

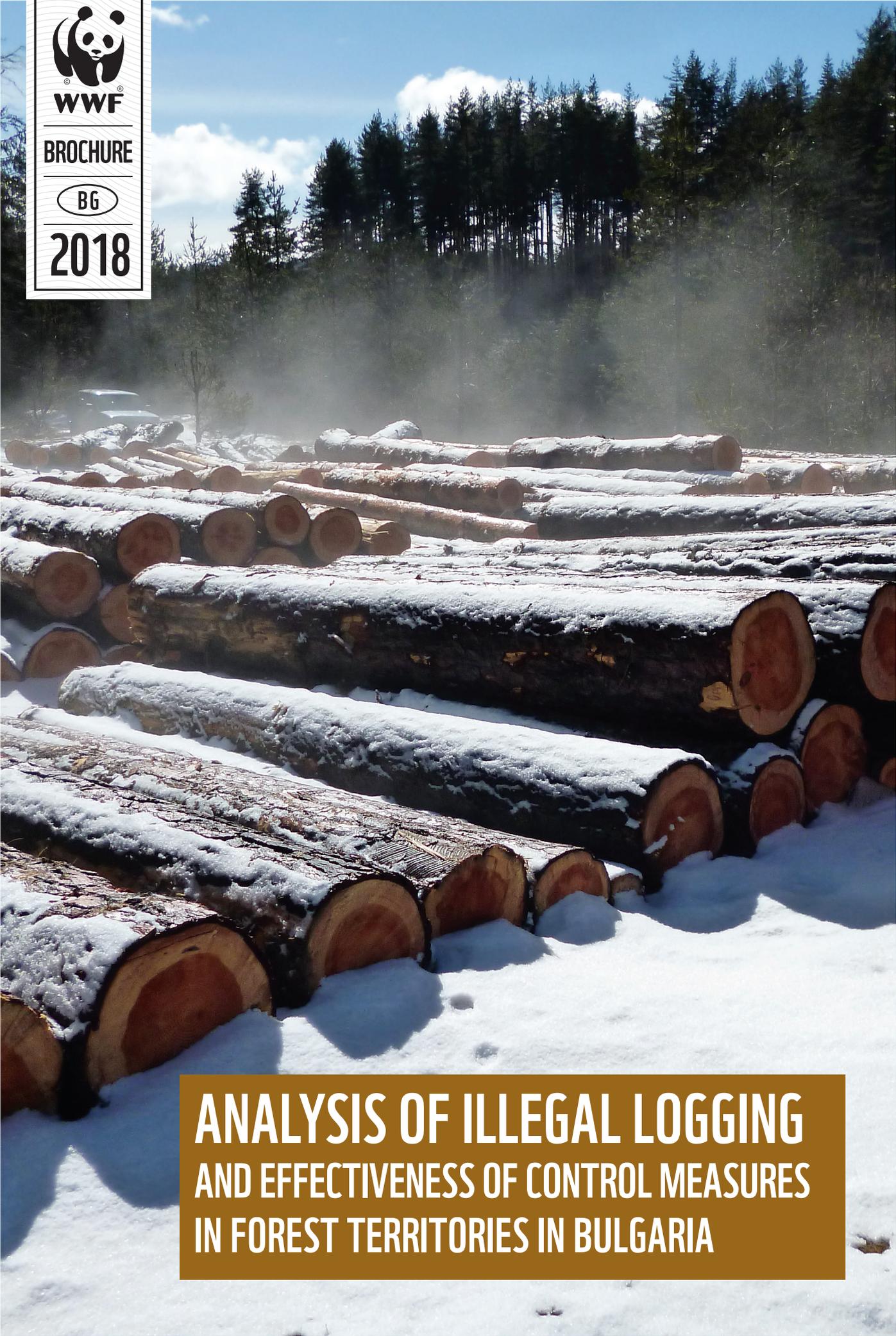


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ANALYSIS OF ILLEGAL LOGGING AND EFFECTIVENESS OF CONTROL MEASURES IN FOREST TERRITORIES IN BULGARIA

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INTRODUCTION

History of the research:
In 2005 and 2014 an analysis
of the level of illegal logging in
Bulgaria was implemented as an initiative of WWF.

The research was done by independent experts and the reports were published on the website of WWF Bulgaria: http://www.wwf.bg/news_facts/publications/

Considering the dynamics in the forest sector in the recent years, Bulgaria's adoption to the EU and the consequent obligations, together with the changes in the politics and economy of the country, the current report aims to present a new, updated assessment of the levels of illegal logging in Bulgaria.

For the purposes of the current report, the term **“illegal logging”** includes **cutting, hauling and transportation of wood from the forest in violation of the national legislation.** The logging procedure itself can be illegal and include: use of corruption tools to gain access to the forest, logging from protected areas without permission, felling of protected species or harvesting quantities of wood above the allowed. Illegal activities can also be carried out during transport, such as, for example, illegal processing and export, false declarations, tax evasion and avoidance of other charges.

(FERN, Greenpeace, WWF 2004: Facing reality)



ILLEGAL LOGGING THREATENS BIODIVERSITY AND HAMPERS SUSTAINABLE FOREST MANAGEMENT, INCLUDING THE COMMERCIAL VIABILITY OF THE COMPANIES, OPERATING IN ACCORDANCE WITH THE LAWS.

PART I. HISTORY OF WWF REPORTS ON ILLEGAL LOGGING AND ASSESSMENT OF THE CHANGES

In 2005 a report by WWF Bulgaria was published referring the volume of illegal logging in the country at that time.

This volume was estimated at about 3.7 million cubic meters of lying timber for a year, while the official yield was 5.8 million cubic meters.

In the period 2006-2013, Bulgaria demonstrated limited progress in the fight against illegal logging. According to an expert analysis of the statistic data, the annual volume of illegal logging

reached 2.4 million cubic meters or 1/4 of the total yield (while the official yield is of 6.9 million cubic meters by 2012). As a result of the illegal logging, exploited forests did not effectively perform their production, water protection and nature conservation functions.

In the report “Analysis of Illegal logging in Bulgaria for the Period 2006-2013”, were identified the most widespread schemes for illegal logging and selling allowed by the regulations in force at that time. The schemes are as follows::

1. Extraction of unmarked trees from stands intended for logging

According to the legal requirements, a control forest mark (CFM) that certifies the legality of the felling must be available at the base of the cut stems only on trees with a diameter over 18 cm at chest height. Although this measure was introduced due to the low value of thinner trees, in practice it allows uncontrolled logging of a large number of trees which are less than 18 cm in diameter. This happens especially in young plantations or coppice forests where the number of such trees is often predominant.



**IT IS RECOMMENDED
THAT TRADERS, WHO
PURCHASE WOOD SOURCED
FROM BULGARIA,
TO REQUIRE DOCUMENTATION
ENSURING THE LEGALITY
OF ITS HARVEST.**

At the same time, the presence of a CFM at the base of the cut trees cannot fully verify they were legally harvested. Illegal logging can be masked and even “legitimized” when illegally harvested trees are subsequently marked after felling by the forest expert responsible for the site or are marked with a fake stamp by the offenders themselves.

Recommendations: To limit the possibilities for hiding the illegally harvested timber. This must be done at the moment of shipment of the harvested material from the logging site, i.e. at the moment of describing the material on the transport documentation necessary to deliver the wood to the end users.

Assessment of the changes made to the present moment: In 2015 changes were made in the Ordinance on felling. These included a change in the normative requirement for the minimum diameter of the trees which must be marked with CFM from 18 cm to 14 cm.

2. Manipulations in calculating the volume of trees marked for felling

The volume of trees marked for felling is calculated by a computer program based on the average diameter and, respectively, the average height of the marked trees. It was found that the computer program uses a method to determine the average diameter (the so-called Weise rule) that is not accepted by forest science for such cases as it gives lower values than those actually available. It leads to an average mistake of 8.7% when defining the volumes for felling. This means that in the documentation for the intended felling are written lower values than the actual volume of marked trees. And if the difference between documented and actual volume is successfully hidden during timber dispatch, it is sold as illegal harvest.

Recommendations: This unlawful practice should be limited by the improvement of computer programs for calculation of logging volumes. It is also necessary to improve the control on taking over and dispatch of timber in order to prevent hiding of the actual harvested quantities.

Assessment of the changes made to the present moment: Effective steps for solving this problem were not taken.

3. Using incorrect wood stock data listed in Forestry Management Plans



**INTRODUCING
THE NATIONAL FOREST
INVENTORY PROVIDING
FOR ACCOUNTING THE
CHANGES IN THE FORESTS
OF BULGARIA AND FOR
INDEPENDENT CONTROL
OVER THE FOREST
MANAGEMENT PLANS.**

Large percentage (80-90%) of forest stands are inventoried by eye or by mathematical and statistical methods. A comprehensive measurement of all trees in a forest stand is undertaken in extremely rare cases. Often, instead of on-site measurement, the information for the tree stock in a plantation is estimated by a computer program that recalculates the new forest stock based on the old one. Significant errors occur in these recalculations resulting in underestimation of the actual forest stock and respectively the quantity designated for felling. In the process of marking the trees that are to be felled, however, all the marked trees are subject to measuring and grading. In case that the volume of trees marked for felling under an agreed intensity of felling (i.e. certain % of the forest stock) is found by the inventory to exceed considerably the quantity for felling designated in the Forestry Plan, this difference (between 10% and 18% by expert assessment at national level) is most often concealed to allow for illegal logging and hidden revenues.

Recommendations: Following the example of other European countries, national forest inventory shall be established to ensure impartial reporting of forest changes and respectively independent supervision on the inventories in Forestry Management Plans shall be carried out. In addition, the control on approving forest inventories, as well as the control on taking-over and dispatch of harvested timber shall be enhanced.

