

# ***Striking the Balance***

## ***Plant, protein and the planet***

***April 2023***

BORD BIA   
**Thinking  
House**

O P I N I O N S

# Research Approach

**Why?** To develop a comprehensive understanding of the **market dynamics, consumer consumption behaviour, attitudes and perceptions** of the **plant-based market** to support the development of a **roadmap for success for the food, drink and horticulture industry** while **facilitating more robust innovation development**.

**How?**

- 1. Extensive **desk review** to provide contextual grounding and identify exemplars of note
- 2. **N=8 in-depth interviews** with commentators and experts along different points in the supply chain
- 3. Exploratory mission at the **Plant-Based Expo** in London
- 4. National **online consumer survey** in n=7 markets

**Who?** Nationally Representative of all adults

**Where?**





*Please note:  
China Market  
will be reported  
separately*

**How Many?** *Plant-Based Consumer Survey*  
**N=7,096** in Total; approx. n=1,000 per market  
N=6,066 excluding China

**When?** **October– December 2022**



Photo by Stijn Dijkstra from Pexels



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# Who we spoke to: In Depth Interviews



Thought leader in Global Agribusiness, AgTech, and Food Systems



Animal- Free Meat and Dairy Producers



Monaghan Biosciences



Vegan Restaurant Owner



Dietitian and Owner of Dublin Nutrition Centre



Professor of Psychiatry



Tillage Farmer who Implements Regenerative Practices



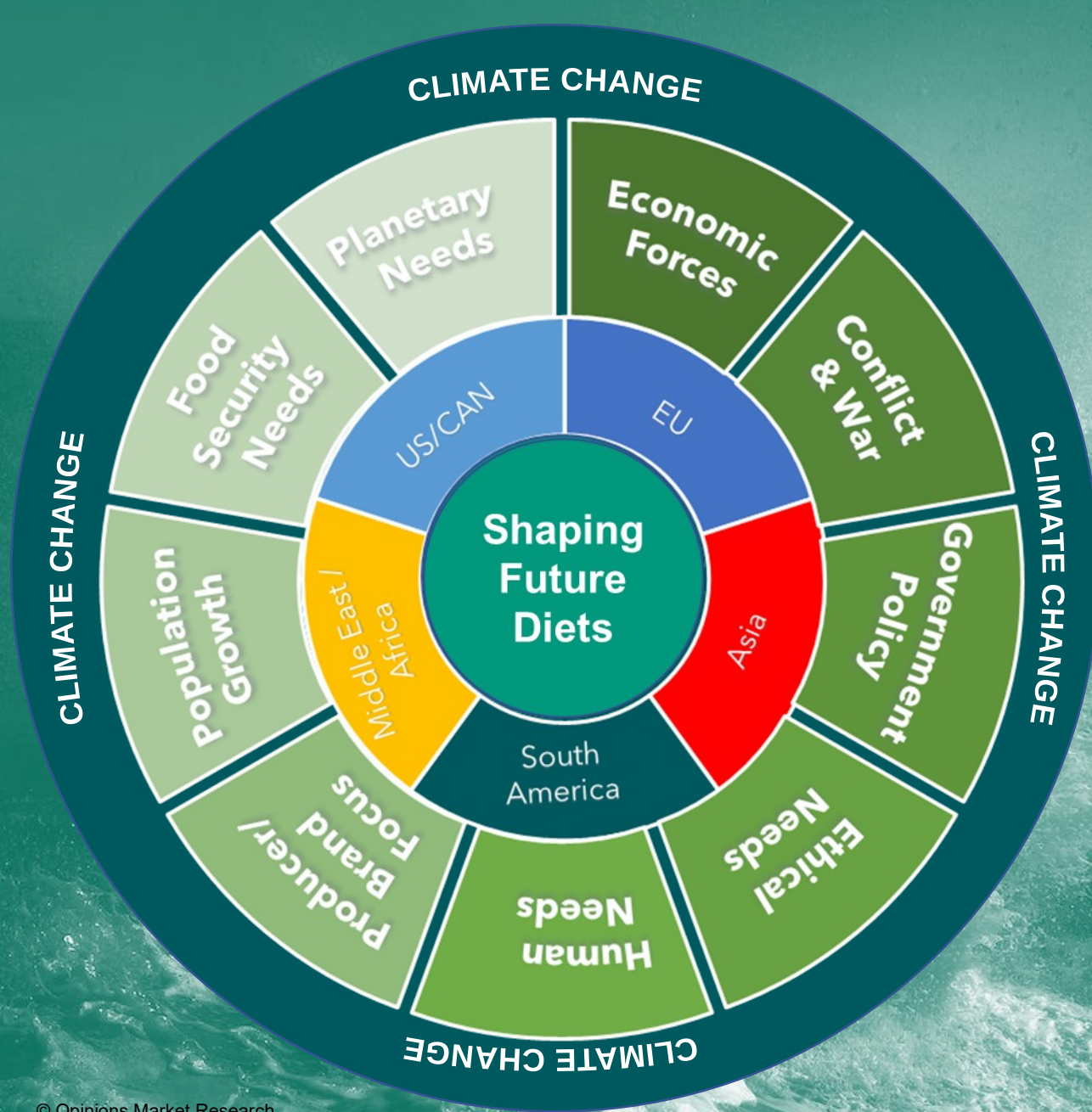
University Design Lecturer and in Sustainable Materials



# Food System Pressures

Taking a Step Back



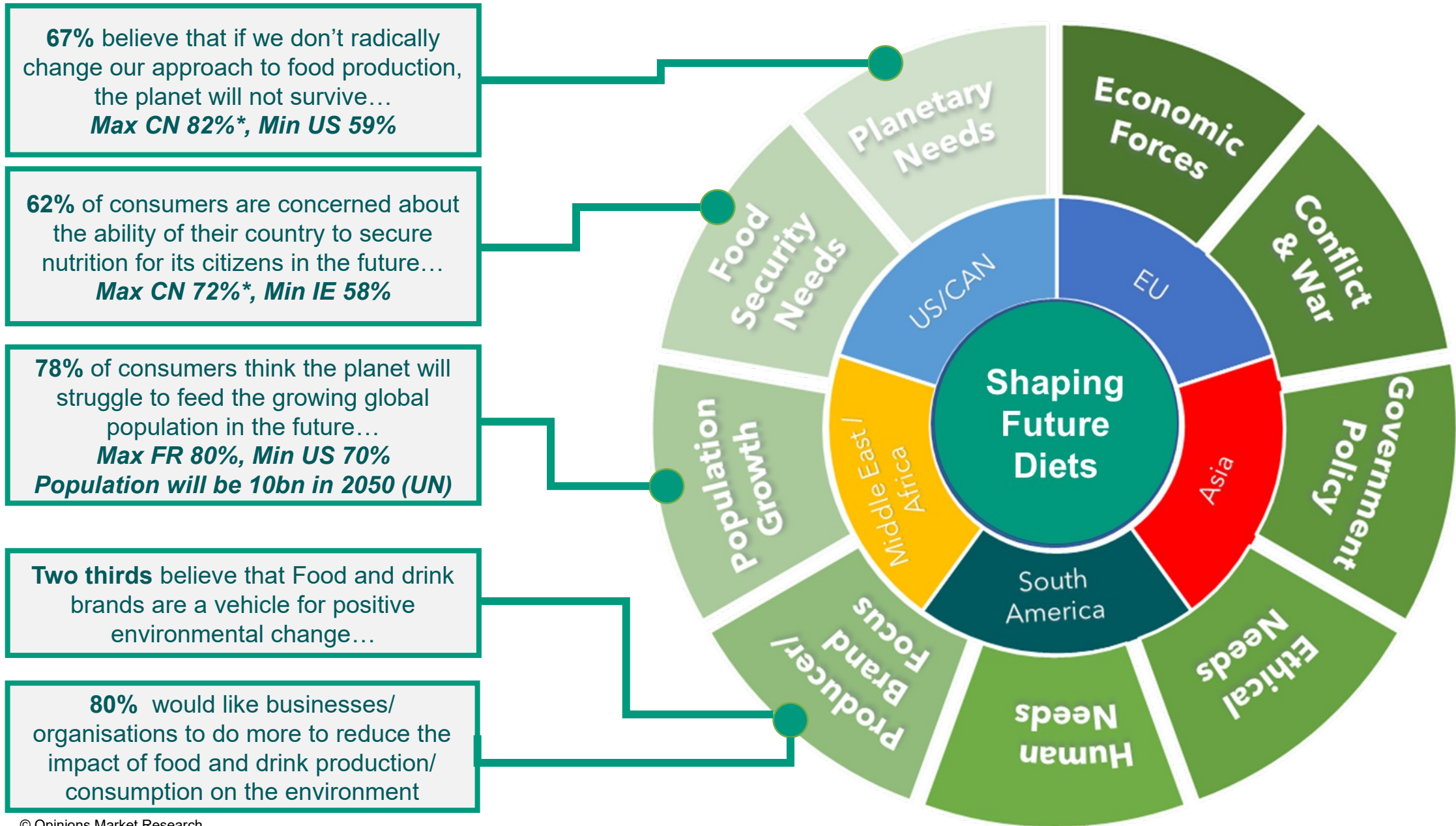


**Alongside Climate Change there are many forces that will impact our future dietary choices....**

**The intersection of policy, economics, trade, industry, human behaviour and needs; the food system is uniquely complex.**

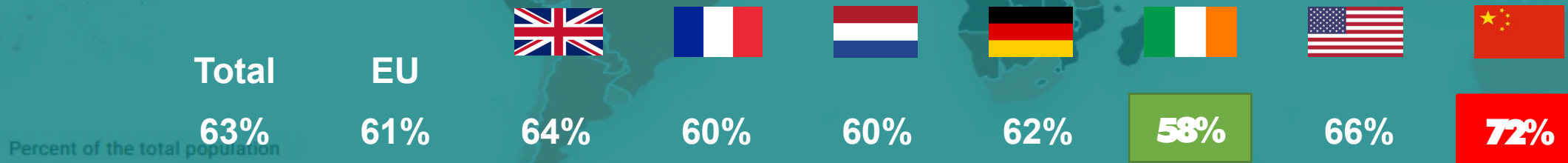
*Global, Complex, Interconnected and Urgent!*





© Opinions Market Research

“I am concerned about my country’s ability to supply secure nutrition to its citizens in the future”



***“Between 2000 and 2020, China’s food self-sufficiency ratio decreased from 93.6 percent to 65.8 percent.”***


- Council on Foreign Relations, US Think Tank

**“Food security is an important foundation for national security.”**

## Chinese President Xi, April 2021

The boundaries and names shown and the designations used on this map do not imply the endorsement of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal status of any country, territory, city or area or of its authorities or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.



A top-down view of a group of people, mostly wearing red shirts, gathered around a round table. They are using chopsticks and spoons to eat from various white bowls and plates. The table is set with several dishes, including what appears to be stir-fried meat, vegetables, and rice. The atmosphere is communal and focused on the meal.

*“Despite its domestic production, China has been a net importer of agricultural products since 2004. Today, it imports more of these products—including soybeans, corn, wheat, rice, and dairy products—than any other country.”*

***“Between 2000 and 2020, the country’s food self-sufficiency ratio decreased from 93.6 percent to 65.8 percent.”***

- Council on Foreign Relations, US Think Tank


# Role of government policy particularly important in China

China's Ministry of Agriculture and Rural Affairs released its official five-year agricultural plan on January 26, 2022. For the first time, China included cultivated meats and other "future foods" like plant-based eggs as **part of its blueprint for food security** going forward.

*"This nationwide strategic initiative could accelerate the country's regulatory timeline for cultivated meat, drive more research and investment...and **fuel broader consumer acceptance** of these products."*

*-Josh Tetrack, CEO of food-tech company, Eat Just Inc.*

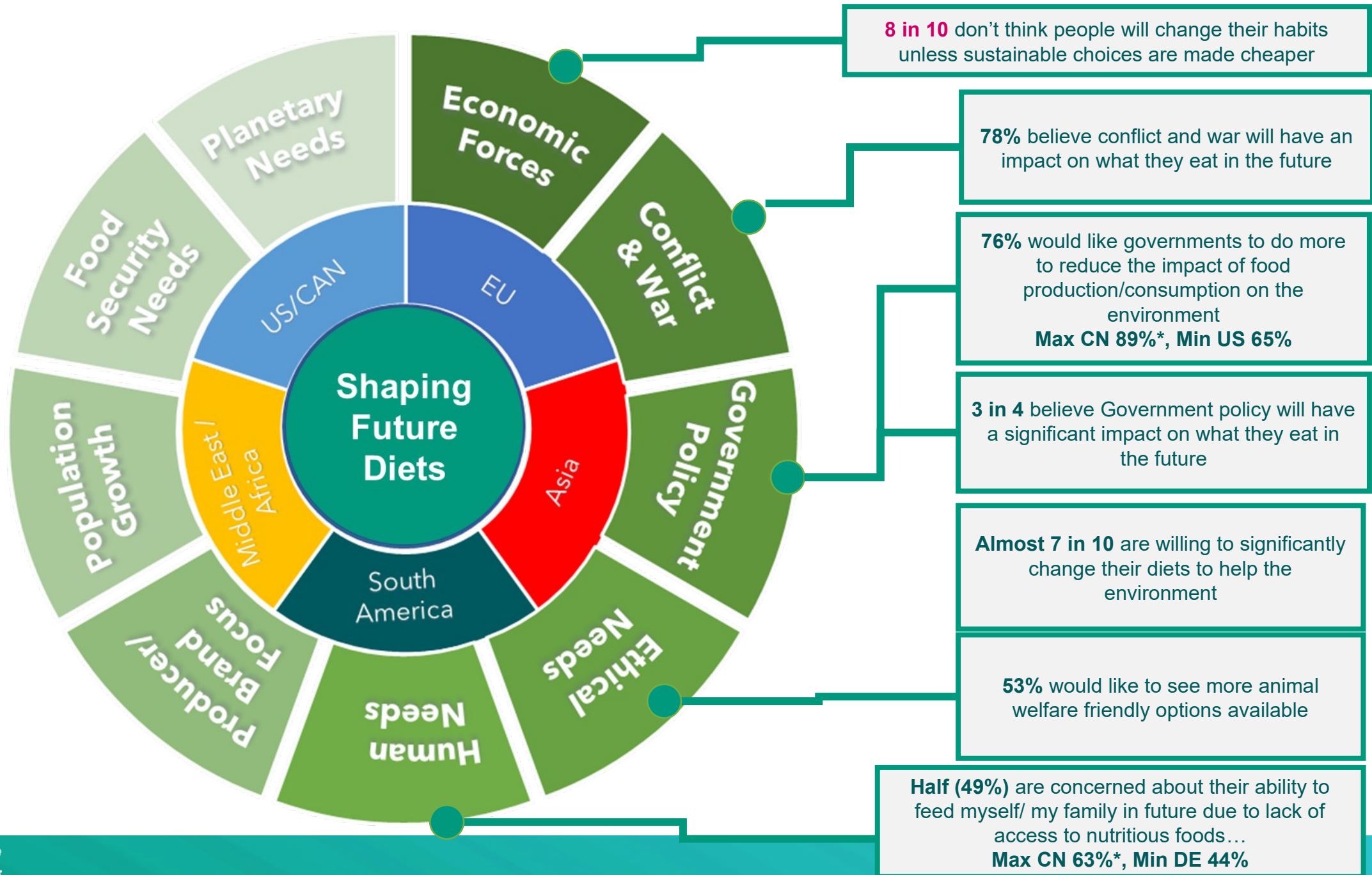





***“Sustainability is not just about the environment, it’s also about food safety and economic security”***

***“Diversifying is key to being able to feed the world in the future”***

*-Mary Shelman, Thought leader- Global Agribusiness*



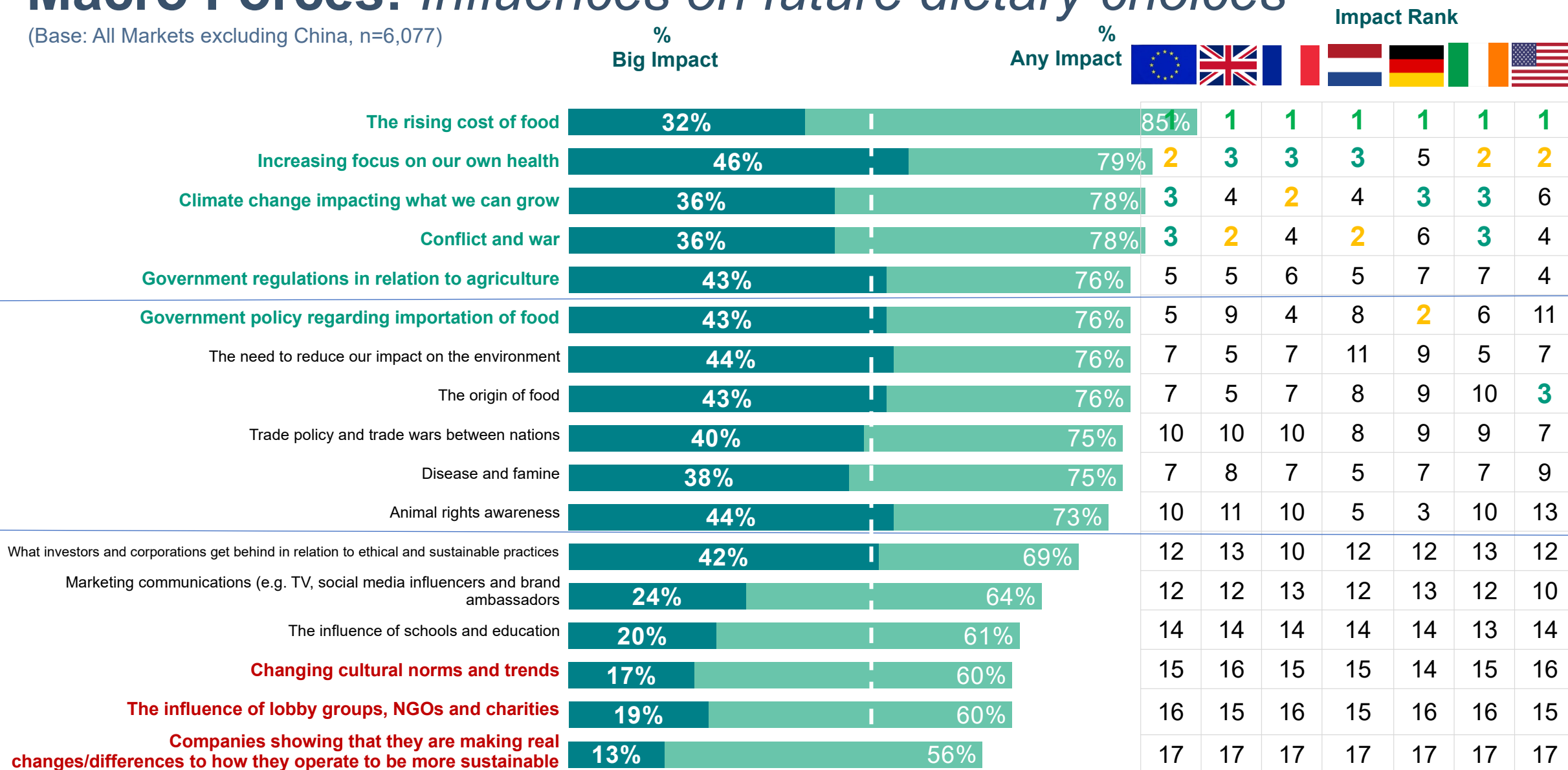


***“We think it’s all just about consumer choice, but for some countries its government policy that will dictate food and drink consumption behaviour and trends”***

-Mary Shelman, Thought leader- Global Agribusiness

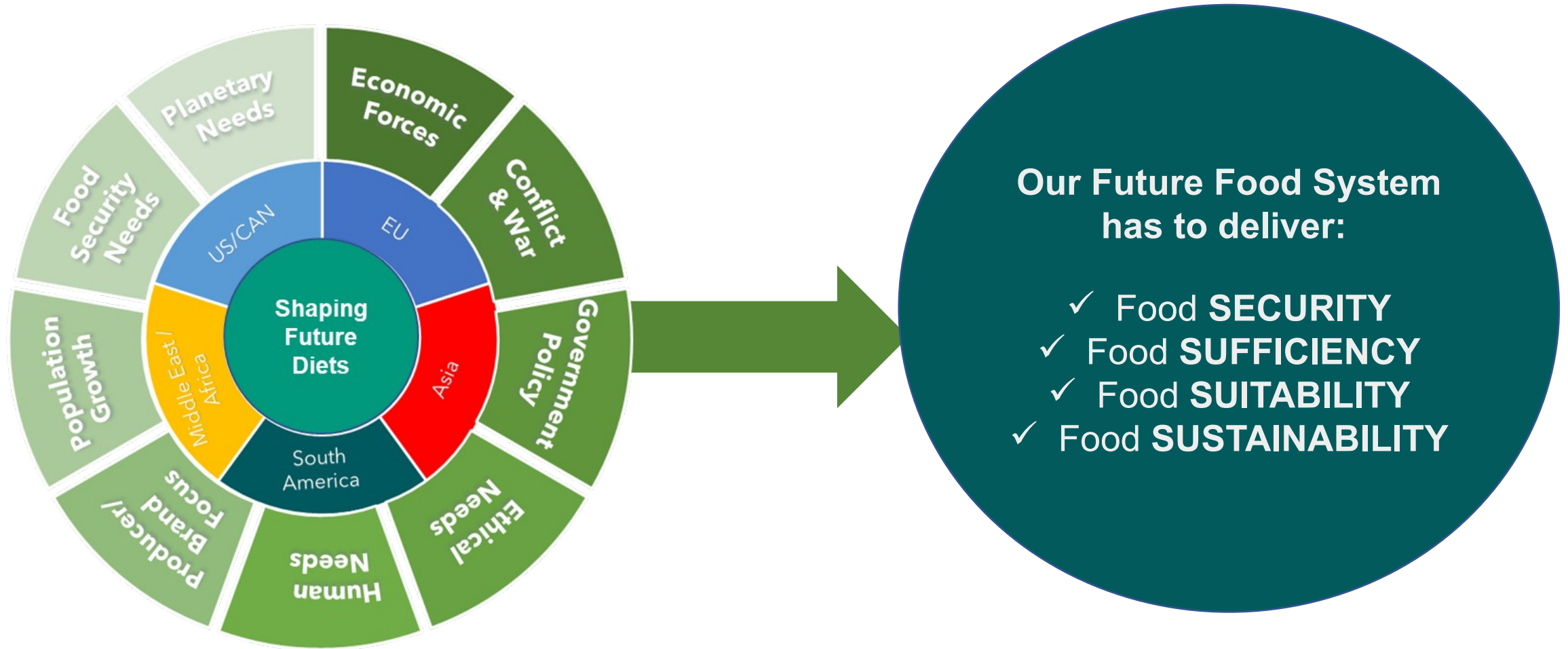
# Macro Forces: *Influences on future dietary choices*

