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DAIRY AS A STRATEGIC COMPONENT OF THE GLOBAL PROTEIN SYSTEM

Value, Resilience and Protein Coexistence in a Changing Food Economy

Pietro Paganini – President of Competere.eu – explores dairy’s strategic role in European food security at the IFCN Conference 2026 (Parma, Italy, 27–30 September). His contribution, “Why Dairy Is Becoming a Strategic Infrastructure for European Food Security,” explains how the sector connects nutrition, technology, and supply chains to deliver safe, affordable food.

He identifies a Dairy Value Gap: the gap between dairy’s contribution to nutrition, innovation, and resilience and the value consumers and policymakers recognize. Closing this gap requires accessible, reliable evidence and a broader understanding of dairy’s role in sustaining Europe’s food supply.

Making Dairy's Value Visible – Policy Highlights

Dairy delivers nutrition, supports livelihoods and connects farms, technology and supply chains. Yet consumers and policymakers often assess its value through price or individual product attributes. This Dairy Value Gap has strategic consequences: contributions that remain poorly understood are harder to recognize in purchasing decisions and public policy. Closing the gap requires clearer evidence and a broader understanding of dairy's place in the food system.

- **Recognize dairy as a strategic food infrastructure.** Farms, processing facilities, cold chains and food safety systems help maintain reliable food supplies. Strengthening these capabilities requires investment, innovation and diversified international trade.
- **Assess nutritional value beyond volume.** Liters of milk and grams of protein tell only part of the story. Protein quality, digestibility, micronutrients and affordability matter when evaluating dairy's contribution to different diets and stages of life.
- **Make reliable evidence accessible to people and AI.** Artificial intelligence increasingly filters and explains food information. Transparent sources, clear language and acknowledgment of uncertainty are essential to support understanding and trust.
- **Support informed choices that reflect individual needs.** Nutritional requirements, budgets and preferences vary. Information should help people understand where dairy fits within their own diet, with greater attention to aging, active lifestyles and personalized nutrition.
- **Advance Protein Coexistence.** Animal, plant and emerging protein sources can compete, complement one another and innovate. Policies should assess nutritional, environmental and economic outcomes while preserving diversity and consumer choice.
- **Move from defence to leadership.** Dairy should demonstrate its contribution while improving environmental performance, animal welfare and affordability. Credibility depends on measurable progress and evidence that can withstand scrutiny.

1. The Value Paradox: Why Dairy Is Worth More Than Its Price

Few products illustrate the difference between price and value as clearly as food. Consumers routinely pay substantial premiums for products and services whose value they immediately recognize: technology, convenience, entertainment, design, identity, or status. Yet food is often evaluated through a much narrower lens. A relatively small increase in the price of a liter of milk can become highly visible, even when the product remains an affordable source of multiple nutrients.

This is not an argument that dairy should cost more. It is an argument that **price and value are not the same thing**.

The distinction has become particularly important in a period of persistent pressure on household purchasing power. Food price inflation has affected access to healthy diets, especially among lower-income households, while nutritious foods tend to face particular affordability constraints. Food prices influence not only what consumers purchase but also dietary diversity and access to nutrient-dense foods (FAO et al., 2025; Costlow et al., 2025).

Affordability therefore matters. But focusing exclusively on price can obscure a second question: **what does the consumer understand that price to represent?**

A liter of milk reaching a supermarket shelf is the visible endpoint of a remarkably complex system. Behind it are farming, feed, land, animal health, genetics, veterinary science, labour, energy, processing, food safety, refrigeration, logistics, retail, technology, and regulatory compliance. The chain must simultaneously manage biological, climatic, economic, and geopolitical risks. Productivity improvements have made much of this complexity invisible to the final consumer.

This is one of the paradoxes of modern food systems: **the better they become at delivering safe, reliable, and affordable food, the easier it becomes to take that achievement for granted**.

Dairy illustrates the paradox particularly well. OECD–FAO projections indicate that dairy remains an important component of diets globally and that consumption is expected to increase as populations and incomes grow, particularly in Asia. At the same time, the sector operates under significant price volatility, regulatory pressure, and environmental constraints (OECD–FAO, 2026). More broadly, demand for livestock products and other nutrient-rich foods is expected to increase particularly in middle-income economies, while access remains considerably more constrained in low-income countries (OECD–FAO, 2025).