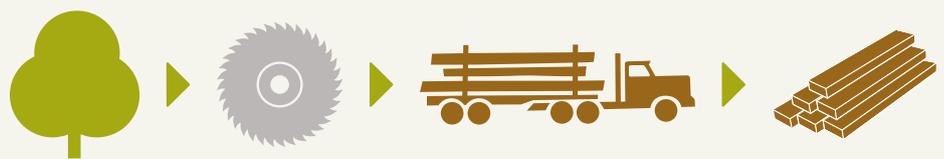
Assessment of the changes made to the present moment: At the end of 2015, the Council of Ministers approved Ordinance No.18 on the inventory and planning in forest territories. It was a positive step but unfortunately the ordinance is not allowing independent control on implemented inventories. On December 22, 2016, the National Assembly adopted an act on the ratification of the agreement for provision of consultancy services between the Ministry of Agriculture and Food of the Republic of Bulgaria and the International Bank for Reconstruction and Development (registration index 50-127 / 26.09.2016). The subject of this agreement is the provision of consultancy services on the implementation of a National Forest Inventory in Bulgaria.

The agreement provides for launching of a framework of the National Forest Inventory, assignment of the methodology, identification and training of the inventory teams and implementation of inventory for the South-Central State Enterprise as a pilot area. After the preparatory work, the project was suspended at the end of 2017 before the pilot implementation.

4. Manipulations in calculating the volume of firewood and pulpwood

In regard to firewood and pulpwood, the legislative framework requires in the various stages of logging – from the logging site to the end user – the goods of the same type and quantity to be measured, accepted, paid and accounted for in three different measurement units. At the harvesting stage – from the logging site to a temporary storage – are used spatial cubic meters (this volume is determined by the size of the shapes in which the pieces of wood are arranged). At taking-over – from the temporary storage to loading and dispatch – are used solid cubic meters. Finally, at the end user the measurement unit is kilograms, as measured by the client's scales. The practice has shown that significant errors occur in these recalculations resulting from the high level of subjectivity in the process, the application of incorrect conversion coefficients and non-accounting for the different weight of timber in view of its origin.

As a result, while recalculating the volume of firewood and pulpwood from spatial to solid cubic meters, a difference of about 30-40% is generated. This difference is not accounted in the payment of yield or in determining the amount of tariff fees. In practice, through the above-mentioned schemes, this difference can also hide the volumes of illegal harvest that exceed the allowed quantities. Thus, for harvest and official sale of about 4-5 million solid cubic meters of firewood and pulpwood per year, the legislation is allowing hidden dispatch (i.e. without payment to the forest owner) of over 1.5 million cubic meters of wood.



Recommendations: Regarding the harvest and sale of firewood, the solution for the problem is to apply a payment rate per spatial cubic meter along the entire chain – from the logging site to the end customer. For pulpwood, the solution is to apply a payment rate per weight (i.e. per ton) along the entire chain from the logging site to the end customer, based on the weight-scale documents issued by the end customer or by measuring the weight using the scales of the enterprises.

Assessment of the changes made to the present moment: In 2015, amendments were made to Ordinance 1 on forest control activities. The amendments introduced new coefficients (by 30 to 40% higher from those used so far) for the conversion of the volumes of wood from spatial to solid cubic meters. This is a step in the right direction. Still, we continue to believe that the unified use of the same measurement units along the entire chain, from the forest to the customer, is the right thing to do.

5. Concealing of illegally harvested wood at dispatch

A key condition for gaining profit from illegally harvested wood after its logging under the above-mentioned schemes is to transport it from the logging site or from its temporary storage to the end user without reporting it to the forest owner. This is because the quantity of all the harvest (lying wood) is to be reported at taking-over and dispatch. Practical experience shows that illegally harvested wood is often transported without being recorded in the taking-over and logging site certification protocols and without being correctly registered at dispatch. The main pathways for concealing of illegally harvested wood at dispatch are as follows:

1. The simplest way is to transport the illegally harvested wood without a transport ticket (at short distances, e.g. from the forest to the village) which is practiced at night with the help of scout agents or under the guaranteed protection of control authorities.
2. A common practice is to use one transport ticket (including electronic one), issued for a specific trip with validity of 12 hours, for more than one trip.
3. A relatively new scheme is to have two different trucks (one with the illegally harvested wood) travelling with one electronic transport ticket at the same time in the same direction, but along different roads.
4. Another common approach is to transport the illegal harvest from the forest with a paper transport ticket, and not an electronic one. Notwithstanding that paper transport tickets allow for many manipulations, it is still legitimate to use them for transportation of wood from private forests and from one storage to another.



**REDUCE THE RISK
OF PLACING ILLEGALLY
HARVESTED TIMBER AND
PRODUCTS DERIVED
FROM SUCH TIMBER
ON THE DOMESTIC MARKET.**

Recommendations: Effective constraint of the above-mentioned malpractices has been achieved through the introducing of a timber marking and tracking system by which each assortment is marked with control plastic tags. The opportunities for any misuse with electronic and paper transport tickets shall be further reduced.

Assessment of the changes made to the present moment: Mobile teams for protection of forest enterprises have been set up. An alarm center for forest fires and violations has been created at the emergency phone number 112. A system for issuance of transportation tickets from the temporary wood stores was introduced. The system works by electronic means and the tickets issued by it are being registered in a central server in the Executive Forest Agency. Marking of transported wood with tags with a unique number was introduced. Still, the latter is determined as an opportunity and not as an obligation. A requirement for all timber transport vehicles to be fitted with GPS devices making real-time recording was introduced. It is still necessary to provide the control forest authorities with access to the GPS devices in real time. This will allow more adequate and timely control.

In addition, the possibilities for misuse of the electronic tickets should be reduced by adopting a differentiated approach for the duration of tickets, depending on the distance to which the timber is to be transported and the specifics of the terrain where the transportation takes place. It is necessary to introduce a wood marking and tracking system by marking each assortment with control plastic tags, or at least introducing information in the tags, on which CFM is printed, also of the types of assortments, especially for large and medium size building timber and for the artisan round wood.

6. Manipulations in classifying the marked trees

Classification of stems is carried out when trees are being marked for felling, as well as at taking-over and dispatch of harvested wood. This does not alter the quantity (volume) of harvested wood, but underrated classification for instance allows for malpractices resulting in reduction of the actual monetary value of harvested wood to the detriment of the owner. For example, saw logs (100 BGN/m³) are often classified as artisan round wood (ARW) (which an average price of 50-70 BGN/m³), while ARW or pulpwood is classified as firewood (25-50 BGN/ m³). This causes loss to the forest owner of up to two times as compared to the actual value of wood. The analysis of data for yields in 2013 shows underrated quality and respectively lowered price of much more stems than it is theoretically possible.

Recommendations: It is necessary to enhance the wood dispatch control to enable the identification of each assortment according to its subjective classification as such. An example of such follow-up control that can cut off this type of malpractices is the introduction of timber marking and tracking system where each assortment is marked with individual control tag.

Assessment of the changes made to the present moment: Marking of the transported wood with tags was introduced. The tags contain an image of the CFM and a serial number of the tag. However, the usage of tags is not obligatory. It is still possible to only use CFM. This situation does not guarantee decrease in the quantity of illegal transportation of wood. It is necessary to regulate the introduction of a wood marking and tracking system through legislative requirements. The system shall include marking of each assortment with control plastic tags or at least adding information of the types of assortments on the tags, on which CFM is printed. This shall be done especially for large and medium-size construction timber and for artisan round wood.



TIMBER AND TIMBER PRODUCTS CERTIFIED BY CREDIBLE FOREST CERTIFICATION SYSTEMS REDUCE THE RISK OF ILLEGALLY HARVESTED TIMBER IMPORTS OF ILLEGALLY HARVESTED WOOD IN THE SUPPLY CHAIN.

In the report “Analysis of Illegal Logging in Bulgaria for the period 2006-2013” were made the following general recommendations.

1. Administrative measures:

- to enhance the control over dispatch and transportation of harvested wood, including through systematic enforcement of the usage of control plastic tags and more stringent requirements regarding transport documentation.
- to limit the opportunities for harvesting of “standing wood” in order to differentiate wood felling from wood trading;
- harvesting and trading of firewood and pulpwood should be priced at one and the same measurement unit along the entire chain from the logging site to the end customer. This is necessary in order to prevent errors and manipulations while converting one measurement unit to another;
- to link the database system for felling permits listed in www.system.iag.bg with data about wood dispatched from forests by means of issuing electronic transport tickets and establishing an unified electronic system to process the information about planning, marking, use, certification, dispatch and processing of wood, while ensuring public access to part of the information to enable civil control;
- to expand the implementation of certification systems by all operators along the chain of forest management, wood production and consumption;

Assessment of the changes made to the present moment: Electronic transportation tickets were introduced. Certified territories have increased more than three times.

	measure	2013	2014	2015	2016	2017
certified forest territories	ha	424 860	689 118	807 834	108 4554	1 464 607
% of total forest territories	%	10	18	19	25	34
certificates	number	15	17	19	20	27

2. Legislative Measures

- to improve the legislative framework for inventory, planning and control of logging in order to limit the possibilities for malpractice, and to launch national inventory in order to provide independent control on the data regarding changes in forests;
- to separate the Executive Forest Agency as an independent control institution from the Ministry of Agriculture, Food and Forests which is responsible for economic activity in state-owned forests;
- to increase the qualification and motivation of forest inspectors, as well as to raise the requirements for qualification and responsibility of foresters, without whose participation it is difficult to undertake malpractices in forests;
- to promote transparency and competition in the processes of contracting and implementing the logging activities and trade of timber and timber products in order to combat the grey sector in forestry, including through launch of open electronic tenders;
- to raise the level of gathered penalties for violations in forests above the current 10-15%.

Assessment of the changes made to the present moment: Beyond what has been said so far, in 2017 a minimal usage of electronic auctions was registered. Only 3.5% of the total harvested timber from state forest areas was sold through electronic auctions. In the South West State Enterprise, over 10% of the harvested wood was sold through electronic auctions. No electronic auctions were implemented in the South East, South Central and North East State Enterprises. The difference between the reported average selling prices is between BGN 5 and BGN 40 in favor of electronic auctions. In financial terms, the non-use of electronic auctions annually brings a loss of at least BGN 25 million.

