%
(Formation covering different oak species, low lands to sub-montane zones; highly degraded; partly coppiced; lack of mature stands;				60-89	Restoration: Natural regeneration, enrichment planting; Selective thinning – promotion of oak, removal of low qualities	45.6	3,294	1,914	4.2	1.4	5.1	0.48	0.40	0.08	1.8	31%
				90-119		63.6	555	322	4.4	1.3	2.5	0.47	0.40	0.07	1.7	31%
		0.5 - 0.6	57%	0-29	Restoration: Natural regeneration;Tending, promotion of oak	32.0	138	80	4.0	1.9	8.7	0.25	0.25	0.00	2.3	18%
				30-59		61.6	9,138	5,310	4.1	2.5	10.5	0.25	0.25	0.00	2.9	18%
				60-89		84.7	6,950	4,039	4.2	2.5	8.6	0.25	0.25	0.00	3.0	18%

Forest Formation - (Characterization)	Share of area % per species stratum	Stand Density Group	Share of area % per stand density stratum2	Average Age class	SFM Measures	Average Vol per ha (m3)	Assumed total area in the GCF project (ha)	Management area in the GCF project (ha)	Average Bonitet	Increment yield table m³/ha/y	Yield per ha (m³) for 10 years	Degradation-unstocked area	Area NatReg in % density	Enrichment Plant area in % density	Increment after 20 years (m³/ha/y)	Increment Diff after 20 years in %
Selection of best oaks, conversion to high forest)				90-119	Restoration: Natural regeneration; Selective thinning – promotion of oak, removal of low qualities	102.2	3,448	2,004	4.5	2.0	4.0	0.25	0.25	0.00	2.4	18%
		>0.7	4%	30-59	Selective thinning – promotion of oak, removal of low qualities	113.9	391	227	3.4	4.6	16.9	0.02	0.02	0.00	5.1	13%
				60-89		165.8	242	141	3.6	5.0	16.9	0.00	0.00	0.00	5.6	13%
				90-119		182.4	649	377	4.4	3.6	6.2	0.00	0.00	0.00	4.1	12%
Spruce	5%	< 0.4	26%	0-29	Restoration: Natural regeneration, enrichment planting, tending, promotion of species mix	36.0	4	2	1.0	1.8	1.1	0.40	0.40	0.00	2.3	25%
(Formation with small area of dominating spruce at montane to sub-alpine zones; as fir not massively degraded; remote and no access; restoration with promotion of species mix; Selection or group selection system)				30-59	Restoration: Natural regeneration, enrichment planting, selective thinning – promotion of species mix, removal of low qualities	79.9	858	498	2.8	5.6	22.5	0.40	0.40	0.00	7.0	25%
				60-89		118.4	1,698	987	3.1	4.7	19.3	0.40	0.40	0.00	5.9	25%
				90-119		159.1	967	562	3.4	3.2	15.6	0.40	0.40	0.00	4.0	25%
				120-149	Restoration: Natural regeneration, enrichment planting; Selection cuts - improvement of species mix (beech, fir), removal of low qualities first	180.8	35	20	2.8	1.8	7.8	0.40	0.40	0.00	2.3	25%
				150-179		151.0	30	18	2.0	3.0	10.0	0.40	0.40	0.00	3.8	25%
		0.5 - 0.6	63%	30-59	Restoration: Natural regeneration; Selective thinning – promotion of species mix (beech,fir), removal of low qualities	165.6	904	525	2.5	11.6	46.7	0.24	0.24	0.00	13.7	18%
				60-89		208.5	4,343	2,524	3.0	8.3	34.0	0.24	0.24	0.00	9.8	18%
				90-119		264.2	3,208	1,864	3.3	5.3	25.9	0.24	0.24	0.00	6.2	18%
				120-149		280.7	215	125	3.2	2.8	12.1	0.24	0.24	0.00	3.3	18%

Forest Formation - (Characterization)	Share of area % per species stratum	Stand Density Group	Share of area % per stand density stratum2	Average Age class	SFM Measures	Average Vol per ha (m3)	Assumed total area in the GCF project (ha)	Management area in the GCF project (ha)	Average Bonitet	Increment yield table m³/ha/y	Yield per ha (m³) for 10 years	Degradation-unstocked area	Area NatReg in % density	Enrichment Plant area in % density	Increment after 20 years (m³/ha/y)	Increment Diff after 20 years in %
					species mix, removal of low qualities first											
		>0.7	12%	30-59	Selective thinning – promotion of species mix (beech,fir), removal of low qualities	284.1	153	89	1.8	19.9	80.1	0.04	0.04	0.00	22.5	13%
				60-89		347.4	428	249	2.7	13.9	56.6	0.04	0.04	0.00	15.7	13%
				90-119		409.2	691	401	3.0	8.2	36.8	0.02	0.02	0.00	9.2	13%
				120-149	Restoration: Natural regeneration; Selection cuts - improvement of species mix (beech, fir), removal of low qualities first	533.6	261	151	2.7	5.3	22.9	0.02	0.02	0.00	6.0	13%
				150-179		546.0	65	38	2.0	10.9	36.0	0.02	0.02	0.00	12.3	13%
Total						148.8	270,807	157,358								