The challenge is therefore not simply to create value. The dairy system already creates nutritional, economic, and social value at multiple levels. The challenge is to make that value **visible and intelligible**.

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We can describe this as the **Dairy Value Gap**:

Value created ► **high**

Value communicated ► **fragmented**

Value perceived ► **incomplete**

Price sensitivity ► **high**

When consumers see only the final product and its price, much of the system behind it disappears. Nutrition competes with price. Innovation becomes invisible. Resilience is noticed mainly when supply fails. Food safety is valued primarily when something goes wrong. The livelihoods and capabilities embedded across the chain rarely enter the purchasing decision at all.

This matters strategically because value that is not understood is difficult to defend. If dairy is perceived primarily as a commodity, competition will naturally concentrate on price and volume. If it is understood instead through the combination of nutrition, quality, safety, innovation, accessibility, and resilience that it provides, the conversation changes.

The objective should not be to persuade consumers that price does not matter. **It is to ensure that price is not the only value they can see.**

That requires understanding a consumer who is simultaneously more price-conscious, more exposed to information, and more uncertain about what to believe. The dairy value gap, in other words, is not only an economic problem. It is increasingly a problem of **perception and understanding**.

2. The New Consumer: Information-Rich, Under-standing-Poor

The dairy value gap is not occurring in isolation. It is widening at a time when the relationship between consumers and food is becoming more complex. Today's consumer is simultaneously more price-conscious, more exposed to information, and more frequently asked to evaluate food through multiple, and sometimes competing, dimensions.

Cost remains fundamental. In the European Union, 60% of consumers now identify cost as one of the most important factors when purchasing food, ahead of taste, food

safety, origin, and nutritional content. Cost has also become more important compared with 2022 (EFSA, 2025). But price is only one part of the decision. Consumers are increasingly confronted with information and claims concerning nutrition, health, environmental impact, animal welfare, origin, processing, ingredients, and food safety.

This creates a paradox. Consumers have never had access to so much information about what they eat, yet **more information does not necessarily produce greater understanding**.

Food decisions are made in environments where time and attention are limited. Consumers cannot independently assess every nutritional claim, sustainability indicator, or production method associated with every product. They therefore rely on signals and shortcuts: labels, brands, institutional recommendations, media narratives, social networks, and increasingly digital platforms. Research suggests that choice overload can reduce the accuracy of consumer judgements, while salient information can significantly shape perceptions even when consumers possess prior knowledge (Buratto & Lotti, 2023). Studies examining the simultaneous presentation of nutrition and sustainability information also show that different signals can interact, producing trade-offs, halo effects, or confusion rather than a simple accumulation of knowledge (Jürkenbeck et al., 2024; Sengupta et al., 2026).

Dairy sits directly at the center of this information-rich environment.

A carton of milk, a yogurt, or a piece of cheese can now trigger questions extending far beyond taste and price. Is it healthy? How much protein does it provide? What about saturated fat? Lactose? Animal welfare? Greenhouse-gas emissions? Processing? Is a plant-based alternative preferable? Where was it produced? How should its nutritional value be weighed against its environmental footprint?

None of these questions is illegitimate. The difficulty arises when consumers are expected to process them simultaneously, often through simplified and sometimes conflicting messages.

The result is not necessarily an uninformed consumer. It may instead be an **over-informed but under-equipped consumer**: someone surrounded by data, claims and opinions, but lacking the time, context or expertise required to assess their relative importance.

This distinction matters. Consumer choice is not a purely rational calculation in which additional information automatically improves decisions. Research on food choice increasingly points to the interaction between information, trust, prior beliefs, social norms, price, familiarity, and contextual cues. Trust in the source itself can influence how consumers respond to food information, while poorly understood or competing signals may distort perceptions beyond the specific attribute they are intended to

communicate (Fuller et al., 2026; Jürkenbeck et al., 2024).