(Base: All Markets excluding China, n=6,077)





# Future- Proofing Food Systems









# Dietary Choices

Setting the Scene

# DIETARY PREFERENCES

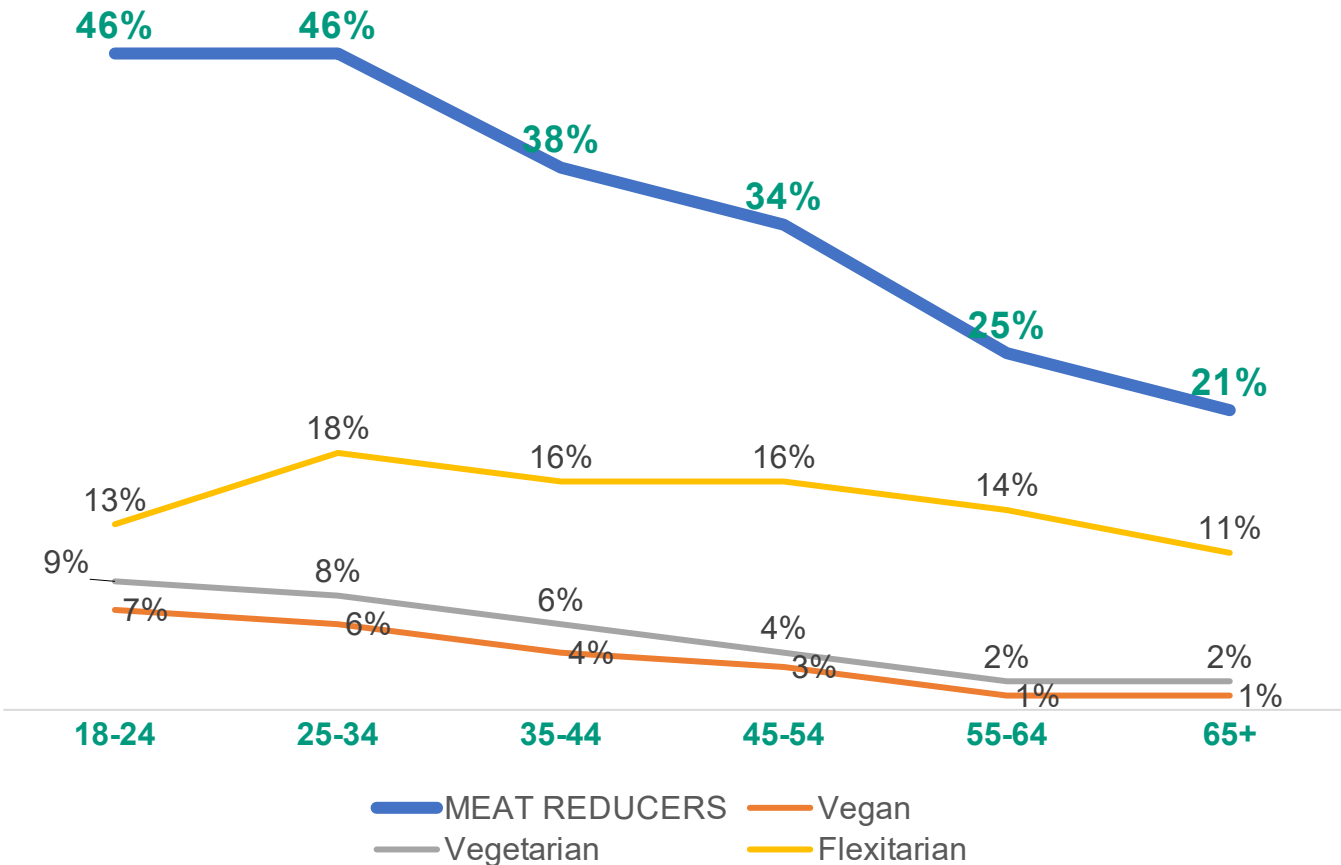
(Base: All Markets , n=6,077)

|                                                                                     |           | UK<br><br>(n=1,009) | France<br><br>(n=1,023) | Netherlands<br><br>(n=1,016) | Germany<br><br>(n=1,014) | Ireland<br><br>(n=1,004) | USA<br><br>(n=1,011) |
|-------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| A standard diet with no conscious restrictions                                      | 60%<br>2% |                                                                                                       | 66%                                                                                                       | 47%                                                                                                            | 56%                                                                                                        | 68%                                                                                                        | 62%                                                                                                    |
| Flexitarian/Reducetarian                                                            | 15%       | 12%                                                                                                   | 15%                                                                                                       | 21%                                                                                                            | 23%                                                                                                        | 8%                                                                                                         | 8%                                                                                                     |
| A red meat-free diet, that may include chicken or seafood, dairy products, and eggs | 7%        | 8%                                                                                                    | 5%                                                                                                        | 4%                                                                                                             | 6%                                                                                                         | 9%                                                                                                         | 13%                                                                                                    |
| Vegetarian diet, excluding all meat, poultry and seafood.                           | 4%        | 7%                                                                                                    | 3%                                                                                                        | 6%                                                                                                             | 6%                                                                                                         | 5%                                                                                                         | 3%                                                                                                     |
| Pescatarian or Pollotarian, replacing meat with fish or chicken in your diet        | 3%        | 5%                                                                                                    | 4%                                                                                                        | 3%                                                                                                             | 3%                                                                                                         | 3%                                                                                                         | 4%                                                                                                     |
| Vegan avoiding all animal products including meat, poultry, seafood, eggs and dairy | 5%        | 4%                                                                                                    | 2%                                                                                                        | 5%                                                                                                             | 2%                                                                                                         | 3%                                                                                                         | 4%                                                                                                     |
| Other (Please specify)                                                              | 4%        | 1%                                                                                                    | 2%                                                                                                        | 12%                                                                                                            | 1%                                                                                                         | 3%                                                                                                         | 3%                                                                                                     |
| Lactose Free, a diet excluding lactose from food and drinks                         | 2%        | 1%                                                                                                    | 2%                                                                                                        | 3%                                                                                                             | 2%                                                                                                         | 2%                                                                                                         | 3%                                                                                                     |

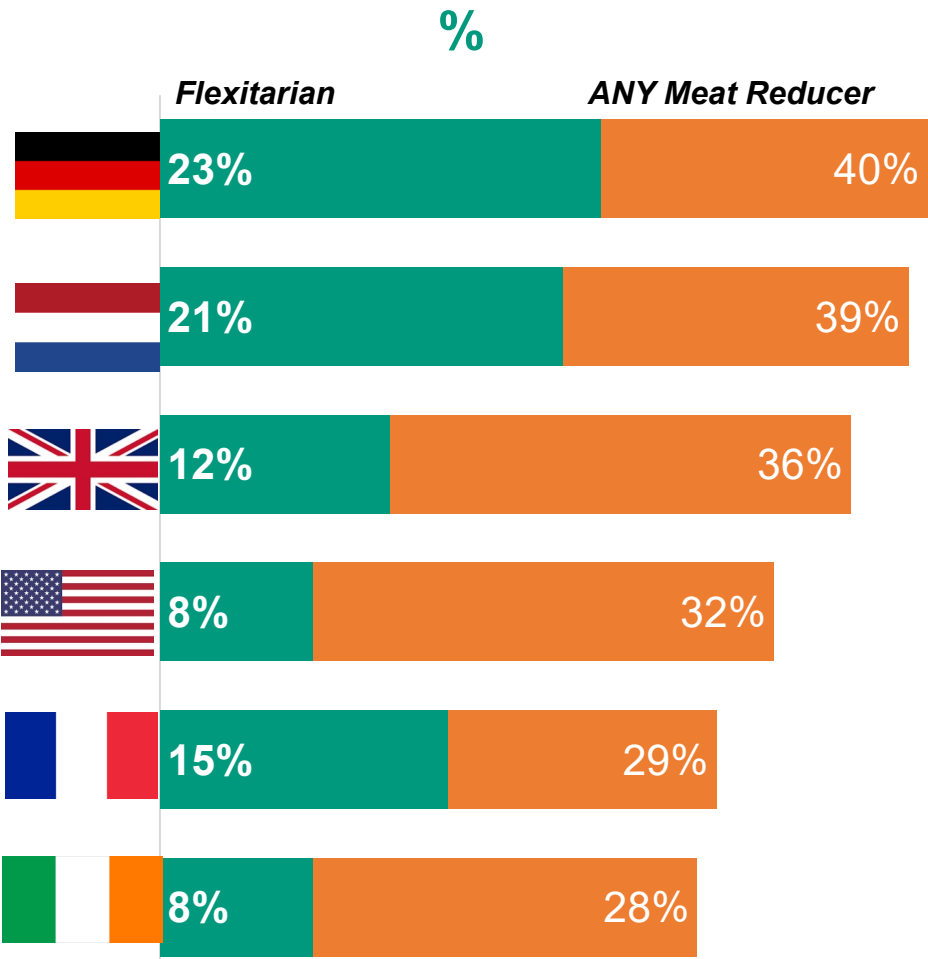
# % ANY Reduced/No Meat Diet\*

(Base: All Markets , n=6,077)

TOTAL: 34% Consciously Meat Reduced Diets



\*Includes Pescatarian, Pollotarian, Flexitarian, Vegan and Vegetarian



“We used to be more anti-meat. But the flexitarian diet is rising.”

Aveen Bannon, Registered Dietician



**46% of European consumers are consuming **less meat** than a year ago.**

*(Innova Insights, for Smart Protein Project, 2021)*

**52% of consumers in Key Global Export Markets claim to be reducing red meat, 42% Dairy.**

*(Opinions, Global Sustainability Outlook 2021)*





# Two Macro Themes



*“The good news is that you don’t have to give up eating meat and dairy entirely. **Less and better is a good mantra.**”*

*Dr Christian Reynolds, Senior Lecturer at the Centre for Food Policy, City University of London*

*“The environment can’t cope with a solely plant based world, **we need to find the balance**”*

*Aveen Bannon, Registered Dietician*

*“Diversifying is key to being able to feed the world in the future.....*

*We are looking for **dietary diversity, plant-based foods fit into that.** That could mean a low meat diet rather than a meat free diet.”*

*Mary Shelman, Thought leader- Global Agribusiness*





**86% of plant-based alternative buyers  
(monthly) are neither vegan or  
vegetarian....**

**26% are flexitarian  
14% are vegan/vegetarian**

**In the U.S., 98 percent of people who buy plant-based  
meat also purchase conventional meat (GFI, SPINs Data)**



# Appealing to the flexitarian market is key to driving growth

**“A vegetarian restaurant would not survive with purely vegetarian customers, it also needs the flexitarians, a wonderful group of people who enjoy vegetarian food.”**

*Deirdre McCafferty, Cornucopia*

***“Food in a vegan restaurant **must be delicious and appetising to compete-** it should never be just worthy”***

*Deirdre McCafferty, Cornucopia*

17 APRIL 2023

## Innovation of the day

Concepts, campaigns and companies worth tracking. Selected by our experts, delivered daily.



BARILLA

Barilla's Open Carbonara brings inclusivity to the table by reinventing a classic

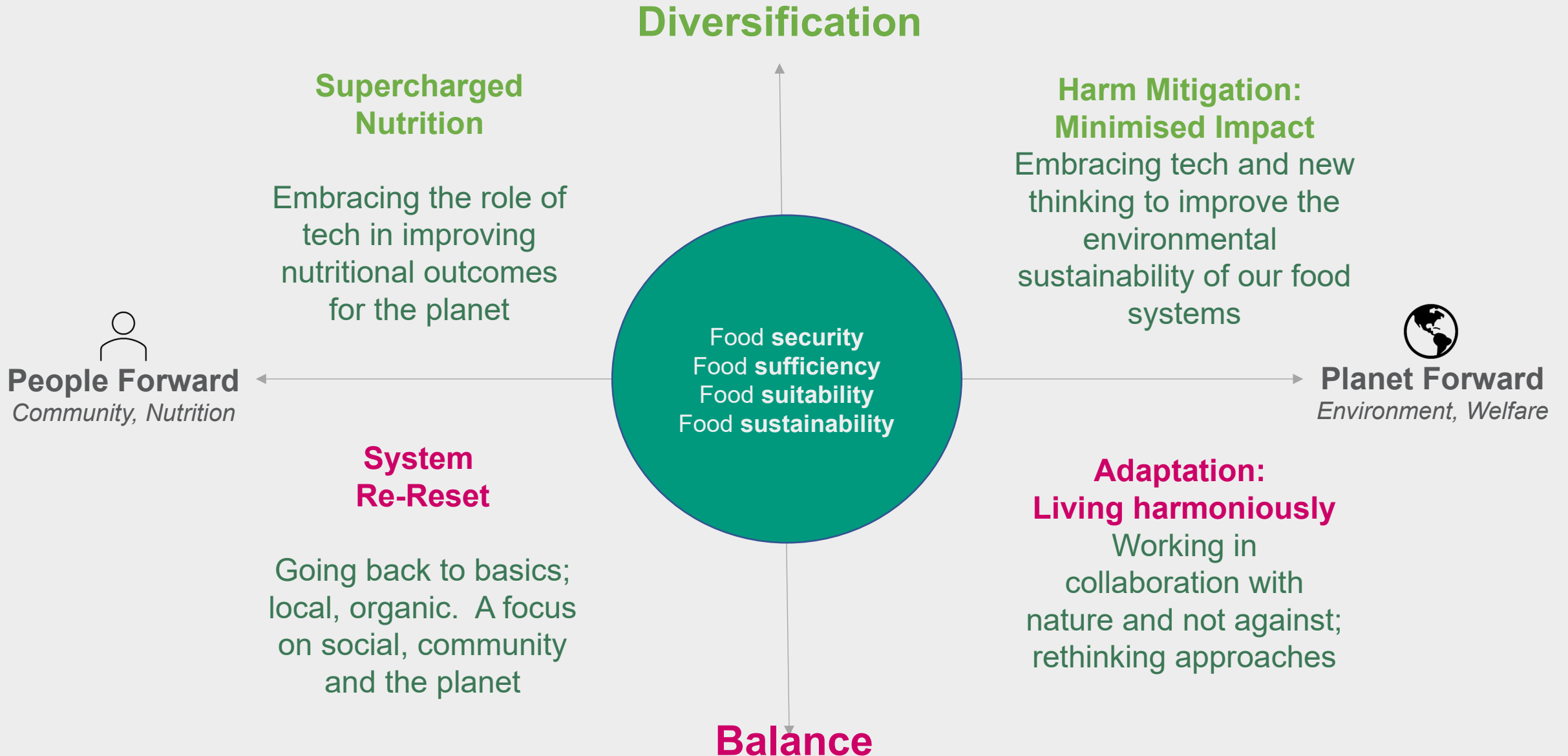
Carbonara may be one of the most familiar pasta recipes around, but since it's made with pork, eggs and dairy, it's off-limits to many eaters. Major pasta producer Barilla aims to remedy that issue with its latest project, [Open Carbonara](#). Barilla took the classic Italian dish and made it more inclusive by adapting the recipe to accommodate various dietary restrictions.

A team of chefs led by Marco Martini chose ingredients such as potatoes, soy flakes, saffron and celery root to preserve traditional carbonara's texture and flavor. Open Carbonara is the first offering in Barilla's upcoming Open Recipes platform, which will redesign beloved pasta dishes to make them accessible to a much wider audience. The company's Food Academy is working with culinary experts from various cultural backgrounds to ensure a truly inclusive dining experience.

# Macro Themes

Dietary Futures

# Macro Themes

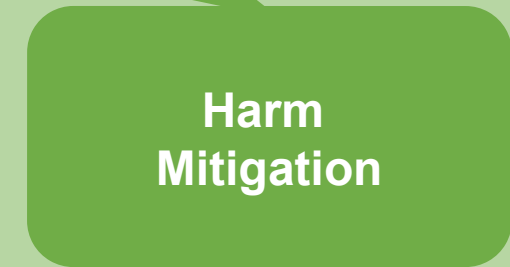
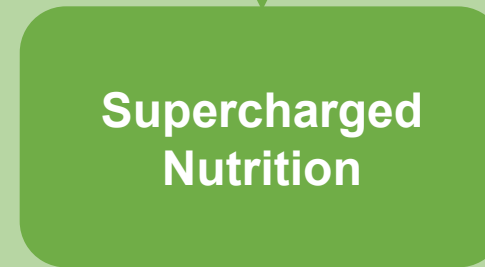
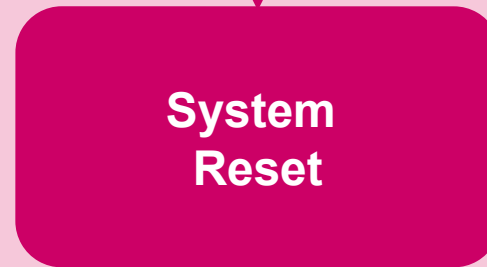




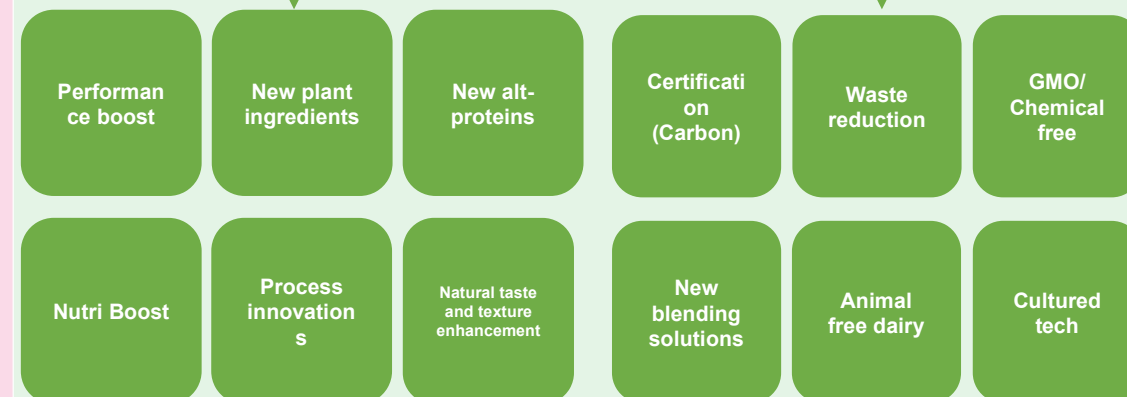
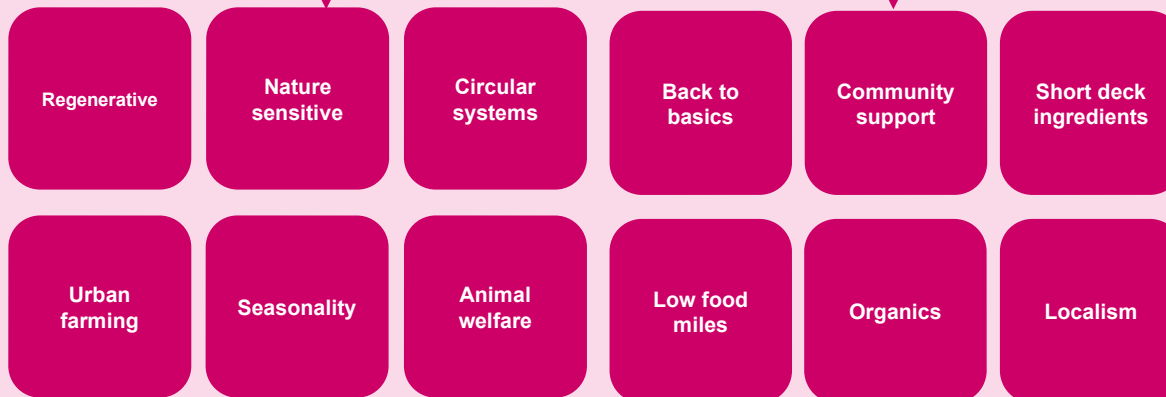
## Themes



## "Dig sites"



## Expressions

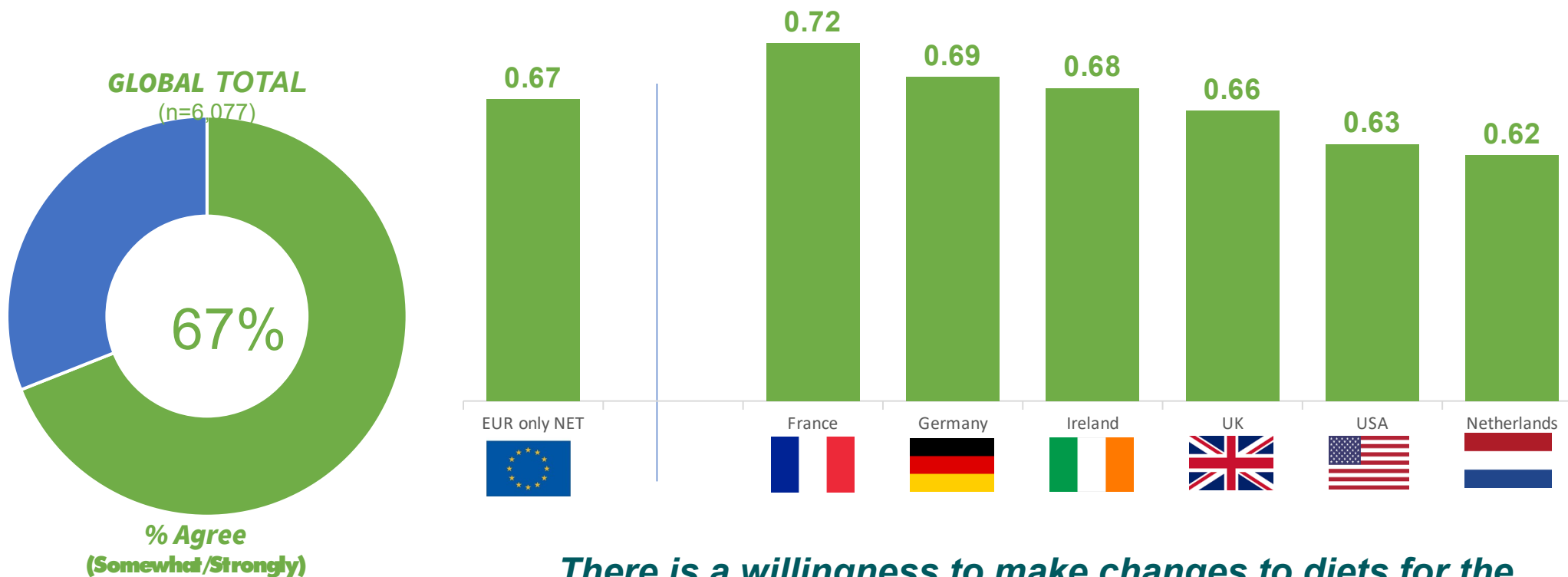


# Evolution

## Dietary Futures



***“I am willing to change the foods I consume significantly to improve the environment”***



***There is a willingness to make changes to diets for the environment, but....***



# Climate Change Impacting Production

Changing temperatures and rainfall patterns have led to a disruption in food production across the globe.

