

Belgische Confederatie van de Zuivelindustrie



Confédération Belge de l'Industrie Laitière



We are operating in a new world What are the key trends

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Milk collection is evolving

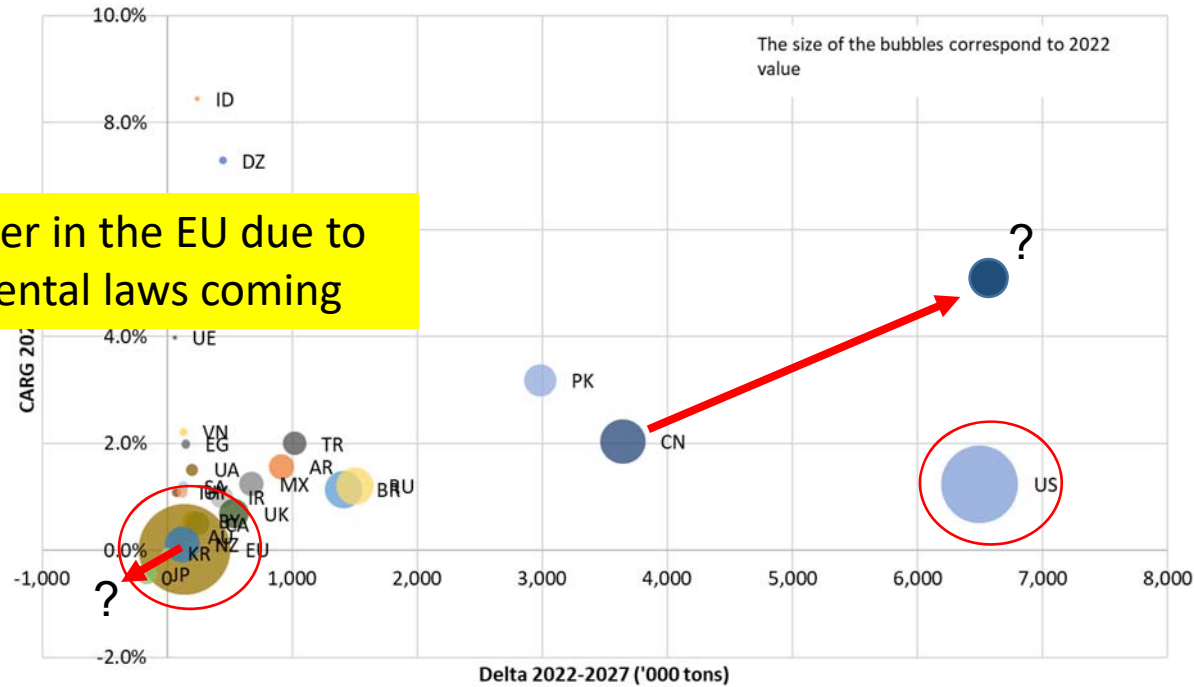
Structural decline in the EU/NZ, more in the USA and in China

World milk collection 2022 – 2027f (excluding India)

Less milk in the EU, adding more value to each litre will be compulsory



Milk Collection Volume (mio tons) by Country, 2022 – 2027f



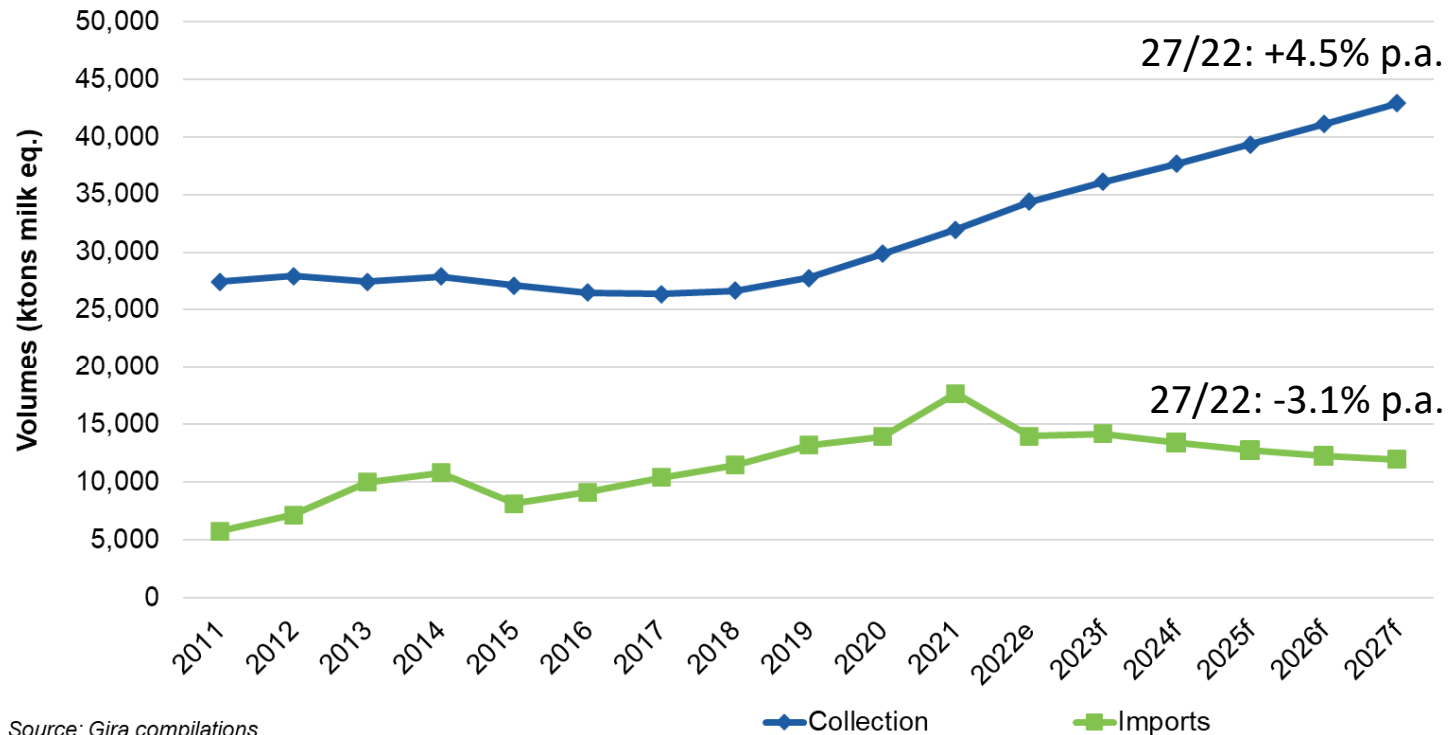
But will be lower in the EU due to new environmental laws coming

But watch out this second scenario and it's impact on the world

Potentially less imports in the future



Milk collection and dairy imports (LME), 2011-2027f, alternative case scenario



Source: Gira compilations

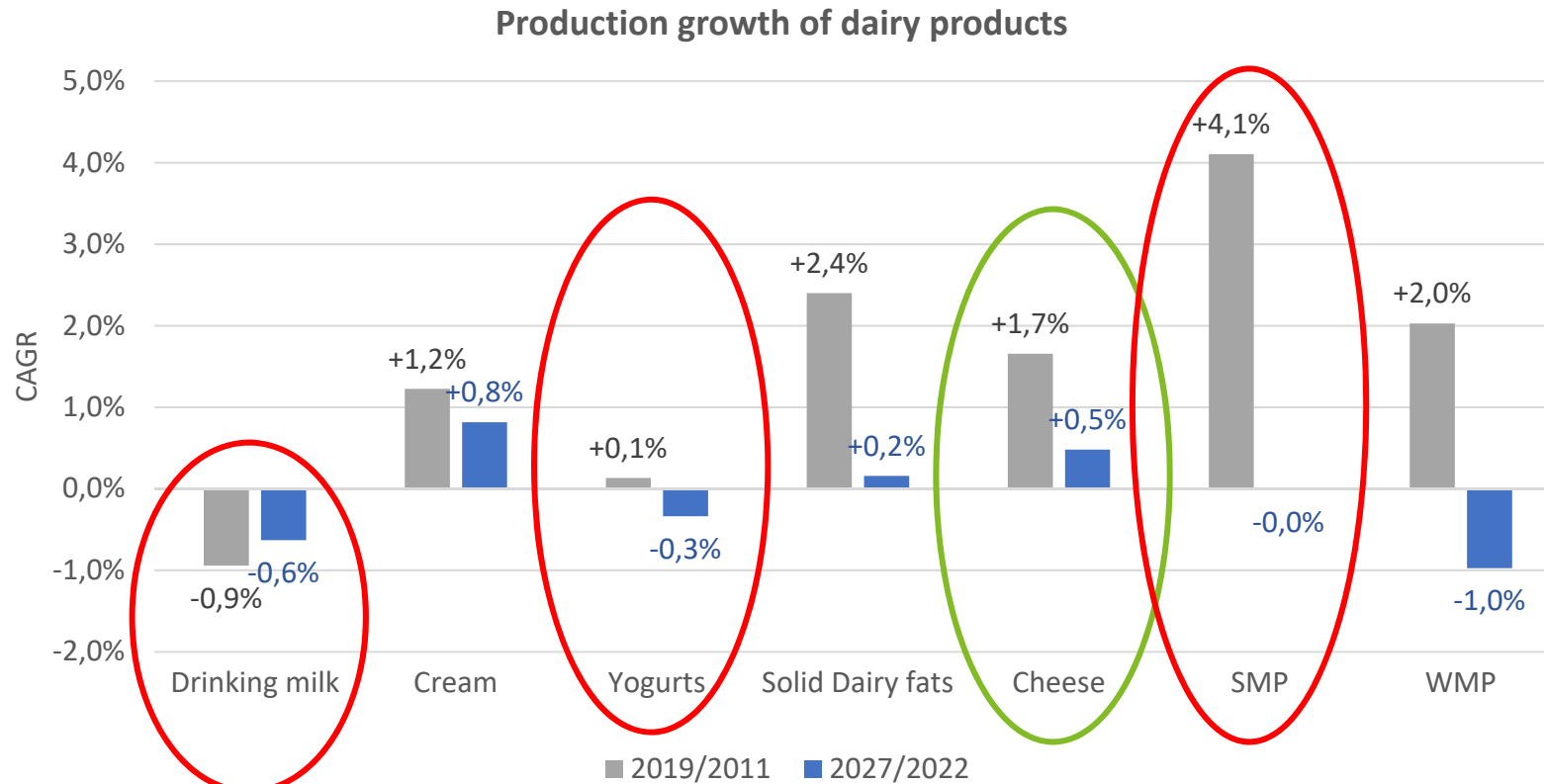


What are we going to do with that milk?

