

FOOD WASTE MANAGEMENT SYSTEM

A HOLISTIC APPROACH
TO REDUCE FOOD LOSS AND WASTE



**BUREAU
VERITAS**



FOOD LOSS AND WASTE: THE BIGGER PICTURE

There is a growing global awareness of the role various industries which should play in environmental protection and social responsibility. The food sector is no exception. Food loss and waste is becoming a major concern for both food players and consumers, who are increasingly mindful of its environmental and social impact.

Reducing food waste benefits stakeholders throughout the value chain. Farmers and manufacturers can sell more products, while retailers and consumers are not impacted by unsold or uneaten food. Furthermore, with the world's population predicted to hit 10 billion in 2050, developing sustainable food supply chains can help promote food security.

International governing bodies have acknowledged that mass-scale food loss and waste reduction is crucial. Both the United Nations and the European Union have set goals for halving food loss and waste by 2030 via the Sustainable Development Goals (SDGs) and the Farm to Fork strategy respectively. To meet these goals, we are seeing consumers and the industry itself adapt and look for ways to change.

But to mitigate the environmental, social and economic impact of the food system, more needs to be done to limit food loss and waste at every stage of the agri-food chain. Bureau Veritas supports the food industry to achieve this objective. We help food industry players measure and quantify their waste, implement the right processes and tools to manage and reduce it, and certify their loss and waste reduction.

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THE IMPACT OF FOOD LOSS AND WASTE

Food loss and waste: what, why and how

Before they can take action to combat food loss and waste, food industry players must understand what it is, its impact, and how it can be addressed.

– What is food loss and waste?

Food loss and waste refers to food that is intended for human consumption, but which leaves the food supply chain somewhere between being ready for harvest and being eaten. Food loss is typically unintentional and is often a result of inefficiencies in food production and supply systems. Meanwhile, waste refers to edible food products discarded from the agri-food chain for reasons such as aesthetics or expiration date. Generally, food loss occurs at the production stage, while food waste happens between processing and consumption.

– Why is it a problem?

Producing more food than we consume is contributing to unsustainable food production. The result is biological diversity loss, deforestation, overexploitation of cropland and increased use of chemical fertilizers. Food loss and waste, meanwhile, accounts for an estimated 10% of total global greenhouse gas (GHG) emissions. This is a particularly jarring statistic given that around 690 million people globally are undernourished.

– What can industry players do?

Food loss and waste is an issue throughout the entire supply and consumption chain. Taking a holistic, management system-based approach can help food industry operators make significant reduction efforts. This involves identifying, quantifying and managing the loss and waste generated at every stage of the agri-food chain.

KEY STATS



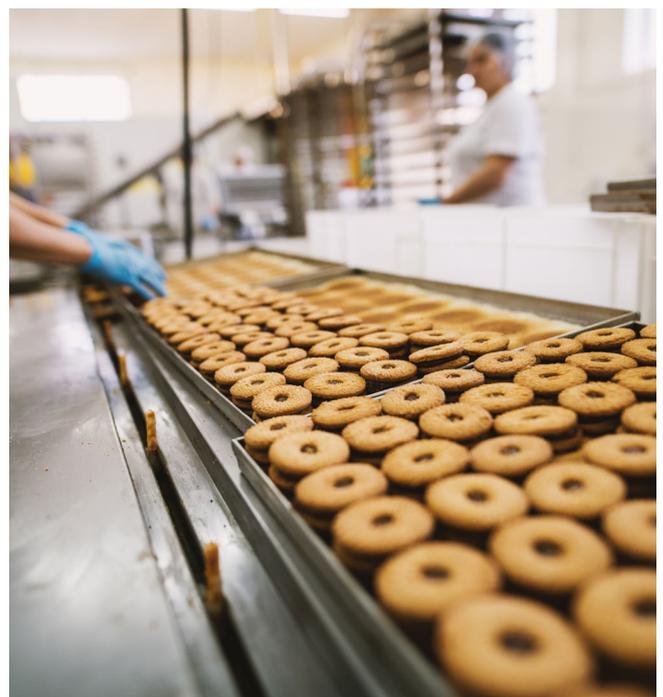
**APPROXIMATELY
40%** of all food produced is lost or wasted each year¹



