CHAPTER

# BETTER DE ENVIRONMENT







Ausnutria is committed to conserving resources and protecting the environment for future generations. The Group constantly identifies ways to operate sustainably and seeks to minimise environmental impacts emanating from its upstream activities and related manufacturing processes. Subsidiaries also make every effort to enhance energy and water efficiency, manage emissions and water discharge, reduce material consumption and waste generation, and manage climate change-related risks associated with operations in order to uphold the Group's commitment to environmental sustainability.

# **KEY HIGHLIGHTS**



# **IN YEAR 2021**

Formulated progressive targets for GHG emissions, energy consumption, water use, and waste recycling

to improve and closely monitor our environmental performance.

Actively responded to **Climate change** by performing a detailed climate risk assessment on its operations and supply chain.

### Offset 10% of direct GHG emissions voluntarily

by purchasing carbon credit.

100% of the electricity consumption for operations in the Netherlands was compensated through renewable energy sources.

Commenced the production of

chrome-free passivated tinplate milk powder cans to promote environmentally friendly packaging.



### ESTABLISHING OUR ENVIRONMENTAL GOALS

In Year 2021, the Group has formulated progressive targets for greenhouse gas (GHG) emissions, energy consumption, water use, and waste recycling rate to better guide and manage its environmental performance. The targets were carefully set with a hybrid approach of both top-down and bottom-up. During the target setting process, detailed historical data review, peer benchmarking, research on industry and regulatory standards were conducted and the Group also communicated internally on the target feasibility. The setting of these environmental targets will allow Ausnutria to keep track of its sustainability performance and foster its effort to accelerate sustainable practices.

### Environmental targets by Year 2025

### GHG Emissions\*

Reduce total GHG emissions intensity by 20%

Reduce the Scope 1 emissions intensity by 15%

Reduce the Scope 2 emissions intensity by 20%

### **Energy Consumption\***

Reduce the energy consumption intensity by 20% Reduce the natural gas consumption intensity by 20% Reduce the electricity consumption intensity by 15%

### Water Consumption\*

Reduce water consumption intensity by 35%

### Waste

Maintain the recycling rate of paper and wood at 100% Maintain the recycling rate of rest milk and rest powder at 100% Achieve the recycling rate of plastic of at least 90% The Sustainability Committee and the Sustainability Workgroup evaluate Ausnutria's environmental policies and initiatives on a regular basis. The Group has established guidelines for the implementation of environmental management systems and operating standards at subsidiaries to guarantee compliance with all applicable environmental laws and regulations in regions that it operates. All of the above demonstrates the Group's overall commitment to reducing the environmental consequences associated with its procurement, manufacturing, and distribution processes. The Group's production facilities in Kampen, the Netherlands and Changsha, the PRC, are both certified with ISO 14001 Environmental Management System.

# MAINTAINING ENERGY EFFICIENCY TO REDUCE CARBON FOOTPRINT

To address the pressing issue of global warming, nations around the globe have been developing strategies and initiatives to reduce GHG emissions and enhance their climate resilience. In particular, in the regions where the Group operates, the European Union aims to be climate-neutral by 2050; Australia plans to reach net zero by 2050; and the PRC aims to reach carbon emission peak by 2030 and achieve carbon neutrality by 2060. To contribute to the global efforts and reduce GHG emissions of its operations, the Group has established targets on GHG emissions to reduce its carbon footprint and accelerate its low carbon transition. Using 2019 as the baseline year, Ausnutria aims to:

- reduce the total GHG emissions intensity by 20% by Year 2025
- reduce the Scope 1 emissions intensity by 15% by Year 2025
- reduce the Scope 2 emissions intensity by 20% by Year 2025

# Total GHG Emissions Intensity in Tonnes $\rm CO_2 e\ per\ RMB$ Million Revenue



\* Using 2019 as the base year

To achieve the emission reduction targets, the Group has built a robust energy and emissions management system and regularly upgrade the equipment at its production facilities to improve overall energy efficiency. Heating, ventilation, and air conditioning, boiler systems, lighting, and other energy-intensive equipment are all subjected to regular inspections, repairs, and replacements to ensure that they are constantly working at an optimal level. The Group also makes equal effort in investing the construction of solar panel systems at its factories.