PART II. REVIEW OF FOREST CONTROL ACTIVITIES REPORTED BY THE STATE

For the period under consideration, the state forest administration started publishing its own annual reports on the activities of control, forestry protection and fire protection, which should be cited as a positive action.

The first public report was announced in 2015. For the three years until 2017, the reports identified both key performance indicators and recommendations for improvement. These reports complement and broaden the public information that has so far been presented through the annual reports of the Executive Forest Agency.

Among the measures taken to improve control activities are:

- 170 mobile security teams in forestry enterprises were established;
- An emergency center at tel. 112 was established to process signals for fire and violations in forest areas.
- A system for issuance of transportation tickets from the temporary wood stores was introduced. It works by electronic means and provides registration of the tickets in a central server in the Executive Forest Agency.
- Marking of the transported wood with tags with a unique number was also introduced.
- An electronic register with public access is introduced for the enterprises and storehouses where the wood is being dispatched.
- Public access is granted for all documents regarding forest planning and activities on the website of the Executive Forest Agency.
- Software for electronic transportation tickets issued by the entities according to Art. 206 of the Forestry Act was developed.
- The issuing of electronic tickets from temporary storehouses and from sites, in which the wood is being taken up, processed or dispatched, is regulated by the orders of the Executive Forest Agency.
- New software was developed for processing the case files. It was set in use in 2018.
- Forest inspectors in Regional Forest Directorates (RFD) undergo annual trainings with lecturers from the Executive Forest Agency and Regional Forest Directorates.
- Development of guidelines for planning and performing checks on the implementation of the provisions of Regulation 995/2010 of the European Parliament (EP) and European Union (EU) was initiated.
- In order to stop forest violations, joint actions were undertaken with the participation of forest inspectors from the Regional Forest Directorate, employees from the State Forestry Units and the Ministry of Interior. Specialized actions continue where forest inspectors from one Regional Forest Directorate check territories of other Regional Forest Directorates. These measures are further aimed at eliminating the factor of possible “binding” at local level.



ELECTRONICISATION AND PUBLIC ACCESS ON THE SITE OF THE EAG OF ALL DOCUMENTS REGULATING FOREST PLANNING AND ACTIVITIES IN THE FORESTS.

- Periodically, according to the instructions of the Executive Forestry Agency, the Regional Forestry Directorates are instructed to carry out inspections at registered sites (storehouses and wood processing shops), where wood is taken up, processed and dispatched. Representatives of the Executive Labor Inspectorate at the Ministry of Labor and Social Policy, the General Directorate for Fire Safety and Protection of the Population at the Ministry of Interior and the municipal structures for construction control are also involved in the inspections.
- Since 6 June 2015 it is possible to send signals at emergency telephone 112 in case of fires and illegal forest activities. This became possible by creating “Center 112” at the Regional Forest Directorate Sofia.

As problems in the reports of the Executive Forest Agency are mentioned the following:

- The collection of sums under the enacting penalty provisions (which is also within the responsibilities of other institutions) is very low. This creates a sense of impunity for the offenders, and the work of the forestry control and protection staff seems meaningless.
- Pre-trial proceedings are implemented for a very small part of the files sent to the Prosecutor’s Office. Sending of the files forward and backwards causes administrative burden for both the Regional Forest Directorates and the Prosecutor’s Office.
- Very few are the convictions for forest law offenses.
- In many Regional Forest Directorates there are problems with the organization of detention and sale of the objects subject to violations and the belongings used to implement the violations. The number of storage facilities is insufficient.
- The procedure for selling confiscated possessions under the State Property Act is very slow;
- Owners of forest properties are not interested in preserving them.
- There is insufficient control over the activity of registered foresters implementing private practice. They, on their turn, avoid drafting penalty acts and do not strictly comply with their legal powers to protect forest areas.
- The Law on Protection of Agricultural Property does not clearly define the activities related to timber extraction outside forest areas. The obligations of the persons responsible for the extraction are not clearly defined either. Often, through documents permitting cleaning of agricultural areas, violations are done in forest areas.
- Despite the introduction of the electronic ticket system from temporary storehouses, offenders find a variety of ways to issue irregular tickets (e.g. issuing subsequent tickets on the basis of primary tickets without the original ticket accompanying the timber). The Executive Forest Agency has also indicated the following suggestions for improvement of the control activity:
 - To increase the finances for control and conservation activities, including increasing the remuneration of forest inspectors.
 - To improve the training format for employees who have the right to issue acts for revealed administrative violations (ARAV), including field trainings.

- To set a threshold for the implemented damages in order to determine when certain violation is a crime. It is important in order to reduce unnecessary correspondence between the Regional Forestry Directorates and the Prosecutor's Office.
- To increase the number of cross-checks carried out between Regional Forestry Directorates.
- To finalize the draft amendments and supplements to texts in the basic laws and regulations (Forestry Act, Criminal Code, Administrative Violations and Penalties Act, Agricultural Property Protection Act).

PART III. INDICATORS FOR FOREST CONTROL ACTIVITIES

1. Number of employees performing control activities

Over 3,000 employees are involved in the activities for security and control of forest areas in Bulgaria. 2/3 of them are employees of the state-owned enterprises.

The structures and divisions of the Executive Forest Agency have 1499 employment positions and 551 of them are for forest inspectors. During the analyzed period, these positions were never fully occupied. 20% of them were free in 2017. There is a steady tendency for reduction of the number of occupied positions for forest inspectors.

	2014	2015	2016	2017
Forest inspectors in the Executive Forest Agency	450	432	422	407
Forest guards in the state-owned forest enterprises	2368	2484	2600	2439
Forest guards in the municipal forests	285	302	349	347
Forest guards in private forests		32	34	52

2. Checks performed by control forest authorities

Every year, forest control bodies carry between 420 and 430 thousand inspections of vehicles, persons and places related to the use, processing and marketing of forest, game and fishery resources. More than half of the inspections are carried out by employees in the structure of the Executive Forest Agency.

	2013	2014	2015	2016	2017
Total inspections of vehicles, persons and sites related to the use, processing and marketing of forest, game and fishery resources	423414	427045	498114	420384	439001
Inspections made by the Executive Forest Agency	253458	241212	238571	189095	260085
Percentage of the total checks performed by the structures of the Executive Forest Agency	59,9	56,5	47,9	45,0	59,2

Between 4% and 5% of all inspections reveal violations of laws. This percentage is in contradiction with the data obtained by a survey done among forestry workers. The survey shows that there is at least one violation of the laws in 18% of the harvested sites.

	2015	2016	2017
Inspections of vehicles, persons and places related to the use, processing and marketing of forest, game and fishery resources	498114	420384	439001
Revealed violations	23137	21999	19995
Percentage of the inspections with revealed violations	4,6	5,2	4,6

3. Revealed violations

Within the inspections were reported between 23 and 20 thousand violations of the laws. The tendency is for decrease of the number of violations. About 70% of all violations are violations of the Forestry Act.

	2013	2014	2015	2016	2017
Revealed violations	N/D	N/D	23137	21999	19995
Violations of the Forestry Act	14853	14329	16139	15550	13637
% of the Forestry Act violations from the total number of violations	N/D	N/D	70	71	68

4. Administrative penalty proceedings

For about 70 % of the revealed violations, acts were issued. The forestry guards have the biggest percentage of acts issued by one person.

	2014	2015	2016	2017
Issued acts for revealed administrative violations (ARAV)	14329	16810	16864	14732
ARAV issued by the Regional Forestry Directorates	4895	5759	5807	4651
ARAV issued by forest guards	7935	9692	10095	8977
ARAV issued by municipal employees	1140	1202	790	907
ARAV issued by registered foresters implementing private practice	50	62	121	107
ARAV issued by employees of the Ministry of interior	89	95	51	89
ARAV issued by employees in the Hunting Unions				1

Percentage distribution of the issued ARAV for 2017 by the different structures authorized for control

	Number of employees engaged in forest guarding and control	%	Number of issued acts	%
Structures and divisions of the Executive Forest Agency	407	13	4651	32
State-owned forest enterprises	2439	75	8977	61
Municipalities	347	11	907	6
Private forest owners	52	2	197	1
	3245		14732	

There is a lasting trend for the extent of violations in forest areas. These are mainly violations related to illegal harvesting, transportation of illegally harvested timber and processing of illegally harvested timber. The distribution of the issued and registered in the ARAV information system acts shows that control in forests concerns mainly violations of the Forestry Act.

Issued ARAV regarding different legislative acts	2013	2014	2015	2016	2017
Forestry Act	14853	13086	16139	15550	13637
Hunting and Game Protection Act	403	273	254	799	249
Fishery and Aquaculture Act	143	105	157	166	90
Medicine Plants Act	24	29	21	22	7
Other	177	N/D	233	327	309

5. Penalty proceedings

During the period the number of files sent to the Prosecutor's Office decreased by 40%. At the same time the files sent to the court were tripled.

	2013	2014	2015	2016	2017
Files sent to the Prosecutor's Office	4936	3136	2474	2679	2985
Unsolved files	1458	368	804	795	785
Files returned for penalty proceedings	3337	2412	1583	1753	1989
Percentage of the files returned for penalty proceedings	67,6	76,9	64,0	65,4	66,6
Criminal proceedings before the court	141	89	87	131	238
Percentage of the criminal proceedings	2,9	2,8	3,5	4,9	8,0
Issued convictions	83	68	51	31	81

6. Collection of the imposed sanctions and fines

Although over the period there is an increase in the amount of imposed, confirmed and collected sanctions and fines in absolute terms, we must note a sustainably low level of collection, which effectively makes the penal provisions of the Forestry Act practically meaningless.

