

Deliverable 4.3 Report on supporting international networks for forest management model alternatives

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Abbreviations used

BWI – Building and Wood Workers' International
CEI-BOIS – Confederation Européenne des Industries du Bois
CEPF – Confederation of European Forest Owners
CEPI – Confederation of European Paper Industries
CQR – Consensual Qualitative Research
COPA-COCEGA
DG – Directorate General
DG AGRI – Directorate General Agriculture and Rural Development
DG ENV – Directorate General Environment
DG ENTR – Directorate General Enterprise and Industry
DG CLIMA – Directorate General Climate action
DG DEV- CO – Directorate General Europe Aid Development and Cooperation
DG RTD – Directorate General Research and Innovation
DG SAN- CO – Directorate General Health and Consumers
JRC – Joint Research Centre
EBCD – European Bureau for Conservation & Development
EFI – European Forest Institute
ELO – European Landowner's Organization
EU – European Union
ESTAT – Eurostat
EUSTAFOR – European State Forest Association
EPF – European Panel Federation
FAP – Forest Action Plan
FECOF – Fédération Européenne des Communes Forestières
FEIC – European Federation of the plywood industry
FEP – Forest Economic Partnership
FSC – Forest Stewardship Council
FTP – Forest-based Sector Technology Platform
IFSA – International Forestry Students' Association
IFFA – International Family *Forestry* Alliance
IUCN – International Union for Conservation of Nature
IUFRO – International Union of Forest Research Organizations
MEA – Millennium Ecosystem Service Assessment
MEPs – Members of European Parliament
NGO – Non-governmental organization

UEF – Union of European Foresters

UNEP – United Nations Environmental Programme

UNFF – United Nations Forum on Forests

USSE – Union of Foresters of Southern Europe

PEFC – Programme for the Endorsement of Forest Certification Schemes

WP – Work Package

WWF – World Wide Fund For Nature



Summary

The report investigates which actors at European and international level could influence the implementation of alternative forest management models in Europe that have been developed and examined within ALTERFOR WP1 and WP3. The study examines which actors at European and international level are interested in forest management and ecosystem services provided by forests in Europe, which other interests those actors have particularly; and which power resources the actors possess to impact forest management changes in Europe. The report also addresses the discussion about the development of a common forest policy in the EU because also common EU forest policy could foster the implementation of new, alternative forest management models within the member states.

Actors operating at European level showed numerous interests in forest management in Europe, ecosystem services provided by forests in Europe, and play an essential role in European forest politics. Exchanging knowledge and experience, policy support and consultation, and lobbying and campaigning are among their main concerns and activities. Following the actor-centred power approach by Krott et al. (2014), each actor group has been assessed if their impact on forest management is strong (+++), medium (++), or low (+). Pan-states organizations and civil society organizations at European level have medium power resources to influence European forest management. Gaining power mainly through gathering various individuals and organizations with the same interests all over Europe, and taking part in a large number of events and discourses on forest management, these organizations are potent players that can exert strong influence on future forest management in Europe. European civil servants, in order to push forwards certain policy, offer numerous incentives by providing capacity building and financial support for member countries. They can exercise coercive power by imposing legal sanctions if member states do not meet policy objectives. To the public, the EU and its services possess strong power with regards to dominant information. However, the EU in general does not have much power in forest politics as decision-making authority resides mainly in European member states' accountability.

Actors at international level show interest in forestry and forest management issues in developing countries. Although providing a lot of funding and capacity building projects for subordinates, these incentives are targeted at stakeholders outside Europe. They do not have access to European decision making and have little influence on forest management in Europe.

Objective of the deliverable:

Examining the (potential) influence of European and international actors on future forest management in Europe.

1. Introduction

Forests have been acknowledged to provide a wide range of ecosystem services that benefit humans. Many of these services are vital for our life, namely water purification, air and climate provision, prevention of hazardous events, or pollination. However, future climatic and socioeconomic changes are expected to have major impact on forests' capability to maintain and produce those services. In the transition towards a low-carbon economy, there will be an increasing demand for biological resources in many other sectors, out beyond the scope of timber production and bioenergy. This development induces the question on how to manage natural resources in general and forest ecosystems in particular to secure a sustainable source of raw material for an emerging bio-economy. A bioeconomy for Europe includes "production of renewable biological resources and the conversion of these resources and waste streams into value-added products, such as food, feed, bio-based products and bioenergy" (European Commission 2012, p.3). Thus biomass provided by forests in Europe has become one of the dominant concerns by a lot of actors at European level. However, in order to attain sufficient resources for industrial purposes and at the same time ensure environmental protection for ecological and human well-being, one should not lose sight of the fact that forests are more than just biomass. They provide a wide range of ecosystem services, from regulative functions (air and climate regulation), protective functions (flood and soil erosion prevention), to cultural services (health and recreation). The transition towards a bio-based economy will take place on the background of various socio-economic expectations from multiple actors for these ecosystem services (Winkel, 2017). Climate change and alteration of human use of bio-based resources requires adjustment in forest management approaches.

This report examines which actors could potentially foster the development and implementation of alternative forest management models that have been developed and examined within ALTERFOR WP1 and WP3. The analysis of actors that could potentially foster the development and implementation of forest management concepts at national and sub-national levels has been presented in the Deliverable 4.1 and Deliverable 4.2. This report focuses on the actors organized at European and international levels. The report has the goal to examine which actors at European and international levels are interested in forest management and ecosystem services provided by forests in Europe, which other interests those actors have particularly; and which power resources the actors possess to impact forest management changes in Europe. The report also addresses the discussion about the development of a common forest policy in the EU because also common EU forest policy could foster the implementation of new, alternative forest management models within the member states.

Specifically, this report addresses the following questions:

- (1) Which actors at European and international level are interested in forest management and ecosystem services provided by forests in Europe; and which interests do those actors have?
- (2) Which power resources do the identified actors have to affect forest management changes in Europe?



The report first presents some background information relevant for the goals of this study: (1) the ecosystem service concept, (2) a short literature review on the allocation of decision-making authority between the European Union and member states in forest politics, and (3) an overview about literature on the influence of European and international actors on forest policy within the member states (section 2). Next, the actor-centred power approach by Krott et al. (2014) is presented, which is used for the assessment of power resources of European and international actors (section 3). The findings of this report are based on qualitative data analysis (document and website analysis, qualitative interviews) (section 4). Results highlight that actors operating at European level show numerous interests in forest management in Europe, ecosystem services provided by forests in Europe, and play an essential role in European forest politics. Exchanging knowledge and experience, policy support and consultation, and lobbying and campaigning are among their main concerns and activities. Up-take of ALTERFOR results within these activities would be possible. We show that actors at international level show mainly interest in forestry and forest management issues in developing countries. Although providing a lot of funding and capacity building projects for subordinates, these incentives are targeted at stakeholders outside Europe (section 5). Therefore, focussing on knowledge transfer activities at European level stakeholders would be likely more fruitful than activities targeting at international actors.

2. Background

2.1. The concept of ecosystem services and forest management in Europe

According to the Millennium Ecosystem Service Assessment (MA), ecosystem services are defined as the benefits that people obtain, directly or indirectly, from an ecosystem (MA, 2005). Specifically, ecosystem services are classified in the MA into: (1) Provisioning services, e.g. food, medical plants, drinking water, timber; (2) Regulating services, e.g. flood protection, soil erosion prevention, air pollution control, air and climate regulation; (3) Cultural services, e.g. recreation, education; (4) Supporting services e.g. nutrient cycle.

There is a close link between ecosystem services and human well-being. Provisional services and regulating services provided by forests have a huge impact on human health and are regarded as “basic material for a good life” including adequate livelihoods, sufficient nutritious food, shelter, and access to goods. Regulating services also contribute to security which encompasses personal safety, secure access to resources, and security from disasters. Culture services help ensure human’s good health and social relations.

In Europe, forest management focusing on forests’ capability to provide multiple ecosystem services has become a major concern within the forest sector. Rather focusing solely on wood production, forest management has shifted to better inclusion of biological diversity; for example, deadwood and other biotopes, are retained in forests managed for timber production; natural regeneration and stands with mixed species are becoming more widely used (Forest Europe, 2011). Some countries with long-term monitoring of endangered species revealed that the application of new forest management practices contributed to alleviating the decrease in endangered species (Forest Europe,

2011).

Forests cover 182 million hectares in the European Union, accounting for 42% of the European Union's total land area (Eurostat, 2018). Under human's intervention for many centuries with intense wood harvest, fragmented forested areas, complex ownership structure, and highly dense population, only a minority of European forests is intact and most of them are in remote eastern and northern Europe (Forest Europe, 2011).

Recently, more attention is paid towards the essential role of forest management for preservation of water, soil, and other resources; in Europe more than 20% of forests are considered to accomplish protective services for soil, water, and other natural resources. (Forest Europe, 2011). In order to achieve conservation objectives, numerous management measures are put into place, varying among regions with different geographical and biological conditions (Forest Europe, 2011). Improvement of living standards leads to growing awareness in protective, social, and cultural values of forests; and society is calling for forest management focusing on biodiversity conservation (Spiecker, 2003).

