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ESG in practice: assessing Food and Beverage companies' externalities

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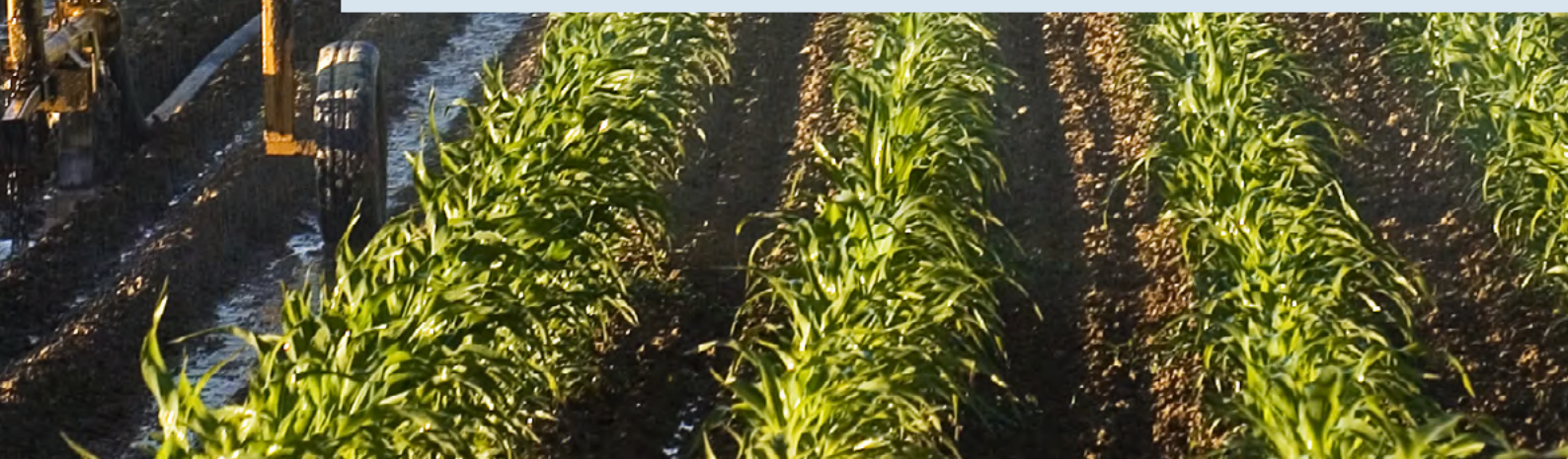

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We are what we eat:
how our diets define not only us but the world around?
In this paper, some experts of the Food & Beverage sector examine some of the key solutions and innovations that should help transform the landscape of this industry in not-so-distant future.

Discovering a healthy diet: a food revolution to save the planet

In December 2021, we held our last ESG talk of the year on a fascinating topic of food production, the carbon footprint of what we eat and the future of human diet. This talk looked at the main challenges and opportunities faced by the food sector from the sustainability perspective. We are what we eat: how our diets define not only us but the world around?
In this paper, some experts of the Food & Beverage sector examine some of the key solutions and innovations that should help transform the landscape of this industry in not-so-distant future.

