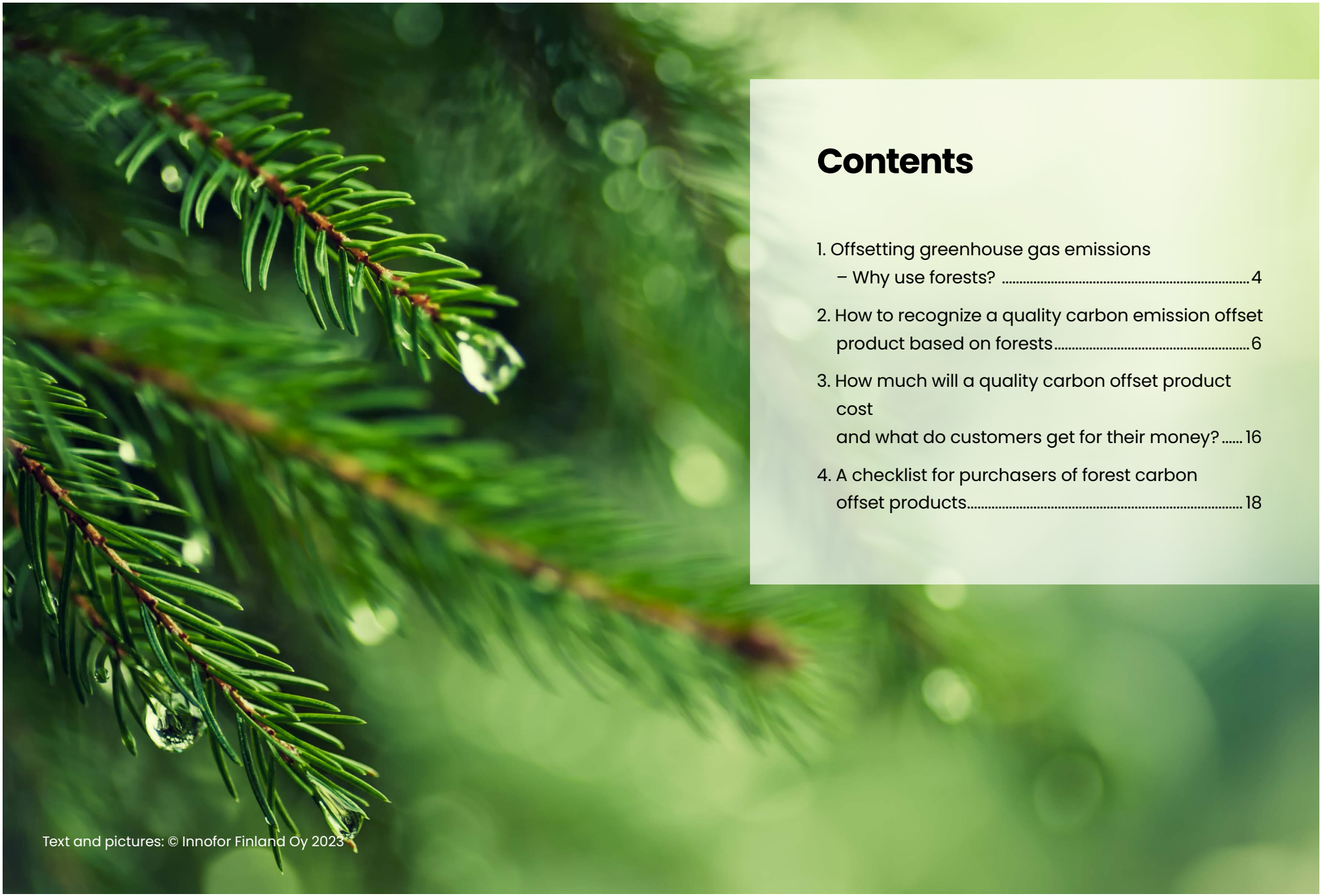

INNOFOR
Offsetting your business's greenhouse gas emissions using forests
A Critical Users' Guide



Contents

1. Offsetting greenhouse gas emissions – Why use forests?

Is your business contemplating offsetting its carbon emissions? Or perhaps already doing so?

