



Media Backgrounder

Nutricia Cuijk – a sustainable manufacturing plant reflecting Danone’s vision of *One Planet. One Health*

At Danone, we believe that the health of people and that of the planet are interdependent and we want to nourish and protect both. In line with our ‘*One Planet. One Health*’ vision, Danone supports the 2030 Sustainable Development Goals of the United Nations, which are embedded in the company’s business operations. One of these UN goals - *Sustainable consumption and production* – is about promoting resource and energy efficiency, sustainable infrastructure, and providing access to basic services, green and decent jobs and a better quality of life for all. In short, it’s “doing more and better with less.”¹

The planning, design and construction of the new *Nutricia Cuijk* plant was inspired by this vision and helps fulfil these goals, ensuring that when we produce highly-specialized infant milk formula, we’re also doing our utmost to preserve a healthy and clean environment for future generations. And as a greenfield facility built from scratch, the latest and most efficient processes were designed into the construction of *Nutricia Cuijk*. This puts sustainability at the core of this state-of-the-art facility and will help support the Netherlands in achieving the environmental targets set out in the Paris Climate Agreement.

Despite doubling production capacity, new facility saves on water and energy consumption

The new *Nutricia Cuijk* plant replaces an existing, legacy production plant in Cuijk that was built in 1916, last renovated in 1999, and will be phased out gradually. Once fully operational, the new *Nutricia Cuijk* plant will have double the production capacity of the legacy plant. Nevertheless, compared with the legacy plant, the new *Nutricia Cuijk* plant will:

- Use 60% less water – approximately 180,000 cubic meters of water, equivalent to the annual water use of approximately 1,800 households in the Netherlands, or approximately enough water to fill 74 Olympic-sized swimming pools.²
- Consume 25% less energy – approximately 20,000 MWh, equivalent to the annual energy consumption of approximately 1,500 households in the Netherlands.³

The new plant has been able to achieve these savings in water and energy consumption using advanced technologies coupled with efficiently designed manufacturing processes:

- The factory employs 'adiabatic cooling' systems – which uses air drawn from outside of the factory as a cooling medium, rather than pumping cooling water – which is more water & energy intensive.
- Clean-in-place (CIP) is a method of cleaning the interior surfaces of pipes, process equipment, filters and fittings without disassembly. Such cleaning takes place each time a new baby milk formula recipe is produced. The factory re-uses final rinse water for pre-rinse during CIP, helping reduce water consumption.
- The factory's hi-efficiency steam boilers – which are used to supply heat to the production process – also recover residual (i.e. lower temperature) heat. Such residual heat cannot be used in the production process. Nevertheless, this residual heat is captured and reused to heat the building and the domestic water (i.e. canteen, toilets & changing rooms, laboratory, etc.) used on site. This alone results in a yearly energy saving of approximately 525,000 KWh.⁴
- The factory uses the latest evaporator technology. An evaporator is used in the production process to evaporate water from the liquid ingredients. In the legacy factory, steam – which is energy intensive – was used for evaporation. The evaporator in the new facility lowers the pressure of the fluid (thereby significantly lowering the temperature needed to evaporate the fluid). Powered mainly by electricity instead of steam, the new evaporator is much more energy efficient.

Keeping *Nutricia Cuijk*'s carbon footprint to a minimum

The new facility will also help towards achieving Danone's goal of becoming a carbon neutral company by 2050. Compared to the legacy plant, the new *Nutricia Cuijk* plant will:

- Emit 50% less CO₂ – approximately 11,000 tonnes of CO₂, equivalent to the annual CO₂ emissions of more than 2,800 households in the Netherlands.⁵

Here, several measures have been put in place to minimise CO₂ emissions:

- The new facility uses 100% renewable electricity.
- Energy efficient LED lighting is used throughout the facility – inside the factory, in the adjacent offices, as well as in all exterior lighting on site.
- Danone targets reducing its full scope carbon emissions, which also include CO₂ emissions associated with dairy farming. *Nutricia Cuijk* sources dairy ingredients exclusively from western Europe – the world's region with the lowest dairy farming CO₂ emission rates.⁵ Of these ingredients, a significant amount are sourced locally, from the Netherlands and neighboring Germany. Furthermore, Danone works with its dairy suppliers on CO₂ reduction programs. All of the facility's dairy suppliers, for example, take part in the international Dairy Sustainability Framework, where CO₂ reduction is a key focus.