Cheese will continue to lead the game

2027: Slowdown of Dairy Production in the EU

More cheese, less fresh and less powders



Source: Gira

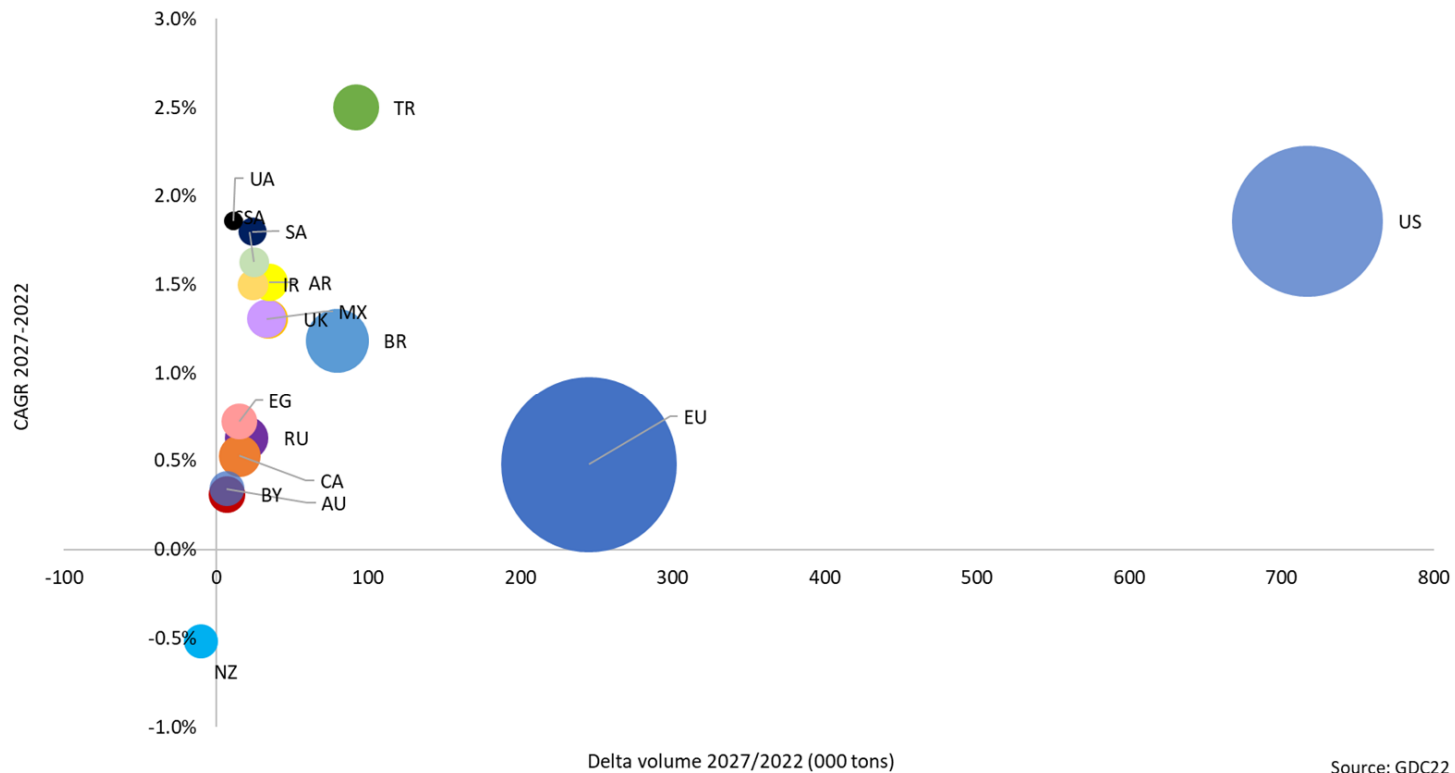
© Gira

Cheese Production Growth By Main Countries

The US will lead the game



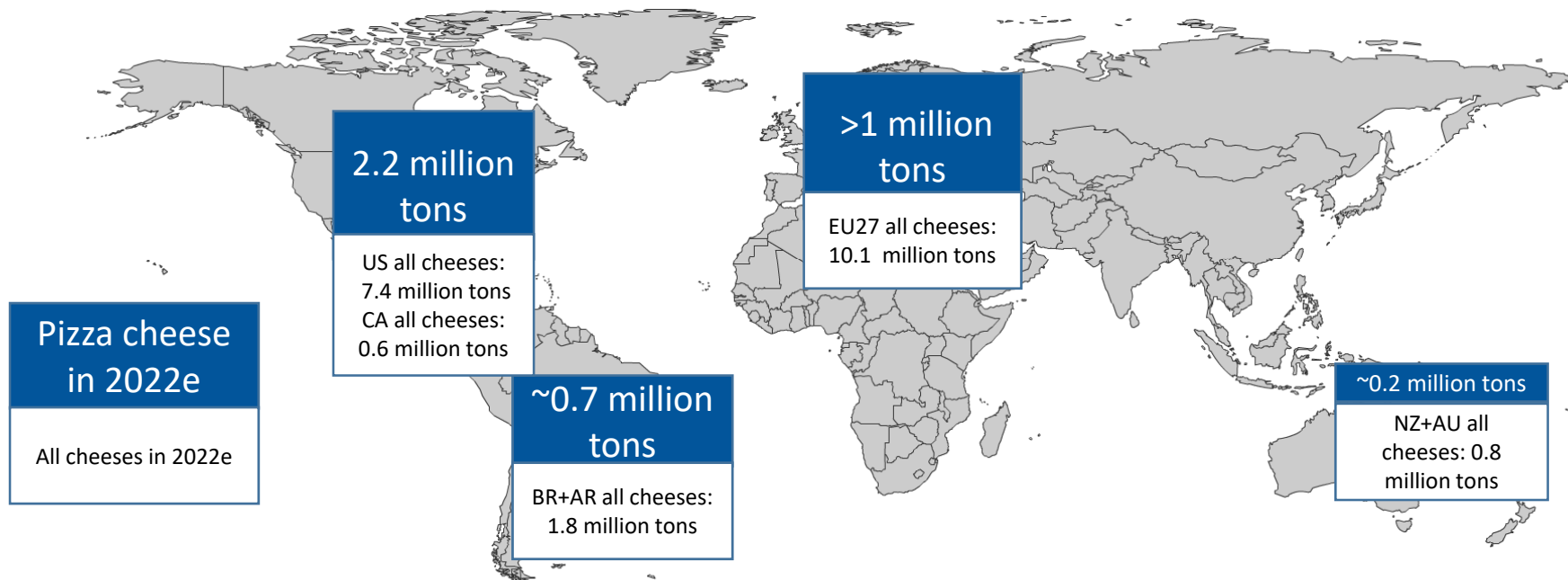
Cheese Production Growth in GDC Countries 2022e-2027f



Source: GDC22

Production of Pizza Cheese (growth lately in the US & the EU)

Two very large domestic markets: US (+193'000 t) & EU (+0)

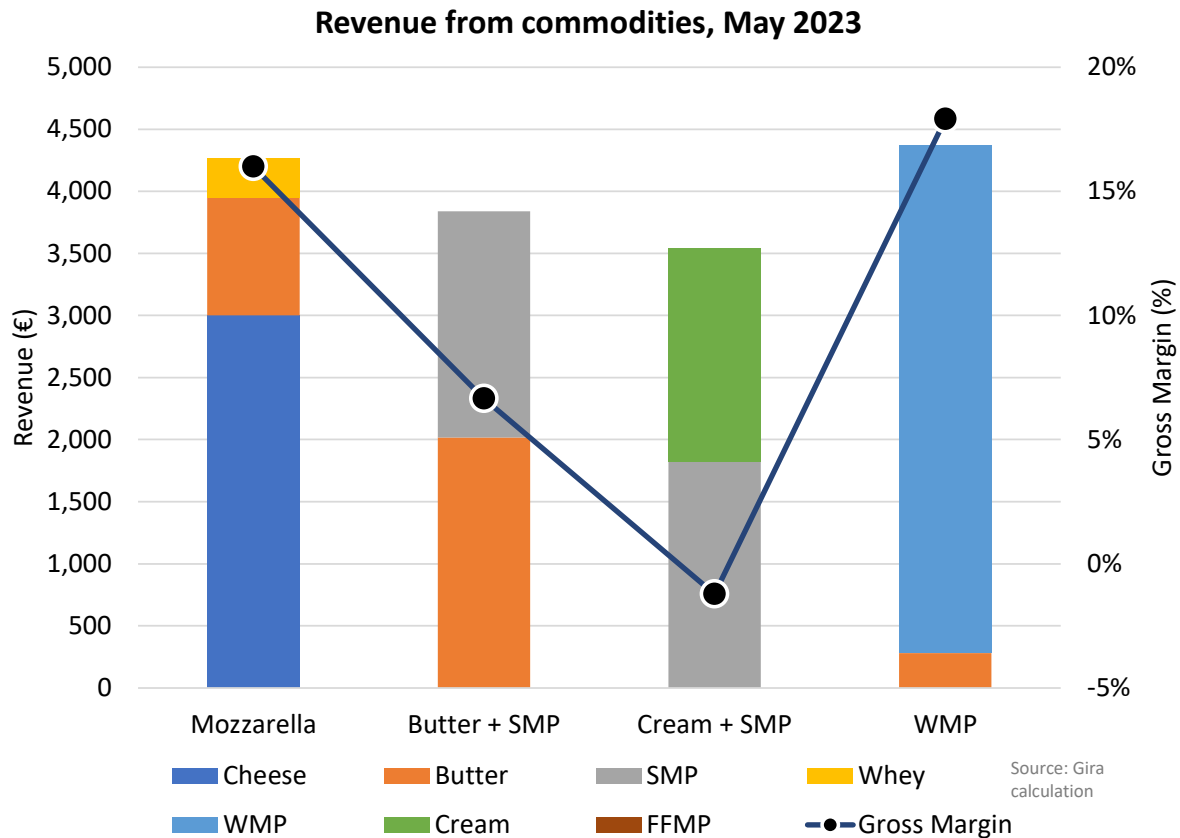


Source: Gira compilation

Various cheese types included: Mozzarella, Pizza cheese, Provolone, Other Italian similar cheese types

Gross margin calculation: May 2023

At 3€/Kg, Mozzarella remain an excellent choice for dairy processors



Mozzarella prices

Sharp increase then decrease at the end of 2022 and stable into 2023



EEX Mozzarella Price; Nov 2021-May 2023



Source: Gira based on EEX



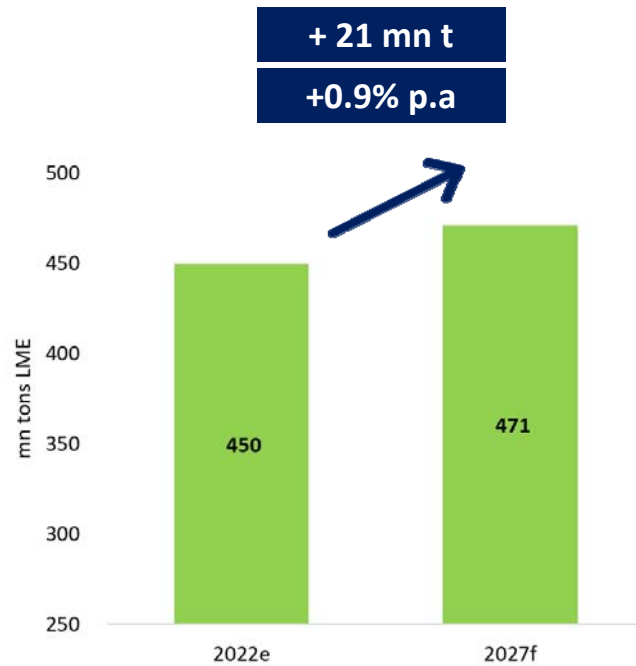
Consumption will continue to grow but not everywhere
but cheese will help