Rising temperatures and droughts in Europe have decreased yield of grain maize, sunflowers and soybeans.

Flooding has been found to significantly impact food security, particularly in developing nations\*. The recent flooding in Pakistan submerged 1/3 of the country and damaged 80% of their crops.

42% think climate change and what we can grow will impact what we eat in the future.

1

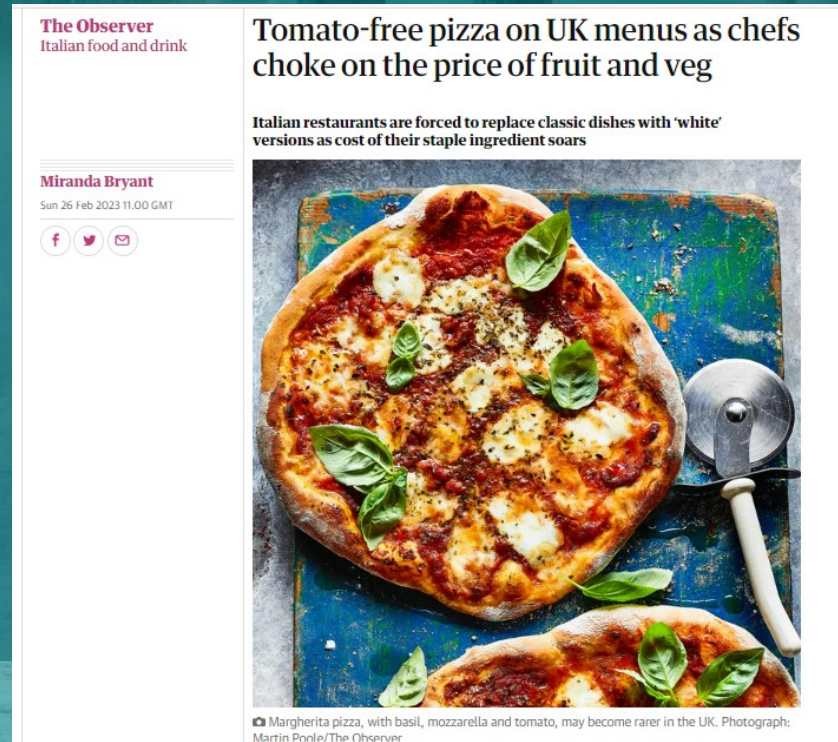


2



\*

3



The price of tomatoes has increased as much as fourfold in the past year, from £5 a case to £20 a case, according to the Federazione Italiana Cuochi UK (FIC UK)

Photo by Genaro Servín on Pexels



# The Impact of Conflict & War

**Conflict is the biggest driver of hunger**, with 60% of the world's hungry people living in areas affected by war\*.

Russia's invasion of Ukraine in late February dramatically worsened the outlook for already **inflated global food prices**. This has disrupted supply of exports from the “**Breadbasket of Europe**”, which disproportionately affects developing markets around the world.

The resulting energy crisis and gas inflation has seen production of salads from Lea Valley in the UK half as it is too expensive to heat greenhouses!

**42%** think **conflict and war** will have a big impact on what we eat in the future.



## Key crops affected by the invasion of Ukraine



Wheat



Sunflower



Corn

# The Impact of Disease & Famine

**Conflict, economic shocks, climate extremes** and **soaring fertilizer prices** are combining to create a food crisis of unprecedented proportions. As many as 828 million people are unsure of where their next meal is coming from.

More than 900,000 people worldwide are living in famine-like conditions. This is ten times more than five years ago, an alarmingly rapid increase.\*

37% think that **disease and famine** will have a **big impact** on what we eat in the future.

1



2



3



COVID-19 has worsened the food crisis, with over 150 million more people acted by hunger since the onset of the pandemic\*\*.

Photo by Pixabay from Pexels



1. Over 1 in 3 consciously reducing red meat intake.
2. Contextually population pressure, food security and climate change are prevalent in consumer's minds.
3. Government policy, human health/nutrition and cost are critical influences on dietary decisions.

*Sustainable diets need both balance and dietary diversification to meet the growing demands of our global population.*



These symbols will appear throughout the deck to highlight the macro trends



# What now?

## Making Informed Choices





# Consumers want to know more!



61%

Wish they knew more about  
**how plant based alternatives  
are made**




60%

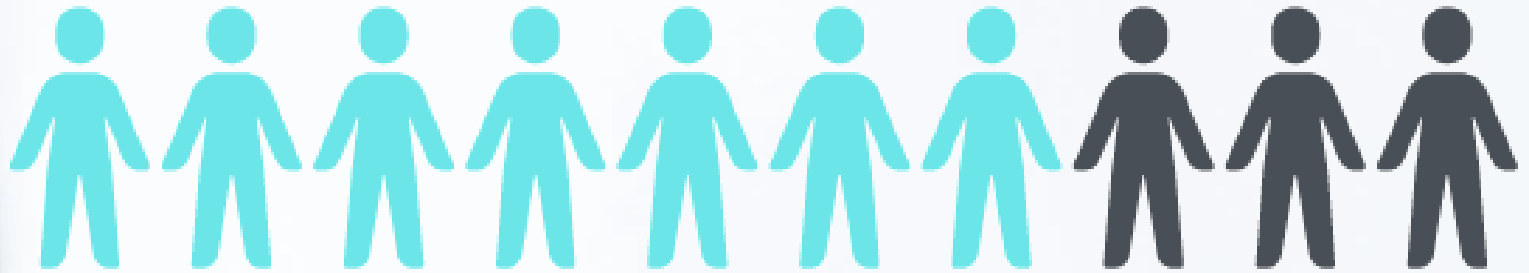
Wish they **better understood  
the impact they have on the  
environment**

(Base: All Markets excluding China, n=6,077)






## Education can play a role in the future of how we engage with different dietary lifestyles



Nearly **7 in 10** think that schools and education will have an impact on what we eat and drink in the future





***“We need to teach people how to replace proteins with tempeh and tofu...”***

***“We don’t have the understanding of how to replace proteins. It’s quite simple to do. It’s probably just an education tool that needs to be put in place”***

Aveen Bannon, Nutritionist

# Understanding sustainability relating to food and drink



30%

claim they are **not confident** in their understanding

*“In Germany they know a lot about sustainability relating to materials and packaging, in Ireland our knowledge is quite poor”*

*-Enda O'Dowd, Enda O' Dowd, Lecturer Product Design*

*“Schools need greater education in their curriculum about the environment.”*

*- Deirdre McCafferty, Cornucopia*

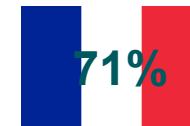


69%

claim they would like to be **more educated** in this area



80%

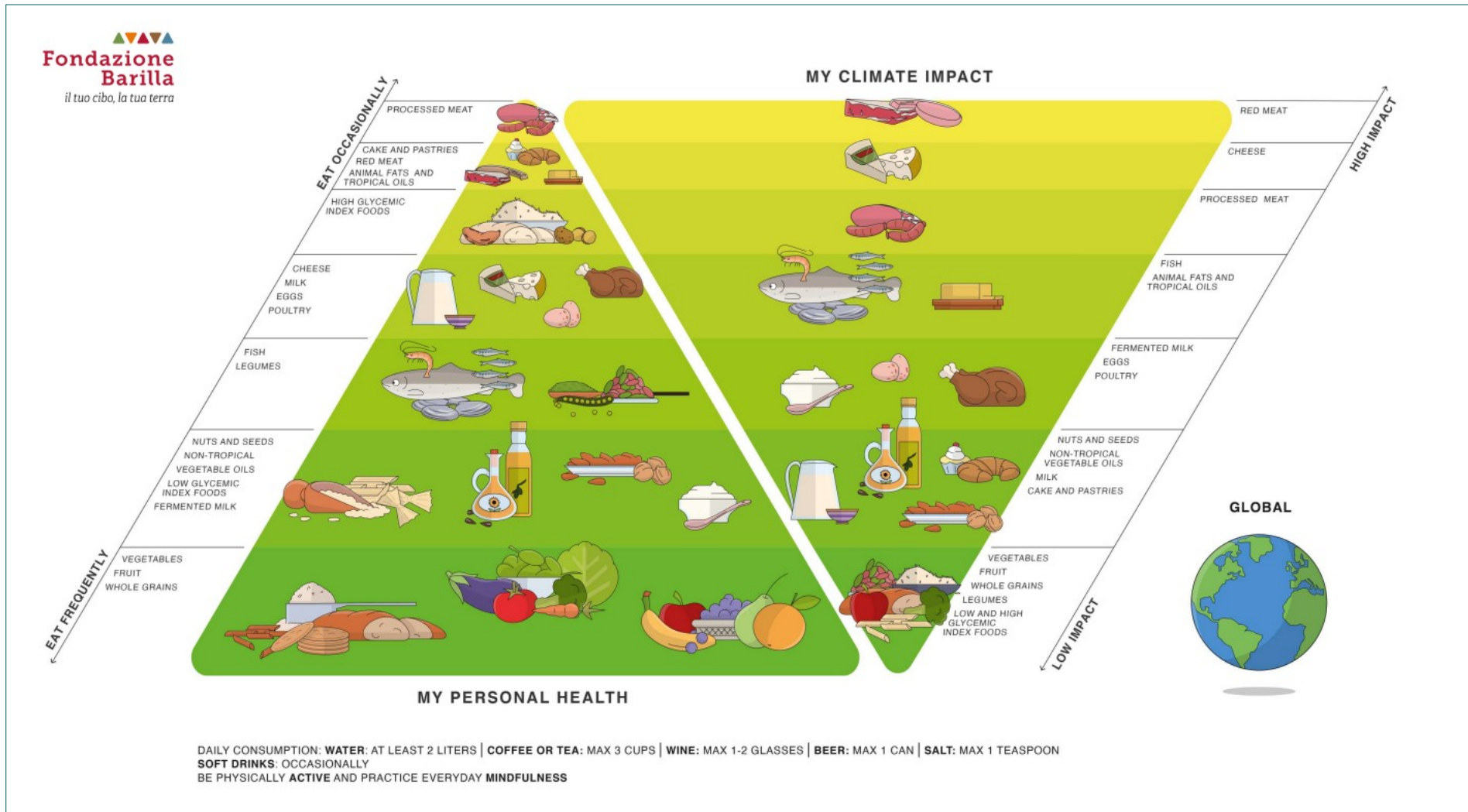


71%

Particularly in Ireland and France we see a desire for more sustainability education



# Sustainable Diets



## The Barilla Double Pyramid

Launched by **Barilla & the University of Naples Federico II**, the Double Pyramid outlines how to achieve both personal and planetary health by adopting a **diverse** and **balanced** diet.



**Balance**



**Diversification**

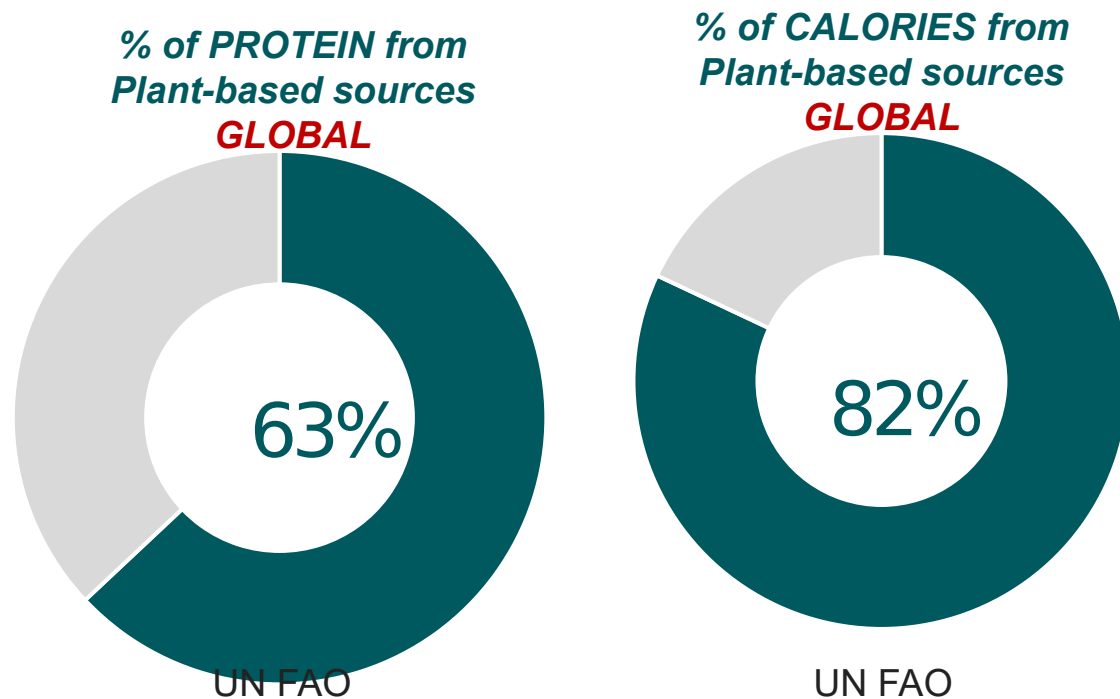


# *Focus on Protein*



Only about one-third of the protein eaten around the world comes from **animals raised for food**. Much of the protein consumed around the world comes from vegetarian sources, including grains, legumes, nuts and seeds. **Three grains -- wheat, maize and rice -- provide 60 percent of the world's energy**, as well as a good percentage of the protein consumed

# Source of Nutrition



**37% meat** approx.  
British Nutrition Foundation



**40% meat** approx.  
National Adult Nutrition Survey  
TCD

## PLANT IS NOT A NOVEL SOURCE OF PROTEIN!

Nutrition analyst at Euromonitor International, Sara Petersson, said: ***“Most of Ireland’s calories derive from meat, followed by baked goods, with bread being the primary source within that category.”***

“In third place is dairy and confectionery in fourth. This pattern is similar to what we see in other Western Countries such as the UK, the US or Canada. It differs from Asian Pacific Countries, where rice, noodles or nuts, play a more significant role in the diet.



# Not all proteins are created equal

Plant-based proteins do not have a complete amino acid sequence like most animal-based proteins. Eating a range of different plant-based proteins across the day will provide a complete amino acid profile in the diet.

**Protein Combining** is important for those who consume limited protein sources (eg due to poverty, crisis situations, geographical limitations, vegetarianism, veganism)



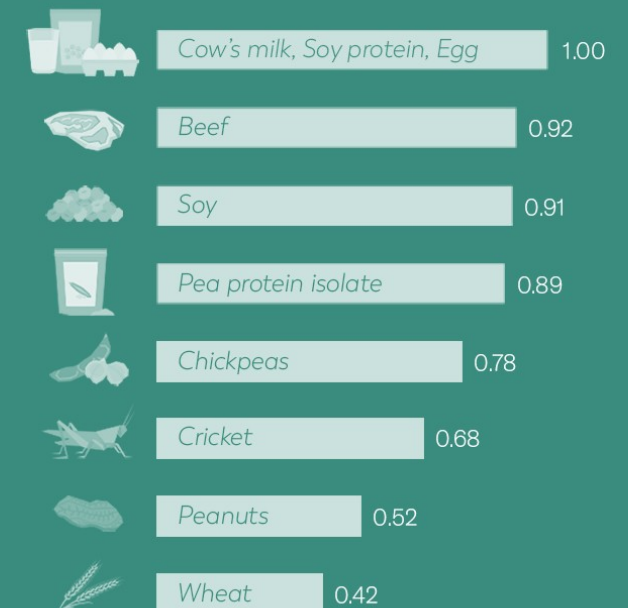
## Bioavailability of Proteins

*From which foods does our body absorb the most protein?*

**Even if the nutritional label of a product shows its amount of protein, it doesn't mean we can digest and absorb all of it.**

The PDCAAS\* is the best way to measure the nutritionally valuable content of protein sources.

\*Protein Digestibility Corrected Amino Acid Score  
(On this scoreboard, 1.00 is the highest value)



# Bioavailability of Nutrients

***Bioavailability is the proportion of a nutrient that is absorbed from the diet and used for normal body functions***

*European Food Information Council*

**Plant based sources** of calcium, iron and zinc can be **harder for the body to digest** and absorb due to the presence of oxalic acid, phytic acid and polyphenols in the foods.

**Nutrient bioavailability** must be considered when consuming a plant-based diet. This can be counteracted by eating a wide variety of fruits and vegetables, using recommended cooking methods, or eating the foods in specific combinations (eg iron and vitamin C).

**Example:**

**Boundless Activated Snacks** are pre-soaked to remove phytic acid and other enzymes to increase the bioavailability of nutrients and make their products easier to digest.



# Planetary Considerations

Eco Impact of Food





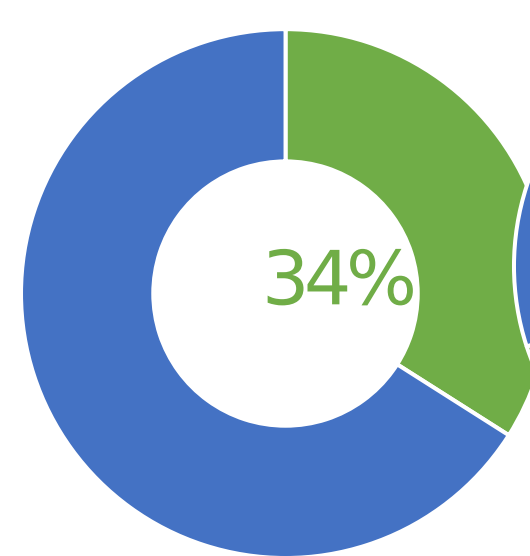
Despite the need for more education to encourage healthy diversification of diets, there is an awareness among many that our food and drink choices may be harming the environment..