According to Forest Europe's report on The State of Europe's Forests 2015, the European forest sector is transferring towards integrated multifunctional management, where the balance to provide multiple ecosystem services is achieved. In order to do so, forest policies and organizations have changed to emphasize on the preservation and protection of forest and its ability to provide various ecosystem services (Forest Europe, 2015). The issues now are how to ensure biodiversity, protective and cultural functions of forests, taking climate change risks into consideration, and find out instruments to finance those services; and how to assure that objectives regarding sufficient supply of renewable materials and improvement of livelihoods in rural areas are reconciled (Forest Europe, 2015).

2.2. The allocation of decision-making authority between the European Union and member states in forest politics

The allocation of decision-making responsibility between the European Union (EU) and European member states has been a fundamental issue in analyses of international forest policies. In forest politics, one of the pronounced issues has been configured around the principle of subsidiarity, where the EU has only limited decision-making authority as forest policy is largely in the responsibility of member states. Subsidiarity has been described by article 5(3) of the Treaty of European Union as "Under the principle of subsidiarity, in areas which do not fall within its exclusive competence, the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States" (Treaty on European Union, 1992). Flynn (2000) described the article as it "ensures that in the exercise of non-exclusive competences the European institutions ought to defer to national leadership, unless it can be clearly shown that EU level action would be better"; however, this idea is hard to be applied in practice and the application of subsidiarity is applied in an inconsistent way across European member states (Flynn, 2000, p.75-77).

The question, if a common EU forest policy is desirable is contested among different stakeholder



groups. Some argue that forests are a local issue that should be decided over at a local or national scale but not by the EU because no reason would exist which would make EU level action necessary. Others argue that global issues like climate change, biodiversity protection, and the trend towards a bioeconomy require a coherent forest policy within Europe. Though there is no agreement if forests should be in the competence of the EU at all, the EU legislations and activities related to forests have been permanently increasing (Lazdinis et al, 2019). The increasing relevance of the EU-level for the governance of forests creates new opportunities for interest realizations because EU policies are an additional venue of decision-making that can be strategically used. Weber and Christophersen (2002) showed how stakeholders with interest in ecological forest functions and nature conservation were able to use the European level strategically, to realize their interests because they were more successful at the European level than at national levels. Therefore, the increasing relevance of the EU for the governance of forests strengthens some stakeholders and weakens others in the political process (Juerges and Newig, 2015).

In an attempt to shape a consistent and coherent European forest policy 'The Forest Action Plan' (FAP, expired in 2011) was formed to formulate the backbone of European forest policy (Winkel, et al., 2013). According to Winkel, et al. (2013), the FAP functioned as a framework based on existing features in the forest policy domain and builds upon other EU policies that are related to forest issues. It followed the overall governance approach, in which subsidiarity principle and soft coordination via communication were highlighted, therefore enabled higher flexibility in national and subnational forest policymaking. Winkel et al. (2013) also claimed that the role of FAP in striking a balance between different aspects of sustainable forest management has not been fulfilled; and that even though it has provided member states with a frame of reference for forest-related activities and a structure for exchange of information, the FAP did not achieve a greater coherence in EU forest-related policies. "This is predominantly because it seemingly did not have an impact on policy making in other sectors affecting forests and forestry, but also as its impact on forest-focused policy and the forest sector itself remains unclear." (Winkel, et al, 2013, p. 53).

FAP's type of agreement in which a high degree of flexibility in national and subnational forest policymaking was allowed might render the framework ineffective. Following Kleinschmit and Edwards (2013), in voluntary framework type agreements, implementation actions followed by each nation state deviate significantly from legislation and change in accordance with the modes of governance, leading to inconsistent performance between nation states.

In the year 2013, a second, new EU Forest Strategy (European Commission 2013a,b) was implemented, which aims to improve the coordination among forest-related policies. However, it has been argued that the new EU Forest Strategy does not include all policies and policy instruments that are relevant for the forest value chain. Therefore, it is questionable, if it will achieve its goals to improve coherence of EU forest-related policies (Aggestam and Pülzl, 2018). Furthermore, coherent forest policy steering stays challenging due to the high number of involved actors at the levels of national governments and sub-national levels (Lazdinis et al. 2019).

2.3. The influence of international and European actors on forest management within European member states

Following Pülzl and Dominguez (2013), stakeholders that are active in forest policymaking in the EU and pan-Europe can be categorized into five groups. The first one is the public actors group, which consists of national policymakers, national (e.g. members of the ministries in charge of forests) and European civil servants (e.g. the European Commission and its General Directorates and agencies), Members of European Parliament (MEPs) and administrative practitioners (Pülzl and Dominguez, 2013, p. 64). The second group is environmental interest groups; for instance, FERN, Greenpeace, IUCN, WWF, Friends of the Earth, etc. The third one is forest sector groups consisting of forest owners (CEPF, USSE), state forest owners (EUSTAFOR), industry associations (CEPI, CEI-BOIS, FEIC, FEP, EPF), associations representing the wood workers (BWI) and entrepreneurs (ENFE), farmer and their cooperative associations (COPA-COCEGA) and federations for European community forests (FECOF). Forest research institutes, networks and technology platforms (EFI, IUFRO, SILVA and FTP) form the fourth group. Other organizations active in Europe are United Nations organizations (FAO, UN- ECE), forestry student association (IFSA), professional organization (UEF) and a European exchange platform (EBCD) (Pülzl and Dominguez, 2013, p. 64).

Pülzl and Dominguez (2013) claimed that most of the actors mentioned above are actively involved in EU forest decision-making process. Council comprises of national policy-makers and civil servants of all 28 Member states. Commission services related to forest includes different Directorates General: the DG Agriculture and Rural Development (DG AGRI), DG Environment (DG ENV), DG TRADE, DG Enterprise and Industry (DG ENTR), DG Climate action (DG CLIMA), DG ENERGY, DG EuropeAid Development and Cooperation (DG DEV- CO), DG Research and Innovation (DG RTD), DG Health and Consumers (DG SAN- CO), Joint Research Centre (JRC), Eurostat (ESTAT), etc. European Parliament also engages in the decision-making process with its MEPs active in Parliament committees. Main stakeholder groups consist of environmental interest groups, forest sector actors, and research institutes and platforms (Pülzl and Dominguez, 2013, p. 66).

The influence of a political-administrative level is not only based on it formally assigned authority, but also on the informal influence actors have. The interests presented by actors in both the Green Paper and Forest Europe initiated Legally binding agreement (LBA) processes are multiple (Edwards and Kleinschmit, 2012, p. 90). Organized interests are a crucial part of modern policy making, as for now *“actors not only lobby for their interests but have also taken on much bigger roles as experts, administrators and facilitators of public goods, as well as private regulators.”* (Hassel, 2010, p. 153). Furthermore, it is important to recognize that national forest policy actors and EU institutions are actively involved in international processes (Hogl, 2000, p.5), and there is a link between the European region and forest policies made in Europe and the forest policy processes on a global level (Rametsteiner and Mayer, 2004). Hogl (2000, p.5) argued that, *“although sometimes perceived as dynamic standstills, global and pan-European processes contribute to change the institutional framework, and subsequently, the policy output at the national level.”* On the other hand, although the European Union Treaties do not make any provision for a common EU policy on forests, there is a variety of EU policies impacting the forest sector either directly or indirectly (Hogl, 2000, p.5). The

interaction among these political-administrative levels and actors are dynamics and have major influence on forest management within European countries.

3. Analytical framework: The actor-centered power approach

The empirical analysis in this research is based on actors' interests and power in the context of forest management changes. In this report, interests are defined as *"action orientation, adhered to by individuals or groups, and they designate the benefits the individual or group can receive from a certain object, such as a forest"* (Krott, 2005, p.8). The assessment of actors' interests is derived from information on actors' activities and forest management methods that they supported over the last five years. Power is referred to as the *"capability of an actor to influence other actors"* (Krott et al. 2014, p.35). Following the actor-centered power concept, actors can exercise their power through the means of coercion, disincentives or incentives, and dominant information. (Table 1)

Table 1: Definition and examples of actor-centered power

Element	Definition	Observable facts	Example
Coercion	Altering behaviour by force	Physical action, threat of physical action or sources for physical action	Decision based on threat about the removal of forest user rights
(Dis-)incentives	Altering behaviour by(dis-)advantages	Providing of, or threat with, sources of material or immaterial benefit or detriment	Financial support to carry out a natural resource assessment
Dominant information	Altering behaviour by unverified information	Providing of, or threat with, sources of information unverified due to lack of will or ability	Expert knowledge about how to manage forest resources sustainably in a participatory community forestry project

Source: Krott et al. 2014, p. 40

4. Methods

The selection of actors for a closer analysis considered the previously described interest group landscape. 32 actors from European level and 19 actors from international level, consisting of civil-society organizations, pan-states organizations, and Commission services (Directorate Generals), were chosen. They are environmental interest groups, forest sector actors, research institutes, and European civil servants. Systematic analysis of actors' websites and other online available information about their activities in the last five years was then carried out in order to gain an overview on actors' interests, their forest management preferences, and their main activities. In order to examine actors' interests, information and documents from their websites and other online sources were analysed, and qualitative interviews with key actors were conducted.

