

Arctic Limits

How Finland's forest policies threaten the Sámi and the climate



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Words and pictures: Mark Olden and Hannah Mowat. Corresponding address: hannah@fern.org

Acknowledgements

Fern thanks the following people for their input and time. The views in this briefing are not necessarily theirs.

Leo Aikio, Kaarina Kolle, Matti Liimatainen, Tero Mustonen, Jarmo Pyykkö, Kaisa Raitio, Jan Saijets, Tiina Sanila-Aikio, Osmo Seurujärvi, Sampo Soimkallio, Antti Tervaniemi.

This briefing has been produced with the financial assistance of the Packard Foundation, the European Climate Foundation and the European Commission. The contents of this publication are the sole responsibility of the authors and can in no way be taken to reflect the views of the funders.

ISBN: 978-1-906607-72-2



Fern office UK, 1C Fosseway Business Centre, Stratford Road, Moreton in Marsh, GL56 9NQ, UK **Fern office Brussels**, Rue d'Edimbourg, 26, 1050 Brussels, Belgium **www.fern.org**

Introduction Finland: a test case in the fight against climate change

In December 2015, the world reached an historic agreement to tackle climate change.

At the Paris climate talks, negotiators from almost 200 nations <u>pledged</u> to limit global warming to below two degrees Celsius, and to strive to keep temperatures at 1.5 degrees above pre-industrial levels.

But the path from agreeing radical emissions cuts to achieving them is pitted with challenges. One of the biggest is how we account for emissions from land and forests.

As the world edges closer to breaching the two degrees goal, forests – which <u>absorb</u> carbon dioxide when they live and release it when they are dead – have become increasingly important in battling climate change.

Yet while there is a widely-accepted method for measuring emissions from fossil fuels, accounting for those from the land use and forests sector, known as <u>LULUCF</u>, is devilishly complex.¹ LULUCF accounting is also riddled with <u>loopholes</u>: inherent weaknesses which

are open to exploitation by countries who hope to use forests to avoid making more costly greenhouse gas emissions cuts in other sectors.

This briefing focusses on the case of Finland, Europe's most heavily forested nation.

In 2016 the Finnish government <u>announced</u> its intention to increase harvesting the country's forests by 23 per cent between now and 2030.² Yet, they maintain that they should not have to account for these emissions, since Finland's forests will still absorb more carbon dioxide than they release.

In this briefing we analyse the impact of this decision, and try to unpick the logic and some of the data behind it.

We have chosen Finland not because it is the only country trying to bend the accounting rules in its favour – most countries have their climate blind spots – but because it graphically illustrates how critical it is to have reliable accounting rules for emissions from the land and forests sector.

This story though, is not simply a dispute over carbon accounting – which to most people might seem like an arcane discussion between technocrats and climate scientists in an airless room full of PowerPoint graphs – it's about the survival of a people.

The Sámi are the northern most indigenous people living in the European Union, their traditional lands stretching across the Arctic area of Sápmi (which today encompasses Norway, Sweden, Russia and Finland).

In Finland, the Sámi are already seeing their way of life eroded by the twin pressures of intensive logging and climate change.

As this briefing shows, if Finland continues along its current path, then these threats could prove fatal to a culture and lifestyle which has endured for centuries.

Finland's case graphically illustrates how critical it is to have reliable accounting rules for emissions from the land and forests sector

² The Energy and Climate Strategy (24.11.2016). The annual harvesting is estimated to be 79 million M3/year. http://www.google.fi/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&sqi=2&ved=oahUKEwj7yrLG-eLQAhWKkiwKHVe9D_cQFggXMAA&url=http%3A%2F%2Ftem.fi%2Fstrategia2016&usg=AFQjCNHEjEMtd3KlTiFyGyAB-qhJetvBzQ&sig2=N15P0Ub-8GgLaVKBMV8rXA&bvm=bv.140915558,d.bGg In 2015, the harvesting had been approximately 68 million m3/year that is already an increase as 2014 was at 65, see: https://www.sttinfo.fi/tiedote/metsiemme-runkopuun-hakkuut-jatkuivat-runsaina-vuonna-2014?publisherId=21085384&releaseId=29735802

A people threatened by logging

Inari, northern Finland. We drive through an icy wilderness on the back of a snow mobile, multiple layers of clothing protecting us from the -23 degrees temperature. A frozen lake stretches off into the distance behind us. The rapidly fading light casts a magical glow over the landscape as we head into pine and spruce woodlands cloaked with snow.