***4 in 10 consumers globally believe that their food choices have a significant negative impact on the environment.***

*(Bord Bia/Opinions, Global Sustainability Outlook, 2021)*

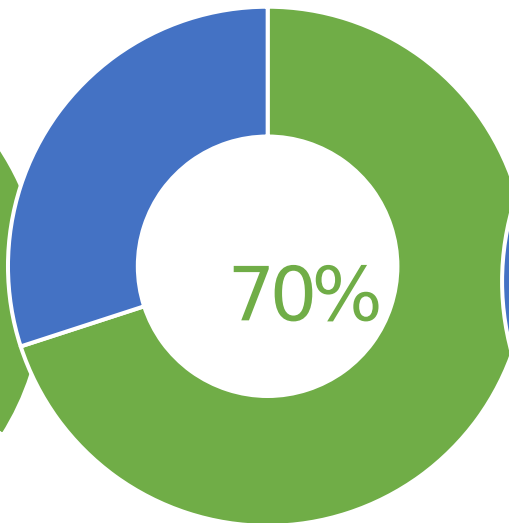
# Agri-food Eco Impact

*% of GHGs from Food Systems Globally*



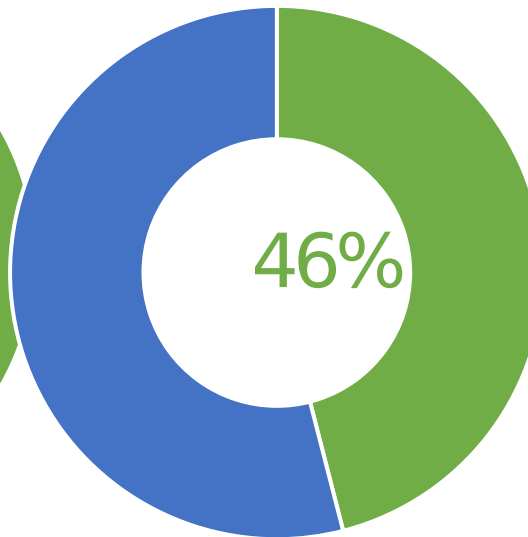
EDGAR-FOOD

*% of fresh water used by agriculture Globally*



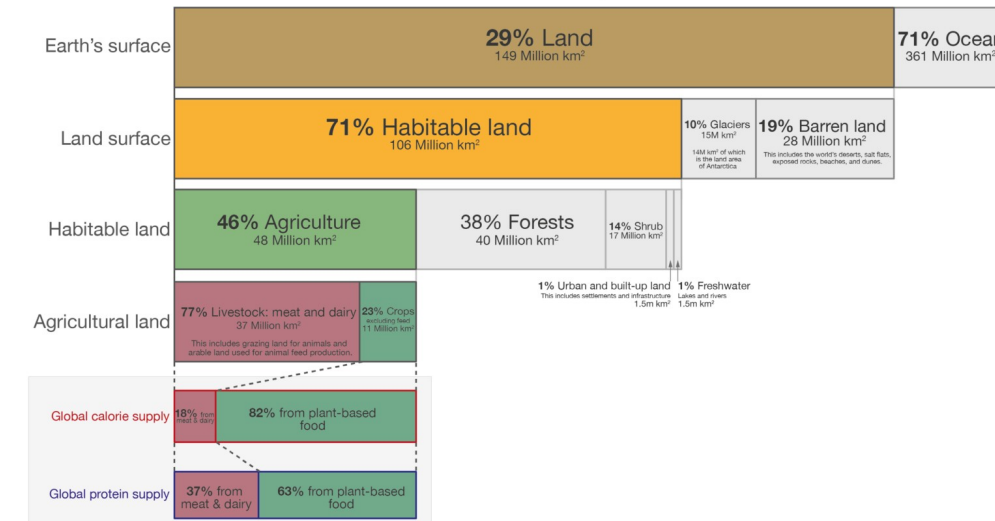
World Bank

*% of Habitable Land Globally*



UN FAO

## Global land use for food production



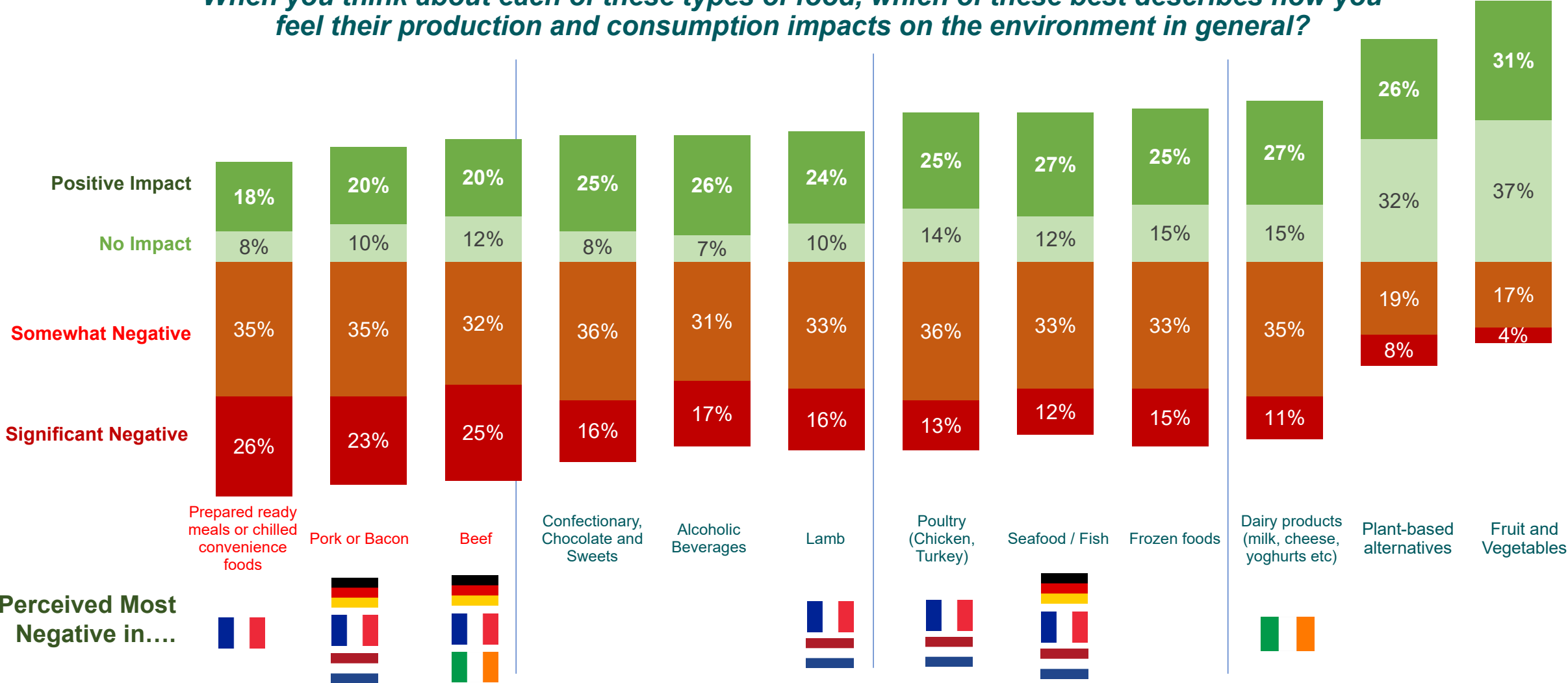
Data source: UN Food and Agriculture Organization (FAO)  
OurWorldinData.org - Research and data to make progress against the world's largest problems.

Licensed under CC-BY by the authors Hannah Ritchie and Max Roser  
Date published: November 2019

# Perceived Relative Impact of Protein Choices on Environment

(Base: All Adults n=6,077, IE, UK, DE, NL, US, FR)

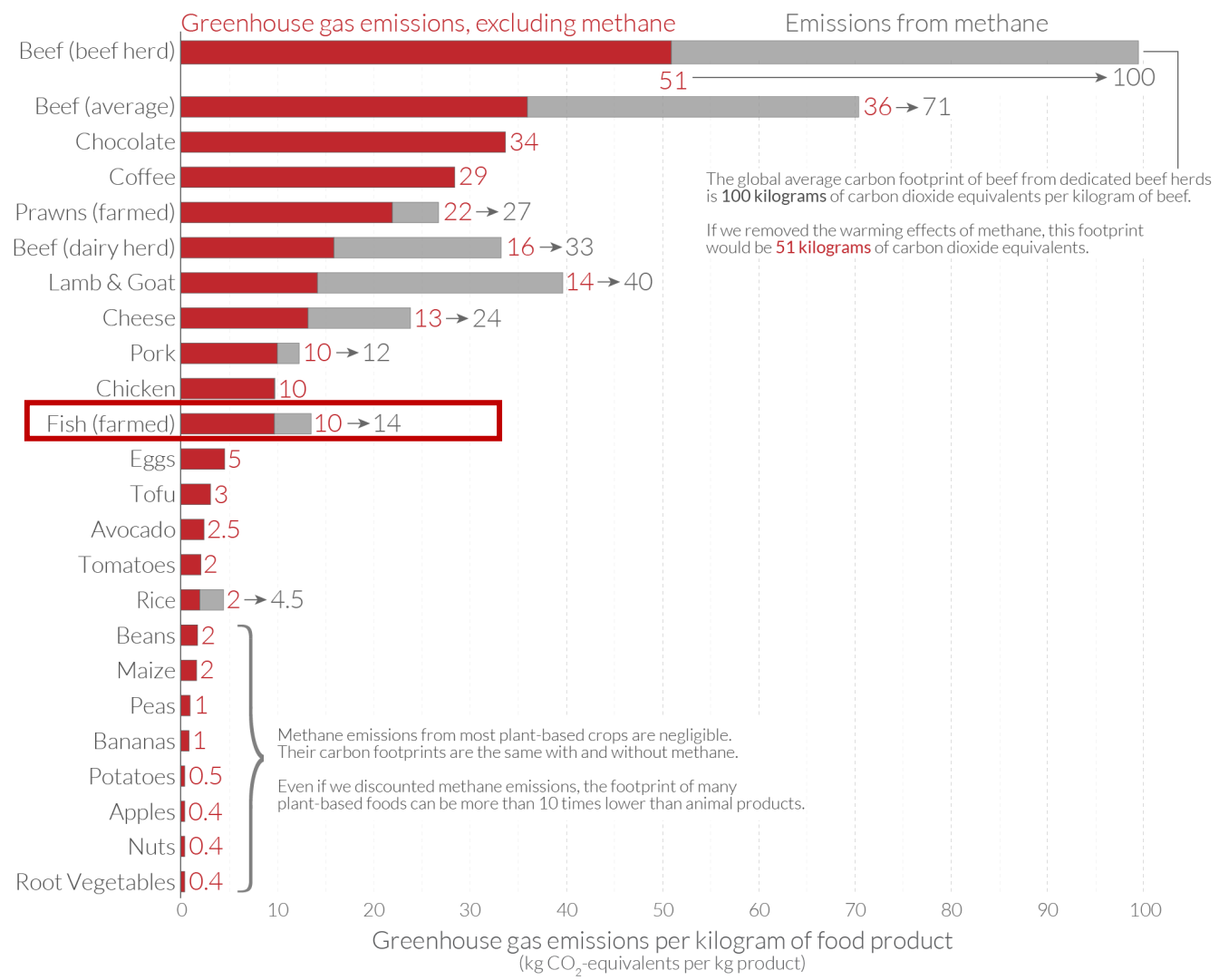
*When you think about each of these types of food, which of these best describes how you feel their production and consumption impacts on the environment in general?*



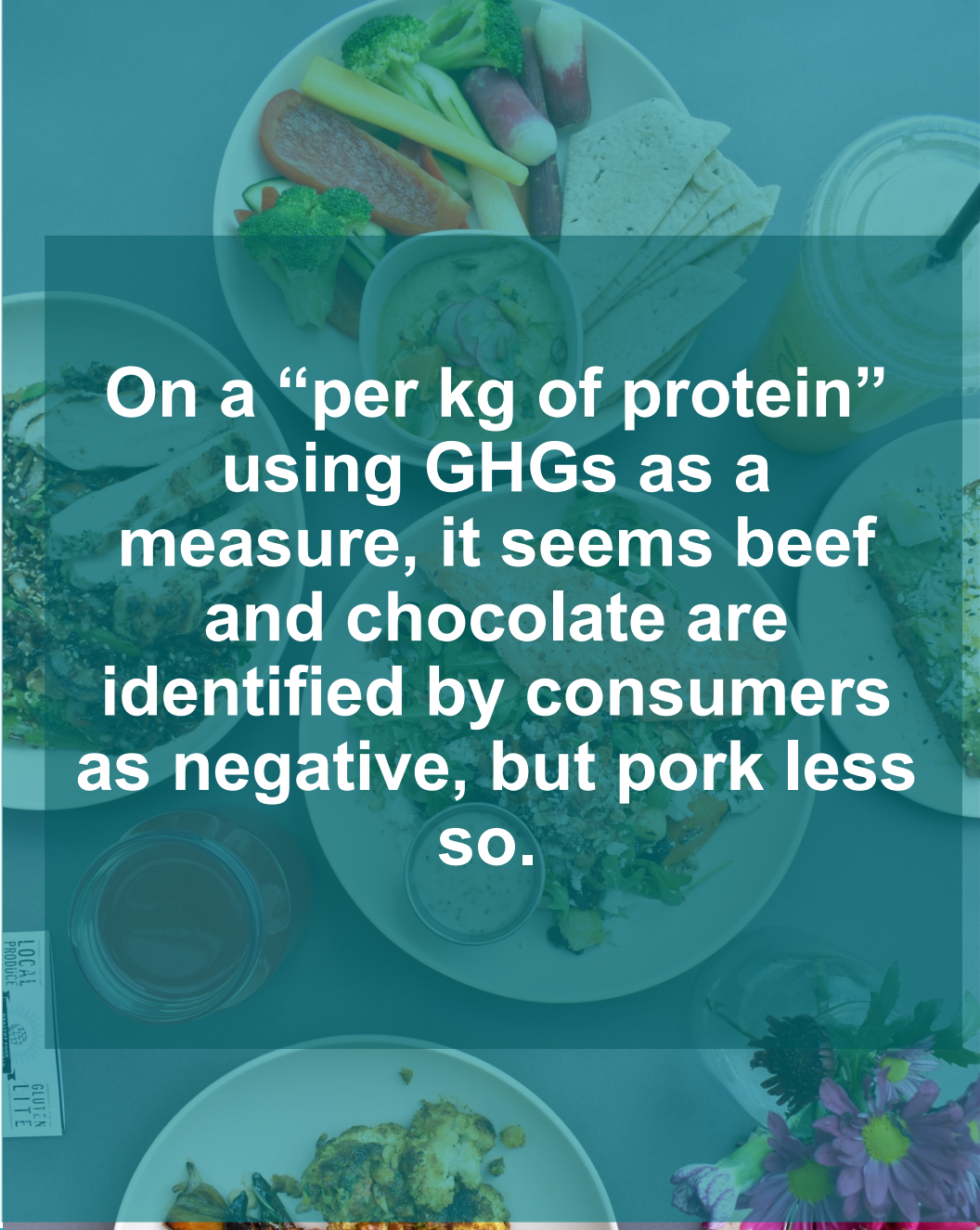


# Greenhouse gas emissions from food, short vs. long-lived gases

Greenhouse gas emissions are measured in carbon dioxide-equivalents (CO<sub>2</sub>eq) based on their 100-year global warming potential (GWP). Global mean emissions for each food are shown with and without the inclusion of methane – a short-lived but potent greenhouse gas.



Note: Greenhouse gas emissions are given as global average values based on data across 38,700 commercially viable farms in 119 countries. Data source: Poore & Nemecek (2018). Reducing food's environmental impacts through producers and consumers. *Science*. OurWorldinData.org – Research and data to make progress against the world's largest problems. Licensed under CC-BY by the authors Joseph Poore & Hannah Ritchie.



On a “per kg of protein” using GHGs as a measure, it seems beef and chocolate are identified by consumers as negative, but pork less so.



# Implications for Land Use

If everyone shifted to a plant-based diet **we would reduce global land use for agriculture by 75%.**

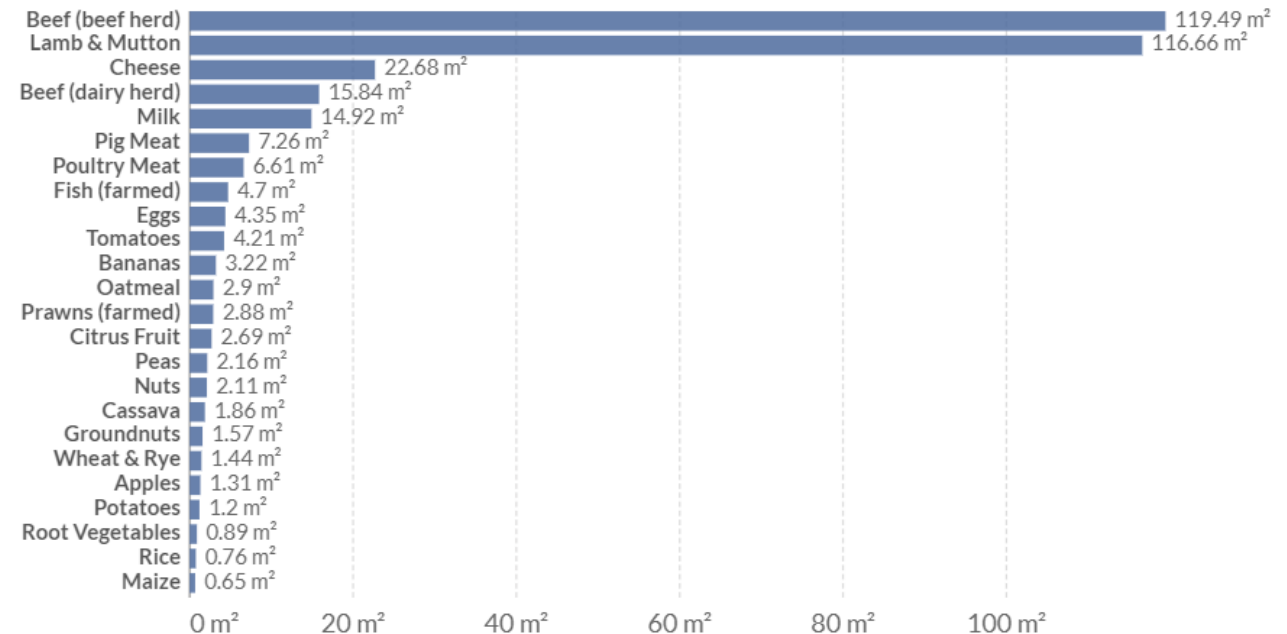
<https://ourworldindata.org/land-use-diets>

## Land use of foods per 1000 kilocalories

Land use is measured in meters squared ( $m^2$ ) required to produce 1000 kilocalories of a given food product.

Our World  
in Data

+ Add food



Source: Poore, J., & Nemecek, T. (2018). Additional calculations by Our World in Data.

Note: The median year of the studies involved in this research was 2010.

[OurWorldInData.org/environmental-impacts-of-food](https://OurWorldInData.org/environmental-impacts-of-food) • CC BY

Photo by Johannes Strötter on Pexels





***“The environment can’t cope with a solely plant based world, we need to find the balance”***

Aveen Bannon, Registered Dietician

***“We are looking for dietary diversity, plant based foods fit into that. That could mean a low meat diet rather than a meat free diet.”***

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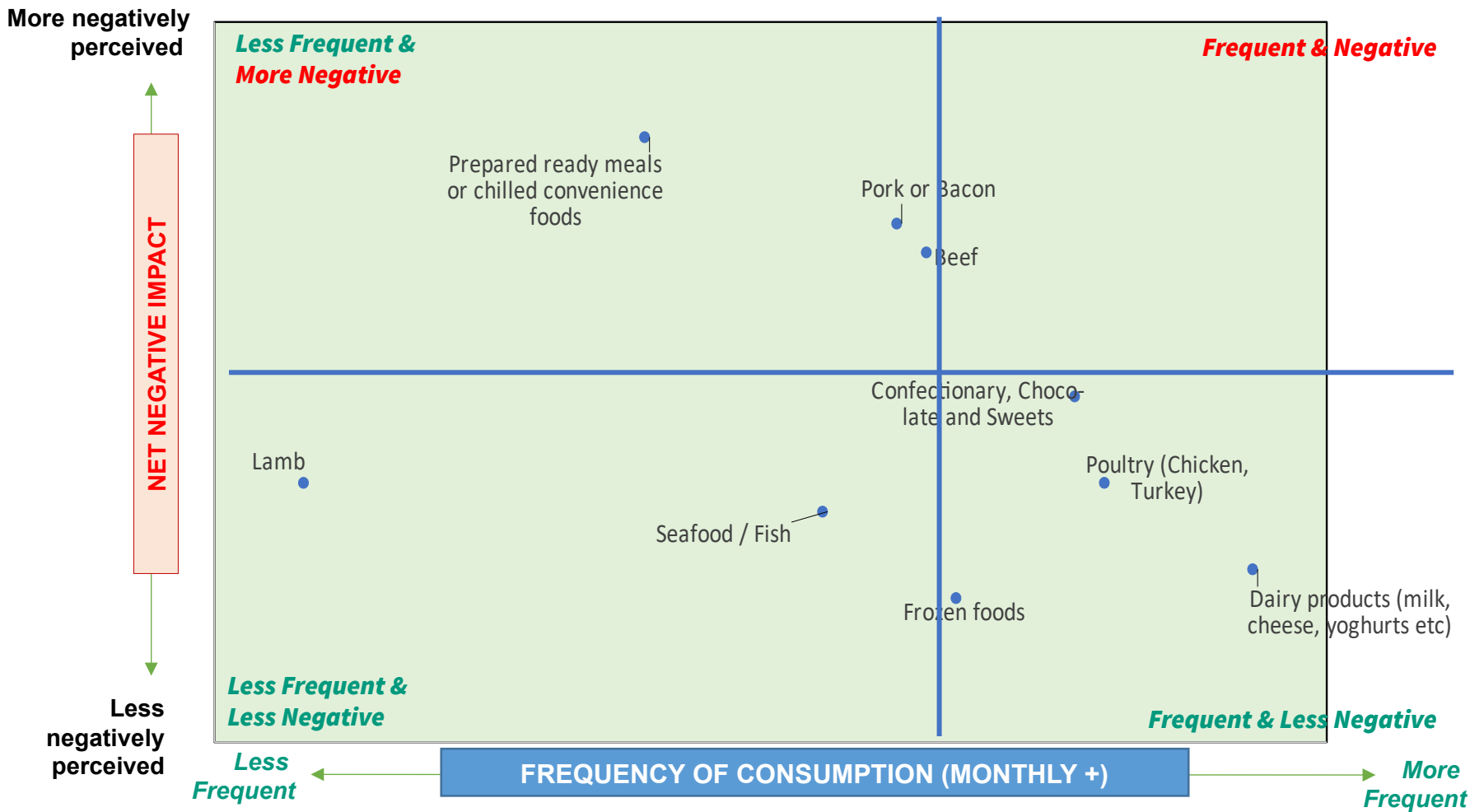
***“ Encourage people to become more plant-based, not purely plant-based. This will make it seem more attainable to many. Then people will take the next step when the time is right.”***

Deirdre McCafferty, Cornucopia



# Relative Perceived Impact of Protein Choices x Frequency of Consumption (excluding Plant and Vegetables)

(Base: All Adults n=6,077, IE, UK, DE, NL, US, FR – EXCLUDING CHINA)

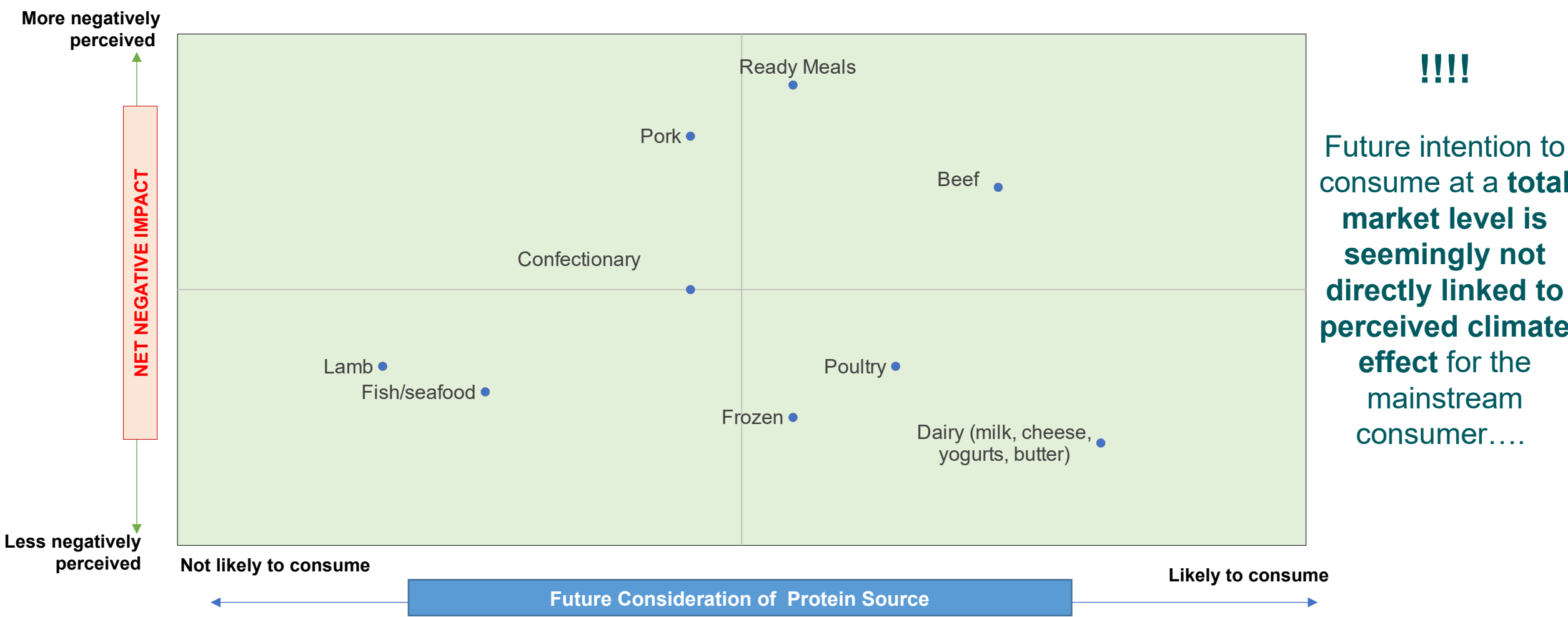


When we view options (excluding vegetables and plant-based alternatives), **Prepared Meals, Pork and Beef** are considered the most sizable “problem proteins”....