### **Operating with Low Carbon Facilities**

Ausnutria's latest production facilities in Heerenveen, the Netherlands, among which a milk processing facility that is still under construction, adopt low-carbon technologies and energy-efficient designs to reduce carbon emissions as much as possible. The Group leverages the geothermal heat system to store thermal energy for heating and cooling equipment, thereby reducing natural gas consumption by nearly 90%. With a view to meeting the environmental and climate change requirements, the Group has been working towards reducing natural gas dependency and shifting to heating by electricity to achieve zero nitrogen emissions at the new facilities. In Year 2021, the construction of new facilities in Kampen, the Netherlands, have helped reduce natural gas consumption and cut nitrogen emissions to 70mg/m<sup>3</sup>. Alongside with the upgrade, the addition of pumps, engines, and ventilators in the new facilities will help improve the overall energy efficiency in the Netherlands. Going forward, Ausnutria attempts to further reduce its reliance on natural gas by moving to convert to electric heating at other production facilities.

### Strengthening Energy Management to Enhance Efficiency

Ausnutria understands the significance of energy management to low carbon transition. Committed to reducing energy consumption and enhancing energy efficiency, the Group established several energy targets in Year 2021. The Group evaluates the energy efficiency of its production facilities on a regular basis and implements new initiatives and equipment enhancements as needed. By leveraging the use of digital technology such as 5G application, artificial intelligence, big data and blockchain, Ausnutria strives to promote energy conservation and minimise emission. In Changsha City, the PRC, a mobile application is adopted to monitor the real-time energy use of various locations, covering laboratories, manufacturing sites, warehouses and public spaces. The application alerts the personnel immediately in case of any anomalous energy consumption, allowing factory to respond promptly by making adjustments and corrections. Real-time monitoring of energy consumption data also allows the Group to better manage its energy performance and identify area for improvements.

To further enhance energy efficiency and facilitate a lower carbon operation, the Group has been investing to upgrade the facilities in its production factories. In the PRC, variable speed drives were installed in the air-conditioning systems in major factories, to enhance energy efficiency through operating the electric motors at its optimal speed while maintaining good indoor ventilation. The installation helped to conserve 10-15% of the energy consumption. In addition, the exhaust pipes of the washing machine room were upgraded to enhance ventilation and lower the demand for air conditioning. Meanwhile, in Leeuwarden, the Netherlands, 100% of its lighting devices are energy-saving LED lamps and bulbs. These measures will help reduce the energy demand of Ausnutria's operations and thereby reduce the actual energy consumption.

## Minimising Transportation to Reduce Carbon Emission

Ausnutria also attempts to cut carbon emission by shortening transportation distance of its supply. Ausnutria Netherlands collaborated with Trivium Packaging, an innovative and sustainable metal packaging company to ensure an efficient and stable supply of cans. A new can manufacturing facility in Heerenveen, the Netherlands, commenced operation in Year 2021, which now produces and delivers cans to factories in Heerenveen and Leeuwarden. After the construction of the new can factories, it helped achieve a more efficient travel route and saved a significant amount of travel distance required for can logistics, thereby reducing the associated GHG emissions.



A new can manufacturing facility in Heerenveen, the Netherlands, commenced operation in Year 2021.

### Utilising Renewable Energy

Ausnutria strives to further reduce its carbon emissions with the extensive use of renewable energy. In Year 2021, more solar panel systems were installed in the production facilities in Australia to generate renewable energy. The installation of solar panels in Australia helped save approximately 9% of average electricity consumption. Meanwhile, the Group is also exploring the feasibility to harness solar energy in its production facility in Leeuwarden, the Netherlands. Recognised the limitations of onsite generation, the Group prioritises the purchase of renewable energy over conventional options. Ausnutria Netherlands obtained certification to offset 100% of its electricity consumption through renewable energy sources. It also voluntarily purchases carbon credits to offset its direct GHG emissions from natural gas consumption.

In September 2021, the solar panel system was implemented in Ausnutria's operation building in Australia.



### KEY HIGHLIGHTS ON RENEWABLE ENERGY IN YEAR 2021

### 100% of electricity consumption

for operations was offset in the Netherlands through renewable sources.

### 10% of direct GHG emissions generated

was offset by voluntarily purchasing carbon credit.

### 9% of total electricity consumption in Australia

was saved by solar panel system in the factories.

### SAVING WATER FOR FUTURE GENERATIONS

Ausnutria places great emphasis on water management and adopts a multi-pronged strategy to minimise water use, recycle water, and properly manage wastewater generated by its activities. To demonstrate its commitment to water conservation, the Group has established a Group-wide water target in Year 2021. Using 2019 as the base year, Ausnutria aims to:

• reduce water consumption intensity by 35% by 2025

Ausnutria's production of milk powder essentially involves wet processes. To optimise water consumption, the production facilities in Ommen, the Netherlands, adopt a closed-loop water system. Condensed water is collected during the manufacturing process and reused in other parts of the process, such as boiling and ultrafiltration. In Year 2021, the existing Clean-in-Place (CIP) sanitary cleaning system in Kampen, the Netherlands, was upgraded with solutions that enable the recovery and reuse of final rinse water for the next cleaning cycle. The replacement helps to save 10% of the water consumption on a yearly basis. In the PRC, automatic sensors for water taps are used in the factories to avoid unnecessary water consumption while condensed water in air-conditioning systems is also recycled. These measures help reduce the overall water consumption of Ausnutria's production processes.