Qualitative interviews were carried out following the Consensual Qualitative Research (CQR) approach by Hill (1997). Key components of the approach which were adopted into this report are: (1) Data are collected by open-ended questions so as not to limit the answers of interviewees; (2) The methodology is based on words rather numbers to depict situations; and (3) The research process is inductive, in which conclusions are drawn from data rather than enforcing a set structure or theory. The approach emphasized on the importance of forming a focused topic area in developing interview questions. For example, rather than asking general question on what actors think about European forest politics and facing the problem that they would not focus on the topic that needs to be examined, asking specifically about their opinion on the allocation of decision-making authority at European level would provide more relevant and useful data set.

Based on the power analysis conducted together with additional information acquired through other related literature, 8 international actors and 11 European actors who appeared to have the most influence in EU forest decision-making were first selected for interviews. Later on more organizations were contacted following recommendation and reference from other actors. While some actors, especially those at European level, were very responsive in answering interview request, it took long time to get a reply from other actors and the communication process got stagnant. Actors who did not respond got reminders every 2 to 3 weeks, and some others asked to contact them again after 1 to 2 months because of their tight working schedule. Table 2 briefly describes how actors responded to interview requests. The process of getting in contact with actors, setting up interviews, and interviewing started from the beginning of March till the end of July 2018. In the end, 12 interviews were conducted. A representative from Greenpeace participating in the interview represented both Greenpeace European Unit and Greenpeace International. Besides, Prosilva and UNFF did not take part in the interview, but rather asked for the questionnaire and sent back their answers in written form (Table 2).

Table 2: Response of actors to interview request

European level	Actors participating in the interview	<ul style="list-style-type: none"> • Greenpeace European Unit • CEPF • The European Timber Trade Federation • EUSTAFOR • DG ENV • DG AGRI • DG CLIMA • DG Research and Innovation • EFI • FERN
	Actors refusing to take part in the interview	<ul style="list-style-type: none"> • The European Network for Rural Development • Institute of European Environmental Policy • DG COMM

	Actors not responding to interview request	<ul style="list-style-type: none"> • Union of European Foresters • CEI BOIS • CEPI • ELO
International level	Actors participating in the interview	<ul style="list-style-type: none"> • FSC • Greenpeace International • IFFA
	Actors refusing to take part in the interview	<ul style="list-style-type: none"> • IUCN • WWF
	Actors not responding to interview request	<ul style="list-style-type: none"> • Collaborative Partnership on Forests • UNEP • FAO • Friends of the Earth International • PEFC

Interviews were different depending on each stakeholder, but followed a common interview guide (Annex 1). Interviewees were asked, among other things, to what extent their works are concerned with forest management topics and forests in Europe, their opinion about current issue in EU forest politics, and which ecosystem services they think are important in European future forest management. Actors' main activities over the last five years acquired through their websites and other online sources were also verified through the interviews. Other objective of the interviews was to gain an insight into actors' opinion on how future forest management in Europe would be in the future and their view on other actors' position in this context.

In average, the interviews lasted approximately 40 minutes. Almost all interviewees agreed to have the interviews recorded (except DG CLIMA and DG Innovation and Research) and were ensured that all the information would be used for project ALTERFOR only and be treated confidentially. The interviews were later transcribed to facilitate the data analysis process.

Actor's power analysis was then conducted based on actor-centered power approach developed by Max Krott et al. (2014) in which an actor can have three kinds of power resources: coercion, (dis-)incentives, and dominant information. In accordance with the actor-centered power approach, each actor group has been evaluated if they have a strong impact (+++), a medium impact (++) , or a low impact (+) on forest management (Hubo and Krott 2015). The evaluation of power resources takes the relative strength of actors in relation to other actors into account. Having strong power resources (+++) means that an actor is able to impact forest management strongly, often against the interests of others. In contrast, low power resources (+) means that an actor can apply the power strategy to some extent but is not able to realize own interests against the will of others. Having medium power resources (++) implies that an actor can realize interests against the interests of some actors with

low power resources, but is not able to impact forest management substantially against the interests of actors possessing strong power resources. Next, we aggregated the power scores of each power strategy of each actor. The total power score is not the average of the capacity to apply the different power strategies, instead it represents the overall capacity to impact forest management by applying all power strategies. Actors are aggregated into groups with similar interests in ESs to estimate the overall power resources of all actors interested in certain ESs. Thus, for this aggregated power score we considered the individual strength of actors and the number of actors with specific interests.

5. Results

5.1. European level

5.1.1 Actors interested in forest management in Europe at European level

Actors at European level interested in forest management in Europe range from European civil servants (different Directorate Generals), environmental NGOs (Greenpeace European Unit, FERN, WWF Europe, Friends of the Earth Europe), to forest sector groups (EUSTAFOR – The European State Forest Association, Prosilva – European federation of professional foresters, CEPF – Confederation of European Forest Owners, etc.).

Market actors comprise of renewable energy and timber producers. Renewable energy producers are interested in forest management and conflicting with forest owners and conservationists for the landscapes to be used for energy generators or biofuel plantations. Timber producers are interested in forest management as the amount and quality of wood provided is pivotal, as well as the source of timber and certification that comes with it (Table 3).

Activities of civil society and pan-states actors interested in forest management in Europe include lobbying, research and policy support, exchange of knowledge and experience, rural development, and nature conservation. Organizations representing interest groups (e.g., pulp and paper industries, timber trade, forest owners, etc.) are those focusing on influencing policy in favour of the group they are speaking for. Some of them are also interested in exchanging knowledge and experience; topics can range from forest management and forest management methods, forestry education, to agriculture and rural development, depending on the domain in which they operate. Nature conservation is the topic concerned by most actors, especially environmental NGO. (Annex 2).

5.1.2. Interests of actors at European level

Actors at European level demonstrated diverse interests in forests in Europe. They are not only interested in different ecosystem services provided by forests in Europe, but also actively involved in European forest politics. Depending on their organizations' mission and objectives, actors can be especially interested in exchanging knowledge and experience among their members, policy support and consultation, or lobbying and campaigning. Actors' field of activity decides their understanding in European forest politics and forest management issues. The European Timber Trade Federation,

for example, was not involved in forest management and forestry, but rather trade issues and global use of timber, since their work primarily relates to timber trade across Europe:

“What we do feel is a shortage in timber, timber supply, because, for instance, countries like China and India are using more and more timber and importing more and more timber from Europe, and that could be a potential threat to the supply of timber in Europe itself. But that’s not so much a forestry issue, it’s more like a trade issue.”

(European Timber Trade Federation)

Besides that, almost all actors participating in the interviews showed a good knowledge and interest in European forest politics, ecosystem services provided by forests in Europe, and how forests in Europe should be managed in the future.

Most of actors think it would be hard to prioritize one ecosystem service over another as it depends heavily on national context:

“I think European forests are very diverse from North and South, so in parts of Europe there will be emphasis on different products.”

(European Forest Institute)

Most interviewees emphasized the importance of regulating ecosystem services (say carbon sequestration, climate regulation, water quality, and soil formation) and supporting ecosystem services, especially biodiversity.

European civil servants (DG CLIMA, DG ENV, DG AGRI, DG Innovation and Research, etc.) are interested in the development and implementation of the policy sector that they focus on. DG CLIMA, for example, is concerned by the improvement of energy efficiency, greenhouse gases emission reduction, increasing the share of EU energy consumption coming from renewable sources. The department’s work related to forests aims at improving forests’ resilience against climate change. While DG AGRI’s major concern is developing modern and sustainable farming business and maintaining viable rural communities and healthy agriculture market, DG ENV aims at a high level of environmental protection and preserve the quality of life of EU citizens:

“It always comes back to this sustainable forest management, in ways which we preserve many ecosystem services, which they provide and possibly enhance them. I think ecosystem services which are absolutely... well, to make a rank between them... Ok, let me phrase it like this, I think there’s a lot of evidence that by and large forests which are close to nature and have a good [...] of biodiversity are in a conservation of forest biodiversity and protection of forest biodiversity is positive news for ecosystem services provision in the long term. I think the, actually improvement of biodiversity situation and of forest nature if you would like to call it like that, I think would be an essential ingredient. And by respecting that, the ecosystem services which are quite essential in these places, certainly there is biomass production once

again, but right now the forest carbon sink I think we should certainly not worsen it. Water related services are essential and becoming increasingly so in a climate related context. And soil related services are essential, and I think really the significance and the importance of forest soil and their protection are something maybe not enough actually on the political agenda. Assumed that forest soil is in good condition and protective because there is forest, and I think this is not the case, we've got a lot of evidence. And I think if we speak of forest, if we speak of soil, preserving soil and the importance of soil, I wish we have more of that in the future."

(DG Environment)

Since forestry is an integral part under agriculture and environmental scheme, both Directorate Generals have been heading for sustainable forest management concepts that ensure forest multi-functionality and provision of different ecosystem services.

