



Feeding the future

A guide to taking ambitious climate action
in the food sector

Foreword

Since the Science Based Targets initiative (SBTi) published its new [Net Zero Standard](#) in 2021, the number and ambition of climate commitments has increased – all the way from farmers to retailers. Many companies and countries are now on board to achieve net zero carbon emissions by 2050.

Yet, the question remains: how should businesses implement, measure, and track climate action, and meet the climate commitments we so urgently need to address the scale of the challenge ahead? And what is the role of the food companies in all of this?

The past decade has seen increased attention on our food systems, our use of land, and agriculture's carbon sequestration potential. Carbon removals from forests, soil, and engineered solutions have a crucial role to play in achieving **net zero by 2050**. Farmers face more pressure to reduce and remove emissions from agriculture, but to do so, they will need to be incentivised by new, innovative solutions. The EU has also been quick to note the urgency of turning agriculture from climate problem to climate solution, and has developed the [Farm to Fork Strategy](#) to promote the certification of carbon removals within the context of the European Green Deal.

The movement to revolutionise our food systems goes well beyond the EU: food companies should also watch out for the [Forest Land and Agriculture \(FLAG\) targets](#), which are soon to be launched by the SBTi, and the [Greenhouse Gas \(GHG\) Protocol Land Sector and Removals Guidance](#). These developments will set higher expectations for **traceability and transparency within**

corporate supply chains, and food companies will need to clearly disclose and account for their emissions from land management and land-use change.

Another integral part of any food company's strategy should be transforming its **product portfolio to accommodate low-carbon and plant-based diets**. Given the [record-breaking investments in alternative protein in 2022](#), a shift to climate friendly food products is a no-brainer for business.



Foreword

Alongside action on climate, food companies must become more deliberate in investing in the ecosystems they depend on. Agriculture as we know it today puts pressure on **biodiversity and natural resources**, such as water. However, the majority of companies still do not address this. Investors, on the other hand, have taken note: a nature-related risk management framework is already in the making, initiated by [the Taskforce on Nature-related Financial Disclosures \(TNFD\)](#), which will set out corporate reporting requirements on nature-related risks and opportunities. Also, companies will soon have more direction from [the Science-Based Targets Network \(SBTN\)](#) on what “best-in-class” looks like when it comes to credible targets for nature protection, which can play a huge role in championing biodiversity conservation.

Finally, the first months of 2022 have made it painfully clear how vulnerable our current global food system is to geopolitical conflicts. Currently, the exports from Russia and Ukraine – two of the world’s largest producers of wheat, sunflower oil, and fertiliser – are disrupted. The consequences are felt well beyond Eastern Europe, notably in some of the world’s poorest countries in Africa and the Middle East who import the majority of their wheat from Ukraine and Russia, and who will bear the brunt of rising commodity prices.

As we look into the future, incentivising investments into sustainable agricultural practices and more resilient, regenerative practices will be an important element in our collective ability to tackle the global climate, biodiversity, and food crises.

Food businesses will again have a significant role to play, as they can have a huge influence on their supply chains – when a big food company moves, a whole system of value moves with it.



Karine Basso

Principle Director, Agricultural Value Chains, South Pole

Karine is the Principle Director of Agricultural Value Chains at South Pole with 15 years of experience supporting companies to strengthen sustainability practices in their value chains through a better understanding of global trends, stakeholders’ expectations and effectiveness of different sustainability strategies. She’s passionate about working with a purpose and connecting with like-minded people who use their daily work as a tool for change, big and small.



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● Measure risks and footprint

1.1. Climate risks in the food sector

How will climate change affect our food system?

It's no surprise that crops are sensitive to environmental conditions and so, changes in these conditions significantly affect agricultural productivity. This is already the case for many parts of the world, where increases in the frequency and intensity of extreme weather events have seriously impacted food production in a number of ways.

Such extreme events – which include heavy precipitation, extreme heat and drought – are set to increase in frequency and/or intensity in central Europe as a result of the rise in the mean global temperature. Inevitably, this will also lead to an increased stress on local food production.

It's also important to recognise that, globally, our food supplies are hugely interconnected. This means our food system is exposed to climate-related physical hazards well beyond local production, so droughts, heatwaves, flooding and storms on other continents can cause a food shortage and influence food prices locally.

How can I assess the climate risks for my organisation?

South Pole is experienced in working with companies from the food industry and can support you with carrying out a climate risk assessment that looks at climate change from both a scientific and

business perspective. We have extensive experience in mapping out both transition and physical risks and opportunities, based on international best-practice climate scenarios.

South Pole breaks your climate risk assessment down into three steps:

- 1 **Baseline analysis** - understanding your company's existing exposure to physical and transition hazards
- 2 **Scenario analysis** - used to understand future physical and transition hazards and your exposure to them, today and in the future
- 3 **Business impact** - understanding the business implications of the different physical and transition risks under the different climate scenarios

Measure risks and footprint



In the spotlight:

How will climate change affect farming in Germany?

In Germany, the most prevalent crop is wheat, which is highly sensitive to changes in temperature. Heat stress during the flowering and head filling period, for example, can lead to a 50% decrease in yield per square metre.

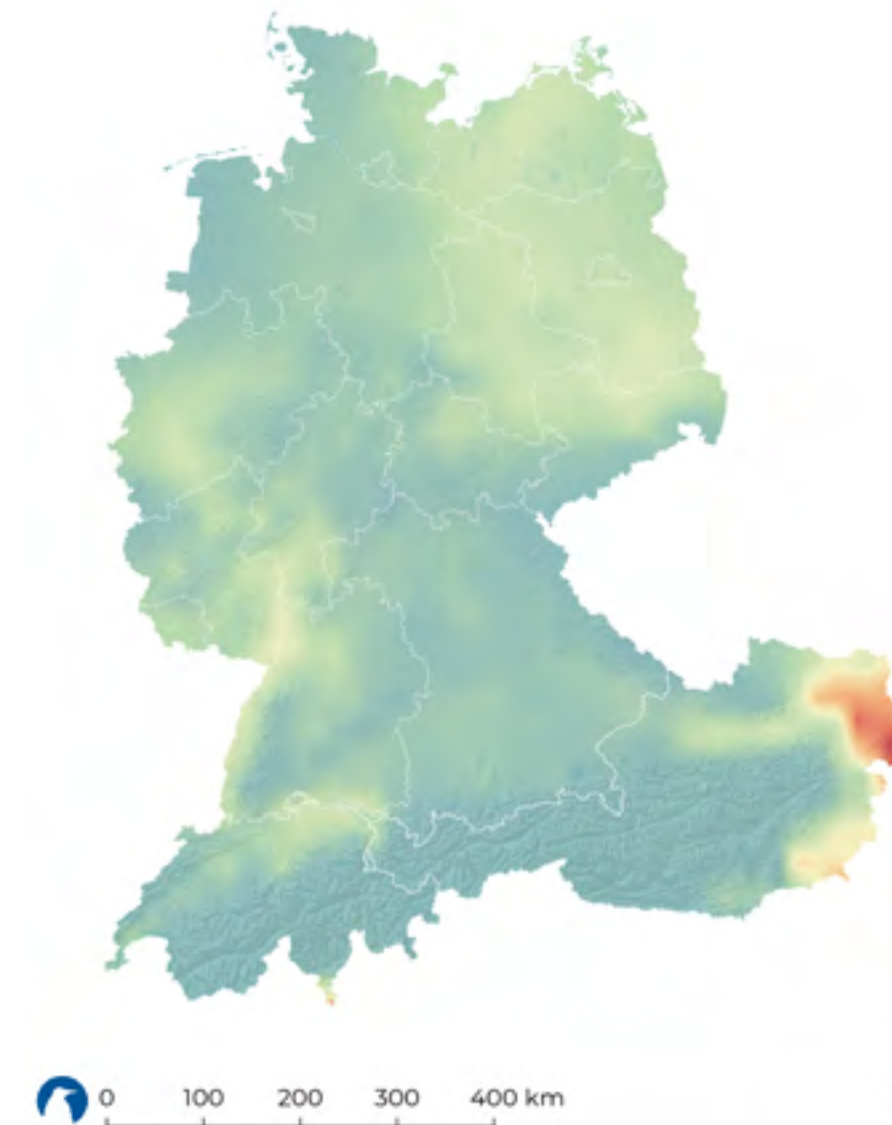
More than half of the agricultural area of Germany is used to grow crops for feed that is not for direct human consumption. Thus, yield loss not only directly reduces grain availability for humans, but also indirectly influences agricultural production in other areas, such as meat and dairy, through feed availability. Grain scarcity resulting from reduced yields will therefore likely raise the price of grain and grain-based products.

