With its 2030 climate plan unveiled last month, the European Commission has put the spotlight on forests as Europe’s main “carbon sink,” saying their ability to store carbon dioxide must be preserved in order to reach the bloc’s climate goals.

In this Event Report, EURACTIV looks at Europe’s renewed attention to forests and climate change and how wood-based industries fit into the picture.
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Forests are the planet’s biggest carbon “sink” – absorbing more CO2 from the atmosphere than they emit – but their contribution to cooling the earth’s climate is currently not fully accounted for under UN rules, experts say.

The European Commission rang the alarm bell about the state of EU forests last month, saying their capacity to absorb carbon dioxide – the main greenhouse gas responsible for global warming – has been decreasing since 2013 and needs to be restored.

“The sink has to go back to its previous levels” if Europe wants to bring emissions down to net-zero, EU climate chief Frans Timmermans said as he presented the Commission’s 2030 climate plan last month.

The Commission said in its 2030 climate proposals that “need a growing sink in order for the EU to achieve climate neutrality by 2050”, calling for improved forest management as well as “re- and afforestation” initiatives to restore degraded land and preserve biodiversity.

Forest-based industries, for their part, have insisted on the need to take a comprehensive view of forestry activities in order to evaluate their real contribution to the fight against global warming.

Wood-based products such as paper or furniture store CO2 until it is eventually returned to the atmosphere when they are burned at the end of their life-cycle, forming a closed carbon loop, said Peter Holmgren, a forestry expert who spoke at a Brussels event organised last month with the

By Frédéric Simon | EURACTIV.com
Swedish forest industries.

But this does not take into account the avoided emissions when wood fibres are used to replace plastics or other fossil-based materials, said Holmgren, who is former director-general at the Centre for International Forestry Research (CIFOR), a non-profit research group.

“Some of that oil or coal stays in the ground,” he said, underlining the “substitution effect” of biomass in relation to fossil fuels. “And this is an immediate effect that we need to take into account,” he told the Brussels event.

‘SUBSTITUTION EFFECT’ OF FORESTRY SECTOR

The Confederation of European Paper Industries (CEPI), which also supported the event, produced a study earlier this year to try and quantify the “substitution effect” of wood-based products.

“The results show that forests and forest-based products remove a net of 806 million tons of carbon dioxide equivalents annually” – or the equivalent 20% of all fossil emissions in the EU, said Holmgren, who is the main author of the study.

But according to Holmgren, current rules at UN level do not take this into account.

While the “net sink” effect of forests is part of the annual reporting obligations of EU member states under the EU regulation on land use, land use change and forestry (LULUCF), this is currently not the case at the UN level, Holmgren pointed out.

“When the IPCC produces their global report, they do not include that net sink,” Holmgren explained, saying “this is by and large invisible in current climate reporting” to the United Nations. “In the land report, for example, it is explicitly excluded, which means there is a dissonance” between the EU and UN reporting rules, he told participants at the event.

“So we don’t have a good picture,” he added.

Artur Runge-Metzger, a senior official at the European Commission’s climate directorate, said the CEPI study was “100% in line” with the Commission’s own climate policy proposals, which aim for a 55% reduction in greenhouse gas emissions by 2030.

“We recognise the value of forests and agriculture” when it comes to climate change, Runge-Metzger told participants at the event, saying the so-called “invisible effect” of forestry “is fully captured” in the EU’s carbon inventories.

“And I think there is a possibility to accelerate, otherwise, we wouldn’t have put forward the 55% target,” he told the audience, saying the Commission “supports the bio-economy” as a way to substitute fossil-based materials.

‘CARBON FARMING’

However, forestry is not the only sector contributing to the “substitution effect,” Runge-Metzger added, saying solar and wind energy also displace fossil fuels in their own way and could claim the same kind of recognition under the EU’s carbon accounting rules.

“We have the same discussion with the steel industry,” which claim to be displacing coal because wind turbines are made of steel, he said. “And you can do that across the entire economy,” Runge-Metzger remarked.

What is currently not reflected in EU policy, however, is the “carbon sink” function of forests and agriculture, Runge-Metzger pointed out, saying the Commission is currently looking into ways of rewarding farmers and forest owners for maintaining carbon sinks.

“At the end of the day, it’s the farmer or the forester who will have to make a living,” Runge-Metzger reminded. “If we don’t value the sinks function of the forests and agriculture, farmers and foresters will not care. And that’s what we fear is happening,” he warned.