In order to achieve these goals, the DGs are particularly interested in exchanging information with different stakeholders and interest groups. A variety of exchange forums for interest groups and member states have been created in an attempt to facilitate the development and implementation of policies. The Standing Forestry Committee was mentioned by some actors as an advisory expert group that represents the forestry experts from member states, forestry official institutes, and administrations. Others are Civil Dialogue Group on Forestry and Cork, Civil Dialogue Group on Rural Development, Coordination Group on Biodiversity and Nature, Expert Group on Forest-based Industries and Sectorally Related Issues, etc. These groups bring about a platform for European Commission, member states' representatives, and various stakeholders to foster exchange of views and coordination.

Forest sector groups consisting of forest owners (CEPF, USSE), state forest owners (EUSTAFOR), foresters (Prosilva), industry associations (CEPI, CEI-BOIS, FEIC), etc. favour sustainable and multi-functional forest management that allows timber production in all forests:

"We have to aim at multifunctional sustainable forest management. This is the only reasonable option. Single objective area usually leads to depletion of the resources elsewhere. You say you have full protection of the area for several good reasons, for example, biodiversity, but then your demand in timber might not be reducing. And as we are trying to go to an economy which is going to be free from fossil fuels, it means that resource has to be coming from elsewhere, it means that if you have a full protection area [...], none of the timber inside might be taken, and so you have to take the timber from somewhere else, so you have pressure harder and harder in other area. And in that is why we try to advocate for multifunctional, because in a same place you can achieve, if not all, at least most of the objectives you might have, including environment and timber production and production of non-wood forest products."

(Confederation of European Forest Owners)

“I think that all the ecosystem services both provide productive, non-productive, wooden, non-wooden are equally important. We should not make this kind of rating what is more important what is less important. And of course, one reason of why not to do this rating that in different landscape, in different local circumstances for natural regions there are different priorities. I can understand that, for example, for the Netherlands, the most important is nature conservation, recreation are social services, maybe also kind of health, and the role of forests when it comes to the needs of the contemporary society. For obvious reasons, relatively small country with relatively small forest resources with heavily or densely populated, and this priority will be different from between Netherland and Finland. In Finland we have small population living in vast forest area, but at the same time the Finnish economy due to its specifics, there are no other natural resources, there are no other industrial advantage developed, so that's why they are trying to make a best use to allow people to make living using their biggest natural resources, which is forest. And that's why they are so much focus on bioeconomy development for example, or investing in forest ecosystem in order to offer them the highest possible yield in the future. Because this is needed by that society, completely separate, or not separate but different situation different picture you will see, in Portugal and Spain, or South of Italy or Greece where, for example, the issue of protection from natural disasters, especially droughts, forest fires is very much important.”
(EUSTAFOR)

These organizations demonstrate also interest in supporting ecosystem services and regulating ecosystem services of forests. They aim at sharing knowledge and influencing policy-making. By partnering with a number of projects funded by the EU, taking part in different meetings and conferences at European level, and increasing a regular exchange of experience and know-how, forest sector groups aims to represent the interest of their sector and influence policy-making in a way that favours interests of the whole sector. The main goal of CEI-Bois, for example, is to advocate for the interest of European wood sector and to safeguard the interest of the industry in EU policy-making process. In order to do so, CEI-Bois form five working groups (Sustainability Working Group, Construction Working Group, Social Affairs Working Group, Research-Development-and Innovation Working Group, and Trade Working Group) to achieve effective internal cooperation within the organization, moving towards the common goals it is advocating for. To promote the interests of pulp and paper industries and their voice in EU policy-making processes, CEPI consists of four committees developing long-term strategy to deal with issues facing the industry. These committees are Environment and Safety, Climate Change and Energy, Forest and Recycling committee. EUSTAFOR is a renowned organization acting as a voice of European state forest management at EU and pan-European level. It provides a platform for members to exchange experience and know-how, acknowledges successful cases of sustainable forest management in state-owned forests, and tries to influence relevant European policies. After the EU Bioeconomy Strategy was adopted in 2012, forest sector groups such as CEI-Bois, CEPI, CEPF, and EUSTAFOR have found a common ground to work towards sustainability of their own sector; they joined together to publish papers on the subject and participated in different political discourses. The European Forestry House in Brussels is an office building shared by EUSTAFOR, EFI, InnovaWood, Forest-Based Sector Technology Platform, and Bio-

Based Industries Consortium; with the support from Union of European Foresters, IFFA, and other related organizations. The place facilitates information exchange and cooperation among organizations towards common goals.

Environmental organizations are interested in supporting ecosystem services, regulating ecosystem services, and cultural ecosystem services:

“Forests should store more carbon, have a better ability to be more resilient towards climate change and storms and fires, very important for example for the Mediterranean, a region where you can see a huge increase in fire. And with more nature consistency of species structure in forests, you also reach a more resilient way of forest that could potentially be more resilient to fires and storms. But also in terms of other ecosystem services, I think with more heat waves we will see that natural forests are actually little air conditionals for regional climate. So if you have more natural forests with more water content, with more moisture in the ground, they create a cooling effects for landscapes.”

(Greenpeace)

Environmental organizations aim to raise public awareness of environmental issues, and lobby to influence policy-making by campaigning for solutions for the most pressing environmental and social problems. Greenpeace European Unit, for example, campaigns against deforestation in Europe and favours the conservation of intact forest landscapes. WWF Europe works to ensure that EU’s consumption of timber does not lead to destruction of forests and ecosystems all over the world by involving in two policy areas: Illegal & unsustainable logging and EU Action Plan on Forest Law Enforcement. Friends of the Earth Europe’s campaigns cover a wide range of topics, from climate and energy, resource use, to finance and corporate sustainability; while FERN primarily focuses on climate change issues and the ability of forests to act as a carbon sink.

Research institutes such as European Forest Institute (EFI), Ecologic Institute EU, Institute for European Environmental Policy (IEEP), European Environmental Agency (EEA), etc. work to provide scientific information for policy makers in European countries. They work with actors across EU institutions, international organizations, civil society and industry to produce research and policy insight that helps policy makers and member organizations develop and implement policy:

“We have something called ‘Science media partnership’, we engage with journalists, we organize events for them to explain what forests mean, and [...] events and activities for journalists to explain the importance of forests, forest management, and also to support them in their work. And of course we are active in social media as well, Twitter, Facebook. [...], so we plan to put more and more emphasis in interacting with journalists. I think this is very crucial.... we need to reach politicians, policy makers, which are the one making decisions, this is crucial, European Commission, European Parliament, politicians in member states. We need to reach the stakeholders, the one that I mentioned before, in the end will influence forest management efficiency. So we try to engage now with many different sectors, with

bankers, [...] in the Bioeconomy Summit, we have four banks involved. At the end they are organizing capital investment to make things happen.”
(European Forest Institute)

These research institutes support multifunctional and sustainable forest management, and often emphasize the importance of forest resilience and forest’s ability to provide different ecosystem services in the context of climate change. They are interested in wood provision function of forest, together with other supporting and regulating ecosystem services. They also acknowledge the importance of cultural ecosystem services in bridging the gap between people and nature in urbanized society.

While some forest sector groups and research institutes at EU level are particularly interested in the concept of bioeconomy and the transition of the economy from the use of fossil-based to bio-based resources as well as its influence on future forest management in Europe, environmental NGOs like FERN and Greenpeace are opposed to this concept. Following FERN, the promotion of bio-based material as an alternative for fossil is the result of the fact that people do not want to “face the fundamental problems about the consumption level that we have at the moment”. Both FERN and Greenpeace advocate for the efficient use of biomass in long-term products:

“We need to not think of biomass as something that is kind of abundantly available, but our thinking goes more to the direction of how can make sure that each fibre that we harvest is really really, you know, really efficiently used in a very long cascade before it gets burnt or before decomposes”
(Greenpeace).

5.1.3. Power resources of actors at European level

Being the bodies responsible for developing and implementing EU policies, the Directorate Generals are the only actors possessing coercive power in European forest politics. Policies and schemes on Agriculture and rural development developed by DG AGRI, for example the European Innovation Partnership, The European Network for Rural Development, Agricultural markets, Agricultural products quality schemes, are obliged for member states to follow. Commission's policies on Climate Action (improvement in energy efficiency, greenhouse gases emission reduction, etc.) developed by DG CLIMA and policies on Energy (energy efficiency, energy infrastructure, energy technology and innovation, secure energy supplies, etc.) developed by DG ENER shape the formation and implementation of related policies within member states. However, when it comes to forest policy, coercive power of the DGs in particular and the EU in general is questionable. The Polish environment ministry’s action on the logging of the ancient forest of Białowieża despite a ban from EU’s top court is one of the examples showing how impotent the EU is in influencing member states’ forest sector.

The DGs also possess power resources with regards to incentives through providing numerous funding, grants, capacity building support projects across Europe. DG ENV, for example, incentivizes stakeholders by funding for projects and initiatives that promote biodiversity conservation, maintain

quality of natural resources and human being. DG AGRI grants payment for farmers in condition to practices beneficial for the climate and the environment. They support farmers to take on innovative farm technologies and fund innovative projects as part of the European Partnership for Agriculture. DG CLIMA provides funding for adaptation capacity building through mainstreaming in the EU budget and the LIFE program offering grants and financial instruments to facilitate policy implementation. DG Energy funds innovative technologies and projects that facilitate the transition towards a low-carbon economy. In DG Communication, some programs are created to facilitate better communication of EU states and its citizen. For example, Citizens' Dialogues allow the Members of the Commission to listen directly to citizens in their own regions and reply on the issues that matter most to them. DG COMM also provides executive communication services, corporate communication services, and tools and services to inform and exchange directly with European citizens to strengthen the Commission's communication activities.

