



EXAMPLES OF BEST PRACTICE





2017
First Edition

IMACE is the voice of the European margarine producers. It represents more than 70% of the European sector. Since 1958, the association has been driving nutritional improvements by the industry. IMACE focuses on nutrition, information to consumers, sustainability and food safety.



Introduction

Representing European margarine producers, IMACE's mission is to help its members generate net positive value. Sustainability and the shift towards a circular economy lie at the heart of this mission.

A plant-based product, margarine requires only half the land needed to produce butter products and has a carbon footprint only one third of the size. Further reducing margarine's environmental impact, producers have begun sustainably sourcing the oils used in production, reducing emissions and limiting waste and water usage.

The Examples of Best Practice collected in this document showcase successful projects by IMACE members to protect the environment, improve working conditions and make healthy living easier.

Collected to raise awareness of how the margarine sector is contributing to sustainability and to persuade other organisations to take action, the Examples of Best Practice

highlight inspiring social and environmental initiatives.

For IMACE, best practice means implementing the triple bottom line accounting framework, as outlined in the IMACE Sustainability Guidelines. The framework has three core pillars: people, planet and prosperity. Accordingly, the Best Practice Examples are divided into the same three categories.

The examples listed here cover a variety of topics, ranging from investments in education and renewable energy, to schemes to fund healthier living activities.

To feed the world's growing population within the Earth's limits, food manufactures need to adopt sustainable production processes. By spreading the word about sustainable business models and encouraging members to make sustainability a top priority, IMACE is positioning the margarine industry as a provider of environmentally sound, healthy, nutritious sustenance.



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PEOPLE

1 Norwegian Kroner (NOK) From Every Sale Donated to the Healthy Heart Campaign



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Introduction

Norwegian food producer Mills wants to make it easier for current and future generations to enjoy food that is tasty and healthy. To this end, the company introduced the 'Vita' product range, developed based on research into the effect of ingredients such as fatty acids on blood cholesterol levels.

The research not only led to the development of a healthy product range, it also resulted in the creation of a funding scheme called 'en kr til Hjertesaken'. Under the scheme, researchers or grassroots projects can apply for grants to support activities that help to make Norwegians healthier. Mills funds the scheme known as 'en kr til Hjertesaken,' collecting 1 NOK from every tub of Proaktiv margarine sold.

Approach

The scheme is designed to support disease prevention activities and research, prioritising projects focusing on diets promoting healthy hearts. To receive funding, projects need to contribute to helping people live healthier lives, as well as following nutritional guidelines established by the Norwegian authorities.

At the end of each year, a committee within Mills decides which applications will receive funding. In 2015, the total fund amounted to 650,000 NOK (€70,000).

Results

In 2015, the scheme supported the following projects:

- **Fibre and diabetes, Aker University Hospital:** Associate Professor Anne-Marie Aas studied how fibre can have a beneficial effect on intestinal bacteria and how this affects patients with diabetes. The project was particularly interesting because blood sugar levels are relevant for the prevention of coronary heart disease (CHD)
- **“Stork”-children, Oslo University:** Professor Kirsten Holven studied the effect of high cholesterol levels in pregnant women on the development of heart disease in children later in life
- **Healthy diets at sporting events:** The project by Høken sports club Andøya Norway increased awareness of the benefits of a healthy diet and physical activity. The target audience was anyone responsible for preparing and serving food at sporting events





PLANET

Investments in Cutting-Edge Energy-Saving Technology



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Introduction

Aigremont is a family-run business founded in 1931 by Olivier and Marie Thiry, who are the grandparents of the current managing director, Philippe Thiry. Originally, the Thiry family owned a butcher's shop. They entered the oils and fats business after looking for a recycling solution for discarded animal fats from the butcher's shop. The recycling initiative inspired the family to create a subsidiary and to begin producing margarines.

Following its initial venture in the reuse of resources, the company has since embedded energy saving and CO₂ reduction as key priorities. In 2005, Aigremont had already become one of the first margarine factories to generate green electricity using a cogeneration unit.

Approach

To further reduce its environmental footprint, in 2017, Aigremont launched a new energy-saving campaign. Alongside a number of smaller investments, the campaign will focus on two core energy-saving projects:

1. Photovoltaic energy: 912 photovoltaic panels will be installed on the roof of Aigremont's storage facility producing an estimated 221 megawatt-hours (MWh) of electricity every year. Since 95.5% of the electricity produced will be used by Aigremont itself, the installation will enable the company to save 103 tonnes of CO₂ per year

Approach

2. Re-lighting: All building lighting in the production and storage facilities will be replaced by LED fixtures and bulbs, combined with motion detectors. These changes will lead to a 70% reduction in electricity consumption and reduce Aigremont's CO₂ emissions by 142 tonnes per year

Results

In addition to significantly reducing its CO₂ emissions, Aigremont's investments are expected to achieve a maximum payback of 3.5 years.