Dairy Consumption by Region will continue to grow

Milk deficit should continue to grow

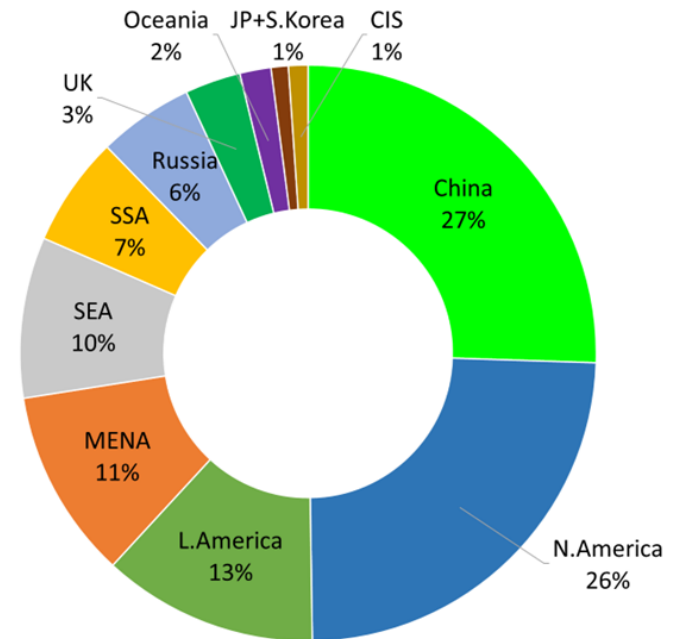


Dairy consumption 2022-27f, excl. IN & PK



Source: Gira

Region contribution to the midterm growth (2022-27f)



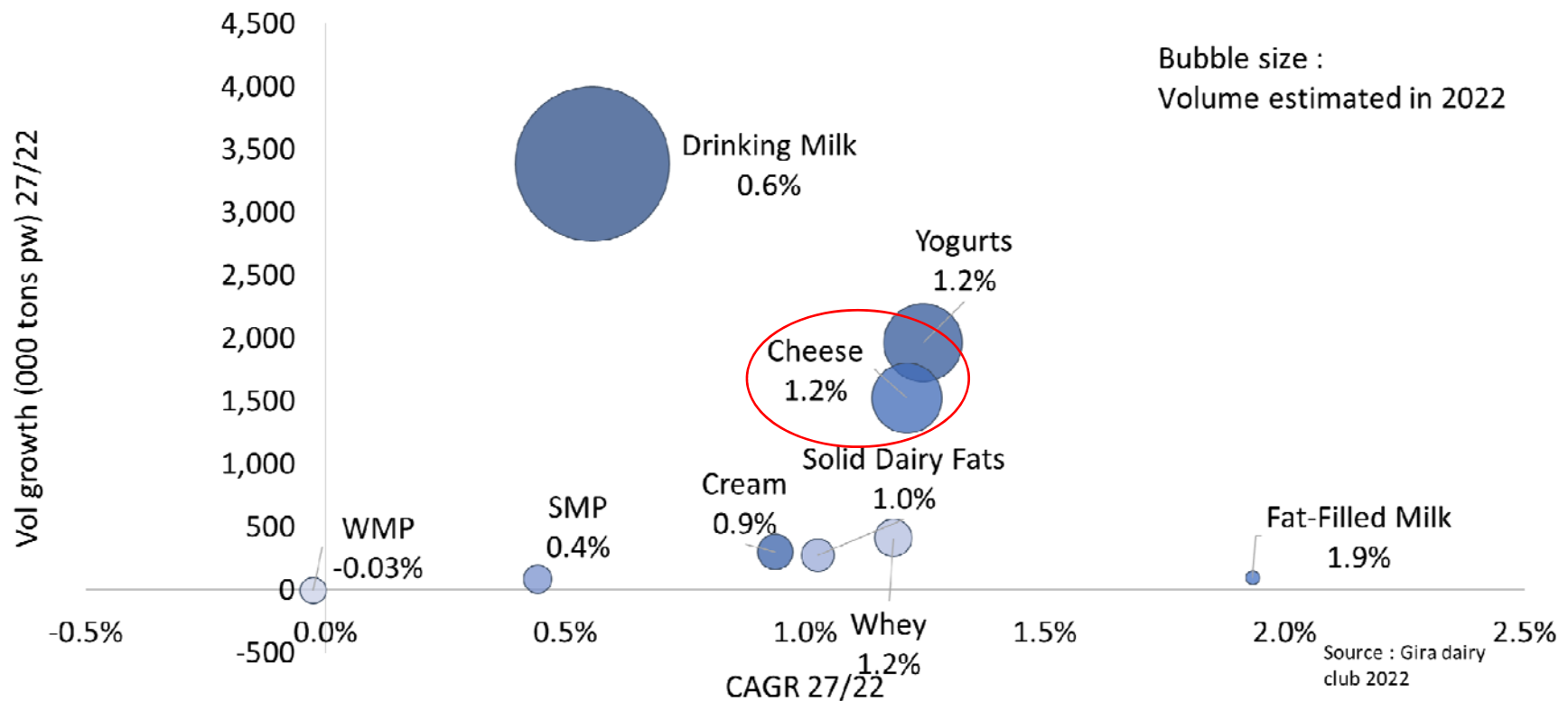
Source: Gira

Overview of consumption growth by product

For most dairy products: between 0% to +1.5% p.a



Global Consumption growth, excl. IN & PK 2022e-2027f

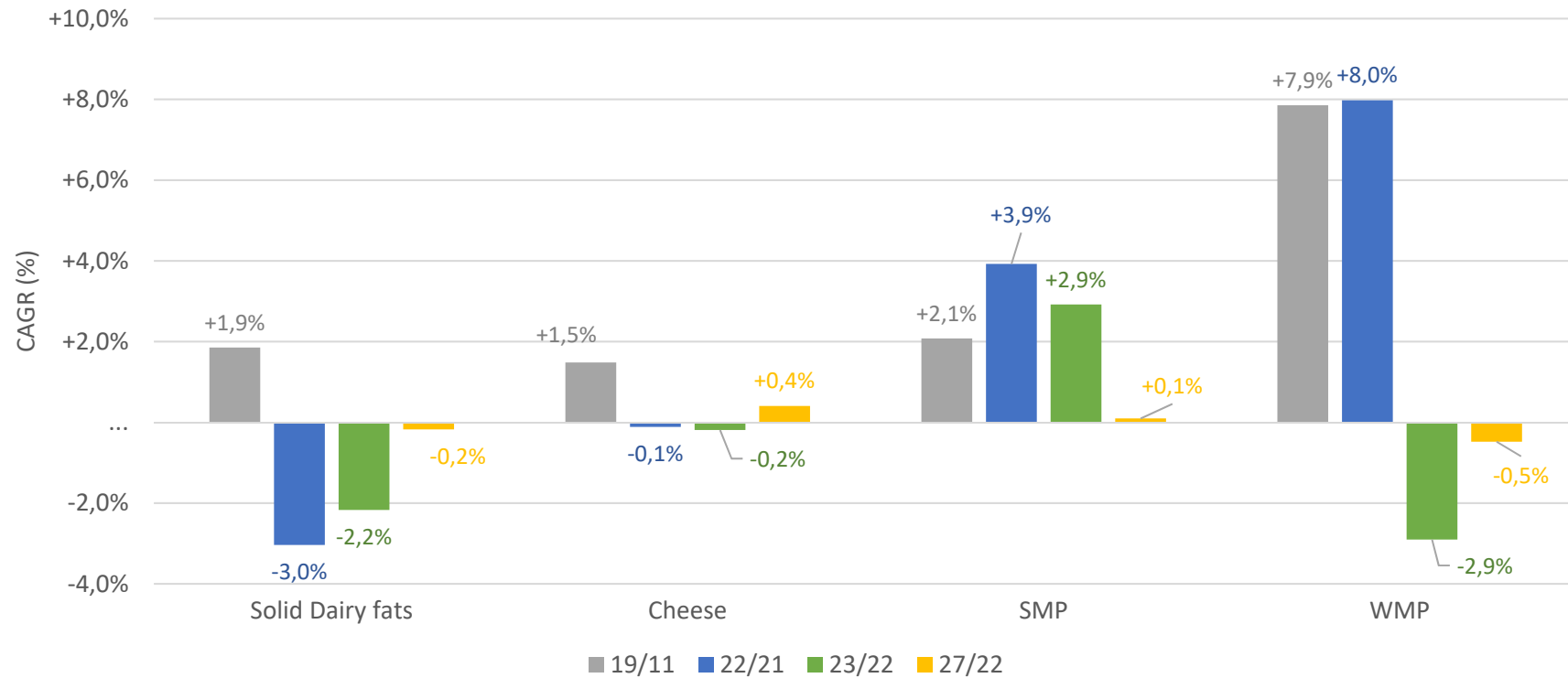


EU Domestic Consumption will be Flat

Butter and cheese more or less zero



Consumption growth of dairy products





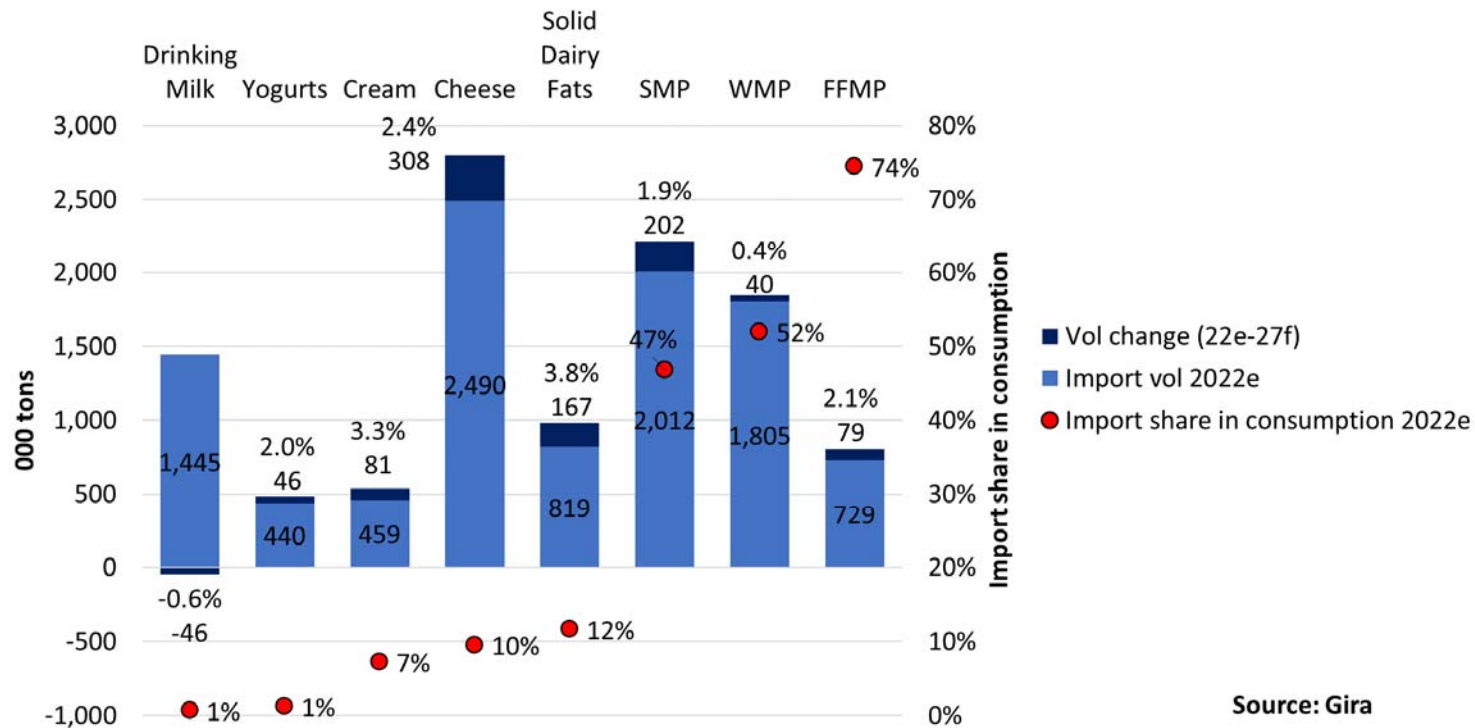
But what about exports?
Growth should be slowing

Import Share in Consumption

Cheese will lead the way, Watch out cream and butter



Imports, imported volume change & imports share in consumption, 2022e-2027f



Source: Gira

Trade: 3 Major Pizza Cheese/Mozzarella Flows

NZ, US, EU competing on the same key Asian destinations



Trade volumes are low compared to domestic markets (except in New Zealand with volumes dedicated to exports).