“Let’s be honest, the substitution effect works because we have a carbon price in Europe for the energy sector, which pushes out coal from the energy mix,” Runge-Metzger remarked. “And

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the same is true for any other place where there is a carbon price – there is immediately a better fit for forestry and agriculture products” that can act as substitutes for fossil fuels, he said.

“So the question really is: how can we make sure that we count what’s happening on the sink side” and “put a value” on carbon sinks, he continued. “And that is something we are exploring with the farmers” as part of a new EU “carbon farming initiative” which aims to reward farming practices that remove CO2 from the atmosphere.

The EU scheme will include new regulations to certify carbon removals based on a “robust and transparent” carbon accounting methodology to monitor and verify the authenticity of carbon removals, the Commission said in its ‘Farm to Fork’ strategy presented in May.

“That will take us many years and it might not happen between now and 2025 or 2030,” Runge-Metzger said.

“But in 2050, we need to be in a better place.”

Jytte Guteland, a Swedish MEP who was the lead author of the European Parliament’s position on the EU’s 2030 climate proposal, said the Commission had “underestimated the potential” of forests to act as carbon sinks.

“I think there is a bigger potential,” she told participants at the event, saying well-managed forests “will actually improve the carbon sink for Europe, not the opposite”.

She also called out what she described as a frequent misconception among lawmakers in the European Parliament that forests should be ring-fenced in order to preserve their ability to absorb CO2.

“From the point of view of my own country, Sweden, we have a common understanding that when the tree is growing, it can have a bigger carbon uptake. So we need to have more sustainable management of forests” to make sure new trees are planted in replacement of those that are harvested for the needs of the paper and wood-based industries, Guteland said.

Runge-Metzger agreed with Guteland that foresters need incentives for “active forest management” practices that preserve carbon sinks. However, he insisted that those incentives “won’t come like manna from heaven,” and that those “expenses” need to be covered somehow.

“So the question is: are we going to rely on subsidies to do this, or are we going to find other ways to do that? That is where we would like to see a debate among foresters, the forest industry, and farmers on how we can realise that potential”.

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The first step to bring forestry under the EU’s emissions trading scheme is to ensure that every tonne of carbon dioxide in the forest is counted so that a certification system for carbon removals can be put in place, Artur Runge-Metzger told EURACTIV.

Artur Runge-Metzger is the director at the European Commission’s department for climate action, where he is in charge of climate strategy, governance and emissions from non-trading sectors. He spoke to EURACTIV’s energy and environment editor, Frédéric Simon.

“Every tonne” of carbon dioxide in EU forests has to be counted, reported and monitored, Runge-Metzger told EURACTIV. The European Commission is looking at “carbon farming” to encourage farmers to uptake carbon in soils or vegetation.

The European Commission is working on a certification system for carbon removals that should be ready “by 2023.”

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The European Commission’s 2030 climate plan presented two weeks ago, places more emphasis on forestry and agriculture in the EU’s fight against climate change. In particular, the Commission said the capacity of forests to act as “carbon sinks” has been decreasing over the years and needs to be reversed. So how does the Commission intend to achieve this?

Since 2013, the carbon sink decreased in Europe and that is worrying. Farmers and foresters have incentives to do many other lucrative things with their land than keeping the capacity of forests and soils to act as carbon sinks.

On top of this comes climate change itself, which is taking its toll in terms of droughts, diseases and pests that are encroaching on European forests and land. Therefore, a way needs to be found to encourage farmers and foresters to do address these adverse effects – to reforest areas, which might no longer be adapted to the future climate.

And first, forests need to be counted better – every tonne of carbon dioxide in the forest has to be counted. Under the Kyoto Protocol, not all forest was accounted for, there were specific rules and limitations.

So, the first thing is to count the forest. And this is something the Commission outlined clearly already in the long-term climate strategy for 2050, by which time remaining emissions need to be balanced with carbon removals. And after 2050, this balance will have to go net-negative.

Hence, carbon removals are going to play an important role, which is why it is important to accurately count and report them. This is being done today in the context of the United Nations Framework Convention on Climate Change. The way it is being reported to the UNFCCC takes the full sink into account. And in order to get to climate neutrality by 2050, we want to start counting in the same way in the year 2030.

Europe wasn’t counting carbon removals until now?

Today, carbon removals are only partly accounted for. As long as they are not fully counted, it risks not being adequately reflected in the decision making. And that means the incentives are difficult to get right.

