EFI Multi Donor Trust Fund for Policy Support: Annual Report 2020

11 February 2021

EFI MDTF for Policy Support countries marked by green colour. These countries (excl. Norway) represent 72% of the EU forest area, and 60 % of the European forest area (excl. Russia)

One of the topics discussed in this year's ThinkForest webinars was 'Public perception on Forests and Bioeconomy' on 27 October 2020

Executive Summary

What is this document?

This document is the Annual Report of the **EFI Multi Donor Trust Fund for Policy Support Facility** (hereafter MDTF) for 2020. It presents the activities, outputs, impacts and budget of the MDTF for 1 January 2020 to 31 December 2020. Year 2020 was the third year of the new 3-year cycle of MDTF (2018-2020). The Annual Report aims to provide transparent information, which can also be used to assess and evaluate the performance and impact of the MDTF work.

Facility management

EFI Assistant Director Lauri Hetemäki coordinated MDTF project activities in 2020, with important support from Communications Officer Ulla Vänttinen, Head of Communications Rach Colling, Administrative Officer Jarkko Haltia and Brussels Liaison Officer Harald Mauser. The ThinkForest Forum has been chaired by its President Janez Potočnik in 2020. In addition, other EFI staff resources and outside subcontracting have been used to carry out the activities during 2019.

Facility funding and costs in 2020

In 2020, the MDTF consisted of the following 10 Donor countries: *Austria, Czech Republic, Finland, Germany, Ireland, Italy, Lithuania, Norway, Spain and Sweden*. The total financial contribution from the countries to the MDTF by the end of 2020 was **600 694** euros. The total amount of expenses in 2020 is estimated to have been **600 721 euros**. *It should be noted that when writing this on 11 February, the EFI accounts for 2020 had not yet been finalized.*

Summary of activities

The highlights of activities and outputs from 2020 include:

In 2020, two *From Science to Policy* (FSTP) studies were published: "European Forest Governance Post-2020" and "China-Europe Forest Bioeconomy: Assessment and Outlook" and a *Knowledge to Action* meta-study on "Public perceptions of forestry and the forest-based bioeconomy in the European Union". Six online newsletters, *Science Supporting Policy-making* were distributed to the EFI network (approx. 900 recipients by the end of 2020).

ThinkForest events are the flagship science-policy events organized by MDTF, and there were four such events, organised in 2020 as webinars: 1. *"Science Insights to European Green Deal and Forests", held 20 May 2020; 2. "European Forest Policy Post-2020" held on 22 September 2020; 3." Public Perception*

on Forests and Bioeconomy" held on 27 October 2020 and 4. "China-Europe Forest Bioeconomy" organised on 9 December 2020. Due to COVID-19 impacts to face-to-face events, no such events could be organised in 2020.

Summary of impacts

Publications were widely distributed in digital forms in 2020, and the electronic copies of both newly published and back catalogue publications again proved popular.

MDTF-funded publications have become increasingly cited in both academic journals and by policy makers (see Appendix). There is always a delay in citation, and in 2020 it was publications like FSTP8 *Living with bark beetles: impacts, outlook and management options* (published in April 2019) and FSTP7 *Substitution effects of wood-based products in climate change mitigation* (published in November 2018), that began to be heavily cited – in academic journals, stakeholder publications and policy publications.

To ensure maximum impact, findability and citability, in 2020 all *From Science to Policy* studies were given Digital Object Identifier or DOI references. This has also enabled us to monitor usage.

ThinkForest event participation: In total, 751 people took part in ThinkForest webinars: 313 in "Science Insights to European Green Deal and Forests" (20 May 2020); 172 in "European Forest Policy Post-2020" (22 September 2020); 167 in "Public Perception on Forests and Bioeconomy" (27 October 2020) and 99 in "China-Europe Forest Bioeconomy" (9 December 2020). In addition, the four ThinkForest webinars recordings were watched by 1341 persons by the end of 2020 (939 persons watched the May webinar recording, 183 the September recording ,171 the October recording and 48 the December recording respectively). Due to COVID-19, no face-to-face events were organised in 2020. Instead all the ThinkForest events were organised as webinars, which actually increased the number of participants compared with face-to-face events. In terms of background, four major participant groups were: the research community, national government (ministries), forest industry and other stakeholder groups.

Media impact: MDTF Policy Support work was again actively promoted in 2020. Media published 6 articles related to ThinkForest seminars, 9 related to publications, and there were 3 follow up articles relating to the 2019 media bootcamp. The different stakeholder groups published in total 11 follow-up articles in their forums relating to events. These numbers were less than in previous years, and affected by the move to online-only events due to coronavirus. However, where articles were written, these were in high-impact publications (eg Politico).

During 2020, MDTF-funded policy support work was promoted via social media, including EFI channels such as Twitter, YouTube and the EFI blog. For example, Twitter was used at each of the ThinkForest webinars to encourage interaction and dialogue with participants. During 2020, there were over 1,500 tweets from the main EFI Twitter account, which now has over 10,300 followers. The messages were also amplified by EFI's other channels, such as the EFI blog. In 2020, for example, a blog post written by Palahí, Hetemäki and Potocnik '*Bioeconomy: the missing link to connect the dots in the EU Green Deal*' received over 10,000 views.

Expert presentations, hearings and statements: Many requests for presentations or expert statements in policy or science-policy forums based on the publications and ThinkForest webinars indicated the usefulness of the MDTF events and publications. Based on the *From the Science to Policy* –series and *Knowledge to Action* -series report, the authors of the studies and Chief-Editor provided 58 presentations and expert statements in total at various science-policy and other forums.

Feedback from the network: The publications and ThinkForest events have been tackling topical policy issues and have been considered timely. In particular, participants have appreciated that issues high on the political agenda have been brought to the discussion, and needed science-based information has been provided by the studies and ThinkForest webinars. ThinkForest online events have been highly valued by various Commission officials (e.g. Commissioners, senior EC officials, Joint Research Centre officials), national government civil servants, EFI Associate Member representatives, and forest-based sector stakeholders.

Contents

Annex: Tables

1. Introduction and background

1.1 EFI Multi Donor Trust Fund for Policy Support

The objective of the Multi-Donor Trust Fund (MDTF) is to support the operationalization of the activities of the EFI Policy Support Facility. The Trust Fund completed its first 3-year period at the end of 2017 and started a new 3-year period on 1 January 2018.

The Steering Committee is the highest decision-making body of MDTF. The Steering Committee approves the MDTF work programme and related budget. The main aims and responsibilities of the Steering Committee are to provide *strategic guidance and advice* on the operations of FPS. It receives information from the EFI secretariat and gives feedback regarding the outputs, outcomes and impacts resulting from the activities of MDTF policy support work. The Steering Committee does not take part in the operation and management of the MDTF policy support work, science-policy studies, or the selection of the scientists conducting the studies. This is in line with the principle of safeguarding the scientific integrity of the actual science-policy work. However, the Steering Committee members can *comment* the science-policy study manuscripts, but they *do not review* them. That is, the decision how to incorporate, or not to incorporate, the possible Steering Committee comments to the studies, rests on the scientists.

The Steering Committee consists of a representative of each donor and the Director of EFI or his authorized representative. The Chair of the EFI Scientific Advisory Board (SAB), or a designated SAB member, took part in the meetings as an observer. The membership of a donor ends 12 months following the last contribution of the donor. The Steering Committee meets at least once a year, and maintains an active interaction through correspondence, and can meet informally in connection with other international meetings.

In 2020, the MDTF Steering Committee members were:

1. Harald Aalde, Ministry of Agriculture and Food, Norway
2. Thomas Haußmann, Federal Ministry of Food and Agriculture, Germany
3. Tomas Krejzar, Ministry of Agriculture of the Czech Republic, Czech Republic
4. Nerijus Kupstaitis, Ministry of Environment, Lithuania (Zbignev Glazko in spring 2020)
5. Fergus Moore, Department of Agriculture, Food and the Marine, Ireland
6. Marc Palahí, EFI
7. Enrico Pompei, Ministero delle Politiche Agricole Alimentari e Forestali, Italy
8. Georg Rappold, Federal Ministry on Sustainability and Tourism, Austria
9. Daniel Roures, Ministry of Ecological Transition and Demographic Challenge, Spain (José Manuel Jaquotot in spring)
10. Jan Svensson, Ministry of Enterprise and Innovation, Sweden
11. Tatu Torniainen, Ministry of Agriculture and Forestry, Finland

The MDTF policy support work is managed and administrated by the EFI Policy Support Facility. The actual implementation of the science-policy studies is based on the work by EFI staff, its Associate Members, and the science community in general. The aim of the work is to:

- respond in a timely manner to policy makers' information needs with scientific-based analysis and information in an easily understandable and policy-relevant format and scale;
- support the formulation, monitoring and evaluation of sustainable policies and strategies relevant for the European forest-based sector;
- communicate effectively and consequently build a better understanding of forest-related issues, proactively involving policy makers, scientists and stakeholders.

The above objectives are carried out in particular through EFI MDTF science-policy publications (*From Science to Policy* reports and *What Science Can Tell Us* reports) and ThinkForest forum high-level science-policy seminars and online events. The ThinkForest forum events are usually chaired by its President. From July 2019 onwards Janez Potočnik, the former EU Commissioner for both Science and Research, and Environment, has been the ThinkForest President. The President's role has also been important in representing ThinkForest and EFI policy support work in different platforms (e.g., international conferences, webinars, videos), providing important networks and access to high-level policy makers, inviting speakers to the ThinkForest seminars and online events, and providing strategic advice for EFI management in science-policy support work.

ThinkForest President, Janez Potočnik, since July 2019.

1.2 MDTF funding and management

Funding: The members of the MDTF in 2020 were 10 countries: ***Austria, Czech Republic, Finland, Germany, Ireland, Italy, Lithuania, Norway, Spain and Sweden.*** The total contribution of donors in 2020 was **600 694 euros.** The expenses of MDTF activities during 1 January to 31 December 2020 is estimated to have been **600 721 euros** *(the exact amount will be known when the EFI accounts for 2020 are finalized in 2021).*

According to the MDTF Guidelines, funding can be used to finance the following categories of expenditure:

- Policy Support Facility staff costs and travel expenses;
- EFI staff costs, consultant and expert fees and related expenses (travels, etc.) to coordinate and conduct Policy Support Facility studies and activities;
- Costs for contracting EFI member organizations and other relevant organizations for carrying out scientific assessments, policy studies, etc.;
- EFI staff costs and travel expenses related to the negotiations of the trust fund, its establishment and enlargement;
- Communication and media expenses, including publications (e.g. *From Science to Policy* and *What Science Can Tell Us* studies)
- Briefs, EFI News, etc., translations, and video and electronic media;
- Workshop, conference, webinar and meeting expenses, including costs associated with presenters, publicity, translation and reporting;
- Equipment related to supporting the activities of FPS;
- Office running costs (not covered by the agreed overheads);
- Costs related to activities, not included above, that have the approval of the Steering Committee;
- Auditing and final external evaluation costs.

Management: The MDTF policy support work is managed and administrated by the *EFI Policy Support Facility*. It initiates, coordinates, carries out and disseminates science-based analysis and synthesis assessments for policy makers, stakeholders, media and the public at large. It supports science-policy dialogue and functions as a go-between scientists and policy makers. One of the main activities is also the managing and operation of ThinkForest Forum, the high-level science-policy information, discussion and information-sharing forum.

Based on feedback from the Steering Committee members, EFI prepares an annual work plan and an associated budget which is approved by the Steering Committee. Studies may be planned to be conducted within a period of up to three years subject to the availability of sufficient funding.

The team responsible for managing and administrating the MDTF policy support work in 2020 was:

Lauri Hetemäki, Assistant Director, EFI
Rach Colling, Head of Communications, EFI
Jarkko Haltia, Administrative Officer, EFI
Harald Mauser, Brussels Liaison Officer, EFI
Ulla Vänttinen, Communications Officer, EFI

2. Activities and outputs

The activities under MDTF for Policy Support were of many different types during 2020. The flagship activities are the ThinkForest webinars and science-policy publications. In addition, a number of related and supporting activities were carried out, such as the policy support newsletter, videos, policy support webpage, posters, social media activities, expert statements and presentations in policy forums/webinars, and efforts to get new countries to join the MDTF. This chapter gives more detailed information about these activities.

2.1 Publications

2.1.1. Science-policy studies

MDTF publications build on existing EFI series, with the aim of creating a cascade of products, targeted at different audiences and purposes. Their main objective is to synthesise existing science analysis and results, and draw policy implications based on these, to inform policy making and stakeholders' work. The text is accordingly written in a format that is easily accessible to these target groups. To help wider distribution and impact, the studies or their Executive Summaries are also translated to other languages, when needed. So far the translations include Chinese, Czech, French, German, Italian, Russian and Spanish editions.

EFI series	No of pages	Purpose
What Science Can Tell Us (WSCTU)	80-100	Synthesis of large scope studies. Main target groups: civil servants, policy makers' assistants, stakeholders, experts, researchers
From Science to Policy (FSTP)	28-50	Synthesis of a specific topic, carried out within a short timeframe (typically in 4-8 months). Main target groups: civil servants, policy makers' assistants, stakeholders, experts, researchers
Knowledge to Action (K2A)	12-60	Presents the results of research (or topic synthesis), an initiative or project in an attractive format. Main target groups: society, stakeholders, policy-makers, media.

In 2020, two new *From Science to Policy* studies were published. In addition, *From Science to Policy 8*: *Living with bark beetles: impacts, outlook and management options* was translated into Czech and made available online. **One report was also published in EFI's new *Knowledge to Action* series**.

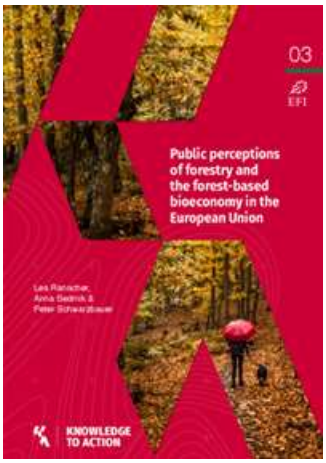
To ensure maximum impact and findability, from 2019 onwards all EFI publications have been given Digital Object Identifier or **DOI references**. This is a string of numbers, letters and symbols used to identify an article or document and link it to the web. A DOI helps a reader easily locate a document, and makes the publications more citable.

From Science to Policy 10: European forest governance post-2020
https://doi.org/10.36333/fs10

The study was coordinated by Bernhard Wolfslehner, from the University of Natural Resources and Life Sciences, Vienna, and EFI Forest Policy Research Network, Austria. It had 13 authors from 10 institutions and 6 countries.

From Science to Policy 11: China-Europe Forest Bioeconomy: Assessment and Outlook
https://doi.org/10.36333/fs11

The study was coordinated by Prof. Maarit Kallio, from the Norwegian University of Life Sciences, Norway. It had 13 authors from 12 institutions and 6 countries.



Knowledge to Action 03: Public perceptions of forestry and the forest-based bioeconomy in the European Union
https://doi.org/10.36333/k2a03

The report was coordinated by Lea Ranacher from Wood K plus – Competence Center for Wood Composites and Wood Chemistry. It had 3 authors from 2 institutions, and 1 country.