Voluntary carbon offset programmes are mostly situated far from Europe, which can make it hard for a company's employees or clients to get to grips with the advantages of the investment. This makes using the offset difficult in product marketing, and it is unlikely that the location of your business will see direct benefits.

But what if you created your carbon offset in your country of origin – or even in the local vicinity of your business – thus generating direct local benefits? This is entirely possible. Creating carbon offsets locally doesn't mean lowering the quality of the product – if anything, the quality rises.

In North and Central Europe, forest is exceptionally well suited to carbon offsetting. The region has hundreds of thousands of private forest owners who can independently decide how they want to use their forest. Forests sequester a lot of carbon during growth, although also lose it quickly when logged if the end products are short lived – e.g. fuelwood and cardboard. However, there are excellent opportunities for improving forests' long term carbon storage almost everywhere, including Europe[1]. This means that if your business is situated in a forested region such as Fennoscandia, there will be excellent opportunities to locate your carbon offset product close to your home location. It also means excellent PR and marketing opportunities.

Carbon offset programmes need to be chosen with care. Even if you hire expert assistance, it is worth first getting acquainted with the key questions of offsetting yourself, e.g. through a ½-day internal seminar. An introduction to all the most important questions is given in this booklet. Awareness of the issues will help your staff answer clients' questions and to make better use of your offset programmes in your marketing and outreach materials.

With carbon offsets it pays to be a demanding customer. Cheap offsets are seldom of good quality and at worst are a waste of money. The voluntary carbon offset market unfortunately contains also programmes of dubious impact or durability, which is why a critical attitude pays. Buying poor quality carbon offsets may in the worst case turn into a PR-liability.

We hope this guide and its summary checklist makes it easy to identify quality forest-based carbon offset programmes. If a scheme fulfills all the criteria listed here, it is worth your investment. If checking through the full checklist is too arduous, we recommend using an outside assessor to vet the offers in advance.

[1] https://e360.yale.edu/features/why-keeping-mature-forests-intact-is-key-to-the-climate-fight

2. How to recognize a quality carbon emission offset product based on forests

The offset product must have "additionality"

The logic of greenhouse gas emission offsets is based on the idea that the VCUs[2]) bought in mitigation are generated solely by the extra payments created by the voluntary carbon market. In other words, the extra carbon sequestrated would not have taken place without the existence of the demand for the VCUs by your company. This is called additionality, and it is at the heart of the entire offsetting process. If your VCUs are not generated through additionality, you have literally invested in empty.

For example, forest carbon offsets based on energy, reafforestation or fertilizing can be difficult to assess for additionality, because such procedures are routinely anyway carried out as part of normal forest management enhancements and are almost always profitable to the landowner everywhere where timber is routinely bought and sold in large quantities regardless of carbon issues. Another problem with these and many other forestry schemes is that if they are part of rotation forest management – i.e. the stands are destined for clearcutting – they will lose much of the extra carbon sequestered. As to protection, many countries have voluntary protection compensation schemes for landowners[3]), so there are other incentives for this than the carbon market. Protection is also prone to "leakage" (see next section).

A good sign for additionality is that the offset scheme makes some change to what is normally carried out, e.g. by making permanent changes in forest management or how the timber is used, and that this change is not financed by any other means than the carbon market price.

[2] One VCU = Voluntary Carbon Unit corresponds to one ton's (1 000 kg) worth of equivalent carbon dioxide greenhouse gas emissions. For example, 100 000 kg of emissions (i.e. 100 tons) per year requires offsets of 100 VCUs each year.
[3] See e.g. in Finland www.metsonpolku.fi

Permanently transforming forest management away from clearcuts is a genuinely additional way to increase forests' carbon sequestration.

A clearcut releases large amounts of carbon from the soil due to ditching and the rise in soil surface temperature following the clearance.

The programme has no “leakage”

In the context of carbon offsets, “leakage” means that the carbon sequestered by the programme generates a corresponding rise in carbon emissions elsewhere. A programme with leakage should be abandoned, as its net worth may be close to zero.