As departments of the European Commission, the DGs have power resource in terms of dominant information. Information provided by the DGs is perceived to be credible by the public. However, to other actors, especially environmental NGOs, the DGs do not have much power in dominant information, and these NGOs often try to expose those EU policies and actions that they think deficient and ineffective. EU Timber Regulation (EUTR), for example, has been criticized by NGOs for its weak enforcement and delays in implementation by European countries. On Greenpeace European Unit's webpage, Greenpeace EU forest policy director Sébastien Risso stated:

"Illegal logging and the trade in illegal timber have severe environmental and social impacts. They also feed corruption and organized crime. It beggars belief that after decades of debate, and despite a strong law that could prevent it, the proceeds of these crimes are still sold in Europe. European ministers must reaffirm their commitment to protect forests and enforce existing EU laws banning illegal timber trade from European markets."

Anne van Schaik, head of campaigns at Milieudefensie/Friends of the Earth Netherlands proposed the organization's position on the same matter:

"The European Parliament today sends a clear signal that forest destruction and illegal logging should stop immediately. A recent European poll showed that more than 90 percent of European citizens want legislation to combat the illegal timber trade. The Agriculture Council is definitely not acting with the same sense of urgency. Milieudefensie calls upon the council to adopt the strengthened illegal timber law without further delay."

Forest sectors group consists of pan-state organizations which act as cooperation platforms for individuals and associations from different European countries. Being representative for a variety of individuals and organizations from European states, forest sector groups enjoy a collective know-how and experience from their large and diverse networks. Thus, information they provide is often considered to be reliable by the public and professionals in the field. Union of European Foresters, for example, is a network of 25 forester associations from 21 countries acting together to influence

public's view towards multi-functional forestry and improve position of foresters in EU environmental policy negotiation. Prosilva, a network of professional foresters, with knowledge on regional forests and long experience of the practical application of integrated management, provides consultation on the green paper on Forest Protection and Information in the EU. CEPF utilizes information and wills gathered from 16 million forest owners in Europe, and partners with different EU institutions and have an active role in many communication platforms in European forest sector in order to influence EU's policies in a way that favour interest of forest owners. The European Timber Trade Federation with 18 member federations work together as a network to gain public trust and create pressure on EU policy makers about timber trade across Europe (lower taxation on verified sustainable timber products; back international efforts to address deforestation, forest governance and climate change; etc.).

Some of the forest sector groups also possess incentive power resource. For instance, EUSTAFOR, together with the CEPF, founded the European Forestry House that serves as a venue for forest-related events and a hub which incentivizes knowledge and experience sharing among European forest and wood experts.

Forest owners, states as forest owners, and forest managers (EUSTAFOR, CEPF, ELO European landowners' organization, Union of European Foresters, etc.) are considered by most actors to be eminent players in European forest politics. Many actors also consider forest industries, especially construction sector and chemical industry, as potent stakeholders in influencing future forest management in Europe. According to FSC:

“And then the challenge there is that a lot of those uses are linked to low quality wood, to wood which the quality is not meaningful, because you are talking about dust, you are talking about cellulose, lignin, you are talking about chemical [...] of wood, not about the quality of a tree. And this has high impact in the silviculture model that is to produce those kinds of product materials.”

EFI emphasized the shift to a bio-based economy and thus highlighted the importance of emerging industries in future forest management:

“And then now we are shifting from the fossil-based economy towards a bioeconomy. There will be a lot of new actors, industries, chemical industry, construction industry, textile industry that will need to produce more and more forest biomass, will have an influence on forest management [...]. So it might take time, but in the future we might see a lot of economic actors, stakeholders that will start looking at the forests biomass business.”

Following a representative from Greenpeace:



“Well, clearly the forestry industry, they are the most influential drivers when it comes to forest management in Europe. They’re very well-organized, from the industry perspective, also from private owner associations, they’re also well-organized and very influential in politics. So at the moment, with for example, German government, the agriculture ministry, they are very very influenced by forestry industrial, forestry sector, private forest ownership. And it’s very hard for NGOs for example, also for forestry experts with different perceptions or different visions, to actually access the political decision making in a way.”

Environmental organizations at European level influence policy-making by gathering huge support from the public. These environmental NGOs can be considered to have dominant information power resource as they use reasons concerning moral norms and general welfare to justify their actions. Through this way, their campaigns influence the way the public perceive a problem and its solutions. Campaigns addressing problems in justice, social welfare, and moral aspects also create moral incentive for people to act accordingly. On its webpage, FERN claimed itself as working “to achieve environmental and social justice with a focus on forests and forest people’s rights in the policies and practices of the European Union” (FERN). Friends of the Earth Europe claimed to “campaign for sustainable and just societies and for the protection of the environment”, with the vision of “a society built upon peoples' sovereignty and participation. It will be founded on social, economic, gender and environmental justice and free from all forms of domination and exploitation, such as neoliberalism, corporate globalization, neo-colonialism and militarism” (Friends of the Earth Europe).

Environmental organizations are considered by most of actors to be major drivers of future forest management in Europe. On the other hand, according to DG ENV, green NGOs are not always present because currently they focus more on agriculture issues and deforestation at international level. Capacity issues also hold them back from being a formidable force in European forest politics. On the other hand, CEPF thinks that NGOs, although advocating a lot on forest conservation, do not have thorough understanding of how forests function. Following FSC, environmental NGOs often lose sight of the connection between forest management and conservation objectives:

“NGOs have and probably should have more importance even though they sometimes are not, I mean they are very much focused on species, not on the link between species and management.”

However, according to DG ENV, forest owners perceive NGOs as actors that are controlling forests. FERN and WWF are considered by a lot of actors to be prominent players in European forest politics discourse.

Research institutes have power resources in terms of dominant information for the network of experienced scientists and professionals on which they operate. Researchers are also mentioned by some actors to play a pivotal role in future forest management in Europe since there always exists a need for more scientifically based decision-making in forest politics. Joint Research Centre (JRC) is

European Commission's science and knowledge service which employs scientists to carry out research in order to provide independent scientific advice and support to EU policy. The Institute for European Environmental Policy consists of scientists, lawyers, economists providing consultation on policy and development projects for the EU, member states' governments, NGOs and other international governmental organizations. EFI gather collective knowledge and experience from 115 member organizations from 37 countries (forest research, academia, industry, forest owners, environmental research and international forest related organizations) working to improve support for policy makers on forestry and bioeconomy issues. EFI is perceived by many actors as one of the crucial stakeholders in influencing forest management in Europe. DG ENV sees EFI as an intermediary reporting and international organization at political agenda, rather than an institute providing pure scientific information as it presents itself.

Some actors also believe that it is important to take into account what urban people think. EUSTAFOR thinks that the society at large has also been gaining growing importance:

"Because people are more and more aware, and people are more and more active in even on one hand benefiting from forests. but on the other hand, they do follow, they go for a walk in forest and they see some activities, logging, they immediately inform the respective authority that something is going on. Because very often they perceive logging as a harm brought to the forest."

The actors emphasized on how disconnected urban people are with nature, and how ignorant they are to what forest management means. Following FSC:

"If we are going back to general public perception, the more we need to care about how we are managing a forest, because the general public isn't presently aware of the impact that forest management can have."

In addition, public administrations at member states are considered to be critical players by the DGs. And the DGs from the European Commission in particular are also perceived by some actors as having major influence on European forest management.

Pan-states organizations and civil society organizations have medium power resources to impact forest management in Europe. Pan-states actors acquire their power resources mostly by representing a large number of individuals and organizations across Europe, and actively involving in a variety of communication platforms and conferences. Civil society actors, on the other hand, gain power in incentives and dominant information mainly through appealing to justice and moral norms. European civil servants, as departments of the European Commission responsible for the development and implementation of certain policies, are the only actors possessing power resource in the means of coercion, as well as strong dominant information and incentive power resources (Table 3).

Table 3: Overview of power resources of different actor types (European level)

	Means of coercion	Incentives	Dominant information
Pan-states actors	+	+	+++
Civil society actors	+	++	++
European civil servants	++	++	+++

5.2. International level

5.2.1. Actors interested in forest management in Europe at international level

Overall, actors at international level do not show much interest in forest management in Europe. In comparison to actors at European level, organizations at international level demonstrated a lower response rate to interview request and they could not answer questions related to forests in Europe. They show interest in some ecosystem services, however are not concerned with European forest politics. Forest Stewardship Council (FSC) and Greenpeace are those showing the most interest and knowledge about forest management in Europe. Other organizations are not interested in or knowledgeable about forest management in Europe, which implies that they have little influence on European forest politics. However, WWF, Friends of the Earth, FAO, UNFF, UNFCCC were mentioned by some actors to have interest and impact on forest management in Europe.