Author affiliations	Countries represented
Beijing Forestry University Chinese Academy of Forestry, Institute of Information and Policy EFI EFI Forest Policy Research Network European Commission, Joint Research Centre Humboldt University of Berlin Institute for International Economic Research of National Development and Reform Committee, China Institute of Microbiology, Chinese Academy of Sciences Norwegian University of Life Sciences* Slovenian Forestry Institute* Singapore National University South China Agricultural University Umeå University University of Freiburg* University of Helsinki* University of Natural Resources and Life Sciences, Vienna* University of Oxford University of Padova Wageningen University and Research* Wood K plus – Competence Center for Wood Composites and Wood Chemistry International Union of Forest Research Organisations (IUFRO)	Austria China Finland Germany Ireland Italy Netherlands Norway Slovenia Singapore Sweden UK

**EFI Associate or Affiliate Member organization*

2.1.2 Policy support brochure

A new edition of the policy support brochure (*Science informing policymaking*) was produced in 2020 to promote the work of the MDTF, and take account of the change in ThinkForest president. The brochure promotes EFI's core values in science-policy work, and its role in providing unbiased science-based knowledge and promoting science-policy dialogue and networking via ThinkForest.

https://efi.int/sites/default/files/files/publication-bank/2020/EFI_policybrochure_2020_0.pdf

2.1.3 Policy support newsletter and mailings

The Science Informing Policy-making online newsletter reports on and promotes ThinkForest events and MDTF-funded studies, in addition to more general news items on current MDTF themes (for example bioeconomy, forest fires). The newsletter is sent by email to EFI's policy support mailing list, using the Apsis newsletter system, and is promoted to EFI's wider network via social media.

Subscription was actively promoted during the year (e.g. during registration for events), and by the end of 2020, the policy support newsletter mailing list totalled some c.880 subscribers, and the events mailing list c.890 subscribers.

Several editions of the newsletter were published in 2020, and we also trialled single issue mailings (for example relating to publications) which saw high engagement figures.

Newsletter/mailing	Contents
08.01.2020	• Green Deal needs plantation forests • A new equilibrium for plantation forests
29.04.2020	• New publication: European forest governance post-2020
30.04.2020	• A new era of forest policymaking • Science Insights to the European Green Deal and Forests
22.10.2020	• We are seeking an Assistant Director for Policy Support
16.12.2020	• Five priorities for EU-China bioeconomy development
14.12.2020	• New study assesses future Europe-China forest bioeconomy development

2.2. ThinkForest webinars

ThinkForest events in 2020 were all organised as online events due to COVID-19 impacts to face-face events. There were four ThinkForest webinars in 2020: 1. "Science Insights to European Green Deal and Forests", held 20 May 2020; 2. "European Forest Policy Post-2020" held on 22 September 2020; 3." Public Perception on Forests and Bioeconomy" held on 27 October 2020 and 4. "China-Europe Forest Bioeconomy" organised on 9 December 2020.

Science Insights to European Green Deal and Forests (20 May)

The first ever ThinkForest webinar took place on 20 May discussing European Green Deal and Forests. An overwhelming 88% or 125 of those participants who took part in the polling during the webinar agreed that the forest bioeconomy is an important missing link in the Green Deal. Speakers and panellists agreed that the EU Green Deal is welcome and necessary, but it needs updating to be even stronger, in particular in the light of the need of recovery from COVID-19 caused economic slump.

COVID-19 is providing the missing urgency to the Green Deal, and an opportunity to learn valuable lessons, pointed out Janez Potočnik, ThinkForest President. Better management of natural resources is vital for strengthening preparedness and resilience, as well competitiveness, he continued.

The question on resources was explored by Prof. Gert-Jan Nabuurs, who explained the benefits of Climate Smart Forestry, and how it is key to understanding the potential trade-offs and synergies between mitigation, adaptation, bioeconomy and biodiversity. Prof. Jürgen Bauhus looked at the complex issue of forest biodiversity and Green Deal. He concluded that increasing the coverage of strictly protected areas was unlikely to be the most effective and efficient approach, especially given climate change.

Lauri Hetemäki, EFI Assistant Director, explored the relationship of bioeconomy and the Green Deal. He said that the Green Deal goals on climate neutrality cannot be met without a new range of biobased solutions. The bioeconomy provides also income to fund forest management measures which help to adapt forests to changing climate and enhance biodiversity, he concluded.

ThinkForest webinar took place on 20 May 2020. The webinar was hosted by Markus Natri, and speakers included Anne Toppinen (University of Helsinki), Marc Palahì (EFI), Stefan Sundman (UPM-Kymmene), Gert-Jan Nabuurs (Wageningen University), Jürgen Bauhus (Freiburg University, Fanny-Pomme Langue (CEPF), Chantal van Ham (IUCN), Lauri Hetemäki (EFI) and ThinkForest President Janez Potočnik.

Lively panel discussion focused on several key issues for forests, including active management, multifunctionality, finance, and the human dimension of forest owners. It stated, for example, that it is

essential to engage the EU 16 million private forest owners and the forest-based industry to reach the goals of the Green deal.

The webinar was well-attended by 313 participants. Out of all participants, 20 were country representatives (ministries and embassies). Other main participant groups were researchers (98), forest owners and forest industry (51), European Parliament representatives and European Commission officials (21) NGOs (14), other stakeholder groups (64) and international organisations (44, incl. participants from EFI). The event was recorded and the video has been watched by 939 people by the end of 2020.

European Forest Policy Post-2020 (22 September)

A forward-looking discussion on the future of forest policy in Europe was held in the ThinkForest webinar on 22 September. Contributing via video, two former Prime Ministers offered reflections on the transformational nature of policies that would be needed in the future, especially given the current COVID-19 crisis. Felipe González, former Spanish Prime Minister pointed out that "We see nature and the countryside from a very urban perspective". Moving to a different economic model and a different relationship with nature would require effort, commitment and cost. Göran Persson, former Swedish Prime Minister, also emphasized the need to overcome the rural-urban divide. "You need to involve those who are able to carry out the most important part of the Green Deal, namely those who are working in our forest, in our agricultural sector", he said.

Eva Müller from the German Federal Ministry of Food and Agriculture, called for the forthcoming EU Forest Strategy to focus on three key objectives: strengthening resilience and the adaptive capacity of forests, maintaining and enhancing forest biodiversity, and promoting and further developing the contribution of forest-based sector to the circular bioeconomy.

Eva Müller, Director General for Forest, Sustainability and Renewable Resources, Federal Ministry of Food and Agriculture, Germany giving keynote speech on forests and Green Deal at the ThinkForest webinar held on 22 September.

Bernhard Wolfslehner from the EFI Forest Policy Research Network introduced the EFI study on European Forest governance post-2020. He pointed out what we have learnt from other sectors, for example agriculture, water and energy policies. Eeva Primmer from the Finnish Environment Institute emphasized the multifunctionality of forests, and also the timescale and evolution of forests and forest policy. Summing up, Janez Potočnik stated that a more strategic approach to European Forests, forestry and forest-based solutions is needed.

The webinar was attended by 172 participants. The participants represented forest industry and forest owners (24), other stakeholders/ NGOs (37), research organizations (62), countries (17) and international organizations (23, incl. participants from EFI). The event has been followed via video recording by 183 people by the end of 2020.

Public Perception on Forests and Bioeconomy (27 October)

The ThinkForest webinar organised on 27 October focused on how the media, science and stakeholder groups shape the political and general public's perceptions of forests and the forest bioeconomy. Tom Heap, BBC News Rural Affairs correspondent, pointed out that the narrative has changed from the haunted forests of the past to forests which are now disturbed by human actions. The public care hugely about forest losses in their countries, and this strong media narrative of 'forests in peril' makes things difficult for productive forestry and the bioeconomy.

Both Christopher Raymond, an IPBES lead author, and Göran Berndes, and IPCC lead author, reflected on the role of scientists and international science-based panels play in shaping public perceptions. Collaborating across disciplines is vital, and here panels like IPCC and IBPES can help to produce a coherent perspective, providing summaries for policymakers and soundbites for media which are underpinned with a huge amount of science. These can be quickly disseminated, and lead to societal and political discussion.

The importance of communications was also highlighted from the policymaker perspective, when shaping policy agendas. Terhi Lehtonen, State Secretary for Climate and Environment in Finland, spoke about the recent actions the Finnish Government has taken to combine different forest needs in policy. Maria Patek, from the Federal Ministry of Agriculture, Regions and Tourism, Austria, said that communication with stakeholders was key to gain trust and enhance collaboration both inside and outside the sector.

Lea Ranacher from Wood K Plus presented the results of the EFI metastudy, which reviews and summarises studies from the last decade to give a European-level perspective on public attitudes to forests and forest bioeconomy. The study team's analysis showed that forest ecosystem services are highly valued, with environmental benefits seen as more important than social and economic ones. Although wood products are perceived as environmentally friendly, there's little awareness of new wood-based products.

Panel on science and interest groups shaping public perception on forests during the ThinkForest webinar held on 27 October. Kai Lintunen (UNECE/FAO Forest Communicators' Network) moderated the panel including Göran Berndes (Chalmers University of Technology), Linde Zuideman (FERN) and Silvia Melegari (CEI-Bois and EOS)

From a stakeholder perspective, Silvia Melegari from CEI-Bois & EOS commented on the difficulty of showing the public the added value of forests. Linde Zuidema from FERN commented that wood is seen as a sustainable raw material but that the general public already understands that wood products are not necessarily sustainable products. Summing up, ThinkForest President Janez Potočnik, commented that the public is quite environmentally conscious, as can be seen from the EFI study, but acts and reacts intuitively due to a lack of information. A precondition for the bioeconomy to be acceptable for the public is that it is sustainable and contributing to sustainability efforts. This does not happen automatically – trust will be needed as well as explaining with science to the public and media.

Out of all 167 webinar participants, 16 were country representatives, 30 represented forest industry and forest owners, 39 NGOs and other stakeholder groups, 57 were from research organisations and 17 from international organisations (incl. EFI). The webinar was recorded, and it has been followed via video recording by 171 people by the end of 2020.

China-Europe Forest Bioeconomy (9 December)

The fourth ThinkForest webinar held in 2020 focused on the potential challenges, possibilities and policy implications for future European-China forest-based bioeconomy development. To start, ThinkForest President Janez Potočnik reminded the audience that future economic development depends on how we take care of our environment and resources, and that the circular bioeconomy can decouple economic development from resource use and environmental impacts while delivering the SDGs. EU-China relations are of great relevance in that context.

Esko Aho, the former Prime Minister of Finland went through five priority areas which should be addressed in successful cooperation between the EU and China. These include: i) more funding to R&D ii) joint university programmes between EU and China for creation of a common knowledge base and education iii) innovations and risk investments for circular bioeconomy iv) joint efforts in regulations and global standards for circular bioeconomy and v) consumer commitment i.e. that new solutions and products have access to markets and become a part of citizens daily life.

Maarit Kallio (Norwegian University of Life Sciences) presenting new From Science to Policy publication on *China-Europe Forest Bioeconomy: Assessment and Outlook* during ThinkForest webinar on 9 December.

Professor Maarit Kallio, Norwegian University of Life Sciences, presented the results of the EFI study, which provides the first systematic assessment of the potential challenges, possibilities for the future and policy implications for Europe-China forest-based bioeconomy development. She pointed out that as biomass resources are limited, China and EU should cooperate to increase the quantity and quality of the biomass recourses and to use the existing resources more smartly. She said that China's climate goals and environmental policies provide business opportunities also for EU-based industries. The China-EU bilateral investment agreement negotiations that started in 2013 to ensure equal rights, obligations and access to respective markets to investors, should finally be concluded.

During the panel discussion led by Kerry Brown, Director, Lau China Institute, King's College London, panellists tackled the practical aspects of China-Europe bioeconomy cooperation, and looked at what should be done to accelerate progress. The panellists agreed that raising public awareness and education at all levels about the circular bioeconomy is important. While exchange and joint university programmes are needed to ensure R&D, we should not forget about practical skills at businesses, as industries are inevitably also affected by, and motors of, the developing bioeconomy.

ThinkForest webinar was attended by 99 participants. They represented countries (11), forest industry and forest owners (7), NGOs/ other stakeholder groups (20), research (44) and international organisations

(13, incl. participants from EFI). The webinar was recorded and recording was added to the EFI YouTube channel in December. It has been watched by 48 people by the end of December 2020.

2.3. Other outputs

2.3.1. Online activities

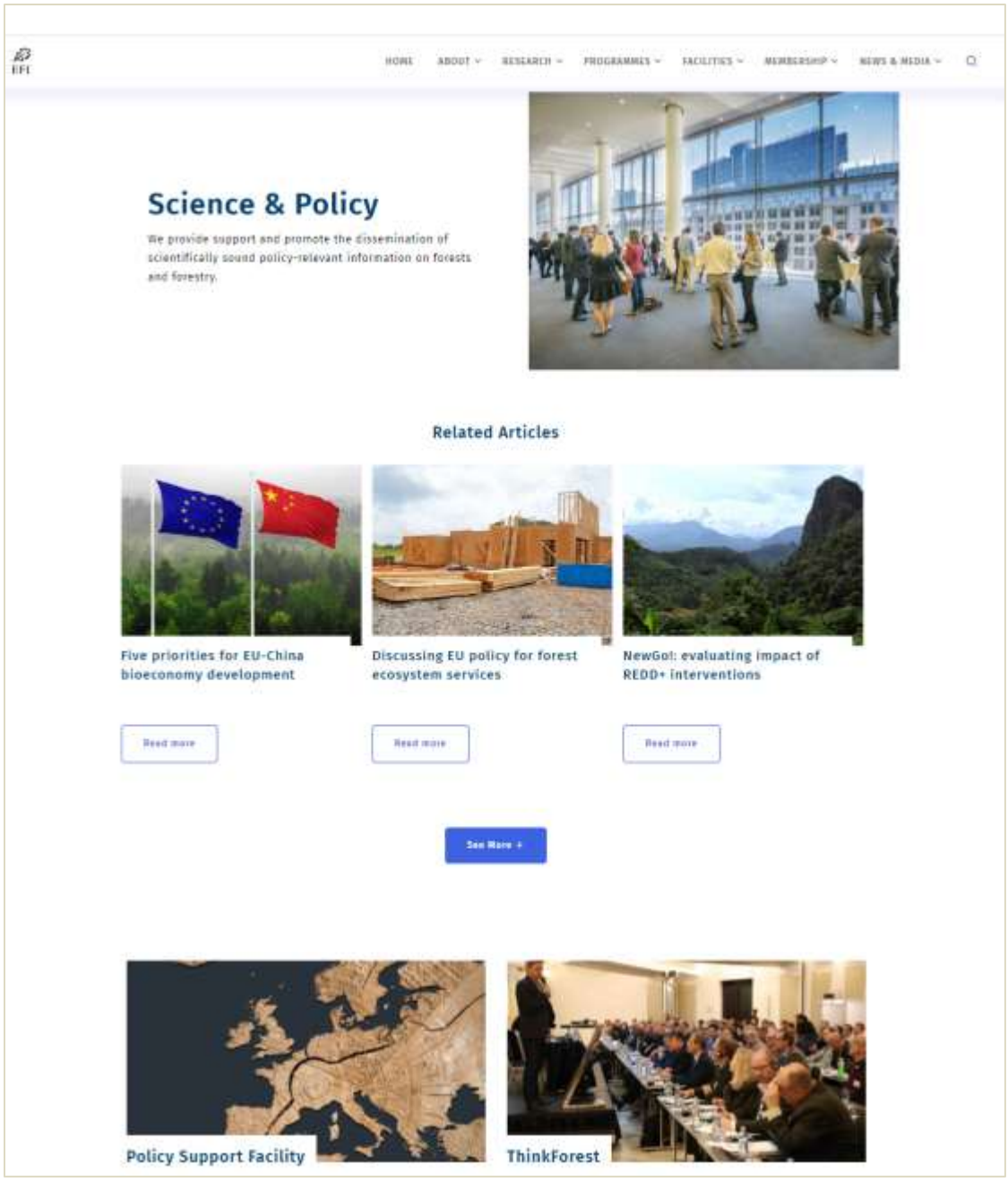
The EFI website is an important tool in MDTF communication activities, as it acts as a central, easily accessible source of information about policy support activities. The website aggregates content from and signposts users to all other channels, but is also the place where a lasting and easily accessible 'footprint' of MDTF-supported outputs is created, making it available to policy makers for future reference.