**4.4 MILLION
KM² OF LAND** used to grow food lost on farms each year¹



**AN ESTIMATED
10%** of annual GHG emissions are due to food loss and waste¹



1. Source: WWF (https://wwfint.awsassets.panda.org/downloads/driven_to_waste_summary.pdf)
2. <https://www.actionagainsthunger.org/world-hunger-facts-statistics>

HOW TO REDUCE FOOD LOSS AND WASTE?

The pyramid of solutions for food loss and waste

To combat food loss and waste effectively, organizations must consider the entire lifecycle of their products, from upstream and internal processes, to everything that happens after the food leaves their site – right through to disposal.

A HIERARCHY OF SOLUTIONS

The UN's Food and Agriculture Organization (FAO) has developed a food waste pyramid to represent solutions for dealing with food loss and waste along the agri-food chain within a prioritization system.

At the top of the FAO inverted pyramid sits the ideal solution: prevention. By avoiding or reducing waste initially, the need for solutions further down the pyramid is reduced or even eliminated. Progress toward prevention can be achieved through implementing a food waste management system.

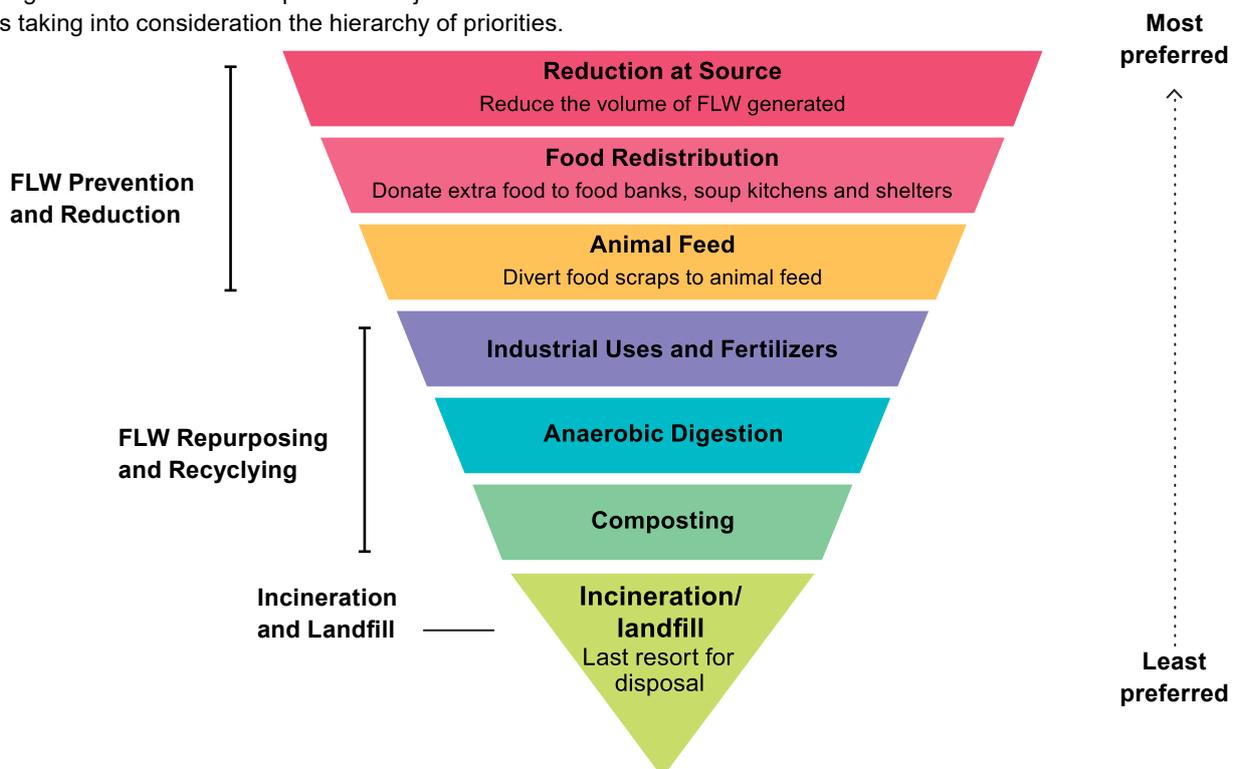
The second-most desirable option is finding ways to offer food byproducts a second life. These might be repurposing them for human consumption or as animal feed, or by using them for industrial processes.