Heat stress and pest occurrence

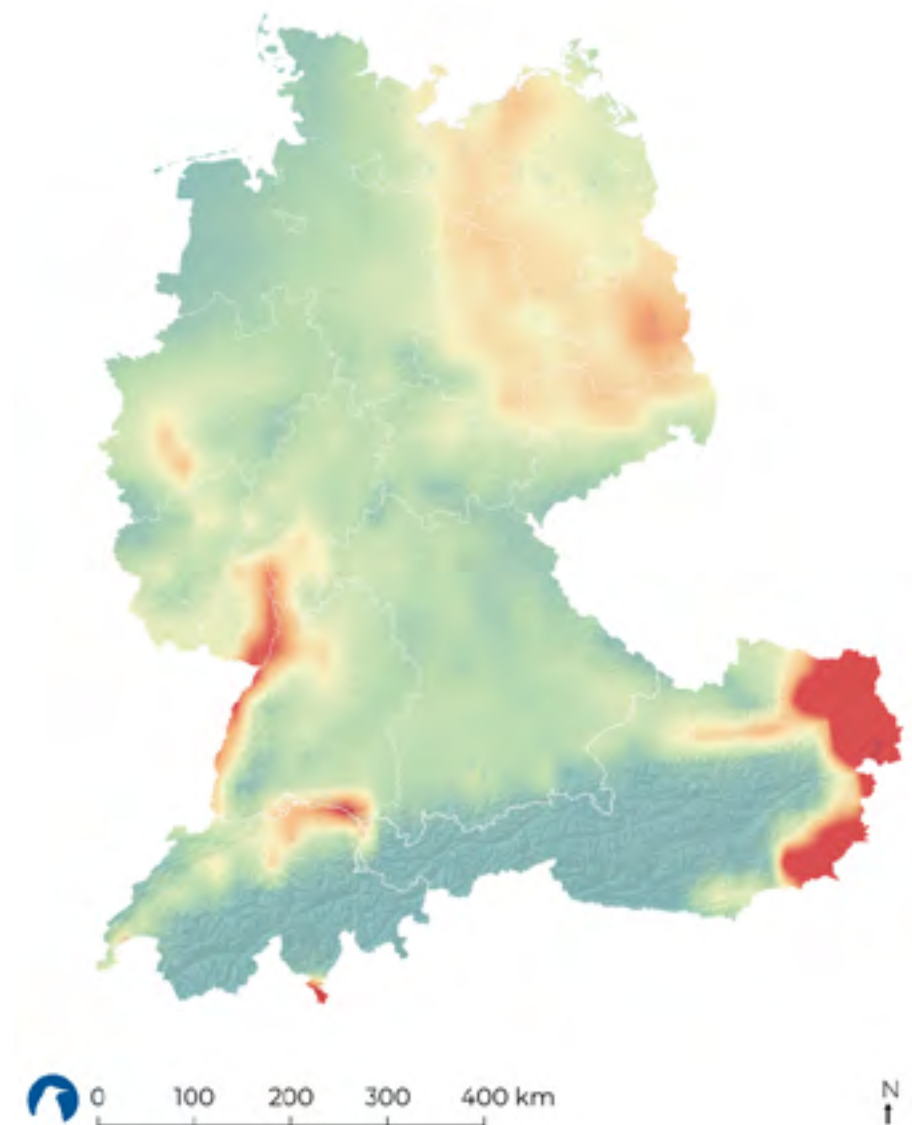
On a tropical night the minimum temperature remains above 20°C. Tropical nights can cause heat stress, because workers cannot recover during those nights and are less productive during the day. They also provide an indication of occurrence of various pests. The more tropical nights, the more likely pests occur.

In Germany, Switzerland and Austria, the number of tropical nights will increase by 2050 - the only question is by how much. A climate risk analysis reveals that a rise of global temperatures of below 2°C will most significantly impact the number of tropical nights in Eastern Austria. If global warming reaches 4°C, strong increases in numbers of tropical nights are projected along the upper Rhine valleys in Switzerland and Germany as well as Northeastern Germany.

Global warming of below 2°C
2050



Global warming of 4°C
2050



Measure risks and footprint

1.2. The carbon footprint of food companies

What are the main emission drivers for food companies?

For food companies, the main source of emissions is on-farm emissions, driven predominantly by livestock, land-use change and fertiliser use. After the farm gate, there is more variation as the emissions depend on the type of business. Food manufacturers, for example, often see hotspots relating to energy use in processing, whereas retailers see hotspots around refrigeration and transportation. For manufacturers and processors, emissions from consumer use and the product's disposal can be a major source of emissions. Influence over these emissions varies, however, depending on where the company sits within the supply chain.

How can you measure your organisation's carbon footprint?

