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## Adaptation of the administrative structure of the General Directorate of Forestry and some forestry legislation to the Turkish emissions trading system

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**Abstract:** This study was prepared for the purpose of updating the administrative structure of the General Directorate of Forestry and Turkey's forestry legislation on emission trading system. Studies devoted to the establishment of emission trading system after 2015 are still ongoing in Turkey. Besides, certificated carbon credits can be achieved from forestry projects prepared for carbon markets. Thus, forest ecosystems composing the unique sink sector, occupy an important place according to Turkey's national greenhouse gas inventory. In order to be a member of the emission trading system after 2015, General Directorate of Forestry needs to make some changes in its administrative structure and legislation. According to the results of the study, the Division for Climate Change was proposed to deal with climate change issues effectively. Also, it was to make amendments in Article 169 of 1982 Constitution, in Forestry Law No. 6831 and in Law No. 3234 about the Adoption of the Decree Law on the Organization and Obligations of the General Directorate of Forestry Upon Being Amended.

**Keywords:** Climate change, Forestry legislation, General Directorate of Forestry, Turkish Emissions trading system

## Orman Genel Müdürlüğü idari yapısının ve bazı ormancılık mevzuatının Türkiye'de emisyon ticaret sistemine uyumu

**Özet:** Bu çalışma, Orman Genel Müdürlüğü idari yapısının ve Türkiye ormancılık mevzuatının emisyon ticaret sistemine yönelik güncellenmesi amacıyla hazırlanmıştır. Türkiye'de, 2015 yılı sonrasında emisyon ticaret sisteminin kurulmasına yönelik çalışmalar devam etmektedir. Bunun yanında, karbon piyasalarına yönelik hazırlanan ormancılık projelerinden sertifikalı karbon kredileri elde edilebilmektedir. Türkiye'nin ulusal sera gazı envanterine göre tek yutak alanlarını oluşturan orman ekosistemleri bu nedenle önemli bir yere sahiptir. Orman Genel Müdürlüğü'nün ileriki dönemde karbon piyasalarına girebilmesi için idari yapısında ve mevzuatında bazı değişiklikler yapması gerekmektedir. Çalışma sonucuna göre, idari olarak İklim Değişikliği Şube Müdürlüğü'nün kurulması ve mevzuat açısından da 1982 Anayasası'nın 169. maddesinde, 6831 Sayılı Orman Kanunu'nda ve 3234 Sayılı Orman Genel Müdürlüğü Teşkilat ve Görevleri Hakkında Kanun Hükmünde Kararnamenin Değiştirilerek Kabulü Hakkında Kanun'da değişikliklerin yapılması önerilmiştir.

**Anahtar kelimeler:** İklim değişikliği, Ormancılık mevzuatı, Orman Genel Müdürlüğü, Türkiye emisyon ticaret sistemi

### 1. Introduction

United Nations Framework Convention on Climate Change (UNFCCC) was the most important step for tackling with climate change. UNFCCC was signed in Rio at the UN Environment and Development Summit held on June 3-14, 1992. UNFCCC entered into force on 21 March 1994. Currently, UNFCCC has 196 Parties (UNFCCC, 2012a). Turkey joined UNFCCC on May 24, 2004.

In order to strengthen UNFCCC, the Kyoto Protocol (KP) was adopted on December 11, 1997. KP entered into force on February 16, 2005. The European Union and 191 Parties have ratified KP. KP has the goal to reduce GHG emissions, which were not controlled by the Montreal Protocol, by 5.2% compared to 1990 (Im, 2007; OG, 1990; UNFCCC, 2012b; 2012c). Turkey ratified KP on August 26, 2009.

KP defined 3 Flexibility Mechanisms in order to achieve GHG reduction and limitation targets. Flexibility Mechanisms are;

- Joint Implementation-JI,
- Clean Development Mechanism-CDM and
- Emissions Trading (UNFCCC, 1998).

Emission trading is regulated by Article 17 of the Protocol and Annex B Parties of the Protocol may participate in emissions trading in order to fulfill their commitments under Article 3 of the Protocol (UNFCCC, 1998). A country, company or an individual unable to meet greenhouse gas reduction commitments legally, may purchase carbon credits or emission allowances from a country, company or an individual that has achieved more than expected emission reduction targets. In this context, it is noted that countries make some changes in their forestry policies, ecological and economic practices in order to be a participant in carbon markets also known as "carbon trading", "emissions trading" or "carbon exchange" (Bayramoğlu and Toksoy, 2010).