For dairy, this creates a strategic asymmetry. Its value is multidimensional – nutrition, protein quality, safety, affordability, livelihoods, culture, innovation, and resilience – but public debates frequently isolate one dimension at a time. A product can consequently be evaluated through its carbon footprint without its nutritional contribution, through its fat content without its overall nutrient profile, or through its degree of processing without sufficient attention to the purpose or effects of that processing.

The response should not be to give consumers less information. Nor should it be to protect dairy from scrutiny. It should be to make complex information **more comprehensible, contextualized, and useful for individual choice**.

This is increasingly important because the intermediaries performing that task are changing. Consumers once navigated complexity primarily through experts, institutions, traditional media, and search engines. Today, generative artificial intelligence can perform much of the searching, filtering, comparing, and synthesising on their behalf.

The next stage of the dairy value challenge may therefore not be a battle for more information or even more attention. It may be a battle for **understanding**.

3. AI and the New Cognitive Infrastructure

The information problem described above is entering a new phase. Consumers are no longer navigating food information only through labels, experts, traditional media, social networks, or search engines. Increasingly, they can ask an artificial intelligence system a direct question and receive a single, synthesised answer.

This represents more than another communication channel. Generative AI changes the architecture of information seeking itself. Traditional search generally presents users with sources that they must select, compare, and interpret. Conversational AI can perform much of this work on their behalf: retrieving, filtering, summarising, contextualizing, and explaining information in response to a natural-language question. Recent research describes this emerging environment as a shift toward “answer-first” information seeking, in which users encounter a synthesised response before – and sometimes instead of – examining the underlying sources (Lund, 2026; Xue et al., 2026).

The potential benefits are substantial. Generative AI can reduce the cognitive burden associated with navigating large quantities of information and make complex subjects more accessible. Experimental research suggests that AI-assisted information seeking can lower cognitive load, while well-designed conversational systems can also encourage exploration and knowledge acquisition (Stadler et al., 2024; Kim & Ji, 2026). In areas such as scientific knowledge, retrieval-augmented systems are already demonstrating the potential to identify, combine, and synthesise evidence across very large bodies of literature (Asai et al., 2026).

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But convenience introduces a second dynamic: **cognitive offloading**. Humans have always delegated cognitive tasks to external tools, from writing and maps to calculators and search engines. Generative AI expands the range of activities that can be delegated, including searching, comparing, summarising and, increasingly, elements of reasoning and judgment. Emerging empirical research suggests that AI-based cognitive offloading can extend from relatively simple tasks to higher-order cognitive activities, depending in part on users' AI literacy and capacity to evaluate outputs (Jiang & Chen, 2026).

We might describe the broader development as **cognitive outsourcing**: not necessarily the abandonment of human thinking, but the increasing delegation of parts of the process through which information becomes understanding.

The distinction is important. AI can augment human intelligence by reducing unnecessary cognitive effort and allowing users to engage with more information. But reducing effort does not automatically improve judgement. In one experimental comparison, students using an LLM experienced lower cognitive load than those using conventional search, but produced weaker reasoning and argumentation, suggesting that cognitive ease can sometimes come at the expense of deeper engagement (Stadler et al., 2024). Other studies similarly suggest that the quality of human-AI interaction depends strongly on whether users remain active participants, questioning, contextualizing, and evaluating rather than simply accepting generated outputs (Chen et al., 2025; Jiang & Chen, 2026).

This is why AI should increasingly be understood as part of our **cognitive infrastructure**. It does not merely transmit information. It can influence which information is surfaced, how competing evidence is synthesised, which distinctions are emphasised, and how complexity is translated into an actionable answer. Research on conversational information seeking already shows that both users' prompting strategies and the way AI systems adapt their responses influence the resulting information experience (Xue et al., 2026).

For dairy, the implications are significant. A consumer may no longer visit several websites to investigate whether milk is healthy, compare dairy with plant-based alternatives, understand protein quality, or examine sustainability claims. They may simply ask:

Should I drink milk? Is dairy healthy for my children?

What is the best source of protein after exercise?

Is dairy or a plant-based drink more sustainable?