Re-valorization of byproducts or waste into high added-value products, such as nutraceuticals, also falls in this category.

At third priority in the pyramid are recovery initiatives. This includes transformation into energies such as biogas, or nutrient recovery for low added-value uses such as compost or digestate from anaerobic digestion.

The least preferable option is disposal of material by incineration, sewage and landfill without energy recovery, especially the GHGs that we cannot afford to be generating – actions that do not mitigate the harmful effects of food loss and waste.

The organization must define quantified objectives with annual goals taking into consideration the hierarchy of priorities.



A 3-STEP APPROACH FOR ORGANIZATIONS TO REDUCE FOOD WASTE

1/3 QUANTIFY

Organizations can follow a three-part framework to reduce food loss and waste in their value chain.

QUANTIFYING THE EXISTING ISSUE

Food industry operators must understand the scope of their food loss and waste challenge before addressing it. Their first step should be to quantify the loss and waste currently generated throughout their supply chain.

This involves identifying all the different types of food waste generated in each production chain process – and their quantities, current management and causes. Companies need to analyze the impact of their own processes on the generation of food waste. They must also look at the processes of their suppliers and partners, both upstream and downstream.

Based on this analysis, companies can then decide which types of food waste they need to target and define their objectives for improvement.



SPOTLIGHT ON: CARBON FOOTPRINTING

Carbon footprinting is an assessment and reporting methodology that enables companies to calculate carbon emissions more accurately and identify areas for improvement. It is a recognized best practice for businesses seeking to identify, report on, and reduce their emissions from food services or products. Accurate monitoring and reporting shows food players where changes can be made and impact minimized, helping them achieve net zero targets.

Bureau Veritas offers carbon footprint verification to standards such as ISO 14064-1 and Greenhouse Gas (GSG) protocol, which help organizations measure and report on their carbon footprint rigorously and transparently.



2/3 DEFINE AND IMPLEMENT A PLAN

For a company's plan for improvement to be effective and sustainable, it must align with its food loss and waste policy, be fully measurable, and integrate defined annual targets. It should also take into account the FAO hierarchy of priorities.

ESTABLISHING A PREVENTION PLAN

Companies must first define and document their food loss and waste objectives to give themselves a clear direction of travel. To meet these defined goals, actions and initiatives should be established throughout the value chain.

Upstream, companies should look at how they prevent, recycle and repurpose waste.