Within forest-related carbon offset schemes, leakage occurs typically in conservation-related programmes. Protection forest increases carbon sequestration only if there is a corresponding decrease in logging rates. If the timber buyer merely moves elsewhere to purchase the same timber, the programme “leaks” and has no net benefit to greenhouse gas emissions. Especially in Developing Countries, the benefits of protecting large tracts of tropical forests have been widely questioned following revelations that overall logging rates in the region have not decreased.[4])

In the Nordic Countries of Europe, logging rates have, with few exceptions, steadily increased for over 30 years. In such circumstances, claiming carbon offsets through forest protection is dubious at best. The situation would be different were there an annual cap to national logging rates that would be lowered to the same degree that forests got protected. This would help many countries’ declining forest species.[5]) However, no such regulations exist nor are any currently planned. It is worth noting that

[4] Esim. https://www.theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoe

protecting forest is nonetheless potentially the best way to sequester carbon: forests in the world’s temperate and boreal zones continue to add to their carbon stock for at least 300 years.[6])

The programme must guarantee long-term sequestration

The heading’s, dare one say blindingly obvious, requirement is in fact a tough one for more forest programmes to meet. How to guarantee that the programme’s stands will not be clearcut after some grace period, with corresponding loss of the extra sequestrated carbon? Who will oversee the programme in future decades if the original organising party has gone out of business? What if the programme forest is decimated by fire, or devasted by exceptional droughts? Any forest carbon offset scheme needs to have convincing answers to such questions.

The next 20-40 years are generally regarded as decisive with regard to solving the climate crisis. This means that any forest carbon offset scheme must operate for at least 50 years, and give guarantees of continuity of the captured carbon even after this.

However, in the business world 50 years is a long time: how to guarantee that the forest owner or driver of the offset programme will operate over such a long time period?

[5] https://helda.helsinki.fi/handle/10138/299501
[6] https://blogs.uef.fi/forest-issues/2022/12/04/vanha-metsa-on-hiilinielu/ sekä https://blogs.uef.fi/forest-issues/2020/05/

'The best forest emission offset programmes are those that during the programme duration create conditions that, for economic and social reasons, are likely to have continuity also after the formal 50-year programme time is completed. For example, increasing carbon sequestration through a permanent change in forest management may initially incur risks or expenses, which are then covered by the carbon market payments to the owner. Gradually the new management regime kicks in, however, and timber production rises to previous levels. After 50 years, there is no longer any financial incentive to re-transition to previous management, which would be uneconomical and lose the additional sequestered carbon.

Any forest real estate participating in a long-term carbon offset programme needs to have this fact noted in the national land register as a legally binding encumbrance. In this way the continuity of the programme is guaranteed even in the event of a change of land ownership. The offset programme leader must for their part demonstrate that a portion of the VCU sales profits are being directed into a fund for guaranteeing the long-term oversight of the project in the event of the leader ceasing to trade. This can be achieved e.g. by initiating a separate fund whose finances and work is activated in the event of the programme leader withdrawing from the market before the time limit.

As well as channelling profits for longevity, the programme cannot sell all of the VCUs it generates. Some generated VCUs will remain uncounted due to the use of conservative estimates for parameters involved in their calculation. Still others will be set aside to mitigate for chance factors occasionally affecting the programme's forests, such as human error (too much timber is logged), storms, pests or fires. In such situations unsold VCUs will be used to make up for those lost – at no cost to the forest owner, unless they can be shown to be at fault. The percentage of VCUs set aside in this way is calculated by a risk analysis, which is periodically recalculated. The minimum is 10%. .

The Programme has been audited for scientific quality and impact, and its implementation is regularly monitored

A credible emissions offset programme goes through a two-stage inspection: first is checked its concept and the science behind it. If these pass scrutiny, the second inspection round checks the logic and implementation of the proposed applied concept in the form of a detailed programme of action. If this too is approved and the programme initiates, its implementation is checked at regular intervals, usually annually.

A quality emissions offset programme will always be based on published science verified by field measurements and models created from them. The accuracy of the models' predictions must be sufficient and also monitored, verified and updated from time to time. Because the science behind emission offset programmes is public, anyone is free to verify the accuracy of the claims.

