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Climate-KIC

# The New Normal for Irish Dairy

A VISION OF SUSTAINABLE  
DAIRY PRODUCTION V3.0

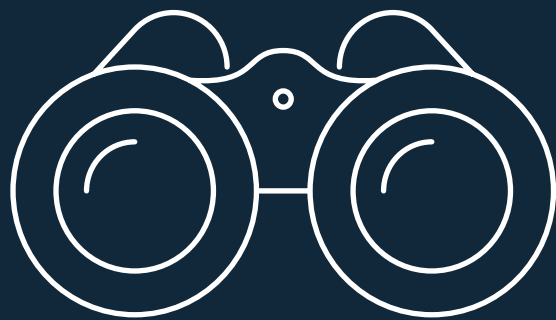
February 2024



Metabolic  
Consulting



# The Vision For The New Normal For Irish Dairy



This presentation provides a tentative vision of the New Normal for sustainable Irish dairy. The purpose of this vision is to inspire a general direction for action that is aligned with all stakeholders' interests, perspectives and values within the dairy system. It sees a thriving dairy sector that provides the country with safe, high quality, nutritious, sustainable food and contributes to Ireland's position as a world leader in sustainable food systems (SFSs).

The vision for the New Normal pushes for a radical transformation of the system that moves beyond incremental improvements. It acknowledges the complexities that exist within the dairy system yet is broad enough to be widely applicable and ambitious enough to deliver on targets for climate and beyond.

The framework of this vision therefore takes a holistic approach, covering four equally important and interrelated pillars: **inspiration**, **social**, **environmental** and **economic**. This draws from Commonland's 4 Returns approach to landscape restoration where the return of inspiration is as key in driving systems change as natural, social and financial levers. The four pillars are used as guiding principles to see

what a Safe and Just Operating Space (SJOS) could look like in the context of Irish dairy production. The model also draws from Kate Raworth's doughnut economics model where the safe and just operating space is determined by the minimum and maximum boundary conditions within the **inspiration**, **social**, **environmental** and **economic** space.

The SJOS can also be captured by the 'resilient, sufficient & efficient' concept developed by EIT ClimateKIC where future fit Irish dairy meets the basic standards across all pillars to be able to recuperate from shocks (resilient), produces what is needed and possible within the planetary boundaries (sufficient) and makes optimal use of resources (efficient).

The transformation to a future-fit dairy system relies on key stakeholders. We explore the different perspectives of these stakeholders starting with farming households at the center and looking more widely to the farm system as a whole, and the landscape in which they operate. We also identify how the enabling environment can play a crucial role in driving this transformation and keeping everybody within this SJOS.



# The Vision For The New Normal For Irish Dairy



## INSPIRATION PILLAR

### Inspiring new perspectives and mindset shifts

- Shift in activities and perception of dairy farming
- Recognition and valuation of sustainability efforts
- Farming households have a sense of hope, purpose and fulfilment



## SOCIAL PILLAR

### Promoting the wellbeing of individuals and communities

- Meaningful jobs
- Resilient livelihoods of farming households
- Good health and well-being of farmers
- Social and cultural capital of rural communities



## ENVIRONMENTAL PILLAR

### Preserving and restoring the natural environment

- Diverse agroecosystems, integrated within the landscape
- Safe, high quality, nutritious food within the planetary boundaries