"It will not be possible to live with reindeers here if they keep on with this logging," says Aikio. "This culture is going to die here."

Jarmo Pyykkö (Greenpeace), Mark Olden (Fern), and reindeer herder Leo Aikio examine a block of ice. Climate change is causing dramatic temperature shifts which means rain falls and then freezes leaving layers of ice beneath the surface snow. The ice stops the reindeers from reaching ground lichen, which along with the tree hanging variety, is their main food during the harsh winter months.

Around 300 kilometres north of the Arctic Circle, Lapland's fairy-tale beauty can distract from just how treacherous this environment can be. So to work outdoors as reindeer herders – as our Sámi guides Leo Aikio and Antti Tervaniemi have done most days since they were knee-high – takes a special kind of resilience.

Aikio's and Tervaniemi's forefathers were reindeer herders as far back as they can trace,³ and herding has been integral to the Sámi people's survival for millennia. The meat is sold or eaten. The skins provide warmth. The antlers and bones are used for handicrafts and utensils. What's more, herding is intimately tied to the Sámi's connection to their land, and their knowledge of how to survive in it.⁴

"You wouldn't do this if you didn't love it," says Aikio, who solicitously keeps checking how we're bearing up in the cold. For him, the life of a reindeer herder is freedom. "When you go out to the forest in the morning, you never know where you're going, or when you'll be home." Tervaniemi, who is younger and quieter than his colleague, says that he got in at 2 am the night before.

We stop. Aikio beckons us over.

He digs beneath the surface layer of snow with his hands, and pulls up a big slab of ice.

"Catastrophe," he says, shaking his head.

Climate change, which is happening faster in the Arctic than in most of the rest of the world, is taking its toll:

- 3 Aikio and Tervaniemi are members of the Muddusjärvi collective: more than 60 reindeer herders who operate in an area of 2,682 square kilometres and own 5200 reindeers. There are 13 Sámi reindeer herding collectives in Finland. See: <a href="https://paliskunnat.fi/reindeer-herders-association/cooperatives/cooperatives-info/muddusjarvi/Finland's Sámi population numbers around 9,000. https://ilmasto-opas.fi/en/ilmastonmuutos/vaikutukset/-/artikkeli/98d25017-430a-405b-80f3-ddefcc534d75/saamelaiset.html
- 4 The International Centre of Reindeer Husbandry notes: "The climate conditions in reindeer herding areas can be extreme and cold. To be able to manage and survive in these conditions it has been and still is important for the herders to have knowledge of landscape, such as of grazing or snow conditions. The Sámi language and its dialects have hundreds if not thousands of exact terms and descriptive epithets for snow, ice and similar natural phenomena." See: http://icr.arcticportal.org/finland?start=6



Sámi reindeer herders Antti Tervaniemi and Leo Aikio. A way of life that has endured for generations faces an existential threat from logging and climate change.

dramatic changes in temperature throughout the long winter mean rain falls and then freezes, leaving layers of ice beneath the surface snow. The ice stops the reindeers from reaching ground lichen, which along with the tree hanging arboreal variety, is their main food during the harsh winter months.⁵

That's not all.