Within that context, it was planned to establish a carbon market in Turkey as per the National Action Plan on

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Climate Change (NCCAP) (MoEU, 2011); the Strategy and Action Plan of Istanbul International Financial Center (SPO, 2009) and the Energy Efficiency Strategy Document (2012-2023) (MoENR, 2012). As a consequence of international negotiations, carbon became a tradable commodity. Therefore, new revenues can be gained from forestry projects which will be developed according to carbon market rules. In light of these developments, trading of carbon credits obtained from the forestry projects has been started in carbon markets.

General Directorate of Forestry (GDF), which carries out forestry activities such as afforestation, reforestation, rehabilitation of degraded forests, erosion and flood control, prevention of avalanches and landslides and range improvements, provides an increasing trend of carbon sequestration service every year. With the forestry activities mentioned above, the amount of sequestered and stored carbon has increased as well as forest area, growing stock and annual increment (UNFCCC, 2013).

According to the inventory, forest area was 20,199,296 ha in 1972, and reached 21,678,134.50 ha in 2012. Again, in 1972, growing stock was 935,512.150 m<sup>3</sup> and annual increment was 28,063.205 m<sup>3</sup>. Growing stock has increased to 1,494,454.538 m<sup>3</sup> and annual increment has increased to 42,179,115 m<sup>3</sup> in 2012 (GDF, 2012). Also the amount of carbon sequestered and stored in forest ecosystems has increased between 1990 and 2011. The amount of carbon stored in forest ecosystems was 44,870,573.05 tCO<sub>2</sub>e in 1990 and reached 61,795,588.07 tCO<sub>2</sub>e in 2011 (UNFCCC, 2013).

Carbon sequestration, carbon storage and removal units can provide new revenues to GDF. Therefore, GDF and the forestry sector should be included in Turkey's emission trading system. In this context, changes should be performed in the administrative structure of GDF and some updates must be done in forestry legislation.

## **2. New administrative structure proposal for the general directorate of forestry**

Climate change related issues are coordinated by Land Use, Land Use Change and Forestry (LULUCF) Working Group and Sink Areas and Climate Change Expert Group, established under Foreign Relations, Training and Research Department of GDF. LULUCF Working Group is also the coordinator of LULUCF sector under Climate Change and Air Management Coordination Board of Turkey (CCAMCB). Especially, LULUCF part of National Inventory Report (NIR) has been prepared by these working and expert groups. This is the main responsibility under UNFCCC.

In order to enhance the capacity of these groups and coordinate climate change issues more legally and effectively, we propose to combine two groups and establish a climate change division. With the climate change division, the staff of the division will only focus on climate change issues and mission and vision of the division will be defined. With the climate change division, international negotiations will be followed effectively, the staff will participate in climate related projects, management, monitoring, the reporting of National Climate Change Action Plan will be more accurate and the studies about carbon markets, the estimation of GHG inventory and the

preparation of NIR will be more systematical. The staff of the climate change division will also be the member of the Designated National Authority (DNA) or Designated Focal Point (DFP).

## **3. Amendments in forestry legislation with regard to the emissions trading system in turkey**

When the emission trading systems where the credits obtained from the projects are processed are looked into, especially in New Zealand Emission Trading System (NZ ETS), that the forest areas are divided into two different statuses as post-1989 forests and pre-1990 forests. Here, the year 1990, when New Zealand committed emission reduction as part of KP, is taken as a reference (NZ ETS, 2013).

After the establishment of the emission trading system in Turkey, the implementations of the project improved for forestry legislation and carbon markets may differ according to the year taken as reference in order to determine the reference emission levels. For instance, for the forestry projects, the years 2016 when the industrial installations will report for the greenhouse gas emission in 2015, or 2021 when the new climate layout will begin may be taken as reference. In this context, areas considered as forests before 2016 or 2021 will continue to be managed as per the existing legislation. In these forests, annual greenhouse gas inventories will continue to be prepared as before; however, these forests cannot generate credits for carbon markets as they will have been established before the commitment period. On the other hand, carbon credits may be generated from forestry projects which will be developed after 2015 or 2020. Carbon credits obtained from forestry sector may be used in order to fulfill the Quantified Economy-Wide Emissions Reduction Targets (QEERTs) in Turkey after 2020.