Combined with other projects, such as Aigremont's internal waste reduction program and involvement in the "ReForest" initiative to protect and rehabilitate mangrove areas in Indonesia, the new energy-saving campaign will further reduce the company's global footprint, as well as that of its customers. Overall, Aigremont's sustainability initiatives are expected to save an estimated 300 tonnes of CO₂ emissions each year.

Next Steps

In the long-term, Aigremont believes companies must adhere to responsible manufacturing practices and make every effort to ensure production with due consideration for the environment.

Looking beyond its 2017 energy efficiency campaign, Aigremont is already investigating new opportunities to ensure energy self-sufficiency and promote environmental protection.

"At Aigremont, manufacturing good products is important ... but doing so responsibly is even better!"



Switching to Hydropower to Lower Environmental Impact





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Introduction

Bunge produces bottled oils, margarines, mayonnaises, flours and bakery products. In 2008, Bunge acquired margarine manufacturer Walter Rau, a German company founded in 1903. Dedicated to improving global agribusiness and the food production chain, Bunge aims to meet the needs of people today and tomorrow, while conserving natural resources and protecting the environment.

For Bunge and its subsidiaries, sustainability is both a social challenge and an environmental responsibility. It requires long-term resource protection, a continuous effort to increase energy efficiency and the fair treatment of employees, customers, suppliers, business partners and consumers. Four sustainability pillars underpin Bunge's business activities:

1. **Agricultural supply chain sustainability:** Promoting protection of biodiversity, human rights and sustainable practices on the farm
2. **Climate change:** Understanding and promoting adaptation and resilience across Bunge operations and in the wider agricultural sector
3. **Resource management:** Reducing Bunge's water, waste, energy and greenhouse gas (GHG) footprint
4. **Transparency & governance:** Continually enhancing organisational oversight and public reporting

Approach

Conscious of the fact that conventional energy sources are finite and contribute to climate change, Bunge's senior management team decided to make renewable energy a core element of the company's environmental policy. As a result, since 2011, Bunge has been using hydropower, an emission-free energy source which avoids the use of fossil fuels and nuclear fuel rods and does not produce any waste.

Hydropower takes advantage of gravity and the water cycle, harnessing the power of moving water to generate electricity. It works by converting the potential energy stored in a body of water at a given height into kinetic energy, which is used to turn a turbine and create electricity. The conversion efficiency of a hydroelectric plant is over over 90%.

Bunge's switch to hydropower was lead by the company's technical department and carried out in collaboration with KlimaINVEST Green Concepts GmbH, a leading German sustainability agency.

KlimaINVEST Green Concepts invests in climate protection projects, renewable energy and sustainable forest conservation, as well as issuing green power certificates of origin for the hydropower used by Bunge.

Results

The switch to hydropower did not require any structural modifications or use of other resources. The collaboration with KlimaINVEST Green Concepts GmbH proceeded smoothly and will continue. The use of eco-electricity means additional costs for Bunge of 0.04 ct/kWh (in 2015) relative to other electricity sources.

Next Steps

Bunge will continue to maintain and support the use of renewable electricity. The company will also prioritise the sustainable use of energy and plans to investigate other energy-saving measures in the future.

“By using renewable energy, we can significantly improve our environmental footprint. We will thus make an important contribution to climate protection.”



Zero Waste Policy Europe, Middle East and Africa



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Introduction

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Approach

Landfills represent a major public health and environmental concern and Bunge is actively seeking to reduce the amount of waste sent to landfill. As part of the company's environmental strategy, all Bunge Europe, Middle East and Africa (BEMEA) margarine facilities adhere to a "Zero Waste" policy. This means BEMEA plants implement sustainable management waste practices focusing on waste recycling, reuse or recovery. The company is working hard to divert all its waste away from landfill. It does not use any other non-sustainable waste management practices.

Bunge has analysed the waste generated by its margarine plants and has developed different recycling, reuse or recovery solutions, depending on the type of waste.

As part of the company's environmental goals for 2017 and beyond, new waste-reduction and -recycling targets have been approved. Programmes are being developed to ensure the new targets are achieved.

Results

Today, four Bunge plants are classified as "Zero Waste". A maximum of 4% of the waste generated by the remaining BEMEA facilities is destined for disposal in landfill.

Next Steps

Bunge's objective is to ensure all of its plants are "Zero Waste" in the near future.

"Waste management is one of our four Key Performance Indicators (KPI) in terms of sustainability, in addition to energy management, water management and CO₂ emissions."



