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**MAKING THE FUTURE OF FOOD SUSTAINABLE**

**Leuven, Belgium, 19 November 2019** – *Nicolai Prytz, sustainability and strategy director at TOMRA, has looked at how businesses, consumers and policymakers can help make the future of food sustainable.*

With a rapidly growing population, adopting sustainable production practices on a global scale is an imperative to safeguard the future of our planet. The food supply chain is certainly one area where there is urgent need for improved sustainability. Without food – this precious resource currently being wasted across the supply chain – society as a whole becomes unable to function.

System inefficiencies in the food sector also cause an unnecessary output of energy during production, which amplifies the undeniably negative impacts of climate change on agriculture, including unstable growing conditions for many crops and an overall reduction in the volume of produce from arable land. These issues, coupled with the rise in global population and demand for food, represent significant areas of concern for the food industry – from farm to fork.

Action needs to be taken both to reduce food waste and tackle climate impacts in and from the food supply chain. The key to make the future of food sustainable is the early adoption of best practices across the supply chain, for which technological innovation can be a major driver. In this article, I’ve explored options for food sustainability and what role the food industry needs to play to protect its future.

**The need for sustainability**

Sustainability [can be defined as](https://www.iisd.org/topic/sustainable-development) “meeting the needs of the present without compromising the ability of future generations to meet their own needs”. For corporations, sustainability is not just about introducing environmentally friendly initiatives, as some may perceive. It is about protecting and utilizing resources efficiently and effectively.

The UN expects world population to rise by [two billion people over the next 30 years](https://population.un.org/wpp/Publications/Files/WPP2019_Highlights.pdf). With this increase in population, comes the need to increase the amount of food produced, which will inevitably increase both the amount of agricultural land needed food waste generated across the supply chain, and the greenhouse gas emissions from food production.

This is where food sustainability is key, to mitigate the negative impacts of increased production and ensure that food supplies are not exhausted for future generations.

**The fight against food waste and loss**

[According the World Resources Institute](https://www.wri.org/blog/2018/12/how-sustainably-feed-10-billion-people-2050-21-charts), almost a quarter of food produced for human consumption goes uneaten. This food waste and loss is created across the entire supply chain, including production, handling, storage, processing, distribution and consumption. An important distinction can be made between food ‘loss’ in the production process and food ‘waste’ which occurs in the food consumption and retail stage.

Globally, the causes for the food waste and loss differ from continent to continent. In North America and Europe, where the annual food waste and loss combined is [roughly 100kg](http://www.fao.org/save-food/resources/keyfindings/en/)  per consumer; food waste (i.e. consumption stage) accounts for more than half.. In comparison, only 5 per cent of food waste and loss combined in Sub-Saharan Africa is related to consumption, and the rest is lost during the production, handling and storage stages of the supply chain.

These figures highlight the imbalance in food efficiency between developed and developing countries. Developed countries need to change consumer behavior, whereas developing nations must look towards improving infrastructure and processes in early stages of the supply chain.

Although food loss may be higher in developing countries, the need to make improvements earlier in the supply chain is of global concern. International industry collaboration must focus on ensuring that food loss is reduced throughout the farming and sorting process in order to use as much as possible of what we produce.

As for production-side food waste, repurposing of produce is a key solution. If an apple or a blueberry does not have high enough quality for one use, one must find another use for it and make wasting the produce the very last resort. Sensor-based sorting systems can determine, for example, the quality level of a product, and thus allow for lower quality products to be reworked until they are fit for another purpose, such as pet food or animal feed.

At TOMRA, our sorting and grading solutions can help increase [the yield of produce by between 5-10 per cent](https://www.tomra.com/en/sorting/food/why), which when put into context equates to as much as 25,000 trucks of potatoes every year. This allows businesses to maximize yields and recovery rates, while reducing waste and improving the overall quality of the produce.

Our innovative sorting solutions can also help clean up crops that in the past would not be harvested, if damaged by adverse weather events, like hail, strong winds or torrential rain. Such events typically mean that incoming defect loads are high, but sensor-based cleaning of these damaged crops, together with removing subtle defects, has a strong positive impact on the shelf life of produce like fresh fruits and salads.

**Reducing greenhouse gas emissions**

In addition to the challenges of food waste and loss, the food industry must also take responsibility for reducing greenhouse gas emissions and the negative climate impacts caused by the food supply chain. The current environmental [crisis in the Amazon Rainforest](https://www.newsweek.com/amazon-rain-forest-fires-co2-trees-atmosphere-1458536), where wildfires are releasing vast amounts of stored CO2 into the atmosphere, is yet another testament to the urgent need for emission reductions, not only in food, but across all industries.