Greenhouse gas amounts suspended in the projects should be accounted as CO<sub>2</sub>e. As per the Voluntary Carbon Market Project Registration Notice (RG, 2013), projects should be verified by independent designated operational organizations (DOEs) which hold the certificate of authority accredited by Turkish Accreditation Agency (TURKAK) and should be turned into certificated carbon credits by voluntary carbon standard organizations.

Projects should be evaluated not only within the context of carbon markets but also within the framework of combating climate change, supporting rural development, creating social, environmental and economic value. In this respect, additional benefits of the projects improved for forestry are not limited to carbon storage. As it is understood here, GDF will continue to conduct existing studies by legislation amendments so as to integrate with carbon markets.

In Turkey, since the forest areas are State owned, forest studies conducted by GDF are financed with a working capital fund and a special budget. Within this context, there will not be any additional cost for the existing forest activities conducted annually. It will be a great advantage that the costs of the preparation, registration, implementation, and monitoring and verification procedures of the projects improved for carbon markets by GDF are covered by the government. However, this will cause additional problems for the projects. Nevertheless, the

opportunity of obtaining carbon credits will come up when forestry legislation is regulated as per carbon markets by conceptualizing the annual activities according to the voluntary carbon standards. Due to the fact that certificated carbon credits are traded in the markets, GDF will have extra income.

Providing incentives such as giving government assistance as in the field of renewable energy, assigning a land for forests to be established or covering some of the costs will affect the increase of the number of the projects related with this field. By making land consolidation, highly inclined agricultural lands and abandoned agricultural lands should be integrated, and these lands should be provided in order to be transformed into forest lands with the support and incentives given to the owners of these lands or investor-private sector. Only then private forestry will be promoted in addition to the state forestry.

Private forests are planned by GDF or a firm designated by GDF; however, the right of use of these fields belongs to the private sector. In this context, where requested, the private sector may use its land for agricultural or settlement purposes. In an owned land, when it is a matter of land use other than forest land, there will not be any land annulment suits filed for the land to remain as a forest and annulment processes cannot be performed. However, for private forest land to carry on being used as forest, free carbon credits may be allocated to private forest owners by the State. New Zealand ETS applied a similar practice for forests, especially in pre-1990 forest lands (BUDDLEFINDLAY, 2010). In pre-1990 forest lands, 60 NZU/ha was given to forest owners who bought forest lands before November 1, 2002 while 39 NZU/ha was given to the others who bought forest lands after that date (NZ ETS, 2013). With this incentive, the amount of carbon credit that private forest owners obtain increased and so they had the opportunity of earning further income from carbon markets.

CO<sub>2</sub> emissions caused by deforestation must be calculated and reported, and carbon value and values of other benefits that forest ecosystem provides must be paid to GDF insofar as possible. For CO<sub>2</sub> emissions generated as a result of the production activities of wood and non-wood forest products, there will not be a payment (Jiang et.al., 2009).

With the legislation amendments, those who hold the carbon rights in consequence of the implementation of the projects should be identified clearly. In this context, carbon rights obtained from projects improved in State forests, in lands that belong to the Treasury and in private owned lands, and income obtained from the trade of carbon rights/carbon credits will belong to project developers. As it is understood, there will not be any changes in land ownership; it is just carbon rights that are subject to trade.

Legislation amendments must be done so as not to enable State forests to be corporatized. In addition, if the payment is not made after the commercial operation, judicial proceeding of forest lands should be prevented and different solutions for debt collection should be defined. These issues should be settled in the agreements made.

The transaction of certified carbon credits obtained from forestry projects will be provided by the Emission Reduction Purchase Agreement (ERPA), which is held between the purchasers and vendors, and includes type of emission reduction credit, loan amount, cost per unit,

payment conditions, and cost of operations, taxes and risk conditions. ERPA should be prepared according to the context of each project in a manner that there is no legal loophole, and it cannot be terminated unilaterally. In this respect, GDF has to prepare ERPAs.