Combined Heat and Power to Reduce Manufacturing Emissions



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Introduction

CSM Bakery Solutions is an international leader in the baking industry, producing a broad range of products for customers in over 100 countries. The CSM factory in Crema, Italy, manufactures bakery ingredients including fats and oils. Recently, a combined heat and power (CHP) plant was installed at the factory which will reduce manufacturing emissions by ~65% by the end of 2017.

Approach

All thermal power plants emit heat during the production of electricity. This heat is often wasted into the atmosphere because most utility-owned power plants focus on only electricity generation. A CHP plant on the other hand, captures waste heat and uses it to create steam or hot water, a process normally achieved with a separate boiler. The CHP process allows a plant to source electricity and generate thermal energy more efficiently.

Prior to the installation of the CHP plant, Crema undertook a range of initiatives aimed at using energy more efficiently. These resulted in a 20% reduction in energy consumption per unit of production and avoided the need to install a larger CHP plant.

Approach

Crema's energy-saving initiatives can be categorised as follows:

1. **Reducing energy losses:** Heat recovery from condensate, fixing steam leaks
2. **Preventing redundancies:** Channelling heat losses into non-conditioned spaces
3. **Investments:** In windows and the boiler
4. **Education/training:** On energy efficiency

The CHP plant at Crema utilises natural gas as the fuel source. It has a capacity of 2.6 megawatts (MW), generating ~1 MW of electricity and ~1.2 MW of recoverable thermal energy, resulting in an efficiency of approximately 84%.

Results

By meeting the majority of the factory's electricity needs using the CHP plant instead of buying electricity from the grid, it is expected that the factory will achieve a 65% reduction in emissions associated with the manufacturing processes. In addition, the project is expected to result in a 35% reduction in net utility costs and has an internal rate of return (IRR) of 84% and payback of 1.2 years.

A key lesson from this project was that the CHP installation would have been more cost effective if completed at the end of the thermic year. This would have ensured the most efficient use of the CHP, lowering idle costs and ensuring the project benefited from an energy balance associated with most heat/lowest power.





PROSPERITY

Nurturing Tomorrow's Minds for a Strong and Vibrant Community



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Introduction

As a leading European food group, Vandemoortele focusses on two activities: margarines and culinary oils, and fats and bakery products. In 2015, Vandemoortele had a turnover of €1.36 billion and 5,200 employees. The Group is present in 12 European countries. Company headquarters are located in Ghent, Belgium.

Approach

Established in April 2012, the Vandemoortele Centre for Lipid Science and Technology is the result of a scientific collaboration between Vandemoortele Lipids N.V. and the Laboratory of Food Technology & Engineering at the University of Ghent, headed by Prof. Dr. ir. Koen Dewettinck.

The Vandemoortele Centre aims to increase understanding of edible soft matter systems and translate research findings into practical applications. The Centre is uniquely well-positioned to bridge the gap between science and industry and successfully launch new products.

Fats play a crucial role in a healthy and well-balanced diet. Many food applications require solid fats to obtain the desired texture and feel. Fats remain solid due to a high Saturated Fatty Acids (SFA) content. However, replacing SFA with Unsaturated Fatty Acids (UFA) is an important way to improve our health.

The challenge in reducing SFA content lies in maintaining structure, taste and functionality. With Vandemoortele's expertise in baking, many Master's degree students are able to research this very topic for their theses. Having access to an industrial bakery division, which represents 60% of Vandemoortele's turnover, ensures student research is credible in the eyes of industrial customers.

Every year, the best thesis is rewarded with the 'Vandemoortele Health Food Award'. When students later choose to pursue a PhD, Vandemoortele continues to actively support doctoral researchers. Through the Centre, Vandemoortele delivers results and cutting edge scientific research.

Results

Vandemoortele believes education is a fundamental contributor to strong and vibrant communities. For Vandemoortele, education means more than simply going to school. It means investing in personal, local and global development and providing students with learning opportunities, access to technology, and inspirational role models who can help them to achieve their ambitions.

"Investing in young talent provides the best return for society and for industry."

In all these areas, businesses have an important role to play and can help students develop strong networks, better understand social and industrial needs and learn how to work together in teams.

Vandemoortele's connection with academia is not only beneficial for students. It enables the company to gain a better understanding of the fast evolving world of science, allowing it to adapt to changing circumstances and position itself as a leader in the food sector.

Next Steps

Vandemoortele is committed to continuing to invest in young talent. Current research focuses on novel ways to stabilise emulsions and on how modern margarines and fat spreads can help meet dietary guidelines relating to fat intake.

Through its scientific advances and by supporting the next generation of researchers, the Vandemoortele Centre for Lipid Science and Technology is nurturing young minds and shaping tomorrow's diet.



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