Secondly, we want to help in terms of afforestation in Europe and to plant 3 billion trees in the coming decade. This is something that the Commission will work on in the context of the upcoming forest strategy.

A third important initiative is what is called “carbon farming” to see how Member State governments can incentivise the uptake of carbon in soils or vegetation, and to make sure that these are also permanent removals.

A sink is not per se irreversible, it can be reversed. So one always has to carefully monitor in order to get the numbers right in terms of removals.

The Commission’s stated objective is to stop carbon sinks from decreasing and start growing them again. Does this mean the Commission will somehow put a limit on the number of trees that can be harvested in Europe? Is that something that will inevitably come at some point?

I don’t think this is going to be necessary. Looking at the projections for 2050, and in particular at the balance between removals and remaining emissions, some greenhouse gas emissions will be inevitable – for instance cows will continue to emit methane. In order to find a way to balance these residual emissions, there will be a demand for carbon removals.

In principle, carbon removals can be achieved in different ways than through forest and soils – there are also technical solutions like carbon capture and storage. However, there are limitations to CCS in terms of cost, storage capacity and public acceptance.

At the end of the day, there will have to be a balance between demand and supply for such carbon removals.
This will provide an incentive for forestry activities or soil conservation. In this way, limits would not have to be set.

**What metrics is the Commission going to use to monitor the evolution of the carbon sink in Europe? How are you going to measure that?**

We will follow the metrics and guidelines that have been developed by the IPCC. Since 2008, the beginning of the first commitment period of the Kyoto Protocol, land use, land use change and forestry have been monitored and reported.

These measurements have improved a lot in those twelve years with the help of the UNFCCC peer-reviews. International peers regularly looked at the different parts of the national inventories. Looking back at the early years of the UN carbon accounting system, there were many suggestions to improve LULUCF monitoring, and these can be further improved in the future.

One of the avenues to be explored is to use remote sensors through satellite observation. Doing inventories for land use and forestry is very expensive because the areas are so vast and so heterogeneous. In some cases, forest inventories are done only every 5 to 10 years. This can possibly be improved using Europe’s Copernicus earth observation satellites by comparing these numbers with the inventories.

**And the base year will be 1990?**

Yes, 1990 is always the base year when it comes to Europe’s climate commitments. There are estimates of the size of the forest sink back in 1990.

In the beginning, it might not be 100% accurate, as one will start at a certain point. What is important is that measurement becomes better over time, so that we can detect whether the trend is going in the right direction or not.

On certain categories, we will have to become more granular over time, for example when it comes to harvested wood products. At the moment, default values are used for how long these wood products are going to be there, but if we want to look after that stock more carefully, then we need to better understand the stock and how exactly it is changing.

**Does that then require some additional reporting maybe on the part of the foresters or the farmers under the Common Agricultural Policy (CAP)?**

This is something that will have to be investigated in the coming years. But one must be cautious not to create red tape. It will have to be done in a measured and reasonable way and it is one of the reasons to explore using satellite imaging, because it might be something that can be automated. One needs to get a robust proxy that is going to be good enough to monitor accurately what is happening to the sinks.

**Forestry can be positive or negative for the climate depending on the uses. Wood for instance has different carbon footprints depending on what you do with it – whether it’s used to produce paper, building materials or furniture or whether you burn it in a biomass plant. So how can those different uses of wood be accounted for in a way that reflects their true carbon footprint?**

In terms of carbon accounting one needs to monitor where the CO2 actually is and goes: in the atmosphere, stocked in a tree or in a table, or being burned in a power plant.

**Can that be measured at all?**

One can measure what is standing in terms of CO2 in the forest. And the way those stocks are changing from year to year can be observed. If something is harvested, then it is recorded in the inventory as a negative.

**But then you don’t know how it ends up – in a table, in paper production or in a biomass plant.**

At the moment, this is often done in a simple way. We assume for example what amount goes into harvested products because there are industry statistics for that. The harvested product is given a certain lifetime and then it is going back into the atmosphere after an average period of time. This is how the accounting works at the moment.

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It’s based on industry reporting then?

It is based on reporting that goes through the statistical systems of the member states. At the moment, it is done relatively roughly so in the future, this might need refinement. This reporting can become more granular.

In a similar way, there are estimates for how much biomass is being burned in power plants. The emission of this biomass is already reported when the tree is cut. So, it does not have to be counted again when it is burned in the power plant.

Some are calling for a kind of certification scheme to account for carbon removals, whether in agriculture, or forestry. Is that something the commission is looking into? And how could it work?