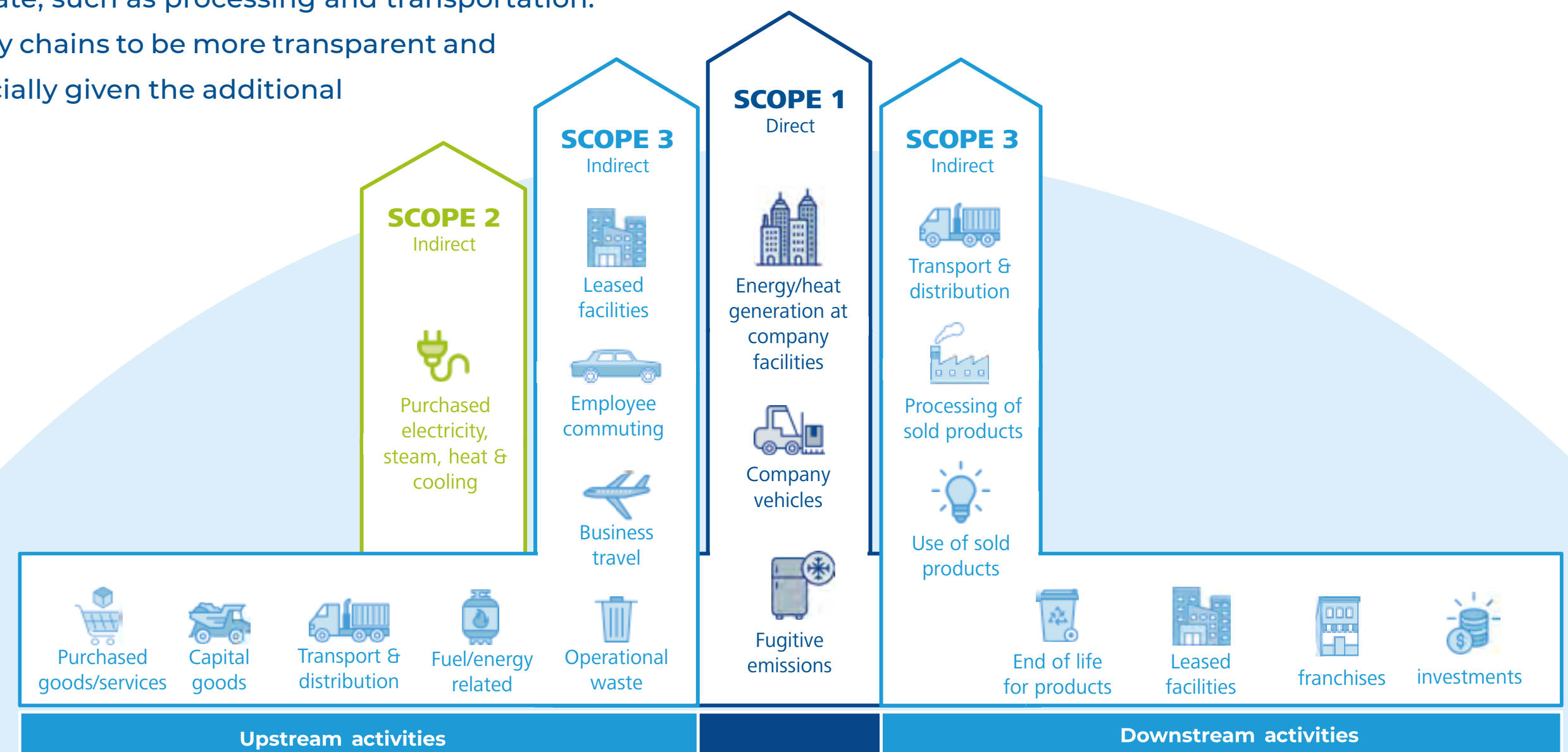
Collecting data to complete a corporate emissions inventory can be daunting. While the data required for calculating emissions from **scope 1** (direct emissions from owned or controlled sources) and **scope 2** (indirect emissions from the generation of purchased electricity, steam, heating and cooling consumed by the reporting company) are often already collected as part of existing processes, data on **scope 3** (indirect emissions that occur in a company's value chain) is a big black box for many companies. Developing a scope 3 inventory is time- and resource-intensive. It involves the coordination of multiple stakeholders to source the relevant activity data, often from multiple internal procurement systems and internal experts. Engaging with suppliers is also a prerequisite if a

company wants to use supply chain-specific emission factors. This process can take several months to complete, depending on the size and product diversity of the company.

The introduction of FLAG targets as part of the science-based targets (SBTs) will have a significant impact on which emissions from agriculture are measured and managed, and how this is carried out. It will be important to calculate the emissions from agriculture and land-use change separately from downstream activities post-farm gate, such as processing and transportation. This will require supply chains to be more transparent and more traceable, especially given the additional

challenge of accounting for removals (the exact requirements on this from [the GHG Protocol](#) are yet to be seen).

South Pole can support you with finding the right balance between collecting data with enough granularity to identify emission hotspots and building a meaningful emission reduction roadmap. The more information you have, the more targeted your strategy can be and the easier it will be to monitor reductions.



● Create roadmap

2.1. Net zero in the food sector

What is net zero?

Net zero refers to a state in which the carbon emissions entering the atmosphere are balanced by the GHGs removed from the atmosphere. The [SBTi \(Science Based Targets initiative\)](#) defines two key components for a company to reach net zero. Firstly, companies need to achieve emissions reductions in their value chain (across scopes 1, 2, and 3) in line with the 1.5°C pathway. Second, these reductions must be supplemented by investments in the removal of carbon emissions to offset, or neutralise, the residual emissions a company generates. The term net zero is industry-agnostic. However, there is an expectation that all companies will reach this state on or before 2050.

Why is this relevant for the food sector?

Food production is a heavy emitter of GHGs, contributing up to [26% of global emissions](#). This includes the production of livestock, fisheries and crops, as well as land-use change and supply chain emissions. However, in contrast to other major emitting sectors, the food sector, which also comprises agriculture, forestry and other land use (AFOLU), has [the strong potential to become a net emissions sink](#) – it can pull more GHGs out of the atmosphere than it releases into it. It is imperative that players in the food sector harness this potential by investing both in carbon reductions along their value chain and in carbon removals and sequestration.

Why must the food sector act?

While scrutiny of our food has traditionally focused on health and safety, there are [indications](#) that the sector will soon face climate-related [regulations](#), too. Industry leaders such as [Nestlé](#) and [Tesco](#) are ahead of the game with ambitious net zero commitments, including investment plans in the hundreds of millions of USD. The food sector brings together the heady mix of voluminous, complex scope 3 emissions and the overwhelming potential to reduce and remove these. Companies in the sector must act now to avoid buckling to a triage of pressure from consumers, investors, and regulators.



● Create roadmap

2.2. Components of a net zero roadmap

What are the components of a net zero roadmap?

A state of net zero for a company means that it has reduced all the carbon emissions that it can and is investing in carbon removals and storage to offset/neutralise its remaining emissions. There are two key components to achieving this: SBTs (Science Based Targets) and investments. The SBTs serve as a guideline for reducing emissions, while investments focus on additional efforts required by companies to avoid emissions and remove carbon from the atmosphere.

Targets

There are three key targets that food-sector companies need to implement in order to fulfil their net zero commitments.

- 1 Near-term SBTs**
Near-term SBTs cover a timeframe of five to 10 years from the year of submission. At least 95% of scope 1 and 2 carbon emissions need to be addressed, requiring a linear annual emission reduction of 4.2% or 42% over 10 years. At least 67% of scope 3 carbon emissions (if they make up more than 40% of the total emissions) need to be addressed, requiring a linear annual reduction of 2.5% or 25% over 10 years. There are also options to set intensity and supplier engagement targets for scope 3 emissions.
- 2 FLAG targets**
The SBTi Forest, Land and Agriculture project (SBTi FLAG) develops methods and guidance to enable businesses in food, agriculture and forest sectors to set SBTs) that fully incorporate deforestation and land-related emissions. FLAG targets are a subset of near-term SBTs that are focused solely on emissions generated through land-use change, land management (deforestation, degradation, enteric emissions, fertiliser, etc.) and carbon removals through sequestration activities (forest management, agroforestry, soil carbon etc.). Similar to near-term SBTs, FLAG targets cover a timeframe of five to 10 years from the year of submission. At least 67% of FLAG emissions need to be addressed, requiring a linear annual reduction of 3.5% or 30% over 10 years. There are also options for commodity-specific pathways if FLAG emissions arise from one particular commodity, such as beef, pork, soy, etc.
- 3 Long-term SBTs**
Long-term SBTs need to be reached on or before 2050. At least 95% of scope 1 and 2 and 90% of scope 3 emissions need to be addressed. A 90% reduction against the base year is required for most sectors. For companies with FLAG emissions, an 80% reduction is required against the base year. All non-FLAG emissions still require a 90% reduction.



