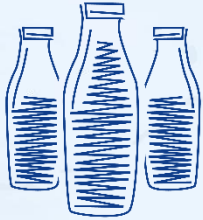


DMK Group

We supply millions of people sustainably
with high quality food.

At a glance

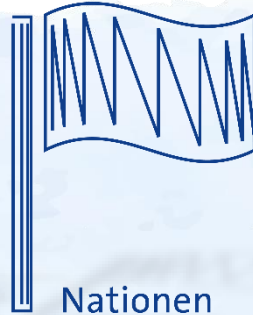


6,3 Mrd. kg
Verarbeitete Milch

Mitarbeiter
aus über

55

Nationen



5,5 Mrd. €
Umsatz



13.000
Landwirte & Mitarbeiter

Sustainability as part of the corporate strategy.

Sustainability is a cross-sectional task for us and involves various specialist areas such as purchasing, agriculture, occupational safety as well as environmental protection, energy management and quality management.

Our major goal is to ensure greater sustainability along the entire value chain, to use our resources sparingly, and to implement holistic environmental protection in production and trade.

Motivation for further water efficiency at DMK:

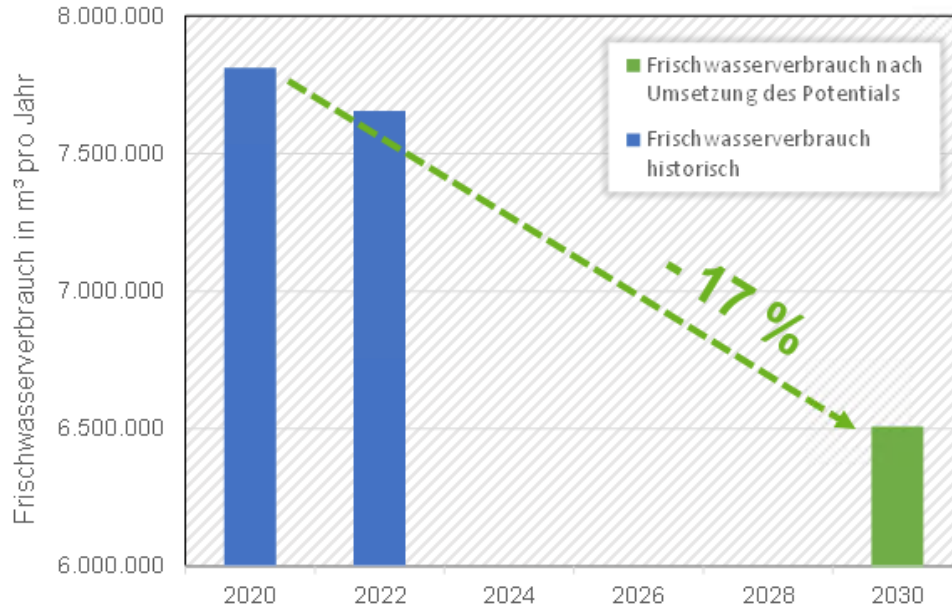
- The **availability of drinking water is reduced regionally**, in addition, the **requirements for drinking water quality are** increasing (new drinking water ordinance, national water strategy,...).
- As a large manufacturer of cheese and dairy products, large quantities of food-grade **vapor condensates** accumulate during concentration processes, which could be used as a drinking water substitute in the future after purification via a multi-barrier concept, to conserve resources and also reduce the burden on the environment.



DMK water strategy until 2024



- **Target 2015 - 2020: Reduction of drinking water use by 5% => Target achieved**
- **Objective 2020 - 2024: Develop treatment of vapor condensates from whey as process water or drinking water substitute with official approval via a multi-barrier concept for large-scale use**



Key figure	DMK GmbH*	MIV query 2017
Water-milk ratio [m³/t]	1,08	2,05
Wastewater to milk ratio [m³/t]	1,06	1,98

Aerial view DMK - Edeweicht site



Production at the Edewecht site



Cheese dairy

- Gouda
- Edam
- Butter cheese
- Semi-hard cheese
- Burlander
- Maasdam
- Emmental
- Cagliata