The answer will inevitably simplify a complex body of evidence. What matters, therefore, is not only whether reliable information about dairy exists, but whether that information is accessible, structured, credible, and sufficiently represented within the knowledge environment from which AI systems generate answers. This creates a new strategic question for the sector:

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What does AI understand about dairy?

The question should not lead to attempts to manipulate AI systems or flood the information environment with favourable content. The opposite is required: **better evidence, clearer context, transparent sources, and information that can withstand scrutiny**. If the digital knowledge environment surrounding dairy disproportionately associates it with isolated controversies while its contributions to nutrition, protein quality, affordability, innovation, and food-system resilience remain fragmented or poorly explained, AI-mediated understanding may reproduce that imbalance.

The communication challenge is therefore evolving. For decades, companies competed for shelf space. The internet made them compete for search visibility and attention. Generative AI introduces a further competition, not simply to be seen, but to be **understood**.

For dairy, closing the value gap will increasingly require operating within this new cognitive infrastructure.

4. From Commodity to Strategic Food Infrastructure

The dairy value gap cannot be closed through communication alone. If dairy is to be understood differently, the sector must also reconsider how it defines itself. For decades, much of the public and policy conversation around dairy has been framed through production volumes, farm-gate prices, commodity markets, and individual product categories. These indicators remain essential, but they capture only part of the system's value.

Dairy is not simply a collection of products. It is a **food infrastructure**: a network of farms, processing facilities, technologies, skills, logistics, safety systems, and trade relationships capable of transforming a highly perishable agricultural product into safe and nutritious foods available to consumers every day.

The scale of this infrastructure is considerable. World milk production exceeded one billion tonnes in 2025 and is projected to reach around 1.22 billion tonnes by 2035. Importantly, most future production growth is expected to come from improvements in yields rather than proportional expansion of dairy herds, supported by better animal health, feed efficiency, genetics, and production technologies (OECD-FAO, 2026).

This matters because resilience is not simply the ability to produce more. It is the capacity of a system to continue delivering food when economic, environmental, or geopolitical conditions change. Dairy must manage biological risks, animal disease, energy and input costs, climate pressures, labour availability, regulation, and volatile international markets. At the same time, milk is highly perishable: it must be collected, cooled or processed rapidly, making functioning infrastructure and coordination across

the chain particularly important.

Global dairy markets illustrate this combination of local capacity and international interdependence. Less than 7% of world milk production is traded internationally, largely because of milk's perishability and high water content. Yet processed products such as milk powders allow production to move across regions and help connect areas of surplus with areas where demand exceeds local supply. OECD–FAO projections indicate that dairy consumption in Africa, Southeast Asia, and the Near East and North Africa will grow faster than domestic production over the coming decade, increasing the importance of international dairy trade (OECD–FAO, 2026).

This makes dairy relevant to a broader discussion about **food resilience**. Recent disruptions have reminded governments that efficiency alone does not guarantee security. Resilient food systems also require productive capacity, functioning markets, infrastructure, diversified supply chains and trade. The OECD and FAO emphasize that productivity and rules-based agricultural trade remain important for global food security, affordable healthy diets and the capacity to respond to regional imbalances in supply and demand (OECD–FAO, 2026).

The analogy with energy is useful. Energy was once discussed primarily through units of production, prices, and efficiency. Geopolitical shocks progressively expanded that conversation. Today, energy is also discussed in terms of security, resilience, strategic autonomy, and the capacity of economies to function under stress. Food deserves a similar perspective.

This does not mean treating dairy as energy or declaring every agricultural commodity “strategic”. It means recognizing that the value of a food system cannot be measured only by the market price of its final products. Its ability to provide nutrition reliably, adapt to shocks, sustain productive capacity, and connect domestic production with international markets also matters.

The social and economic dimension is equally important. Dairy provides regular income and employment across farming, processing and distribution, and in many developing economies livestock can also function as an economic asset and mechanism for diversifying household risk. FAO has long identified dairy development as a potential contributor to food security, rural income generation, and poverty reduction when reliable value chains and supporting infrastructure are in place (FAO, n.d.).