In December 2020, the EFI website underwent a refit, with changes to both the design and navigation. The changes were driven by a user-centred and data-oriented (Google Analytics) approach, and bring four clear pathways to information for users: Science & policy; Research; Members; and Media.

Essentially the EFI website content remains the same, and has just been reorganised, with a simpler structure and menu, and a cleaner and simpler design.

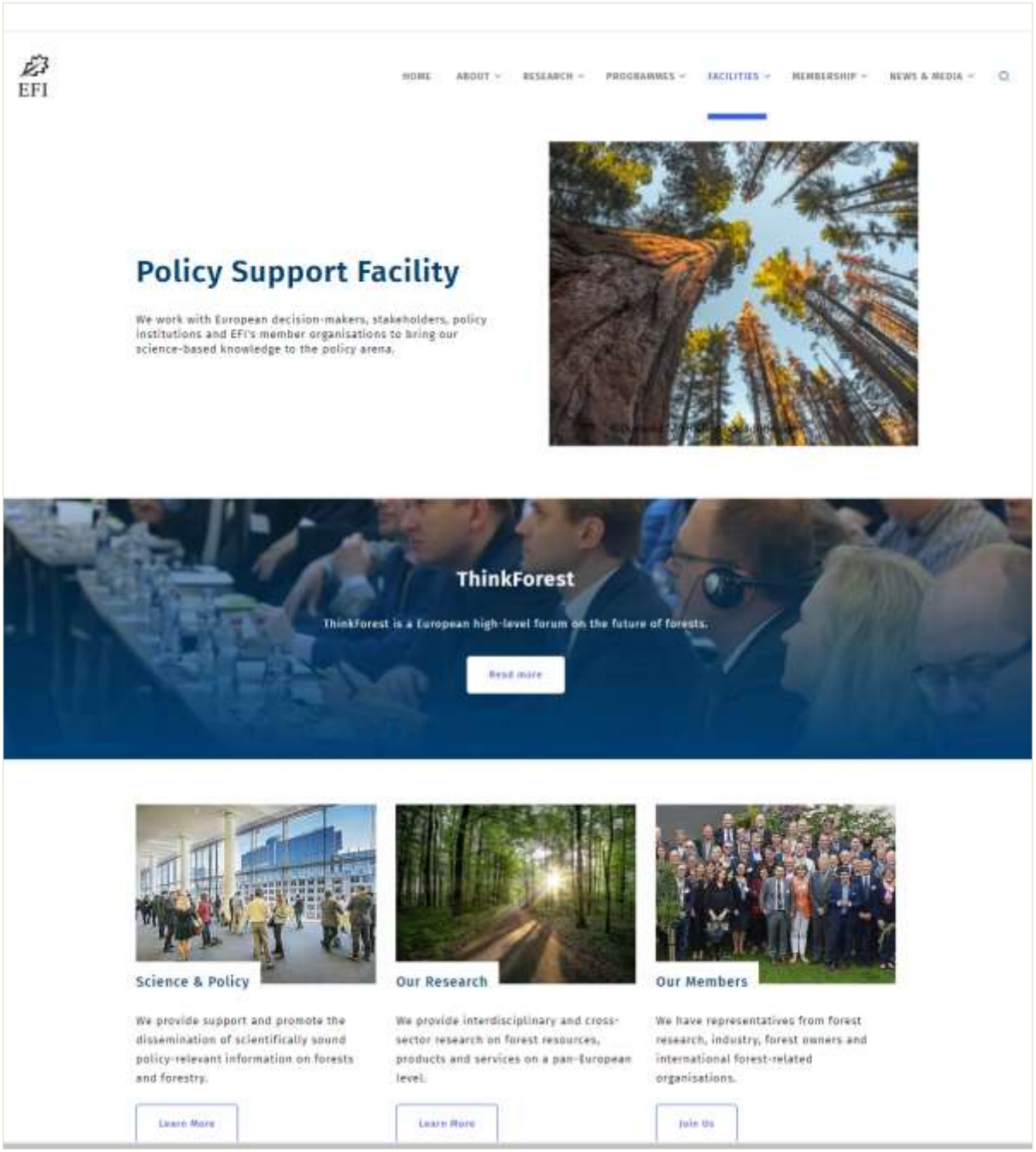
For users looking for information about MDTF activities, there are now clear routes:

1. Via Science and Policy landing page



https://www.efi.int/policysupport

2. Via [Policy Support Facility page]



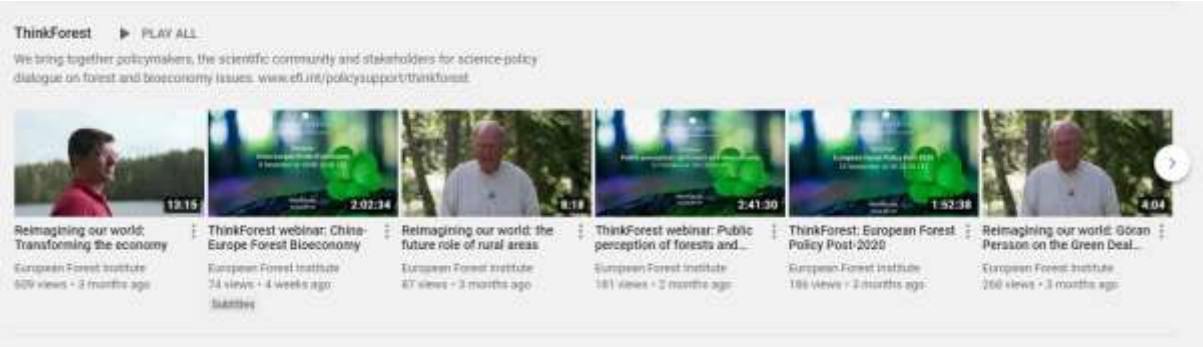
There are also new opportunities for featuring policy support material in the news/events/publications and slideshow featured on the EFI homepage (www.efi.int).

ThinkForest activities are promoted via a dedicated page, (www.efi.int/policysupport/thinkforest), and each new event has its own dedicated subpage, including mini-biographies of key speakers, programme, background information etc. This is updated after each event to include relevant news releases, photos, presentations and videos.

All MDTF publications are deposited in the site-wide Publications Bank (www.efi.int/publications-bank).

VIDEOS

In 2020, all four ThinkForest events were accessed as webinars. The webinar recordings were made available afterwards via the EFI YouTube channel, giving a lasting record of ThinkForest discussions.



Event	Recording views 2020
ThinkForest webinar: China-Europe Forest Bioeconomy (Dec)	48
ThinkForest webinar: Public perception of forests and bioeconomy (Oct)	171
ThinkForest: European Forest Policy Post-2020 (Sept)	183
ThinkForest: Science insights to the European Green Deal and forests (May)	939

For the September ThinkForest webinar on European Forest Policy Post-2020, a video was produced. “Reimagining our world: Transforming the economy”, saw EFI Director Marc Palahí speaking to Felipe González (Prime Minister, Spain 1982-96) and Göran Persson (Prime Minister, Sweden, 1996-2006) about reimagining our world. Can the current Covid-19 situation be a catalyst for change?

Three versions of the video were made in different lengths. The long version was played during the webinar, and the two shorter versions were used on social media.

	Recording views 2020
Reimagining our world: Transforming the economy (full length)	579
Reimagining our world: Göran Persson on the Green Deal and the future of rural areas (short)	208
Reimagining our world: the future role of rural areas (short)	84


SOCIAL MEDIA

During 2020, MDTF-funded policy support work was promoted via EFI's social media channels, to reach a geographically widespread audience.

Social media channel	Number of followers *(31 Dec 2020)*	Number of followers *(31 Dec 2019)*	Number of followers *(31 Dec 2018)*
Twitter (main EFI account)	10,300	8,853	7,431
Facebook	8,141	7,812	6,515
LinkedIn	11,450	8,349	5,529
YouTube	1,210	911	731 subscribers

Effort again focused on Twitter, which is used professionally by the policy maker audience. Tweets were broadcast from each of the 2020 ThinkForest webinars, with good social media conversations and interactions. During 2020, there were 1,585 tweets from the main EFI Twitter account, which gained over 1,440 new followers. The messages were also amplified by EFI's other Twitter accounts, and across EFI's other social media channels, where the audience is also rapidly increasing (especially on LinkedIn).

Enlarging the MDTF

The MDTF started in January 2015 with 8 countries: Austria, Finland, France, Germany, Ireland, Italy, Norway and Sweden. In 2016 Spain joined, in 2017 the Czech Republic and in 2018 Lithuania. However, at the end of 2018, France stepped down from the MDTF.

Currently Central-, Northern-, Southern and Eastern Europe are all represented in the MDTF. During 2020, active efforts to engage more European countries to MDTF were taken by the EFI Director and Assistant Director, in particular, Poland, Slovenia and the UK.

3. Impacts

In general, the EFI MDTF Policy Support work has during 2020 received very positive feedback and it has reached a wide audience. The impact indicators given in this Report show a robust continuation of MDTF activities impact (see Appendix). Unlike in past years, in 2020 due to COVID19 it was not possible to receive direct feed-back on the activities in the ThinkForest networking events, nor in the face-to-face meetings with the policy-makers, stakeholders, etc. However, the numerous requests for expert presentations or statements based on the MDTF work support the conclusion that the work has been very much valued. Besides the information reported below, during meetings and discussions that EFI's Director, Assistant Director and Brussel's Liaison Officer had during 2020 with European Parliament MEPs, European Commission staff, national ministries and stakeholders, very positive feedback was given for the MDTF policy support work. In summary, the work has been very well received and pointed that it is a unique and needed platform for pan-European forest-based sector science-policy work.

3.1 Downloads

Previously, all MDTF publications have been available in printed and online formats. However, in 2020, no copies of publications were printed due to COVID19.

The electronic copies of these studies again proved very popular. Included in the table below are details of downloads of all major *MDTF* publications produced to date (2015 onwards) from the EFI website. This is of course a snapshot of one segment of usage, as the publications are also available in e.g., ResearchGate, authors' institutional repositories, organisations' own libraries etc.

Title	Publication date	No of electronic copies downloaded 2020*	DOI resolutions**	Lifetime copies downloaded
FSTP11 (China-Europe bioeconomy)	Dec 2020	128	248	128
K2A03 (Public perception)	Oct 2020	356	747	356
FSTP10 (Forest governance)	April 2020	553	781	553
FSTP9 (Plantation forests)	Dec 2019	427	303	532

FSTP8 (Bark beetles) (EN, CZ)	Apr 2019	318	406	4822
FSTP 7 (Substitution effects of wood-based products)	Nov 2018	314	398	4659
FSTP 6 (Climate-Smart Forestry)	Mar 2018	189	75	3403
WSCTU 8 (Forest-based bioeconomy), plus Summary	Dec 2017	215	n/a	8390
FSTP 5 (Circular bioeconomy) (EN, CN, RU)	Oct 2017	156	376	7225
FSTP 5 Summaries (EN, FR, DE, IT, ES, CN, RU)	Nov 2017-Apr 18	91	n/a	4019
WSCTU 7 (Natura 2000) plus Summary	Sept 2017	85	n/a	4161
FSTP 4 (Forest bioeconomy indicators)	Nov 2016	69	69	8347
FSTP 3 (Forest biomass, carbon neutrality)	Oct 2016	232	226	17031
FSTP 2 (A new role for forests)	Dec 2015	78	110	11668
FSTP 1 (EUTR-FLEGT)	Apr 2015	47	27	8808

** In 2020 we moved to a new system of measurement for online downloads. For full details see Annex, online statistics.*

*** DOI resolutions: shows the number of people who have clicked on the DOI address for a publication*

3.2. Impact and feedback from stakeholders and network

The COVID19 situation in 2020 decreased almost totally the face-to-face meetings with the relevant network who participates in and follows MDTF activities. Consequently, the direct responses to the MDTF activities were much scarcer relative to the previous years.

The EFI Director had several meetings with His Royal Highness Prince of Wales (HRH), and in those meetings discussed also the work based on MDTF publications. Under the patronage of HRH, the Circular Bioeconomy Alliance was established in 2020, which the EFI Director coordinates.

The Swedish Embassy in Helsinki together with EFI organised a discussion dinner on 12 February 2020 on the European Green Deal and the future of forest policy in the EU. EFI Director Marc Palahí and Assistant Director Lauri Hetemäki gave presentations based on MDTF studies. The event was hosted by Ambassador Anders Ahnlid, and participants included the former Prime Ministers Esko Aho from Finland and Göran

Persson from Sweden, Jennie Nilsson, the Swedish Minister of Rural Affairs, Jari Leppä, the Finnish Minister of Agriculture and Forestry, Krista Mikkonen, the Finnish Minister of Environment and representatives from Finnish and Swedish forest sector stakeholders.

The Assistant Director Lauri Hetemäki was invited to give expert statement to the Finnish Parliamentary Future Committee on the EU Commission's Communication on the Green Deal. This statement relied heavily on the MDTF studies.

In summary, both the direct and indirect impacts of the MDTF work carried out in past years and in 2020 have had significant impact at a very high level of policy.

ThinkForest webinars

In summary, the events have been considered to be timely and tackling topical issues. In particular, participants have appreciated that issues high on the political agenda have been brought to the discussion, and additional science-based information has been provided by the publications and ThinkForest webinars. ThinkForest webinars have been considered important e.g. by European Parliament and European Commission staff and Brussels-based stakeholders. Below are some examples of the comments received.

