



Whitepaper

Sustainability and food safety

How food producers use special lubricants to achieve their sustainability goals

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A brief summary

Sustainability is an important topic, especially for companies in the food industry. Final consumers are increasingly demanding foods produced in harmony with high standards of environmental protection, workplace safety and other aspects. The role of sustainability in everyday buying decisions is growing. As a result, product development and production methods aligned with sustainability issues are turning into a key competitive factor for companies. These issues include the reduction of direct environmental impacts like CO₂ emissions and waste, but also indirect aspects like energy savings, production efficiency and cost savings.

Manufacturers are therefore seeking to tap the potential for more efficient production at all levels of their production chains. One contribution to the sustainability goals of food-processing companies that is often underestimated is that of high-quality specialty lubricants – particularly those that are provided together with individual consulting services. These lubricants can be particularly instrumental in substantially optimising production factors like waste reduction, energy efficiency, water consumption and workplace safety.

For years, the global food industry has been seeing rising demand for products that are manufactured under considerations of resource conservation and the safety of employees and consumers. This trend poses a risk to companies: the threat of a detrimental impact on their image if they choose to ignore these issues.

Small solution with big sustainable effect – specialty lubricants

Apart from this strategic level, producers of beverages, baked goods, meat products and other foods should also consider the commercial aspects of sustainable business, as they bear enormous potential for costs savings and increased efficiency in production. For instance, thorough examinations of production steps can reveal potential savings in terms of energy, emissions, materials management and control, risk management, waste or water consumption.

Special lubricants – in combination with individual consulting – can aid companies with those very issues as they help them take full advantage of these potential savings. The requirements for the use of lubricants in the food industry, such as the H1 registration by the US National Sanitation Foundation (NSF), have become standard when it comes to food safety.

Food producers can achieve their sustainability goals faster if they are aware of the significance of lubricants and take advantage of it. The following aspects should provide some orientation.

Sustainability and operational goals should go hand in hand

High-quality lubricant solutions and corresponding, individually tailored service packages can assist food producers with reaching their sustainability goals in various areas. The main areas are:

- Materials and waste
- Energy savings and emissions
- Safety
- Water









In each of these areas, sustainable solutions also offer economic benefits. In addition, optimised tribological solutions usually also result in longer uptimes and longer service life of machines, therefore lowering maintenance and operating costs.

Less material consumption and waste

Regarding the selection of the right materials and the reduction of waste, high-quality special lubricants can be a significant

Your sustainability objectives

Our contribution reduces your footprint

	Your sustainability objectives	Our contribution
 Materials	Reduction of material consumption and waste generation	 Customer lube portfolio optimisation Lower lubricant consumption Higher efficiency in materials management
 Waste		
 Energy	Reduction of energy consumption, CO₂ emission and other emissions	 KlüberEnergy & Efficiency Service
 Emissions		
 Water	Reduction of water consumption	 New technologies
 Health/Safety	Food safety by avoiding contamination Hygiene improvement Staff protection	 Food grade products Reliability of machines Training on application

Pushing the limits with an innovative partner



Making sustainability a living reality means to be pushing the limits and looking for innovative solutions time and again. Klüber Lubrication is by your side as your partner and support. We are a member of the UN Global Compact through our parent company Freudenberg. The UN Sustainable Development Goals are guidelines for everything we do. For one, we work towards continuously reducing our own footprint and that of our products. Our efforts are confirmed on a regular basis by external, independent certifications of our production facilities and processes according to all relevant standards. For another, we focus on helping our customers minimise their own footprint with our optimised products and services. We have a long tradition and countless successes to report in this context. For more details, please visit our homepage and view our annual sustainability report at www.klueber.com.

contributing factor as they remain at the lubrication point longer, which enables lower overall consumption of lubricants. As a rule, they also have a longer service life so relubrication intervals can be extended. All these effects taken together quickly add up to specific savings of lubricants and waste by 50 % or even more. Reduction of waste and lubricant consumption is made possible with the right choice or even the specific development of lubricants and by training employees on how to apply those lubricants correctly and efficiently. The lower consumption along the value-added chain has five benefits:

- Less complexity and effort in materials management and control
- Less transport and therefore lower CO₂ emissions
- Improved hygiene
- Less cleaning agents required for removing excess lubricant from the machine
- Less lubricant, cleaning agent and packaging waste

Even though many lubricants are only used in small quantities, they can still make an essential contribution. Quite often, less is more.