The programme should also be critically assessed for additionality, leakage and longevity as described in this booklet. If your prospective carbon offset broker is unable to produce the science behind their programme, or cannot satisfactorily explain how additionality, leakage and longevity are to be guaranteed, we recommend you not carry negotiations any further.

Another significant quality criterion sometimes overlooked is the so-called principle of "Do No Significant Harm". This requires that the carbon sequestration procedures must have no notable social or environmental negative side effects. For example, increasing the average logging age in rotation forestry sequesters extra carbon, but the eventual clearcut will devastate its biodiversity and cause local harm to all

using the forest for either recreation or non-timber forms of economic use. In Developing Countries, logging restrictions in the name of carbon sequestration have also caused social problems.[4])

In contrast, the highest quality emissions offset programmes not only bind more carbon, they also improve multiple forest use and biodiversity protection. Such schemes should naturally be encouraged and their VCUs acquired as much as possible, as they also offer the buyer excellent PR and marketing possibilities.

From the preceding pages it can be correctly inferred that the auditor of carbon offset schemes is an important gatekeeper. For this reason when assessing the quality of any given offset programme, we recommend to also check up on how it is audited as well as the credentials of the current auditing company. The best brokers of VCUs will have done this for you. A good broker should always be able to describe in detail the background to any VCUs they are representing.

Monitoring the after sales claims and resales of VCUs

Once audited and approved, a successful carbon offset programme will start to produce VCUs (see p.6 for definition). VCUs are deposited in a specific "bank" called a Registry, which in some cases is also a marketplace for VCUs generated from different kinds of offset programmes. The programme auditor verifies annually that the number of VCUs sold from the Registry attributed to a particular programme does not exceed that which it generated on the ground. Sales in advance - selling VCUs that will not be realized until in the future – is not permitted.

Every sold VCU carried a unique code with which its origin can be traced all the way to the place if was generated, as well as the method used. A quality offset programme will take steps to ensure that its VCUs are never double counted, i.e. claimed by several companies at once. This can happen if the VCUs are sold on uncancelled by the original buyer to another company, but nonetheless the seller claims they purchased the VCUs as an offset for their own emissions.

Cancelling sold VCUs guards against double counting of the same carbon assets. Double-counting is said to exist also at the national level. According to the Paris Agreement on Climate[7]) virtually all the world's countries have agreed to reduce their emissions to an agreed target level within a certain time. Most nations are attempting to meet the targets through encouraging businesses and individuals to carry out emission-reducing procedures and programmes in the building, energy and land use sectors. To a few major polluters the measures are compulsory, but for most they are voluntary.

Most nations, including the EU Member States, count in their national emissions reduction tallies also the results from private investment. The world's largest certifier of carbon offset programmes does not regard this as a problem as long as governments do not resell this

[7] https://www.un.org/en/climatechange/paris-agreement

surplus sequestrations (Finland, where Innofor mostly operates, does not do so).[8] Not all are of this opinion, however, regarding this also as a form of double counting.[9] Finland and many other countries have nonetheless agreed to remove any suggestions of double counting in future as part of improving the Paris Agreement.[10]

As long as the voluntary carbon market makes up only less than a tenth of one percent of worldwide emissions, as is currently unfortunately the case, the question of governmental double counting is anyway one of principle. Every quality-controlled forest based voluntary carbon offset scheme brings us closer to a carbon neutral society.

[8] https://verra.org/the-future-of-the-voluntary-carbon-market/
[9] https://www.compensate.com/articles/what-is-double-counting-and-why-is-it-such-a-big-deal
[10] https://cambioclimatico.go.cr/sanjoseprinciples/about-the-san-jose-principles/

3. How much will a quality carbon offset product cost and what do customers get for their money?

Businesses under compulsory offsetting requirements buy their carbon unit equivalents from a regulated emission trading market where the number of offset units on sale is limited.[11] The number of offset units is also gradually lowered, which increases their price. This in turn increases motivation and pressure on the companies to find ways of curbing emissions rather than merely offsetting them, which is naturally the whole point.

In spring of 2023, the compulsory carbon offset price reached 100€/tCO2-equiv. Anyone can buy these units and retire them. This is undeniably the fastest way to be part of reducing greenhouse gas emissions, since the industries making up the compulsory carbon offset pool are amongst the biggest emitters: steelworks, pulp and paper, and chemical plants.