Making *Nutricia Cuijk* a zero-waste facility

By planning, designing and building the new *Nutricia Cuijk* facility with sustainability at the core, the facility aims to minimise and avoid generating waste through its production processes. Since Danone embraces the principles of the circular economy, the plant will operate a zero-waste facility. That means 100% of the waste the facility does produce – including all packaging waste – is recovered. Waste comes in various forms – for example, by-products from production processes or packaging materials. Such waste is separated into streams for specific recovery. Of the facility's waste, approximately:

- Two-thirds is reused as animal feed
- One-quarter is recycled for use in packaging materials
- And, any residual waste is recovered as energy

References

1. <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>
2. Water savings has been calculated by comparing the legacy factory water-use ratio (m3 of water per tonne of product manufactured) to the water-use ratio of the new *Nutricia Cuijk* plant. The absolute volume of water savings is based on *Nutricia Cuijk* operating at full capacity. The comparison to Dutch household water usage based on <https://www.waternet.nl/en/our-water/our-tap-water/average-water-use/>
3. Energy savings has been calculated by comparing the energy-use ratio (kWh per tonne of product manufactured) of the legacy factory to the energy-use ratio of *Nutricia Cuijk*. Absolute energy savings is based on *Nutricia Cuijk* operating a full capacity. Comparison to Dutch household energy consumption based on: <https://www.energievergelijken.nl/en/about-energy-in-the-netherlands/annual-energy-bill>
4. These estimated savings are based on a generating capacity for the steam boilers of approximately 3,000 kW, with an average annual use of 2,500 hours/year, at an average consumption level of 70%.
5. Calculation based on the database IPCC 2006, Chapter 2 Stationary Combustion table 2.3 pp18 & 19 : https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf and Association of Issuing Bodies (AIB), European Residual Mixes 2016, p13 https://www.aib-net.org/documents/103816/176792/AIB_2016_Residual_Mix_Results.pdf/6b49295b-ad99-a189-579e-877449778f62
6. FAO report "Greenhouse gas emissions from ruminant supply chains - A Global Life Cycle Assessment" 2013

About Danone (www.danone.com)

Dedicated to bringing health through food to as many people as possible, Danone is a leading global food & beverage company building on health-focused and fast-growing categories in three businesses: Essential Dairy & Plant-Based Products, Waters and Specialized Nutrition. Danone aims to inspire healthier and more sustainable eating and drinking practices, in line with its 'One Planet. One Health' vision which reflects a strong belief that the health of people and that of the planet are interconnected. To bring this vision to life and create superior, sustainable, profitable value for all its stakeholders, Danone has defined its 2030 Goals: a set of nine integrated goals aligned with the Sustainable Development Goals (SDGs) of the United Nations. Danone commits to operating in an efficient, responsible and inclusive manner; it holds itself to the highest standards in doing business, as reflected by its ambition to become one of the first multinationals certified as B Corp™. With more than 100,000 employees, and products sold in over 120 markets, Danone generated €24.7 billion in sales in 2018. Danone's portfolio includes leading international brands (*Actimel*, *Activia*, *Alpro*, *Aptamil*, *Danette*, *Danio*, *Danonino*, *evian*, *Nutricia*, *Nutrilon*, *Volvic*, among others) as well as strong local and regional brands (including *AQUA*, *Blédina*, *Bonafont*, *Cow & Gate*, *Horizon*, *Mizone*, *Oikos*, *Prostokvashino*, *Silk*, *Vega*).

Listed on Euronext Paris and on the OTCQX market via an ADR (American Depositary Receipt) program, Danone is a component stock of leading social responsibility indexes including the Dow Jones Sustainability Indexes, Vigeo Eiris, the Ethibel Sustainability Index, MSCI Global Sustainability, MSCI Global SRI Indexes and the FTSE4Good Index.

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