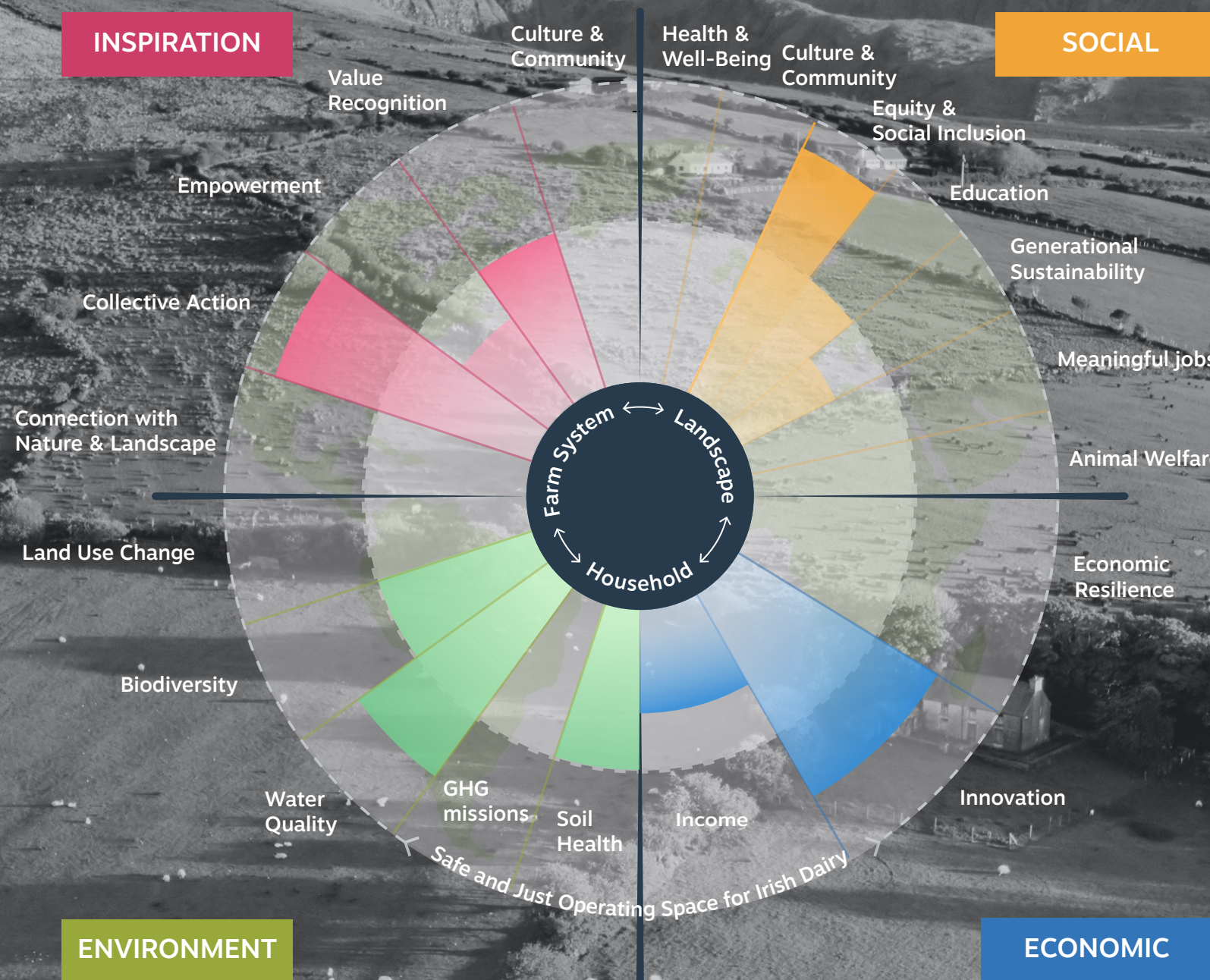
## ECONOMIC PILLAR

### Ensuring long term economic viability and stability

- Financially rewarding jobs
- Valuing other services farmers provide
- Innovative business models for resilience



# The Vision Framework



This is an example of what the framework could look like when various indicators are assessed under each pillar of sustainability. The more complete a bar, the closer the farming household, farm system or landscape is to the SJOS.

## FOUR PILLARS:

### INSPIRATION

inspiring new perspectives and mindset shifts

### ECONOMIC

ensuring long term economic stability

### ENVIRONMENTAL

preservation and restoration of the natural environment

### SOCIAL

promoting the wellbeing of individual people and communities

## Key stakeholders:



**Farming household:** Individuals who share responsibilities and benefits related to dairy production.



**Farm system:** All activities within the farm boundaries such as production, inputs and ecological processes.



**Landscape:** The local social, cultural, ecological and economic context in which the farm system operates e.g. the bio-region or the county.

## Enabling environment

Actors that have a strong influence on the dairy system and key stakeholders who will also be impacted by the transformation. These include:

- **Policy makers**
- **Value chain actors (co-operatives, processors, retailers)**
- **Consumers**
- **Communities**



# 01 The Inspiration Pillar



## ***The New Normal inspires new perspectives and mindset shifts***

*There is a tangible shift in the way dairy farming is delivered and perceived. Sustainability efforts are valued and recognized, giving farming households a sense of purpose and fulfilment. Farming households feel part of a greater movement that unites them with other stakeholders in the dairy system towards a more sustainable future for all.*



### Farming household



#### **Culture & community**

Farming households have a strong social and cultural connection to their community and they are able to actively participate in local activities, community life and local boards/associations/meetings. Dairy farming is an attractive profession to young farming generations and new entrants. Generational succession keeps generations living in the countryside, regenerating rural communities. Farming households are part of a larger farmer community (in-country and cross-border) where they can connect with other farming members to exchange information and best practices.