This broader framing also changes how innovation should be understood. Technology in dairy is not merely a means of producing additional liters. Automatic milking, real-time animal monitoring, decision-support systems, improved genetics, better animal health, and feed efficiency can increase productivity while helping producers manage labour constraints and resource use. OECD–FAO expects technology adoption and yield improvement to remain central to future dairy production growth (OECD–FAO, 2026). The strategic shift is therefore from **volume to capacity**.

Dairy should continue to measure liters, yields, prices, and productivity. But its contribution should also be understood through the nutritional value it delivers, the productive infrastructure it maintains, its capacity to innovate, the livelihoods it supports, and its ability to contribute to resilient food supply.

This requires moving beyond a permanently defensive posture. Environmental performance, animal welfare, affordability, and nutrition must remain subject to evidence and continuous improvement. But responding separately to every criticism risks allowing others to determine the terms of the debate.

The stronger proposition is to explain what the system is for.

Energy has learned to speak not only about kilowatts, but about security. Dairy needs to speak not only about liters, but about food resilience.

And once dairy is viewed as part of food infrastructure rather than simply as a commodity, the next strategic question becomes unavoidable: **what kind of nutrition will that infrastructure need to deliver in the decades ahead?** Increasingly, the answer leads to protein.

5. The Protein Moment: From Calories to Nutrition

For much of modern food policy, the central challenge was quantitative: producing enough food to meet the energy needs of a growing population. That challenge has not disappeared. But it is increasingly accompanied by another: ensuring that diets provide sufficient nutritional quality, not simply sufficient calories.

This distinction matters because food security and nutrition security are not identical. A diet can provide adequate energy while remaining deficient in essential nutrients or poorly adapted to individual needs. As incomes rise, populations urbanise and dietary preferences evolve, demand is also shifting from staple foods toward more diversified diets. The OECD–FAO Agricultural Outlook expects this transition to continue across many middle-income economies over the coming decade (OECD–FAO, 2026).

Protein sits at the center of this transition. But the relevant question is not simply how much protein a food contains. Proteins differ in their amino-acid composition and digestibility, and therefore in their capacity to provide the indispensable amino acids required by the human body. This is why FAO recommends evaluating protein quality through approaches such as the Digestible Indispensable Amino Acid Score (DIAAS), rather than treating all grams of protein as nutritionally interchangeable (FAO, 2013).

Dairy has a distinctive position in this context. Milk proteins provide all indispensable amino acids and generally have high digestibility. Whey and casein also offer different digestion characteristics and functional properties, which has enabled dairy proteins

to move far beyond traditional milk consumption into sports nutrition, clinical nutrition, infant formula, and products designed for older consumers.

This evolution is already visible in the market. OECD-FAO identifies growing consumer demand for high-protein products, particularly in Europe and North America, including products such as high-protein yoghurt and cottage cheese. Whey powders are also increasingly used in nutritional products, including clinical, infant, and elderly preparations (OECD-FAO, 2026).

Aging makes the issue particularly relevant. Longer lives are one of the great achievements of economic and medical progress, but longevity increases the importance of preserving physical function and muscle mass across the life course. Adequate dietary protein, together with physical activity, plays an important role in maintaining muscle protein synthesis and limiting age-related loss of muscle mass. The policy objective should therefore increasingly be **healthy longevity**: extending not only lifespan, but the years lived in good functional health.

This does not mean that every older person requires the same diet, nor that increasing protein intake alone can prevent age-related decline. Nutritional requirements depend on health status, physical activity, overall diet, and individual circumstances. The broader point is that an aging society increases the strategic importance of foods capable of delivering high-quality nutrition efficiently.

Dairy should therefore resist defining its contribution merely through the number of grams of protein printed on a package. Its nutritional proposition is broader. Depending on the product, dairy can combine high-quality protein with calcium, phosphorus, vitamin B12, and other micronutrients within familiar foods consumed across different stages of life. The relevant unit of analysis is consequently not simply **protein per gram**, but the nutritional contribution of the food as a whole.

This is also why the protein debate should not be reduced to a competition over headline protein numbers. A resilient nutrition system must consider several dimensions simultaneously:

- quantity;
- quality and indispensable amino-acid profile;
- digestibility;
- nutrient density;
- affordability;
- accessibility;
- cultural acceptance;
- and suitability for different stages of life.