To avoid water wastage, the Group also conducts routine equipment inspections to detect and repair water leakages from taps, pipelines, and valves in a timely and consistent manner. Water consumption data is recorded and closely monitored for future feasibility studies on water recycling and reuse solutions. Through the above measures, the Group strives to eliminate water wastage and enhance overall water efficiency to achieve its water target.

### ADOPTING A COMPREHENSIVE WASTE MANAGEMENT PLAN

The Group implemented a set of comprehensive procedures to manage waste from its inception to its final disposal to reduce the environmental implications of waste processing and disposal. In Year 2021, the Group has stepped up its effort in waste management and established 3 waste targets to guide its waste management efforts and promote Group-wide recycling. By 2025, Ausnutria aims to:

- maintain the recycling rate of paper and wood at 100%
- maintain the recycling rate of rest milk and rest powder at 100%
- achieve the recycling rate of plastic of at least 90%

To support the above targets, Ausnutria continuously explores methods to divert waste from landfills. Ausnutria closely works with local licensed waste operators to collect and correctly dispose of waste according to local regulations. Furthermore, Ausnutria has equipped itself with the necessary facilities to handle waste in a more environmentally friendly way. For instance, a baling machine is used in the dairy

production facility in Australia to reduce the volume of cardboards from raw material packaging. In the PRC, Ausnutria has optimised and rearranged the packaging to reduce cardboard consumption for its dairy products, thereby reducing the demand for transportation and the associated environmental impact. Since Ausnutria's primary business involves the manufacturing of dairy products, the majority of the non-hazardous waste generated originates from the residual of milk and milk powder. In view of this, rest milk and milk powder are sold for animal feed in Australia, whereas rest milk and rest milk powder are largely converted into biomass in the Netherlands by an appointed external firm. The Group also treats hazardous waste generated during the manufacturing of its dairy and nutrition goods carefully and properly. Chemical waste is properly stored in designated sealed containers and supplied to certified third parties for disposal on a regular basis. The Group encourages all employees to practise waste separation and recycle waste at source to minimise waste generation across operations.

### DEVELOPING ENVIRONMENTALLY FRIENDLY PACKAGING MATERIALS TO PROMOTE GREEN DEVELOPMENT

Ausnutria actively responds to the national goal of Carbon Dioxide Peaking and Carbon Neutrality and practices the concept of green development. The Group vigorously promotes environmental-friendly packaging through the use of green tinplate products. It has also formulated specific principles for packaging: prevent using dichromate to reduce the generation and discharge of hazardous waste and adopt a new environmentally friendly tinplate production process to reduce energy consumption.

In Year 2021, Ausnutria commenced the production of chrome-free passivated tinplate milk powder cans, which better fulfil the requirements for national green development. The use of environmentally friendly chromium-free passivation solution can prevent the generation of toxic and harmful wastewater while the production of tinplate and tinplate products are more environmentally friendly, which both significantly reduce environmental risks associated with metal can production. In the future, the Group will continue to adhere to the above principles and strive to achieve continuous upgrade in packaging to facilitate green development and contribute to carbon neutrality.



The kick-off ceremony for the chromefree passivated tinplate milk powder cans manufacturing.

# ADDRESSING AND MANAGING CLIMATE RISKS WITH RESILIENCE STRATEGIES

Ausnutria recognises the consequences and related risks that climate change brought to its business activities. In Year 2021, the Group appointed a third party to perform a detailed climate risk assessment on its operations and supply chain. To identify significant climaterelated risks to Ausnutria, desktop research was conducted to identify top physical and transition climate-related issues for each operating location, their likelihood and the potential impact to on Ausnutria's operations.

# The summary of the climate risks identified is as follows: **Physical risks**

Risk type	Impact	Justification
Flooding (riverine and coastal)	Asset damage and operation suspension	Ausnutria's factories are mainly located along the river or coast. Flooding may damage factories' equipment and facilities and leads to financial loss. In particular, water can cause critical damage to electric equipment and its components. Dysfunction of dairy processing machines caused by severe flooding may lead to the suspension of factory operations.
	Accessibility to factories	Flooding in nearby areas of Ausnutria's factories may impede employees from accessing the sites. Employees may have difficulties reporting for duty or resuming work upon flooding. This can have negative impact on productivity and affect the feasibility of resuming operations.
	Disruption in logistics	The majority of Ausnutria's products that are produced overseas are transported to mainland China for sale. Flooding disrupts logistics through trucking route disruptions and freight delays.
Extreme wind	Asset damage and operation suspension	Extreme wind may increase the frequency of tropical cyclones, tornadoes, and hurricanes. It could cause extensive damages to the factory properties when wind speed exceeds the maximum level that the buildings can withstand.
	Disruption in logistics	Majority of Ausnutria's products that are produced overseas are transported to mainland China for sale. Natural disasters caused by extreme wind can disrupt logistics through trucking route disruptions, shipping, and freight delays.