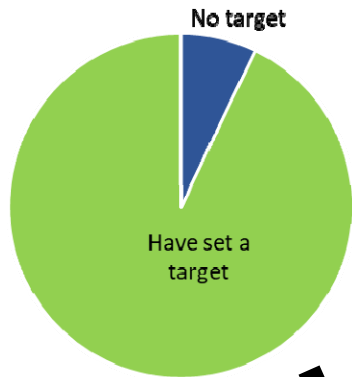


« Carbon will be the dairy quota of the future »

EU commissioner Phil Hogan, 2018 Ireland

Where are Dairy Companies regarding Sustainability ?

Still high disparities between companies: reduction targets, details of commitments, deadlines...



In 2022, 93% of the largest world dairy companies have disclosed their environmental targets

Scope 3 = indirect emissions
= around 90% of total emissions !

71% of the dairies include Scope 3 in their measures, and 57% have published a specific Scope 3 emission target



HOW MUCH DOES IT COST ?
Estimate that it would need **5 to 10 bio EUR** for the 30 biggest meat/dairy companies to reach their **2030 targets !**
Who will pay for it?



Source: Gira compilation

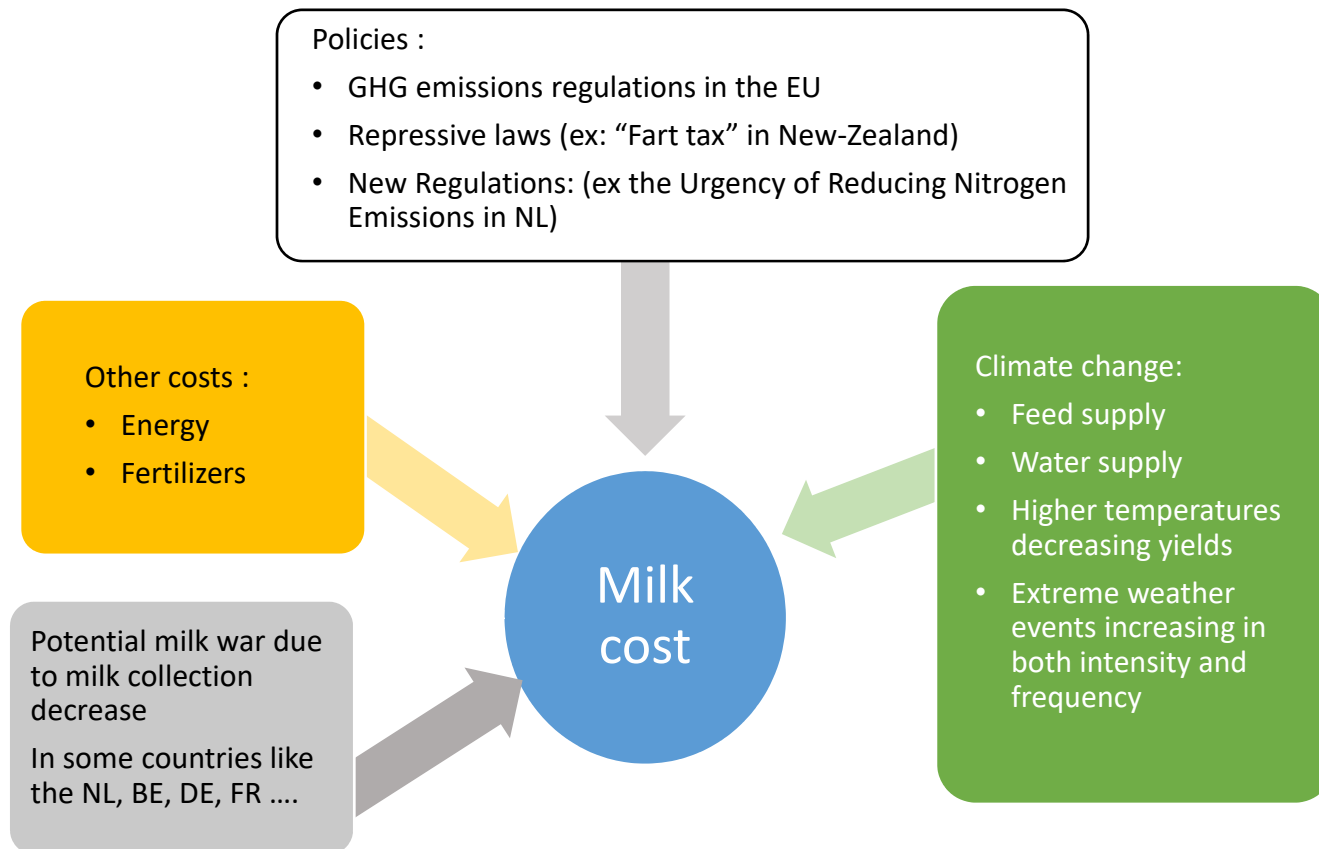


COULD BE A STRONG COMPETITIVE DISADVANTAGE ! SPECIALLY AS WE WILL HAVE TO INCREASE COSTS

Average reduction target by 2030:
35%



Key factors which will drive the increase of milk cost

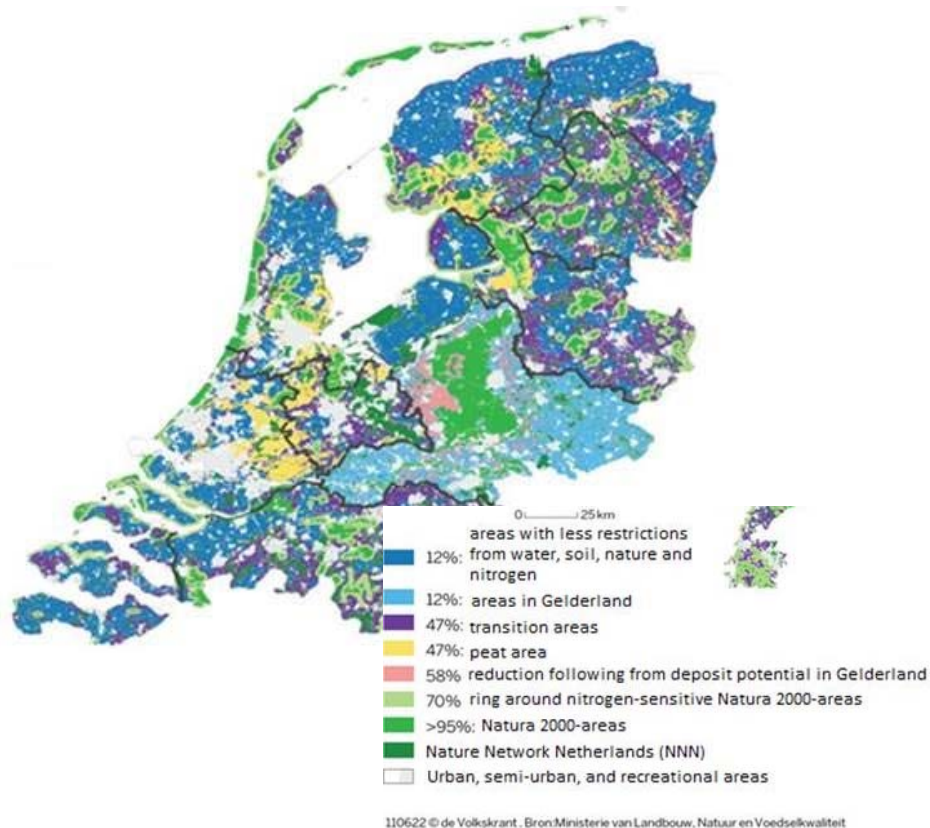


Environmental Regulation: the Urgency of Reducing Nitrogen

The Netherlands planned to reduce its herds



Nitrogen Reduction Map of the Netherlands



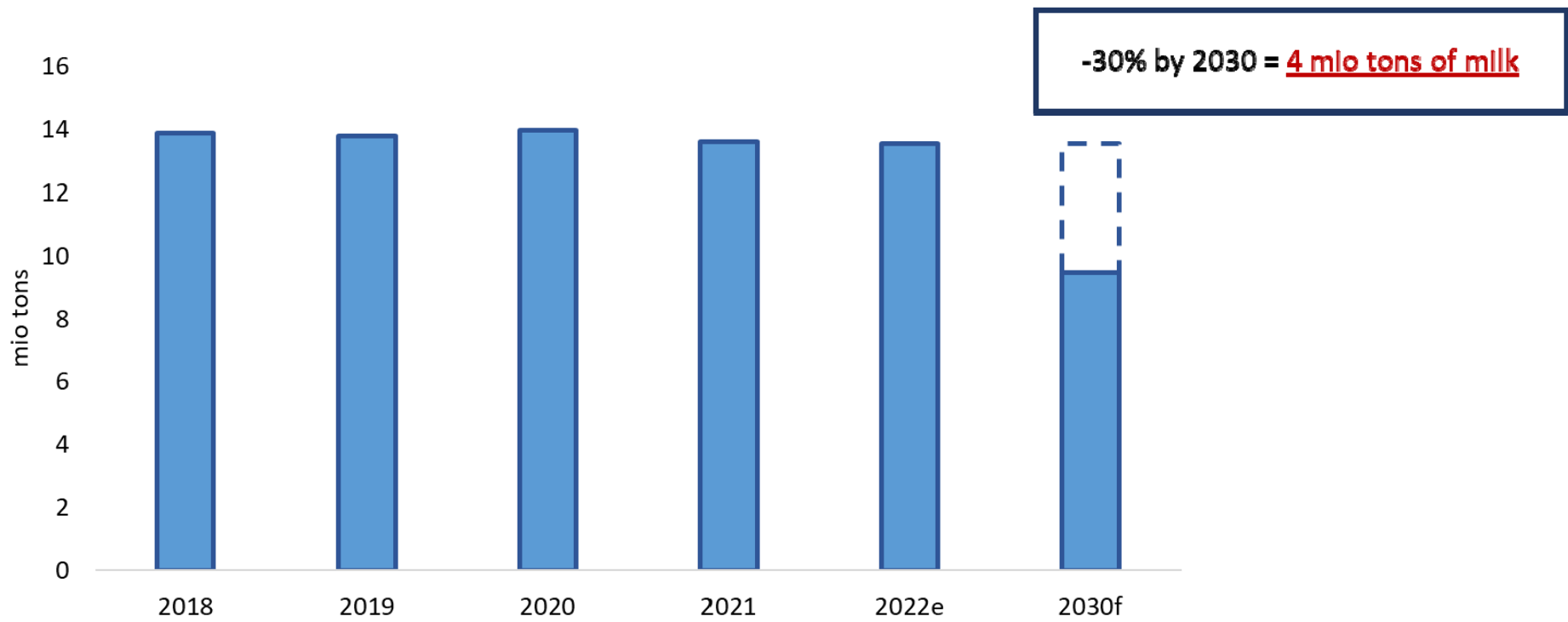
- Objective: -30% of nitrogen emissions by 2030
- Potential consequences as announced by NL government:
 - 33% to 50% of the herd size
- Aug. 22: “Rabobank has said it is no longer putting money into farms which are close to protected Natura 2000 environments”
- Consequence: milk collection is expected to drop by around 30% by 2030 in the country.**

How much it'll represent?