Actors interested in forest management in Europe at international level include civil society and pan-states organizations. Civil society actors mostly comprise of NGOs and certification schemes whose interests range from lobbying, research and policy support, exchange of knowledge and experience, and nature conservation (Annex 3). Environmental NGOs often try to influence the standards on which certification schemes operate. Since FSC and PEFC work with various stakeholders along the supply chain to ensure timber products are produced with respect for ecological and social standards, they have huge impact on forest management and timber production all over the world where the certification systems are adopted. For some environmental NGOs, for example FERN, certification schemes *“do not ensure protection, they do not ensure there’s enough of decaying wood in the forests, [...] they don’t ensure that you have a healthy ecosystem”*. Greenpeace, aiming to influence the development of certification standards according to their preferences, work with FSC for the revision and enhancement of different standards. Greenpeace has been a long-term member of FSC Germany and international, trying to get their concept *“Intact Forest Landscape”* recognized in FSC standards. FSC does not act as a prominent actor in the protection of primary forests although Greenpeace has been working to push FSC for a strong position in this regard.

Pan-states actors are mostly interested in researching and supporting policy, exchanging knowledge and experience, and nature conservation. These organizations, however, do not demonstrate interest in forest management in Europe, but rather in developing countries. Although European

actors do take part in these global forum, forest issues in Europe have been rarely the main focus of these organizations.

5.2.2. Interests of actors at international level

Actors at international level with interests in forest management in Europe are interested in several different ecosystem services. Most of them think all ecosystem services should be considered equally important and forests should be managed in a way that these services are balanced. However, they are more concerned with supporting ecosystem services (biodiversity and habitat protection) and regulating ecosystem services (carbon sequestration, climate regulation, and water quality). Greenpeace, FSC, and International Family Forestry Alliance mentioned the importance of public perception and knowledge in forest management in Europe, which might imply a need to invest in developing and maintaining cultural ecosystem services (education and recreation) in the future. The intergovernmental actors at international level, say UNFF, do not show much interest in forest management and ecosystem services provided by forests in Europe.

Environmental groups and organizations providing certification scheme are those mainly interested in supporting and regulating forest ecosystem services. This is demonstrated through a wide range of campaigns and standards adopted by these actors. Environmental NGOs at international level are dedicated to conserve forests sustain biological diversity, benefit climate, and enhance human well-being mostly in developing countries. While FSC and PEFC are trying to expand their scope on global scale, they have been mainly involved in developed countries' markets where there is an increasing demand for sustainably produced goods. Their certification standards require that timber products are sourced from forests managed in a way that biodiversity and forest's ability to provide different ecosystem services are conserved, rights and welfare of workers and indigenous people are protected, and laws and regulations are followed. FSC pesticides policy, for instance, aims at reducing the use of highly hazardous pesticides in forest industry, which shows the organization's interest in biological diversity through pest management. High conservation values (HVCs) approach has also been applied to FSC's certification standards for achieving biodiversity conservation objectives. PEFC's Chain of Custody Standard claimed itself to be completely aligned with European Timber Regulation.

Since organizations providing certification scheme are committed to provide the market with sustainable-sourced timber products, they care about not only forests' regulating and supporting ecosystem services, but also provisioning services, especially timber provision. They work to ensure that certified timber comes from forests that are both biological diverse and capable of providing good quality timber. PEFC is driven by emerging development across industries that use timber as their main material. Construction landscape, for example, has seen the growth of engineered timber goods and solid wood building solutions like cross laminated timber (CLT) and glulam. These products are available as PEFC-certified from a large number of suppliers.

Depending on actors' field of activities and their targeted audience, actors have different forest management preferences. For example, while FSC does not support any specific forest management

models but rather focus on the impact they have on the landscape, Greenpeace tries to push forwards certain forest management concepts, for example IFL – intact forest landscape. Despite some disparities, these actors in general often favour forest management models in which biodiversity conservation, climate regulation, and the provision of ecosystem services are ensured. These actors are often in conflict with biofuel and timber industries who favour productivity over ecological well-being. Big brands of consumer products, say IKEA or L'Oréal, are also interested in some supporting and regulating forest ecosystem services. According to FSC, they are driven by economic interests as they want to maintain a good image on the market. Some actors did not specify their interest in cultural ecosystem services but emphasized on the fact that urban population is losing connection with nature and therefore cannot value it anymore.

Forest sector groups and intergovernmental organizations do not show much interest in forest politics and ecosystem services provided by forests in Europe. The latter concerns about supporting and regulating ecosystem services as they contribute to global environmental goals such as water security, carbon sequestration, and climate change mitigation.

5.2.3. Power resources of actors at international level

FAO, UNFF, and the UNFCCC are key drivers at international level for European future forest management. Serving as a platform for international communication and cooperation, intergovernmental organizations, such as UNFF, UNEP, IUCN, and FAO, aim at assisting capacity building and strengthening political commitment towards the achievement of environmental and social goals. United Nations Forum on Forest (UNFF), for example, targets at bolstering actions towards sustainable forest management (SFM). International Union for Conservation of Nature (IUCN), by implementation of a range of projects, tries to enable economic development and nature conservation around the world. United Nations Environment Programme (UNEP) works to help build capacity and encourage partnership in caring for the environment and improving quality of life. Food and Agriculture Organization focuses on supporting countries on development and policy issues through numerous developmental projects.

These organizations gain power resources mostly in terms of dominant information and incentives. UNFF creates incentives for subordinates to act according to their will by providing technical support and capacity building for countries to carry out projects favouring SFM such as Forest and Farm Facility focusing on forest and farm producers. Young Champions of the Earth by UNEP grants USD 15,000 as seed funding as well as intensive training and tailored mentoring for young environmentalists. Another award by UNEP called SEED Awards grants USD 5,000, together with supports in networking, capacity building, etc., to support innovative, small-scale and locally driven entrepreneurs around the globe who integrate social and environmental benefits into their business models. By providing stakeholders support they need, these organizations create strong incentives for various projects and actions to be realized.

Over a long history, these intergovernmental organizations have been representing themselves as renowned platform for international cooperation. They are perceived as powerful actors with regards to dominant information. Although United Nations organizations do not have access to EU decision-making process the UNEP is a leading global environmental authority that sets the global environmental agenda. Serving as a knowledge network, FAO uses the expertise of staff (agronomists, foresters, fisheries and livestock specialists, nutritionists, social scientists, economists, statisticians and other professionals) to collect, analyse, and disseminate data that aid developmental projects all around the world. As a membership Union consisting of both government and civil society organizations, IUCN possesses notable knowledge and experience, and has been regarded as an eminent organization involving in national sustainable projects and international goals.

FSC and PEFC are forest certification systems working to assure good practice in timber production. FSC was established by environmental groups to govern forest management by introducing a voluntary certification scheme which ensured higher timber prices and a good image on the market; after that, PEFC was founded by European representatives of forestry and timber industries as a response to FSC (Juerges and Newig, 2015). Both systems are the two of the world largest forest certification systems with credible standards, which gives them power resource with regards to dominant information. PEFC Collaboration Fund seeking to support efforts to advance SFM and forest certification around the world might create some incentives for interest groups to adapt PEFC standards.

Environmental NGOs at international level, such as Greenpeace, Friends of the Earth, The Nature Conservancy, exercise power by creating incentives in two ways. First, their arguments which mostly follow justice, social welfare, and moral reasons incentivize people to act according to the organizations' values. Friends of the Earth International's vision is expressed as:

"A peaceful and sustainable world based on societies living in harmony with nature", "a society of interdependent people living in dignity, wholeness, and fulfilment in which equity and human and people's rights are realized", "we urgently need to protect the forests in our fight for a sustainable future for everybody" (Friends of the Earth International).

Greenpeace international features their stories as following:

"Imagine a world where forests flourish and oceans are full of life. Where energy is as clean as a mountain stream. Where everyone has security, dignity and joy. We can't build this future alone, but we can build it together" (Greenpeace International).

The second way NGOs use to incentivize people is through providing a variety of awards and supporting programs to their targeted groups. NatureNet Science Fellows Program initiated by The Nature Conservancy partners with leading research universities to award 2-year fellowship to early career scientists. Through numerous awards, IUFRO encourages those who advance science and

promote international cooperation in all fields of research related to forestry, but only within the scope of IUFRO Divisions.

Besides giving people moral incentive to follow their arguments, environmental groups with their campaigns conveying strong messages favouring social welfare and justice, together with large number of supporters and participants, also dominate what the public perceive is true. In collaboration with scientists and a variety of organizations in different sectors, the Nature Conservancy campaigns with vigorous and well-developed messages that strongly influence the way the public perceive problems and thus enhance its capability to influence policies. Some organizations also utilize its large network to gain power resources in terms of dominant information. Uniting more than 15,000 scientists in almost 700 member organizations in over 110 countries, IUFRO is known as a prestigious organization that makes major contribution in international discourse. The Collaborative Partnership on Forests gather 14 international organizations with different domains in forestry to collaborate and benefit from a shared pool of resources, which enhances its expertise in the field and makes it credible to the public.

Environmental NGOs are powerful in forest political discourse. Forest sector groups, for instance International Family Forestry Alliance, do not have much power in European forest politics, although they might have dominant-information power within their local authorities and foresters in member countries.