ThinkForest webinar on Science Insights to the European Green Deal and Forests (20 May)

The first-event ThinkForest webinar was well-attended by 313 participants. Out of all participants, 20 were country representatives (ministries and embassies). Other main participant groups were researchers (98), forest owners and forest industry (51), European Parliament representatives and European Commission officials (21) NGOs (14), other stakeholder groups (64) and international organisations (44, incl. participants from EFI). The event was recorded and the video has been watched 939 times by the end of 2020. Below you'll find some comments related to this webinar:

Thank you very much for organising the webinar, the presentations were really insightful. Looking forward to receive the link to the recording of the webinar to catch up. Also, will you share the slides of the presentations? Office of MEP Müller, European Parliament

Thank you for this opportunity and insight. The webinar was very interesting and helpful. University of Coimbra, Research Support Office

Thank you very much, very good event indeed! Sappi Europe SA, Brussels

Thank you for the wonderful webinar yesterday, it was a pleasure to listen all speakers, and to get clearer picture of the EU Green Deal and Forestry. I would like to ask, is it possible for you to share the video of the webinar. Regional Centre for Forestry and Rural Development REFORD, Macedonia

ThinkForest event on European Forest Policy Post-2020 (22 September)

The webinar was attended by 172 participants. The participants represented forest industry and forest owners (24), other stakeholders/ NGOs (37), research organizations (62), countries (17) and international

organizations (23, incl. participants from EFI). The event has been followed via video recording by 183 people by the end of 2020. A video 'Reimagining our world: Transforming the economy' made with EFI Director Marc Palahí and former Prime Ministers, Felipe González (Spain) and Göran Persson (Sweden) was shown during the webinar. It has reached a good number of viewings also separately; a full length version has been watched 579 times by the end of 2020.

Results of the From Science to Policy publication on 'European forest governance post-2020' were presented in this webinar.

ThinkForest event on Public Perception on Forests and Bioeconomy (27 October)

The webinar was followed by 167 participants, and after the event a video recording was watched by an additional 171 viewers by end of 2020. A new meta-study on 'Public perception on forestry and forest-based bioeconomy in the European Union' was presented in the webinar.

Out of all 167 webinar participants, 16 were country representatives, 30 represented forest industry and forest owners, 39 NGOs and other stakeholder groups, 57 were from research organisations and 17 from international organisations (incl. EFI).

ThinkForest event on China-Europe Forest Bioeconomy (9 December)

This ThinkForest webinar gathered 99 participants. Participants represented countries (11), forest industry and forest owners (7), NGOs/ other stakeholder groups (20), research (44) and international organisations (13, incl. participants from EFI). A recording of the webinar was also made, and added to EFI YouTube channel in December. The recording was watched by 48 viewers by the end of 2020. English subtitles were added to a Chinese part of the recording (ca. 4 minutes), and a revised version was published in mid-January 2021.

A new science-policy study 'China-Europe Forest Bioeconomy: Outlook and Assessment' was presented at this event. However, since the publication was launched late in 2020 (9 December), it is still too early to judge its impact.

After each ThinkForest event, **a news release** on the event has been published at the EFI website. **As a follow-up, stakeholders have published news on their own websites** (see Table below).

ThinkForest event	Number of (web)articles
Science Insights to the European Green Deal and Forests	4
European Forest Policy Post-2020	3
Public Perception on Forests and Bioeconomy	2
China-Europe Forest Bioeconomy	1

The detailed information is available in Table 4.

3.3. Expert presentations, statements and hearings

Two EFI *From Science to Policy* –series studies and one Knowledge to Action study were published during 2020. The authors of the studies, and the Chief Editor of the publications, have presented the study results in various forums. However, since the FSTP no. 11 was published very late in the year (9 December), there were only a few presentations on it.

Below, is a summary of the presentations, expert statements and hearings held in various policy and science-policy forums. In 2020, 18 presentations were held.

Publication	**Presenter / event**
"Climate-Smart Forestry: mitigation impacts in three European regions", FSTP 6 *(Published March 2018)*	1. Mauser, H., Towards Climate Smart Forestry. European Bioenergy Future 2020, Webinar 19 November 2020, Keynote. 2. Nabuurs, G.-J., Invited talk at EU Green Week, Bioenergy session. 'Role of European forests in providing sustainable wood biomass in the future', 19 Oct. 2020, Webinar 3. Mauser, H., Forest Biomass and EU Policies. BIO4ECO - Final Conference, Webinar, 17 September 2020, invited presentation. 4. Nabuurs, G.-J., Invited talk at Shell- State Forest Service meeting on assessing the carbon effects of forest restoration. Almere, Netherlands, 11 Sept. 2020 5. Nabuurs, G.-J., Invited keynote at EFI webinar 'Climate-smart forestry in the Green deal'. 20 May 2020 6. Mauser, H., Consequences of Climate Change on European Forests. Bioenergy Europe - Wood Chips Working Group, Webinar, 15 April 2020, invited presentation. 7. Nabuurs, G.-J-, Invited key note 'climate smart forestry' at the Conference Governing and managing forests for multiple ecosystem services across the globe reservation, Bonn, 26 Febr. 2020 8. Nabuurs, G.-J., Forest and Biodiversity conference.'Necessity and use of forest information in Europe', Berlaymont, Brussels, 4 Febr. 2020 9. Nabuurs, G.-J. Invited talk 'Dutch forest climate policies' National climate action conference, den Bosch, 3 Dec. 2019 10. Nabuurs, G.-J. Invited keynote at Thinktank of Mondi-IUFRO event on future wood supply from Europe, 26 Nov. 2019 11. Nabuurs, G.-J. Hardwood supply in future. Invited presentation at Int Hardwood conference, Berlin, 21 Nov. 2019 12. Nabuurs, G.-J.: Wood supply in future from EU forests. Invited keynote at Raw Materials week, Brussels, 18 Nov. 2019 13. Mauser, H.: What is Climate Smart Forestry?, PEFC EU Policy Seminar 26 Sep. 2019, Brussels 14. Nabuurs, G.-J. Keynote 'Climate-Smart Forestry' at CLIMO Cost action,

	Tatras, Slovakia, 8 Sep. 2019 15. Nabuurs, G.-J. Invited talk 'European forest policy in the frame of bioenergy- IEA workshop, Athens, Georgia, USA, 1-3 May 2019 16. Nabuurs, G.-J. Invited talk 'Role of European forest management' at Global Carbon project meeting RECCAPP2, Gotemba, Japan, 19-23 March 2019 17. Nabuurs, G.-J. Invited lecture at the science seminar of VERIFY H2020 project 'Impact of forest management on European Forests' carbon balance' Reading ECMWF, 13 March 2019 18. Nabuurs, G-J. Invited talk at Green Deal Sustainable Forest Products: 'Chances for sustainable forestry from climate point of view'. Ridderkerk Netherlands. 27 Nov 2018 19. Nabuurs, G-J. Invited talk Prince Edward Island University (UPEI). Sustainable forestry practices for PEI: compatible ideas from Europe. 18 Nov 2018 20. Nabuurs, G-J. Invited talk at Universite Laval Quebec. European forests: challenges in meeting climate mitigation goals. 15 Nov. 2018 21. Nabuurs, G-J. Purdue University, Lafayette, IN, USA. Invited talk: European forests issues under climate change. 12 Nov 2018 22. Nabuurs, G-J. IEA Task 43. Invited lecture 'Role of European forests in provision of biomass under LULUCF Forest Reference level'. Uppsala. 30 August 2018. 23. Nabuurs, G-J. Invited Key note at Royal Swedish Academy, Stockholm. 'A principle choice – manage forest for wood production or leave it as a carbon sink'. 12 March 2018 24. Nabuurs, G-J. Invited keynote at KNAW symposium. 'Multi functionality in European Forests – the EASAC report'. 19 February 2018 25. Nabuurs, G-J. Invited talk at European Parliament: 'Bioenergy policy post 2020. Can Europe's forests supply sustainably under climate smart forestry?' Organised by Skogs- industrierna, Brussels, 9 Jan. 2018
"Substitution effects of wood-based products in climate mitigation", FSTP 7 *(Published, Dec. 2018)*	1. Hans Verkerk & Mariana Hassegawa. FORESIGHT: Forest renewables replacing fossil-based and GHG-intensive products. Annual meeting of the Advisory Committee on Sustainable Forest-based Industries, organized by FAO. 31 March 2020, online 2. Leskinen, P, Climate change mitigation as driver towards bioeconomy, Barents Forest Forum, Umeå 16.10.2019, Keynote. 3. Leskinen, P, The role of wood-based products in climate change mitigation, Koli Forum, Koli, 9.10.2019, invited presentation. 4. Leskinen, P, Forests in climate change mitigation and sustainable bioeconomy, Forum Wood Building Nordic, Helsinki, 27.9.2019, Keynote. 5. Hans Verkerk, Pekka Leskinen, Giuseppe Cardellini, Elias Hurmekoski, Roger Sathre, Jyri Seppälä, Carolyn Smyth & Mariana Hassegawa. Substitution effects of wood-based products in climate change mitigation. Poster presented at the XXV IUFRO World Congress, 25.9.2019, Curitiba, Brazil 6. Hans Verkerk, Climate-Smart Forestry: the missing link. CMCC-EFI webinar: Forests: solutions and perspectives to fight climate change, 21 March

	2019. 7. Hans Verkerk, European forest under climate change and Climate-Smart Forestry, YLP Eurasia, Joensuu, 11 March 2019. 8. Leskinen, Pekka. Invited talk on Forest bioeconomy in climate change mitigation at World Resources Forum. Antwerp, Belgium. 26 February 2019 9. Verkerk, H. Climate Smart Forestry, BioMonitor and other outlook activities at EFI. Workshop on Exchange of Experiences in Forest Sector Outlook Studies and Related Work, Koli, Finland. 14 February 2019 10. Verkerk, H. 2018. Mitigating climate change through Climate-Smart Forestry. FORMASAM kick-off meeting, 12-14 November 2018, Wageningen.
"Living with bark beetles: impacts, outlook and management options", FSTP 8 *(Published, April 2019)*	1. Presentation *"Current bark beetle outbreaks in Central Europe – Causes, impacts and future developments*". COFFI 2020, the 78th session of the ECE Committee on Forests and the Forest Industry. 5.11.2020 2. Hlásny, T., Presentation of the report at the meeting of the Slovak Academy of Agriculture Sciences, Zvolen, Slovakia, 17.11.2019 3. Hlásny, T., Presentation of the report at the Wood Forum (Virkenforum), Stockholm, Sweden, 11.9.2019 4. Hlásny, T., Two interviews with Swedish journalist, 11.9.2019, https://www.landskogsbruk.se/skog/all-avverkning-koncentreras-till-dod-skog-i-tjeckien/?fbclid=IwAR34PcGU5IWIJNDE6kI-l0dSHTokZ07zk_oXifW-efl8FbDcStV7c_jCXSk 5. Svoboda, M., Presentation of the report in the FECOF meeting, Prague, Czech Republic, 20.10.2019 6. Hlásny, T. Presentation of the report at the General Assembly of the European Organization of the Sawmill Industry, Vienna, Austria, 18.6.2019 7. Hlásny, T., Presentation of the report in the meeting with senators in the Czech Parlament, Prague, Czech Republic, 10.6.2019 8. Hlásny, T., Input to the Czech TV, Prague, Czech Republic, 4.4.2019 9. Hlásny, T., Presentation of the report at SURE project meeting, Prague, Czech Republic, 3.4. 2019
"Plantation forests in Europe: challenges and opportunities" FSTP 9 *(Published, Dec. 2019)*	1. Freer-Smith P. US Forest Service Forests and Fire Ecology Lecture series 12 March 2020 Invited talk title: Forest Land Use and Management Strategies to deliver European Climate and Bioeconomy Policies' 2. Freer-Smith, P., Presentation of the preliminary results of the study at the EFI Annual Conference Scientific seminar, Aberdeen, UK, 19.9.2019
"Forest policy governance post-2020" FSTP10	1. Wolfslehner B. Europäische Waldpolitik nach 2020. Webinar Austrian Forest Dialogue. 30.11.2020

(Published, April 2020)	
"Public perception of forests and forest-based bioeconomy in European Union" K2A 3 *(Published, Oct. 2020)*	1. Ranacher, Lea, Contested Society-Nature-Relations – Forest-related Emotions, Practices and Conflicts in Times of Societal Change, International Multidisciplinary Workshop, 24-25 November 2020, Jena, Germany (postponed to **2021**)
"China-Europe Forest Bioeconomy: Assessment and Outlook" (*Published in Dec. 2020)*	1. Xiaoqian Chen. Develop China's Domestic Timber Production Capacity Sustainably, Online meeting of "Sustainable Management Forest Resources in China", Beijing, 9 January **2021** 2. Xiaoqian Chen. Forestry Bioeconomy Policy and Market in China, "Green Growth in Forest Sector", Beijing, World Economic Forum, Beijing office Beijing, 16, Oct. 2020 3. Xiaoqian Chen. Green Development in China, "Youth Forum of Green and sustainable development in Asia Pacific", Beijing, 10 December 2019 4. Xiaoqian Chen. Forest Bioeconomy in China, "China-Europe Forest Bioeconomy" seminar, Embassy of Finland Residence, Beijing, 14 November 2019 5. Xiaoqian Chen. Presentation of the preliminary results of the study at the EFI Annual Conference Scientific seminar, Aberdeen, UK, 19.9.2019
Presentations based on several MDTF studies	1. Lauri Hetemäki. What changes are expected in forestry at European level?, Forest Sector Conference 2020 "Climate, Future, Forests", 22 January 2020, University of Latvia, The House of Nature, Riga. 2. Lauri Hetemäki. The Green Deal and the EU Forest policies, Sweden's Embassy in Helsinki, 12 February 2020. 3. Lauri Hetemäki. Expert statement to the Finnish Parliamentary Future Committee on the EU Commission's Communication on the Green Deal. 17 April 2020. 4. Lauri Hetemäki. Circular Bioeconomy: introduction and a forest perspective. NOVA Course Lecture, University of Helsinki, 8 April 2020. 5. Lauri Hetemäki. Dynamics of the bioeconomy market with focus on wood. CIFOR-ICRAF Workshop "Delivering a forest-based circular bio-economy", 10 December 2020.

3.4. Media impacts

There was active contact with the media during 2020, with news items/press releases and invitations to ThinkForest events.

11 press releases/news items were published in 2020 on the EFI website. In 2020, we also made use of the EFI blog, posting three blog posts on timely, relevant topics. These were well-received, with, for example the March 2020 post on the EU Green Deal and bioeconomy being viewed over 10,000 times over the course of 2020.

09.12.2020 Five priorities for EU-China bioeconomy development
09.12.2020 New study assesses future Europe-China forest bioeconomy development
28.10.2020 Communication key to shaping public understanding of forest bioeconomy
27.10.2020 New study analyses public perceptions of forestry and bioeconomy
22.10.2020 We are seeking an Assistant Director for Policy Support
23.09.2020 Strategic and holistic approach to European forest policy needed
10.06.2020 Circular bioeconomy – the oldest concept on planet earth (EFI blog, Janez Potocnik)
29.04.2020 A new era of forest policymaking
22.04.2020 Green Deal needs forest bioeconomy
15.04.2020 Climate Smart Forestry: the missing link
02.04.2020 Seeing the wood in the forests (EFI blog, Lauri Hetemäki, Marc Palahí, Robert Nasi)
20.03.2020 Bioeconomy: the missing link to connect the dots in the EU Green Deal (EFI blog, Marc Palahí, Lauri Hetemäki, Janez Potocnik)
20.03.2020 Bioeconomy: the missing link to connect the dots in the EU Green Deal
13.02.2020 EFI facilitates high-level Green Deal discussions

Media invitations
Press invitations were distributed by email, using an off-the-shelf system, Meltwater. This allows you to create distribution lists based on country and the journalist's 'beat' (area of specialism), and to monitor whether each invitation has been opened.