Milk collection has been stable for several years. -30% means - 4 mio tons



Milk collection in Netherlands 2018-2022e, 2030f



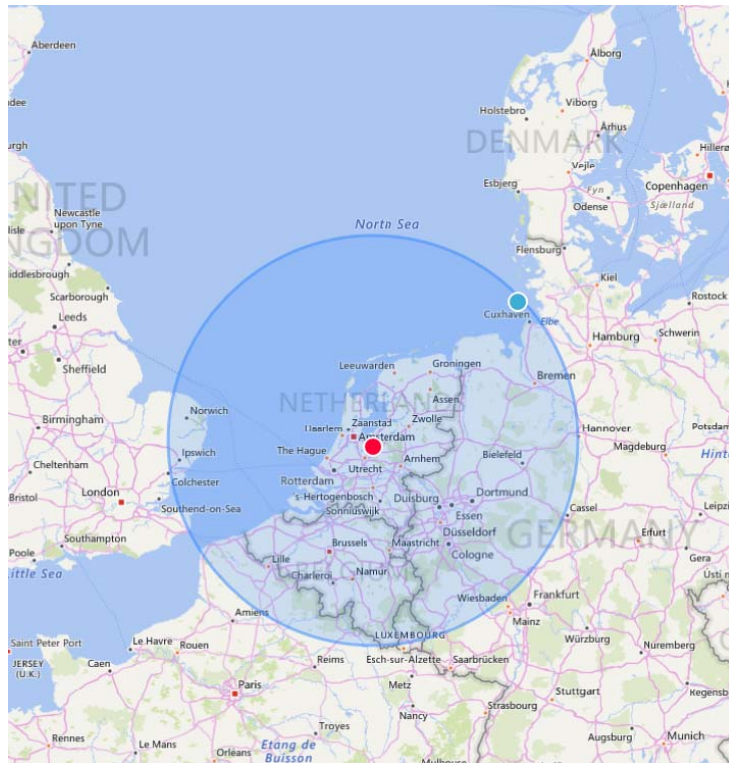
Source: Gira Dairy Club 2022

NL: there will be an urgent need to import more milk

The beginning of a milk war?



Western Europe Map with 300km circle from NL



- We assume that Dutch dairies will import raw milk to offset 50% of the 30% collection drop.
- 300km is supposed to be the maximal range for the operation to be profitable.
- The perimeter includes :
 - Belgium
 - **West Germany**
- **The only way to attract more milk is by increasing milk price paid to farmers**
 - **For doing so, milk processors will be forced to extract as much value as possible from their dairy production: role of ingredients**

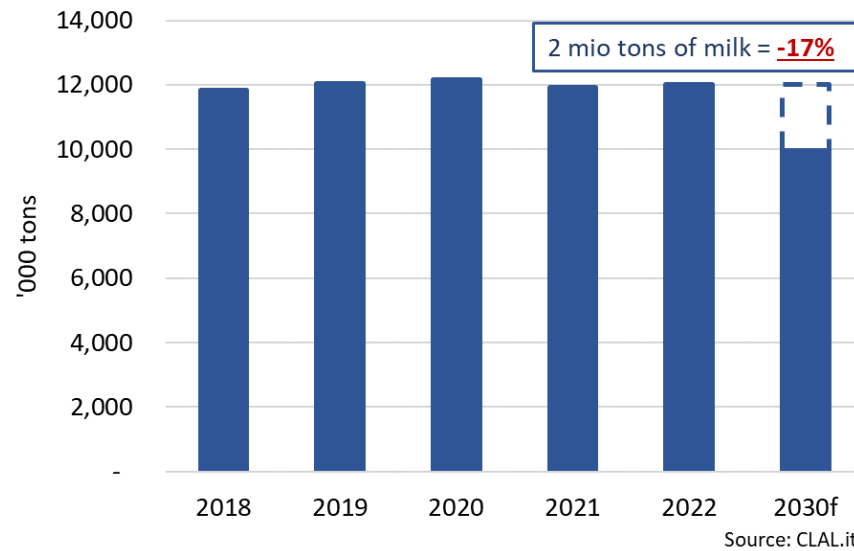
What are the consequences for these two countries ?

The offset of 50% of the drop in NL would cause a 46% drop in BE

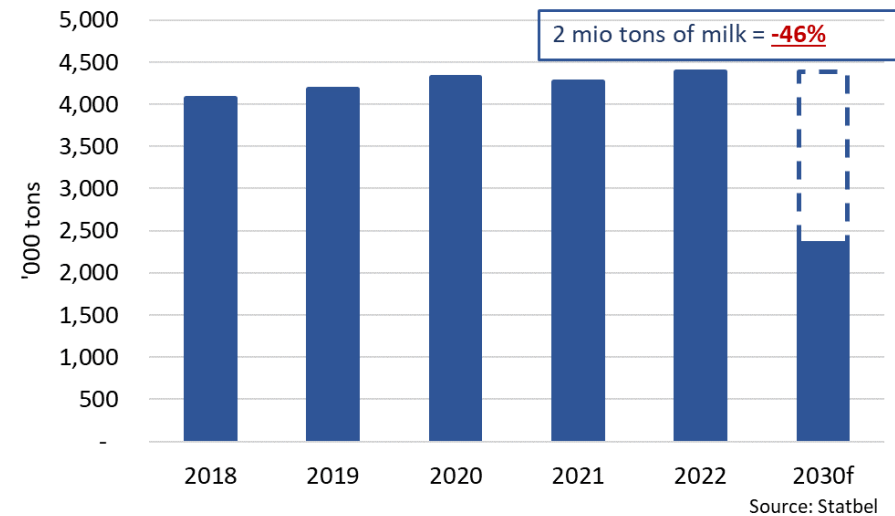


Milk collection if NL offset its loss by importing from either...

West Germany



Belgium



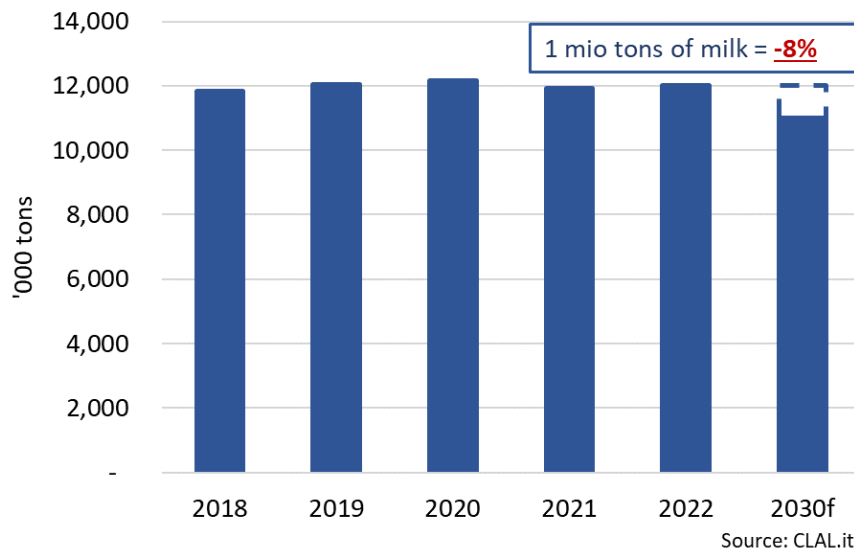
What are the consequences for these two countries ?

If NL splits its imports, the consequences will be mitigated.

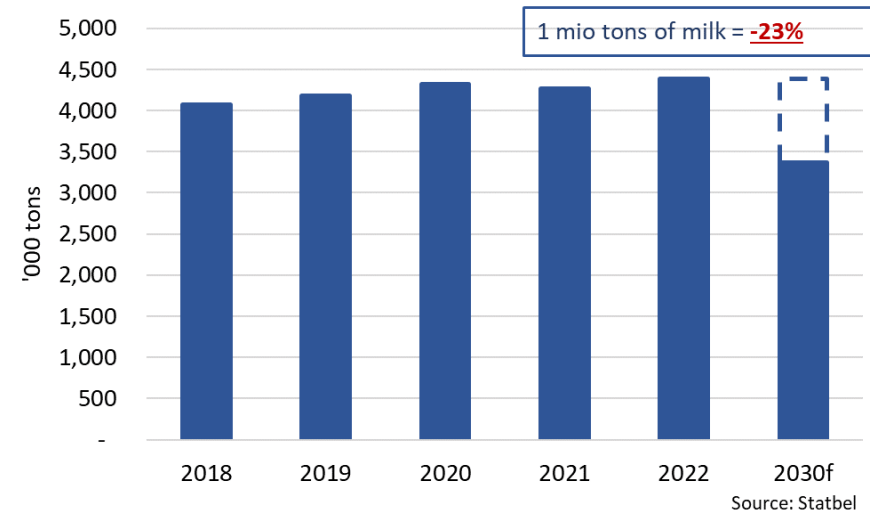


Milk collection if NL offset its loss by importing equally from both...

West Germany



Belgium



Extraction and valorisation of milk components
Not anymore the cherry on the cake but the cake itself

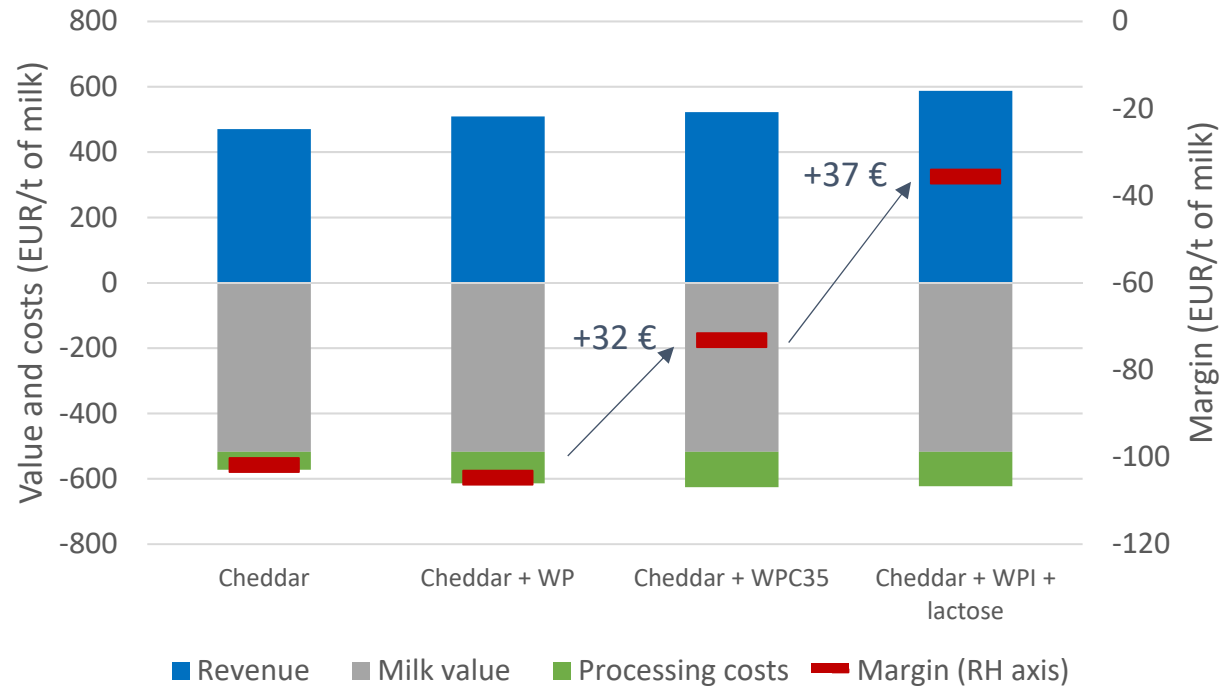


Ingredients are more than the cherry on the cake !