Appendix 7 Private sector study

Included in separate Word file:

- “Appendix 7 Private Sector Study.docx”

Appendix 8 Capacity needs assessment

Included in separate Word file:

- “Appendix 8 Capacity needs assessment.docx”

Appendix 9 EE-AF market profile supplier survey results

Included in separate Excel file:

- “Appendix 9 EE & Alternative market profile supplier survey results.xlsx”

Appendix 10 Information on projects in the forest sector and EE-AF sector (in addition to those listed in Chapter 5.4)

Strengthening Climate Adaptation Capacities in the South Caucasus (UNFP, SDC, local governments, 2017-2023)

Project name: Strengthening the Climate Adaptation Capacities in the South Caucasus	
Funding entity	United Nations Development Programme (UNDP), implemented through Swiss Development Cooperation, local governments of Armenia and Georgia
Timeframe	2017 - 2023
Financing volume	CHF 7,100,100
Project objectives and components	<ul style="list-style-type: none"> ▪ Reduction of the population's vulnerabilities towards climate-induced hazards and to foster regional cooperation on climate change adaptation challenges in the South Caucasus. ▪ Standardized and institutionalized multi-hazard maps and risk profiles are expected to increase the risk resilience of 47% (i.e. 1.7 million persons) of Georgia's population. ▪ National-level multi-hazard risk maps and risk profiles are developed, standardized and ready for roll-out in Georgia supported by the adequate institutional and legal frameworks preliminarily put in place by the Government of Georgia. ▪ At least 50 representatives from the National Environmental Agency (NEA), Emergency Management Service (EMS) and partner universities' undergraduate courses get trained in hazard mapping and risk profiling methodology in Georgia. ▪ 10 municipal level multi-hazard response and preparedness plans are prepared for Georgia's major river basins with accompanying trainings for municipal employees.
Linkage/relevance for GCF project	<ul style="list-style-type: none"> ▪ Climate change adaption, and improved hazard management (incl. hazards related to forest land use [wildfires, landslides, flooding])
Planned results / impacts (ongoing project)	<ul style="list-style-type: none"> ▪ Missing data on climate change adaptation (CCA), DRR and hazard mapping obtained by commissioning four studies in Georgia ▪ Series of regional academic exchanges involving the governmental, development and civil society partners planned in Armenia, Azerbaijan and Georgia ▪ Working modalities with all the involved stakeholders (e.g. Green Climate Fund (GCF); consortium of the University of Geneva and NGO Sustainable Caucasus, represented by the Sustainable Caucasus (SC)) have been clarified. Organization, steering and monitoring arrangements are established

Climate Change Mitigation and Windbreak Tree Planting in Tchiatura Municipality (GEF, 2014)

Project name: Climate Change Mitigation and Windbreak Trees Planting in Tchiatura Municipality	
Funding entity	GEF – Small Grants Programme
Timeframe	2014
Financing volume	USD 10,685
Project objectives and components	Mitigate climate change by planting windbreak trees in Tchiatura municipality

Linkage/relevance for GCF project	<ul style="list-style-type: none"> ▪ Provided insight into opportunities and challenges for afforestation/ re-forestation projects in Georgia.
Achieved results / impacts	<ul style="list-style-type: none"> ▪ 4,500 trees in 5 villages (Perevisa, Qvatsikhe, Itkhvisi, Vatchevi and Katskhi) with participation of local population and local municipality representatives ▪ 6 ha land is protected from degradation ▪ Cooperation among local population local governmental and NGOs was achieved for joint management of environmental initiatives

Project name: Technical Assistance to the Government of Georgia with the Development of an Energy Efficiency Law

Funding / Implementing entity	EBRD / E Co. Ltd
Timeframe	2017-2018
Project objectives and components	<p>The objective of this assignment is to build on the process of NEEAP development – and energy efficiency development in Georgia more generally – to establish an appropriate legal and regulatory framework for NEEAP implementation. This will entail development of primary legislation – the EE Law – which lays out the framework for implementation, as well as secondary legislation which will provide specific guidance in implementation of NEEAP measures. The methodology described in the ToR for helping Georgia effectively implement the NEEAP indicates what overall steps must be taken to assist the Ministry of Energy with the development of the primary EE Law in a coherent and inclusive manner. We understand that the role of the consultant in this assignment supported and led by EBRD will be to provide technical assistance to the Ministry of Economy and Sustainable Development following the steps envisaged in the Terms of Reference and further described in the methodology, which entail drafting the EE Law and other legislation necessary for successful implementation of the NEEAP under Georgian law, supporting the consultation process and providing necessary capacity building as agreed with EBRD and the Ministries. The ultimate objective of this assignment is therefore to establish the legal and regulatory framework which will stimulate investment into energy efficiency in Georgia</p>
Achieved results / impacts	Draft law and various pieces of secondary legislation complete – pending official adoption.
Linkage/relevance for GCF project	EE Law and NEEAP are important building blocks of an enabling environment for EE and AF sector growth: including national and sectoral EE targets, standards and provisions to introduce EE practices in the public procurement domain.