Some of the certified credits should be insured in order to compensate for any disruptions which may occur in the implementation process of other projects. Forest ecosystems are vulnerable to wildfires, pests and fungus diseases, etc. Therefore, the continuity of carbon credits obtained from forestry sector, which is often discussed in international negotiations, is important. In this respect, insuring the certificates is also important for the continuity of other projects. It is necessary that the amount of carbon credits to be insured is included in ERPAs.

GDF needs to be a member of Borsa İstanbul (BIST) and the carbon market that will be established to be active in Borsa İstanbul, so that it can trade carbon credits.

Forestry legislation varies since the goods and services, and activity areas of GDF are broader and comprehensive. In their studies "Afforestation Carbon", Ülgen and Güneş (2013) mentioned about the existing condition in the framework of legal principles of Turkey's getting into forest carbon markets as well as existing legal loopholes. In this context, necessary arrangements for forestry legislation concerning emission trade system, planned to be established in Turkey in the years ahead, are mentioned below. Respective alteration suggestions are prepared in a way so that they are directly included into the legislation as articles or paragraphs.

### 3.1. Amendments in article 169 of 1982 constitution

Article 169 of 1982 Constitution Act covers the protection and improvement of forests. Here, there should be arrangements related to the transfer of goods and services produced from forest lands, and leaving forests established in the scope of carbon forestry out from the general forest lands. In this context, we would like to make the following proposal:

"State forests' property cannot be transferred. However, *the right of use for all kinds of goods and services can be transferred*. According to the State Forest Law, forests are managed and operated by the State. These forests are not acquired by usucaption and cannot be subject to easement for reasons other than public benefit. Private carbon forests and carbon forests that belong to public utility institutions with legal personality can be converted to other land uses."

### 3.2. Amendments in Forestry Law No.6831

The definition of forest lands is made in Article 1 of Forestry Law No. 6831. In this Article, while non-forest lands are defined in detail, forest lands are defined as "*areas with trees or shrubs which grow naturally or by the help of human hand*" (GDF, 1956). Here, the definition for forest lands is rather broad. There is no evaluation on the criteria concerning forest lands such as biomass and closure. With the arrangements, clause A of Article 1 will define forest lands, clause B will define other wooded lands and clause C will define non-forest lands and clause D will define other land with tree cover.

In recent years, in parallel with the developments in international arena concerning environment, Turkey has become party to agreements such as UNFCCC, Convention on Biological Diversity (CBD), Convention on Long-Range Transboundary Air Pollution and Vienna Convention for the Protection of the Ozone Layer; and conducted studies and projects with international organizations and institutions such as FAO, UNDP and GEF.

UNFCCC and FAO put emphasis on forest definition in the studies conducted and improved definitions for forest lands in line with some criteria. Suggesting a definition according to the ones offered in guidelines prepared by voluntary carbon standard institutions, or improved by international institutions or organizations will increase the efficiency of the studies and projects related to the carbon markets. Forest definitions mentioned below seem appropriate for Turkey.

“(A) Forest is a minimum area of land of 0.05 hectares with tree crown cover (or equivalent stocking level) of more than 10 percent with trees with the potential to reach a minimum height of 5 m at maturity in situ. A forest may consist either of closed forest formations where trees of various storeys and undergrowth cover a high proportion of the ground or open forest. Young natural stands and all plantations which have yet to reach a crown density of more than 10 percent or a minimum tree height of 5 m are included under forest, as are areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention such as harvesting or natural causes, but which are expected to revert to forest.”

“(B) Land not classified as forest, spanning more than 0.5 hectares; with trees higher than 5 m and a canopy cover below 10 percent, or trees able to reach these thresholds in situ; or with a combined cover of shrubs, bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.”

“(C) All land that is not classified as “Forest” or “Other wooded land”.

“(D) Land classified as other land, spanning more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 m at maturity. Includes: groups of trees and scattered trees in agricultural landscapes, parks, gardens and around buildings, provided that the area, height and canopy cover criteria are met; includes tree plantations established mainly for other purposes than wood, such as fruit orchards.”

When the forest definition is changed, the smallest area for State and private forests will be 0.05 ha. New forest definition will bring up the renewal studies for inventory studies. According to the new forest definition, lands between 0.05 ha and 3 ha will be regarded as forest. However, forest lands in Turkey with closure of less than 10% will be defined as other wooded lands.