Allowed to reduce the losses



Value and margin of cheddar production, March 2023



Source: Gira calculation © Gira

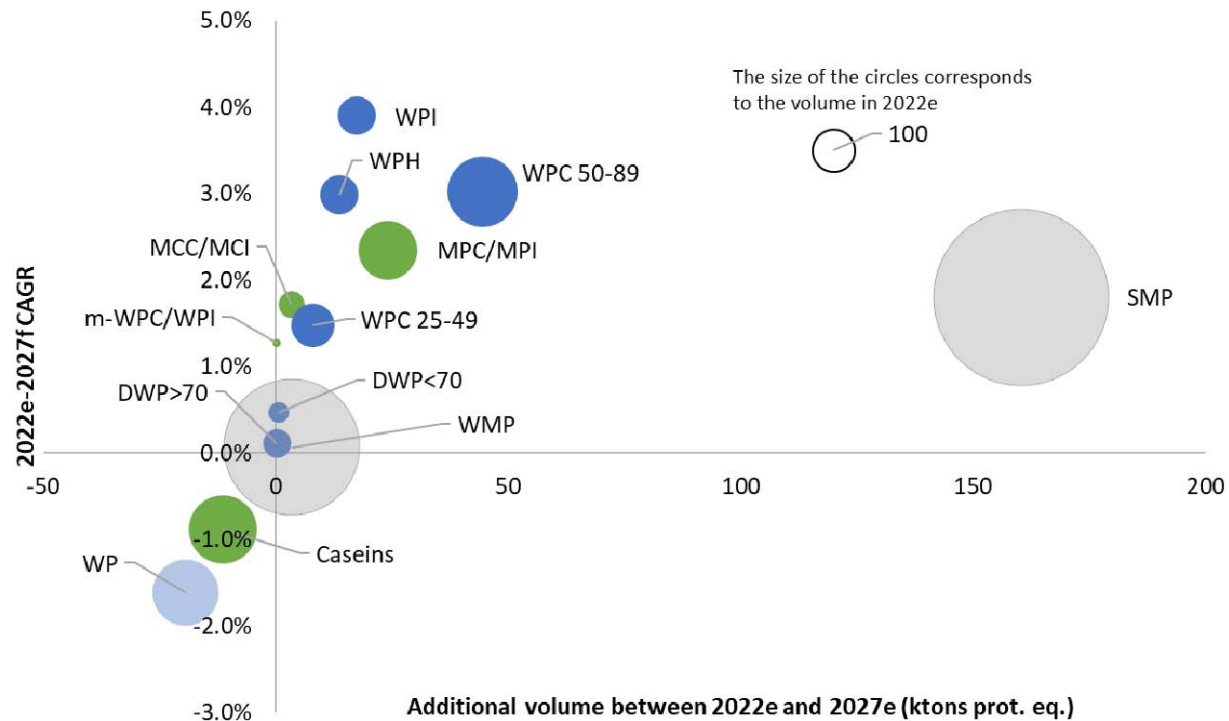


Some key figures

Dairy proteins global production: driven mainly by adult nutrition **Gira**

High growth expected for high concentrated powders

Technical dairy ingredients production by product, 2022e-2027f



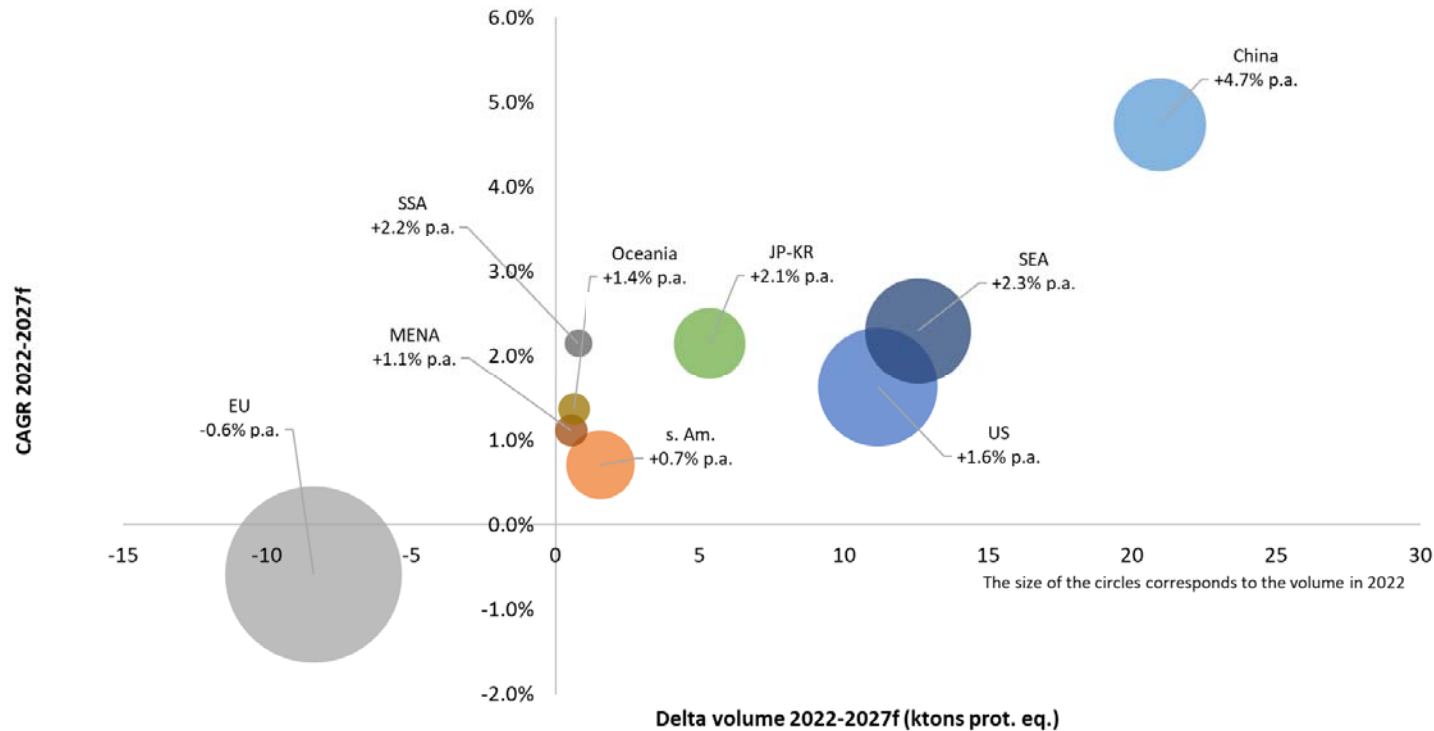
Sources: GDC22

Global whey consumption

Growth will continue to come from China



Global whey consumption by region, 2022-2027f



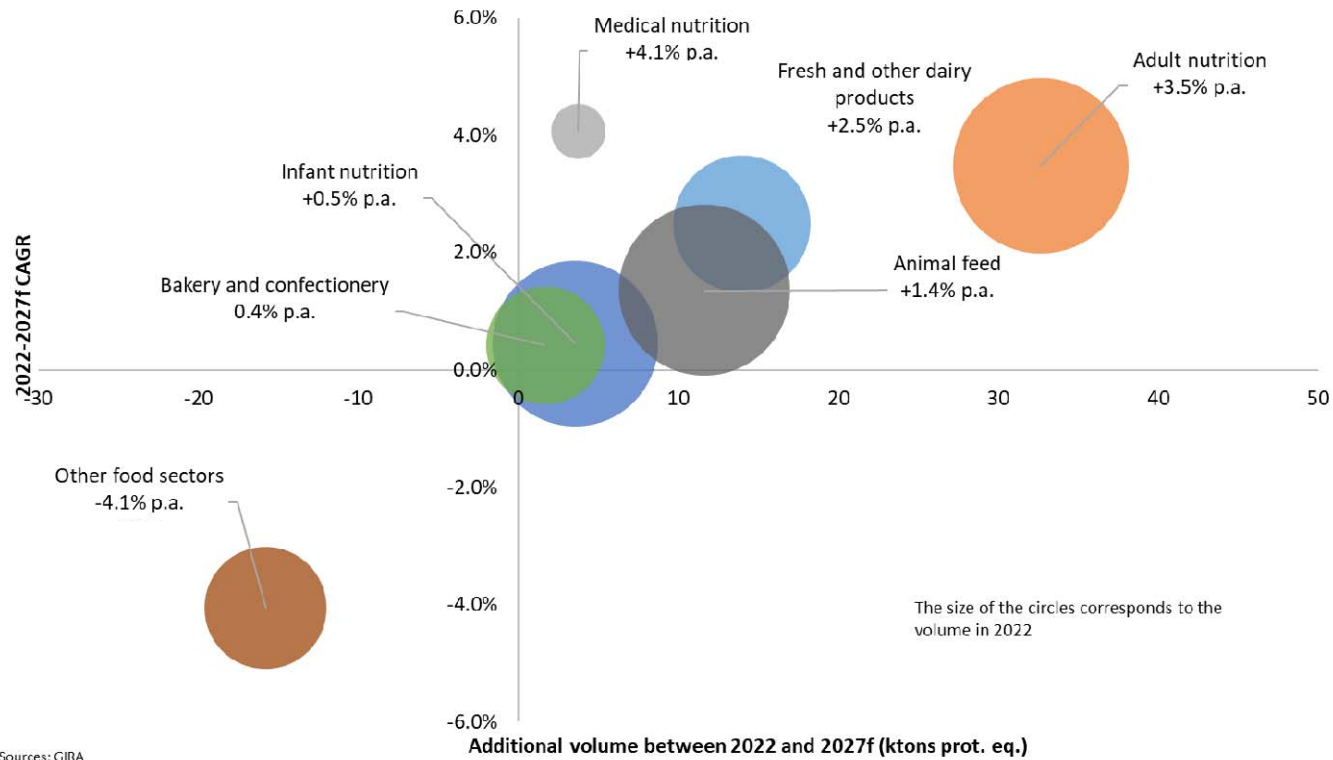
Source: GDC22

Global Uses of Whey