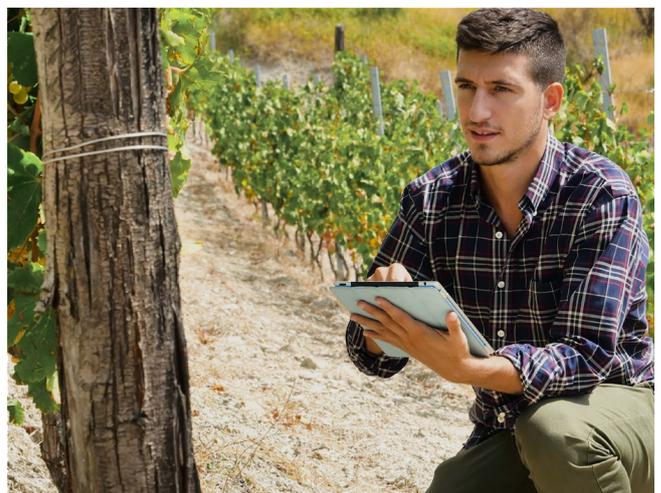
TRACEABILITY FOR BIOFUELS AND BIOMASS

Bureau Veritas is a recognized certification body for ISCC, 2BSvs, REDcert, SURE and KZR INiG, which are voluntary schemes for biomass sustainability. This enables food companies that generate food waste (in food processing) to repurpose waste to prove their biomass comply with EU regulations (RED II) and contribute to meet the demand for renewable energy sources. Voluntary certification against these EU approved schemes provides traceability along the value chain and verifies that companies meet critical environmental and social standards in this emerging area. We also certify the sustainability of packaging with ISCC PLUS - use of bioplastic as well as bio-circular materials from biological wastes in packaging is the way to accelerate the move towards the circular economy future.

For agriculture players, a starting point could be focusing on the issue of animal welfare within their value chain; this could involve upgrading to organic feed to avoid illness among livestock and the potential waste it can generate. Byproducts from agriculture, processing and manufacturing that would otherwise end up in landfill can be used to develop biomaterials for energy, bioplastics, and even healthcare solutions.

Retailers downstream might explore the redistribution of surplus food to food banks or through partnering with anti-waste organizations.

Companies throughout the value chain can also look at making their supply chain more efficient and may explore digital tools for co-operatives and traders, to support this goal. Overall transparency can be achieved through BV's traceability solution, which can be tailored to each stakeholder and activity in the agri-food value chain.





3/3 MONITOR RESULTS AND TAKE ACTION

Companies will improve the effectiveness of their strategies to combat food loss and waste through constant surveillance and auditing. They should regularly measure, monitor and analyze the performance of implemented actions to assess their impact.

Monitoring parameters – which must be clearly defined – could include the upstream and downstream traceability of the products, the quantity of products not lost or wasted, and an assessment of environmental, social and economic impacts.

Regular performance monitoring also ensures that any nonconformances can be detected, documented and addressed. In these circumstances, operators should perform a root cause analysis and implement a corrective action plan.

There are numerous factors that must be considered to achieve the significant and long-term changes required to address the food system's environmental and social consequences. Communication, reporting system feedback, management review, internal audit and analysis of outcomes, corrective actions, and system changes are among them.

SPOTLIGHT ON



CLARITY
BY BUREAU VERITAS

Clarity is Bureau Veritas' suite of solutions to help companies visualize the ESG performance of their entire value chain and improve their sustainability practices. Our experts assess the company's environmental, social and governance maturity level, displaying the observations made during audits as actionable aggregated scores available in a digital dashboard. We can support food players across a wide spectrum of topics, including traceability, animal welfare, energy efficiency, and waste management.

WHY USE A MANAGEMENT SYSTEM TO REDUCE WASTE?

Reducing waste through a 360° management system

Bureau Veritas Certification's Food Waste Management System standard is a framework that helps organizations put in place the right processes and tools to quantify, manage, and monitor their food loss and waste in order to reduce it.

Our offer covers the entire process of reducing food loss and waste. The standard enables clients to clearly define and establish their management system for food waste minimization. They can then effectively implement improvement actions, manage unplanned generation of food waste, and monitor and report on results. The standard's scope also includes annual training of all relevant personnel, to support organizations to improve awareness of the topic and create a culture of food loss and waste prevention.



CERTIFICATION: THE SOLUTION AND METHODOLOGY

The certification process comprises preliminary checks, including gap analysis and assessment of the organization's level of compliance with requirements, and documentary and certification verification, which covers audit activities with the aim of verifying system compliance. Our methodology also includes annual surveillance visits, which are carried out during the validity period of the certificate to monitor system maintenance and continuity of improvement.