Article 2 of Forest Law No. 6831 regulates the conversion of forest lands to non-forest lands according to the sustainable development of forest villagers and due to the scientific facts. Amendments to be made in Article 2 concerning reserving forests of public utility institutions with legal personality and private forests established within the scope of carbon forestry for different intended purposes upon the will of their owners are as follows;

“(C) After the establishment of the Turkish Carbon Market, carbon forests of public utility institutions with

legal personality established within the scope of carbon market projects, and private carbon forests are regarded as non-forest lands upon the will of their owners for different intended purposes regardless of their quality as forests.

Since the forests established for carbon markets are regarded as carbon forests, carbon forest should be defined in Forest Law No. 6831. In this context, the expression; “(D) Carbon forests” should be added to the “in terms of features” section of article 4.

Necessary amendments developed as Article 26 under the section “VII. Carbon Forests” after the addition of “carbon forests” expression in Article 4 are proposed below. In new Article 26, carbon forest-related issues will be defined.

“(Article 26 – (A) After the establishment of Turkish Carbon Market, studies such as afforestation, erosion and flood control, preventing avalanches and landslides, range improvement and rehabilitation in State forests, in lands belonging to the Treasury and in private lands, are conducted in the context of carbon markets projects. The records of the projects are kept in related units of GDF and the Ministry of Environment and Urbanization.”

“(B) GDF divides, arranges, manages and runs (when necessary) the State forests which were established in order to suspend the greenhouse gases in the atmosphere, store carbon, and trade certified carbon credits. Management and operational rights of forests established in private lands and public utility institutions with legal personality belong to the owner of the land.”

“(C) In no case is it allowed to narrow down the borders of State forests established for carbon stocking and these forests cannot be assigned for different purposes. Private forests established in private lands and public utility institutions with legal personality can be assigned for different purposes at the will of the owner of the land.”

“(D) Management plans for carbon forests are done by GDF or a firm assigned by GDF. Within the scope of plan, necessary silviculture implementations are done in order to increase the carbon storage amount.”

“(E) During the project monitoring activities of carbon forests are conducted by the representatives of GDF, the Ministry of Environment and Urbanization, project developers, voluntary carbon standard institution and independent DOEs. GDF may provide service procurement for the monitoring activities from authorized forestry bureaus.”

“(F) Carbon forests are verified by independent DOEs which are accredited by TURKAK and authorized by the Ministry of Environment and Urbanization and are certified by voluntary carbon standard institutions.”

“(G) In State carbon forests, all costs generated by the activities such as preparation, implementation, monitoring, maintenance and verification of the project, including certification, are covered by GDF. Verification and certification costs of greenhouse gas mitigation obtained from forests established in private lands and public utility institutions with legal personality are covered by GDF, while other costs are covered by project developers.”

“(H) Certified carbon credits obtained from State carbon forests are made use of by GDF, while project developers have the run of certified carbon credits obtained from the carbon forests established in private lands and public utility institutions with legal personality.”

“(I) Projects organized in the context of the rehabilitation of burned areas and establishment of fire-resistant forests have been left out of the scope of this article.”

Article 30 determines the market selling procedures of the goods obtained from State forests. In this context, selling procedures of the certified carbon credits should also be defined. Amendments to be made in the Law are mentioned below:

“Sales of certified carbon credits and allowances obtained from State forests, which will be established upon the establishment of the carbon market in Turkey, are done according to the terms of agreement made between GDF and the receiving party; and to BIST market rules.”

In the 3<sup>rd</sup> paragraph of Forest Law No. 6831, which is on forests that belong to public utility institutions with legal personality, an arrangement on who will have the income obtained from trade of certified carbon rights and carbon rights originated from forests belonging to public utility institutions with legal personality should be made. In this context, necessary amendments to be made in this paragraph are as follows:

“Public utility institutions with legal personality, which will be founded within the framework of the project after the establishment of the Turkish Carbon Market, have the run of incomes obtained from carbon rights originated from forests belonging to public utility institutions with legal personality and the trade of certified carbon rights.”

In the 4<sup>th</sup> paragraph of Forest Law No. 6831, which is on private forests, arrangements on who will have the income obtained from trade of certified carbon rights and carbon rights originated from private forests established for carbon markets need to be made. In this context, necessary amendments to be made in this paragraph are as follows:

“Within the framework of the Project, the owner holds the rights for the carbon originated from private forests and the income obtained from the trade of certified carbon rights.”