Adult nutrition will absorb 64% of the additional volume of whey



Global Whey Uses by Use, 2022-2027f

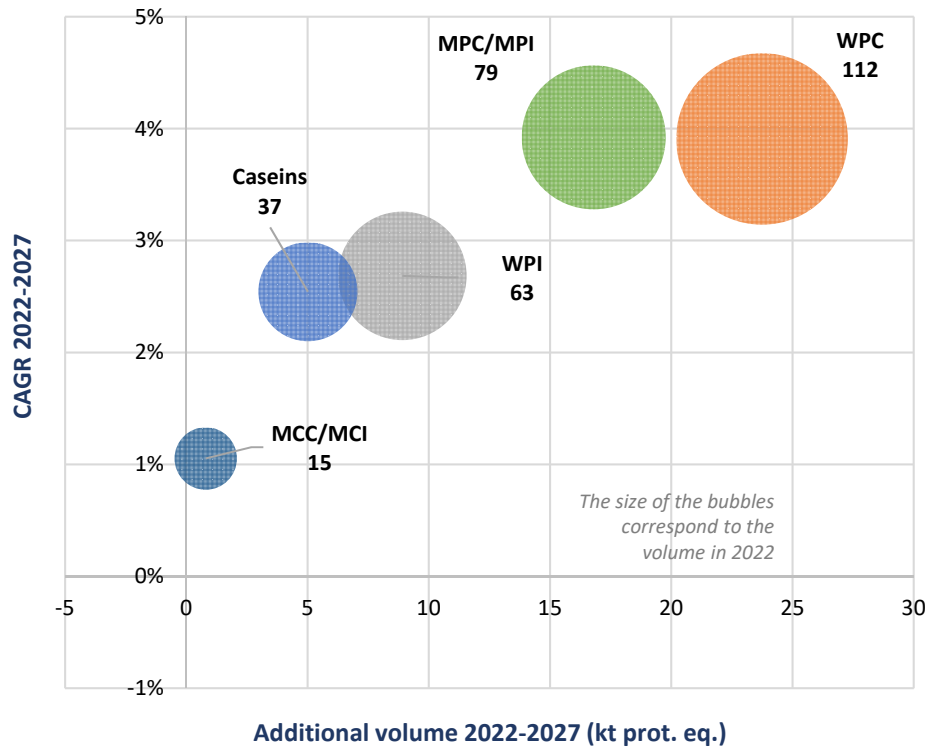


Adult Nutrition

The largest sector



Key Dairy Ingredients Use, in prot. eq., 2022-2027



Benefits of dairy ingredients:

- High nutritional quality of proteins
- High functionalities
- Taste

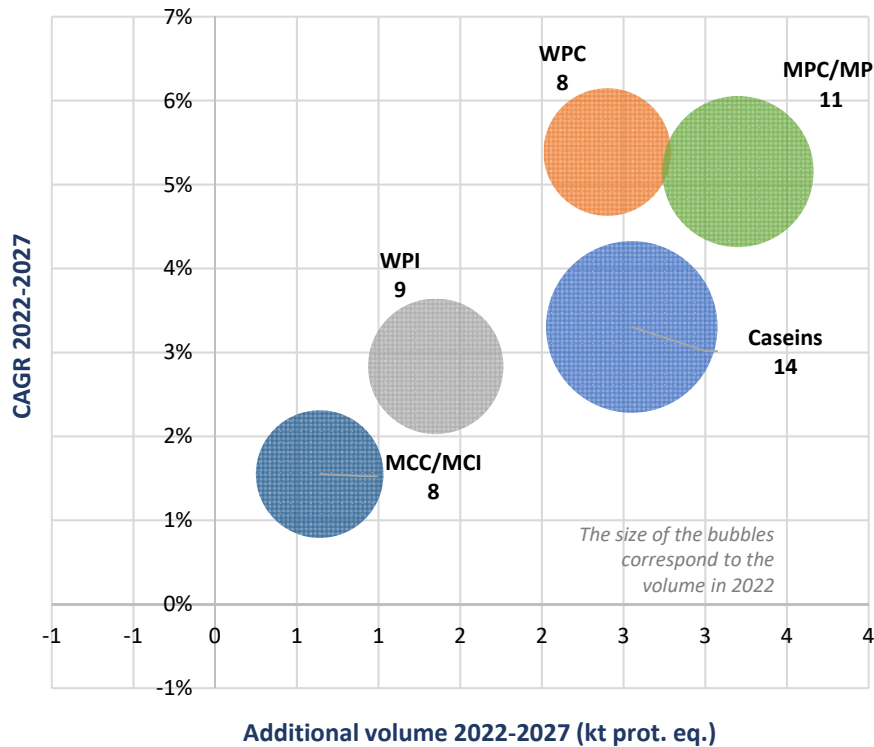
Source: Gira

Medical Nutrition

Lots of potentialities



Key Dairy Ingredients Use, in prot. eq., 2022-2027



Source: Gira



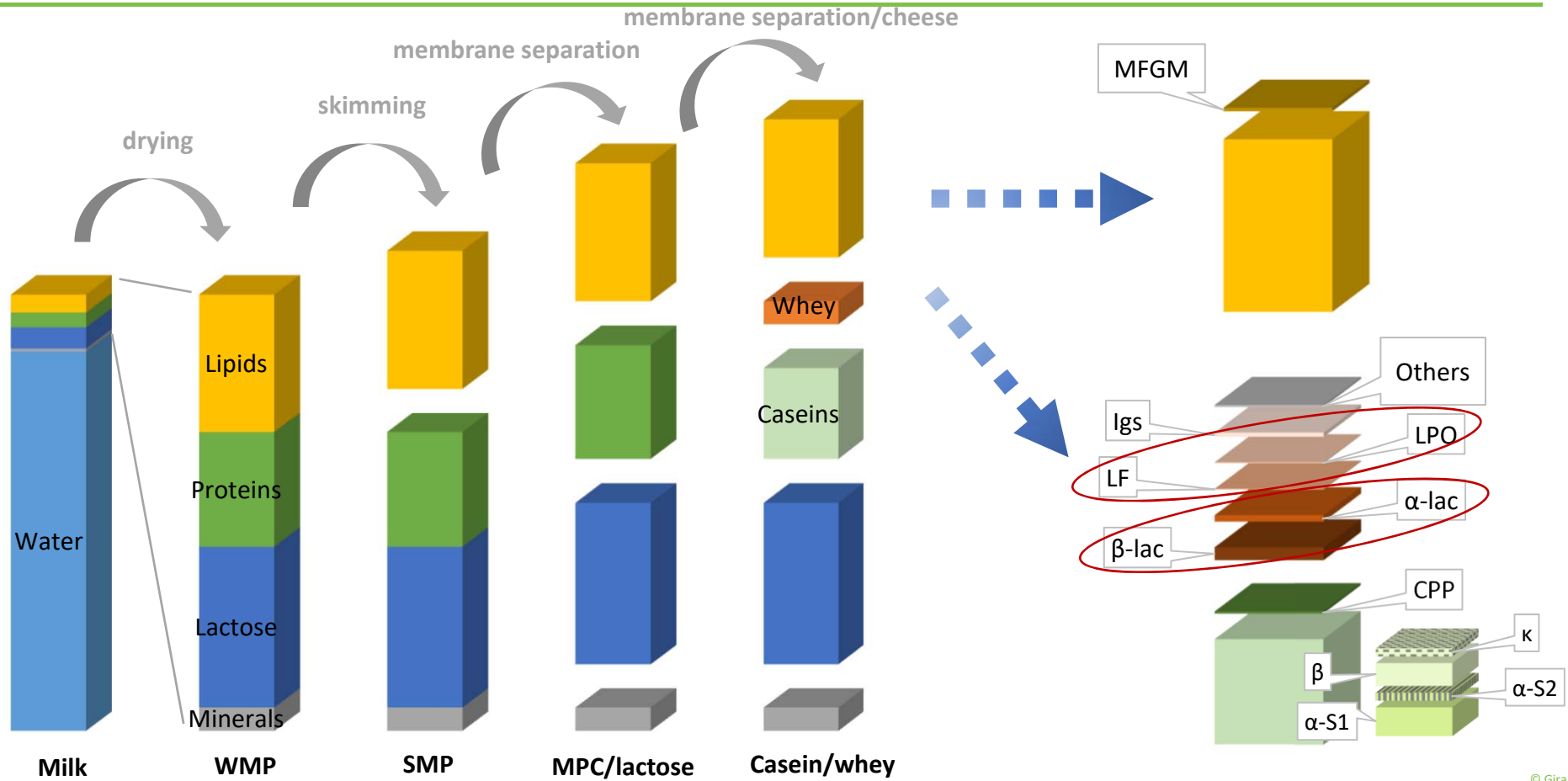
Benefits of dairy proteins:

- Provide food with dense nutrition in a small volume, energy dense
- High nutritional quality