● Create roadmap

2.2. Components of a net zero roadmap

Investments

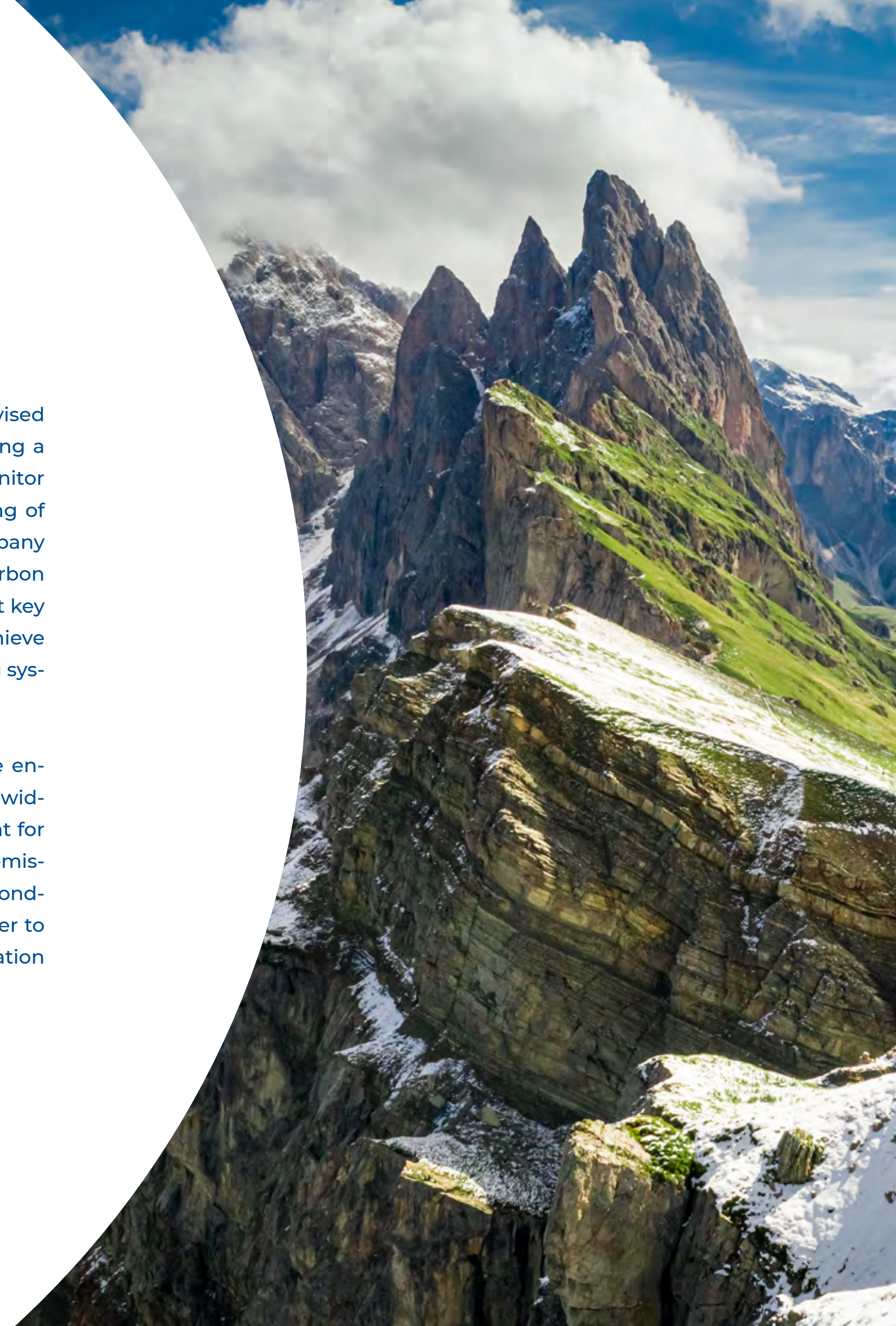
While the targets focus on the reduction component of net zero, the climate crisis requires further action: companies must go beyond their value chain. “[Beyond value chain mitigation](#)” refers to mitigation action or investment that falls outside a company’s value chain. This includes activities that avoid or reduce global GHG emissions and those that remove GHGs or store them in the atmosphere. These actions often take the form of investments in two types of carbon credit: reduction and removal credits.

In the near term, companies are advised to invest in high-quality credits such as [REDD+](#) projects which help countries increase their ambition and meet their own national climate targets. Following the Oxford Principles on Carbon Offsetting, these investments can gradually be transitioned towards removal credits which are focused on direct air capture and geological carbon storage. This ensures that by 2050 any residual emissions that a company emits are neutralised by its investments in carbon removals.

Which steps should you focus on?

There is a clear mitigation hierarchy which companies are advised to follow to achieve net zero. First and foremost is performing a GHG inventory assessment to develop a baseline and monitor any ongoing carbon reductions. When a clear understanding of a company’s carbon footprint has been achieved, the company should set both near- and long-term SBTs to address its carbon emissions. Next, the company should identify and implement key interventions to reduce its carbon emissions in order to achieve these targets (including the elaboration of a good monitoring system to track its progress).

Having completed these crucial initial steps, companies are encouraged to invest in beyond-value-chain mitigation to deliver wider societal benefits. In itself, an SBT is unlikely to be sufficient for two key reasons. Firstly, a significant contribution of global emissions occurs beyond the reach of corporate supply chains. Secondly, not all companies have emission reduction targets. In order to preserve an ever-shrinking carbon budget, additional mitigation is vital.



● Create roadmap

2.3. Renewable energy strategy

Energy is the bedrock of economic development and contributes over 70% of global emissions. Every sector, through its energy usage, can therefore play a role in facilitating a sustainable economy. Such an economy is driven by **renewable energy (RE)** and harnesses safe and reliable technologies that are already affordable and widely available.

Which role does renewable energy play in the food sector?

Food, beverage and agriculture is the third-largest sector in the RE100 membership, a coalition of businesses, including Nestle, which is committed to 100% renewable electricity, and represents over 38 TWh of consumption per year. With consumers and investors increasingly expecting companies to be environmentally responsible, the urgency of sourcing RE is growing more than ever, and so is the momentum for doing so. When it comes to actually meeting your targets, sourcing RE is one of the lowest-hanging fruits to achieve emission reductions. It can also be a robust tool for managing long-term energy costs and price volatility, which in the past two years or so have been particularly challenging for food businesses.

Your company has set an RE target. Now, where do you start looking for strategic opportunities?

If your company has signed up to RE100, set an SBT or set a commitment to net-zero/carbon neutrality, you will probably already be looking closely at what's happening in the RE markets. Every company's experience of procuring renewables is different and companies will be at varying stages of this journey, but as demand increases in the coming years, companies will need to develop smart RE-sourcing strategies, exploring all the different opportunities available, in order to avoid being left behind.

You should look at your target-setting approach and RE transition pathway together, designing a nuanced and long-term strategy that can achieve cost-savings and price risk management alongside your sustainability objectives. It's important to consider all the options for your portfolio, such as green tariffs, energy attribute certificates, power purchase agreements and onsite solutions. South Pole supports its international clients with its global reach and deep, localised knowledge, finding the right balance and mix of solutions for you to develop an actionable RE strategy.



● Create roadmap

2.4. Expert talk

Educate yourself and your stakeholders, bring everyone to the same level of understanding and work cross departmental together as a unit to accelerate and move forward. Go and find like-minded companies to collaborate. Then, even when there's big challenges you can team up to make sure you reach your renewable energy ambitions.



Bas Lubach

**Category Leader Sustainable production
at The HEINEKEN Company**

Bas Lubach is a Category Leader in sustainable production at The HEINEKEN Company. Before joining HEINEKEN's global procurement team in 2013, he worked in consulting with the Hackett group and PwC.