	2013	2014	2015	2016	2017
Sanctions and fines imposed by penalty decrees	1658709	1581211	1845663	1916771	1794883
Sanctions and fines imposed by effective (into force) penalty decrees	994227	1042251	1085197	1057768	1160293
Percentage of the sanctions and fines imposed by effective (into force) penalty decrees	59,9	65,9	58,8	55,2	64,6
Collected sanctions and fines	141314	136065	155636	172886	165786
Percentage of the collected sanctions and fines	14,2	13,1	14,3	16,3	14,3

7. Quantities of the impounded wood

For the observed period, the quantities of illegally harvested and impounded timber have increased by 40%.

	2013	2014	2015	2016	2017
Revealed illegal harvest of wood	18952	N/D	30743	26182	28899
Impounded illegally harvested wood	8215	6562	7945	13038	12842

8. System for internal control

There is a system for internal control over the activities of the field employees in the Regional Forestry Directorates and State-owned Forest Enterprises. Although many offenses are not detected, there are punished employees every year. The number of the different types of penalties has increased between 60 and 120% for the period under review.

ARAV issued	2013	2014	2015	2016	2017
for employees of state forestry units	172	295	152	161	120
for foresters on private practice	220	216	534	357	231
for municipal employees	N/D	N/D	48	140	28
Disciplinary penalties imposed on forest inspectors	37	15	44	21	20
incl. fired	1	2	3	2	1
incl. with issued notice of dismissal	3	N/D	11	4	4
incl. observations	19	N/D	30	15	15
Imposed punishments in the Regional Forestry Directorates according to the Civil servant act	N/D	N/D	3	4	N/D
Disciplinary punishments in state forestry/hunting units	N/D	134	452	449	331
Disciplinary punishments in municipal forest structures	N/D	5	5	9	12

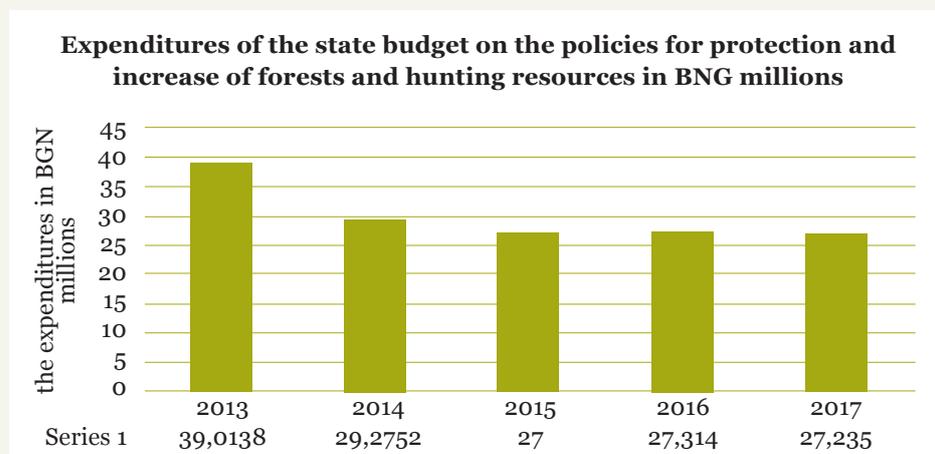
PART IV. GENERAL FACTORS INFLUENCING CONTROL AND SECURITY ACTIVITIES IN FORESTS

1. Financing of the Executive Forest Agency

The lack of sufficient resources to control forest activities inevitably leads to reduction in the number of personnel, reduction in the level of competency of the personnel and hence the efficiency of its activities.

At the moment, the salary of some of the forest inspectors is 550 BNG, which in no way stimulates the filling of vacant positions and the engagement of motivated and qualified specialists.

The state budget for 2018 for the policy „Conservation and Enhancement of Forests and Wildlife“ is 30% smaller compared to the budget for 2013. It was diminished from BGN 39 million to BGN 27,235 million. This is a lasting trend since 2009, when the budget expenditures for this policy have been reduced four times in total.

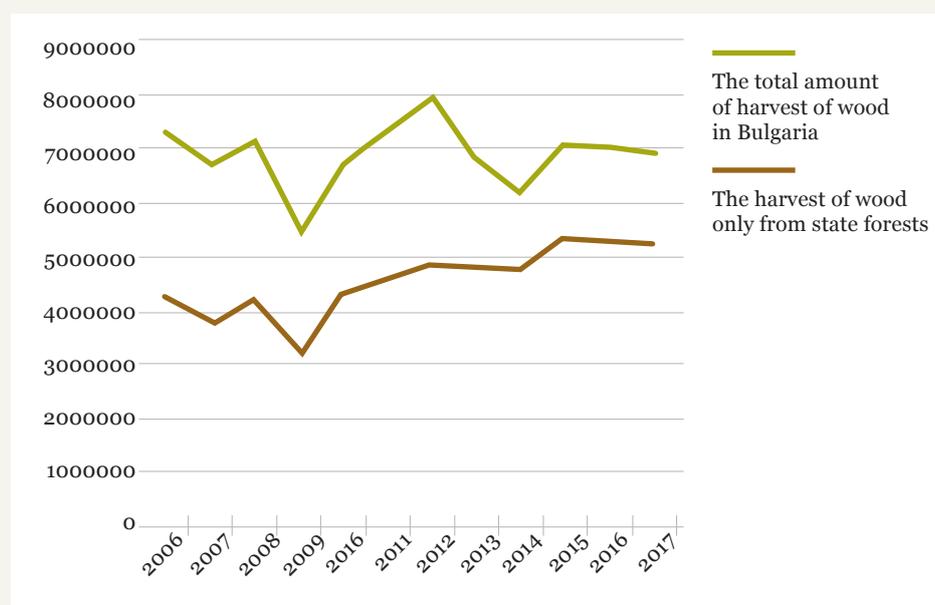


The expenditures under this budget item (which is 0.1% of the total state budget) is used to support the activities of the Executive Forest Agency at the Ministry of Agriculture, Food and Forestry and its divisions – regional forestry directorates, nature park directorates, seed control and forest protection stations.

2. Increase in the harvest of wood from state forests

Along with reducing the means for control on harvesting of timber in the state forest administration, we have a lasting tendency to increase the harvested timber from state forests. This trend further aggravates the results from the process of reducing the costs for control of our forest wealth, as it engages the employees of state-owned enterprises predominantly in exploitation activities.

If at the national level for the previous monitored period of 2006-2013 the average annual yield is 6.9 million cubic meters, it amounts to 6.8 million cubic meters annually for the current period. At the same time, we have increased the amount of usage from state forests from 4.3 to 5.1 million cubic meters.

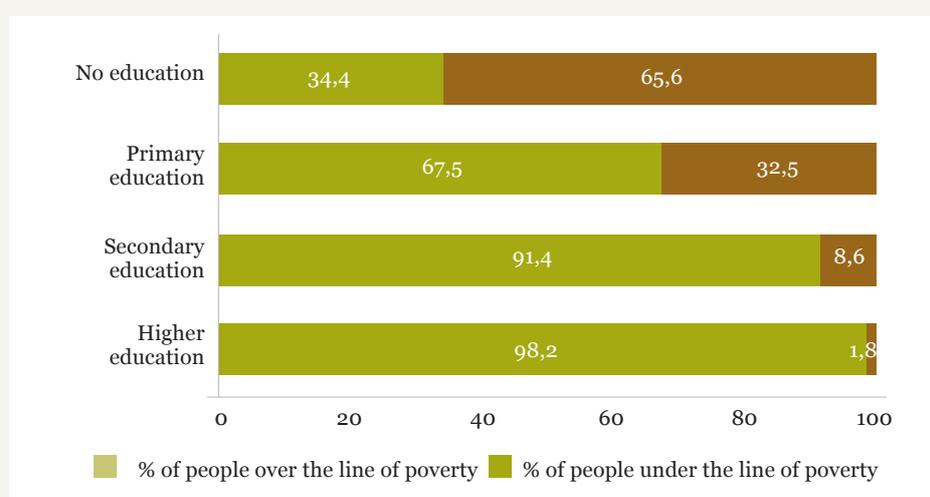


2. Increasing poverty

Poverty is a key factor for the use of firewood, which is the largest expenditure item in the balance of round wood in the country as far as there is proven link between increased income and drop in the use of wood for heating and cooking. For the period under review, people below the poverty line increased by 137,000 in absolute terms and 2.4% of the total population of Bulgaria. The social protection system manages to protect the relatively constant 21-22% of the population, but it is sufficient to reduce the growing share of the poor. These social processes evolve at the background of rising incomes and rising incomes for the richest 20% of the population.

	2013	2014	2015	2016	2017
Poverty line – average monthly amount – BGN	285,9	323,8	325,8	308,2	351,1
People under the poverty line in thousands	1528	1578	1586	1639	1665
Relative share of the poor -% of the population	21	21,8	22	22,9	23,4
Relative share of the poor before receiving social transfers -% of the population	41,8	46,2	42,9	45,5	44,8
Income ratio among the poorest and richest 20% of the population (S80 / 20)	6,6	6,8	7,1	7,7	8,2
Ginny's coefficient	35,4	35,4	37	37,7	40

The main factor increasing the risk of falling into the group of the poor for the majority of the population is their economic activity and their participation in the labor market. For the entire monitoring period, the relative share of the poor is highest among the unemployed (58.7% in 2017). The educational level has a significant impact on the risk of poverty among the employed. The share of the employed but still poor people with primary education or no education is the highest – 65.6%. As the level of education increases, the relative share of the poor among workers decreases approximately 2 times for primary education and over 7 times for those with secondary education, as shown by the figure on the distribution of people in 2017 regarding poverty and education.



Poverty evaluations by household type indicate that the relative share of the poor is the highest among single-person households with a person over 65, lonely parents with children and households with three or more children.

In 2017 the highest is the relative share of the poor among the persons who identified themselves as members of the Roma ethnic group – 77.2%. The lowest relative share of the poor is among the persons who identified themselves as members of the Bulgarian ethnic group – 15.7%.