As we continue our journey, the reality of Finland's industrial logging becomes plain: 44 per cent of the productive forest lands here – within an overall area of

5 This problem extends beyond Finland. According to the New Scientist: "Tens of thousands of reindeer in Arctic Russia starved to death in 2006 and 2013 because of unusual weather linked to global warming... Sea ice retreated and unseasonably warm temperatures contributed to heavy rains, which later froze the snow cover for months, cutting off the reindeer's usual food supply of lichen and other vegetation." 80,000 reindeer have starved to death as Arctic sea retreats, November 16, 2016. See: https://www.newscientist.com/article/2112958-80000-reindeer-have-starved-to-death-as-arctic-sea-ice-retreats/

2,682 square kilometres – has been logged. The clear cutting of these boreal primary forests spells both short and long-term disaster, the herders say.⁶

- 6 Rebecca Lawrence and Kaisa Raitio point out that the tensions between reindeer herders and state forestry are neither unique to Inari, nor a new phenomenon to Finland or the Nordic countries. "The disputes are caused by the adverse impacts forestry has on the amount and availability of reindeer nutrition ground lichen and tree-hanging lichen during the two most critical period of the year, in the winter. Tree harvesting, soil scarification, road construction and other forestry-related activities diminish, deteriorate and fragment lichen grounds, cause additional work for herders and further decrease the possibility for reindeer to graze freely. Despite the relatively high percentage of protected forests in Inari (some 40%) as a whole, old winter grazing forests are, in many places, not included in the protected areas and are hence becoming increasingly scarce. Since old forests are typically both valuable winter grazing areas and rich in timber, the interests of the logging industry and reindeer herding often conflict in these areas." See: Forest conflicts in the Finnish Sápmi: Local, National and Global Links http://www.iwgia.org/iwgia_files_publications_files/lA_4-06_Finland.pdf
- 7 The 44 % figure is based on research by Jan Saijets, chairman of the so called Akwé:Kon –working group whose task is to study the impact of modern forestry on Sámi reindeer herding within the Muddusjärvi co-operative. See: https://tiedostopalvelu.maanmittauslaitos.fi/tp/kartta?lang=en And maps can be browsed in: https://www.paikkatietoikkuna.fi/web/fi/kartta?lang=en And maps can be browsed in: https://www.paikkatietoikkuna.fi/web/fi/kartta?lang=en">https://w



Destroying old growth forests means destroying tree hanging lichen, an essential food source for reindeers during Lapland's long winter months.

First, destroying old growth forests means destroying tree hanging lichen, further choking the reindeers' food supply. Second, once felled these trees can take around 170 years to grow back in this unforgiving climate, condemning future generations to the same fate.⁸

"It will not be possible to live with reindeers here if they keep on with this logging," says Aikio. "This culture is going to die here."

That evening we join him and his wife, <u>Tiina Sanila-Aikio</u>, at their home.

Sanila-Aikio is a reindeer herder and singer (whose song <u>Uuh</u> was the first single in the Skolt Sámi language ever to

8 Some blame overgrazing of pastures by reindeers for reducing the available lichen. For more on this debate, see: Both reindeer management and several other land use factors explain the reduction in ground lichens (Cladonia spp.) in pastures grazed by semi-domesticated reindeer in Finland Jouko Kumpula etc http://link.springer.com/article/10.1007/s10113-013-0508-5

The reindeer herders and others point out that overgrazing arises because reindeers are being relentlessly pushed into smaller pasture areas. "Forestry activity has reduced both terricolous and arboreal lichens, and access of reindeer to pastures has been hampered as a result of tree cutting, site preparation, fertilization, and logging residues, as well as forest fragmentation caused by roads and ditches." Past and Present Winter Feeding of Reindeer in Finland: Herders' Adaptive Learning of Feeding Practices, Minna Turenen etc, 2013. https://www.jstor.org/stable/24363698?seq=1#page_scan_tab_contents

chart in Finland), and current President of Finland's Sámi Parliament.⁹

She sees logging and climate change on a par with historic existential threats to the Sámi way of life, such as the <u>boarding school system</u> that the Finnish government introduced in the 19th century which removed Sámi children from their homes and stripped them of their language and culture.

"Are we still an indigenous people if we don't have a connection to the nature?" she asks. "We have been talking a lot about what type of future our daughter will have. Sometimes it's too stressing and too hopeless. Can we even risk that she will follow in our steps and be a reindeer herder?"