The price of the EU regulated offset market sets a benchmark price: within the voluntary emissions offset market VCUs are assumed to be cheaper than the compulsory units. The voluntary market is currently unregulated, which explains the variation in programme quality described in Ch. 2.

Carrying out and monitoring a VCU programme in Europe is generally considerably more expensive than in tropical countries. In a genuinely additional forest offset project, the price of the VCUs generated and sold on the carbon offset market is the incentive they need to take part. If the price stays low, the programme will likely fail to get off the ground – especially as the minimum time frame for forest projects is of the order 50-100 years.

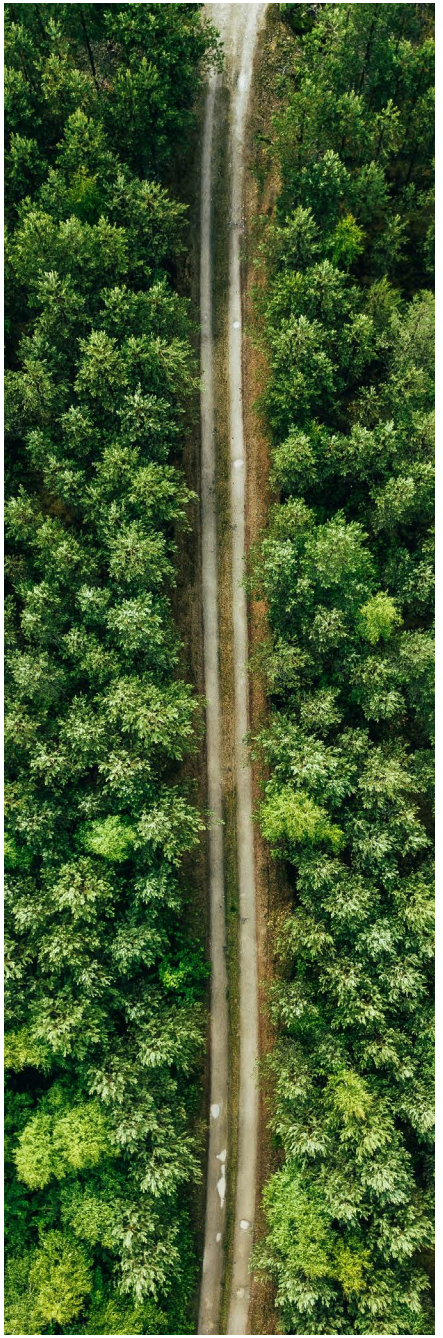
Despite this, VCU prices should remain well under that for compulsory offsets even for genuinely additional programmes. From the buyers' perspective, it is worth paying extra for at least the following points, if they are achievable:

-The programme is realizable close to your company headquarters or other significant office.

-The programme not just sequestrates carbon, but improves the host forest's social and environmental quality over time.

-The programme is clearly set out and well executed.

-The programme offers opportunities for long-term co-operation and additional investment.



[11] https://carboncredits.com/eu-carbon-prices-surge-to-100-euros/

4. A checklist for purchasers of forest carbon offset products

After reading this guide, decide whether you prefer to keep carbon offsets as an internal company project or whether to hire a consultant.

If you decide on a consultant, do in any case organize for the relevant staff and management a classroom day to get acquainted with the fundamentals of carbon offsetting.

If the consultant you employ is also a VCU broker, use this guide as a reference to ask them some critical questions. If you feel the answers unsatisfactory, buy nothing until you have got more information about the VCU programme in question.