Fish is interesting as it is considered to be relatively low impact; Dairy doesn’t register either as significantly injurious to the planet in relative terms

# Future consideration of proteins x perceived impact on the environment

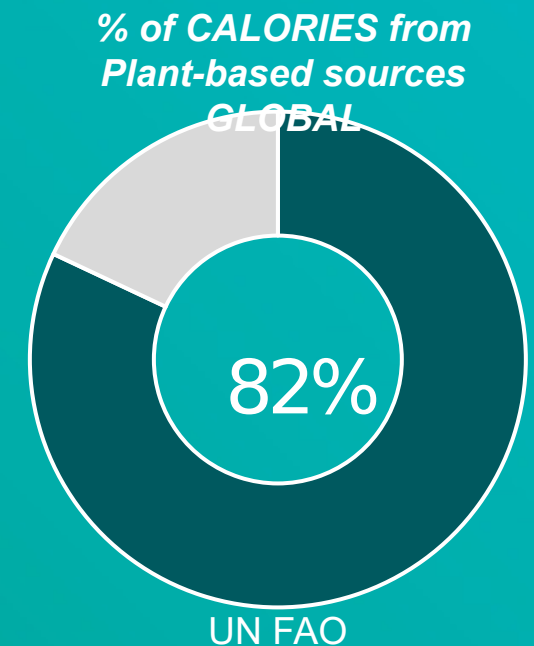
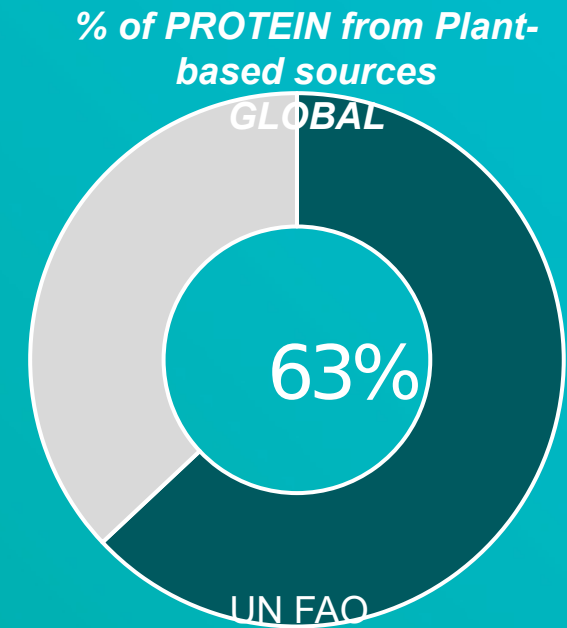
(Base: Total Sample, n=6,077)



H4: Negative Summary - When you think about each of these types of food, which of these best describes how you feel their production and consumption  
F1. Summary - Which of the following statements best describes your expected future consumption levels of each of the following products?



1. There is significant **interest in knowing more about the impact of food choices** on the world.
2. **Beef, PCF and Pork** are perceived to have the most negative effect....
3. Dairy and seafood seen to be much less impactful.
4. And naturally fruit, veg and plant-based are relatively benign in this regard.
5. So climate effects are real and consumers are generally aware of this, but the evident **impact on the choices they make is not always aligned with these facts.**





# Consumer Mood

Attitudes to the challenge ahead

Climate crisis

**Damian Carrington**  
Environment editor

@dpcarrington  
Thu 16 Feb 2023 06.00 GMT



World risks descending into a climate 'doom loop', warn thinktanks

Report says simply coping with escalating impacts of climate crisis could override tackling root cause



The research said an example of the impact of the climate crisis complicating climate the debate over whether a global temperature rise below 1.5C was still possible. Photograph by Fassbender/AFP/Getty Images

Continued urgent action needed to prevent food and nutrition crisis from worsening



© Roberto Villanueva | A Food Bank agent collects food at a wholesale market in Lima (mercado de mayoristas), Peru.

# How we feel about the future of food sustainability?

(Base: All Markets excluding China, n=6,077)



**WORRIED**  
36%



**OPTIMISTIC**  
26%



**PESSIMISTIC** 19%



**EXCITED** 10%

**OVERWHELMED** 13%



**FATIGUED** 11%



**HOPELESS** 11%

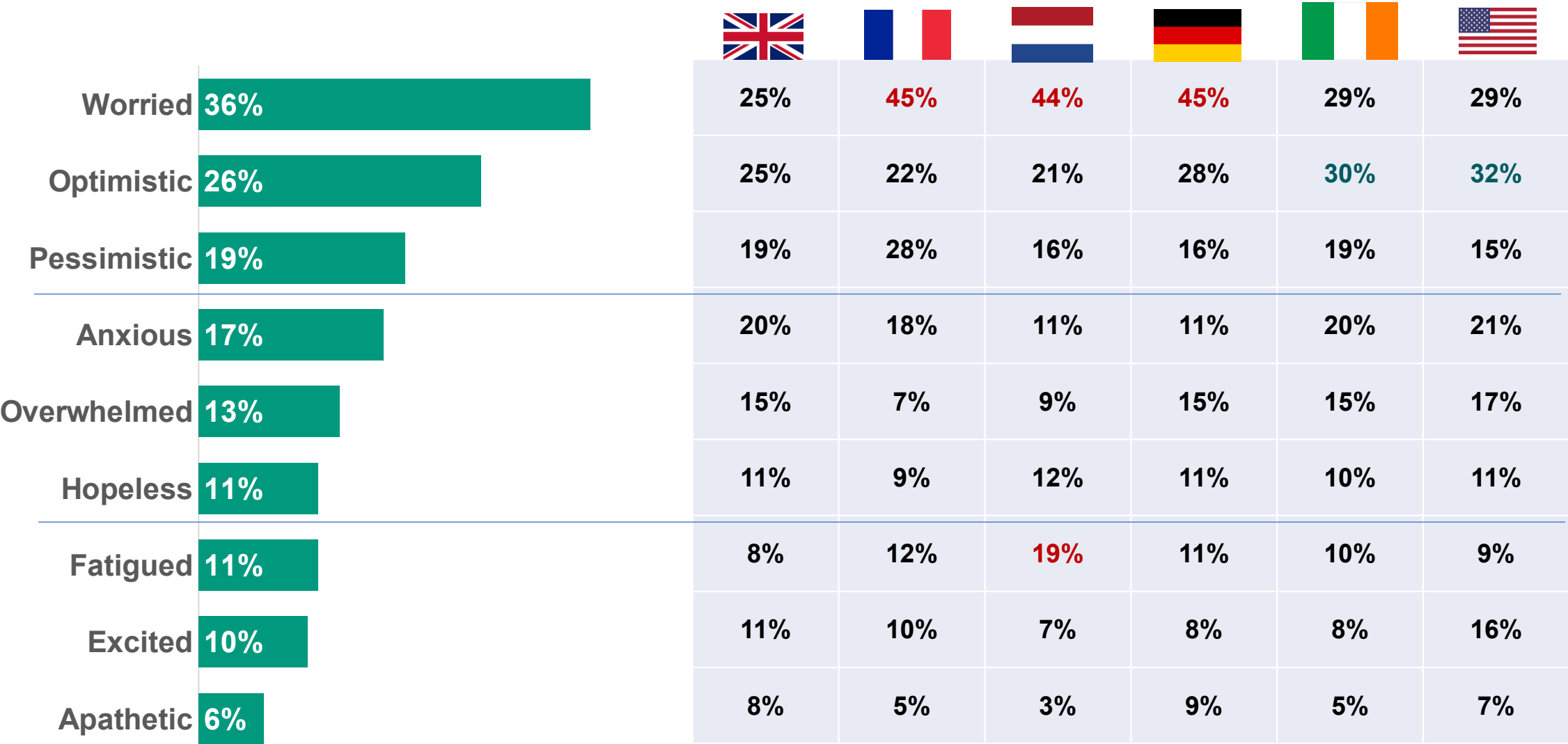


**APATHETIC** 6%



# How we feel about the future of food sustainability?

(Base: All Markets excluding China, n=6,077)



# Macro Attitudinal Response.....

(Base: All Adults n=6,076, Market Sample n=1,000 approx.)



# Macro Attitudinal Response.....

(Base: All Adults n=6,076, Market Sample n=1,000 approx.)



|                                                                                                                                     |     |     |     |     |     |     |     |     |
|-------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| I don't think people will change their habits unless sustainable choices are made cheaper                                           | 83% | 84% | 85% | 82% | 82% | 83% | 88% | 81% |
| I would like businesses/ organisations to do more to reduce the impact of food and drink production/ consumption on the environment | 80% | 82% | 79% | 86% | 78% | 81% | 84% | 73% |
| I think the planet will struggle to feed the growing global population in the future                                                | 78% | 79% | 77% | 80% | 79% | 82% | 75% | 70% |
| The best way to reduce the impact of food on the environment is to buy local foods.                                                 | 78% | 80% | 75% | 85% | 75% | 85% | 80% | 67% |
| I would like governments to do more to reduce the impact of food production/consumption on the environment                          | 76% | 79% | 78% | 81% | 72% | 80% | 81% | 65% |
| Food and drink brands use ethical and sustainability messages to increase prices for their own benefit                              | 72% | 73% | 70% | 77% | 72% | 73% | 75% | 65% |
| I think if we all went 'back to basics' in terms of the foods we eat there wouldn't be a problem for the environment                | 69% | 71% | 65% | 78% | 66% | 76% | 70% | 61% |
| If we do not radically change our approach to food production, the planet will not survive                                          | 67% | 69% | 67% | 76% | 64% | 70% | 69% | 59% |
| I am willing to change the foods I consume significantly to improve the environment                                                 | 67% | 67% | 66% | 72% | 62% | 69% | 68% | 63% |
| Food and drink brands are a vehicle for positive environmental change                                                               | 63% | 64% | 65% | 59% | 62% | 64% | 69% | 61% |
| I am concerned about my country's ability to supply secure nutrition to its citizens in the future                                  | 62% | 61% | 64% | 60% | 60% | 62% | 58% | 66% |
| I am concerned about my ability to feed myself/ my family in future due to lack of access to nutritious foods                       | 49% | 49% | 46% | 58% | 48% | 44% | 47% | 48% |
| I don't understand the impact of my food and drinks choices on the planet                                                           | 41% | 41% | 43% | 39% | 40% | 39% | 44% | 44% |

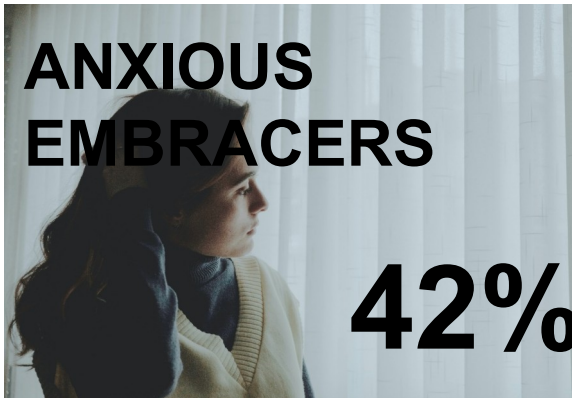


# Three Prevailing Perspectives Emerge....

1. I am concerned about my country's ability to supply secure nutrition to its citizens in the future
2. If we do not radically change our approach to food production, the planet will not survive
3. I am concerned about my ability to feed myself/ my family in future due to lack of access to nutritious foods
4. I don't understand - the impact of my food and drinks choices on the planet
5. Food and drink brands use ethical and sustainability messages to increase prices for their own benefit
6. Food and drink brands are a vehicle for positive environmental change
7. I think the planet will struggle to feed the growing global population in the future
8. I would like governments to do more to reduce the impact of food production/consumption on the environment
9. I would like businesses/ organisations to do more to reduce the impact of food and drink production/ consumption on the environment
10. I am willing to change the foods I consume significantly to improve the environment
11. I think if we all went "back to basics" in terms of the foods we eat there wouldn't be a problem for the environment
12. The best way to reduce the impact of food on the environment is to buy local foods.
13. I don't think people will change their habits unless sustainable choices are made cheaper

(Base: All Adults n=7,096, Market Sample n=1,000 approx.)

Photo by Isabela Drasovean on Unsplash  
Photo by Clem Onojeghug on Unsplash  
Photo by Alexander Grey on Unsplash



Appreciate the gravity of the challenge in feeding themselves and family into the future, but **lack confidence in understanding** and the impact that they can make despite **doing what they can**.



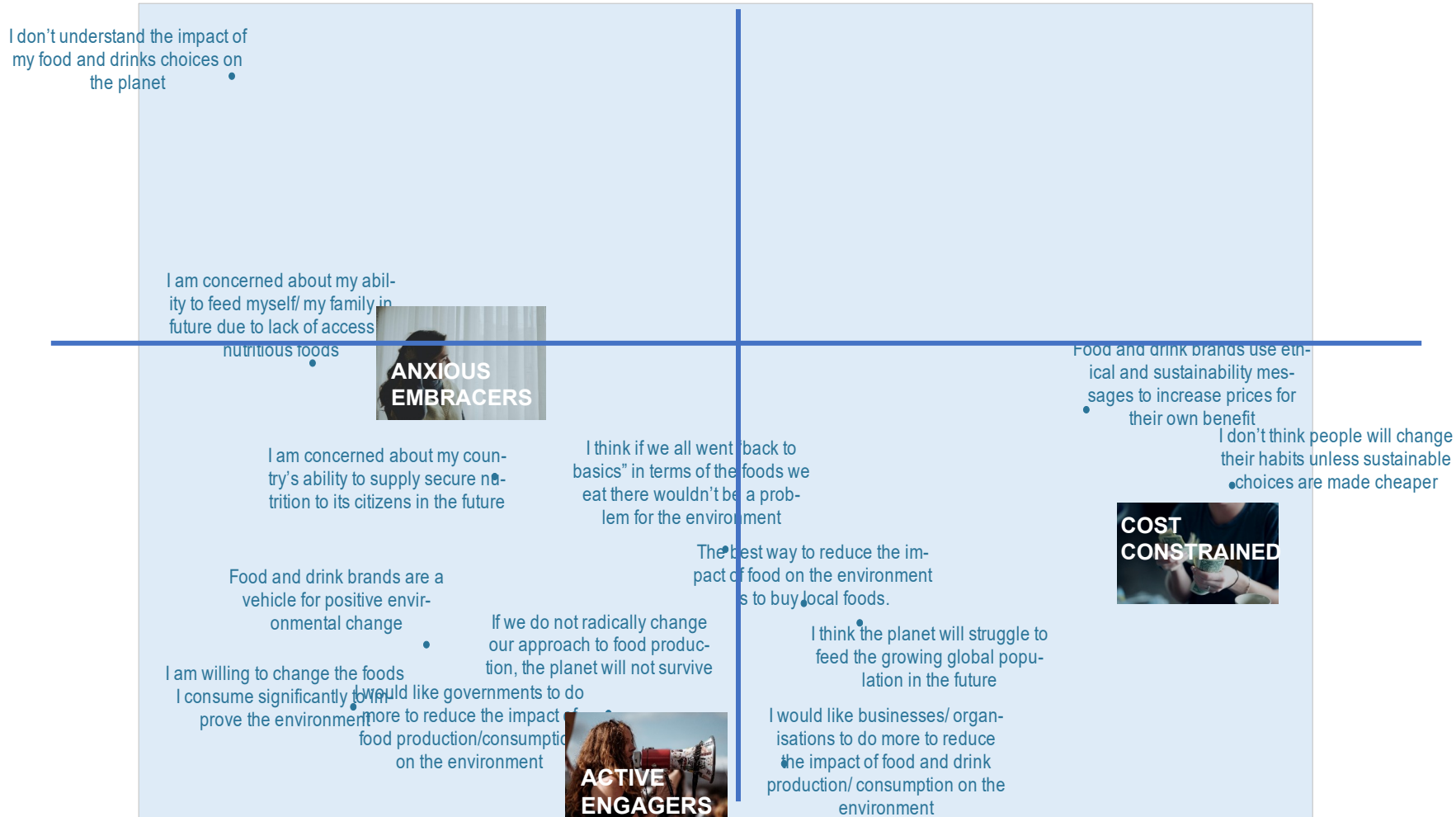
Are **committed to change** and support more significant interventions by business, governments and consumers like themselves to make it happen.



Recognise the challenge, but feel **hindered by the cost** of more sustainable choices and often feel business is capitalising on the fears of consumers.

# Mind Mapping

(Base: All Adults n=7,096, Market Sample n=1,000 approx.)