Heineken recently raised their ambition from 70 % renewable energy by 2030 to committing to Net Zero, what led to this?

Every couple of years we reassess our targets and as we make progress we look to see if we can push our boundaries further. We aim to find a balance between being both pragmatic and ambitious.

Did you face any challenges?

Heineken has a global energy demand of around six and a half TWh annually across over 160 locations, highly dispersed, and two-thirds of that is thermal energy. This gives a good insight into the challenge that we face as Heineken especially because electricity is easier to decarbonise than thermal energy. Unlike a lot of companies, we have therefore announced a combined target for both thermal energy and electricity.

What does your roadmap look like?

We have more than 160 production sites in more than 60 countries. The European market is different to that in the Asia-Pacific region, where your strategy is largely dictated by local circumstances. What are the regulations? Is the market liberalised or regulated? Is there actually a supply-side solution in that specific country that can match our requirements? We think it's key to assess each market individually and look at solutions that fit your situation. As a second step to determine if there are synergies that can be leveraged across countries to further accelerate.



The HEINEKEN company is a Dutch multinational brewing company. In 2009, the company launched its Brew a Better World programme, a set of ambitious commitments that aim to drive positive impacts for the environment, social sustainability and the responsible consumption of alcohol.

● Reduce emissions

3.1. Product strategy

One of the most important ways companies can address their emissions is to look beyond business as usual and transform or reformulate their products. This is an exciting opportunity, allowing the sustainability team to work together with the product design and procurement team to think creatively about how to reduce the product's environmental impact.

In recent years, demand trends have clearly shown that consumers are looking to buy products that are good (or better) for the planet, such as plant-based proteins. Offering low-carbon products can be achieved through switching ingredients, changing sourcing strategies or adapting the balance of ingredients within a product. Ben and Jerry's ice cream is one example of this: their product range consisted of only dairy-based products until 2016, when they launched their range of non-dairy flavours.

Sourcing strategies

The sustainable sourcing of raw materials can decrease the total emissions associated with consumption by at least 10%. This figure is potentially higher when accounting for the effects of land-use change. One option for reducing the environmental impacts of your products is to reformulate them so they include lower-impact ingredients. While the ingredients might stay the same, a lower environmental impact can be achieved by sourcing certified ingredients with a lower carbon footprint.

That said, determining whether the impact of an ingredient has been reduced has to be assessed on a case-by-case basis. Organic or regenerative agricultural practices, such as the use of cover crops or reducing tillage activities, do not necessarily reduce environmental impact. Such shifts in the product strategy therefore require very close evaluation and may need detailed product life-cycle analyses to be conducted to prove the reduced impact. Another option could be sourcing ingredients from a different country, for example a country that is less prone to land-use change: deforestation is a significant driver of carbon emissions.



● Reduce emissions

3.1. Product strategy

Packaging

As well as being an emissions source, packaging contributes towards waste and often results in plastic pollution. The easy wins for the food sector include switching to lower-emissions packaging, for example cardboard instead of plastic, and incorporating either recyclable or recycled packaging. The complexity lies in redesigning both packaging and products to accommodate such interventions. Paper-based packaging, for example, is on the rise, a major advantage being that it maintains a product's shelf-life. Major manufacturers like Coca-Cola are already trialling it.

Actions such as light-weighting packaging reduce emissions and costs for companies. This can stretch to pushing the boundaries not just on packaging, but on the actual contents themselves: up to 20% of global packaging emissions can be saved by only shipping the active ingredients, enabling consumers to “just add water” to products like soaps and detergents.

Increasing % of plant-based products

Reducing animal proteins in your product portfolio and replacing them with plant-based proteins is a very powerful measure in reducing the food sector's environmental footprint. This is because plant-based proteins and the products based on them typically have a significantly lower impact than their animal-based counterparts. In addition to the drastic emission reductions they offer, they have a strong economic incentive. While the total share of plant-based alternatives is still relatively low, it is an extremely fast growing market. In the USA alone, the retail market for plant-based foods grew 43% between 2018 and 2020 to USD 7 billion, with sales increasing two and a half times faster than regular food sales.

An increase in product portfolio could take two forms: firstly, offering a wider selection of plant-based foods, such as meat alternatives and plant-based milks; or, secondly, redesigning products to reduce the share of animal protein (for example, half-and-half beef and mushroom burgers). Such initiatives highlight the strong cross-functional role that sustainability teams play in product design and procurement.



● Reduce emissions

3.2. Transport & logistics

How significant are the carbon emissions from transporting our food? It's a hotly debated question. For retailers in particular, transportation accounts for an important part of their emissions. For food producers and manufacturers emissions from transporting food are also a significant factor: food is often shipped long distances and not infrequently by plane.

Where are most emissions created?

The majority of these emissions stem from trucks, trains, ships and planes, but fluorinated gases escaping from mobile refrigerators that keep food cool and fresh until its point of purchase are also a significant source. It's predicted that global demand for transportation will triple by 2050: if we are to limit global warming to 1.5°C, the way we move goods around the world has to change drastically.

How will global transportation emissions evolve?

Even under the most optimistic decarbonisation scenarios, the International Council on Clean Transportation (ICCT) forecast is that more than two billion new internal combustion engines will be sold in the next 30 years. The food sector must react by taking important measures, such as localising our food systems: growing vegetables closer to where we live and promoting more locally manufactured food. To this, the ICCT adds the combination of increased zero-emission vehicle adoption, improved efficiency in

conventional transport, adherence to stricter emissions standards and the compulsory adoption of renewable fuels in fuel mixes.

How can I address transportation emissions?

There are a range of examples of retailers and food manufacturers addressing these emissions. Unilever is piloting zero-emission refrigeration trucks, which are battery-powered for its major ice cream brands in the Netherlands. Nestlé in turn aims to "reduce emissions across transportation by maximising the use of space in our vehicles, reducing fuel consumption and switching to lower emission fuels". The range of possible measures can be identified by modelling your emissions from transportation and then partnering with your logistics supplier to identify quick-win solutions and plan for more radical long-term reduction opportunities in the future. While these measures entail short-term costs, both mid- and long-term cost-savings exist as a result of these measures, which serve to increase efficiency through a leaner supply chain.



● Reduce emissions

3.3. Green energy solutions

Once you’ve developed your target and designed your renewable energy (RE) strategy (see section 2.3), you’re ready for the implementation phase. To make sure your long-term strategy can be operationalised effectively, you’ll need to partner with sustainability, sourcing and implementation experts along with financial and business risk analysts.

How can you source green energy?