At international level, intergovernmental actors and civil society actors both have low power resources to impact forest management in Europe. Even though intergovernmental/pan-states actors at international level do not have access to European decision making (Pülzl and Dominguez, 2013) a lot of European policy initiatives were influenced by policy processes on a global level (Rametsteiner and Mayer, 2004). Incentives they provide are mostly targeted at developing countries and are thus not relevant to European actors. However, they still possess dominant information power resources for a large network of professionals and experts, reputation, and experience gained over the last decades. Civil society actors at international level, like those at European level, often appeal to justice, social welfare, and moral norms to justify their actions; therefore, they are able to gather people’s support and dominate the way they perceive problems. They however do not have huge impact on forest management in Europe as they care mostly about environmental and social issue in developing countries. (Table 4)

Table 4: Overview of power resources of different actor types (international level)

	Means of coercion	Incentives	Dominant information
Intergovernmental/ Pan-state actors	+	+	++
Civil society actors	+	++	+

Future steps/Conclusion

Conducted in the context of project ALTERFOR, this report examined which actors at European and international level could stimulate the development and implementation of alternative forest management concepts for Europe in the future. The research identified actors interested in forest management and various ecosystem services provided by forests in Europe, their main activities, and which power resources those actors have to affect forest management in Europe.

Actors operating at European level showed numerous interests in forest management in Europe, ecosystem services provided by forests in Europe, and play an essential role in European forest politics. Exchanging knowledge and experience, policy support and consultation, and lobbying and campaigning are among their main concerns and activities. Following the actor-centered power approach by Krott et al. (2014), each actor group has been assessed if their impact on forest management is strong (+++), medium (++), or low (+). Pan-states organizations and civil society organizations at European level have medium power resources to influence European forest management. Gaining power mainly through gathering various individuals and organizations with the same interests all over Europe, and taking part in a large number of events and discourses on forestry and forest management, these organizations are potent players that can exert strong influence on future forest management in Europe. European civil servants, in order to push forwards certain policy, offer numerous incentives by providing capacity building and financial support for member countries. They can exercise coercive power by imposing legal sanctions if member states do not meet policy objectives. To the public, the EU and its services possess strong power with regards to dominant information. However, the EU in general does not have much power in forest politics as decision-making authority resides mainly in European member states' accountability.

Actors at international level show interest in forestry and forest management issues in developing countries. Although providing a lot of funding and capacity building projects for subordinates, these incentives are targeted at stakeholders outside Europe. They do not have access to European decision making and have little influence on forest management in Europe.

Almost all actors concur with the fact that even though European countries share principles regarding sustainable forest management, there is no common forest policy at European level. The member states take most of the decision-making responsibility on how national forests should be managed. Foresters and forest owners are those interest groups defying the formation of a common EU forest policy; they emphasize that general guidelines are enough for European forest management. Only DG ENV and Greenpeace consider a common EU forest policy necessary; the other actors are unsure about having a legally binding policy for forest in Europe and focus on the problems facing European forest politics nowadays – lacking coherence and coordination in policy-making process.

By analysing actors' interests and power resources to affect forest management in Europe, this report demonstrated the relevant role organized interests have in the context of multi-level governance. Their role goes beyond influencing policies through campaigning, rather they join different levels of governance together by creating a huge network of actors, say experts, professionals, administrators, industries, etc. to provide inputs for policy solutions (Hassel, 2010).

Even though interests, activities, and power of actors are critical, further research should look at other factors that contribute to the achievement of certain result. Krott (2014, p.36) stated that "*the activities and power of an actor are only two among many highly diverse factors causing specific outcome*". In addition, since European forest politics is an interconnected landscape, actors should be examined not only as individuals acting independently but as a network of individuals whose power and actions are greatly interdependent and complementary. Further studies should continue to observe how interest groups leverage their power resources and turn them into actions to influence forest management in Europe in years to come.

References

- Aggestam, F.; Pülzl, H. (2018). Coordinating the Uncoordinated: The EU Forest Strategy. *Forests*, 9, 125.
- Edwards, P, Kleinschmit, D, (2013). Towards a European forest policy – Conflicting courses. *Forest Policy and Economics* 33, 87–93.
- European Commission (2012). Innovating for Sustainable Growth: A Bioeconomy for Europe.
- European Commission (2013a) A new EU Forest Strategy: for forests and the forest-based sector. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.
- European Commission (2013b) Commission staff working document Accompanying the document on A new EU Forest Strategy: for forests and the forest-based sector Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions
- Eurostat (2018). Online: <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/EDN-20180321-1>, last accessed, 24.01.2019.
- Flynn, B, (2000). Is local truly better? Some reflections on sharing environmental policy between local government and the EU. *European Environment* 10, 75–84.
- FOREST EUROPE, UNECE, and FAO (2011). State of Europe’s Forests 2011. Status and Trends in Sustainable Forest Management in Europe.
- Forest Europe, Liaison Unit Madrid (2015). The State of Europe’s Forests 2015.
- Hassel, A, (2010). Multi-level governance and organized interests. Handbook on Multi-level governance. Edward Elgar Publishing, Cheltenham, pp. 153-167.
- Hill, C. E. et al., 1997. A Guide to Conducting Consensual Qualitative Research. *The Counseling Psychologist* 25 (4), 517-572.
- Hogl, K, (2000). The Austrian domestic forest policy community in change? Impacts of the globalization and Europeanization of forest politics. *Forest policy and Economics* 1, 3-13.
- Hubo, C., Krott, M., 2015. Macht von Politiksektoren als Chance für Wandel am Beispiel Waldnaturschutz. In: Macht und Wandel in der Umweltpolitik. *Zeitschrift für Politikwissenschaft*. Sonderband 2015 II. Nomos.
- Juerges, N., Newig, J., 2015. How interest groups adapt to the changing forest governance landscape in the EU: A case study from Germany. *Forest Policy and Economics* 50, 228–235. 55
- Kleinschmit, D, Edwards, P, (2013). Pan Europe and the European Union. European Forest Governance: Issues at Stake and the Way Forward. European Forest Institute.
- Krott M, et al. (2014). Actor-centred power: The driving force in decentralized community based forest governance. *Forest Policy and Economics* 49, 34-42.
- Lazdinis, M, Angelstam, P, Pülz, H (2019). Towards sustainable forest management in the European Union through polycentric forest governance and an integrated landscape approach. *Landscape Ecology* (34), 1737–1749.

Millennium Ecosystem Assessment (2005). *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC.

Pülzl, H, Dominguez G, (2013) Interrelations of Actors and Organizations in the European Union and pan-Europe with regards to Forest Policy-Making. *European Forest Governance: Issues at Stake and the Way Forward*. EFI, ISBN: 978-952-5980-03-5.

Rametsteiner E, Mayer P, (2004). Sustainable forest management and Pan-European forest policy. *Ecological Bulletins* 51, 51-57.

Spiecker H, (2003). Silviculture management in maintaining biodiversity and resistance of forests in Europe – temperate zone. *Journal of Environmental Management* 67 (1), 55-65.

Treaty on European Union, 1992

Weber, N, Christophersen, T, (2002). The influence of non-governmental organizations on the creation of Natura 2000 during the European Policy Process. *Forest Policy and Economics* 4, 1–12.

Winkel, G, Aggestam, F, Sotirov, M, Weiss G, (2013). Forest policy in the European Union. *European Forest Governance: Issues at Stake and the Way Forward*. European Forest Institute.

Winkel G, (2017). Towards a sustainable European forest-based bioeconomy – assessment and the way forward. *European Forest Institute*.

Annex 1: Interview guide

1. Which topics and issues related to forests are currently most important to your work?
2. In what way are you concerned with silviculture topics at your work?
3. What have been the most important activities related to forests in Europe that you do within the last five years?
4. From your point of view, what are the most important conflicts and problems about forest management in Europe?
5. How do you think forests in Europe should be managed in the future?
6. Which ecosystem services should be considered most important in future forest management in Europe?
7. What is your silviculture preference? (what are the silviculture methods you are supporting and aiming at?)
8. In contrast to other policy sectors (e.g. agriculture), forest policy is mainly in the responsibility of the member states. Do you think it would be more desirable to have more decision-making responsibility/authority in forest policy allocated at European level?
9. Which actors do you think might be major drivers of future forest management changes in Europe?
10. How do these actors drive forest management?
11. Which channels of information do you use to inform other individuals and organizations about forests and specifically about silviculture issues?
12. Whom do you reach with these information?
13. With which individuals or organizations do you exchange information about silviculture topics? How often do these types of exchanges take place?
14. Which other individuals or organizations are important for forest management in Europe at the European level?
15. Could you recommend any other interview participants working at the European and international level who are important for forest management in Europe?
16. Is there anything you would like to add to the topics we were talking about?