The educational level has a strong impact on the risk of poverty regardless of ethnicity – in all three main ethnic groups, with an increase in educational level, the risk of poverty for workers is decreasing. The poverty risk for people with primary education and no education is 28 times higher than the risk of poverty among those with higher education for the Bulgarian ethnic group and 5 times higher for the Turkish ethnic group. 73.2% of the people who identified themselves as members of the Roma group and have only primary or no education are poor. In the case of Roma people with higher education, there is not one poor..

3. Increasing household expenditures

The expenditures that households make are of importance for the usage of wood. Of special importance are those groups of expenditures that are potentially related with the usage of wood and its derivatives – expenditure group “Housing, water, electricity and fuel” and expenditure group “Furniture and house maintenance.”

For the period 2013 -2017 the total household expenditures have increased with 13 %. But for these two groups only the expenditures have increased with 21 %.

Groups of expenditures	2013	2014	2015	2016	2017
Total expenditures	10595	10929	11194	11146	11989
Housing , water, electricity and fuel - an average for a household in BNG	1500	1468	1598	1595	1770
Furniture and house maintenance - an average for a household in BNG	361	403	415	411	498
Lump sum of the two above-mentioned groups	1861	1871	2013	2006	2268
Housing , water, electricity and fuel - % of total expenditures	14,2	13,4	14,3	14,3	14,8
Furniture and house maintenance - % of total expenditures	3,4	3,7	3,7	3,7	4,2
Total percentage for both groups	17,6	17,1	18	18	19

According to the National Statistical Institute households in 2017 have paid with 15% higher price for wood than in 2013.

		2013	2014	2015	2016	2017
Non-food commodities	Measurment	Average price in BGN				
Wood of 100 households	Cubic meters	57,94	56,99	58,88	63,67	66,75

3. Increasing investments in the industrial wood users

As part of this report, there has also been registered a trend towards increasing of the investments in industrial wood users.

Kronospan holds one of its largest investments in the world at the moment, amounting to more than 350 million BGN at its plant in Veliko Tarnovo. After completion of the construction of the new capacity, the consumption will reach over 1.2 million cubic meters of technological wood every year.

Kastamonu BG invests in a new production line, whereby the need for wood for its production will double. Only these two new investments will need an additional 1.1 million cubic meters of wood.

With the adoption of the Forest Biomass Energy National Action Plan 2018-2027, the state supported the vision to increase the use of forest biomass for energy purposes, including for electricity generation.



ACTIVITY OF THE CIVIL SOCIETY

4. Activity of the civil society

In the next three points we will discuss the “guards” of democratic principles and rules in society - active citizens, free media and independent judiciary. The condition of these three groups is important for every aspect in the democratic system.

First, we will discuss the activity of civil society through the activity of individual citizens and their organizations. There is no data on the activity of individual citizens regarding the topic of forest conservation. We will therefore use the number of calls to 112 emergency line as an indicator for the interest of citizens in forest conservation. The 112 emergency line has been in operation since mid-2015. The data for 2016 and 2017 is relatively close in numbers. The emergency line receives around 8600 alerts each year and 50% of them can be associated with illegal timber. This data, though not possible to be compared, indicates low levels of real activity of citizens regarding the problem of illegal logging.

	2015	2016	2017
Signals to 112	5173	8606	8539
% of the signals related to illegal logging	N/D	32,5	28
% of the signals related to transport of illegally harvested wood	N/D	15,2	11
% of signals related to storage of illegal wood	N/D	8,7	6

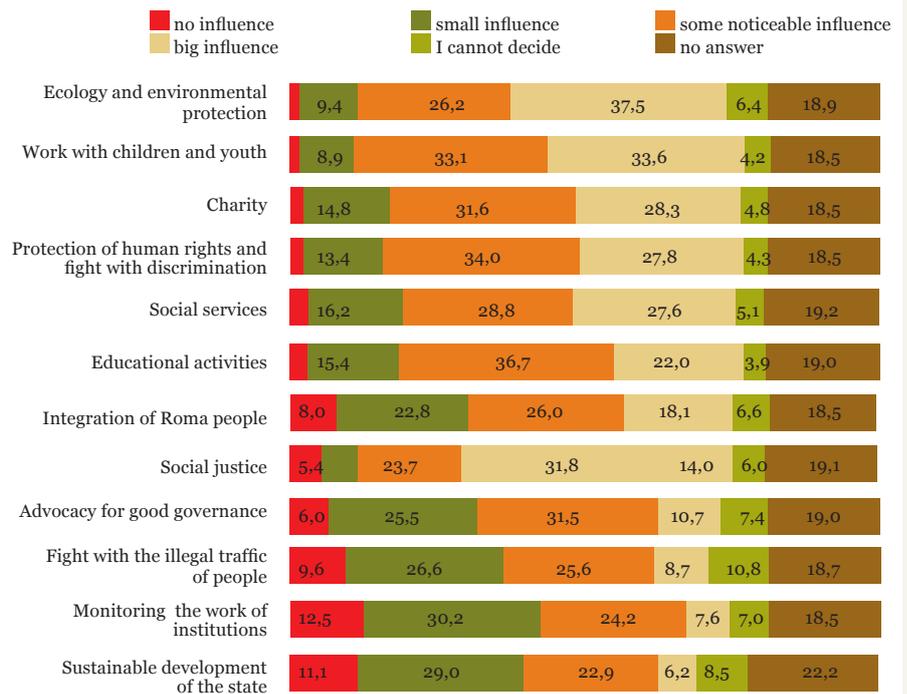
In the report NGO Sustainability Index - 2016 of the Bulgarian Center for Not-for-Profit Law was stated that at the end of 2016 there were over 47 000 non-governmental organizations in Bulgaria. In the „Active NGOs in 2017“ report of Open Society Institute (OSI) report, we can see that in the beginning of 2017 in Bulgaria existed more than 14,600 registered non-profit legal entities for public benefit. In nearly 900 settlements, at least one NGO has been registered for public benefit and more than half the total number of organizations have been registered in Sofia City Court and in the District Courts in Bourgas, Varna and Plovdiv. 35% of the non-profit legal entities in public benefit have been registered Sofia.

According to the OSI report, less than 20% of the registered NGOs have declared that they have objectives in the area of ecology and environmental protection. At the end of 2017 when the activity of the register was ended, the term “ecology” was used in the subject and objectives of 933 organizations. 58 organizations have used the word „forests“ in their subject and objectives. The OSI report states that only 8.9% of the active NGOs are identified as nature conservation ones. Among the most active NGOs, the personnel with secondary and tertiary forestry education is less than 10 people.

Although the number of non-governmental organizations is growing, donations in Bulgaria are getting fewer. Bulgaria is 127th in the world according to the authoritative survey of CAF World Giving Index 2017 that measures generosity in 139 countries. The results are announced by CAF Global Alliance and its Bulgarian member BCause Foundation: help for charity. According to the survey, Bulgaria's donation index continues to decline - it is 19% (after being 21% and 23% in previous years) and returns to the level of 2013 level. However, Bulgaria climbed to the 127th place among 139 countries in the world (after being on the 129th) and kept its 9th place among the 10 countries from Eastern Europe included in the Index.

Despite the relatively small number of active organizations working in the field of ecology and environmental protection, according to expert surveys carried out by the OSI, the results of their activities are most visible.

How would you evaluate the influence of non-governmental organizations in Bulgaria in the following areas? (%)



5. Media freedom

At the end of 2017, in the Bulgarian media there is no specialized rubric or program devoted to forestry and forestry issues. Nevertheless, we should note that a large number of televisions such as Nova TV, BTV and BNT, newspapers such as Dnevnik, Sega, Zov News, electronic sites such as Offnews, Mediapool and others have separate investigations on the issue of forest violations. The lack of specialized headings can be explained both by the high amount of illegal income received by forests and by the general level of freedom of speech in Bulgaria.

In the „White Paper on Media Freedom in Bulgaria“ the Union of Publishers in Bulgaria states that „In the last ten years the situation of the media market in Bulgaria is systematically deteriorating. On one hand, the media business model is under pressure from internal and external factors that make it increasingly unattractive. On the other hand, but also because of the above, the quality of the media products is constantly deteriorating. This can be measured by non-compliance with generally accepted international journalistic rules and standards, the easiness of perception and dissemination of fake news, the increasingly restricted freedom of speech.

According to the Word Press Freedom Index of the organization Reporters without Borders, in 2017 the country is on the 109th place of 180 countries in total. Bulgaria is also on the last position of all EU countries. For comparison, in 2013 Bulgaria's place in the same index was 87th of total number of 179 countries. In the report, as main reason for this situation is pointed the environment as being dominated by corruption and relations between media, politics and oligarchy. An example is given with the Member of the Parliament - Delyan Peevski who owns 6 newspapers through his holding "New Bulgarian Media Group." He also controls 80% of the distribution market in Bulgaria. As another negative factor is pointed the support with EU means for particular media which creates dependency and lack of transparency.

There is another international observation that confirms the negative trend. In its report for media freedom in 2017, Freedom House gives to Bulgaria only 42 points of total 100. This places Bulgaria in the group of countries with partially free media. According to the methodology, 0 points indicate for total freedom. In 2013 which is the beginning of the period under observation, Bulgaria was given 37 points.

	2013	2014	2015	2016	2017
Word Press Freedom Index – total number of countries	179	180	180	180	180
Word Press Freedom Index – Bulgaria's place	87	100	106	113	109
Freedom house – Press Freedom Status	37	39	38	40	42



EFFECTIVE JUDICIARY

6. Effective judiciary

There is a variety of reports and assessments on the effectiveness of the Bulgarian judiciary, including the court, investigation and prosecution. For the purpose of the current report we will point out that at the moment of Bulgaria's accession to the EU on the 1st of January 2007, the country had not yet reached satisfactory progress in the area of judiciary reform, fight with corruption and organized crime. For this reason in the accession treaty was indicated the creation and functioning of a Mechanism for cooperation and verification (CVM) as a preliminary measure of support to Bulgaria in catching up with reforms. Similar mechanism was created in Romania. CVM exists already eleven years though Bulgaria's government is leading a lasting policy for its closure.