The distinction becomes particularly important when comparing foods and designing public policy. Counting calories helped societies address one dimension of food security. Counting grams of protein alone risks repeating the same reductionism in a

different form.

For dairy, the opportunity is therefore not simply to participate in a growing high-protein market. It is to help move the discussion from **protein quantity to nutritional quality**.

The food challenge of the coming decades is not simply to provide enough calories, or even enough protein. It is to provide accessible, affordable, and high-quality nutrition.

This reframing also helps explain why dairy proteins are likely to remain relevant even as the range of available protein sources expands. OECD-FAO expects global dairy consumption to continue growing over the coming decade, while high-protein products are emerging as a distinct source of demand in mature markets (OECD-FAO, 2026).

The strategic implication is straightforward. Dairy should no longer think of protein as merely one nutritional attribute among many. **High-quality protein is becoming one of the bridges between dairy's traditional role as a food and its emerging role in healthy ageing, active lifestyles, and personalized nutrition.**

But recognising that contribution does not require declaring one protein superior for every person, purpose or diet. The future protein system will be more diverse, not less. That leads to a different proposition: **protein coexistence rather than protein war.**

6. Protein Coexistence: Beyond the False Food War

The growing importance of protein has often been accompanied by an unnecessarily binary debate. Animal versus plant. Traditional versus alternative. Natural versus technological. In policy discussions, this is sometimes translated into the idea of a **protein transition**: a progressive substitution of animal proteins with plant-based or alternative sources. This framing is too simple for a complex nutritional and food-security challenge.

Protein sources are not interchangeable commodities. They differ in amino-acid composition, digestibility, micronutrient content, environmental footprint, affordability, cultural acceptance, and suitability for different populations. As discussed in the previous chapter, nutritional assessment therefore requires looking beyond grams of protein alone. At the same time, plant foods such as pulses provide protein alongside fibre, minerals, and other beneficial dietary components and can contribute to diversified and sustainable diets (OECD-FAO, 2026).

The relevant question is consequently not whether animal or plant protein should “win”. It is **which combinations of foods can best meet different nutritional needs, in**

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different places, for different people.

Global dietary trends themselves suggest diversity rather than convergence toward a single protein model. OECD–FAO projections indicate that rising incomes in middle-income countries will continue to diversify diets and increase consumption of livestock and fish products, while pulses remain important sources of protein in many regions and their consumption is also projected to expand. Dietary patterns therefore continue to reflect income, geography, agricultural capacity, culture, and consumer preferences (OECD–FAO, 2026). This is the basis for what we define as Protein Coexistence.

Protein Coexistence starts from a simple principle: a resilient food system benefits from a plurality of protein sources rather than dependence on a single pathway. Dairy, meat, eggs, fish, pulses, and other plant proteins can coexist with emerging sources developed through fermentation and other technologies. They need not perform identical functions or compete for identical consumers.

Such diversity can generate three advantages.

First, **nutritional complementarity**. Different foods provide different combinations of proteins, micronutrients, fats, carbohydrates, fiber, and bioactive compounds. Research comparing animal- and plant-based protein sources increasingly cautions against evaluating the issue as a simple binary, emphasising instead individual foods, dietary patterns, and the nutritional consequences of specific substitutions (Lecerf et al., 2026).

Second, **system resilience**. Food systems operate across radically different climates, agricultural structures, income levels, and resource endowments. A protein strategy appropriate for Northern Europe will not necessarily be appropriate for Southeast Asia or Sub-Saharan Africa. Maintaining multiple productive pathways can help food systems adapt to economic, climatic, and geopolitical shocks rather than relying excessively on any one source or technology.

Third, **innovation and consumer choice**. Competition between protein sources can stimulate better products, improved production methods, and new nutritional applications. Innovation should expand the range of choices available to consumers rather than become an instrument for administratively selecting one protein system over another.

This approach does not imply that every protein source has the same nutritional, economic, or environmental characteristics. Nor does coexistence mean avoiding difficult questions about emissions, land use, animal welfare, nutrition, or affordability. These impacts should be measured and improved using the best available evidence.