**ACTIVE ENGAGAERS**  
Highest in....



**ANXIOUS EMBRACERS**  
Highest in....



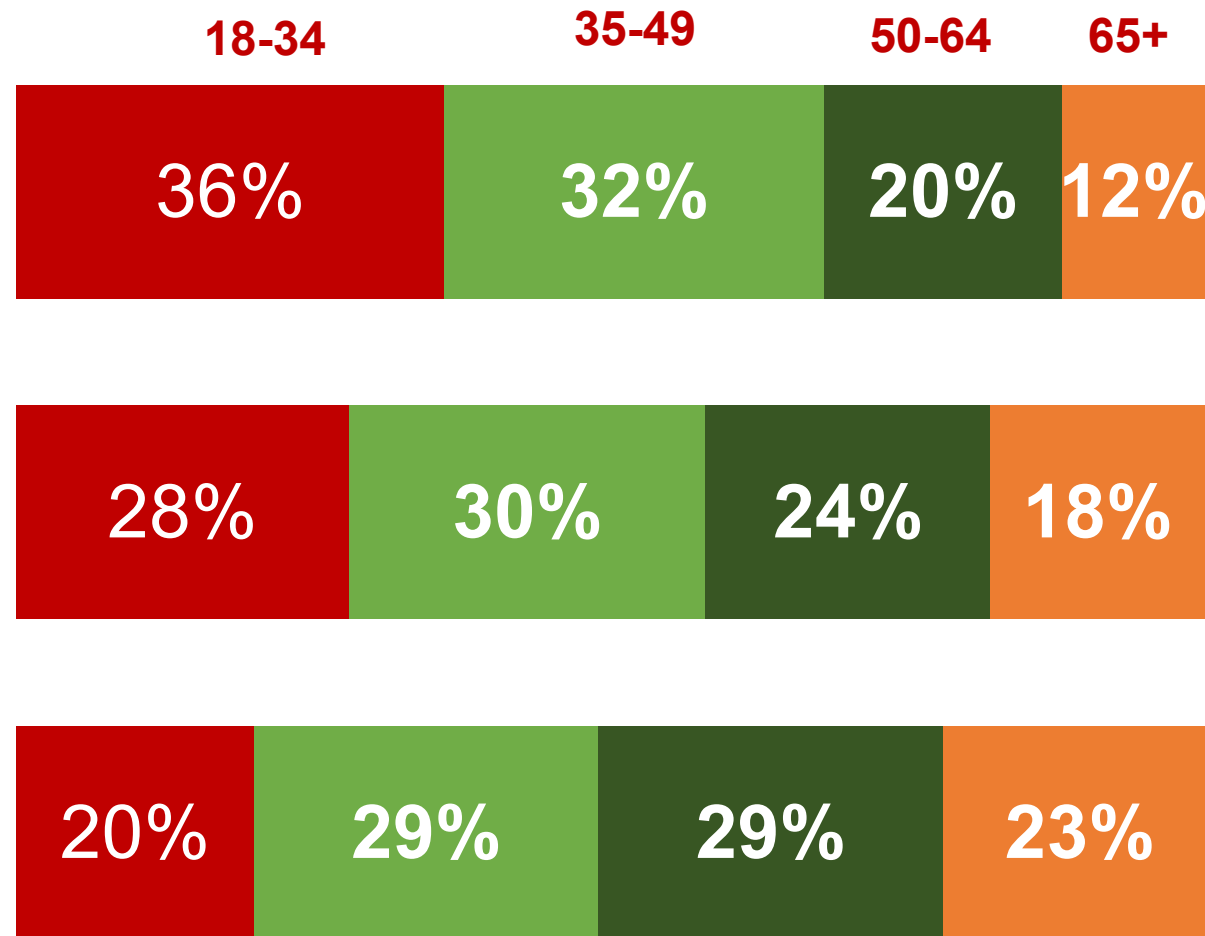
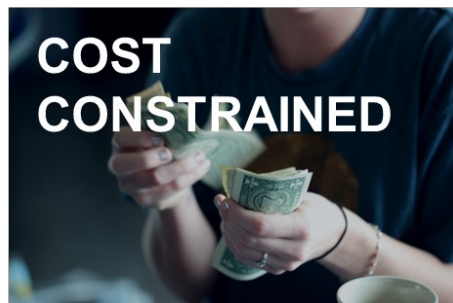
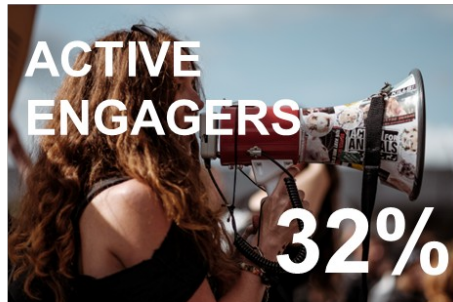
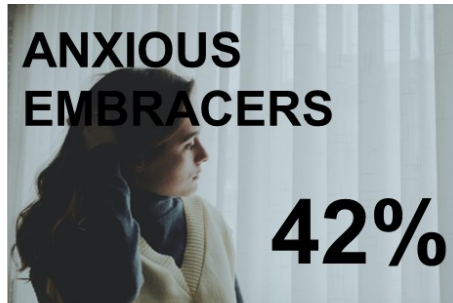
**COST CONSTRAINED**  
Highest in....



Photo by Isabela Drasoveanu on Unsplash  
Photo by Clem Onojeghwa on Unsplash  
Photo by Alexander Grey on Unsplash

# Who are they?

(Base: All Adults n=7,096, Market Sample n=1,000 approx.)



Those who feel less empowered to act and in many ways, most despairing are the youngest cohort.

The more cynical “cost constrained” group are much more likely to be older

\* Red Meat Free includes Vegan, Vegetarian, Pescatarian, Pollotarian

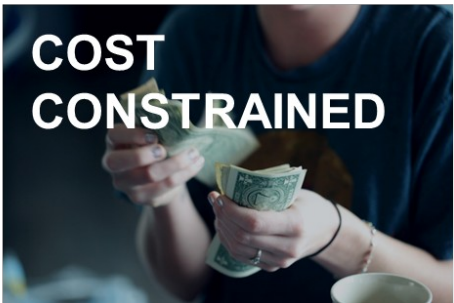
Which of the following do you feel best describes your dietary preferences in general?

Photo by Isabela Drasovean on Unsplash  
Photo by Clem Onoleghe on Unsplash  
Photo by Alexander Grey on Unsplash



# And what about their diets?

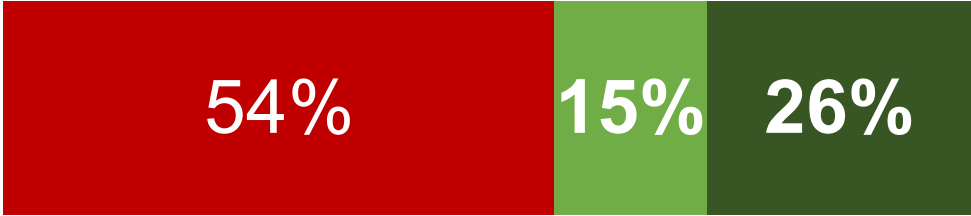
(Base: All Adults n=7,096, Market Sample n=1,000 approx.)



**NO  
RESTRICTIONS**

**FLEXITARIAN**

**RED MEAT  
FREE\***



Our “Active Engager” group have a more extensive dietary repertoire and are equally inclined to incorporate plant-based as **PART** of their diet.... Arguably the most interesting target

*\* Red Meat Free includes Vegan, Vegetarian, Pescatarian, Pollotarian*

Which of the following do you feel best describes your dietary preferences in general?

# So, what about Plant- Based?

(Base: All Adults n=7,096, Market Sample n=1,000 approx.)



*% Weekly+  
Plant-based  
consumers*

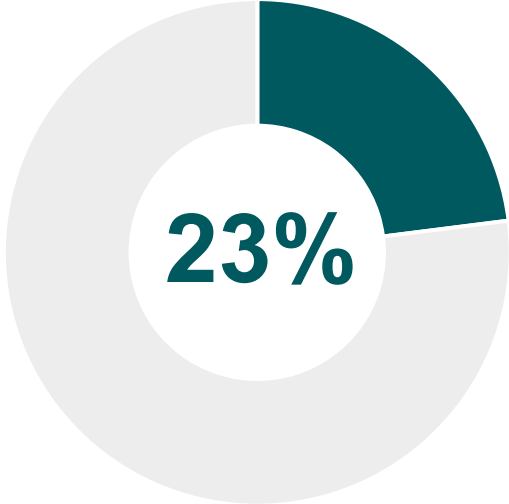
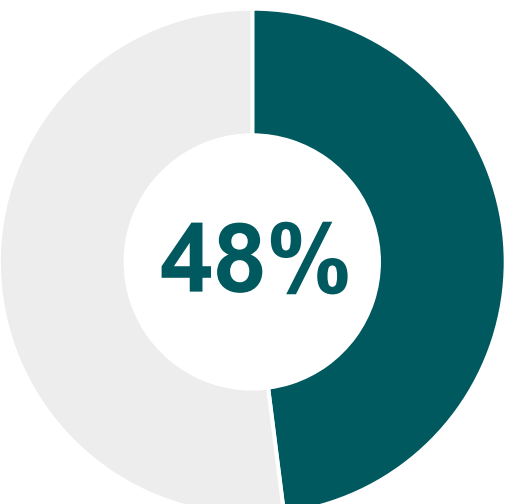
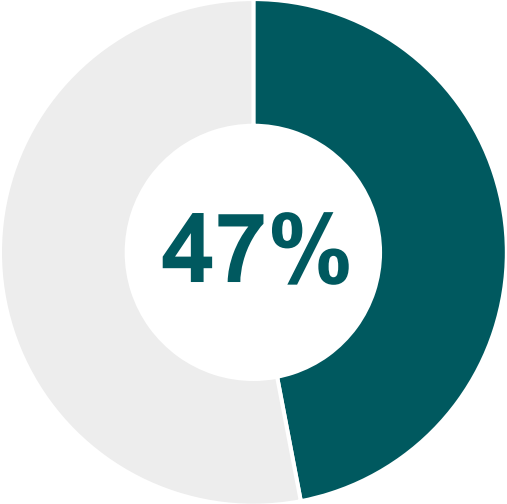
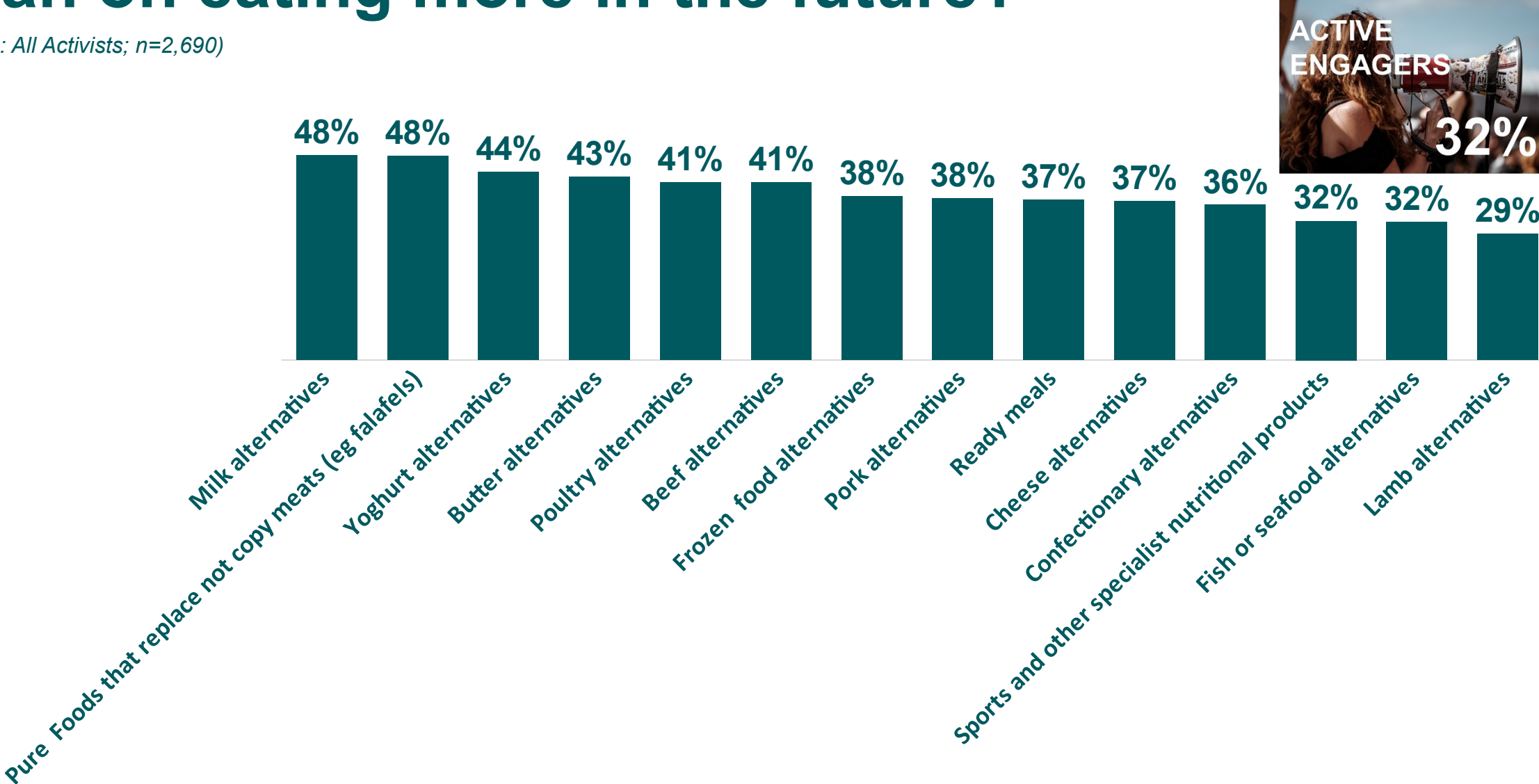


Photo by Isabela Drasovean on Unsplash  
Photo by Clem Onoieghuo on Unsplash  
Photo by Alexander Grey on Unsplash

And how often do you consume each of the following types of food/drinks on average?

# What type of plant based foods do **ACTIVE ENGAGERS** plan on eating more in the future?

(Base: All Activists; n=2,690)





# Knowing What Matters

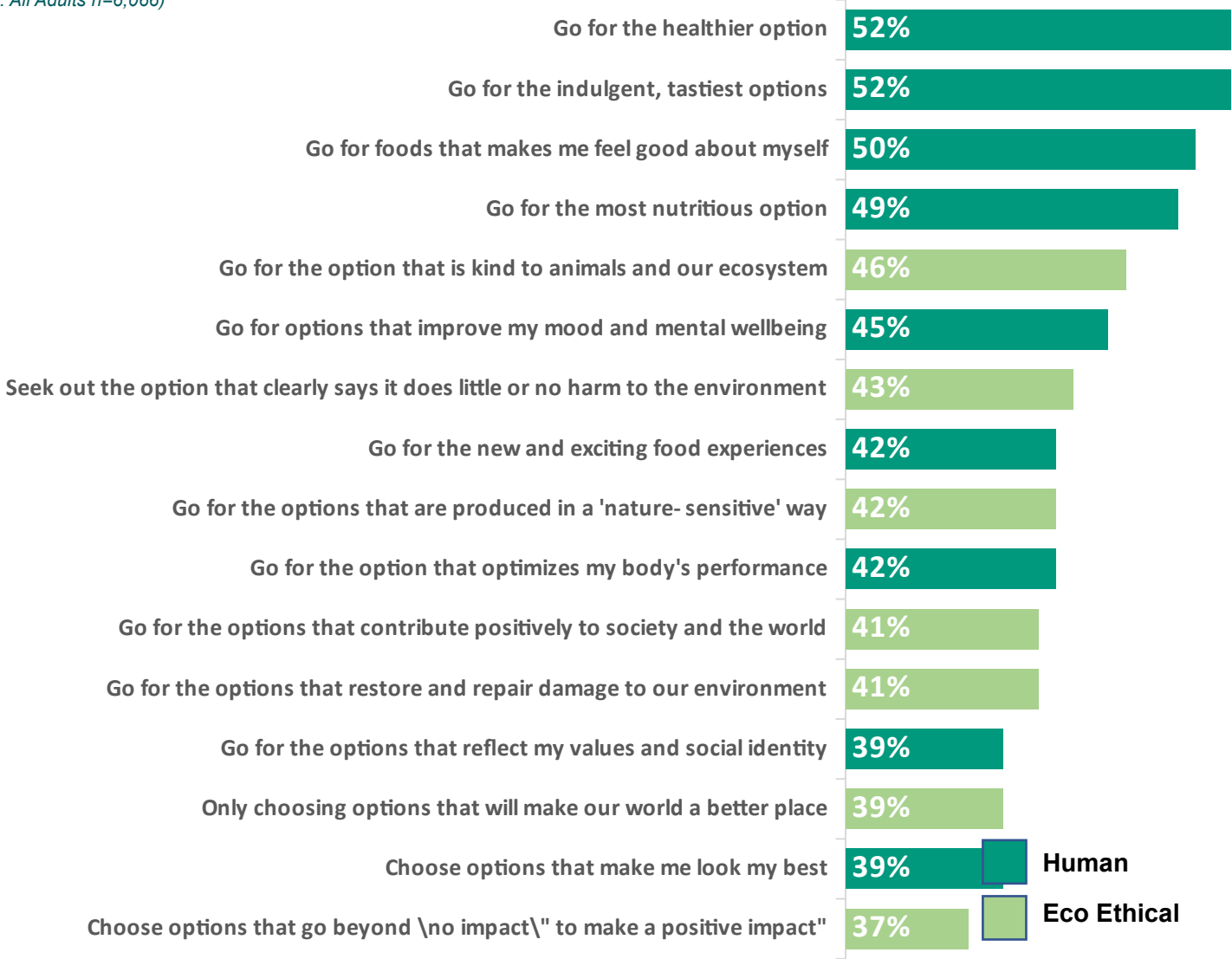
Influences on Choice



# Choice Drivers in General (Not just PB)

% Aspire to or do now

(Base: All Adults n=6,066)

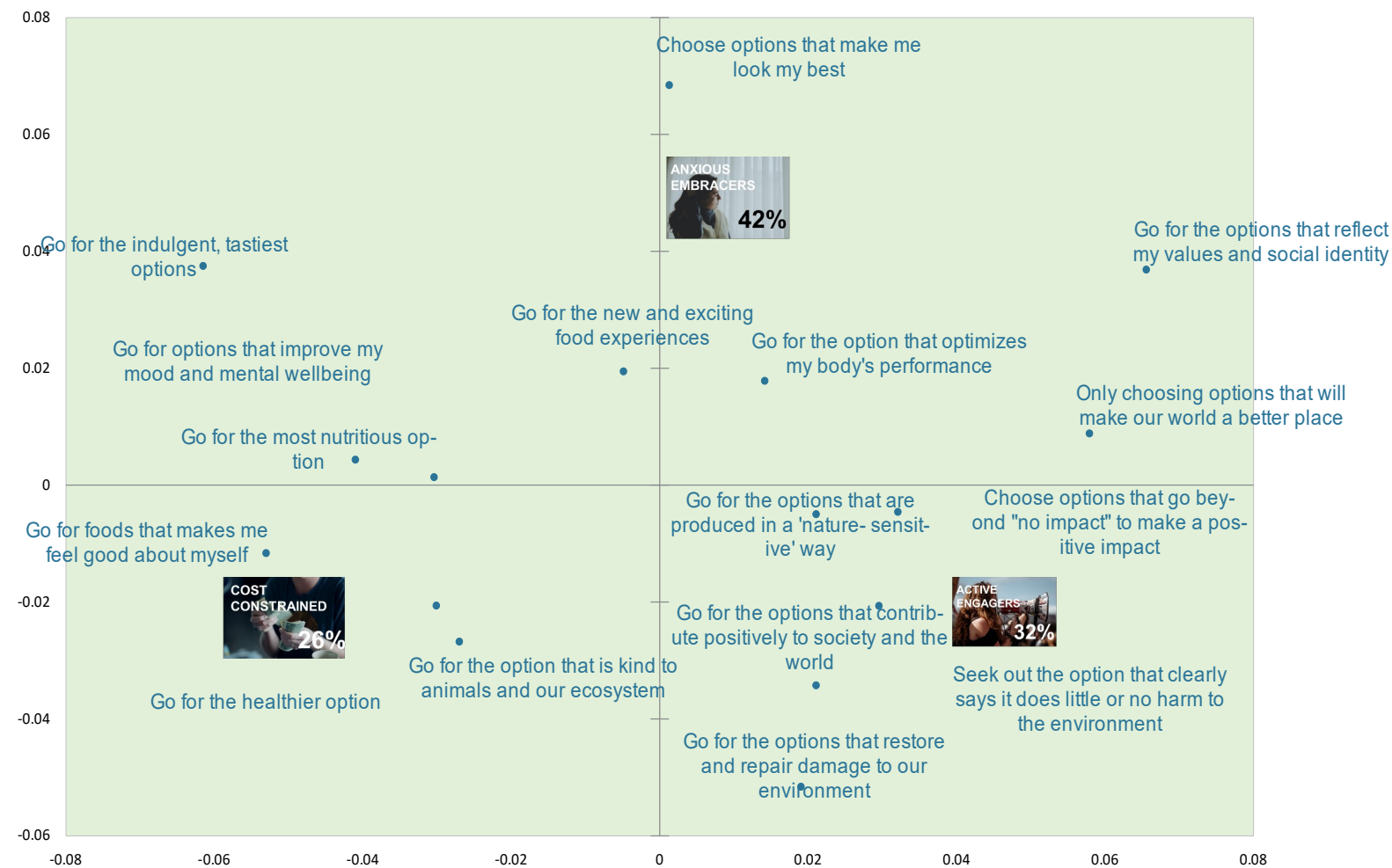


Overall, human needs prevail, with an emphasis on enjoyment and nutrition

# Choice Drivers

% aspire or do

(Base: All Adults n=6,066)



Active engagers are clearly striving for more positive choices, Cost Constrained are more focussed on internal drivers, while our “ANXIOUS EMBRACERS” group are driven by novelty and identity



# What are their Priorities?

(Base: All Adults n=7,096, Market Sample n=1,000 approx.)