CVM functions through the preparation of assessments and official reports of the Commission that are based on careful analysis and monitoring accompanied by permanent dialog between Bulgarian authorities and services of the Commission. For the preparation of the reports are also contributing the contacts with other member states, civil society, international organizations, independent experts and various other sources. The Commission regularly reports on the progress.

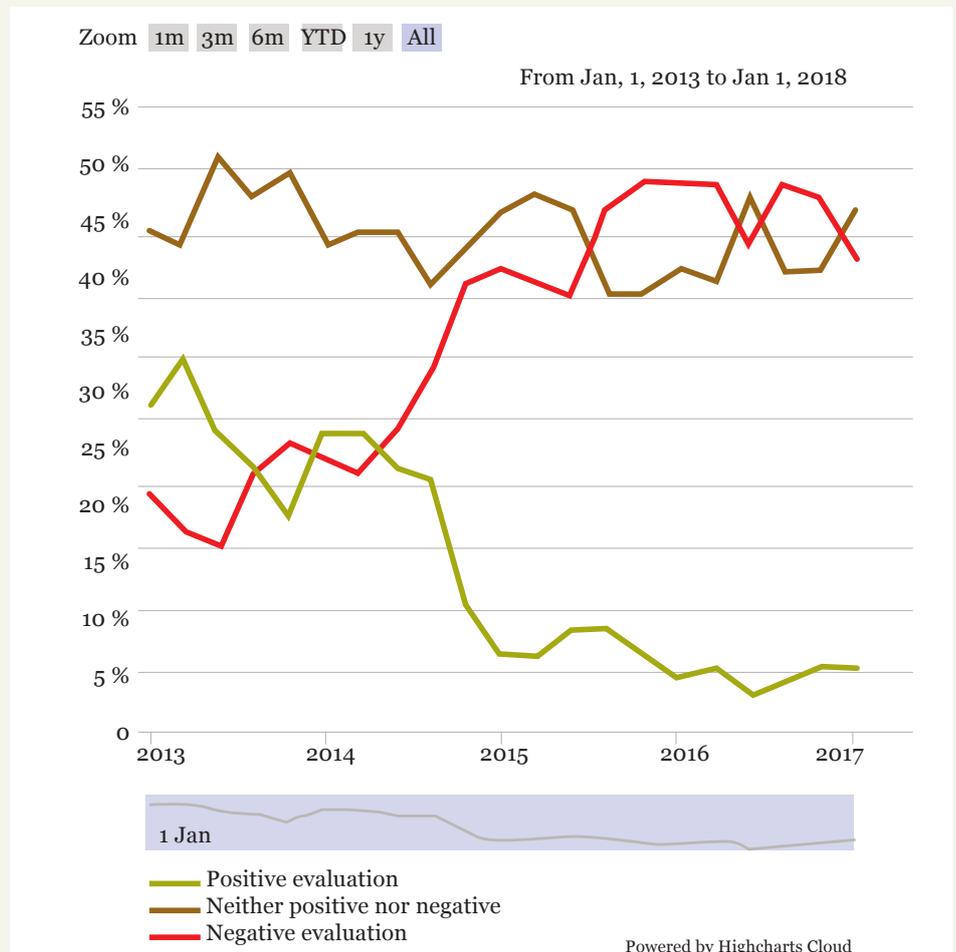
The first report was published on June 27th, 2007. The reports consist of an assessment and recommendations of the Commission towards Bulgarian and Romanian authorities.

The assessment is complemented by a working document of the Commission in which a detailed analysis is prepared for each of the indicators of CVM. Each report of the Commission, including its methodology and conclusions, is subsequently discussed and is always approved in the conclusions of the Council of Ministers.

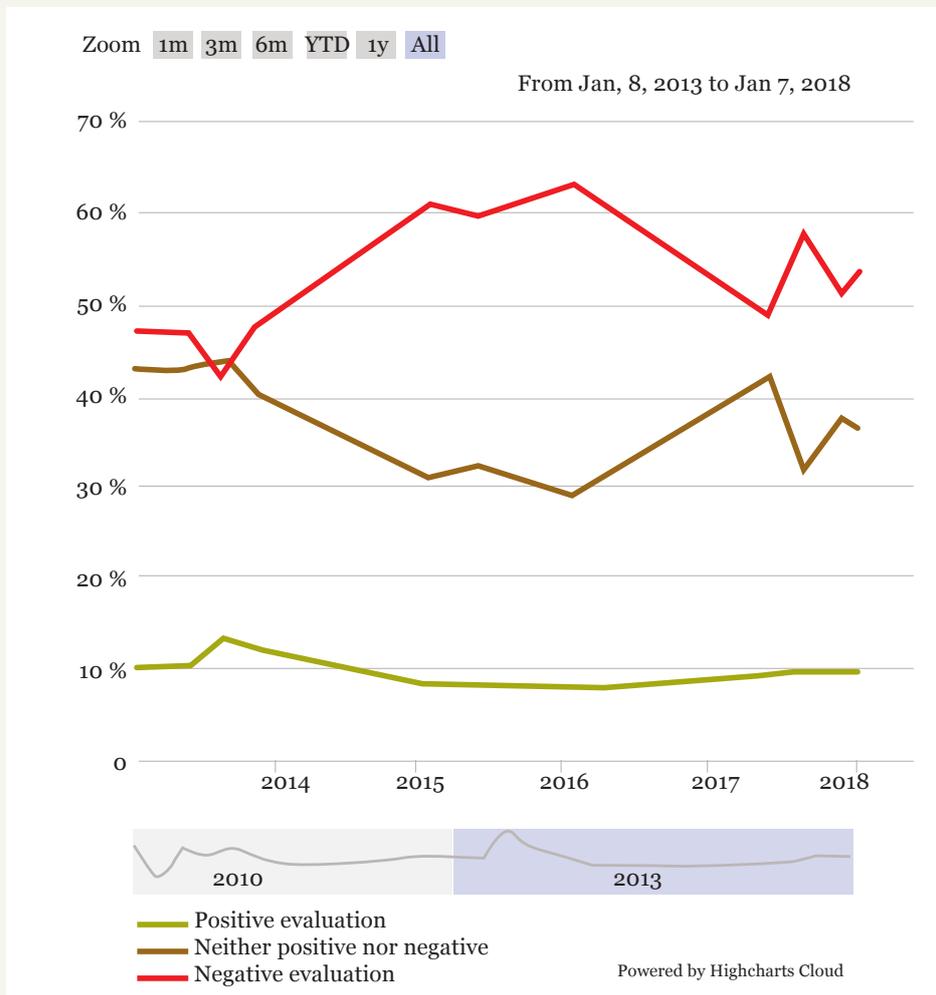
The indicators in the reports include the following topics: independence of judiciary, legislation, judiciary reform, high level corruption, corruption in general incl. on local level and at borders, organized crime. For each topic there are separate indicators as in the CVM report for 2017 these were 17 in number. The fact that CVM is not closed yet speaks by itself about the deficiencies of Bulgarian judiciary.

Similar is the assessment of society. The monitoring on political attitudes prepared by Alfa Research shows that for a five year period, society has not increased its trust in the court. The level stays at the lamentable 10%. Worse is the situation regarding the trust in the Prosecutor's Office expressed through evaluation of the trust in the Chief Prosecutor. Since 2013, more than two thirds of the citizens who previously supported his work, have now lost their confidence. Now the level of trust towards the Chief Prosecutor has also reached 10%.

Evaluation of the work of the Chief Prosecutor



Evaluation of the work of the Court



PART V. ANALYSIS OF ROUND WOOD CONSUMPTION IN BULGARIA AND ESTABLISHING THE AMOUNT OF ILLEGAL HARVESTING

Beyond the illegal logging directly identified by the bodies of the Ministry of Agriculture and Food, the Ministry of Interior, municipal administration and other control bodies remain those cases when the timber was harvested, but this act has remained unregistered.

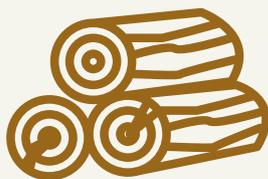
The amount of this illegally harvested wood can be determined on the basis of the actual used wood in Bulgaria. Unfortunately, systematized

public information about this usage is not available. Thus, the amount of illegally harvested timber should be sought as part of the balance of wood in Bulgaria.

In the income chapter of the annual timber balance should be included the following: the harvest of round wood from forest areas, the harvest of timber from agricultural and urban areas, the import of wood and the use of stocks that remained from the previous year.

In the expenditure chapter of the annual balance should be included the usage of wood by the population and domestic consumption companies, timber exports and formation of stocks for subsequent periods.

As long as the task of the report is to establish the average annual amount of illegally harvested timber in the period 2013-2017 on both sides of the balance sheet, stocks from previous and subsequent years can be excluded. For the needs of other analyzes, however, we can still point out that these stocks amount to roughly 1 million solid cubic meters. The Forest Biomass Energy National Action Plan 2018-2027 provides data on the stocks in the sites under Art. 206. By the end of 2015 they are 524 509 solid cubic meters. For 2016 they are 642 213 solid cubic meters. It gives an average of 583 336 solid cubic meters for both years.



6,305,503
SOLID CUBIC METERS
OF WOOD WERE
PURCHASED IN 2017.

From the National Representative Survey of Alfa Research for the purchase and use of firewood for 2017, it was found that for usage in households were purchased 6,305,503 solid cubic meters in 2017. From these, only 5,926,541 solid cubic meters have been used. This speaks of the formation of a firewood stock for 2018 of at least 378,993 solid cubic meters. As long as there is no information on the stock of construction timber owned by the population, we can say that at least 962 359 solid cubic meters wood is transferred annually from the current one for the following year.