Articles 57 to 67 of Forest Law No. 6831 determine the afforestation and public housing works. This section also needs to be amended in afforestation studies to be evaluated within the framework of carbon forestry. Therefore after the Article 63, such amendments should be made and defined in Article 64;

“Studies mentioned in the Articles 57, 58, 59 and 61 of the Law are fulfilled in the context of Article 26 (which is a new one that will define the carbon forests).

There is an arrangement in Article 111 of the Law related to the criminal action in protected forests reserved as national parks and protection forests. In the context of protecting carbon forests, the statement “carbon forests” is needed to be added to this article. Within this scope, necessary amendments to be made are as follows:

In places under forest regime as per Article 3 of the Law and in forests reserved as protection forests, national parks and carbon forests in accordance with Articles 23, 24, 25, and 26, people committing offense are judged twice as much.

### 3.3. Amendments in Law No. 3234 about the Adoption of the Decree Law on the Organization and Obligations of the General Directorate of Forestry

In the existing law, GDF has no responsibilities in determining the economic value of goods and services which have no markets, and conducting studies in the context of carbon markets. However, the importance of determining the economic value of non-market goods and services and carbon markets has increased. Therefore, it is essential to make necessary amendments in Law No. 3234 about the Adoption of the Decree Law on the Organization and Obligations of the General Directorate of Forestry.

GDF should be encouraged to work in this field by adding the statement “conducting necessary studies to determine the economic value of existing non-market goods and services which are generated by forest resources in Turkey; participating in markets established both at home and abroad by setting necessary technical and administrative structure; and marketing goods and services without markets at home and abroad via marketplaces such as carbon, water, and biodiversity” to Article 2, which is about the obligations of GDF.

In Article 33 of the Law, it is stated that all estates and assets, and existing forestry products which are provided from supplementary and working capital budget, and/or obtained legally and judicially are defined as State-owned and cannot be seized and sequestered. In this context, GDF’s carbon rights traded at Turkish Carbon Market and State forests from which the carbon rights are obtained are evaluated within the scope of Article 33.

GDF’s incomes are defined in Article 35, titled “Incomes”. Since there will be incomes obtained from the trade of carbon credits, an arrangement reading “incomes obtained from the trade and utilization of carbon credits” should be made in this article.

In addition to the legislation amendments mentioned above, Başsüllü (2014) stated other possible arrangements in National Afforestation and Erosion Control Mobilization Law No.4122, National Afforestation and Erosion Control Mobilization Regulation, Afforestation Regulation, Regulation on Actions and Activities on Private Forests and Forests of Public Utility Institutions with Legal Personality, Regulation on Establishment and Obligation of GDF Forestry Research Institutions, Private Afforestation Circular No.6912, Memorial Forest Afforestation Circular No.6853, GDF’s Strategic Plan, and GDF sustainable forest management criteria and indicators.

## 4. Conclusion

Emissions trading systems play a key role for combating climate change, integrating existing mechanisms to new market mechanisms, reducing or limiting the increasing trend of GHG emissions and financing new projects. In addition, new climate agreement will bring new opportunities for all countries. After 2020, Turkey may define quantified emission reduction targets and join market and non-market mechanisms. Therefore, developing and initiating an emission trading system which will be linked to other emissions trading systems around the world is vital for Turkey for meeting legal commitments.

Although LULUCF sector is the only sink sector for Turkey, the forestry legislation and the administrative structure are not ready for carbon markets. In this paper, the administrative structures of GDF and the forestry legislation were evaluated in the context of carbon markets and some amendment proposals were given. Firstly, a climate change division should be established for climate change related issues. Furthermore, it was proposed to make amendments in Article 169 of Constitution 1982, in Forestry Law No.6831 and in Law No. 3234 about the Adoption of the Decree Law on the Organization and Obligations of the General Directorate of Forestry.

As a consequence of the initiation of carbon markets and the implementation of forestry projects, some economic, social and environmental contributions occur for both the forestry sector and community (Landell-Mills and Porras, 2002). Due to the existence of economic, social and environmental contributions, the forestry sector should be included in the emission trading system of Turkey.

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