

THE MESSAGE



EIGHT BILLIONS

Food

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According to the UN the world population reached eight billion people on November 15th, 2022. The demand for food rises, deforestation gets worse, biodiversity decreases, terrains are drier and drier: all things that contribute to higher GHG emissions in the atmosphere. The UN estimate the **whole food value chain represents 30% of global emissions**, 40% of which come from agriculture and cattle breeding, fertilisers and pesticides; one third from changing use of soil; and the rest from the supply chain: cooking, refrigeration, packaging, transportation and waste, the latter amounting to one third of produced food. In addition, agriculture uses 70% of drink water and livestock

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farming 80% of farm terrains, contributing only for 20% of calories and 37% of proteins daily intake. And over 50% of antibiotics are used in agriculture and breeding, with an increased bacterial resistance as a result.

Without a change in our diet and our eating habits, where red meat outweighs fruits and vegetables, the Paris target is unattainable. And such changes would have a general health benefit considering the 2 billion people overweight or obese and another 2 billion suffering malnutrition.

Europe, with the program *Farm to Fork*, part of the Green Deal, was the first to start a re-thinking of the whole food value chain. Among the objectives by 2030: the **reduction by 20% of fertilisers, 50% of pesticides and 50% of antibiotics**; bring to **25% the farms dedicated to organic** farming (it is now 7.5%); convert **10% of them where animals could prosper in the wild enhancing biodiversity**; make **30% of lands and seas protected areas** (only 26% of lands and 11% of seas are currently protected) and **halve the food waste**.

Member States don't want to force people to eat as they think they should, but they can influence their decisions: **mandatory labels** about nutrition values and source of the food, **avoid advertisements on low price meat** that mask its quality, and use of a **differential taxation depending on the product**, such as the proposal of adding a 1€/kg tax on meat between 2023 and

2025 with a gradual increase. Moreover, Europe provides 30 billion euros of subsidies for livestock farming: if **directed to cellular agriculture and production of vegetable-based food**, that money could help with the desired transition. In fact these two forms of alternative food production **would reduce GHG emissions by 90% for a given meat production target**, and ensure a **limited use of water, pastures and other resources**. On April 27th the EU Commission launched the initiative *End the Slaughter Age*, that demands to end the European subsidies for livestock farming and use the money for alternative ways of producing meat: the signatures collection started on June 5th. Perhaps the threshold of one million signatures won't be reached within the first 12 months, but certainly it won't remain an isolated attempt given Europe's intention to spur sustainable foods.

Other types of incentives could be the **carbon sequestration** by farmers, include other sectors in the market for **carbon certificates**, use **clean energy** to produce food, **anaerobic digestion for biogas produced by food waste**.

Linked to this transformation are two important **social aspects**: a **healthier treatment of animals** and a **lower use of child labor**, as 75% of it globally happens precisely in the farming and breeding sectors.

The companies affected will be all those involved in the food chain: livestock farms, producers of fertilisers and enzymes, companies that produce and trade the products



concerned, restaurants, start-ups of sustainable food, tech companies that produce tools for an agriculture more focused and sustainable, and pharma companies that make tests through the value chain.

Of all those, the transition will favour the companies producing enzymes and flavours and those that realize tests: the former will see their contribution to food production rise from the current 15% for traditional food to 85% for vegetable-based food; the latter will benefit

from an increased control and a mandatory label for products sold in supermarkets.

Alternative foods are now more expensive than traditional foods, but we are comparing an industry in its infancy to one that benefits from large-scale production since decades, with optimized processes. It's easy to see how the new industry will benefit from lower costs over time, as production increases, technologies improve, and for its ability to use 90% less resources.