Different markets have different power sectors, which results in a varying availability of RE solutions, and may include some or all of the following:

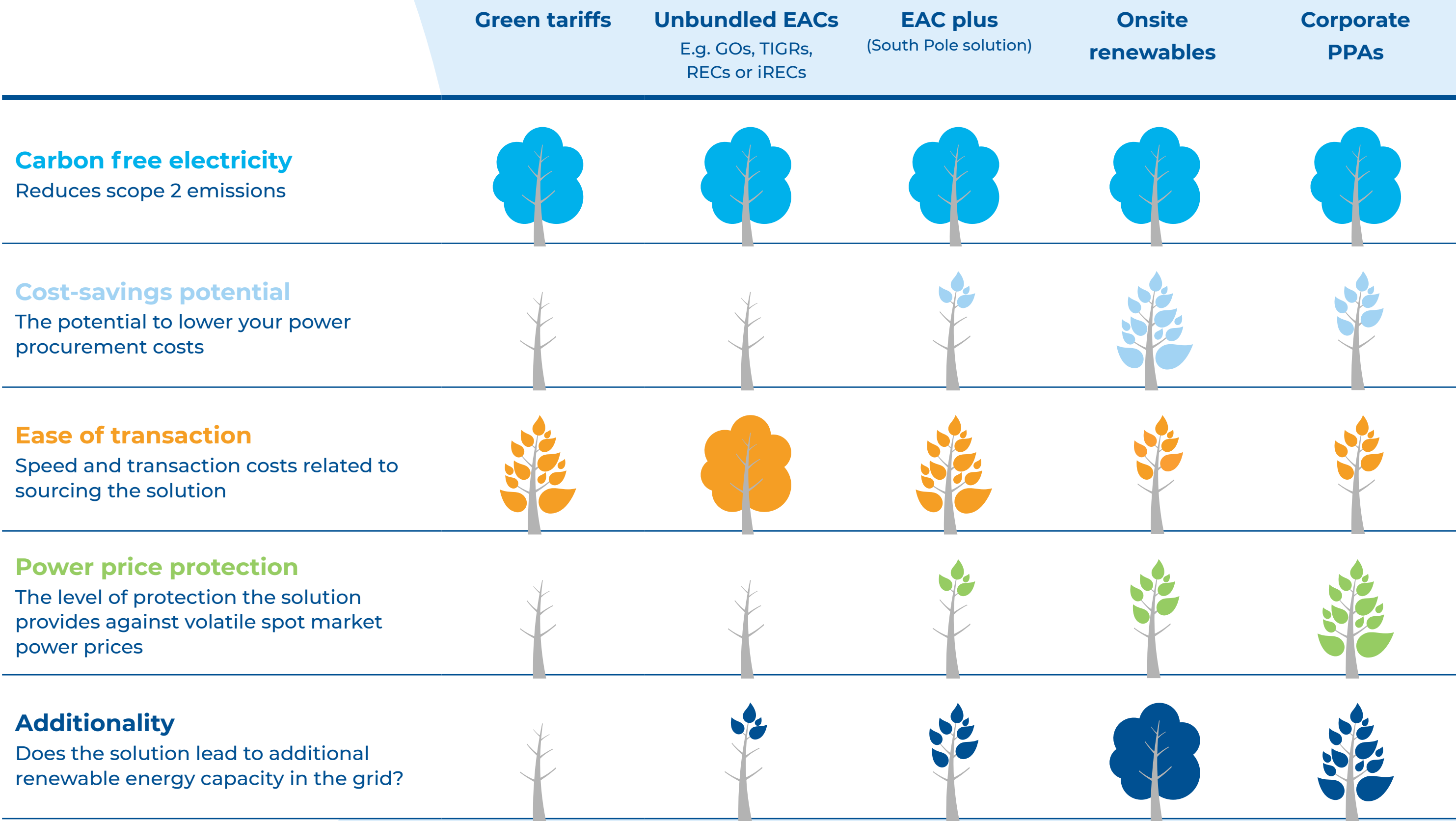
Green tariffs – Purchased electricity from a supplier gets matched with RE under an energy tariff where power is bundled with energy attribution certificates (EACs).

Unbundled EACs – A tracking tool that certifies energy was generated in a specific renewable facility, which is purchased separately from the electricity.

EAC plus – A long-term EAC off-take agreement.

On-site renewables – RE produced on a rooftop or adjacent land for direct consumption, storage or export.

Power purchase agreements (PPAs) – A contract to purchase power generated from a specific renewable facility



Note: The denser the tree the bigger the impact.

● Reduce emissions

3.4. Regenerative agriculture

Driven to produce more at lower costs, the large-scale intensive agriculture of the past century has come at the price of severe repercussions for our ecosystems, rapid deforestation in tropical regions, and skyrocketing carbon emissions. Luckily, a new movement to revolutionise agriculture has begun to take root: regenerative agriculture.

What is regenerative agriculture?

While there is currently no universal definition of regenerative agriculture, there is broad agreement among scientists and academics that it generally refers to a holistic land management practice focused on building healthy, carbon-rich soils. It does this by improving biodiversity and natural carbon stocks, so that farms are capable of producing high-quality, nutrient-dense food, all while having a net-positive effect on the environment.

Why should my company foster regenerative agricultural practices?

Pursuing corporate climate targets via regenerative practices can hedge against increasing climate-related physical risks, from droughts that reduce the yields of key crops to mitigating fires that destroy them completely. Helping landowners, farmers and suppliers in vulnerable or productive landscapes switch to sustainable land management and nature-based solutions helps support global climate adaptation efforts, while protecting supply chains against the effects of a warming world.

Three key interventions to foster regenerative agriculture

Making regenerative practices the new normal will require an overhaul of our entire food system, and big agribusinesses, alongside farmers, will be expected to lead the charge.

1

Unlocking climate finance for farmers

A proven, scalable source of compensation for farms transitioning to regenerative agriculture is carbon finance: the generation of certified, tradable carbon credits. Using the latest digital innovations in monitoring, reporting and verification has already proven to dramatically enhance the efficiency and accuracy of environmental data at a farm level and reduce the operating costs of climate action projects.

2

Recognising the need for price premiums

Besides positive environmental impacts, produce originating from regenerative farms and production systems also contributes to human wellbeing through its higher nutritional value. Establishing a premium price for products that have a positive social-ecological impact can help producers to overcome uncertainties and increases the supply of sustainable produce.

3

Enhanced engagement along value chains

It typically takes three to seven years for a farming operation to transition to regenerative practices. During this transition period, upfront investments are required – for example, for new equipment and cover crops. Yields may slightly decrease before products achieve a price premium and before farms can access carbon payments.



Reduce emissions

3.5. Plastics stewardship

Plastic tends to be the world's packaging material of choice, especially for food and beverage producers and retailers. It's lightweight, flexible and inexpensive: meaning it's difficult for other materials, like cardboard, glass or aluminium to compete. Yet the plastic crisis affects both people and the planet.