In the circular economy action plan, the Commission announced that a certification system for removals should be developed by 2023. This will be worked on in the coming years.

Are there any particular difficulties? What are you trying to achieve?

In the end, a robust system needs to ensure that a tonne of carbon dioxide is a tonne of carbon dioxide. One challenge for the land sink will be the potential “reversibility” of the carbon removals.

For instance, what happens if a certified forest sink goes up in flames? The legislation will have to be able to deal with such a situation in order to make sure that, at the end of the day, there is a physical removal for each certificate – or currency – that has been issued.

Another question: what if the forest goes up in flames but somebody has used this certificate to balance an emission? Who is going to be liable in such a situation? The same holds for a geological carbon storage. If there is a leak, what does it mean for the certificates that have been issued?

These are tricky questions that will need responses to ensure we have an environmentally robust system in place at the end of the day.

When you talk about a “currency” are you referring to allowances that can be traded on the Emissions Trading Scheme (ETS)?

If the standard is good enough and one can be sure that a tonne is tonne, then we might be able to recognise them like an emission allowance under the ETS. Therefore, it is important to get the certification right to make sure it is robust.

In the past, some experience has been made with the clean development mechanism at the UN level, which is also certifying certain emission reductions. So, the questions are quite similar: How can the emissions reductions or removals be established? On what basis? What does it need to be compared with? How many certificates can be issued at the end of the day? All these steps will have to be defined in the certification process.

That means effectively bringing agriculture and forestry under the ETS?

This can only be discussed once a good certification system is up and running. At the moment, there is no link between land use and the EU’s Emissions Trading System, for good reasons.

Conversely, there is a link at the moment between land use and the effort sharing regulation, which is capped to a certain amount. This might be a subject for the next round of impact assessments that will be done for the June 2021 package.

The reference point, in the long-term, will be 2050 and the net-zero greenhouse gas emissions target. By then, remaining emissions will have to be balanced with carbon removals. And that might not leave room for any auctioning under the ETS. Between now and 2050 there is a 30-year time period, and the question is how best to manage the transition from here to there.

Emissions from agricultural and forestry are currently regulated by different sets of rules at EU level: forestry falls under the LULUCF regulation, while biomass falls under...
the ETS and agriculture falls under the burden sharing regulation, together with transport and buildings. Does the European Commission aim to have a more streamlined system to deal with forestry and agriculture emissions in the future?

Different options are discussed in the 2030 Climate Target Plan. One option could be to bring together Land Use Land Use Change and Forestry (LULUCF) with the non-CO2 emissions from agriculture. This sector also falls under the Common Agricultural Policy. And that might make it easier for policymakers at the national level to deal with those sectors.

Let’s talk about incentives now. At the end of the day, forest owners and farmers need incentives to grow the capacity of their land or forests to act as carbon sinks. So what ideas do you have at the Commission to encourage them to do it?

What is happening already now are voluntary markets, which issue certificates in exchange for carbon capture or carbon removal projects. Some supermarket chains for example are using this to offset their emissions. These voluntary offset markets are growing in number and are also expanding in terms of the types of carbon removals that they certify.

So they need to be regulated at some point?

The Commission intends to establish an EU certification system. There is growing interest in so-called ‘carbon farming’. In Northern Germany for instance, there is a project called ‘Moor Futures’. We are currently studying these kind of systems to learn from them.

The Commission supports pilot projects, for instance, to test new methodologies for the measurement of carbon removals. Last year, the European Parliament voted for an additional €2 million in the budget for pilot projects. A Finnish project is exploring robust measurement systems. This experience will enrich the debate.

In the discussions with agriculture ministers in the context of the Common Agricultural Policy it is also encouraged to use eco schemes to reward farmers if they do more, in terms of storing carbon in the soils, or foresters storing carbon through afforestation and reforestation. There are different ways of encouraging learning by doing.

Then the next step will be to look at developing a robust regulatory framework. And in the longer term, one might look at whether and how this could be brought to the ETS.

In Germany, policymakers are debating a “tree premium” of €125 per hectare that would basically reward land owners for keeping their forests untouched. Is that something the Commission is looking into?

These are part of the incentive systems that should be studied. From a climate viewpoint, it needs to be established how much CO2 is stored at the end of the day.

Foresters say that if they’re being paid to leave the trees standing, they won’t have any incentives to do regular forest maintenance – like thinning or harvesting dead wood for example – which brings benefits like preventing fires. Do you see a tradeoff here?