#### **Value recognition**

Farming households take pride in their product and the way they produce it. Society values and appreciates the significant contributions made by farmers. They are being rewarded for ecosystem services they contribute to, not just production. There is a more direct and closer connection between consumers and farmer and the mainstream media helps report on good performance through clear and true messaging regarding products' footprint and impact for that community.



#### **Connection with nature and the landscape**

Farming households are not just seen as providers of food but also as stewards of the land, playing a vital role in fostering resilient agroecosystems and conserving nature. The rootedness they feel to nature translates into care, respect and responsibility towards the land. Farming households recognize the interconnectedness of their activities with the environment - their stewardship also carries beyond just their land towards other landscapes/watersheds and they are inspired to seek solutions from nature.



#### **Collective action**

Farmers can leverage their combined resources, knowledge, and influence to drive and have co-ownership over meaningful change. Moreover, farmer collective action fosters a sense of community and mutual support, which are essential for navigating the uncertainties of agricultural transitions. Through farmer cooperatives, associations, and networks, individuals can access training, technical assistance, and peer-to-peer learning opportunities and have stronger voice in shaping agricultural policies.



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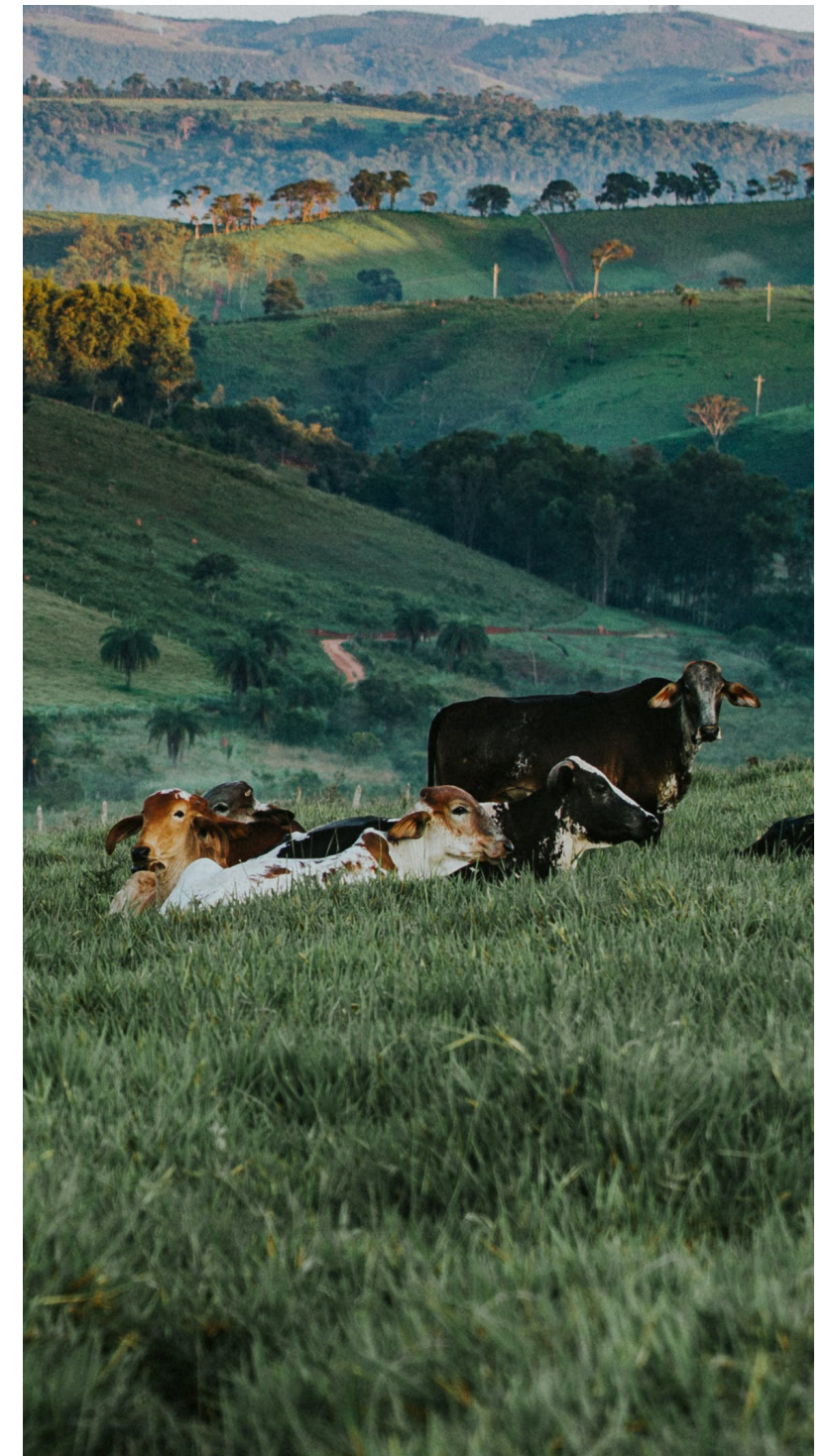