She sees a grim portent of the future in the lives of many retired reindeer herders. "These old guys have been herding all their lives. They get to retirement age and they try to

⁹ The Sámi Parliament is the self-government and the supreme political body of the Sámi in Finland. Its main purpose is to plan and implement the cultural self-government guaranteed to the Sámi by the Constitution of Finland. See: <a href="http://www.samediggi.fi/index.php?option=com_content&task=blogcategory&id=78<emid=193&lang=english">http://www.samediggi.fi/index.php?option=com_content&task=blogcategory&id=78<emid=193&lang=english



Osmo Seurujärvi, chairman of Muddusjärvi reindeer herding co-operative. "The situation is already so tight, if the logging is increased we will lose the reindeer."

keep on going. When they finally stop they lose themselves and they die in a year or so. They can't manage to survive."

The next day, we meet Osmo Seurujärvi, chairman of <u>Muddusjärvi</u> reindeer herding co-operative, which has about 60 members and 5,200 reindeers.

He explains that the scarcity of lichen means the herders are now buying other feedstock for the reindeers. This is not simply a matter of added expense, but something more fundamental: a seismic shift both in the reindeers' diets and the co-operative members' way of life.

"So far it's still possible to have reindeer on natural grazing grounds. But if this continues we will have to take the reindeers inside fences. The situation is already so tight, if the logging is increased we will lose the reindeer. You cannot change the system so that you go totally to artificial feeding. Their stomachs cannot take it, so it would mean a generation [of reindeer] would die."

Seurujärvi has to rush back to "the office" (the forest). As he leaves, we ask if he has a message for Finland's Ministry of Agriculture and Forestry.



"Are we still an indigenous people if we don't have a connection to the nature?" asks Tiina Sanila-Aikio current President of Finland's Sámi Parliament.

Photo: Ulla Isotalo

He does, and it's blunt: "Leave also some space for us."

Dr <u>Tero Mustonen</u> is president of the <u>Snowchange</u> <u>Cooperative</u>, which works with <u>indigenous communities</u> in the Arctic, and a lead author of the Finnish government's <u>Arctic Biodiversity Assessment</u>. The pattern in Inari is repeated across Finland's Sámi region, he says.

"Sámi reindeer herding has been suffering in the last 120 years from outside interference, dictating how it's organised and how it happens, but the Sámi have always been successful in adapting to changes. Now they are facing catastrophe." he says, echoing the term used by Aikio.¹⁰

He says that clear felling is not only wrecking the food security of the reindeer, but creating other ecological impacts "...including losing the last relatively intact boreal forests and their endemic species in the European North."

¹⁰ For example: "The most significant change in historic times was the decision by the (Russian-Finnish) State to impose a system of reindeer herding cooperatives called paliskunta-system from 1898 onwards, disrupting and destroying to a large extent the foundation of the Sámi indigenous subsistence land use economy." Reindeer herding in Finland, a report for Trashumancia y Naturaleza, by Tero Mustonen and Gwyn Jones. See: http://www.efncp.org/download/ReindeerherdinginFinland.pdf



Sámi herders are now buying other feedstock for the reindeers. This is not simply an added expense, but means seismic shift both in the reindeers' diets and the Sámi way of life.

The solution, he says, is "a moratorium on industrial land uses and establishment of co-management regimes between the Sámi and the state to stop the imminent collapse while we still can."

Some, like the Sámi artist Jenni Laiti, have turned to activism. Laiti, who grew up in Inari, is among a <u>younger generation</u> of Sámi radicalised by life on the frontline of global warming, who have linked with climate activists around the world.

Laiti is at the forefront of a campaign to stop a major mining company <u>drilling</u> in the Swedish area of Sápmi, and took part in a 4,500 kilometre '<u>climate justice</u>' relay from her homeland to Paris for the 2015 climate talks.

"I'm not an expert on climate change, but I see what's happening around me," she <u>says</u>. "It's like death. Things are

just dying... It's mostly about the land because the land is where we come from. We can't survive without the land."