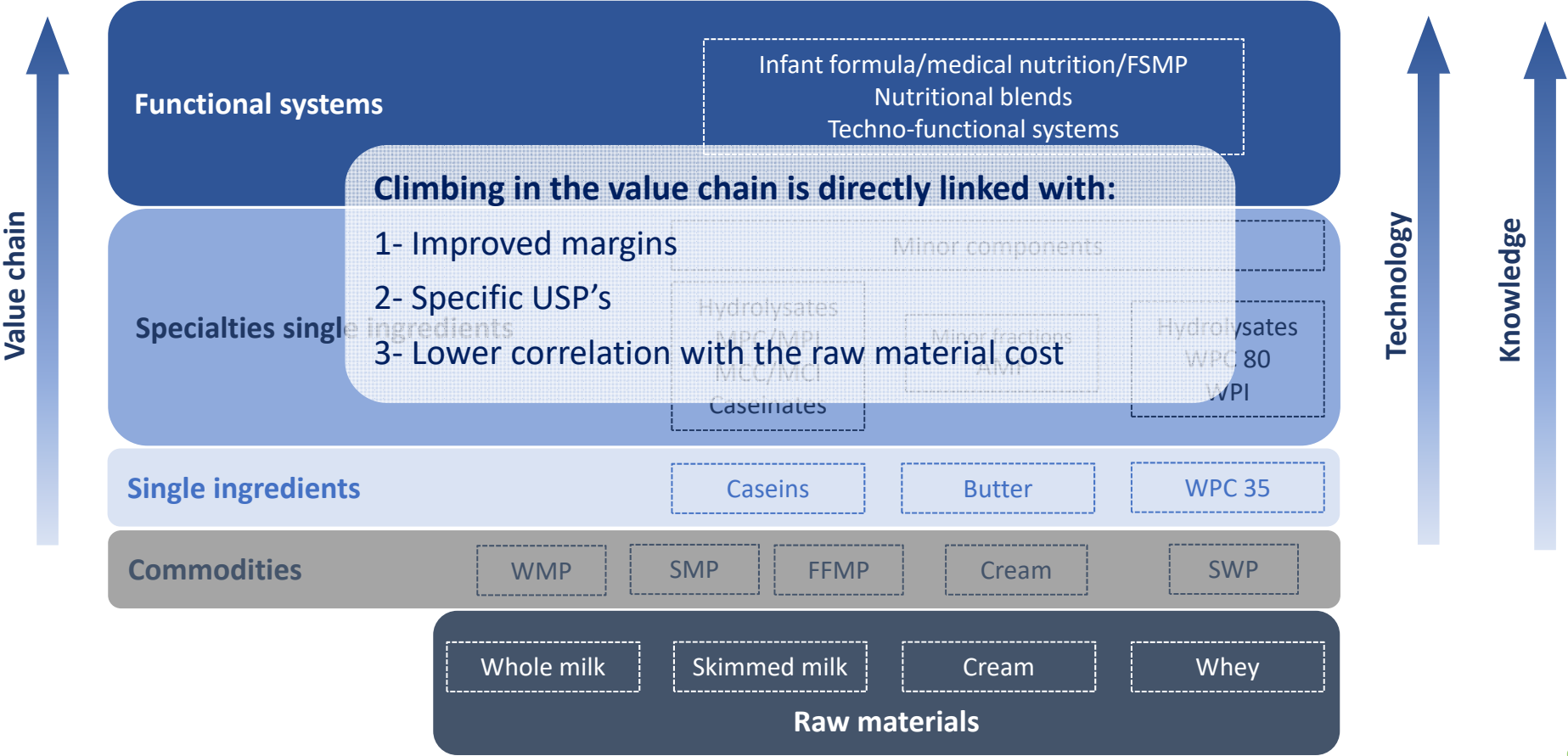


Value chain migration

Minor components, future added-value for the milk



Differentiation and customisation are the drivers

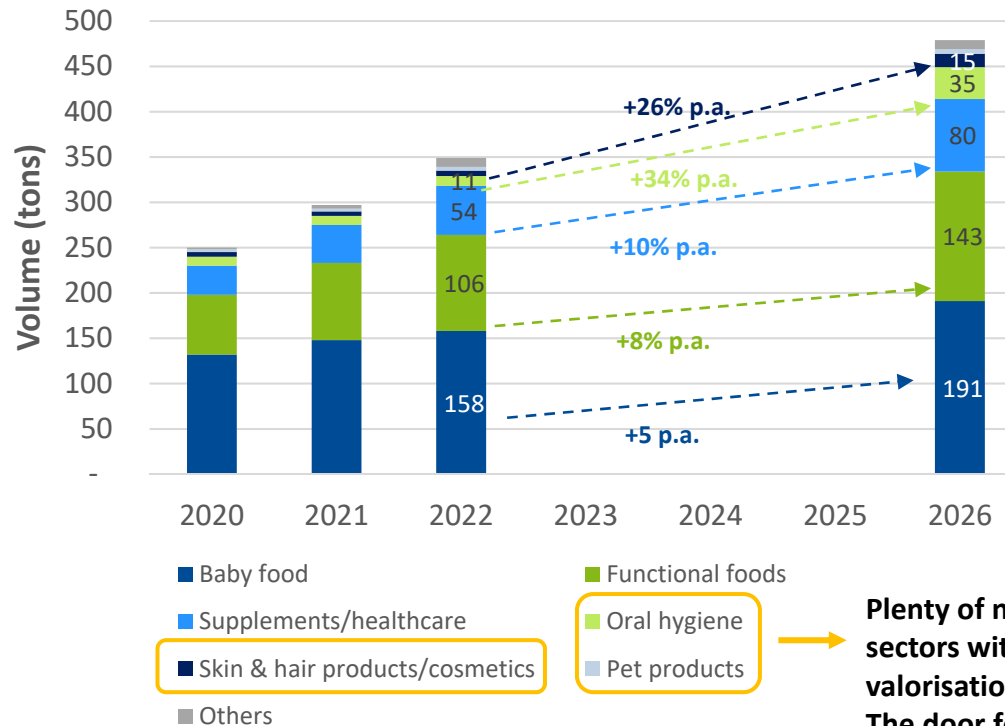


Opening new user-sectors: what about lactoferrin ?

Higher growth outside baby food



Dairy-based Lactoferrin consumption by application, 2020-2026



Plenty of new “non-food” sectors with high valorisation!
The door for alternatives





But watch out this potential game changer called

Precision Fermentation

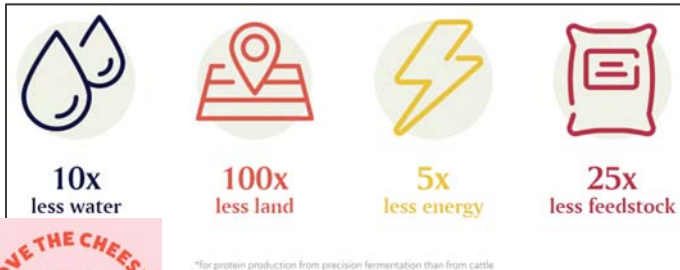
PF Companies Objectives

In accordance with consumer demands



Fermenting Function That

FEEDS THE WORLD



Reimagining meat for pet nutrition so people, pets, farm animals and the planet all win.

ANIMAL FARMING - THE PROBLEM



70% of cows are raised in intensive farming

WUTROPY

A wakeup call.

But today's dairy comes with an unreasonable price tag. The traditional dairy industry is destructive to our planet and animals, and requires so many of Earth's precious resources - it's simply not sustainable anymore.

- Answering consumers demand on **sustainability, animal welfare, health, etc.**
 - Lactose-free, no antibiotics, cholesterol free, no hormones, lower GES (?), ...
 - High nutritious food
 - Improving plant-based offer
- Answering **growing protein demand**
 - Population growth while the “animal” system reached its limits.
 - Food sufficiency and security
- Different levels: from complementing the market, to replace animal-based products
 - Offering ingredients to improve animal or plant-based products

Short Overview of Precision Fermentation Food Companies

More and more new comers



Mainly B2B

Casein & whey

- All G Foods
- Better Dairy
- Bon Vivant
- Change Foods
- Changing Biotech
- Daisy Lab
- De Novo Dairy
- Eden Brew
- Fermify
- Fooditive Group
- Formo
- Maya Milk
- New Culture
- Novacca
- Nutropy
- Perfect Day
- ProProtein
- Real Deal Milk
- ReMilk
- Standing Ovation
- Those Vegan Cowboys
- Zero Cow Factory

Proteins

Infant formula & lactoferrin

- Turtle Tree
- Harmony Baby Nutrition
- Helaina
- Imagindairy

Egg protein

- Fumi Ingredients
- The EVERY Company
- Onego Bio
- Bioscienz
- Eggmented reality
- Otro

Petfood

- Bond Pet Foods

“Muscle” protein

- Fybraworks Foods
- Libre Foods
- Motif FoodWorks
- Paleo
- Impossible Foods

Collagen

- Geltor
- Liven Proteins Corp.
- Provenance Bio

Additives

Coloring

- Chromologics
- Phytolon
- Sweegen

Sweetener

- Amai Proteins
- Amyris

Vitamin

- Biosynthia

Enzyme

- Biocatalysts

Flavonoid & flavor

- Conagen
- Manus Bio
- Isobionics (BASF)

Fats & oil

- Melt & Marble
- Nourish Ingredients
- C16 Bioscience

Other Ingredients

Honey

- MeliBio

Coffee

- Compound Foods

Chocolate

- Planet A Foods

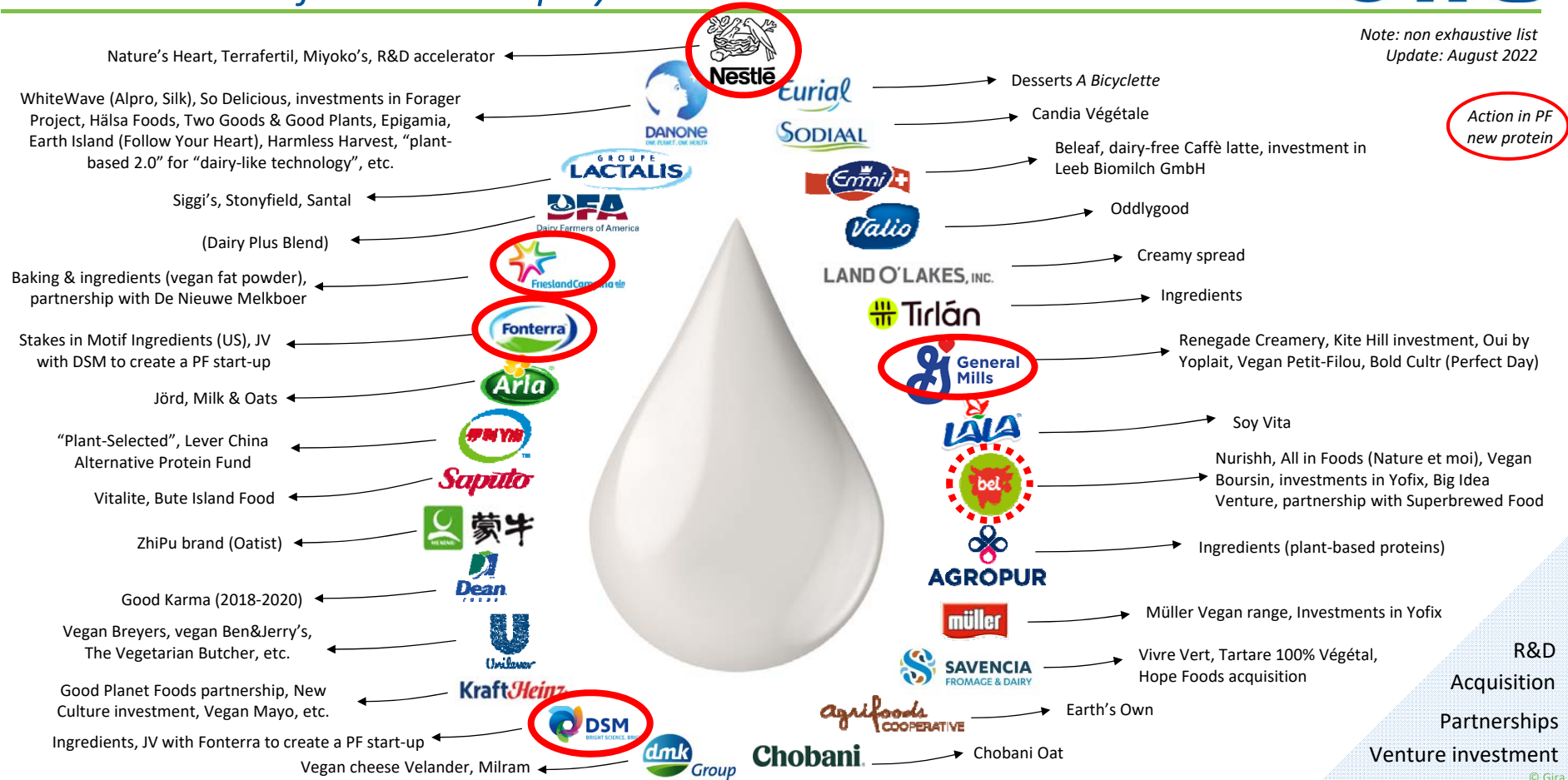
Traditional Dairies Extending to Dairy Alternatives

Several reasons for dairies to play both sides



Note: non exhaustive list
Update: August 2022

Action in PF
new protein





Key conclusions

The new rules of the game

A lot of uncertainty for the future



- ✓ Lower milk collection → could bring Higher competition for milk → Higher milk prices
 - **Secure dairy supply** to secure sales
 - Any **high added-value products** (including ingredients) will be of interest, but they require **more R&D, marketing, investments and a potentially a strategic shift**
 - **Shrink least valorized sectors** with **potential closure/repositioning of some plants**
 - But at the end could also help to **grow again milk collection** in the future....
- ✓ **More cheese** will continue to be consumed around the world
 - **More whey will need to be processed: more ingredients to be valorised**
- ✓ **China will continue to lead the consumption growth at world level**
 - But with more **local milk. Potential impact on imports**
- ✓ **The company landscape will evolve** leading to greater concentration and/or industry cooperation
- ✓ **Watch out dairy alternatives**
- ✓ And in any case, **compulsory to continue to implement measures/actions to increase the sustainability level of your farm/company**

*Securing milk/dairy supply
will be paramount!*

*High milk valorisation &
reduce cost & sticking with
consumer demand will
be crucial!*



Should you require more infos please contact

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