Meltwater covers all journalists in the following countries: Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Netherlands, Norway, Sweden, Switzerland, UK, USA. In addition, a separate in-house list of Brussels-based correspondents is used; this was updated in summer 2020.

Event	Mailing list size	Press invitation to event *(% read)*	Media attendance at live event	Media articles
ThinkForest: China-Europe Forest Bioeconomy, 9 December 2020	360	21%	3	0

ThinkForest: Public Perception on Forests and Bioeconomy, 27 October 2020	801	17%	3	1
ThinkForest: European Forest Policy Post-2020, 22 September 2020	596	18%	4	1
ThinkForest: Science Insights to European Green Deal and Forests, 20 May 2020	269	26%	0	4

Media attendance and immediate coverage of live events is often limited, with journalists mostly using events as an opportunity to gain background information on a subject. Journalists also watch the recording afterwards, although this is only possible to validate anecdotally.

For example, in June 2020 we had an approach from a Politico journalist, who was following up on issues discussed in the ThinkForest May Green Deal webinar, having watched the recording. This led to a major article in Politico.eu

Journalist questions in webinar

The ThinkForest webinar on Public Perception in October 2020 trialled a new opportunity, with selected journalists invited to ask questions during the programme. Borut Tavčar, Specialized Journalist in Environment, Energy and Mobility, from Delo (Slovenian national daily newspaper), participated in this event. This led to later coverage in his home newspaper.

Media coverage

Post-event media coverage and ongoing media monitoring was also carried out via the Meltwater system. For more information see Annex Table 5.

Sound Reporting Co-Lab media bootcamp

The Sound Reporting Co-Lab was a 6-month media support programme from EFI's Lookout Station that took place in 2019 to help journalists produce sound-based stories around climate change impacts on forests, biodiversity and local communities. This project was supported by the MDTF with 7,000 euros in 2019. Several pieces have now been produced by the journalists involved in the programme:

Follow up articles from Sound Reporting Co-Lab, July 2019, Poland			
Czech Radio, 13.07.2019	Czech Republic	Kácet, nebo nezasahovat? Dilema v boji s kůrovcem rozděluje Poláky pečující o nejvzácnější evropský prales	https://radiozurnal.rozhlas.cz/kacet-nebo-nezasahovat-dilema-v-boji-s-kurovcem-rozdeluje-polaky-pecujici-o-7982516
Thomson Reuters Foundation 12.01.2020	International	Bark beetles threaten forests as heat rises	https://www.facebook.com/watch/?v=2378148632495438
Riff Reporters 25.03.2020	Germany	Europäischer Urwald in Białowieża – Streit um einen Naturschatz	https://www.riffreporter.de/flugbegleiter-koralle/weltnaturerbe-bialowieza/

4. Reporting of expenses

4.1 Background

The general background principle for reporting of the funding and budgeting of the MDTF for 2020 is given here. Due to the time lag between closing of the accounts, as of 11 February 2021 (time of writing this) the financial accounts for EFI 2020 have not yet been closed.

4.2 Expenditures by cost category

In 2020 the MDTF funded partial salaries of the Assistant Director managing the MDTF, Communication Officer responsible for the administration and event organisation, Administrative Officer responsible for administrative procedures (e.g. contracting) of MDTF SC, Head of Communications responsible for the MDTF communication, and Brussels Liaison Officer supporting the dissemination and increasing the impact of the MDTF work and networking in Brussels (all positions partly funded by MDTF). These salary costs were linked to the general management, planning, administration, communication, networking, and coordination of the MDTF work. All the other salaries paid from MDTF to EFI staff were related directly to specific policy support activities and Work Packages.

Besides the salaries, expenses related to the expenditure categories listed under the MDTF Guidelines (shown also in Chapter 1.2) were covered by the MDTF funds.

According to MDTF Guidelines, 13% is allocated to overheads (indirect costs). Compared to common practices, this is a very low share. For example, in European Commission Horizon 2020 overheads is 25% for research and innovation projects. Indeed, in the MDTF case, the 13% overheads can be viewed to cover the usage of EFI brand, some of the EFI staff costs (e.g., Director's work input, ad hoc and small administration work input), maintenance of administration software (e.g. budgeting software), office rent and office maintenance costs, etc. The staff costs related to the MDTF activities (e.g., coordination, management, administration, EFI lawyer costs related to subcontracting and country agreements, working for the publications and ThinkForest webinars) are reported under MDTF salaries, not overheads.

The activities under MDTF have been organized for administrative and cost following purposes under Work Packages (WP). In 2019, costs were related to following WPs:

1. FPS Multi-Donor Trust Fund General
2. FPS MDTF WP4: Europe post-2020
3. FPS MDTF WP5: Afforestation and plantation
4. FPS MDTF WP6: Bark beetle
5. FPS MDTF WP7: China-Europe forest bioeconomy
6. FPS MDTF WP9: Public perception on forests
7. FPS MDTF WP10: Science insights to Green Deal
8. FPS MDTF WP11: European Forest Facts

5. Current and emerging forest-related policy issues and trends in Europe

According to the MDTF Guidelines *"EFI will provide on a yearly basis a broad overview (summary) of the current and emerging European forest-related policy issues and trends"*. This chapter seeks to fulfil this objective.

In the Annual Report 2019, this Chapter discussed broadly the general EU policy framework in the context of it addressing the global and European grand challenges. Here, we will be more focused and address in particular the *climate issue*. In November 2021, the UN climate conference will take place in Glasgow[1], and the European Commission is expected to come with the new proposal on land use, land-use change, and forestry (LULUCF) regulation. However, when discussing the climate issue, it is very important to bear in mind its connections to broader issues, including biodiversity. Climate change and biodiversity are interconnected in many ways, and should also be addressed simultaneously. Indeed, in May 2021 the UN Biodiversity Conference takes place in China[2], and the new EU Biodiversity Strategy published in May 2020 will be in the implementation stage. This chapter also reflects on the climate issue in the larger planetary boundaries context. Finally, the Chapter analyses the role of the EU forest-based sector in reaching EU carbon neutrality by 2050. In this context, it also reflects on the LULUCF regulation as part of the larger climate change mitigation objective.

5.1 The Period of Wakening to Planetary Boundaries

Humans have a tendency to see the times they are living in as periods of exceptional change, something that is historically very different from the past. Globalization and the spread of the internet at the turn of the century, and financial crises in 2008-2010 are two such recent examples. In hindsight, they changed significantly many things, and indeed could perhaps be seen as exceptional periods. Currently, we seem to face yet another major periodic structural change, one that seems to be even more significant than the two we have already experienced in this century. Here, we label it as "*the period of wakening to planetary boundaries"*. This period has its roots in scientists' warnings, and manifests itself in increasing societal awareness of environmental concerns, and new international and national policy agendas directed to these. Time will show how significant this period turns out to be, but currently the expectation is that it will lead to systemic changes in our society, rather than only fine tuning.

'Planetary boundaries' is a concept that has been especially introduced by earth system scientists (Rockström et al. 2009, Steffen et al. 2015, Otto et al. 2020). They refer to "anthropogenic pressures on the Earth System that have reached a scale where abrupt global environmental change can no longer be excluded" (Rockström et al. 2009). Accordingly, they propose a new approach to global sustainability that

[1] The UN Climate Change Conference or the UNFCCC 26th meeting of the Conference of the Parties (COP26), 1-12 November 2021 in Glasgow, UK.
[2] The UN 15th meeting of the Conference of the Parties (COP15) to the Convention on Biological Diversity (CBD), 17 May 2021 in Kunming, China.

defines planetary boundaries within which humanity can be expected to operate safely. Rockström et al. (2009) identify 9 planetary boundaries, which include e.g. climate change and biodiversity, and argue that transgressing one or more planetary boundaries "may be even catastrophic due to the risk of crossing thresholds that will trigger non-linear, abrupt environmental change within continental- to planetary-scale systems". Moreover, according to Otto et al. (2020) "*Accelerated technological progress and policy implementations are required to deliver emissions reductions at rates sufficiently fast to avoid crossing dangerous tipping points in the Earth's climate*." Scientists and experts are also making suggestions for policy actions to avoid the "tipping points". Palahí et al. (2020) develop a 10-point Action Plan on how to respond to these challenges. The forest-based sector is also seen to have an important role in helping to contribute to the solution (Hetemäki et al. 2017, Palahí et al. 2020).

The above type of rhetoric of "tipping-points" and warnings is reminiscent of the "limits-to-growth" debate of the 1970s. However, the limits-to-growth discussion emphasized the quantity of growth and limits of the quantity of natural resources, whereas the planetary boundaries discussion puts emphasis on quality of growth and environmentally sustainable use of natural resources (and the need for circular economy and mitigation of climate change, which were not major issues in the 1970s).

Nevertheless, it appears evident that globally there has been a new type of awakening to environmental sustainability. People have reacted with heightened readiness, voiced their worries and taken action on climate change and biodiversity issues. In particular the younger generations have become very active on these issues and managed to capture media attention and larger societal awareness, and it seems, also the politicians. This is evidenced e.g. by Greta Thunberg's school strike for climate action movement and the attention it has created globally. The "biodiversity crisis", that has loomed for a long time in the shadows of climate change discussion, has recently been brought to a new level of societal awareness with the COVID19 pandemic in 2020. Scientists have pointed out how these types of zoonotic diseases are linked to biodiversity, and why biodiversity loss is likely to make zoonotic diseases more frequent (IBPES 2020).

Politicians are also wakening with a new degree of seriousness and urgency on climate and biodiversity issues. Of course, these are not new to the political agenda, e.g., the Kyoto Protocol international climate treaty was adopted already over two decades ago (1997). Similarly, the Rio Conference in 1992 established the Convention on Biological Diversity. However, it can be argued that understanding the importance of the issues and having a sense of urgency to act on them, is at a much stronger political level than was the case in the past. Indeed, politicians are not anymore talking about the need to fine tune our economies and societies gradually to tackle these issues, but are increasingly calling for systemic and urgent changes (e.g., the EU Green Deal). This is partly the result of the fact that the last 20 years have witnessed insufficient, or even no action, to seriously change economic and societal structures to be in line with the goals of previous agreements. This has itself worsened sustainability development and made the rationale for the agreements even more urgent and important than two decades ago. Also, the scientific evidence pointing to the serious risks of transgressing the planetary boundaries has become stronger and wider. The bulk of the population (voters), at least in the EU, are also starting to be

increasingly concerned about the negative impacts of climate change in their every-day life and worry about the future. This will inevitably have political consequences.

The "*period of wakening to planetary boundaries"* can be seen in the Paris Climate Agreement and Sustainable Development Goals, which the world's states agreed on in 2018. Since then, these agreements have been the beacons for regional and national strategies and policies, almost everywhere around the globe. However, as one would expect, there has been variation in how strongly these agreements have been realized in new policy measures. For example, the USA pulled out from the Paris Agreement during President Trump's period in office, whereas the EU aims to implement the main goals via its European Green Deal programme launched in December 2019. In general, the trend of putting the environment as a major priority on political agendas appears to be becoming stronger in an increasing number of world regions, and day-by-day. One of the latest examples is President Xi Jinping's announcement at the UN General Assembly in 2020 to peak China's emissions before 2030 and strive to reach carbon neutrality before 2060.

5.2 Climate Change as the Deciding Phenomenon

In the *planetary boundaries* discussion, climate change plays a central role due to its overarching impacts on all the other (8) planetary boundaries. For example, climate change critically impacts biodiversity and land-use changes. Due to this overarching nature and drastic consequences of climate change, there is no question that it is the deciding phenomenon of our times. It shapes the policies, strategies and actions at global, continental, national, regional and individual levels.

Moreover, the science fundamentals indicate clearly that greenhouse gases (GHG) caused by humans have been the dominant influence on the climate system at least since the 20th century. The IPCC (2018) concluded that human-induced warming has exceeded 1°C above pre-industrial levels and continues to increase at a rate of 0.2°C per decade. Human-induced warming will exceed 1.5°C around 2040, if this rate of increase continues. To avoid this development, 190 countries signed the Paris Agreement (UN 2020). It sets out a global framework to avoid dangerous climate change by limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C. Although nearly all countries have ratified the Paris Agreement (United Nations 2020), the development of global greenhouse emissions has not been according to pathways that align to the Paris goal (IEA 2020).

In order to stop global temperature increasing, global emissions of CO_2 gases must be cut to near net-zero around mid-century in most 1.5°C scenarios, and around 2075 for 'well-below' 2°C scenarios. In addition, net-zero GHG emissions in scenarios must be typically reached around 15 years later than reaching net-zero CO_2 emissions. Both net-zero situations would require large-scale net removal of CO_2 from the atmosphere because all anthrophonic CO_2 emissions and especially non-CO_2 emissions could not be stopped in the future. Removal of CO_2 can be implemented, for example, with the help of afforestation and carbon removal technologies such as bioenergy with carbon capture and storage (BECCS).

5.3 The EU Green Deal and the role of the Forest-Based Sector in climate mitigation

As mentioned above, the EU aims to implement the main goals of the Paris Agreement via the European Green Deal (EGD): "…*a new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. It also aims to protect, conserve and enhance the EU's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts (European Commission 2019)."* In essence, climate change mitigation and biodiversity will be at the centre of EU policies in the years to come.

The EGD policy document is in many ways a landmark and represents a new type of thinking in the EC. It aims to be a cross-sectoral policy outline affecting all legislative processes of the EC in 2020-2024. The EGD acknowledges the need for a systemic transformation, not only piecemeal policy changes, to achieve the goals set by the Paris Climate Agreement, Sustainable Development Goals and Convention of Biological Diversity. The political importance of the Deal is evident also from the requirement that "All EU actions and policies will have to contribute to the European Green Deal objectives" (EC 2019, p. 3). This includes many EU forest sector related areas such as climate policy, biodiversity policy, energy policy, forest strategy, industrial policy, etc. The implementation of the strategies and policies proposed in the Green Deal will have significant implications for the EU forest sector in the coming decade. The EGD introduces a new political narrative and direction by setting a clear focus on climate, sustainability and biodiversity conservation for all policy areas.

The main goal of the European Green Deal is for the EU to become the world's first climate-neutral continent. To reach this goal, European greenhouse gas (GHG) emissions and sinks should be equal in 2050. In addition to fossil- and process-based GHG emissions in the EU Emission Trading System (EU ETS) and the Effort Sharing (non-ETS), land-based emissions and sinks in the land-use, land-use change and forestry (LULUCF) sector are considered as new elements for the EU climate policy. The so-called "no-debit rule", a principle applied in EU law for the first time for 2021-2030, requires that GHG emissions from the LULUCF sector are compensated by an equivalent absorption of CO_2 made possible by additional action in this sector (EU 2018). The absorption can be made by carbon sinks in agricultural soils and especially forest-related sinks. Thus, the actions of forest owners and farmers to secure carbon stored in forests and soils will contribute to achieving the EU's climate neutral target in 2050.