Fabrication

- Cheese breads 3kg
- Grated cheese 200g - 250g
- Slice cheese 150g - 400g



Butter egg

- Butter 250g
- Butter 2,5kg
- Butter 10kg
- Butter 25kg
- Portion butter 8g-37,5g
- 250g cup butter
- Mixed grease



Whey processing

- Whey powder

Key data large-scale cheese dairy Edeweicht

Milk processing: approx. 1,000,000 t/a

Water consumption: approx. 1,050,000 m³/a

Total amount of "cow water": 930,000 m³/a

Already reused "cow water" in non-critical areas: 350,000 m³/a

Potential for a future drinking water substitute:
approx. 580,000 m³/a



The two waters are "product water" (EU definition: cow water), since they consist of milk constituents obtained from the foodstuff milk/whey during concentration and filtration processes.

RO permeate:

RO permeate is produced during hyperfiltration/reverse osmosis; solutions are concentrated by the removal of water (e.g. whey from 6% TS to up to 28% TS)

Vapor condensate: Vapor condensate is formed during the evaporation of milk or whey by evaporation and condensation of the aqueous milk component.

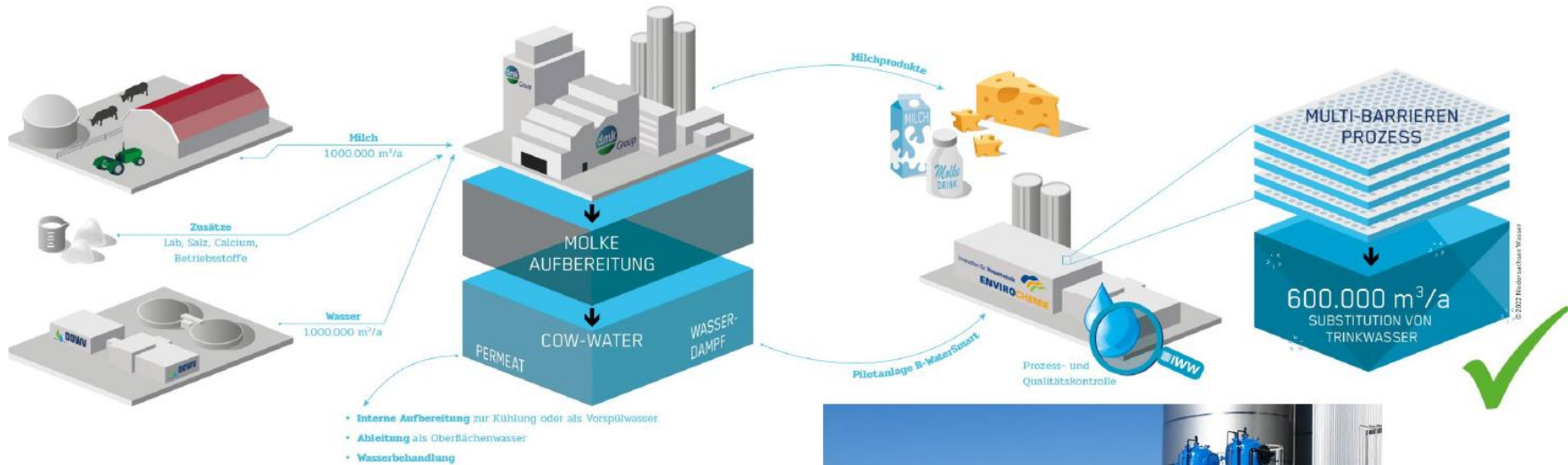
It is essentially distilled water with low molecular weight organic matter in low concentrations.

Plants for the treatment of vapors and RO permeate are **already in use at many companies** in the European environment.

In Germany, the treatment has not yet been approved according to the current Drinking Water Ordinance! An exemption has been granted so far for one plant (Milchbrüden).



Aufbereitung von Brüdenkondensat



A clear glass filled with white milk sits on a rustic, dark wooden table. The background is softly blurred, showing what appears to be a wooden chair. The lighting is warm and natural, highlighting the texture of the wood and the smooth surface of the milk.

Thank you for the attention

Lars Dammann - Head of Environment, Health, Safety
and Security Department