

# 06

## CREATING SHARED VALUE

FOR



THE  
ENVIRONMENT





## PROTECTING NATURE A BETTER PLACE FOR FUTURE GENERATIONS

The Group is fully aware that every decision and action it makes affects its overall impact on the environment. From choosing suppliers to the way waste is handled at factories, the Group endeavours to minimise its environmental impact across the value chain. The majority of Ausnutria's environmental impacts come from its production processes, and hence it has focused its efforts on increasing energy efficiency, reducing water usage, improving waste handling and enhancing the management of other environmental issues at the factory level. While Ausnutria's efforts are guided by an overarching sustainability goal pursued by the Group, the Group evaluates environmental issues at the factory level to address distinct environmental issues associated with different production processes. This practice allows Ausnutria to act according to national and local requirement. During the year, Ausnutria complied with all applicable environmental laws and regulations in locations where the Group operates.

To manage its environmental initiatives in a more comprehensive and systematic manner, Ausnutria has set up environmental management systems at its factories in the PRC and the Netherlands. Two of Ausnutria's factories, one in Changsha, the PRC, and another in Kampen, the Netherlands, have received ISO 14001 certification.





## CASE STUDY

## Pluto Factory and Hector Factory in the Netherlands (The Ausnutria Heerenveen Factories) – Advancing along Ausnutria’s sustainability journey



Construction of the Ausnutria Heerenveen Factories in the Netherlands were completed in 2017. Both factories are equipped with energy efficient technologies and modern production processes that contribute to energy conservation and waste reduction. Commercial production commenced in January 2018, marking an important milestone in Ausnutria’s journey towards sustainable development.

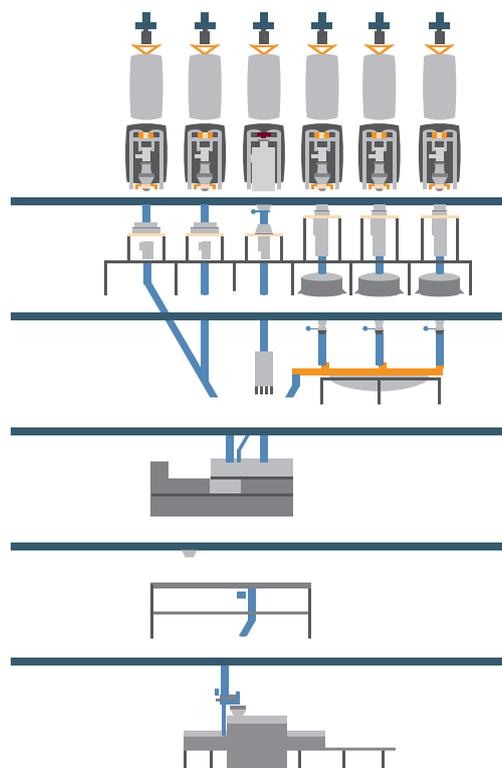
Thermal energy storage (with two heat exchange pumps) is used for heating and cooling the building. By this sustainable method, the use of natural gas for heating and cooling is avoided. The factories also use thermoplastic polyolefin (TPO) as roof material for cooler interior temperatures, as the single-ply reflective light coloured material reflects sunlight more effectively. Further, energy-

saving LED lights are installed throughout the factories to achieve high energy efficiency. An Environmental Impact Assessment (EIA) application for the lighting system has been submitted for certification.

Both factories are designed with advanced gravity process technology that aims to reduce energy consumption. By positioning different production processes on different floors, energy use is minimised as the transportation of semi-finished products through dry blending and packaging processes from the top to bottom of the factories is facilitated through gravity. High quality standards can be delivered to customers as gravity maintains the physical appearance and maximises the flowability and solubility of powder.



### Adopt advanced gravity process to reduce energy consumption and improve product quality in the Ausnutria Heerenveen Factories



## OPTIMISING ENERGY CONSUMPTION TO MINIMISE EMISSIONS

As a responsible company with an increasing number of upstream operations in the supply chain, Ausnutria is committed to limiting its carbon footprint and energy consumption. To this end, Ausnutria has developed and introduced Energy Efficiency Plan 2017-2020 (the "Energy Plan") at three of its factories located in Ommen, Kampen and Leeuwarden in the Netherlands. The Energy Plan includes clear targets and objectives with detailed action plans. Simultaneously, this will also enable the factories to meet the dairy industry requirement of 8% energy consumption reduction

by 2020 when compared to 2017 in the Netherlands. Accordingly, multiple energy saving measures have been implemented during the year.

To ensure that factories in the Netherlands are progressing towards their 2020 goal, energy usage at all three factories were closely monitored throughout 2017 to verify the energy data with regard to the implemented measures. By adopting the Plan-Do-Check-Act approach, the factories are able to track and evaluate their progress and make necessary adjustments and improvements to the Energy Plan.