The EGD well acknowledges many of the potential problems related to forests. Most of its statements regarding forests express problems like deforestation, threats to forests and biodiversity, and argue for forest and biodiversity restoration and protection. With respect to climate action, forests are mainly addressed as a carbon sink. There are hardly any statements on the multiple benefits forests provide to society and the benefits which forest-based bioindustry could contribute to a more sustainable and climate-neutral society, and to the Sustainable Development Goals. Indeed, Palahí, Hetemäki & Potocnik (2020) argue that bioeconomy is *the missing link* in the EGD. They state that "The bioeconomy, a circular economy based on renewable biological resources and sustainable biobased solutions, could certainly

contribute to the Green Deal delivery and would deserve more attention. The bioeconomy can be a catalyst for systemic change to tackle holistically the social, economic and environmental aspects currently not yet enough coherently addressed." A sustainably managed forest bioeconomy - sustainability not just assumed, but imposed and monitored - could deliver the following EGD objectives.

First, moving towards a carbon neutral EU not only requires moving towards *fossil free energy*, but also to *fossil free materials*. This means replacing carbon-intense products like plastics, concrete, steel and other materials like synthetic textiles. This is not only because of climate change mitigation, but also because of other positive environmental impacts. The transformation called for in the EGD is simply not possible without using a new range of renewable biobased materials that can replace and environmentally outperform carbon-intense materials. This shift also provides an opportunity to modernize and make industries more circular. Forest resources, if managed sustainably, are circular by nature and often easier to remanufacture. The EGD identifies several sectors like chemicals, textiles, plastics and construction which will need new conceptual business models and innovations to become circular and low carbon industries. The emerging bioeconomy can be a catalyst for this. Wood, the most versatile biological material on earth, can be transformed to nanocellulose, which is five times stronger and lighter than steel. The first car made of nanocellulose was unveiled in 2019 in Japan. A new generation of sustainable and circular wood-based textiles with much lower carbon footprint than fossil fibres like polyester is now possible too (Hurmekoski et al. 2018). Engineered wood products, like CLT elements and modules, are the most effective way to reduce the carbon footprint in cities and the construction sector, currently dominated by carbon- and resource-intense materials: concrete and steel.

Second, bioeconomy offers an opportunity to address the past failure of the economy to *value nature and biodiversity*. This is because a sustainable bioeconomy needs to place nature and life at the centre of the economy. Biological diversity determines the capacity of biological resources to adapt and evolve in a changing environment. Biodiversity is therefore a prerequisite for a long-term, sustainable and resilient bioeconomy. On the other hand, a sustainable bioeconomy is necessary in the long term to protect biodiversity, as new biobased solutions to replace fossil products are crucial to mitigate climate change – biodiversity's main threat. Moreover, forest management, such as promoting more resilient mixed forests or addressing natural disturbances, can simultaneously benefit biodiversity and the bioeconomy. Finally, it is important to acknowledge that it is unlikely that actions to protect or enhance biodiversity could be funded by public money only. Forest owners and forest industry generating enough income from a profitable bioeconomy would be in a better position to reinvest in biodiversity and natural capital, in line with the aims of the Green Deal of *preserving and restoring ecosystems and biodiversity.*

Finally, the bioeconomy offers unique opportunities for *inclusive prosperity and fair social transition*. This is paradoxically related to one of the potential disadvantages of the bioeconomy compared to the fossil-based economy: a more complex ownership, mobilization and processing of biological resources. Biological resources like forest resources are usually owned by many more people and entities, their costs are often higher and transporting and processing biomass tends to be more costly and complex compared to fossil resources, such as coal and oil. However, this limitation is at the same time a great advantage, as

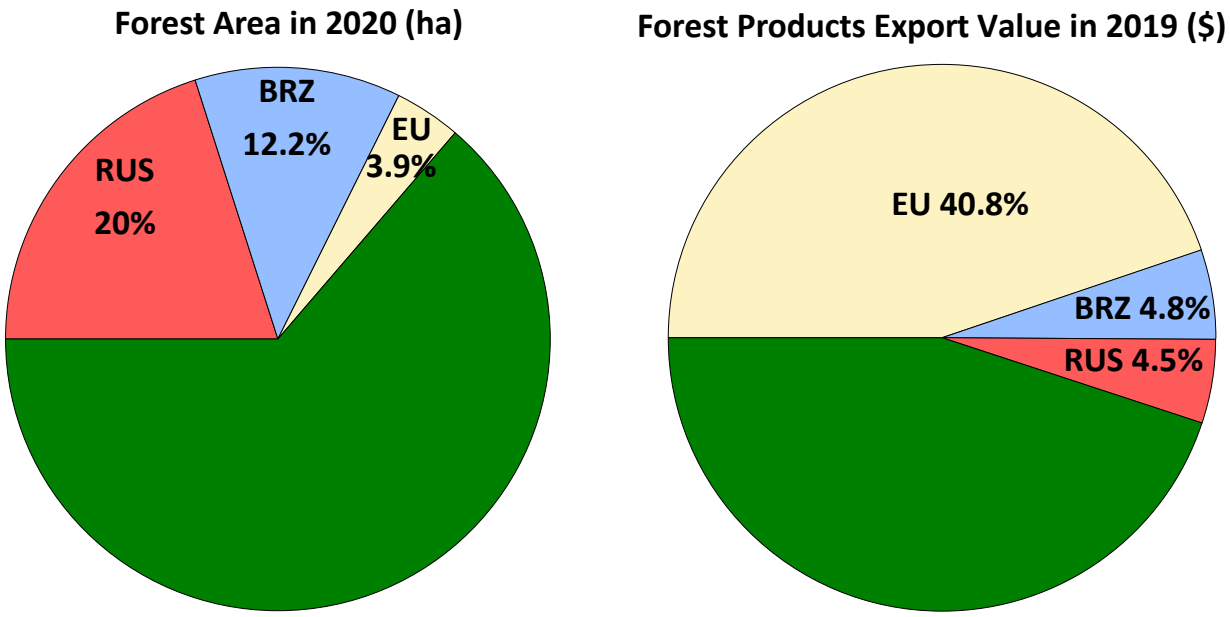
it offers the possibility for a more inclusive distribution of income, jobs, infrastructures and prosperity in many regions of the EU, especially in rural areas, in line with the EGD's inclusive growth ambitions. For instance, forests cover more than 40% of the EU land surface, and the forest-based sector provides 3.5 million jobs. This is more than the three energy-intensive industries (steel, chemicals and cement), which the EGD calls indispensable to Europe's economy, while forgetting to even mention forest industry. In addition, the EU forest-based sector also includes 400,000 small and medium scale enterprises and 16 million forest owners. Thus, the forest-based sector offers an extensive and unique socio-ecological "fabric" in which to put forward the EGD ambitions.

In summary, bioeconomy, when managed in a sustainable way, provides major potential to help deliver the ambition set by the EGD. **Palahí et al. (2020)** also state that "it is still an important missing part of the complicated puzzle to overcome the past dichotomy between economy and ecology that very much defined the 20th century. The bioeconomy provides us with the opportunity to build a new and synergistic relationship between technology and nature, between ecology and economy that can define the 21st century: the century where we would finally start respecting the laws of physics and integrate biology."

5.4 Diverse Role of Forests and Forest-Based Products

As indicated above, the EDG sees EU forests mainly contributing to climate mitigation via forest sinks. Accordingly, the policy suggestions of the EDG emphasize reforestation, restoration of degraded forests and conservation of forests. The role of forest bioeconomy in this effort is missing in the document. As argued above this is a clear shortage, and hopefully will be addressed in the implementation phase and design of policies. It is interesting to reflect on the importance of this also based on some key statistics.

Forests and wood are not equally distributed across world regions, and forests are also managed and used in different ways. These differences partly explain also why forests have played diverse roles for nations, and why also cultural meaning and citizen perceptions of forests may differ across countries. More than half (54%) of the world's forests are located only in five countries – the Russian Federation, Brazil, Canada, USA and China (FAO 2020). The forest area in the EU is rather small in global terms, but its role as forest bioeconomy products producer is a major one (Figure 5.1). The EU forest area (ha) in 2020 was only 3.9% of the world total, but the export value of forest products was almost 41% of the world total and amounted to over 100 billion USD in 2019 (FAOSTAT). Although most of this export value figure is related to EU internal trade, the exports to regions outside the EU are also major. In 2017, EU27 forest products export value to regions outside EU27 was 36.5 billion USD, or 37% of the total EU27 forest products export value. This was more than the combined forest products export value of Brazil, China and Russian Federation (35.3 billion USD), whose share of the world forests is 38%, i.e. 10 times more than the EU27.



Data: FAOSTAT

Figure 5.1 Shares of Forest Area and Forest Products Export Value of the World Total

It is evident that the EU has to do its share in contributing to climate mitigation by enhancing forest sinks, and also show an example of how this can be done e.g. via forest management. Its past record on this has been rather good. According to the FAO, forest area in Europe (excluding Russia) has increased by 14 million hectares (10%) over the last three decades, i.e. equal to the size of forest area of France. The volume of wood stock has increased even more, by 46%. Interestingly, however, during this period the region's timber production has been 13 billion cubic meters. According to the FAO, the carbon stock of forests in Europe (excluding Russia) has also been growing steadily over the last three decades. In 2020, it was 24% higher than in 1990. According to FAO, the size of protected forests in Europe has also more than doubled during this period. However, it is still just under 8% of the area used for wood production. Clearly, as also the EU's Biodiversity Strategy from 2030 suggests, there is a need to further increase forest biodiversity. Yet, one important fact is that although the EU has harvested significantly in the past decades, it has at the same time increased its forest area and volume of wood in forests. Unfortunately, this trend is not seen globally, with deforestation taking place in the past decades e.g. in Africa and South America.

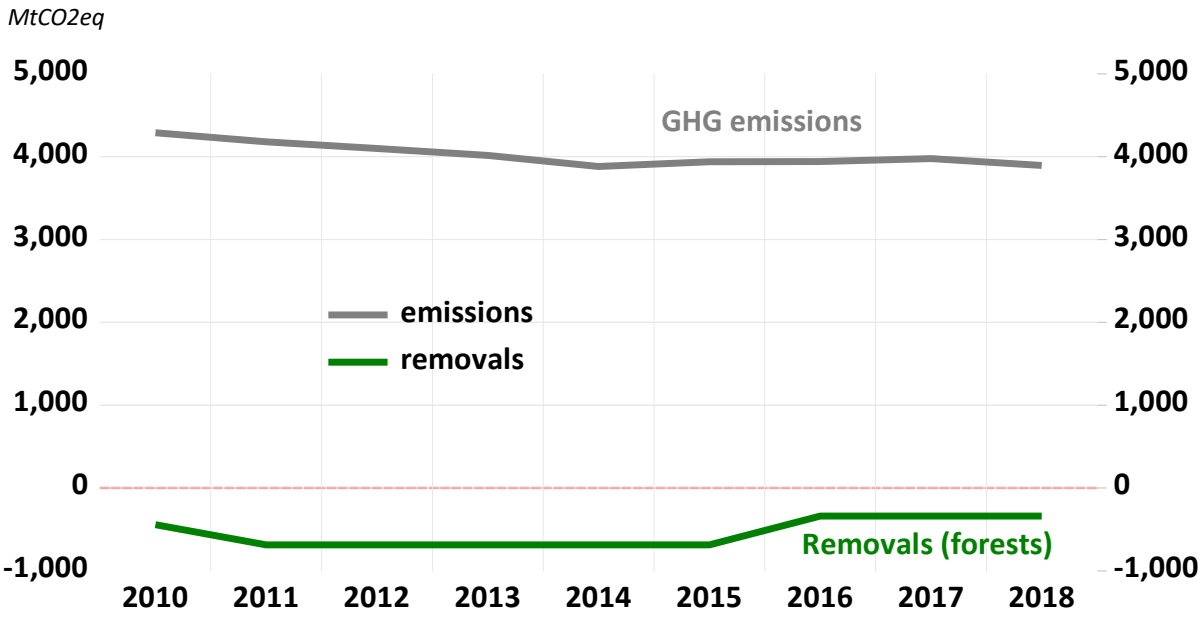
However, Figure 5.1 indicates that the EU forest sink's potential impact at the global level is, and will be, rather low due to its small share by area of forests in the world. On the other hand, the very significant role the EU has globally in forest products exports indicates that it can play a major role in helping to advance replacing fossil-based energy, raw materials and products, and in general, enhance sustainable production and consumption. To strengthen this role, EU27 forest bioeconomy product innovations, and increasing resource-efficiency and circularity, will be key priorities. By doing this, the EU27 can have significant impact also globally in the movement to more sustainable production.

5.5 LULUCF in the Climate Mitigation Context

In 2021, the European Commission is expected to present a new proposal on the land use, land-use change, and forestry (LULUCF) regulation. The current EU legislation was adopted in May 2018, after intensive discussion and preparation. During the LULUCF processes, the European Commission and Member States have invested significant amount of time and energy and involved a large numbers of civil servants and researchers in preparing and commenting on the proposals and its implementation. This is no surprise, since LULUCF related questions tend to be technically rather demanding and even complex. Media in the EU have also been actively following and reporting on the LULUCF process.

In this context, it may be appropriate to remind ourselves of the scale and importance of the LULUCF sector in the climate mitigation objective. Globally, almost 90% of the world's CO_2 emissions come from the use of coal, oil and natural gas. Consequently, the core issue in the fight against climate change is phasing out fossil energy. If major efforts are not put into tackling these, the results will remain a nuisance.

In 2018 in the EU27, the greenhouse gas emissions were 3893095 gigagrams CO_2eq, of which 83.5% came from two sectors, energy production and industry. In the same year, EU27 forests helped to remove -337858 gigagrams of CO_2eq emissions, i.e. 13.5% of the total emissions. The EU aims to be climate-neutral by 2050, i.e, a region with net-zero greenhouse gas emissions. Therefore, first and foremost, emissions from fossil energy and industry should be reduced as close to zero as possible. In reaching this, it is essential to acknowledge that phasing out fossils will not be possible without also using forest-based bioproducts for the purposes we are using oil, coal and gas today. Given that it is unrealistic to phase out totally all fossil production by 2050, any remaining GHGs from these would be balanced with an equivalent amount of carbon removal, for example by increasing the forest sink and through direct carbon capture and storage (CCS) technologies. Figure 5.2 illustrates the relative large role in climate change mitigation of GHG emissions compared to removals by forests in the EU27.



Data source: European Environmental Agency

Figure 5.2 EU27 Green House Gas Emissions and Removals by Forests 2010-2018

Thus, it is clear that the priority in the EU27 in climate change mitigation has to be in fossil fuel reduction. For example, a 50% reduction in energy and manufacturing sector emissions will be significantly more important than a 50% increase in forest removals. Simply put, by increasing forest removals the problem will not be solved. This is not to say that they are not important, and that the LULUCF regulation is needed for enhancing this. Clearly, EU has to do its share in enhancing the forest sink and removals, and by that also show an example of how it can be done.

In fact, the EU is already a good example by the continuing build-up of forest resources and carbon sink since 1950 (Nabuurs et al. 2003). This build-up has taken place despite increases in harvests and wood production. For example, roundwood production of the EU28 was 50% higher in 1999 and 96% higher in 2019 than in 1961 (FAOSTAT). Yet, today's policy discussions on the EU climate and forests often start with reference to 1990 or 2005, and tend to overlook the example of previous carbon performance of its forest-based sector that started already after the Second World War. During this period EU forests increased carbon removals while all other sectors increased their CO_2 emissions. Today EU's climate policy challenge would be much bigger and costlier without these achievements in the forest-based sector. Thus, the EU has already a record how to align sustainable use of forests and wood production with climate change mitigation measures. Yet, as for example Nabuurs et al. (2017) have argued, the EU can still increase significantly the forest-based sector mitigation impact by forest removals (sink) and forest products substitution impacts. These can be achieved by introducing new climate smart forestry measures, and it is essential to seek to utilize also these opportunities.