1. Harvest of wood from forest territories

According to the Report for harvested wood of the Executive Forest Agency, for the period 2013 – 2017 were harvested 34 010 223 solid cubic meters, which gives an average of about 6 802 045 solid cubic meters of wood annually.

	Large construction timber	Middle-size construction timber	Small construction timber	Firewood	Twigs	Total harvest of wood – lying wood amounts
2017	1238104	981902	140882	4565264	10524	6936676
2016	1341052	1091435	157080	4445393	10803	7045763
2015	1478755	1143941	151287	4248377	17933	7040293
2014	1311405	969170	149334	3742757	18291	6191957
2013	1425444	1104818	184532	4059096	21644	6795534

2. Harvest of wood from non-forest territories

The Forest Biomass Energy National Action Plan 2018-2027, adopted by the Ministry of Agriculture and Forestry, provides an expert assessment of the harvesting of wood / primary firewood / from areas outside the forest areas, i.e. agricultural lands, river beds, water bodies, roads, ducts, parks, streets and other urbanized areas, as well as other cases of harvest carried out under the Law on Preservation of Agricultural Property, the Water Act, the Road Act, etc. This assessment is not included in the report for the harvested wood from forest areas. The assessment is for 300 000 solid cubic meters of harvested wood per year. As long as we do not have other data, we will trust the state administration's assessment for the purposes of the current balance sheet.

3. Import of wood

According to the National Statistics Institute Foreign Trade Information System, references to the combined nomenclature, for the period 2013-2017 in Bulgaria have been imported 264 462 129 kg of untreated wood (product nomenclature 4401 and 4403). This speaks of 52 892 426 kg average annual import. In order to be able to use the same measurement units in the balance, this amount converts it into solid cubic meters of wood with an average density of 875 kg for cubic meter (using Annex 8 of Ordinance No. 1 of 30 January 2012 on the control and protection of forest areas). Thus the average annual import of raw wood for the five years appears to be 60 448 cubic meters.

	2013	2014	2015	2016	2017	общо
4401 Combustion wood in the form of logs, billets, branches, bundles or similar forms; lumber of tiles or particles; sawdust, waste and scrap, whether or not agglomerated in the form of blocks, briquettes, pellets or similar forms, in cubic meters.	17670	26663	57755	71039	41749	214876
4403 Unprocessed wood, incl. stripped of bark or sapwood, roughly shaped as two-sided or four-sided, squared or rectangular (excl. roughly squared wood for walking sticks, umbrellas, tool handles) in cubic meters.	33426	25153	11511	9298	7979	87366
Total in cubic meters	51096	51816	69266	80336	49728	302242

For the expenditure part of the balance sheet, data on wood exports, firewood consumption and the largest users of technological wood is available.

3. Export of wood

According to the National Statistics Institute Foreign Trade Information System, references to the combined nomenclature for the period 2013-2017, from Bulgaria were exported 4 032 963 792 kg of untreated wood (product nomenclature 4401 and 4403) or 806 592 758 kg average annual export. In order to be able to use the same measurement units in the balance, this amount converts into solid cubic meters of wood with an average density of 875 kg / cubic meter (using Annex 8 of Ordinance No. 1 of 30 January 2012 on the control and protection of forest areas) or the average annual export of raw wood for the five years is 921 820 solid cubic meters.

	2013	2014	2015	2016	2017	Общо
4401 Combustion wood in the form of logs, billets, branches, bundles or similar forms; lumber of tiles or particles; sawdust, waste and scrap, whether or not agglomerated in the form of blocks, briquettes, pellets or similar forms, in cubic meters.	539771	823624	746007	472649	591887	3173938
4403 Unprocessed wood, incl. stripped of bark or sapwood, roughly shaped as two-sided or four-sided, squared or rectangular (excl. roughly squared wood for walking sticks, umbrellas, tool handles) in cubic meters.	282170	564461	228731	185073	174729	1435163
Total	821941	1388085	974737	657722	766616	4609101

4. Usage of firewood

The consumption of firewood by the population is the largest segment in the wood balance sheet. There is no direct data for this segment.

In the report „Analysis of illegal logging in Bulgaria for the period 2006-2013“ for the use of firewood by the population is indicated:

- According to the data of the National Statistics Institute, the average consumption for 3 006 376 households in Bulgaria is 2.7 spatial cubic meters or a total of 8 117 215 spatial cubic meters (3 755 000 solid cubic meters).
- According to data from the national representative surveys of „Mediana“ for 2010-2011, a total of 1.5 million Bulgarian households were using an average of 8.1 cubic meters of firewood per year or a total of 12 150 000 spatial cubic meters (5 589 000 solid cubic meters).

In the Forest Biomass Energy National Action Plan 2018-2027 adopted by the Ministry of Agriculture and Forestry, for the use of firewood by the population is indicated:

- It can be seen from the data that the quantities purchased have increased, as in the last two years of the analysis period (2015 and 2016) around 3,86 to 4,01 cubic meters per household is the estimated quantity. Typically, firewood is purchased per spatial cubic meter. Thus if we assume that there are currently around 3,000,000 households in Bulgaria (as of February 1, 2011, the population in the Republic of Bulgaria lives in 3,006,376 households - ordinary and collective; three-quarters (73.3%) of all households live in cities), it would be estimated that they would need to consume an average of about 12 million spatial cubic meters of firewood. It is

obvious that the purchased and reported quantities of wood per 100 households cannot directly be extrapolated to all existing ones in the country, even more so that urban households predominate. That is why we will comment on the expert information provided by the Executive Forest Agency and namely: according to the data by the National Statistics Institute related to the population census carried out in 2011, the established number of households in Bulgaria is 3 006 376. The households have an average of 2.4 members in them. The occupied lodgings by these households are almost unchanged for the last three censuses and these are 1,913,496 in 2011. These inhabited lodgings are heated by a variety of sources. The largest share of 53.9% are heated by wood and coal (there is no available data for wood and for coal separately, but only combined). Thus, just over 1 million homes are heated with wood and coal. Excluding regions with advanced coal mining such as the Pernik, Kyustendil, Bobovdol basin, Marishki basin and others, which are predominantly coal-fired, it can be assumed that no more than 700,000 dwellings are predominantly heated with firewood. In the case that for a home the normal winter expenditure is within 8 cubic meters, we should assume a normal annual cost of firewood within 5.6 million spatial cubic meters or below 3 million solid cubic meters per year for the whole country. Survey data made by state-owned forest enterprises for the consumption of households supplied with firewood from their territorial units shows an average household expenditure for the winter season of 6 spatial cubic meters. That is, if we assume that about 1 million households are heated with wood, the same result is obtained of about 3 million solid cubic meters per year.

A problem that we can find in this expert opinion of the Executive Forest Agency is the data about the lodgings - 1 913 496, which are actually the lodgings only in the cities. In the villages there are additional 753 237 lodgings.

As we can see, estimates of the use of firewood by households differ dramatically. To be able to make permissible comparisons, we will use a coefficient for converting the volumes of wood from spatial to solid cubic meters of 0.6 as stated in Annex 7 of Ordinance 1 / 2012. The state's estimate is from 3 million solid cubic meters to 7.2 million solid cubic meters (including coal). The assessment of the previous WWF report is for annual use of 4.87 to 7.29 million solid cubic meters.

A new national representative survey on the use of household firewood by Alpha Research has been carried out for the need of this study. Its results show that 41.6% of households used wood for heating in 2017, using an average of 7.9 spatial cubic meters during the year. 40.8% of the households purchased firewood in 2017 with an average of 8.57 spatial cubic meters per household.

Regarding the distribution of the use, the study shows that the consumption of firewood increases with the decrease in the size of the settlements:

		How many cubic meters of wood did your household use in 2017?			
		Up to 5 cubic meters Row %	6-7 cubic meters Row %	Over 11 cubic meters Row %	We do not use firewood Row %
Type of settlement	Sofia (capital)		1,0 %		99,0 %
	Administrative town center	13,9 %	9,7 %	1,9 %	74,5 %
	Small town	16,8 %	30,7 %	5,4 %	47,0 %
	Village	38,4 %	34,5 %	13,2 %	14,0 %

The study confirms that firewood is predominantly used by people with lower incomes.

		How many cubic meters of wood did your household use in 2017?			
		Up to 5 cubic meters Row %	6-7 cubic meters Row %	Over 11 cubic meters Row %	We do not use firewood Row %
Average monthly income per household member	No answer		29,6 %	7,4 %	63,0 %
	Up to 300 BGN	25,3 %	23,2 %	7,2 %	44,3 %
	301 – 800 BGN	15,9 %	16,8 %	3,9 %	63,4 %
	Over 801 BGN	2,7 %	2,7 %	2,7 %	91,9 %

Other common conclusions that we can make from this data is that the usage of firewood is bigger for older people, people with lower education, households that are larger in members, pensioners, unemployed people or workers that are occupied with manual physical labor.

From this survey we can point out using the data on the number of households from the national census in 2011, that in 2017 the population has purchased 6.31 million solid cubic meters of wood and has used 5.93 million solid cubic meters of firewood. Considering that there is missing information on the stocks available at the beginning of the year, for the needs of the analysis we will use the data for the consumed wood of 5.93 million cubic meters.

If we follow the method of the Executive Forest Agency using the data on the occupied lodgings and the data on the consumption of wood of Alpha Research by type of settlements, we will find a consumption of 5 613 131 solid cubic meters, which is very close to the 5.93 million found only by the sociological survey.

Type of settlement	Occupied lodgings according to the national census in 2011	% of households using firewood	Number of lodgings using firewood
Capital	464865	1	4649
Administrative town center	897891	25,5	228962
Other town	571340	53	302810
Village	753237	86	647784
Total amount of lodgings using firewood			1184205
Total amount of firewood used in lodgings in solid cubic meters			5613131

If we use the National Statistics Institute data on the consumption of wood by the population, we establish a double increase in the consumption of wood for the observed period - from 4.04 million solid cubic meters to 8.25 million solid cubic meters. Such doubling is difficult to be explained, but if we take the average usage of wood by households for the five years, it amounts to 6, 231 million solid cubic meters.