It means rejecting a predetermined hierarchy in which entire categories of food are treated as inherently belonging to either the past or the future.

This distinction is particularly relevant for dairy. The sector does not need to oppose

plant proteins or emerging technologies to demonstrate its own value. Its stronger position is to continue improving its environmental and productive performance while demonstrating where dairy provides distinctive nutritional and functional benefits.

Indeed, simplistic substitution can itself generate trade-offs. Recent modeling reviews find that replacing animal-source foods with plant alternatives can improve some health and environmental indicators, while potentially reducing intake of particular nutrients depending on which foods are removed, what replaces them and whether alternatives are fortified (Reynolds et al., 2025). The policy lesson is not that substitution is inherently desirable or undesirable. It is that **the consequences depend on what is substituted, by what, for whom, and within which overall diet.**

Protein Coexistence therefore offers an alternative to one-size-fits-all protein policy. It shifts attention from replacing categories to improving outcomes: better nutrition, greater productivity, lower environmental impacts, stronger resilience, continued innovation, and wider consumer choice.

For dairy, this is an opportunity rather than a compromise. A more diverse protein economy can create new combinations of foods, ingredients, and technologies while allowing dairy to compete on the qualities it genuinely delivers.

**The future is not animal protein versus plant protein.
The future is protein coexistence.**

The strategic task for dairy is therefore not to win a protein war. It is to define and continuously improve its place within a more diverse protein system.

That requires a final shift: **from defending dairy to leading with its value.**

7. From Defence to Leadership: A New Dairy Strategy

The previous chapters point to a strategic conclusion. Dairy does not primarily suffer from an absence of value. It suffers from a gap between the value the sector creates and the value that consumers, policymakers, and increasingly digital information systems are able to recognise. Closing that gap requires more than better communication. It requires a change in posture.

For too long, dairy communication has often been reactive. When challenged on greenhouse-gas emissions, the sector responds with emissions data. When questioned about nutrition, it produces nutritional evidence. When animal welfare is criticised, it explains improvements in farming practices. When prices rise, it explains production costs.

Each response may be necessary. But a permanently reactive strategy has a structural weakness: **someone else is choosing the question.** Leadership requires dairy to define

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the conversation around the contribution it intends to make to future food systems. Five shifts can help achieve this.

1. From volume to nutritional value

Production volumes, yields and market shares will remain essential business indicators. But they are insufficient to describe dairy's contribution.

The sector should increasingly measure and communicate what its production delivers nutritionally: high-quality protein, essential amino acids, micronutrients and products adapted to different stages of life. This is particularly relevant as demographic change and interest in healthy ageing increase demand for foods that support adequate nutrition across the life course.

The strategic question becomes not only how much **milk is produced**, but **what nutritional value is delivered through that production**.

2. From commodity to resilience

Efficiency remains indispensable, but recent shocks have demonstrated the importance of productive capacity, diversified supply chains and functioning international markets. Dairy should therefore position itself within the wider discussion about food-system resilience.

This means making visible capabilities that consumers rarely see: farming knowledge, animal health, processing capacity, cold chains, food-safety systems, logistics, trade networks, and technological innovation.

Resilience is not an argument for protectionism. On the contrary, OECD-FAO analysis continues to underline the role of productivity and open, rules-based agricultural trade in moving food from surplus to deficit regions and supporting global food security (OECD-FAO, 2026).

The objective should be **resilient openness**: strong productive capacity combined with functioning and diversified international markets.

3. From isolated claims to an evidence ecosystem

The information environment described earlier changes how sectors establish credibility. Publishing another report or launching another campaign is unlikely to be sufficient if scientific evidence, market data, and information about production remain dispersed across institutions and difficult to interpret.

Dairy needs an accessible evidence ecosystem.

Industry organisations, researchers, companies, and public institutions already generate substantial knowledge. The opportunity is to make that knowledge easier to discover, compare, and understand – by humans and by AI-mediated information systems.

This requires transparent sourcing, accessible data, clear language, and acknowledgement of uncertainty where evidence remains contested. Credibility will increasingly depend not on producing the loudest claim, but on making reliable evidence easier to interrogate.