Key messages

- Politicians in the world are “wakening to the planetary boundaries“ and the need to act
- Climate change plays a central role in addressing planetary boundaries due to its overarching impacts on all the other planetary boundaries, such as biodiversity.
- The European Green Deal (EGD) is the EU’s tool to address the above issues. The EGD well acknowledges many of the potential problems related to forests, like deforestation, threats to forests and biodiversity, and argues for forest and biodiversity restoration and protection.
- However, the circular bioeconomy is still the missing link in the EGD. Circular economy based on renewable biological resources and sustainable biobased solutions, could contribute to the Green Deal delivery and would deserve more attention. The bioeconomy can be a catalyst for systemic change to tackle holistically the social, economic and environmental aspects currently not yet enough coherently addressed.
- The EU forest area is 3.9% of the world forests, but its forest products export value is over 40%. Consequently, in terms of global climate change mitigation, EU bioproducts can play an important role. To strengthen this, EU27 forest bioeconomy product innovations, and increasing resource-efficiency and circularity, will be key priorities.
- The core issue in the fight against climate change is phasing out fossil energy. If major efforts are not put into tackling this, the results will remain a nuisance.

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6. Conclusions

The year 2020 was the 3rd year of operation of the new cycle of MDTF (2018-2020). In 2020, four ThinkForest webinars and two From Science to Policy reports were published. Work to still enlarge the MDTF with new countries in the future also took place in 2020 (with Poland, Slovenia and the UK). The cooperation with the European Commission continued, for example, with the bioeconomy work.

2020 was an exceptional year also for the MDTF, as it has been for all organizations, due to the COVID19 pandemic. For the first time, ThinkForest events were held virtually, and no face-to-face meetings were arranged. Moreover, many of the networking events and meetings between scientists and policy-makers that typically characterize the MDTF work, could not take place. One positive side of the exceptional year was the fact that it has forced us to learn new tools for virtual meetings and has shown that perhaps not all the travelling and face-to-face meetings of the past years are as necessary as previously thought. Yet, it is also clear that virtual seminars and meetings cannot substitute for face-to-face meetings and networking fully. They will be needed also to some extent in the future for the MDTF to operate effectively and impactfully.

Despite acknowledging the difficulties of measuring the impact of MDTF science-policy support work (the impacts are likely to be gradual and at least partly indirect), the indicators related to ThinkForest event participation, publication downloads, requested expert presentations, statements and hearings based on the studies, social media activities, all indicate great interest in MDTF work and activities.

The importance of the MDTF work was acknowledged or disseminated in 2020 on many policy and influential fronts. For example: at the Embassy of Sweden in Helsinki (an event attended by two former Prime Ministers and three Ministers from Finland and Sweden); the EFI Director had several meetings with His Royal Highness Prince of Wales (HRH), and in those meetings discussed also the work based on MDTF publications; and expert statements in different policy arenas (see Ch 3.3). In summary, both the direct and indirect impacts of the MDTF work carried out in past years and in 2020 have had significant impact.

Since there is no other similar platform, or other organization, engaging in such a pan-European forest-based sector related science-policy work, it is difficult to compare (benchmark) the work to others. In fact, exactly because of this, many policy makers and EFI Associate Member organizations have again expressed their interest to support EFI MDTF work. Given these responses and the information provided in this Report, the MDTF work appears to have reached well the set objectives for 2020.

Finally, the EFI Policy Support Facility team gratefully acknowledges the donors and Steering Committee for supporting the work and providing strategic guidance for it. All the members of the Steering Committee have been very supportive. We wish to thank the Steering Committee and its Chairs in 2020, Enrico Pompei, Ministero delle Politiche Agricole Alimentari e Forestali, Italy and Jan Svensson, Ministry of Enterprise and Innovation, Sweden for their efficient work and support. Also, we wish to thank all the scientists who have contributed to the studies and activities in 2020! The support from the EFI Director has also been very important for this work.

Annexes

Table 1: Online statistics

Publication statistics

No copies of publications were printed in 2020 due to Coronavirus.

*Electronic copies downloaded: In 2020 we moved to a new system of measurement using Google Analytics. This **does not** track the direct downloads from the EFI website server (eg users who follow a direct link such as https://efi.int/sites/default/files/files/publication-bank/2020/EFI_fstp_11_2020.pdf) - it only counts the numbers of visitors who go to a page on the EFI website, and then download the publication. Consequently the numbers are lower than in previous years.

These numbers also do not include eg downloads from ResearchGate, authors' institutional repositories, organisations' own libraries etc.

DOI resolutions: shows the number of people who have clicked on the DOI address for a publication, such as https://doi.org/10.36333/fs11

Title	Publication date	No of electronic copies downloaded 2020*	DOI resolutions	Lifetime copies downloaded
FSTP11 (China-Europe bioeconomy)	Dec 2020	128	248	128
K2A03 (Public perception)	Oct 2020	356	747	356
FSTP10 (Forest governance)	April 2020	553	781	553
FSTP9 (Plantation forests)	Dec 2019	427	303	532
FSTP8 (Bark beetles) (EN, CZ)	Apr 2019	318	406	4822
FSTP 7 (Substitution effects of wood-based products)	Nov 2018	314	398	4659
FSTP 6 (Climate-Smart Forestry)	Mar 2018	189	75	3403

WSCTU 8 (Forest-based bioeconomy), plus Summary	Dec 2017	215	n/a	8390
FSTP 5 (Circular bioeconomy) (EN, CN, RU)	Oct 2017	156	376	7225
FSTP 5 Summaries (EN, FR, DE, IT, ES, CN, RU)	Nov 2017-Apr 18	91	n/a	4019
WSCTU 7 (Natura 2000) plus Summary	Sept 2017	85	n/a	4161
FSTP 4 (Forest bioeconomy indicators)	Nov 2016	69	69	8347
FSTP 3 (Forest biomass, carbon neutrality)	Oct 2016	232	226	17031
FSTP 2 (A new role for forests)	Dec 2015	78	110	11668
FSTP 1 (EUTR-FLEGT)	Apr 2015	47	27	8808

Policy support newsletter and mailings

Several editions of the newsletter, Science informing policymaking, were published in 2020, and we also trialled single issue mailings (for example relating to publications) which saw high engagement figures.

Newsletter/mailing	Contents	Number of subscribers	% read
08.01.2020	Green Deal needs plantation forests A new equilibrium for plantation forests	945	39.3%
29.04.2020	New publication: European forest governance post-2020	797	44.5%
30.04.2020	A new era of forest policymaking /Science Insights to the European Green Deal and Forests	810	46%
22.10.2020	We are seeking an Assistant Director for Policy Support	213	37.5%
16.12.2020	Five priorities for EU-China bioeconomy development	880	31.9%

14.12.2020	New study assesses future Europe-China forest bioeconomy development	887	39.9%

Electronic event invitations

Several event invitations were sent by email to subscribers during 2020

Event	Date	Number of subscribers	% read
Register now: European Forest Policy Post-2020 (event cancelled due to Covid-19)	03.02.2020	1070	45%
Registration reminder: European Forest Policy Post-2020 (event cancelled)	03.03.2020	927	44%
Register now: Public Perception of Forests and Bioeconomy	20.10.2020	856	47%
Register now: China-Europe forest bioeconomy	26.11.2020	872	43%

Social media

Twitter

1,585 tweets were sent out during the course of 2020, and by the end of the year, the EFI Twitter account had 10,300 followers. This represents an increase of 1,447 new followers during 2020.

	Tweets	Gain in followers
Total 2020	**1,585**	**1,447**
Total 2019	1,629	1,422
Total 2018	1,517	1,315
Total 2017	1,995	1,288
Total 2016	1,837	1,505
Total 2015	1,803	1,106

EFI's other social media channels were also utilised:

Other channels	No of policy support-related posts, 2020
Linked In	15
Facebook	29

Videos

Seven policy support videos were published on the EFI YouTube channel in 2020:

Video	Published	No of views 2020 (as of 22.12)
ThinkForest webinar: China-Europe Forest Bioeconomy	15.12.2020	48
ThinkForest webinar: Public perception of forests and bioeconomy	30.10.2020	171
ThinkForest: European Forest Policy Post-2020	25.09.2020	183
Reimagining our world: Göran Persson on the Green Deal and the future of rural areas	25.09.2020	208
Reimagining our world: Transforming the economy	22.09.2020	579
Reimagining our world: the future role of rural areas	22.09.2020	84
ThinkForest: Science insights to the European Green Deal and forests	22.05.2020	939

Previous video material:	Published	No of views 2020	Lifetime views (to 22.12.2020)
ThinkForest: The Future of Plantation Forests in Europe	17.12.2019	442	707
ThinkForest: How to Respond to Forest Disturbances in Europe	04.04.2019	500	1,888
Climate policy and forest bioeconomy	04.12.2018	205	841
Role of bioeconomy in controlling forest fires	29.05.2018	105	1,013
Looking ahead to a circular European bioeconomy	07.11.2017	40	862
Implementing Natura 2000 in forests: lessons learned and looking ahead	27.09.2017	52	691
Leading the way to a new European bioeconomy strategy	10.05.2017	354	2,142
Building an innovative and resilient forest bioeconomy	15.11.2016	25	633
Building the bioeconomy: insights from European strategies	08.06.2016	65	1,551
Climate policy after COP21: Implications for the European forest-based sector	15.03.2016	8	576
7 videos from COP21 event: Climate policy targets – How can European forests contribute?	04.01.2016	174	1,372

Towards Paris 2015: How can the forest sector contribute?	Oct 2015	11	905
Bioeconomy is the future *(Göran Persson)*	Nov 2015	291	3,898
A new role for forests and the forest sector in climate targets *(Gert-Jan Nabuurs)*	Nov 2015	67	830

Website

In March 2018, EFI launched its new website, with a dedicated section for the Policy Support Facility (www.efi.int/policysupport).

This contains three main pages/areas: Our work, ThinkForest and Publications. These pages showcase policy support information, and signpost users to related information which is now integrated into other areas of the website (eg events, publications, news).

In December 2020 the EFI website was reorganised and given a new look and feel. The web page addresses for Policy Support and ThinkForest pages remain the same.

Web pages	**Page views 2020**	**Page views 2019**	**Page views 2018**	**Unique visitors 2020**	**Unique visitors 2019**	**Unique visitors 2018**
Policy support main landing page (policysupport/)	**1,860**	1,736	1,405	**1,305**	1,259	761
Our work (policysupport/ourwork)	**303**	346	457	**243**	264	269
ThinkForest (policysupport/thinkforest/) plus subpages	**16,210**	10,025	6,563	**12,011**	7,458	1,737
Publications (policysupport/publications/)	**630**	702	576	**461**	545	291

Table 2: Number of ThinkForest and other participants according to background

Participant background	**ThinkForest webinar: Science Insights to European Green Deal and Forests,** 20 May 2020	**ThinkForest webinar: European Forest Policy Post-2020,** 22 September 2020	**ThinkForest webinar: Public Perception on Forests and Bioeconomy,** 27 October 2020	**ThinkForest webinar: China-Europe Forest Bioeconomy,** 9 December 2020
European Parliament	11	1	1	-
European Commission	10	2	4	1
Council of the EU	1	-	-	-
Ministries	19	15	15	10
Embassies, perm. representations	1	2	1	1
Forest industry	29	12	17	5
Forest owner	22	12	13	2
NGO	14	11	12	4
Other stakeholder group	64	26	27	16
Research	98	62	57	44
Other *(e.g. international org. incl. EFI)*	44	23	17	13
Media	-	4	3	3
TOTAL	**313**	**172**	**167**	**99**

Number of MDTF countries represented in ThinkForest webinars

(out of 10 countries)

Participant background	**ThinkForest webinar: Science Insights to European Green Deal and Forests,** 20 May	**ThinkForest webinar: European Forest Policy Post-2020,** 22 September	**ThinkForest webinar: Public Perception on Forests and Bioeconomy,** 27 October	**ThinkForest webinar: China-Europe Forest Bioeconomy,** 9 December
Ministries in total	19	15	15	10
From MDTF countries	18	12	12	8
Embassies, perm. representations in total	1	2	1	1
From MDTF countries	-	1	-	-

Table 3: Stakeholder follow-up articles related to events and publications

ThinkForest webinar Science Insights to the European Green Deal and Forests, 20 May 2020		
Publisher / Stakeholder	**Specified, article name**	**Link**
CEPF	CEPF participated to the ThinkForest webinar focusing on the Green Deal and forests	http://www.cepf-eu.org/news/cepf-participated-thinkforest-webinar-focusing-green-deal-and-forests
New Zealand Institute of Forestry	June 2020 newsletter 'Green deal needs forest bioeconomy'	https://www.nzif.org.nz/members-only-area/newsletters/show/76
Departament d'Agricultura, Ramaderia, Pesca i Alimentació. Generalitat de Catalunya	June 2020 bulletin	http://agricultura.gencat.cat/ca/departament/estadistiques/publicacions/butlletins/novetats-documentals/nd-0243-2020/
Propopulus	The Forest Bioeconomy, A Missing Link In Europe's Green Deal?	http://propopulus.eu/en/the-forest-bioeconomy-a-missing-link-in-europes-green-deal/

ThinkForest webinar European Forest Policy Post-2020, 22 September 2020		
Publisher / Stakeholder	**Specified, article name**	**Link**
CEPF	ThinkForest webinar European Forest policy post-2020	https://www.cepf-eu.org/news/thinkforest-webinar-european-forest-policy-post-2020
Sustainable Wood	What can be learned from European Forest Policy post-2020	https://sustainablewood.com/what-can-be-learnt-from-european-forest-policy-post-2020
Fundacion Felipe González	La transformación del modelo energético y el EU Green Deal	https://www.fundacionfelipegonzalez.org/la-transformacion-del-modelo-energetico-y-el-eu-green-deal/

ThinkForest webinar Public Perception on Forests and Bioeconomy, 27 October 2020		
Publisher / Stakeholder	**Specified, article name**	**Link**
EOS (European Organisation of the Sawmill Industry)	ThinkForest webinar: Public perception on forest and bioeconomy	https://www.eos-oes.eu/en/news.php?id=1956

ThinkForest webinar China-Europe Forest Bioeconomy, 9 December 2020		
Publisher / Stakeholder	**Specified, article name**	**Link**
EOS (European Organisation of the Sawmill Industry)	New study assesses future Europe-China forest bioeconomy development	https://www.eos-oes.eu/en/news.php?id=1980
Timberbiz	New study assesses future Europe-China forest bioeconomy development	https://www.timberbiz.com.au/new-study-assesses-europe-china-forest-bioeconomy-development/

Other: Follow up of ThinkForest event on plantation forests in December 2019

Publisher / Stakeholder	**Specified, article name**	**Link**
Propopulus, 17.01.2020	The Green Deal Means A Great Deal	http://propopulus.eu/en/the-green-deal-means-a-great-deal/