Project name: Energy sector policy measures

Funding / Implementing entity	KFW
Timeframe	2018-2021
Financing volume	200,000,000 EUR

Project objectives and components	Fiscal Policy adjustment loan. It includes a number of provisions related to legislative development to allow for the loan tranches to be released. These include the adoption of the NEEAP and Energy Efficiency Law.
Achieved results / impacts	-ongoing

Project name: Expansion and Improved Management Effectiveness Of Adjara Regions Protected Areas	
Funding / Implementing entity	UNDP in Georgia
Timeframe	10.2016-10.2017
Financing volume	20,418 USD
Project objectives and components	<p>Implementation of the Action Plan for Undertaking Field Testing of Selected Technical Solutions in Machakhela National Park Support Zone villages. In the period November, 2016-April,2017 (heating season 2016/17) the fuel switch from fuel wood to alternative fuels- two types of briquettes and hazelnut shells was monitored in Kedkedi public school two classrooms and hazelnut shells in 11 families of three villages (Kedkedi, Qveda Chkhutuneti & Zeda Chkhutuneti).</p> <ul style="list-style-type: none"> • Another technology tested and monitored in the period April-September,2017 was solar thermal collectors introduced in 5 households for hot water preparation to replace fuel wood usage for this purpose.
Achieved results / impacts	<ul style="list-style-type: none"> • During the heating season 2016/17 introduction of two types of briquettes and hazelnut shells in two classrooms of the Kedkedi school and switch from fuel wood to alternative fuel-hazelnut shells in 11 families resulted in saving (not using) of more than 100 m3 of fuel wood; • If compared current prices for fuel wood and hazelnut shells, even with the consideration of additional cost for modernization of existing stoves, the usage of hazelnut shells is economically attractive and during the heating season 2017/18 switch from fuel wood to hazelnut shells will be implemented in 52 families. Such switch means that more than 10% of families have made their choice in favor to hazelnut shells and fuel wood consumption in Machakhela NP support zone villages during the winter 2017/18 will decrease by at least 510 m3. • The total cost of received energy during the summer (April-September) by the 5 solar systems installed in the families in Machakhela NP support zone villages is estimated to be up to 1960 GEL.The free heat energy provided by the solar systems exceeded almost 1,5-2 times the energy consumed by families for hot water preparation in past. • Increased awareness of population on alternative energy sources as substitute to fuel wood; • Increased knowledge and capacity of community members to mobilize and unite into a group to solve common plan on decrease of fuel wood consumption in Machakhela NP support zone villages.

Project name: Promotion of Biomass Production and Utilization in Georgia	
Funding / Implementing entity	Global Environmental Facility (GEF)/UNDP
Timeframe	July 2013 – September 2017
Financing volume	US\$ 911,736
Project objectives and components	<p>The objective of the project was to promote sustainable production and utilization of upgraded biomass fuels in heating applications in the municipal services sector of Georgia.</p> <p>The project was structured in four different Outcomes:</p> <ul style="list-style-type: none"> • Outcome 1: Enhanced policy and regulatory framework for promotion and efficient utilization of biomass energy in Georgia • Outcome 2: Increased market confidence in the feasibility of production of upgraded biomass fuels and their utilization in municipal heating applications • Outcome 3: Created local supply of and demand for upgraded biomass fuels • Outcome 4: Improved knowledge and stakeholder capacities for bioenergy development and replication
Achieved results / impacts	<p>National Bioenergy Strategy was elaborated and agreed with all stakeholders. The Strategy has been used as an input in the National Renewable Energy Action Plan (NREAP) and National Energy Strategy of Georgia</p> <p>A number of quality standards (room heaters fired with solid fuels; wooden briquettes; wooden logs) were created with the support of local expert, reviewed by Project's international Biomass Expert and agreed with all major stakeholders. Standards were developed based on the European standards taking into account Georgian circumstances and have been submitted to the Georgian National Agency for Standards and Metrology (GNASM)</p> <p>A detailed inventory of available woody and agriculture biomass in Georgia is completed</p> <p>Three pilot productions on producing wood briquettes (National Nursery, Nisoni, Greenergy) were set-up with investment grant from the project</p>