		2013	2014	2015	2016	2017
Wood for 100 households	Cubic meters	224,5	255,6	401	386,2	458,7
Total for Bulgaria	Spatial cubic meters	6735000	7668000	12030000	11586000	13761000
Total for Bulgaria	Solid cubic meters	4041000	4600800	7218000	6951600	8256600

3. Usage of wood by big consumers

After the use of firewood, the next largest consumer of wood is the 6 big industrial consumers - Mondi Stamboliyski EAD, Kronoshpan-Bulgaria EOOD with 2 plants in Bourgas and Veliko Tarnovo respectively and Kastamonu in Gorno Sahrane village, which produce respectively paper for bags, chipboard and OSB. Large processors of deciduous technological wood in Bulgaria are: Svilosa-Svilocell EAD, Svishtov, Fazerles AD, Silistra; Velde Bulgaria, AD (formerly Lesoplast AD), Troyan, Kastamonu, Gorno Sahrane; „Kronospan“, Veliko Tarnovo - the former Woodworking-VT Plc factory, which produce pulp, WD, chipboard and plywood respectively. Using the data from The Forest Biomass Energy National Action Plan 2018-2027 and a survey on their consumption in 2017, we can say that for the period 2013-2017 they used an average of 1.7 million solid cubic meters of wood per year.

	Velde Bulgaria	Fazerles	Kronoshpan - Veliko Tarnovo	Kronospan - Burgas	Svilozha	Kastamonu	Mondi Stamboliyski	Total
2013	86009	125890	85225	284090	410513	201259	636850	1829836
2014	70797	125055	72245	228022	289749	247042	423561	1456471
2015	100506	72943	112380	308735	356869	345938	515902	1813273
2016	106772	104355	70881	352884	447757	286587	544862	1914098
2017	106772	104355	0	370331	383650	256128	352429	1573664
Total	470856	532598	340731	1544062	1888538	1336953	2473604	8587342

Data for Velde Bulgaria and Fazerles for 2017 was not available, thus the last known data was.

4. Consumption of wood for the furniture industry, construction and other purposes by the business and citizens

This is a consumption group for which there is no direct data. In order to be covered, a minimalistic estimate based on a percentage of the production of large and medium-sized construction timber can be used.

	Large construction timber	Medium-sized construction timber
2017	1238104	981902
2016	1341052	1091435
2015	1478755	1143941
2014	1311405	969170
2013	1425444	1104818
Total for the five years	6794760	5291266
Average annual harvest	1358952	1058253

Considering that some of the large timber (about 15%) is used by the six major producers, and about 28% of the harvested amount of large and medium-sized timber is turned into waste, for the purposes of this analysis we will assume that 55% (which is 1 330 000 solid cubic meters) of the harvested large and medium-size wood is of unreported usage.

This figure is realistic considering that the average annual export of furniture of headings 9401, 9403, 9406 and 94.X is 722 thousand tons, and of wood particles and products of headings 4404, 4406, 4407, 4409, 4415, 4416 and 4421 is 265 thousand tons.

Balance of the usage of wood

Using the foregoing timber balance data, we can indicate that for the period 2013-2017, the amount of illegal logging compared to the 2006-2012 period has been kept and amounts at 2.4 to 2.7 million solid cubic meters.

	Average for 2013-2017 In solid cubic meters
Revenue section	
Harvest of wood from forest territories	6 802 045
Harvest of wood from non-forest territories	300 000
Import of wood	60 448
Total revenue	7 162 493
Expenditure section	
Export of wood	921 820
Usage of wood for heating / firewood	5 613 131/5 926 541
Usage of wood by the six big industrial consumers	1 713 241
Usage for furniture, construction and other business and private purposes	1 330 000
Total expenditure	9 578 192/9 891 602
Illegaly harvested wood	2 415 699/2 729 109

If in the Balance we use the data from the National Statistics Institute for the usage of firewood in the past five years, the amount of illegally harvested timber reaches 3 016 168 solid cubic meters.

PART VI. CONCLUSIONS AND FORECASTS

The amount of illegally harvested wood has remained the same or increased slightly over the past period.

It continues to be between 1/4 and 1/3 of the amount of the officially harvested wood and generates nearly 150 million BGN for those implementing the illegal harvest.

The state forestry administration has taken significant steps during the past five years to create legal, organizational, staff and technical prerequisites to reduce illegal logging. Steps are in the right direction and go beyond previous years, but unfortunately they cannot address effectively the existing background and internal factors in the system.



**ILLEGALLY
HARVESTED WOOD
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Over the past period, we have increased the usage of wood at national level and the usage from state forests. Thus, the necessity of control has increased. At the same time the number of employees in the sector of control over illegal logging has decreased. As a result, despite the bigger efficiency of their work, it cannot positively affect the amount of illegal logging.

The state budget continues to keep the negative tendency of reduction of the resources for forest conservation and control.

Administrative and criminal measures do not lead to fairness – the collection of fines and penalties continues to be 15%, making them practically meaningless.

The external environment has a negative impact on the amount of illegal logging. Over the past period, the share of persistently poor households has increased in Bulgaria, as the increase is in groups using firewood – people living in small towns and villages, people with low income and people with primary or no education at all. The price of firewood is increasing together with an increase in the share of household expenses, including other components such as electricity, water and telecommunication services. This situation further exacerbates the use of illegally harvested timber by the poorest households.

Illegal harvesting allows unfair competition by lowering the cost of the resource, which has led to a significant increase in exports of round and shredded timber. The Bulgarian forest has become an energy source for the households in Turkey, Greece and Northern Macedonia.

Large wood users invest in new production capacities that will increase their consumption in the next five years by about 65%. The state supports the policy for increase of the usage of forest biomass for energy production, incl. for electricity.

External control mechanisms on extraction and trade of illegally harvested timber are weak. Regardless of the high interest in the subject, citizens are not actively involved in the process of stopping illegal logging. Non-governmental organizations interested in the topic are few, weak and uncertain because of the global process of donation reduction that has also affected Bulgaria. Media shows no lasting interest in the subject and their level of freedom is in a continuous process of reduction. The judicial system suffers from chronic problems and no significant steps to overcome them have been taken.

FROM THE ANALYSIS UP TO NOW, WE CAN PREDICT THAT, IN THE ABSENCE OF RAPID AND MEANINGFUL STEPS TO REMOVE THE CONDITIONS FOR ILLEGAL LOGGING, AN INCREASE IN THE QUANTITY OF ILLEGALLY HARVESTED TIMBER IN BULGARIA WILL REACH ONE-HALF OF THE AMOUNT OF THE LEGAL HARVEST.

PART VII. PROPOSALS TO REDUCE THE LEVEL OF ILLEGALLY HARVESTED TIMBER

Organizational measures

- The Executive Forest Agency together with all stakeholders shall identify key indicators reflecting all factors that influence illegal logging. They shall also identify key indicators for the effectiveness of control activities. The identified indicators shall be monitored annually and the results shall be published in a stand-alone report;
 - The Ministry of Agriculture, Food and Forests shall publish an annual balance of the round wood in Bulgaria.
- The Ministry of Agriculture, Food and Forests and municipalities shall take measures to limit the opportunities for harvest of „standing wood“ in order to divide the process of extraction from the process of trade of timber;
 - Measures shall be taken to increase transparency and competition in the processes of contracting, actual harvesting and trading of timber and timber products in order to effectively combat the gray business sector in forests. The measures can include wider usage of electronic auctions for timber harvest from state and municipal forests;
 - The process of establishment of a single electronic system to process information on the planning, marking, use, certification, dispatching and processing of timber shall be accelerated. The information shall be made public in order to create opportunities for control by the civil society;
 - The Executive Forest Agency shall accelerate the process of introducing the national inventory and independent control on the data in this inventory;
 - State-owned enterprises shall shorten the supply chain of firewood for the population by increasing their share of direct delivery to the households or private business warehouses in the settlements with high consumption.

Legislative and policy measures

- The state shall separate the Forestry Executive Agency as an independent control body to the Ministry of Agriculture, Food and Forestry, which is responsible for the economic activities in state forests;
- The funding for the Forestry Executive Agency shall be increased;
- The harvest and sale of firewood and technological wood shall be paid at prices in a unified unit of measurement throughout the entire chain from the extraction to the final customer. It is needed in order to avoid errors and manipulations when switching from one unit of measurement to another;
- Suspension of the policies for encouragement of the development of new forestry uses, incl. for the production of electricity from wood;
- Increase of the collection of penal provisions for forest violations, incl. through changes in the legal framework. Changes in the laws are necessary also in regard to the number and amount of administrative penal provisions;
- Simplifying and reducing the number of administrative and penal provisions in the forestry legislation;

- Simplifying and reducing the number of regulations governing forestry activities in forests;
- Continuing the process of certification of all operators in the chain of forest management, timber processing and consumption.

Investments in the personnel

- Increase in the number of personnel in the Ministry of Agriculture, Food and Forestry and state-owned enterprises, engaged only in the control and protection of forests.
- Enhancement of the qualifications of the forest inspectors;
- Enhancement of the requirements for qualification and liability of foresters on key positions (illegal activities in forests are hard to be implemented without the knowledge and participation of foresters on such key positions);
- Raising the salaries of forest inspectors.

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WWF in numbers

OVER BGN 150 MLN

By illegal logging of timber the grey sector in forestry generates hidden revenue of over BGN 150 million per year.

2,7 MLN CUBIC METERS

Annual volume of illegal logging is between 2.5 and 2.7 million cubic meters.



4,01 m³

There is an increase in the use of firewood - 3,86-4,01 m³ per household.

15%

The collectibility of fines and penalties remains only 15%.



Why we are here?

To stop the degradation of the planet's environment and to build a future in which humans live in harmony with nature.

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