The most important quality criteria for forest-related carbon offset programmes are:

(1) There is genuine additionality – the VCU payments are decisive for the project to be realized

(2) There is no leakage – logging won't just move elsewhere

(3) The programme guarantees the carbon storage into the distant future

(4) The programme is based on published high quality science verified by experts

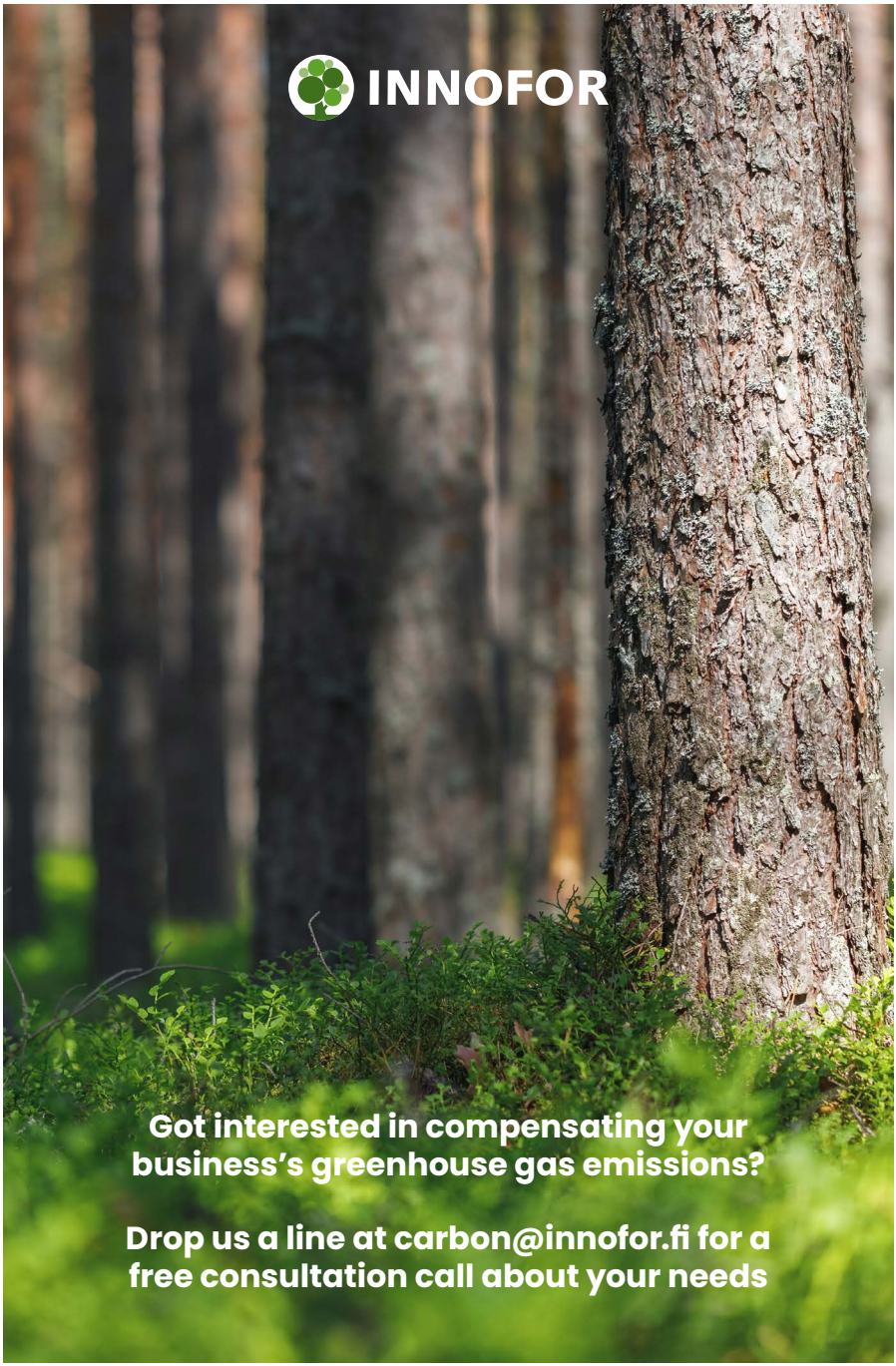
(5) The programme is monitored by expert 3rd parties

(6) The programme does no significant harm ecologically or socially as a by-product of carbon capture

(7) The VCUs generated by the programme are carefully monitored against double counting

(8) The programme is well presented and easy to understand and to market to both company employees and their clients

More information about carbon offsets for your business at innofor.fi/en/for-businesses


INNOFOR
Got interested in compensating your business's greenhouse gas emissions?
Drop us a line at carbon@innofor.fi for a free consultation call about your needs