## Farming household



## Empowerment

Sustainable dairy farming empowers farming households, allowing them to recognize their own agency and become change-makers in the agricultural landscape - they have agency and control over their farms, are actively engaged in the transition process and policy discussions and know that their voices matter. Farming households are empowered to adopt and adapt sustainable practices more effectively and feel supported in their efforts by their community, by society and by policy.





# 02 The Social Pillar



## ***The New Normal promotes the wellbeing of individuals and communities***

*Dairy farming contributes to satisfying livelihoods for farming households and to the social fabric and cultural capital of rural communities.*



### Farming household



#### Health & well-being

The basis of sustainable dairy farming is a good quality of life. There is time for rest and social connection which supports good physical and mental health as well as farm safety. A good work-life balance also means farmers have time available to engage in transition activities, including education and training and implementing new approaches.



#### Meaningful jobs

Dairy farmers find purpose and fulfillment in their work. Meaningful jobs empower farmers to cultivate a deeper connection with the land and promotes continuity - they are likely to stay in the profession, passing down traditional knowledge and skills to future generations, which is important agricultural resilience and communities.



#### Community

Farming households have strong relationships and there are support mechanisms to address family conflict. The same applies to neighborly conflict. In addition, regional initiatives build connections and a shared sense of purpose, strengthening household and community resilience.



#### Culture

Dairy farmers are celebrated for their contribution to the country's cultural identity. They are custodians of traditions deeply rooted in Irish history, shaping a way of life that connects past and present. Milk products do not only sustain the Irish people but also exports a piece of Ireland's heritage worldwide.



# 02 The Social Pillar



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## Farming household



### Education

Farming households have access to information, education and opportunities to acquire and share knowledge and learn new skills. There is investment in peer-to-peer learning and making education more innovative, unlocking inspiration.



### Equity and social inclusion

A sustainable dairy system involves, and benefits, everybody who participates in it. Dairy farming creates pathways for success through fair access to learning opportunities, farmland, capital, technical support and government programs taking into account people's circumstances. It engages and empowers everyone in the transition to a future fit dairy system regardless of gender, orientation or economic status.



### Generational sustainability

The next generation is supported in taking forward sustainable dairy farming, is given ownership and feels empowered to make decisions for the future of their farms. More young people practicing dairy farming enhances the vitality of rural communities.





# 02 The Social Pillar



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### Landscape



#### Health & well-being

The social wellbeing of farming households supports the creation of sustainable and resilient rural landscapes. A focus on environmental health also supports the health and well-being of the community.



#### Community

There are strong working relationships and social networks between farmer communities, public stakeholders and value chain stakeholders in the landscape. There is also space for regional diversity in approaches to sustainable farming through community-based social enterprise models in dairy farming. In some areas there is a partial (re-)localization of production that reduces the reliance on distant supply chains, promotes local production and economies and serves community food needs.



### Farm system



#### Animal welfare

Dairy farm cows are treated with the gold standard in farm animal welfare. This has positive impacts on health and well-being and is also key for economic success.





# 03 The Environmental Pillar



## ***The New Normal restores and preserves the natural environment***

*Sustainable dairy farms are diverse agroecosystems, integrated with the landscapes around them. They deliver a sustainable supply of safe, high quality, nutritious food while doing their fair share to stay within the ecological boundaries. To ensure this, environmental outcomes on the farm and landscape level are measured and monitored at the appropriate scale.*



### Farm system



#### Soil health

Regenerative agriculture approaches help protect soils on dairy farms and restore them to a 'healthy' state. This means improved soil physical properties and fertility but also a flourishing, complex web of biological activity that plays an important role in maintaining ecosystem services. Rich soil also supports the health and productivity of cows, and the nutrient density of the food produced.