4. From one-size-fits-all messaging to relevance

There is no single dairy consumer. A young athlete interested in protein, an older adult concerned with maintaining muscle function, a family managing its food budget and a consumer interested in environmental performance are evaluating different dimensions of value.

Digital technologies increasingly make it possible to move beyond mass communication toward more contextualised information. This is consistent with the broader evolution toward personalised nutrition, where individual characteristics, behaviors, and objectives can inform more relevant dietary guidance (Ordovas et al., 2018).

The objective should not be to tell every consumer to consume more dairy. It should be to provide people with sufficiently good information to understand **where dairy may fit within their own diet, needs, and preferences**. That is a stronger proposition than persuasion because it respects consumer agency.

5. From protein competition to Protein Coexistence

Finally, dairy should resist the temptation to answer polarisation with more polarisation. The expansion of plant proteins, fermentation technologies, and new food products does not eliminate the role of dairy. It enlarges the protein economy and increases the importance of demonstrating comparative value.

Dairy should compete through nutrition, taste, affordability, functionality, sustainability improvements, and innovation, not through attempts to exclude alternatives.

Protein Coexistence provides a framework for doing so: different protein sources competing, complementing one another and improving within a diversified food system.

These five shifts share a common principle. **Dairy should spend less time explaining what it is not and more time demonstrating what it contributes**. That does not mean avoiding criticism. Environmental performance must improve. Animal welfare matters. Affordability matters. Nutritional claims must withstand scientific scrutiny. Innovation must continue.

Leadership begins precisely by acknowledging these challenges while refusing to allow any single one of them to define the entire sector.

The dairy industry already possesses many of the assets required for this transition: scientific knowledge, sophisticated production systems, global supply chains, trusted products, technological capabilities, and a long nutritional history. What is missing is not another defensive argument, but a framework capable of connecting these assets

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into a coherent proposition.

The Dairy Value Gap identified at the beginning of this paper is therefore also an opportunity. Closing it means moving:

from price to value;
from volume to nutrition;
from commodity to resilience;
from information to understanding;
from defence to leadership.

The sector cannot control every narrative that surrounds it. But it can become much clearer about the value it intends to create, and much better at making that value understandable.

Conclusions – Making Dairy’s Value Visible

Dairy enters the coming decade from a position of paradox. It is technologically sophisticated, nutritionally important, and deeply embedded in food systems around the world. Yet much of this value becomes invisible by the time the product reaches the consumer.

This paper has described that mismatch as the **Dairy Value Gap**. Closing it does not mean convincing consumers to ignore price, environmental impacts, or legitimate questions about health and animal welfare. It means ensuring that dairy is evaluated through a sufficiently complete understanding of what it provides, and of the trade-offs involved.

That challenge is becoming more important as the information environment changes. Consumers have access to unprecedented amounts of information while increasingly relying on intermediaries, including artificial intelligence, to filter and interpret it. In this environment, credibility will depend less on producing more messages and more on making reliable evidence accessible, contextualized, and understandable.

At the same time, the nutrition debate is evolving. The challenge ahead is not simply to produce sufficient calories, but to provide diverse populations with accessible, affordable, and high-quality nutrition. Dairy has a significant role to play because of the nutritional quality and versatility of its proteins and products, particularly as societies age and interest grows in healthy longevity and personalised nutrition.

That role does not require a new food war. **Protein Coexistence** offers a more resilient framework: animal, plant, and emerging protein sources competing, complementing one another, and innovating within a diverse food system. The objective should not be to determine which protein wins, but to improve the nutritional, environmental, economic, and technological performance of the system as a whole.

For dairy, this requires a change of posture. From volume to nutritional value. From commodity to resilience. From isolated claims to an evidence ecosystem. From one-size-fits-all communication to relevance. From protein competition to Protein Coexistence. Together, these five shifts lead to one broader transformation: **from defence to leadership.**

The dairy industry already knows how to produce milk with extraordinary levels of efficiency, safety, and technological sophistication. Its next challenge is different.

Don’t just produce milk. Make the world understand why it matters.

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