Annex 2: Actors interested in forest management in Europe at European level

Identified Actors (Organizations)	Website
Market Actors	
Renewable energy generation	
<ul style="list-style-type: none"> • Vattenfall • ENERTRAG • DNV GL • EON 	<ul style="list-style-type: none"> • https://corporate.vattenfall.com • https://ww2.enertrag.com/%5bL,QSA%5d?L=1 • https://www.dnvgl.com • https://www.eon.com
Timber trade and processing	
<ul style="list-style-type: none"> • Klausner Holz Thuringer GmbH • BINDER Holz, Deutschland GmbH • Holzwerk Baur GmbH • Pfeifer Holz Lauterbach GmbH • Sodra • SCA • Moelven • Setra • Holz Pichler AG • Plankmara • JSC "ŠILALĖS MEDIENA" • AK „Pynauja“ • Juodeliai • GKF Lumber Group • Stora Enso 	<ul style="list-style-type: none"> • http://www.klausner.info/12-1-Homepage.html • https://www.binderholz.com/index.php?id=4&L=0 • http://www.holzwerk-baur.de/index.php/startpage.html • https://www.pfeifergroup.com/ • https://www.sodra.com • https://www.sca.com • http://www.moelven.com/ • https://www.setragroup.com • https://www.holz-pichler.com • http://www.plankmara.lt/ • http://www.silalesmediena.eu/ • http://www.pynauja.lt/en/ • http://www.juodeliai.com/en • http://gkflumbergroup.lt/en • http://www.storaenso.com/

<ul style="list-style-type: none"> • Rettenmeier • Glennon Brothers • GP Wood 	<ul style="list-style-type: none"> • http://www.retttenmeier.com/en • http://glennonbrothers.ie/index.html • http://pwood.ie/
Civil Society Actors	
Lobbying	
<ul style="list-style-type: none"> • Confederation of European Forest Owners (CEPF) • Prosilva • The European Timber Trade Federation • Ecologic Institute EU • WWF Europe • Greenpeace European Unit • Friends of the Earth Europe • Union of European Foresters • FERN • The European LEADER Association for Rural Development • Confederation of European Paper Industries • CEI BOIS 	<ul style="list-style-type: none"> • http://www.cepf-eu.org/ • https://prosilvaeurope.wordpress.com/ • http://ettf.info/ • https://www.ecologic.eu • http://www.wwf.eu/ • http://www.greenpeace.org/eu-unit/en/ • https://www.foeeurope.org/ • http://european-foresters.org/ • http://www.fern.org/ • http://www.elard.eu/ • http://www.cepi.org/ • https://www.cei-bois.org/
Research and Policy Support	
<ul style="list-style-type: none"> • Institute for European Environmental Policy • European Climate Foundation 	<ul style="list-style-type: none"> • https://ieep.eu/ • https://europeanclimate.org/
Knowledge and Experience Exchange	
<ul style="list-style-type: none"> • Prosilva • Confederation of European Forest Owners (CEPF) • The European Timber Trade Federation 	<ul style="list-style-type: none"> • https://prosilvaeurope.wordpress.com • http://www.cepf-eu.org/ • http://ettf.info/

<ul style="list-style-type: none"> • SILVA network • Ecologic Institute EU • The European Rural Community Alliance 	<ul style="list-style-type: none"> • http://www.silva-network.eu/ • https://www.ecologic.eu • http://www.ruralcommunities.eu/
Rural Development	
<ul style="list-style-type: none"> • The European LEADER Association for Rural Development • The European Network for Rural Development • The European Rural Community Alliance 	<ul style="list-style-type: none"> • http://www.elard.eu/ • https://enrd.ec.europa.eu/ • http://www.ruralcommunities.eu/
Environmental, nature, and landscape conservation	
<ul style="list-style-type: none"> • Forest Europe • European Forest Network • Friends of the Earth Europe • WWF Europe • Greenpeace European Unit • Union of European Foresters • European Tropical Forest Research Network • FERN 	<ul style="list-style-type: none"> • http://foresteurope.org/ • http://www.forestrysocieties.eu/ • https://www.foeeurope.org/ • http://www.wwf.eu/ • http://www.greenpeace.org/eu-unit/en/ • http://european-foresters.org/ • http://www.etfrn.org/ • http://www.fern.org/
Pan-states actors	
Lobbying	
<ul style="list-style-type: none"> • Confederation of European Forest Owners (CEPF) • Prosilva • The European Timber Trade Federation • Union of European Foresters • The European LEADER Association for Rural Development 	<ul style="list-style-type: none"> • http://www.cepf-eu.org/ • https://prosilvaeurope.wordpress.com/ • http://ettf.info/ • http://european-foresters.org/ • http://www.elard.eu/

Research and Policy Support	
<ul style="list-style-type: none"> • European Forest Institute • Joint Research Center – EU Science Hub • European Environment Agency 	<ul style="list-style-type: none"> • http://www.efi.int/portal/ • https://ec.europa.eu/jrc/en • https://www.eea.europa.eu/
Knowledge and Experience Exchange	
<ul style="list-style-type: none"> • Prosilva • Confederation of European Forest Owners (CEPF) • The European Timber Trade Federation • Eustafor - The European State Forest Association • European Forest Genetic Resources Program • The European Network for Rural Development • DG Agriculture and Rural development • DG Climate Action • DG Energy • DG Environment • DG Communication • DG Communication, Networks, Content, and Technology • DG Education and Culture • DG Regional and Urban policy 	<ul style="list-style-type: none"> • https://prosilvaeurope.wordpress.com/ • http://www.cepf-eu.org/ • http://ettf.info/ • https://www.eustafor.eu • http://www.euforgen.org/ • https://enrd.ec.europa.eu/ • https://ec.europa.eu/info/departments/agriculture-and-rural-development_en • https://ec.europa.eu/info/departments/climate-action_en • https://ec.europa.eu/info/departments/energy_en • https://ec.europa.eu/info/departments/environment_en • https://ec.europa.eu/info/departments/communication_en • https://ec.europa.eu/info/departments/communications-networks-content-and-technology_en • https://ec.europa.eu/education/ • https://ec.europa.eu/info/departments/regional-and-urban-policy_en

Rural development	
<ul style="list-style-type: none"> • The European LEADER Association for Rural Development • The European Network for Rural Development 	<ul style="list-style-type: none"> • http://www.elard.eu/ • https://enrd.ec.europa.eu/
Environmental, nature, and landscape conservation	
<ul style="list-style-type: none"> • Forest Europe • European Forest Network • Union of European Foresters • European Tropical Forest Research Network 	<ul style="list-style-type: none"> • http://foresteurope.org/ • http://www.forestrysocieties.eu/ • http://european-foresters.org/ • http://www.etfrn.org/

Annex 3: International actors interested in forest management in Europe

Identified Actors (Organizations)	Website
Civil Society Actors	
Lobbying	
<ul style="list-style-type: none"> Greenpeace International WWF Friends of the Earth International Oxfam International Family Forestry Alliance The Nature Conservancy 	<ul style="list-style-type: none"> http://www.greenpeace.org/international/en/ https://worldwildlife.org/ http://foei.org/ http://oxfam.org/ http://familyforestry.net/ https://nature.org/
Research and Policy Support	
<ul style="list-style-type: none"> International Union of Forest Research Organizations The Nature Conservancy International Union for Conservation of Nature CGIAR 	<ul style="list-style-type: none"> http://iufro.org https://nature.org/ http://www.iucn.org/ http://cgiar.org/
Knowledge and Experience Exchange	
<ul style="list-style-type: none"> Collaborative Partnership on Forests World Forestry Center International Union of Forest Research Organizations International Union for Conservation of Nature International Family Forestry Alliance 	<ul style="list-style-type: none"> https://cpfweb.org/en http://worldforestry.org/ http://iufro.org http://www.iucn.org/ http://familyforestry.net/
Certification	
<ul style="list-style-type: none"> The Programme for the Endorsement of Forest Certification 	<ul style="list-style-type: none"> http://pefc.org/

<ul style="list-style-type: none"> • Forest Stewardship Council • Greenpeace European International 	<ul style="list-style-type: none"> • https://ic.fsc.org/en • http://www.greenpeace.org/international/en/
Environmental, nature, and landscape conservation	
<ul style="list-style-type: none"> • The Programme for the Endorsement of Forest Certification • Forest Stewardship Council • Friends of the Earth International • WWF • Greenpeace European International • The Nature Conservancy • International Union for Conservation of Nature 	<ul style="list-style-type: none"> • http://pefc.org/ • https://ic.fsc.org/en • https://www.foei.org/ • http://www.worldwildlife.org/ • http://www.greenpeace.org/international/en/ • http://nature.org/ • http://www.iucn.org/
Pan-states actors	
Research and Policy Support	
<ul style="list-style-type: none"> • United Nations Forum on Forests • UNEP • UNFCCC • Convention of Biological Diversity • FAO 	<ul style="list-style-type: none"> • http://un.org/esa/forests/ • https://unenvironment.org/ • http://unfccc.int • http://cbd.int/ • http://www.fao.org
Knowledge and Experience Exchange	
<ul style="list-style-type: none"> • United Nations Forum on Forests • UNEP • FAO • UNFCCC 	<ul style="list-style-type: none"> • https://un.org/esa/forests/ • https://unenvironment.org/ • http://www.fao.org • http://unfccc.int

Environmental, nature, and landscape conservation	
<ul style="list-style-type: none">• United Nations Forum on Forests• UNEP• UNFCCC• Convention of Biological Diversity	<ul style="list-style-type: none">• https://un.org/esa/forests/• https://unenvironment.org/• http://unfccc.int• http://cbd.int/