There can be trade-offs. However, when it comes to carbon storage, one also needs to make sure that the carbon stock is protected. If the forest goes up in flames, then a certificate should also go up in flames. Preventing fires is one risk that foresters will need to manage.

Other questions are: can timber be stored in a way that it does not deteriorate? This is what is done when wood is put into tables and walls, which becomes part of the carbon stock. How far can this stock be increased? What will be done with it at the end of its use: will it be burned and the CO2 goes back into the atmosphere, or can it be safely stored?

These are some of questions that will have to be considered further in the future.
What if consumers were empowered to make the EU green recovery happen by choosing truly green and circular products, ask Jori Ringman and Viveka Beckeman.

Jori Ringman is the Director-General of the Confederation of European Paper Industries (Cepi) and Viveka Beckeman is the Director-General of the Swedish Forest Industries (SFIF).

We already see a broad public engagement for climate action, an increased demand for fossil-free products – and they’re here, today! For buildings, furniture, packaging, hygiene and medical products, clothes and much more: products made from sustainably sourced wood are available and affordable while bringing a direct climate benefit.

The substitution effect – keeping fossil resources in the ground by offering a renewable product instead – will have an immediate and significant climate mitigation effect as demonstrated by the recent Cepi study.
"Climate effect of the forest-based sector in the European Union".

Today plastic packaging has three times larger CO2 footprint than paper; in 30 years from now, plastics will be already seven times worse than paper and board! Already now, one-quarter of all plastics could be readily replaced by paper and board. This is untapped potential for substitution. And not the only one!

If there is a climate emergency that can’t wait, then why are we continuing to pump up fossil CO2 from the ground to the atmosphere while we have the better solution available on the market already?

The forest and forest-based industries bring three benefits – sequestration, storage and substitution of carbon.

As a forest-based industry, we have a strategic interest in keeping healthy and growing forests in Europe. Our renewable and recyclable wood-based fibre solutions are made in Europe from European sustainably growing forest stocks.

Harvesting wood in the EU is less than the annual growth: growing stock and carbon storage is increasing every year. Sustainable forest management ensures the long term vitality of the resource and supports the achievement of climate neutrality by 2050.

The EU wants to become the first carbon neutral continent by 2050.

Our industry has a strategic interest in being a leader in that race but respecting the owners of European forests, we don’t claim the forest sink for ourselves as we will become truly fossil-free.

If the EU policy, on the other hand, expects forest sink to compensate for certain “difficult-to-decarbonise” sectors, it would be counterproductive, inefficient and far from fair.

Forests are not threatened by sustainable forest-based bioeconomy but by the other sectors. And most of all: by climate change. The more fossil material we take from underground, the harder the adaptation will become for forests – shaking the foundations of the policy.

Most fossil-intensive value chains are global, beyond the scope of EU policies. Allowing for continued fossil production forces the society to choose slow, less optimal and more expensive mitigation tools, while avoiding those emissions in the first place with low-carbon alternatives would immediately tackle the root cause.

The policy choice is likely to result in calls for higher protection of the forest as a sink. This would risk the availability of sustainable wood for the forest-based ecosystem and – in the worst case – even reversing the substitution towards more fossil-intensive production.

The post COVID-19 economic slowdown could help us design a more inclusive and coherent approach to forests both for climate and human well-being.

Green recovery also means supporting growth and ensuring continued consumption that creates value for society.

Forest-based economic ecosystems contribute to green growth and jobs especially in rural areas while ensuring wood and many vital ecological services. Forest-based industries employ 3.5 million workers (10% of EU manufacturing jobs).

One in five manufacturing companies in the EU is in forest-based industries. The economic value of wood encourages forest owners to manage their forests with a long-term, sustainable perspective.

The sector promptly reacts to emergency situations like storms, insect outbreaks or fires, helping to restore forest ecosystems, draining wood from affected areas and minimizing risks of future pests and diseases while contributing to reducing economic losses of private forest owners.

We expect the revamped Forest Strategy to have a holistic approach and to acknowledge the multifunctionality of forests and their crucial role in supplying raw material to the forest-based industry.

The forest value chain – forests and forest-based industry – is a unique strategic resource and asset for Europe in combatting climate change and building a sustainable future.

The consumers are looking for alternatives and would shift to low-carbon products coming from a renewable resource.

The forest-based value chain holds the keys to a sustainable European economy, enabled by a resilient industry of the future.