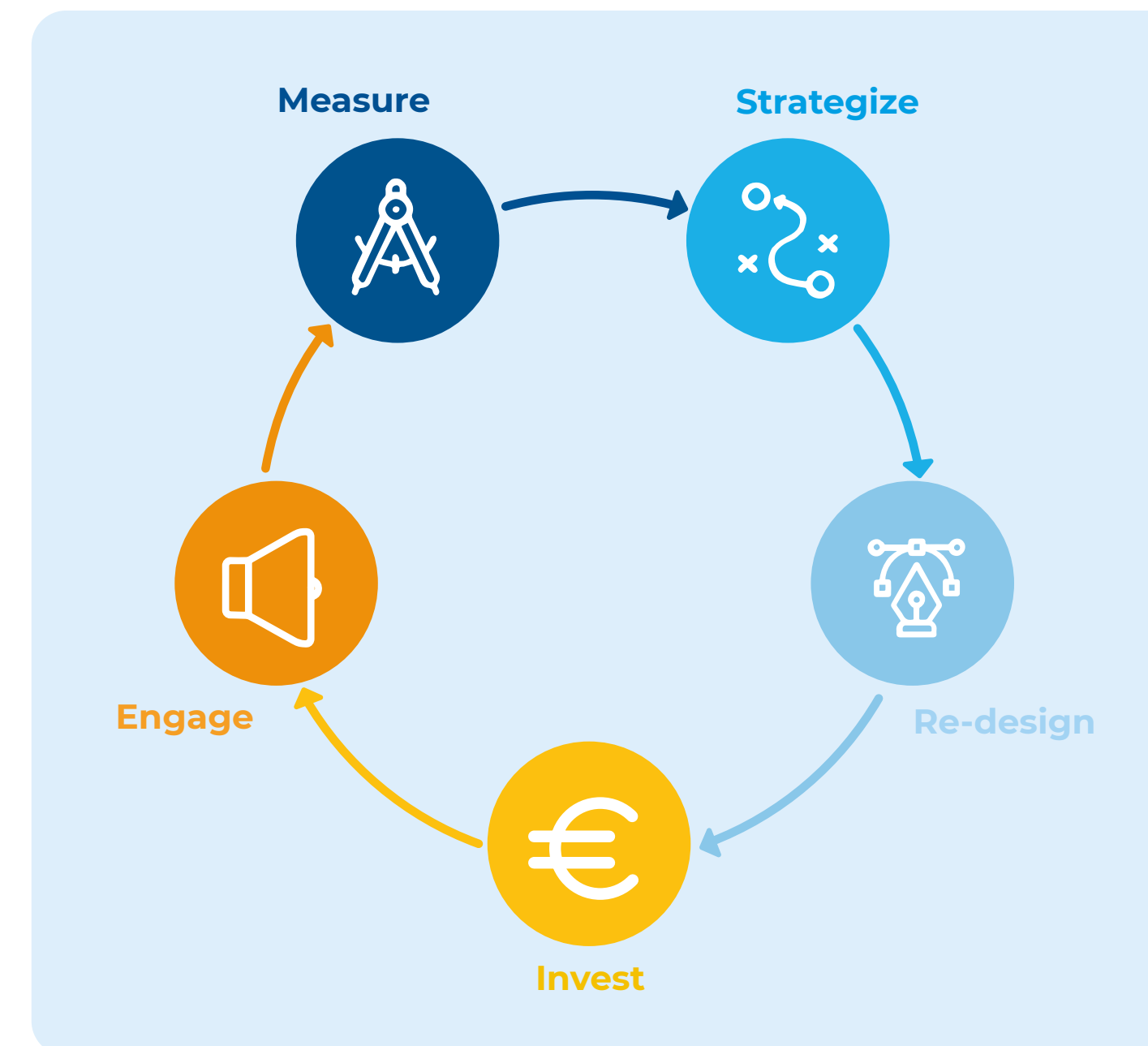
Why should food companies care about plastic?

Circular solutions and a holistic approach are needed. As major contributors, food and beverage producers and retailers can make a crucial difference to the plastic problem: by taking a stand and scrutinising their product packaging, operations, and the actual end-of-life fate of the plastics they put into circulation. The results will earn them cost-savings and improve consumer relationships and brand loyalty.

How can you tackle the plastic crisis?

What's more, the food and beverage industry needs to design its product packaging so it is fit for the waste management systems in which it is sold and disposed of. To reduce and improve plastic packaging, food and beverage producers and retailers will need to create a strategy with measurable goals at a company level. They need to review their packaging on a case-by-case basis and be

able to justify their choice of packaging and material to their customers and health and safety regulators. No single solution can solve the plastic problem alone. Instead, an integrated method is needed that combines these intertwined actions.



Finance climate action

4.1. Carbon credits explained

Why should you compensate for your emissions?

Organisations within the food sector have now grasped the urgency of the climate crisis and the opportunity that action brings. However, even companies that are sincere in their efforts to decarbonise are left with unavoidable emissions, and many have a role, direct or indirect, in social or environmental damage. This is where [carbon credits](#) come in.

To demonstrate maximum climate action, companies are realising that alongside reducing their own emissions in line with science, they can also compensate for the impact of their unavoidable emissions. Carbon credits are the preferred solution as they finance measurable impacts that are certified by credible and independent standards. Consequently, carbon credits have become an essential part of a holistic climate strategy that supports mitigation beyond companies' value chains* to accelerate global climate action and sustainable development.

How do carbon credits work?

As climate change is not a localised issue, [climate action projects](#) can operate anywhere in the world. They range from protecting threatened forests to providing clean cooking solutions and supporting renewable energy infrastructure. Certified projects generate 'carbon credits'; each carbon credit represents the avoidance

or removal of one metric tonne of carbon dioxide equivalent from the atmosphere and each has a unique serial number, which is stored on a public registry.

Once a company buys a carbon credit, it is effectively retired within this registry to ensure that it can only be claimed once. By buying these credits, companies can take responsibility for their emissions while simultaneously financing projects that contribute to the UN's Sustainable Development Goals and might not happen otherwise. Moreover, accreditations from internationally recognised carbon standards give the assurance that the carbon credits generated from South Pole's portfolio of projects create the positive environmental and social impacts that they set out to achieve.

** Beyond value chain mitigation represents efforts to reduce carbon emissions that are outside a company's scope 1, 2 & 3 emissions, i.e. outside of their operational control.*



Finance climate action

4.2. Expert talk: project development team

When it comes to climate change, one of South Pole's mottos is "climate action for all". This is something shown by our hundreds of climate protection projects around the world. But we also need action at home. What are the biggest sources of greenhouse gas (GHG) emissions in Europe and what can we do about them?

Hannes Etter: We have the usual suspects: transport, energy and fuel, but the next biggest emission source is agriculture. While technological solutions are already available for transport, energy and fuel, when it comes to agriculture, there has been a bit of a blind spot. It needs its own innovation and opportunities to enable a shift to more sustainable systems. This is what we are aiming to achieve.

Jasmin Schwägli: If we break down the emissions from agriculture, livestock (particularly cattle) are responsible for a large chunk of the emissions. So, this has naturally been a big focus for us. In many cases, farmers and cooperatives are totally on board with taking action, but it's a case of getting the right incentives and systems in place. Currently, using carbon markets to unlock finance and share expertise is one of the best solutions we have to drive climate action at scale.

When I think of the agricultural sector, methane always comes to mind. Why is methane such an issue?

Hannes: It's easy to forget that, as cows are happily chomping on tufts of grass, they are releasing a hefty quantity of GHG emissions into the atmosphere!

So, cows are responsible for climate change? Can you explain what we are doing to support climate action in the agricultural space?

Jasmin: They're not entirely to blame, but reducing their environmental footprint could have significant impacts. We are setting up certified climate projects that reduce the methane produced by cows and their hooved friends by positively impacting their digestive system (in very simple terms). We do this by adding ingredients to cows' feed.

Hannes: There are actually a few different products that you can add; most of them are natural and contain essential oils, plant oils, like linseed – and apparently the cows find them really tasty. And there is nothing to worry about for the animals as there are strict rules on what can be added.

Jasmin: We approach our project holistically, it's not just about cutting methane. Many of the products have been shown to improve the milk yield and increase the overall health and fertility of the cows.

To read the full interview

[Click here](#)



Hannes Etter

Global Lead Project Development for Agriculture & Land Management

Hannes is an experienced project manager for sustainable development and climate change projects. As an expert in natural capital assessment and climate change mitigation, he has coordinated various projects at national and regional level focusing on sustainable transformation and green growth. Hannes holds an MSc in Geography with a focus on the resilience of land management under the influence of climate change from the University of Bonn.



Jasmin Schwaegli

Senior Project Coordinator, South Pole

With almost five years of experience in public and private sector climate action, Jasmin's broad expertise spans corporate social responsibility and climate change mitigation projects. At South Pole, Jasmin is focused on feed ingredients and agricultural projects. Jasmin holds an MSc in Climate Change and International Development with a focus on rural development from the University of East Anglia in Norwich (UK).