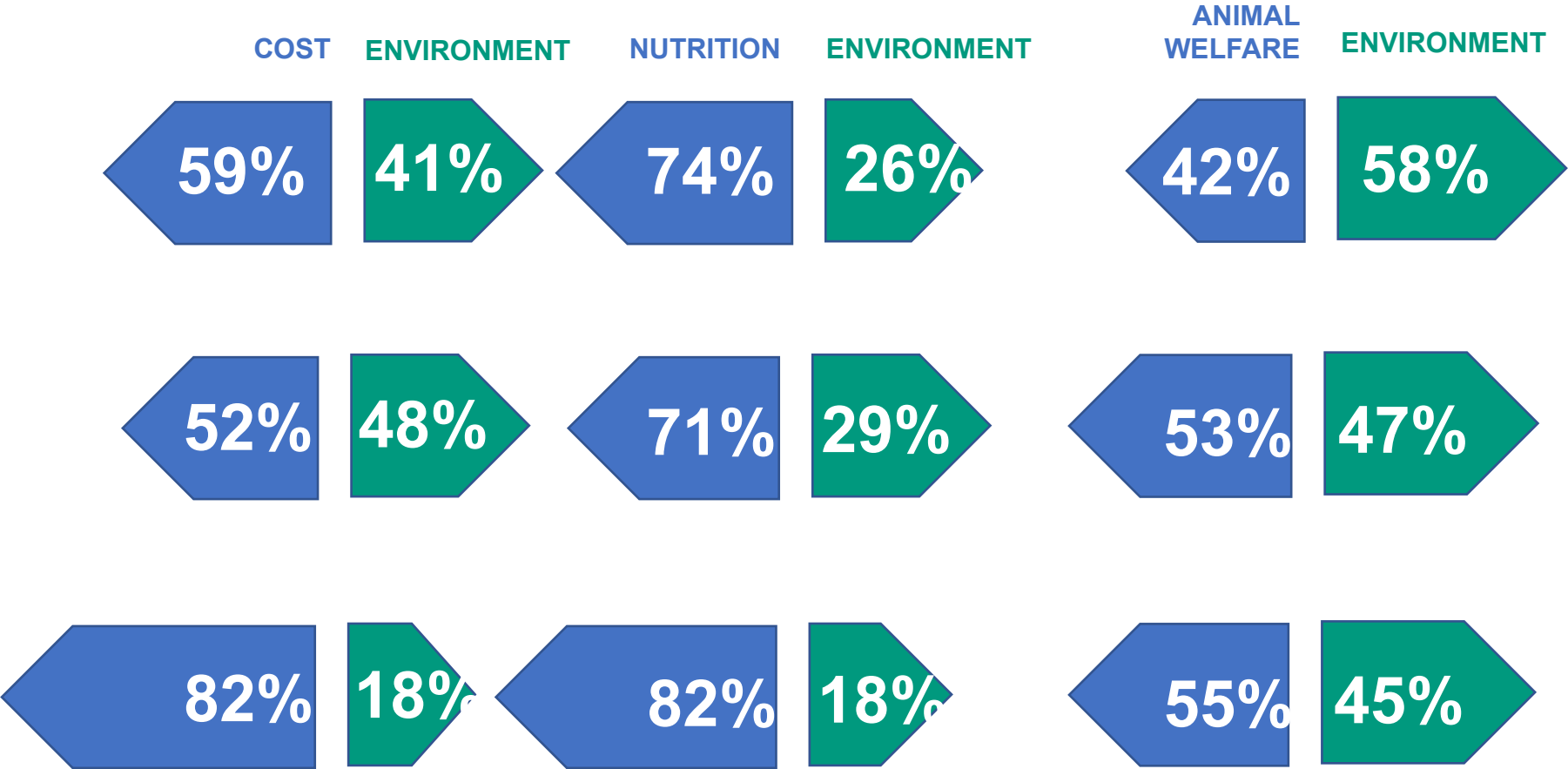
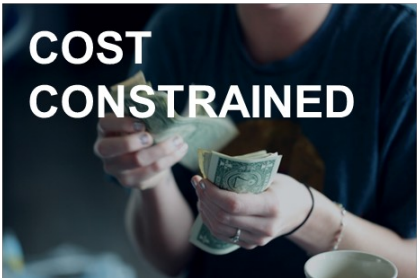
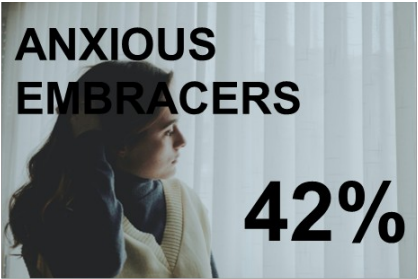
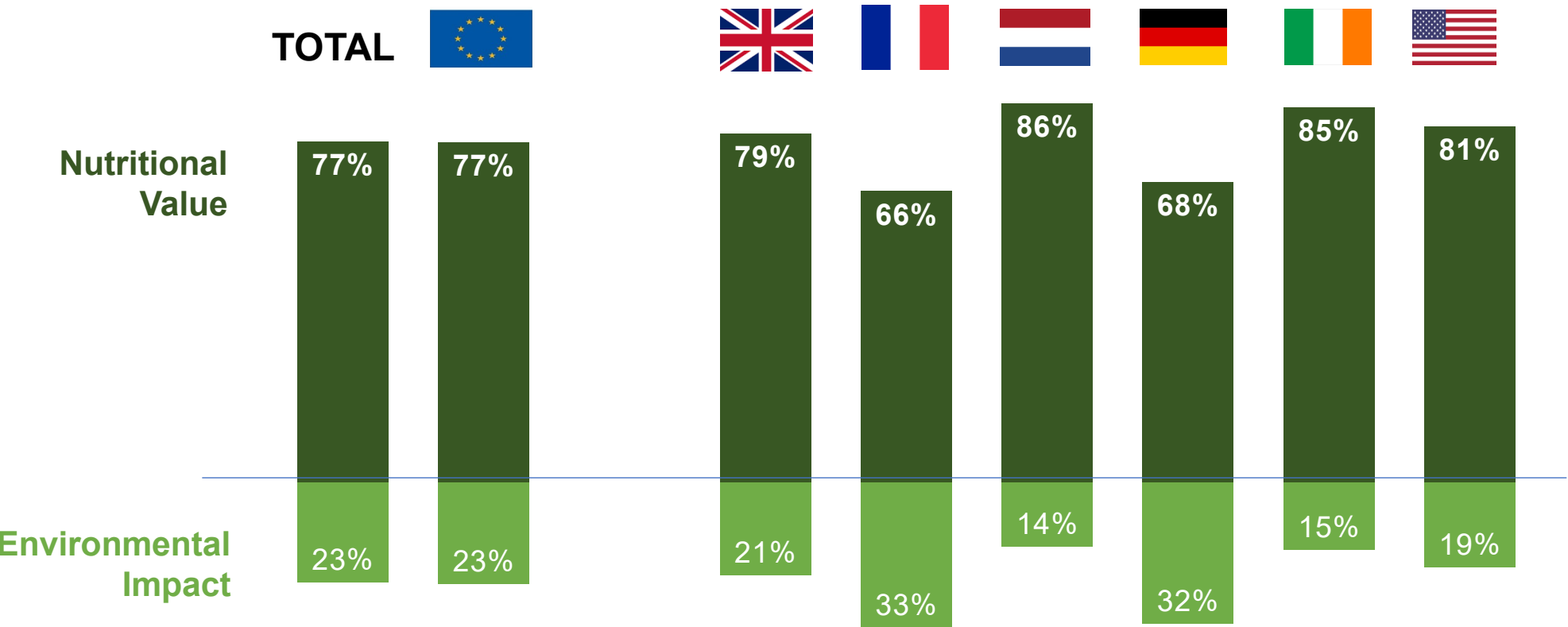


Photo by Isabela Drasovean on Unsplash  
Photo by Clem Onoieghuo on Unsplash  
Photo by Alexander Grey on Unsplash

When you think about food and drink which one of these two things are most important to you?

# Drivers of Food and Drink Choices

(Base: All Markets excluding China, n=6,077, IE, UK, DE, NL, US, FR)

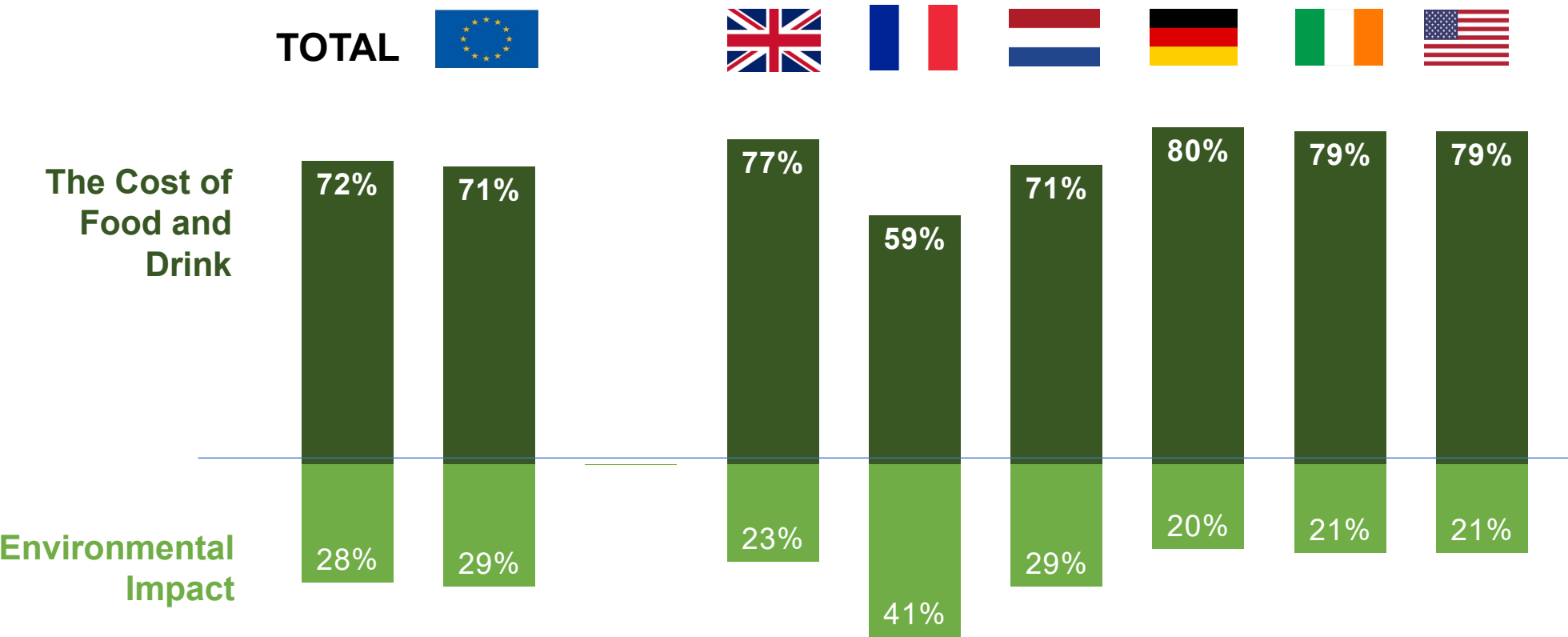


In all markets it is clear that (while the environment matters), nutritional value trumps it every time.

When you think about food and drink which one of these two things are most important to you?

# Drivers of Food and Drink Choices

(Base: All Markets excluding China, n=6,077, IE, UK, DE, NL, US, FR)



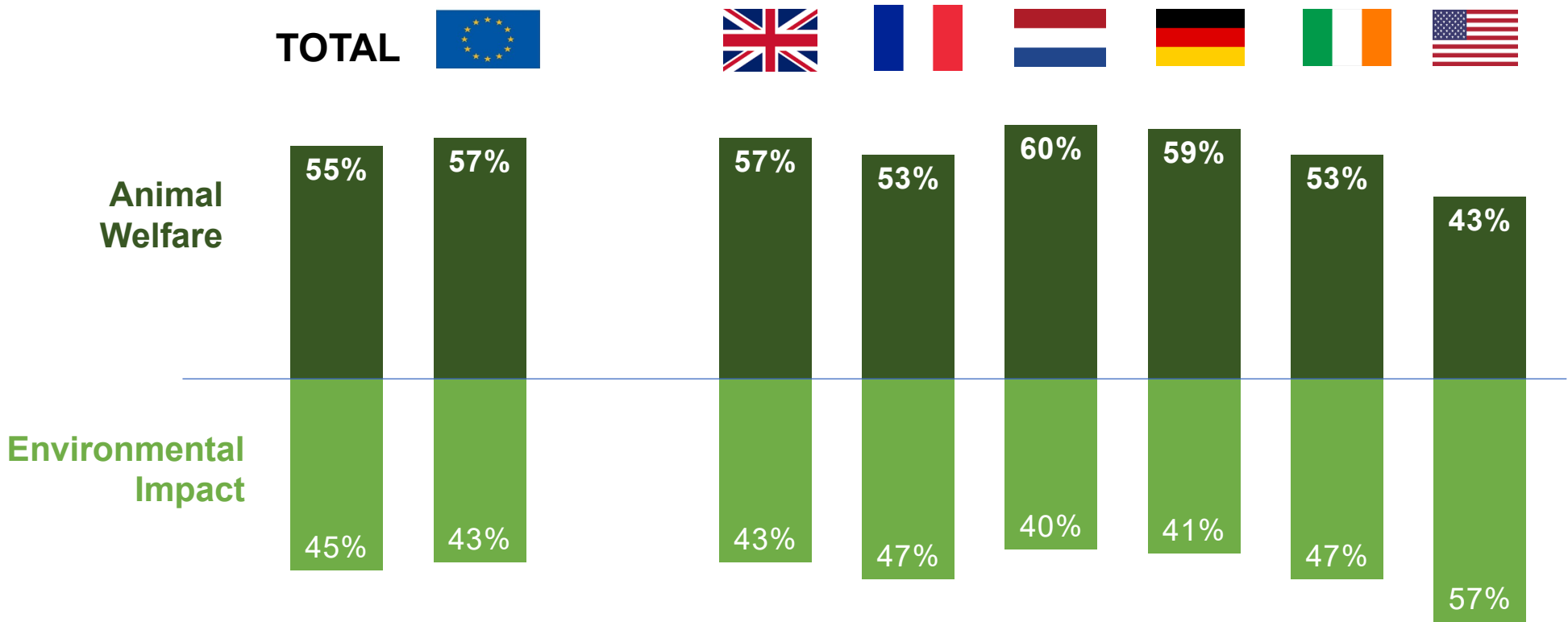
... And indeed in a forced choice in all markets, cost prevails over the environment.

*When you think about food and drink which one of these two things are most important to you?*



# Drivers of Food and Drink Choices

(Base: All Markets excluding China, n=6,077, IE, UK, DE, NL, US, FR)



Perspectives are a little more balanced when forced to choose between welfare and the environment, with the US least likely to choose animal welfare.

When you think about food and drink which one of these two things are most important to you?

# Choosing Plant-Based Alternatives (PBAs)

What's Happening out there?



# Direction of travel

Should companies aim to mimic animal products or take a veg forward approach?



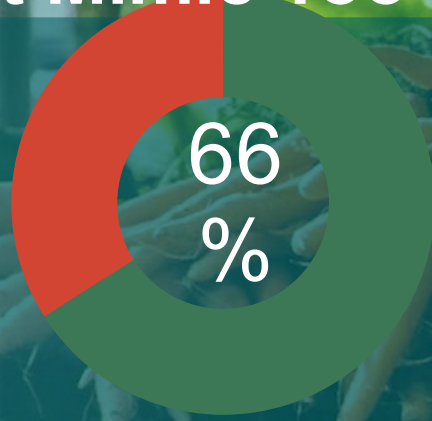
## Tesco's plant-based pioneer celebrated as next phase of strategy begins

17 January 2023

- Derek Sarno to leave retailer after helping to establish plant-based food in the UK and developing two innovative plant-based brands
- Tesco commits to drive innovation on plant-based alternatives and hero 'veg led' options



# Veg forward Trumps Meat Mimic, but there is Demand for Meat Mimic Too



**2 in 3 (66%) consumers would prefer to just have vegetables than a product that is trying to provide the meat experience**

**However 59% wish that they made plant-based food and drink that was just like (taste!) its meat or dairy equivalent**



**Pure plant- based foods that replace, not copy meats are ranked #1 in terms of future consumption momentum**

**(among 14 plant-based alternative options tested)**



***“Sometimes it seems like it is easier to get people to change religion than change their diet”***

*Deirdre McCafferty, Cornucopia*





A background image showing a hand holding chopsticks with a piece of food, likely a dumpling or a piece of meat, over a plate of spaghetti. The image is overlaid with a semi-transparent teal filter.

***“We are so nervous to try something new. It’s a very intimate thing”***

*Deirdre McCafferty, Cornucopia*

***“Consumers wonder, how is my food built? What ingredients are used in its fabrication?”***

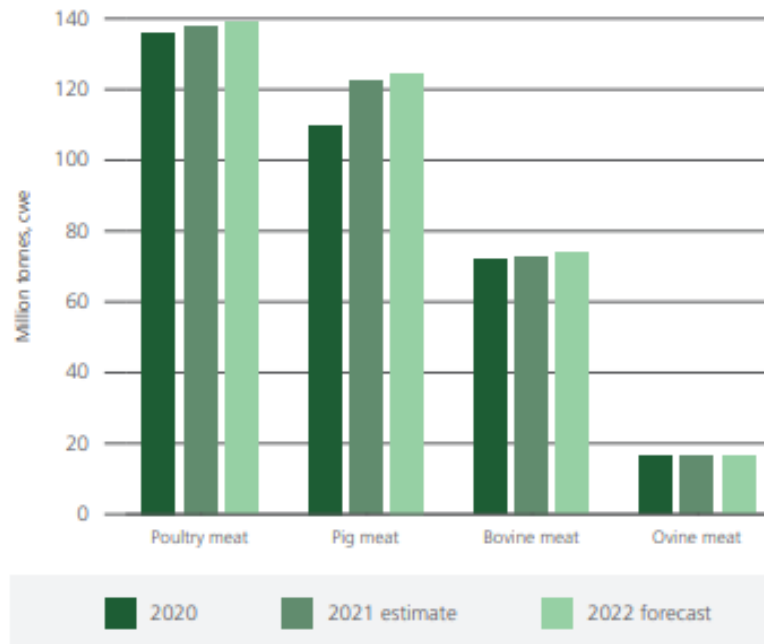
*MBio*



Consumers are **not yet convinced** that new technologies provide a natural food choices,  
Even though they are considered a more sustainable substitute to animal meat

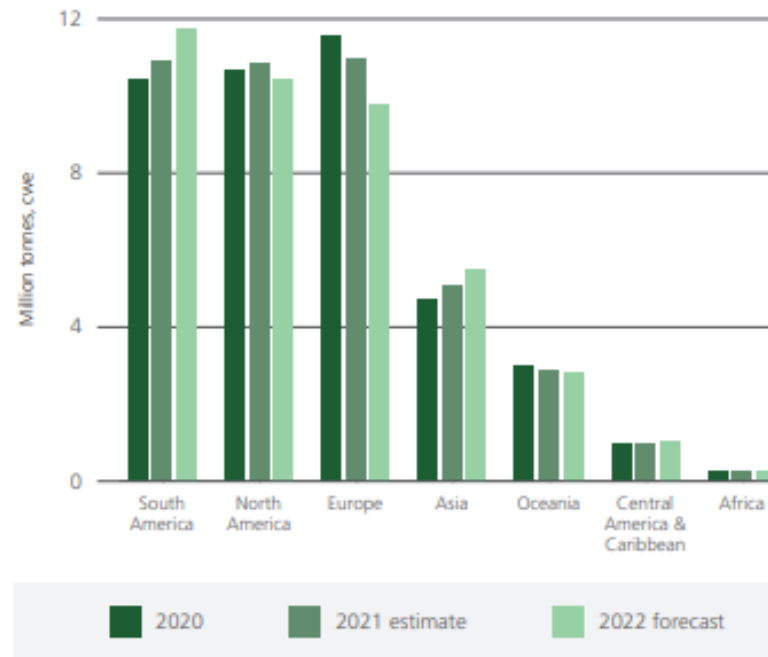
# Change takes time....

Figure 3. Global meat production by type



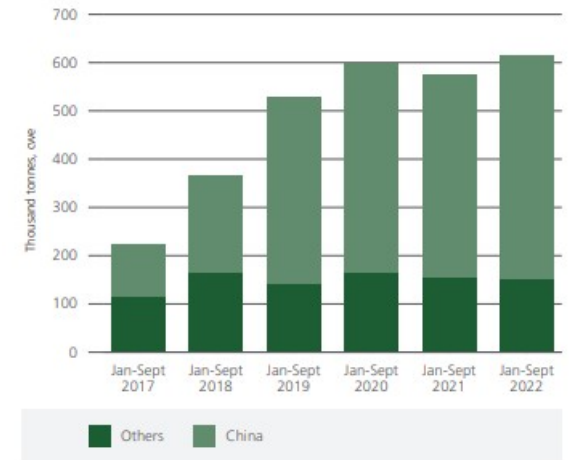
Source: FAO.

Figure 6. Global meat trade by region



Source: FAO.

Figure 8. Argentina bovine meat exports

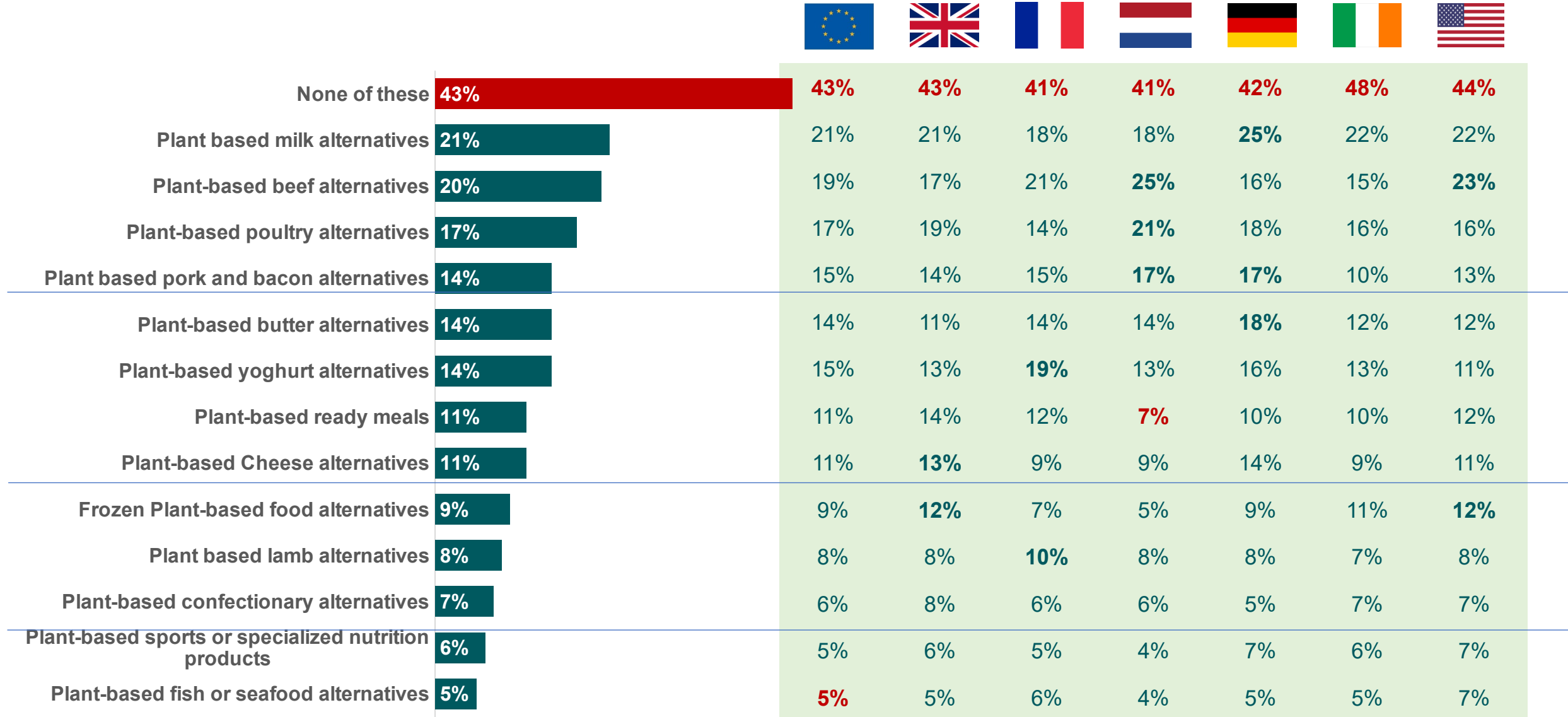


Source: FAO, based on Trade Data Monitor (TDM).