The food industry sits at the very core of several environmental issues, being both responsible for nearly [two-thirds of global biodiversity loss](https://www.wwf.org.uk/what-we-do/area-of-work/food) and a major contributor to climate change. Agriculture currently accounts for [12 Gt of CO2 per year of global carbon emissions](https://www.wri.org/blog/2018/12/how-sustainably-feed-10-billion-people-2050-21-charts), a number projected to [rise up by more than 50 per cent by 2050](https://www.wri.org/blog/2019/07/5-questions-about-agricultural-emissions-answered). If unchecked, that level of emissions would represent more than 70 per cent of the available carbon ‘budget’ in order to reach the targets set forth in the Paris Agreement.

One area with significant room for improvement is transport and the distance that food travels from farm to fork. Consumer demand has led to an expectation that all produce is available 365 days a year and the understanding that some produce is seasonal has been lost, meaning it must be imported from around the world to meet the wants of the consumer.

What foods we eat also must be addressed. In [its annual report](https://wrr-food.wri.org/sites/default/files/2019-07/WRR_Food_Full_Report_0.pdf), the WRI has outlined how the food industry can reduce its GHG output and become more sustainable, in light of expectations for population growth and food demand in 2050. It states that by decreasing the amount of beef and lamb eaten and instead eating more fruit and vegetables, emissions can be significantly reduced.

However, the WRI also states that the food supply chain must increase the productivity of livestock and crops to “higher than historic levels”– in short, increase the supply of food, but reduce the land usage for a more sustainable output. Using innovative technologies and farming methods that lower agricultural GHG emissions is one of the recommendations in WRI report.

The [TOMRA Eco steamer peeler](https://www.tomra.com/en/sorting/food/peeling-equipment/eco-steam-peeler) has been designed with reducing energy output in mind, and offers a sustainable way to produce food. This machine can lower energy usage by 25 per cent, which means savings of up to $90,000 per year for production businesses, as well as helping reduce water usage (28 per cent less steam compared to similar machines).

Innovative sorting solutions also allow for any defective produce to be removed from the supply chain before it is frozen. This is a common practice for fruits and can help reduce energy usage and optimize yields. In other words, sorting technologies have great potential to strengthen both profitability and sustainability for many food companies

**A sustainable future for food**

To achieve a sustainable future for the food industry governments, corporates and consumers alike must change the way in which we produce and handle food – from farm to fork. With the world population set to increase to nearly 10 billion people over the next 30 years, the industry must adapt and adopt new practices to reduce waste, cut greenhouse gas emissions and ensure that agricultural land is used as sustainably as possible.

By 2050, food demand will increase by 50 per cent, so meeting these challenges is vital to ensure food sector sustainability for future generations. At TOMRA Food, we’re committed to leading the resource revolution through our technology, helping improve yields, reduce waste and use our food resources more efficiently – three key factors in food sustainability.

Through working and collaborating with governments, policymakers and businesses, we can help improve the sustainability of the food supply chain and create a prospering food sector for the future.

**About TOMRA Food**

TOMRA Food designs and manufactures sensor-based sorting machines and integrated post-harvest solutions for the food industry, using the world’s most advanced grading, sorting, peeling and analytical technology. Over 8,000 units are installed at food growers, packers and processors around the world for fruits, nuts, vegetables, potato products, grains and seeds, dried fruit, meat and seafood. The company’s mission is to enable its customers to improve returns, gain operational efficiencies, and ensure a safe food supply via smart, useable technologies. To achieve this, TOMRA Food operates centers of excellence, regional offices and manufacturing locations within the United States, Europe, South America, Asia, Africa and Australasia.

TOMRA Food is member of the TOMRA Group that was founded on innovation in 1972 that began with design, manufacture and sale of reverse vending machines (RVMs) for automated collection of used beverage containers. Today TOMRA provides technology-led solutions that enable the circular economy with advanced collection and sorting systems that optimize resource recovery and minimize waste in the food, recycling and mining industries.

TOMRA has ~100,000 installations in over 80 markets worldwide and had total revenues of ~8.6 billion NOK in 2018. The Group employs ~4,000 globally and is publicly listed on the Oslo Stock Exchange (OSE: TOM). For further information about TOMRA, please see [www.tomra.com](http://www.tomra.com).

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