Challenges

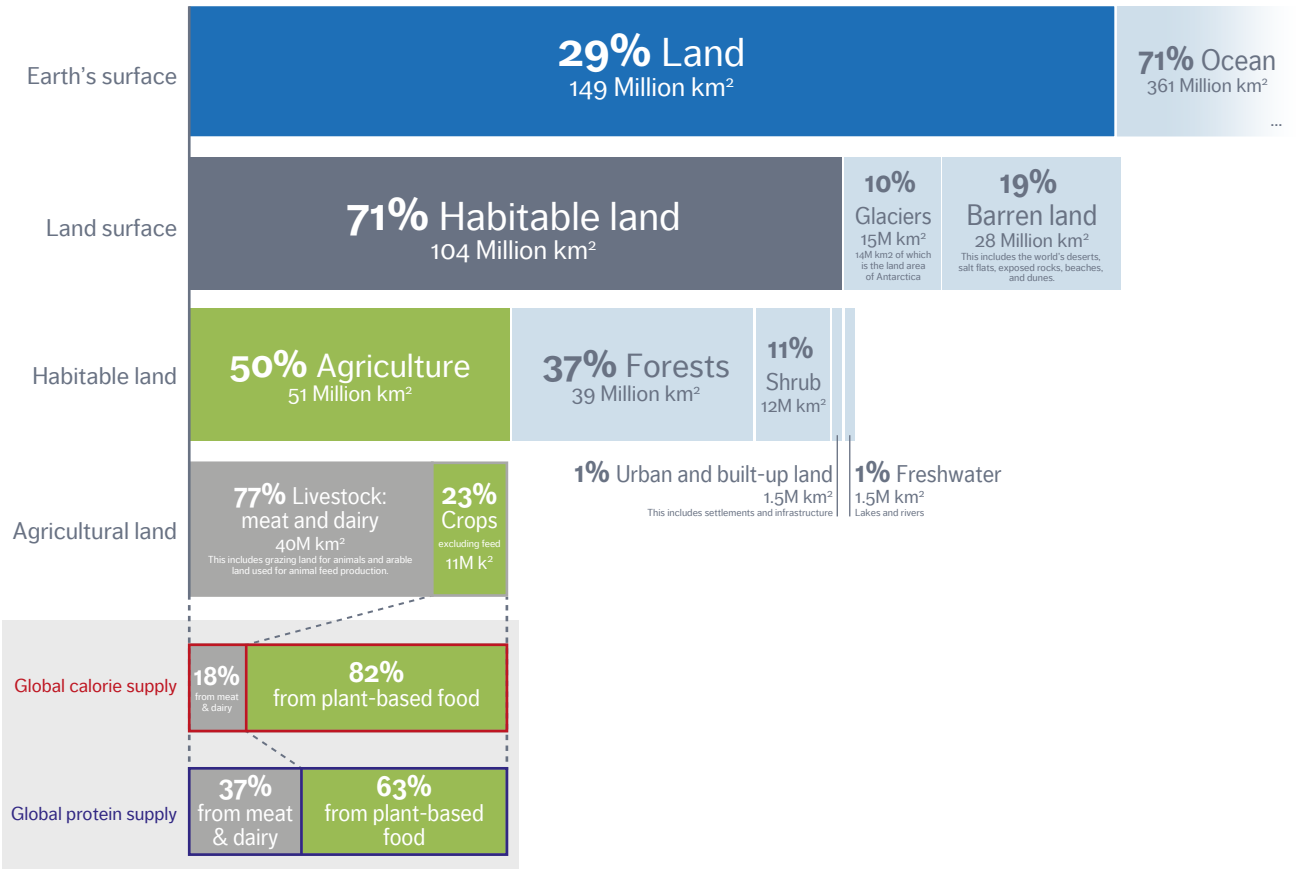
Food companies tend to have long and complex supply chains due to an enormous variety of food we consume, where it is originated and how it is produced. This complexity often means frequently entangled with ESG risks and potential controversies, as well as a multitude of current and emerging regulations.

Given the industry's heavy carbon footprint, finding new solutions can help achieve significant progress in addressing climate change, resources scarcity and biodiversity loss.

Depleting resources

71% of all land surface of our planet is regarded as habitable land, and 50% of that is already used for agriculture. In turn, 77% of agricultural lands are used for raising livestock for dairy and meat production. Agriculture is also one of the most water-intensive industries, with 70% of our global freshwater withdrawals coming from agriculture. Moreover, 78% of our global ocean and freshwater pollution comes from agriculture. A lot of it comes from the high use of nitrate and phosphate fertilisers, resulting in harmful algal blooms that literally suffocate most oxygen-breathing life forms below the surface.

Global land use for food production



Data source: UN Food and Agriculture Organization (FAO)

Contribution to GHG emissions and reducing carbon absorption

Agriculture offers a huge scope for reducing the human carbon footprint. It is the second biggest greenhouse gas (GHG) emitter after the energy sector, on par with transport.

Between 70% and 80% of our deforestation is caused by making way for agricultural land production, or tree plantations. 41% of deforestation is driven by pasture expansion for beef[1]. Wood is also the source of packaging materials.

1 Florence Pendrill, 2019.

Can we stop eating meat?

Around 30% of our individual carbon footprint is related to the traditional, meat-containing diet that we eat. Meat production has such a heavy GHG footprint[2] that by switching to plant-based alternatives an individual can reduce their diet's carbon footprint by about 90%.

The call to cut down meat consumption for the sake of our planet has first been made several decades ago, but most people have found it difficult to give up familiar foods. Moreover, not many sophisticated alternatives were available, or were affordable for everyone. The good news is that many consumers now are prepared to pay more for sustainable food options.

Even more importantly, according to a large survey conducted last year[3], 30% of the European respondents identified themselves as flexitarians (i.e. mostly vegetarian). Of these, 73% already eat less meat. This survey confirms that there is already a big market potential for plant-based food products, and many flexitarians (45%) would like to see more plant-based options in supermarkets and restaurants.