Lowering energy consumption and emissions: increasingly important in light of rising energy costs

Particularly in the food industry, low energy consumption and reduced emissions are not just a cost factor but an image factor as well. Many companies already have energy-saving projects and programmes in place to improve the energy efficiency of their systems, thereby reducing CO₂ emissions continuously until CO₂ neutrality can be achieved. Up to now, however, these approaches have mainly

been limited to the more obvious options, for example replacing old equipment with new, more energy-efficient machines. The role of lubricants, which can have a large impact, is often overlooked. Intelligent selection of the special lubricant, precisely matched to the application, often offers so far unimagined scope for energy savings. In order to achieve particularly high energy efficiency, therefore, not only the lubricant but the entire system must be considered. Measures like cleaning or replacing seals also play a major role. For many companies, the certification of their energy management is a high priority. According to the energy management standard ISO 50001 in combination with 50003 and 50015, auditors must monitor and confirm improvements in energy efficiency. For both initial certification and re-certification, companies must therefore prove that they are continuously improving their energy efficiency. With Klüber-Energy, Klüber Lubrication offers a certified service that can help recognise and implement existing potential for improving efficiency.

Safety of food, production and employees

Safety is also a major facet of a company's sustainability goals. In this context, two aspects are at the top of producers' agendas: one is food safety; the other is the safety of production employees. Food safety and good food quality are best achieved by using high-quality, certified special lubricants. H1, halal, kosher and others have become established standards. Particularly international quality food producers should also ensure that their lubricant suppliers have many ISO 21469 production plants, so they can provide certified lubricants around the world.

High-quality, appropriately labelled lubricants and automated dispensing systems can also be instrumental in ensuring the safety of production employees. Combined with streamlining the product



range and training, they reduce the risk of lubricant mix-ups that can cause production outages and even machine damage. A well-structured service programme for maintenance optimisation like KlüberMaintain helps to avoid such risks.

Sustainability begins with product development

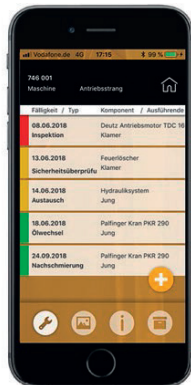


The contribution lubricants bring to sustainability starts well before an oil or grease is applied to a lubrication point. It starts as far back as product development. Users and OEMs benefit from high-performance lubricants that allow them to reduce their ecological footprint and save costs at the same time. The tool Klüber Lubrication uses to improve the sustainability of its products is the sustainability scorecard. It takes into account the life cycle of a product and the intended product properties. The scorecard considers the entire product life cycle, including: raw materials and additives, processing and production, packaging, transport, customer benefit, waste management. Aside from new developments, Klüber Lubrication also uses the sustainability scorecard to systematically analyse and optimise its existing product portfolio.

Potential savings of up to 6 per cent can be realised.

The typical breakdown of operating costs reveals potential savings of up to 6 per cent. The services offered by Klüber Lubrication make it possible to put that potential into practice. The results of these efficiency-increasing services have an enormous impact on materials, waste and energy as sustainability factors. The distribution of average savings is: 2% savings on labour, 1% on spare parts and 3% on energy.

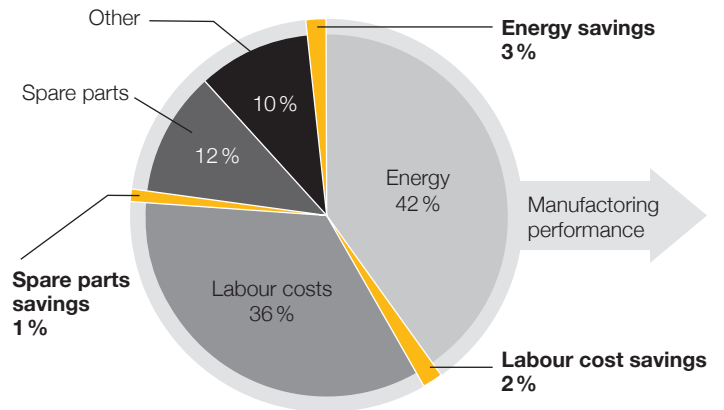
More and more companies rely on software solutions to illustrate the results of sustainable services and manage all product relevant processes efficiently. A tool like the EfficiencyManager brings transparency to the increasingly complex requirements of a smart factory. Access via mobile devices allows users to access their own data any time, from anywhere, and to record unplanned activities like repairs or malfunctions on site.



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Typical operating costs and potential savings



A modular efficiency consultation package can help save up to six per cent of operating costs.

Conclusion: producing foods more sustainably, efficiently and safely – with the right lubricants

Food and beverage producers are faced with ever increasing requirements. At the same time, they need to integrate sustainability into their business processes and continuously optimise it. Special lubricants, in combination with expert consulting and services, can help the food industry to achieve its economic and sustainability goals intelligently and innovatively. For the good of the natural environment and future generations – and to preserve vital resources.

For more information visit us on:
www.klueber.com