Finance climate action

4.3. Climate action projects

How do you select which climate action projects to support?

It's common for companies to source carbon credits from projects close to their operations; increasingly, they also procure carbon credits from within the same sector. This allows them to demonstrate not only that they are looking to reduce their own emissions, but also that they are using carbon finance mechanisms to support the pilots of emerging solutions. These are the very solutions that companies can use to reduce their emissions in the future, once they are more cost-effective and easily available. In this way, carbon credit strategies support sectoral decarbonisation.

What climate action projects exist in the agricultural space?

South Pole has the largest portfolio of climate action projects globally, but is also driving a plethora of pioneering solutions, such as accelerating the transition to regenerative agriculture in Europe, for example. Thanks to carbon finance, two projects are already supporting farmers with implementing regenerative agricultural practices across the continent. One of them is called Sustainable Farming for the Future.



In the spotlight:

Project spotlight: Sustainable Farming for the Future

Compensate for residual emissions by investing in a certified local climate action project: 'Sustainable Farming for the Future'. Your support empowers farmers in Germany and Switzerland to transition to regenerative agricultural practices which restore the soil, enabling it to absorb more carbon.

The challenge

Over the past few decades a crisis has been unfolding beneath the feet of farmers across Germany. Unsustainable agricultural practices and the heavy use of pesticides has led to precious topsoils deteriorating, with climate change exacerbating this erosion worldwide. Without healthy soils our ability to grow food is severely threatened.

The solution

'Sustainable Farming for the Future' empowers farmers across Germany and Switzerland to implement climate-smart farming practices. These techniques aim to restore vital nutrient-rich top soils, also known as 'humus'. Together, they cover over 10,000 hectares of agricultural land.

With healthy, humus rich soils, ecosystems are more resilient to changing weather patterns, biodiversity can thrive and groundwater quality is improved. Food production is boosted as a result of an overall healthier environment, and farmers are rewarded for their hard work, which is helping to protect the planet.

Learn more about this project

[Learn more](#)

Finance climate action

4.4. Expert talk: Landscape Resilience Fund

Today, more than ever, we must fight the causes of climate change but also take bold steps to adapt to the consequences that are often most dramatic for the world's poorest.

- Urs Dieterich, Managing Director of the Landscape Resilience Fund (LRF)



Urs Dieterich

**Managing Director of the
Landscape Resilience Fund**

Urs Dieterich is Managing Director of the Landscape Resilience Fund (LRF). He spent the past three years developing the LRF and aims to inspire and empower a generation of entrepreneurs who subscribe to building an adaptation and restoration economy and creating businesses that help realise the UN Decade on Ecosystem Restoration.

About the Landscape Resilience Fund

The Landscape Resilience Fund (LRF) is an independent Swiss foundation, co-developed by South Pole, acting as fund manager, and the Worldwide Fund for Nature (WWF), as an advisor and service provider. The LRF finances small businesses and projects applying sustainable land management and supports climate adaptation on the landscape level.

You work with smallholder farmers around the world. How is climate change affecting them?

Climate risks are painfully obvious to poor farmers in developing countries. These events often lead to reduction in agricultural production, pushing many smallholder farmers below the poverty line. More severe and frequent droughts, floods and other extreme weather are putting entire economies and food supplies at risk as smallholder farmers produce roughly 80% of agricultural output in developing nations.

These farmers often supply to multinational food companies. How can these food companies take action on climate adaptation?

It is clear global supply chains are dangerously exposed to extreme weather and climate change. So, just as the business case for reaching net zero went from an add-on to a must have, so too will serious action on adaptation. Companies can get a head start by supporting suppliers that embrace climate smart agriculture techniques and ensure the protection and improvement of wetlands, forests and other ecosystems that protect us from flooding and other extreme weather. Those who start now will take a pioneering role, not only in securing their social licence to operate, but also in building resilience into their supply chains.

What types of solutions are you developing?

The goal of the LRF is simple: fund companies that have the greatest potential to protect people and nature in landscapes facing deadly climate change impacts. From struggling cocoa growers to forest-dependent rattan producers, the LRF seeks to use an innovative blended finance approach, supported by leading investors and companies, to ensure climate smart ideas flourish into scalable businesses that protect people and nature. These are solutions developed in and by the communities for landscapes they seek to make more climate resilient.



● Engage stakeholders

5.1. Credible climate action claims

Governments are increasingly responding to society's demands for greater clarity around how organisations communicate climate action – particularly if such communication has the potential to mislead consumers and investors.

This means companies must become more savvy in communicating their corporate climate action and in making climate-related claims that resonate with stakeholders and show their progress as transparently as possible. South Pole's communication experts [provide bespoke and strategic communication support](#) from claim development, through stakeholder engagement strategies to storytelling concepts to make sure your climate success communication is best in class.

How can you credibly communicate climate action?

Our team believes that there are four key principles companies should follow when pursuing best-in-class communications around climate claims to avoid accusations of greenwashing.



TRANSPARENCY

Avoid vagueness at all cost – i.e. committing to a claim without also communicating a clear definition of it. Credible climate action claims require you to be transparent about the activities you are doing and you to show how those activities are part of a holistic, long-term climate strategy.



ACCOUNTABILITY

Transparent communication and disclosure and honest updates on your progress (both the good and the not-so-good) are essential to upholding the integrity and accountability of any corporate climate action and related claims.



IMPACT

Show, don't tell. What real actions are you taking to substantiate your claim? Sound operational evidence and verified impact data are an important way to provide that assurance.



AUTHENTICITY

Always align your communication strategy with your long-term sustainability strategy and your company's wider growth plan. To hedge against changing terminology around corporate climate action claims, businesses are encouraged to explore claims that are true to their brand and reflect their full suite of ambitious climate activities.

Authors



Akash Arasu

Managing Consultant, Agricultural Value Chains
and Corporate Climate Targets

“Everytime you bite into a piece of toast, you’re consuming carbon. A spoonful of rice? Carbon. Through food we experience an intimacy with carbon that is unparalleled. It is through the agribusiness industry that we can rethink and restructure our food systems, so that consumers can continue experiencing this most primal of feelings, without the bitter taste of a heavy carbon footprint.”



Carolyn Addy

Senior Business Development Manager,
Renewable Energy Solutions



Karine Basso

Principle Director, Agricultural Value Chains



Tom Bijleveld

Climate Strategy Advisor, Climate Risks
and Opportunities



Kata Bors

Head of Client Communications



Remi-Nicole Dickinson

Solutions Specialist, Labels



Hannes Etter

Global Lead Project Development for Agriculture
& Land Management



Luise Fischer

Managing Consultant, Risks and Opportunities



Irene Hofmeijer

Practice Lead, Circular Economy



Emily Mason

Managing Consultant, Agricultural Value Chains



Raphael Schilling

Senior Consultant, Agricultural Value Chains



Mathilde Treis

Managing Consultant, Agricultural Value Chains

“Instead of low-carb, my vision for the future of food is low-carbon. Instead of thinking about how we can keep feeding the future under the current system, we need to think big about how we can change it from the ground up. While we don’t have all the answers yet, I hope that this report provides some valuable insights and signals the steps food companies should take to get started on the vital transition today.”



Jasmin Schwaegli

Senior Project Coordinator



Emily Sharples

Senior Solutions Marketing Specialist



**South Pole is a carbon project developer and leading supplier of climate solutions.
Speak to a sustainability adviser to find out more.**

Contact us today