Some companies are already exploring these new opportunities and more will surely follow. As this market grows and gradually becomes more competitive, plant-based alternatives of meat and other sustainable options will become cheaper and more widely available.

2 Grazing cattle need plentiful supplies of grass – meaning farmers often use nitrogen fertiliser on their fields to stimulate plant growth. The production of nitrogen fertiliser causes the release of CO_2 and the potent greenhouse gas nitrous oxide (N_2O). In addition, cattle are the biggest agricultural source of greenhouse gases worldwide. Each year, a single cow will belch about 220 pounds of methane
https://www.ucdavis.edu/food/news/making-cattle-more-sustainable

3 The study, conducted by the Smart Protein Project and funded by EU, questioned 7,500 people across 10 European countries.
https://smartproteinproject.eu/pan-european-survey-meat-consumption-down/

4 Canola refers to both an edible oil produced from the seed of any of several varieties of the rape plant, and to those plants, namely a cultivar of either rapeseed or field mustard.

5 Changtai Zhang, Xin Guan… "Production of meat alternatives using live cells, cultures and plant proteins"
https://www.sciencedirect.com/science/article/abs/pii/S2214799321001429#:~:text=Microbial%20protein%20%28MP%29%2C%20also%20called%20single%20cell%20protein,of%20its%20high%20nutritional%20value%20%5B%2033%20%5D

Market of low carbon food

The market of protein foods is witnessing two key developments. The first is the efficiency drive, through new technology, among existing producers of animal protein food, such as milk, meat, fish or eggs. Better efficiency comes with smaller carbon footprint; indeed, the top 10% best performing farming businesses reduce theirs by double digits by adopting new innovative solutions. Even more good news for companies: because most of the innovations work alongside existing production systems, their implementation will not require additional capital expenditure.

There are also some products that target specific issues, such as cows belching methane – a greenhouse gas more potent in causing global warming than carbon dioxide. We now have a remarkable innovative food supplement that can suppress the production of methane by 30% in dairy cattle, and up to 90% in beef.

The second type of innovations is about finding new sources of non-animal proteins. Everything from using canola[4] to single cell proteins. Recent study reported that "considerable progress has been made towards the development and production of meat alternatives, including cultured meat, plant-based meat alternatives, microbial protein, edible fungi, microalgae, and insect protein[5]."

We expect a combination of advanced scientific expertise and investment will be required in the years to come not only to develop new sources of proteins but also test how safe they are for human health and well-being. In the meantime, the diet is not the only factor that impacts our climate and other sustainability factors, it is also the operation of the supply chains themselves.

Food waste and plastic

Food waste and GHG emissions is a huge topic which is subject to much ongoing research. This waste is not only what is thrown by restaurants, households and supermarkets but also all the food lost between farm and distribution points[6].

We all know that plastic pollution has been a huge problem, with around 75% of all produced plastic ending up as waste. 50% of all global plastic waste comes from packaging, including that used for food. Investors will seek companies coming up with solutions, as well as those that find ways of drastically reducing the use of plastics altogether within their supply chain.

A sustainability minefield: child and forced labour

While it has the crucial role of feeding the human population, agriculture has not only been destroying forests (the lungs of our planet), killing rivers and lakes with fertalisers and polluting oceans with plastic. It is also responsible for 11% of all cases of forced labor globally, while food manufacture adds another 15%. Within these numbers, 60% of child workers are engaged in work that brings them in frequent contact with hazardous chemicals, including fertilisers, and dangerous equipment.

The new EU legislative framework around Environmental and Human Rights Due Diligence will aim to address these problems. In the United States, US Customs and Border Protection (USCBP) bans products if there is a suspicion that they were produced by child labour.

The FAIRR Initiative established by the Jeremy Coller Foundation is creating a global network of investors focusing on the food supply chain risks related to animal agriculture. They conduct research and use investor interest engagement groups to involve companies in food and agricultural sectors in discussions about both financial and environmental risks of their activities.

The food that we eat, how it is grown, picked and delivered has enormous consequences not only from the environmental but social perspective as well.

As human diet continues to change, ***regulators and investors can play a very positive role in helping food companies to source their products more responsibly and employ the labour force of which they can be proud****.*

6 Some dated research conducted about 10 years ago, in 2013, by the Food and Agriculture Organization of the United Nations, estimated that globally people waste 1.3 gigatons of edible food and this releases 3.3 gigatons

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