The benefits of a holistic waste management and reduction system are myriad. A comprehensive approach enables companies to optimize their food production processes by minimizing the risk of loss and waste. This can reduce the financial impact of food loss and waste - both at an organizational level and globally. Such a tried-and-tested system also enables compliant companies to align their strategies with the UN's SDGs and the EU Farm to Fork programs. They are thereby assured that their efforts are feeding into the wider goal of halving global food waste per capita by 2030.

In addition, a robust management system helps companies go beyond the goals they might initially set for themselves to address the full spectrum of environmental, social and governance challenges. These can range from reducing emissions through responsible consumption and anti-waste redistribution to cutting costs through optimized production processes.

COMING UP TO STANDARD

The Bureau Veritas Food Waste Management System has been built according to the same high-level structure as current ISO standards and, as a result, can be integrated into other management systems. This can also result in time-saving measures, as the Bureau Veritas Food Waste Management System can be audited at the same time as other schemes, including ISO 22000, ISO 9001, ISO 14001 and GFSI. The management system also generates positive outcomes by integrating ISO-inspired risk-based thinking into the organization from top down.

SPOTLIGHT ON: ANTI-WASTE FRENCH LABEL

Bureau Veritas is working in conjunction with the French Ministry of the Ecological Transition in its fight against food waste. Through combined expertise, a national standard has been developed to recognize the best practices of players across the food chain; first for retailers (food processing & food service to come in next years). BV's specialist auditors have already performed some pilot audits with major retailers and wholesalers this spring and should normally begin rolling out the label from Q3 2022 according to French Ministry confirmation. This will enable retail shops to get 3 tiers recognition of best practices and results.

YOUR PARTNER FOR FOOD WASTE MANAGEMENT

A reputation you can trust

Bureau Veritas, thanks to its almost 200 years of experience and network of more than 80,000 employees worldwide, support operators in all industries to address emerging challenges. Our services enable organizations in the food industry to comply with the latest regulations, and ensure that products, processes and services both meet market demands and the highest levels of safety, quality and responsibility.

Bureau Veritas is a global leader in laboratory testing, inspection and certification with 75+ testing labs dedicated to food, and 2,000 food inspectors and auditors providing services worldwide. Our dedicated and experienced teams provide assessments for a wide range of food-specific certification and audit programs, supporting food industry players to meet their goals.

As an internationally recognized certification body, Bureau Veritas acts as a trusted partner throughout the entire certification process.

With years of experience with over 150,000 clients the world over, we can offer international reach, local knowledge and leading-edge expertise in food safety and sustainability.

Our comprehensive service portfolio helps clients along the entire food value chain comply with the highest standards of quality, product integrity, health and safety, and environmental and social responsibility. We are also accredited to perform audits on specialized programs such as carbon footprinting and biofuels sustainability.





BV Green Line: A suite of services and solutions

Through the BV Green line, Bureau Veritas supports our 400,000 clients to be more efficient, more methodical and more trustworthy in their journey towards more sustainable business and a more sustainable world.

Bureau Veritas aims to develop solutions to meet the diverse needs of food companies, large and small. Through the BV Green Line, suite of services and solutions, we empower organizations – both private and public – to implement, measure and achieve their sustainability objectives.

PUTTING FOOD WASTE AT THE TOP OF THE AGENDA

We deploy a wide range of services to support food waste solutions. These cover issues such as the sustainable use of natural resources, for example agribusiness harvest monitoring and precision farming. We also help our clients increase the traceability of their products through product component testing and organic certification.

Thanks to our contribution, our clients can measurably demonstrate the impact of their actions by making them traceable, visible and reliable. By bringing transparency, we provide the tools to protect clients' brands and reputations.



OUR GREEN LINE OF SERVICES AND SOLUTIONS





SHAPING A WORLD OF TRUST

Bureau Veritas is a Business to Business to Society company, contributing to transforming the world we live in. A world leader in testing, inspection and certification, we help clients across all industries address challenges in quality, health & safety, environmental protection and social responsibility.

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