Resistance to external threats – whether nature's extremities or outsiders – has been a running theme through Sámi history. Tiina Sanila-Aikio draws inspiration from this.

"As long as we have Sámi children living in Sámi areas, children whose family practise traditional livelihoods, then we have hope," she says.



In Finland's Arctic north the trees are old and regenerate slowly, while the wood is transported far and sold for relatively little. This suggests that industrial logging there is barely viable. Yet the intensive harvesting taking place – which is so calamitous for the Sámi – is an emblem of the wider story about Finland and its forests.

To understand it – and why Finland is embroiled in an intense debate with the European Commission over how it should account for its forest emissions – some context is required.

Since World War Two, when Finland's reparations to the Soviet Union were paid partly by logging state forests, the creation of a world-class forest industry has been the cornerstone of the nation's national economic strategy.¹¹

Forests are to Finland what cars are to Germany: two thirds of the country is covered by boreal forests and "both its economy and its culture have been closely linked to forests more than any other country in Europe during the past 150 years", according to the development and forests experts Professors Kaisa Raitio and Markus Kröger, in a recent paper on Finnish forest policy.¹²

Towards the end of the last decade, though, tumultuous economic events brought change.

The global crash of 2008 hit Finland hard, and coincided with a sharp slump in the fortunes of the country's tech pin-up, Nokia. Meanwhile several pulp and paper companies moved production to South America, laying

¹¹ Finnish forest policy in the era of bioeconomy: A pathway to sustainability? Kaisa Raitio and Markus Kröger http://www.sciencedirect.com/science/article/pii/S1389934116304555

¹² Finnish forest policy in the era of bioeconomy: A pathway to sustainability? Kaisa Raitio and Markus Kröger http://www.sciencedirect.com/science/article/pii/S1389934116304555

¹³ In the decade to 2007 Nokia sometimes paid as much as 23 per cent of all Finnish corporation tax; but in five years its share price fell by 90 per cent See, The Nokia effect, *The Economist*, August 25. 2012 http://www.economist.com/node/21560867



off thousands of employees and signalling Finland's diminished status as a global player in the forest sector.¹⁴

Despite this, it was to the nation's forests that Finland's policymakers looked for economic salvation.

The nascent bioeconomy – driven by international climate policies encouraging countries to switch from burning fossil fuels to renewable energy – offered a lifeline from the economic storm.¹⁵

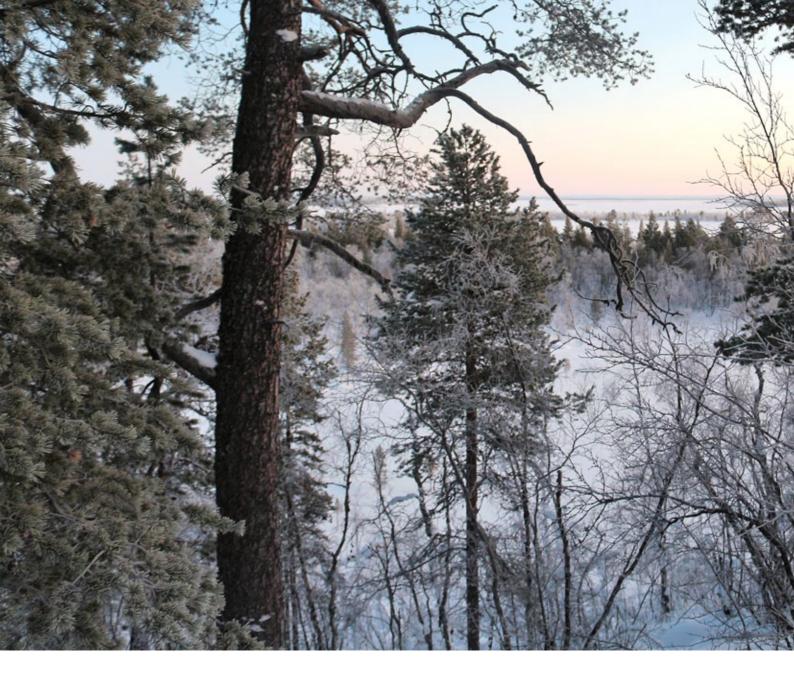
Finnish politicians' embrace of the bioeconomy was "not about solving the climate crisis, but solving the crisis in Finland's forest industry," says Kaisa Raitio.