Table 4: Media coverage related to events

ThinkForest webinar Science Insights to the European Green Deal and Forests, 20 May 2020			
Publisher	**Type of publication**	**Article name**	**Link**
Politico.eu, 20.06.2020	European political news publisher	Europe struggles to seed the forest for the trees	https://www.politico.eu/article/europe-struggles-to-seed-the-forest-for-the-trees/
DNYUZ	US news website	Europe struggles to seed the forest for the trees	https://dnyuz.com/2020/06/20/europe-struggles-to-seed-the-forest-for-the-trees/
Politico US, 22.06	Morning sustainability briefing	Tree trouble	https://www.politico.com/newsletters/morning-sustainability-preview/2020/06/22/new-water-rule-takes-effect-489593
Forestopic, 20.10.2020	French forestry news portal	Changer notre modèle de société grâce à l'Europe de la forêt	https://www.forestopic.com/fr/agora/publications/1159-changer-notre-modele-societe-grace-europe-foret

ThinkForest webinar European Forest Policy Post-2020, 22 September 2020			
Forstzeitung, 06.11.2020	Austrian forestry magazine	Nachhaltige Gesellschaft: Land in Sicht?	https://www.forstzeitung.at/markt/2020/11/nachhaltige-gesellschaft--land-in-sicht-.html

ThinkForest webinar Public Perception on Forests and Bioeconomy, 27 October 2020			
Delo (Borut Tavčar) 29.10.2020	Slovenian national daily newspaper	Gozdovi in gozdarstvo so močno ogroženi	https://www.delo.si/novice/okolje/gozdovi-in-gozdarstvo-so-mocno-ogrozeni/

ThinkForest webinar China-Europe Forest Bioeconomy, 9 December 2020			

Follow up articles from Sound Reporting Co-Lab, July 2019, Poland			
Czech Radio, 13.07.2019	Czech Republic	Kácet, nebo nezasahovat? Dilema v boji s kůrovcem rozděluje Poláky pečující o nejvzácnější evropský prales	https://radiozurnal.rozhlas.cz/kacet-nebo-nezasahovat-dilema-v-boji-s-kurovcem-rozdeluje-polaky-pecujici-o-7982516
Thomson Reuters Foundation	International	Bark beetles threaten forests as heat rises	https://www.facebook.com/watch/?v=2378148632495438

12.01.2020			
Riff Reporters 25.03.2020	Germany	Europäischer Urwald in Białowieża – Streit um einen Naturschatz	https://www.riffreporter.de/flugbegleiter-koralle/weltnaturerbe-bialowieza/

Other/general

Metsälehti, 16.01.2020	Finnish forestry newspaper	Vihreä sopimus	https://www.metsalehti.fi/kolumnit/vihrea-sopimus/#b3efb0c2
Metsälehti, 17.01.2020	Finnish forestry newspaper	Kuuma linja Brysseliin	https://www.metsalehti.fi/artikkelit/kuuma-linja-brysseliin/
Latvijas reitingi, 23.01.2020	Latvian news portal	Aizvadīta starptautiska meža nozares konference "Klimats, nākotne, meži"	https://www.reitingi.lv/lv/news/daba/134035-aizvadita-starptautiska-meza-nozares-konference-klimats-nakotne-mezi.html
Latvijas reitingi, 28.01.2020	Latvian news portal	Iedzīvotāji ir atrauti no meža nozares, neapzinoties tās devumu un nākotnes potenciālu	https://www.reitingi.lv/lv/news/zemkopiba/134117-iedzivotaji-ir-atrauti-no-meza-nozares-neapzinoties-tas-devumu-un-nakotnes-potencialu.html
LA.lv 18.02	Latvian national online media	Mežu nozarei ir ne tikai apdraudējumi, bet tai ir arī daudz iespēju	http://www.reitingi.lv/lv/news/zemkopiba/134117-iedzivotaji-ir-atrauti-no-meza-nozares-neapzinoties-tas-devumu-un-nakotnes-potencialu.html
EURACTIV, 20.03.2020	EU news portal	Bioeconomy: the missing link to connect the dots in the EU Green Deal	https://pr.euractiv.com/pr/bioeconomy-missing-link-connect-dots-eu-green-deal-202385
Metsälehti, 17.12.2020	Finnish forestry newspaper	Vuonna 2070	https://www.metsalehti.fi/artikkelit/vuonna-2070/#b3efb0c2

Table 5

Publication citations

Published during 2020

From Science to Policy 1: Assessment of the EU Timber Regulation and FLEGT Action Plan Published 21 April 2015			
Citations			
Encarnación Moral-Pajares, Concepción Martínez-Alcalá, Leticia Gallego-Valero and Ángela Andrea Caviedes-Conde.	Forests 2020, 11(9), 1009	Transparency Index of the Supplying Countries' Institutions and Tree Cover Loss: Determining Factors of EU Timber Imports?	https://doi.org/10.3390/f11091009
Margret Köthke	Forest Policy and Economics Volume 111, February 2020, 102028	Implementation of the European Timber Regulation by German importing operators: An empirical investigation	https://doi.org/10.1016/j.forpol.2019.102028
Becher, Georg	Thünen Working Paper, No. 134, Johann Heinrich von Thünen-Institut.	Analysis of time series to examine the impact of the EU Timber Regulation (EUTR) on European timber trade	http://dx.doi.org/10.3220/WP1574685147000
Ahmad Maryudi, Emmanuel Acheampong, Rebecca L. Rutt, Rodd Myers & Constance L. Dermott.	Society & Natural Resources, Published online: 13 Feb 2020	"A Level Playing Field"? – What an Environmental Justice Lens Can Tell us about Who Gets Leveled in the Forest Law Enforcement, Governance and Trade Action Plan	https://doi.org/10.1080/08941920.2020.1725201
Bager, Simon and Persson, Martin and Reis, Tiago	Available at SSRN (June 15, 2020)	Reducing Commodity-Driven Tropical Deforestation: Political Feasibility and 'Theories of Change' for EU Policy Options	http://dx.doi.org/10.2139/ssrn.3624073
Emmanuel Acheampong, Ahmad Maryudi	Forest Policy and Economics Volume 111, February 2020, 102047	Avoiding legality: Timber producers' strategies and motivations under FLEGT in Ghana and Indonesia	https://doi.org/10.1016/j.forpol.2019.102047
A.W. Bruijnzeel	Master's thesis, Tilburg University 2020	An analysis of the principal international and European legislative efforts that combat illegal international trade in tropical timber. How do CBD, CITES, ITTA and EU FLEGT interact and compare?	http://arno.uvt.nl/show.cgi?fid=152695
N Patel	PhD thesis, Kingston University, 2019	Illegal timber trade : analysing the effectiveness of European Union Timber Regulation (EUTR) in the UK	https://eprints.kingston.ac.uk/45532/1/Patel-N-45532.pdf

Axel Marx	In Olga Martin-Ortega and Claire Methven O'Brien (eds) (2019) Public Procurement and Human Rights- Opportunities, Risks and Dilemmas for the State as Buyer	Chapter 8: Public procurement and human rights: current role and potential of voluntary sustainability standards	https://www.elgaronline.com/view/edcoll/9781788116305/9781788116305.00017.xml
Claudia Ituarte-Lima, Amelie Dupraz-Ardiot, Constance L. McDermott	Int Environ Agreements (2019)	Incorporating international biodiversity law principles and rights perspective into the European Union Timber Regulation	https://doi.org/10.1007/s10784-019-09439-6
Andrighetto, Nicola	University of Padua, PhD thesis, 2018	Impacts and interaction of political and economic driving forces in the international timber trade	http://paduaresearch.cab.unipd.it/10680/
Pauline Pirlot, Tom Delreux and Christine Farcy	In European Union External Environmental Policy: Rules, Regulation and Governance Beyond Borders. Springer, Camilla Adelle, Katja Biedenkopf, Diarmuid Torney (eds). (Available online 15.11.2017)	Forests: A Multi-sectoral and Multi-level Approach to Sustainable Forest Management	https://link.springer.com/chapter/10.1007/978-3-319-60931-7_9
Laura Secco, Matteo Favero, Mauro Masiero, Davide Matteo Pettenella	Land Use Policy, Volume 62, March 2017 (published online 28.12.2016)	Failures of political decentralization in promoting network governance in the forest sector: Observations from Italy	http://dx.doi.org/10.1016/j.landusepol.2016.11.013
Niels Janzen, Holger Weimar	Drewno. 2016, Vol. 59 Issue 197	Market coverage of the EUTR - what share of wood imports into the EU is covered by the EUTR?	http://drewno-wood.pl/pobierz-255
Y T Tegegne	University of Helsinki PhD thesis, 2016	FLEGT and REDD+ synergies and impacts in the Congo Basin: lessons for global forest governance	https://helda.helsinki.fi/bitstream/handle/10138/169117/FLEGTand.pdf?sequence=1

	European Environment Agency Report No 5/2016 (Published 29.04.2016)	European forest ecosystems - State and trends	http://www.eea.europa.eu/publications/european-forest-ecosystems
K Matsson,	SLU Master's thesis (2015)	The impact of the EU Timber Regulation on the Bosnia and Herzegovinian export of processed wood	http://stud.epsilon.slu.se/8077/1/Matsson_K_20150622.pdf
Ines Gavrilut, Aureliu-Florin Halalisan, Alexandru Giurca, and Metodi Sotirov	Forests 2016, 7(1), 3 (Published 22.12.2015)	The Interaction between FSC Certification and the Implementation of the EU Timber Regulation in Romania	http://www.mdpi.com/1999-4907/7/1/3/htm
	UNECE (Published 10.11.2015)	Forest Products Annual Market Review 2014-2015	https://issuu.com/unpublications/docs/9789210575607/41
Mauro Masiero, Davide Pettenella, and Paolo Omar Cerutti	Forests 2015, 6, 3452-3482 (Published 30.09.2015)	Legality Constraints: The Emergence of a Dual Market for Tropical Timber Products?	http://www.cifor.org/publications/pdf_files/articles/ACerutti1502.pdf
Holger Weimar, Niels Janzen and Matthias Dieter	Thünen Institute of International Forestry and Forest Economics Thünen Working Paper 45 (Published 08.2015)	Market coverage of wood imports by the EU Timber Regulation	https://www.ti.bund.de/media/publikationen/thuenen-workingpaper/ThuenenWorkingPaper_45.pdf
Nicola Andrighetto, Davide Pettenella and Mauro Masiero	IUFRO Proceedings of the 13th International Symposium: Legal Aspects of European Forest Sustainable Development, May 2015	Illegal Activities in the Italian Wood-Energy Sector and Potential Impacts on Regulation (EU) 995/2010 (EU Timber Regulation)	http://www.unitbv.ro/Portals/64/internationalizare/Proceedings%20IUFRO_Brasov_2015.pdf
Ed Pepke	Dovetail Partners (Published 28.04.2015)	Impacts of Policies to Eliminate Illegal Timber Trade	http://www.dovetailinc.org/report_pdfs/2015/dovetailtradepolicyimpacts0515.pdf
Presentations			
Georg Winkel, EFI	IUFRO WFSE Seminar "Forests & development:	Green protectionism or a breakthrough for sustainable management - different	http://www.iufro.org/science-for-policy/article/2016/03/15/f

	from development discourses to providing data for decision making", Helsinki, 1.3.2016	narratives on illegal logging across the globe	orests-and-development-from-development-discourses-to-providing-data-for-decision-making/
Stakeholders			
	Illegal Deforestation Monitor, 29.09.2016	Comment: Why voluntary policies will not stop deforestation	http://www.farmlandgrab.org/post/view/26549-comment-why-voluntary-policies-will-not-stop-deforestation

From Science to Policy 2: A new role for forests and the forest sector in the EU post-2020 climate targets Published 1 December 2015			
Citations			
Wim de Vries, Anjo de Jong, Johannes Kros, Joop Spijker.	Forest Ecology and Management Volume 479, 1 January 2021, 118591	The use of soil nutrient balances in deriving forest biomass harvesting guidelines specific to region, tree species and soil type in the Netherlands	https://doi.org/10.1016/j.foreco.2020.118591
Rawshan Ara Begum, Asif Raihan and Mohd Nizam Mohd Said.	Sustainability 2020, 12(22), 9375	Dynamic Impacts of Economic Growth and Forested Area on Carbon Dioxide Emissions in Malaysia	https://doi.org/10.3390/su12229375
J. Bosco Imbert, Juan A. Blanco, David Candel-Pérez, Yueh-Hsin Lo, Ester González de Andrés, Antonio Yeste, Ximena Herrera-Álvarez, Gabriela Rivadeneira Barba, Yang Liu, Shih-Chieh Chang.	In: Venkatramanan V., Shah S., Prasad R. (eds) Exploring Synergies and Trade-offs between Climate Change and the Sustainable Development Goals. Springer, Singapore	Synergies Between Climate Change, Biodiversity, Ecosystem Function and Services, Indirect Drivers of Change and Human Well-Being in Forests	https://doi.org/10.1007/978-981-15-7301-9_12
Alexandre Strapasson, Jeremy Woods, Jerome Meessen, Onesmus Mwabonje, Gino Baudry, Kofi Mbuk.	Energy Strategy Reviews	EU land use futures: modelling food, bioenergy and carbon dynamics	https://doi.org/10.1016/j.esr.2020.100545
Pere Pons, Josep Rost, Carles Tobella, Roger Puig-Gironès, Josep M Bas, Marc Franch, Eduard Mauri.	iForest - Biogeosciences and Forestry, Vol. 13 pp. 360-368	Towards better practices of salvage logging for reducing the ecosystem impacts in Mediterranean burned forests	https://doi.org/10.3832/ifor3380-013
Martin Drews, Morten Andreas Dahl Larsen, Jenny Gabriela Peña Balderrama.	Energy Strategy Reviews Volume 29, May 2020, 100487.	Projected water usage and land-use-change emissions from biomass production (2015–2050)	https://doi.org/10.1016/j.esr.2020.100487
Savaresi, Annalisa and Perugini, Lucia.	Chapter, from 'A Commentary on the Paris Agreement on Climate Change, G. van Calster and	Sinks, Reservoirs of GHGS and Forests	http://dx.doi.org/10.2139/ssrn.3550066

	L. Reins (eds). Forthcoming.		
Annalisa Savaresi, Lucia Perugini, Maria Vincenza Chiriacò	RECIEL, Review of European, Comparative and International Environmental Law, April 2020	Making sense of the LULUCF Regulation: Much ado about nothing?	https://doi.org/10.1111/reel.12332
Artti Juutinen, AnneTolvanen, Miia Saarimaa, Paavo Ojanen, Sakari Sarkkola, Anssi Ahtikoski, Soili Haikarainen, Jouni Karhu, Arto Haarad, Mika Nieminen, Timo Penttilä, Hannu Nousiainen, Juha-Pekka Hotanen, Kari Minkkinen, Mikko Kurttila, Kaisa Heikkinen, Tapani Sallantaus, Kaisu Aapala, Seppo Tuominen.	Ecological Economics Volume 175, September 2020, 106704	Cost-effective land-use options of drained peatlands– integrated biophysical-economic modeling approach	https://doi.org/10.1016/j.ecolecon.2020.106704
Seita Romppanen	Journal of Energy and Natural Resources Law, Published online: 18 May 2020	The LULUCF Regulation: the new role of land and forests in the EU climate and policy framework	https://doi.org/10.1080/02646811.2020.1756622
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Presentations			

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