Risk type	Impact	Justification
Temperature change	Increase operating cost	Rising mean temperature, as well as heatwave and extreme cold, can drive up Ausnutria's operating costs. The rise in indoor and outdoor temperature would lead to greater energy consumption for maintaining the cooling system and air condition system in production areas.
Water stress	Increase operating cost	While water is not used in production processes for the majority of Ausnutria's factories, factories like Kampen and Ommen rely on water for processes such as pumping, cooling circuits, cleaning and sanitising. Water stress may prompt government to raise water tariff, increasing the financial cost of water supply.

## Transition risks

Risk type	Justification	
Policy and legal risk	The introduction of new policies may lead to increased operating costs and early retirement of current machinery. Meanwhile, with increasing awareness on climate risk, voluntary-based initiatives may scale up or become mandatory in the near future. Acknowledging the trend of existing policy helps prepare Ausnutria for future transition and avoid non-compliance penalties.	
Technology risk	In Australia, government bodies encourage and promote the uptake of energy- efficient technologies for the dairy processing industry. In Europe, in response to the 2030 climate and energy framework, the EU has funded various projects to search for alternative solutions to reduce the emission from the dairy industry. The capability to adopt green technologies may help Ausnutria optimise its operation, operate with cost- effectiveness while minimising the environmental impacts.	
Reputational risk	There is growing attention on the carbon footprint of dairy products. NGOs an international organisations have launched various dairy sustainability initiative Ausnutria may seize the opportunity to establish a positive company image b joining international or industry associations and responding to the sustainabili initiatives. Aligning with the industry approach allows Ausnutria to maintain i dairy product competitiveness under the low-carbon trend.	
Market risk	With the substantial increase in the vegan population in major economies, the demand for plant-based or non-dairy milk alternatives is growing at a rapid pace. The demand for such products grows particularly faster among adults, compared with infants and toddlers.	

### Supply chain disruption

Risk type	Justification
Likelihood	Milk farms in the Netherlands are most likely to be exposed to coastal flood risk, tropical cyclones, tornadoes, and hurricanes and water stress risk. Additionally, milk farms in Australia are most likely to be exposed to coastal flood risk and wildfires.
	While Ausnutria does not own farms, its dairy business is highly dependent
Impact	on the stable supply of quality raw milk from cow and goat farmers. Extreme weather such as flooding and strong wind may damage dairy farm components, including livestock, machinery, buildings, equipment, and food stock. This may affect the safety and provision of milk supply and pose an impact to the stable supply of raw milk sources. Ausnutria might face increasing procurement costs.
	In addition, road closures due to extreme weather events may result in logistics delays, affecting the milk quality. The financial loss caused by asset damage and suspension of operation may increase the production cost of milk farm and Ausnutria.

To better address the climate risks Ausnutria faces and the changes anticipated, sponge city elements were incorporated in the design of the Smart Factory in the PRC to respond to expected changes in rainfall patterns. The Group hopes to better manage the flood risks of the facility and improve its climate resilience by adopting better stormwater management. The Smart Factory applies the principles of infiltration, retention, storage, purification, reuse, and discharge. It is designed with a sunken green space, permeable pavement and a rain garden, which allows it to function as a sponge to absorb surface runoff and withstand rainstorms with a return period of one in 50 years. Such design helps Ausnutria mitigate its climate risks and enhance its preparedness for extreme weather.

To step up its efforts combatting climate change, the Group is committed to promoting the development of Green Manufacturing Industry. In Year 2021, Ausnutria attended the Inaugural Meeting and the First Member Meeting of the Hunan Green Manufacturing Industry Federation. During the meeting, Ausnutria was elected as the executive vice-chairman unit of the Hunan Green Manufacturing Industry Federation and puts forward the "Carbon Peak, Carbon Neutral" proposal together with other corporate representatives at the meeting, showing its wholehearted support for decarbonisation. Being a part of the association, Ausnutria hopes to call on more enterprises to act together and make greater contributions to the development of the green manufacturing industry.



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Ausnutria's Chairman Mr. Yan Weibin (second left) and other corporate representatives initiating the "Carbon Peak, Carbon Neutral" proposal.