Kaisa Raitio argues that Finnish politicians' passionate embrace of the bioenconomy was "not about solving the climate crisis, but solving the crisis in Finland's forest industry. They were not worried about saving forests, but about saving the Finnish welfare state." This explains the "ruthlessness", as she puts it, with which they have sought to increase logging Finland's forests.

A powerful demonstration of this attitude came in November 2016, when the Finnish government unveiled a

¹⁴ Finnish forest policy in the era of bioeconomy: A pathway to sustainability? Kaisa Raitio and Markus Kröger http://www.sciencedirect.com/science/article/pii/S1389934116304555S

¹⁵ The environmental writer Emily J Gertz expounded on this in an article in March 2016: "[Finland's] forests and waters are attractive targets for a country still digging out of the 2008 global financial crisis. Finland's 2015 GDP of \$231 billion was 7 percent lower than in 2007... [Prime Minister Juha] Sipilä won office last year on promises to bring a free market—oriented approach to reviving the Finnish economy... He sees Finland's forests as part of a nascent 'bio-economy', Bloomberg reported in April, and aims for the forest-product sector, such as pulp and paper mills, to generate 100,000 jobs by 2025." Indigenous People are fighting Finland's plan to log ancient forests, TakePart, http://www.takepart.com/article/2016/03/24/finland-old-growth-arctic-boreal-forest-reindeer-sami-indigenous-land/



new climate and energy strategy in which it outlined plans to increase wood harvests by 23 per cent between now and 2030. 16 , 17

Four months before, in July 2016, the European Commission had published its proposal on the role of the land use and forests sector (LULUCF) in the EU's climate effort, setting out the emissions accounting rules and targets for EU Member States between 2021 and 2030.

The proposal responded to criticisms that the old accounting rules allowed countries to hide some emissions from their forests, and put forward more rigorous rules

to account for emissions caused by further intensive tree harvesting.

The Commission knew this was urgent, because following the introduction of the Renewable Energy Directive in 2009, the EU has encouraged its members to substitute burning fossil fuels with burning wood for energy; this, in turn, has pushed countries to harvest more wood. 18

Now the two policies – Finland's plans to increase logging, and the Commission's to count emissions from land and forests – have resulted in a stand-off.

Credibility gap

Finland's official position is that despite this substantial harvesting increase, its forests will remain a 'net sink'.

The Energy and Climate Strategy (24.11.2016). The annual harvesting is estimated to be 79 million M3/year. See: http://www.google.fi/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&sqi=2&ved=0ahUKEwj7yrLG-eLQAhWKkiwKHVe9D_cQFggXMAA&url=http%3A%2F%2Ftem.fi%2Fstrategia2016&usg=AFQjCNHEjEMtd3KlTiFyGyAB-qhJetvBzQ&siq2=N15P0Ub-8GqLaVKBMV8rXA&bvm=bv.140915558,d.bGq

¹⁷ The announcement was also motivated by Prime Minister Juha Sipilä's centre right government's desire to stimulate rural growth and reduce wood imports from Russia.

¹⁸ Emissions from burning wood are not counted by the power stations; rather they are accounted for when the trees are cut.



Or, as Heikki Granholm, the LULUCF expert at Finland's Ministry of Agriculture and Forestry said when we met him in Helsinki: "A sink is a sink – an emission is an emission".

Finland's forestry sink is indeed large enough to withstand a near 25 per cent increase in harvesting and remain a sink. The impact assessment of its climate and energy policy states: "Finnish forests will remain a carbon sink, but the carbon sink will be reduced to half of the current level if the logging increases."

But size matters, and for the obvious reason: the less carbon there is in the forest, the more there is in the atmosphere.

And this is the crux of the current debate.