#### Emissions

Future fit dairy farms contribute their fair share in mitigating climate change and deliver on Ireland's national climate goals. Carbon balance sheets help identify actions to reduce emissions. All efforts have been exhausted to reduce absolute emissions and improve efficiency. Maximising decarbonisation is prioritized as much as maximising carbon sequestration.



#### Biodiversity

There is rich, thriving biodiversity on and off farm which improves the functioning of agroecosystems and contributes to the resilience of farms and wider landscapes. Both space for nature and quality of nature on the farm level has improved.



#### Water

Circularity in nutrient management and implementation of nature-based solutions on dairy farms ensures abundant and clean water reserves and helps keep Ireland in line with national and EU policy.



# 03 The Environmental Pillar



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### Landscape



#### Biodiversity

Dairy farming is collectively done in a way that protects and increases biodiversity on farm but also serves to improve ecosystem connectivity and functionality on the landscape level. Farm reductions in ammonia emissions improves the condition of nearby natural habitats in the region.



#### Land use change

Ecological boundaries are considered when designating land for dairy production or alternative uses. For example, existing dairy farming on peatland is done more sustainably and application of practices such as agroforestry provide additional income sources for dairy enterprises. In addition, local production of livestock feeds is encouraged.



### 03 THE ENVIRONMENTAL PILLAR

## Case Study



### FARM ZERO C

Farm Zero C is a collaboration between Carbery, an international food ingredients company based in West Cork, and BiOrbic, Ireland's National Bioeconomy Research Centre and other actors (Science Foundation Ireland (SFI), Teagasc, various universities) to create a climate-neutral, economically-viable dairy farm.

This pilot project aims to demonstrate that a new sustainable business model for large scale grass-based dairy farming is possible and profitable. It is a good example where dairy farm activities are brought within the planetary boundaries through reduction of emissions, increasing soil health and on-farm biodiversity and contributing to cleaner water supply by decreasing fertilizer usage. At the same time, the proposed interventions are commercially viable for farmers. Once this model has been tested over the next few years it can be rolled out rapidly to farmers.

Shinagh Farm, a heavily stocked 250 acre commercial dairy farm owned by four West Cork cooperatives, is the site of the project. The project takes a holistic approach, combining a range of technologies and practices targeting soil and grassland; animal diet and breeding; biodiversity; life cycle analysis; and renewable energy to reduce emissions and increase farm productivity and resilience.

The changes on the farm will be evaluated and compared with benchmark data to evaluate the impact each step can make in reducing emissions. Through various measures the Shinagh Farm has seen a reduction in its their carbon footprint from 0.95 to 0.78 kg CO<sub>2</sub> eq./kg FPCM between 2018 and 2020. The goal is to eventually reach zero emissions by 2027.

A network of partners and collaborators drive this project. Recently, one of Ireland's leading financial institutions, AIB, has even partnered up with Farm Zero C which will provide the necessary financial support for research, promotion and public advocacy.



# 04 The Economic Pillar



## ***The New Normal promotes long term economic viability and stability***

*Dairy farming is financially rewarding and values other services farmers provide. Flexible measures and new innovative business models bolster resilience against market volatility and climatic shocks.*



### Farming household



#### Income

Dairy farming is not only economically viable, it is also financially rewarding and relatively constant over time. Farmers are paid not only for production volume but they are also rewarded for the product qualities, services and value they provide. This includes appropriately valorizing positive environmental and social impact. Market systems exist that support the production/offtake of these certified and sustainable products. A diverse array of public and private financing options help farmers cover the cost of transition. Local market growth supports shorter and more transparent supply chains and thus a more connected dairy food system.



#### Innovation

New sustainable business models and the adoption of innovative agricultural technologies and practices means farmers can cultivate resilient, profitable, and environmentally responsible enterprises for the future. It also generates employment opportunities across the value chain. This not only strengthens rural economies but also attracts youth to agriculture by offering avenues for entrepreneurship and skill development.



#### Economic resilience

Sustainability and resilience is embedded into farm priorities and management decisions. Farming households are able to deal with change and uncertainty that comes from market volatility and climatic shocks. Farmers are confident that their farm will be economically viable in the long-term.





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