During the year, various energy-saving initiatives have been implemented. The achievements in the factory in Kampen, the Netherlands were notably outstanding. During the year, the steam boilers were replaced with an energy efficient steam boiler, which is expected to reduce gas usage by 2%. A heat recovery system was introduced by the replacement of a recuperator in one of the chimneys, with expected savings of 240m<sup>3</sup> of gas per year. Substantial energy and cost savings were also achieved with the use of higher dry matter content in shear mixers. Additionally, replacements of air compressors, pipes and pipe insulation have also been completed at Kampen to reduce energy losses and enhance operating efficiency. A Variable Frequency Drive (VFD) was used for boiler feed pump control, which substantially enhanced efficiency and reduced aggregate steam consumption.

As Ausnutria progresses into the second year of the Energy Plan, additional energy saving measures will be introduced at the factories. The Group will continue to monitor and review the progress of the Energy Plan, and at the same time, explore opportunities to improve energy management and efficiency at other factories.

## PREVENTING AND MANAGING WASTE

Waste generation is unavoidable along Ausnutria's value chain, particularly at various stages of its production process. Through proper waste management and waste reduction at source, Ausnutria aims to divert as much waste as it can from landfills. Systematic waste handling procedures are implemented across all factories to achieve this goal. Ausnutria promotes proper waste handling practices by encouraging waste separation at site, and commissions local licensed waste operators to collect waste for disposal or further handling. Hazardous waste is separately handled by specialised waste processors. Whenever possible, waste will be recycled or reused.

By practising waste segregation at site, it has enabled factories to recycle or reuse the majority of solid waste. For instance, the dairy factory in Australia has a baling machine on site to compress cardboard into compact bales that are easy to store and be collected for recycling. Factories in the Netherlands have also enhanced their waste handling practices during the year and made segregation and recycling of the packaging of raw materials possible. In addition, waste processor is used in the factory in Kampen, the Netherlands to convert rest milk and milk powder into biogas, a valuable energy resource.





## CONSERVING WATER FOR THE FUTURE

To conserve valuable natural resources, the Group is committed to enhancing water recycling practices at its factories for better water conservation. Regular monitoring of water consumption and effluent quality is in place at all facilities, and the results are reported in management meetings for evaluations and reviews.

### Advocating water saving initiatives in factories

To significantly reduce water usage and eliminate wastewater discharge, factories in the Netherlands with wet processes aim to achieve closed loop water recycling and reuse. Detailed planning and implementation of water saving measures is carrying out at factories in Ommen and Kampen in the Netherlands.

In 2017, the factory in Ommen enhanced its existing data management system for a more comprehensive measurement of water usage in its production process. This has enabled the factory to gather more accurate and complete data to define effective measures to minimise water usage. A number of water saving measures were introduced accordingly. In addition to reusing water from the cooling system, water consumption is further reduced through reusing part of the condensed water generated from the production process for cleaning. Close to 7m<sup>3</sup> of water is conserved every day. The factory is also planning to reuse the remaining condensed water for filling the condenser and for flushing the ultrafiltration process. With the above measures in place, the factory expects a 15% reduction in water usage against the anticipated amount.

Similarly, the factory in Kampen has also been reusing the condensed water for cleaning. It is currently preparing to reuse condensed water in the steam boilers. Upon implementation, it is expected to save as much as 45m<sup>3</sup> of water per day.

## Protecting water resources for the ecosystem

Ausnutria has extended its efforts in wastewater management to all facilities to ensure that its discharge is in compliance with related local government regulations. As stated in its environmental management procedures, wastewater must be treated to meet the national effluent discharge quality standards before discharging into municipal sewage pipes or coastal waters. A water monitoring system is in place to monitor the key effluent quality parameters.

For the factories in Ommen and Kampen, daily and yearly targets on the amount of effluent are set to allow better management and control wastewater discharge. Specific parameters, including pH level, temperature and concentration of organic compounds, are also closely monitored internally to ensure the quality of wastewater meets the national requirements. Investigations will be immediately carried out if the wastewater exceeds its targets. In particular, the factory in Ommen has improved the quality of wastewater by cleaning its membrane filtration equipment in 2017, which was found to contain a relatively high concentration of organic matter that would lead to negative environmental impacts. Measurements were performed to identify the root cause of the pollution, hence enabling it to adjust the wastewater treatment process to reduce the amount of pollution in the effluent. A certain amount of the effluent is diverted and reused for other purposes. Noticeable improvements in the effluent's quality were observed after the measures were introduced, thus minimising the negative environmental impact.