If the new rules proposed by the European Commission come into force, Finland would have to count its forestry emissions, which could be considerable given the vast increase in harvesting. So considerable, in fact, that they outweigh emissions reductions in other sectors, according

to the government's own Impact Assessment of its Energy and Climate Strategy. 19 (see Table 1)

Ultimately, this would mean that Finland would have to make more effort in cutting emissions from transport, industry and other sectors (which are dealt with in the Emissions Trading System and Effort Sharing Regulation; see table 1 below) to balance emissions from forestry (see LULUCF in table 1 below).

Table 1: Estimated development of emissions in Finland if climate and energy strategy is implemented/or is not implemented²⁰

Sector	2014 emissions (MT CO2)	2030 With Existing Measures (MT CO2)	2030 With Additional Measures (MT CO2)
Emissions Trading System (Power and large industry)	29	21	21
Effort-Sharing Regulation (Agriculture, Transport, Waste, Buildings and Small industry)	30	26	21
Land-use and Forestry sector (LULUCF)	-21	-6	-47
Total	38	41	3639

This explains why LULUCF, an acronym known to strike terror into the souls of civil servants, is dealt with at the highest political level in Finland, with even the Prime Minister involved.

To avoid counting forestry emissions, the Finnish are proposing a complex accounting system which would hide the negative impact their policies have on their forests' ability to store carbon.

Put simply, they just wouldn't count forestry emissions. Yet as Satu Hassi, Finnish Member of Parliament from the Green Party, said in a recent article: "Even if you can dupe most policy makers in Brussels, you can't dupe the atmosphere".

¹⁹ Impact assessments of the Energy and Climate strategy: The summary report, Publications of the Government's analysis, assessment and research activities 21/2017 http://bit.ly/2kkYYhQ

²⁰ Translated from Summary of Impact Analysis by The Governments Office (VNK) published 2nd of February 2017. Source: http://bit.ly/2kkYYhQ

Conclusion

The Finnish government's logic is that even if more trees are cut in the short term, these emissions will be absorbed in the long term. While technically this may be true, only if the new trees are allowed to grow as old as the ones that were felled, time is running out.

Scientists <u>estimate</u> that if the world keeps producing carbon dioxide at current levels, in four years the chances of limiting warming to 1.5 degrees will dramatically diminish.

In the medium term, the Finnish government maintains, the country's forests will grow back to previous levels. But Sampo Soimkallio, Senior Scientist at the Finnish Environment Institute has reservations. "They assume they will not need to increase harvesting after 2030. But emissions reduction requirements are likely to get even tougher after 2030, so it is optimistic to assume that harvesting would level off." In other words, if the EU does not account for emissions in the forestry sector, what would the incentive be to limit harvesting in the future?

Deciding the future of its forests is a matter for Finland, and there may be sound economic reasons to increase harvesting, from stimulating rural growth – an explicit policy of Prime Minister Juha Sipilä's centre right government – to reducing wood imports from Russia.

But these choices have broader impacts that deserve to be known and widely debated, whether the impact on the climate and biodiversity,²¹ or the traditional Sámi way of life.²²

Whatever choices are made, the Finnish public – who <u>when surveyed</u> have said that they want more effective action on climate change – should be aware of the profound consequences of the political decisions made in their name.

²¹ See: Finland's biodiversity at risk: a call for action, International Union for conservation of nature, 2013. https://cmsdata.iucn.org/downloads/finland_s_biodiversity_at_risk_fact_sheet_may_2013.pdf

²² Finland's plans to increase wood harvests are focussed on the south of the country, and not the Sámi areas — where logging levels have been set unrealistically high in the past.



Scientists estimate that if the world keeps producing carbon dioxide at current levels, in four years the chances of limiting warming to 1.5 degrees will dramatically diminish



Fern office UK, 1C Fosseway Business Centre, Stratford Road, Moreton in Marsh, GL56 9NQ, UK

Fern office Brussels, Rue d'Edimbourg, 26, 1050 Brussels, Belgium www.fern.org