Bovine meat output in the world is forecast at 73.9 million tonnes in 2022, up by 1.4 percent from last year. Expected production increases in Brazil, China, India and Argentina will likely be partially offset by declines in Colombia, the European Union and New Zealand, whereas output in the United States is likely to remain largely unchanged compared to 2021. FAO

# % consuming each of these monthly+

(Base: All Markets excluding China, n=6,077)





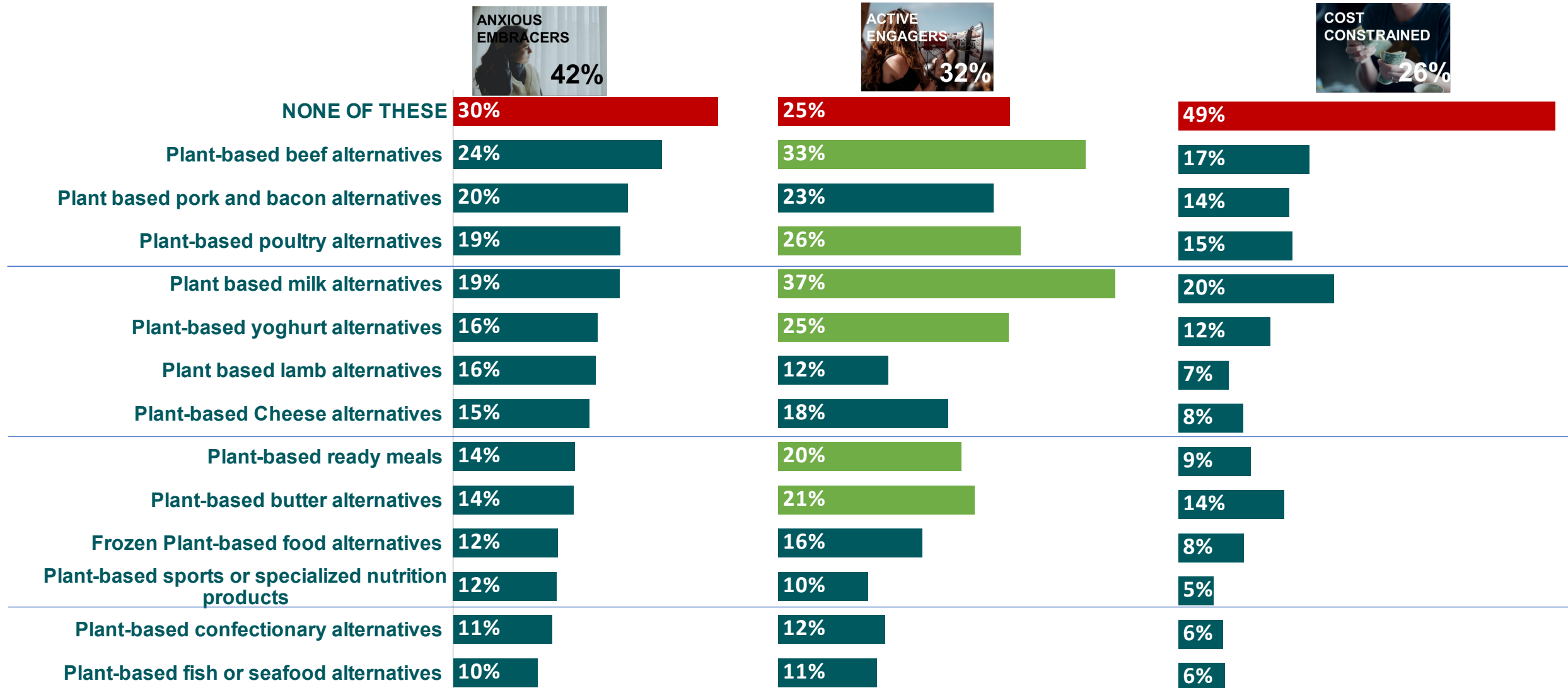


*“Ireland is a significantly agricultural country. There is not much attempt to move away from the massive dairy industry. So meat is going to continue to be an important part of the Irish diet”*

*-Ted Dinan, Professor of Psychiatry*

# % consuming each of these monthly+

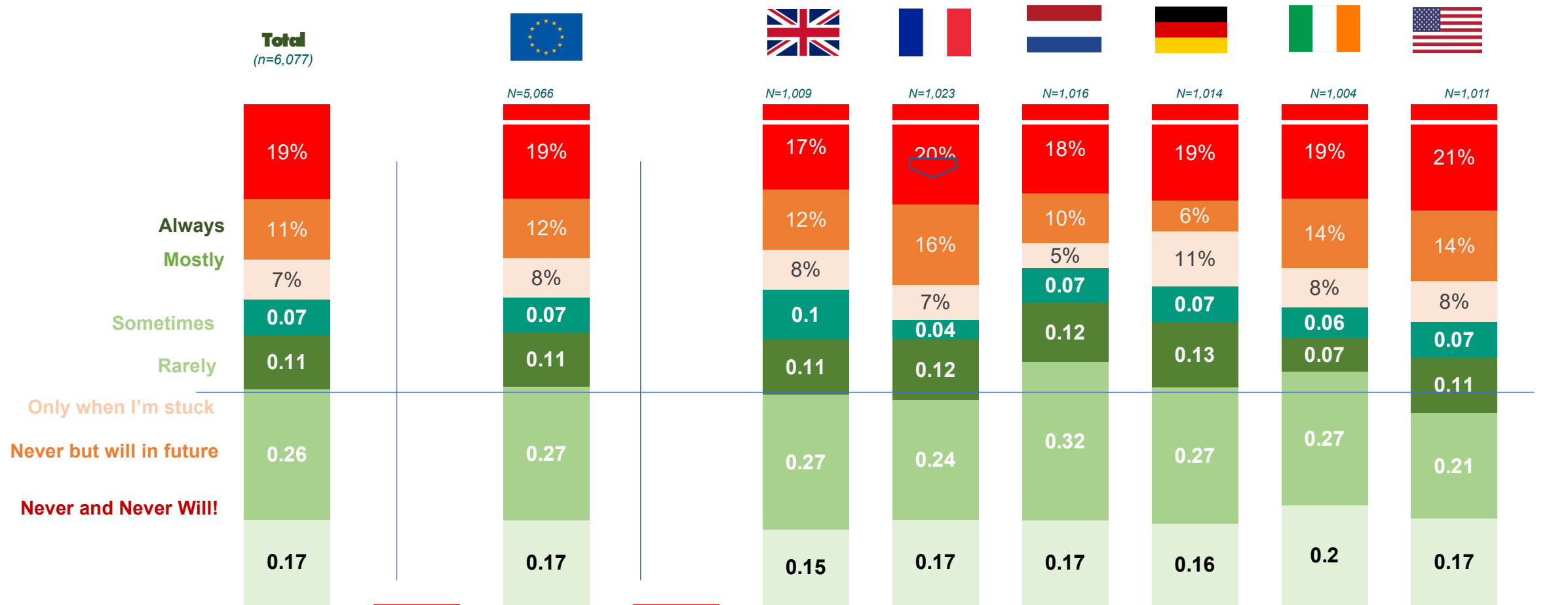
(Base: All Adults n=7,096, Market Sample n=1,000 approx.)



Thinking about types of plant-based alternative protein-rich food and drinks, which of these do you currently consume monthly or more often, if any?

# Plant based **meat** alternatives consumption

(Base: All Markets excluding China, n=6,077)

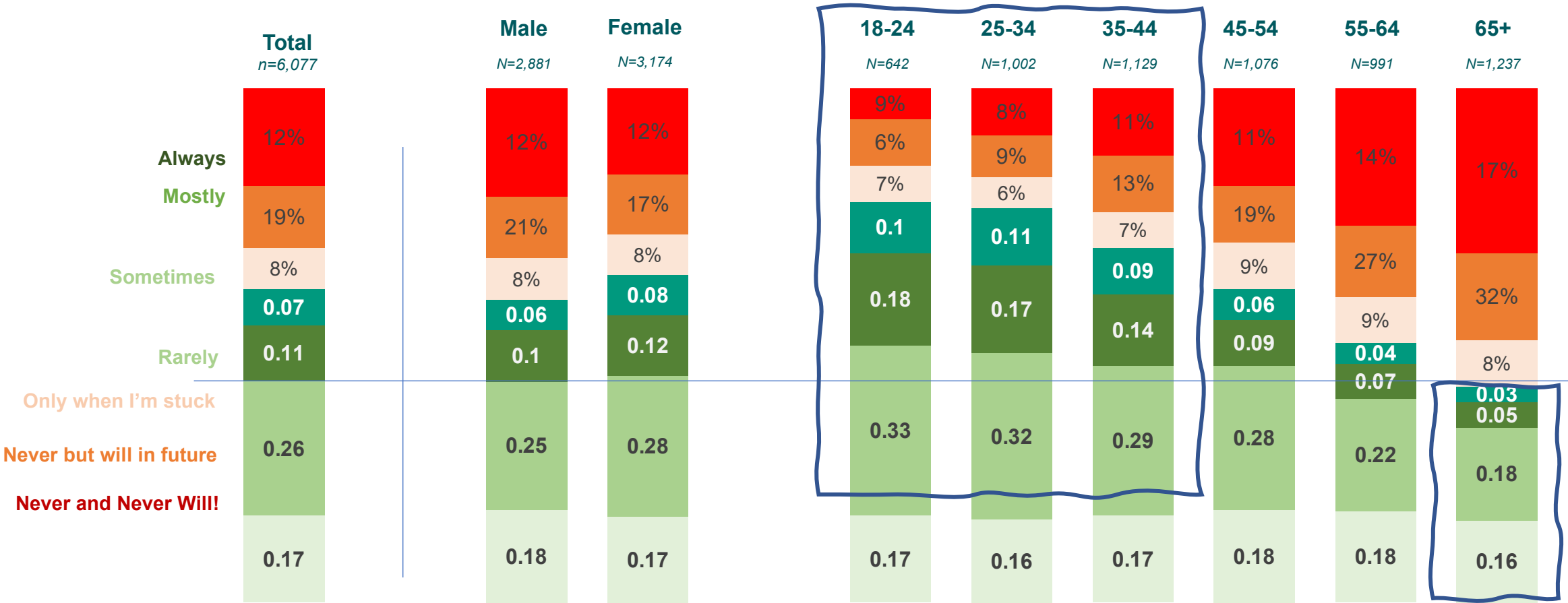


**1 in 5 are outright rejectors of Plant Based Meats across all markets.**



# Plant based **meat** alternatives consumption

(Base: All Markets excluding China, n=6,077)



*Meat alternatives are currently driven by younger cohorts*

A photograph of a herd of cows in a lush green field. In the foreground, a black and white cow is on the left, and a brown and white cow is in the center. Other cows are visible in the background. A semi-transparent teal box is overlaid on the top half of the image, containing white text.

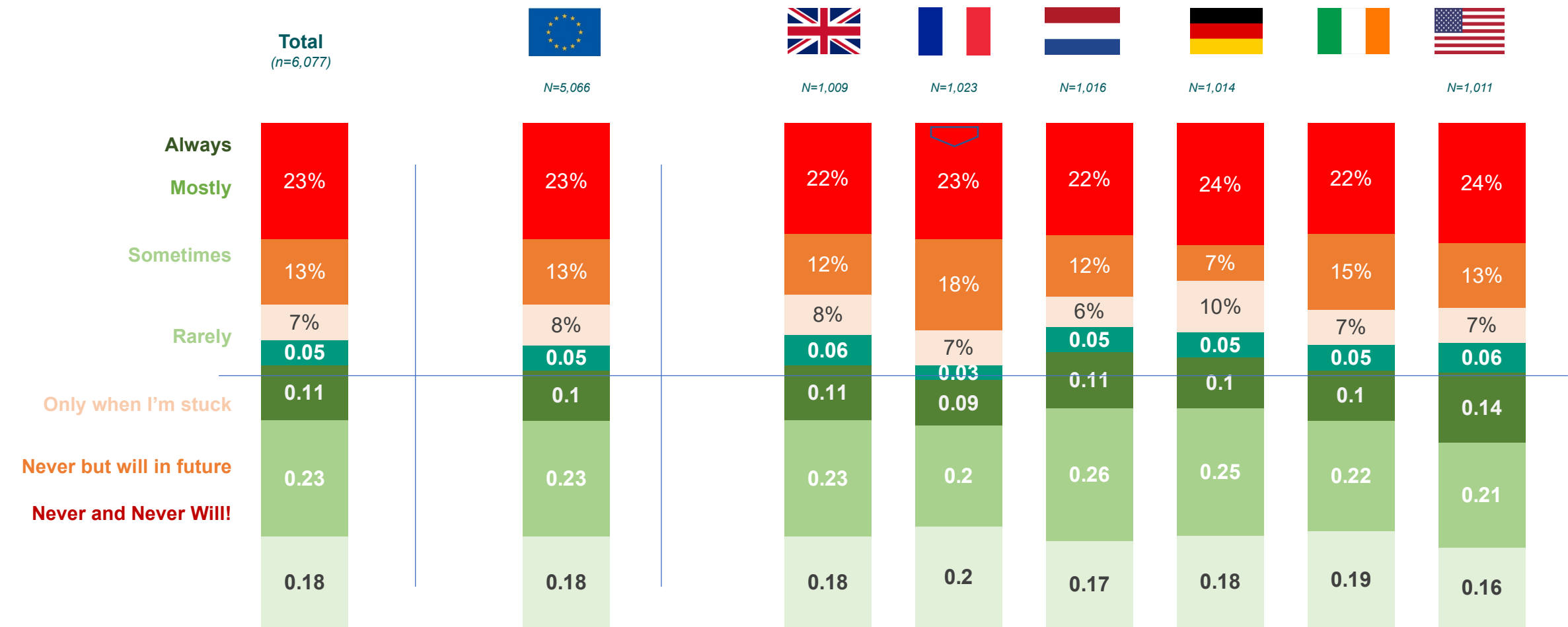
*“Cow based dairy may just need to **become more premium, not a commodity.** We see animals as more of a commodity these days.”*

A photograph of a herd of cows in a lush green field. In the foreground, a black and white cow is on the left, and a brown and white cow is in the center. Other cows are visible in the background. A semi-transparent teal box is overlaid on the bottom half of the image, containing white text.

*“I see farmers really playing a role in establishing a **substantial niche for cow based products**”*

# Plant-based dairy alternatives consumption

(Base: All Adults n=6,077, IE, UK, DE, NL, US, FR)

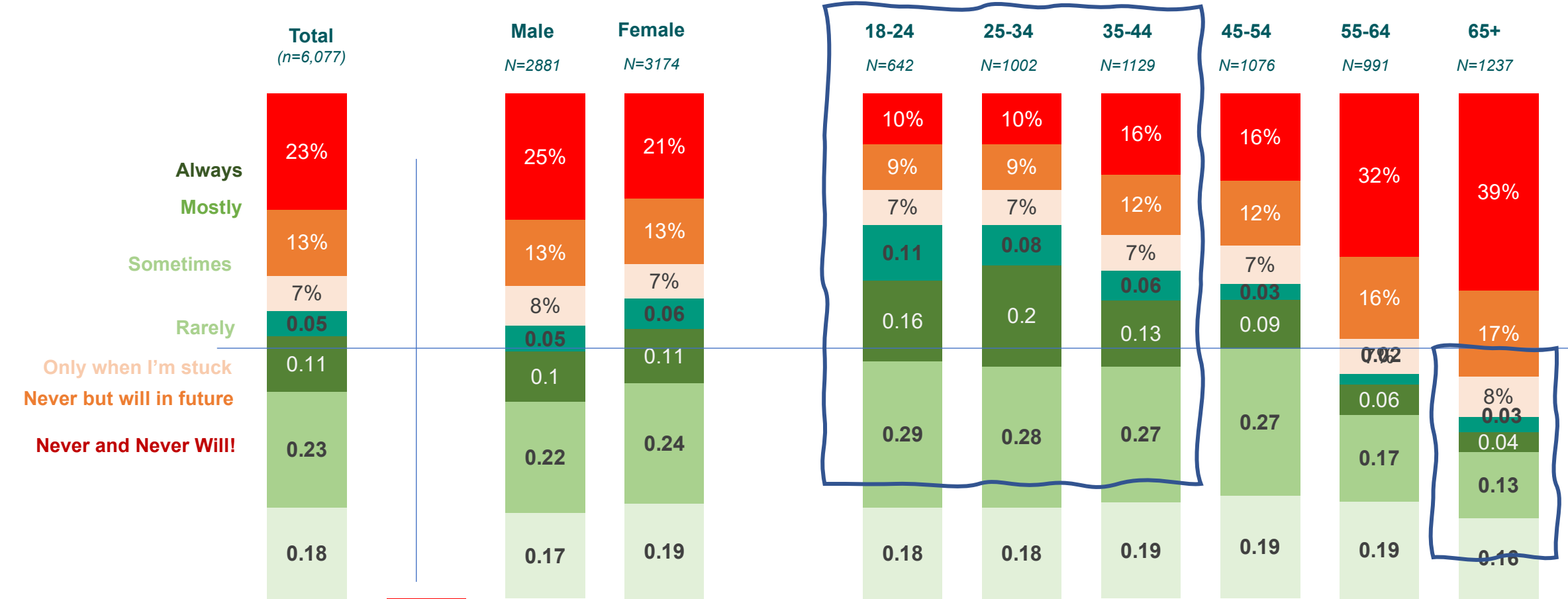


*Rejection is higher for dairy alternatives than meat alternatives; almost 1 in 4 overall*



# Plant-based dairy alternatives consumption

(Base: All Adults n=6,077, IE, UK, DE, NL, US, FR – EXCLUDING CHINA)



*As with Meat alternatives, Dairy alts are also currently driven by younger cohorts*



1. When it comes to food and drink choices, **personal human needs predominate**; health, nutrition, taste and the joy of food.
2. Despite apparent attitudinal commitment to sustainable choices, in a “forced choice”, **both nutrition and cost are three times more important than the environment**.
3. In fact, over **4 in 10 in every market have not consumed any plant-based alternative (PBA)** in the past month.
4. About **1 in 5 are committed rejectors of PBA meat!** This is much lower among younger cohorts who are more inclined have adopted PBA options.
  1. Interestingly, there is seemingly **a little more openness to PBAs that are veg-forward rather than meat-mimics**; but this is not definitive and is driven by concerns around naturalness and taste of meat mimics.... More later!
5. Despite greater adoption to date, **rejection is higher for PB dairy alternatives**; 1 in 4 across these key markets.

# Looking Ahead

Growth Expectations





# Investments in Plant-Based Alternatives

- \$1.2 billion was invested in plant-based meat, seafood, eggs and dairy in 2022, representing 15% of the all time investment (1997-2022).
- 2022's largest investment was \$135.6 million raised by Redefine Meat.\*

|                       | PEPSICO       | Nestle | Kraft Heinz | ABInBev | General Mills | Tyson          | JBS | Cargill | Smithfield | Hormel |
|-----------------------|---------------|--------|-------------|---------|---------------|----------------|-----|---------|------------|--------|
|                       | CPG Companies |        |             |         |               | Meat Companies |     |         |            |        |
| Investment            | ✓             | ✓      | ✓           |         | ✓             | ✓              | ✓   | ✓       |            |        |
| Acquisition           |               | ✓      | ✓           |         |               |                | ✓   |         |            |        |
| Partnership           | ✓             | ✓      | ✓           | ✓       |               |                |     | ✓       |            | ✓      |
| Manufacturing and R&D |               | ✓      | ✓           | ✓       | ✓             | ✓              | ✓   | ✓       | ✓          | ✓      |

✓ Cultivated meat
✓ Fermentation
✓ Plant-based

Conventional companies with involvement in alternative proteins\*



# Headwinds to Growth

However, despite forecasted positive CAGRs for the majority of markets in the meat and dairy free categories, **there are some headwinds** that could hamper growth into the future. Amid the bullish projections forecasted by some commentators, there are others who report that meat and dairy free are struggling to gain traction among consumers.

News | March 27, 2023

## New Age Eats founder Brian Spears winds up US cultivated meat start-up

CEO Brian Spears said that "with recent capital market turmoil, we have been unable to attract investment".

By Simon Harvey



Meat being cultured in laboratory.

New Age Meats, a cultivated pork start-up in the US has shut down due to difficulty in securing additional funding.



Oatly reported losses of \$107.9m in November 2022 when losses of €62m were expected by the market.



**BEYOND MEAT®**

Beyond Meat, who manufacture the McPlant burger for McDonald's, reported a sales slump with net revenue down 22.5% for the third quarter of 2022 to \$82.5m



## .... there is some backlash against lab grown meat ..

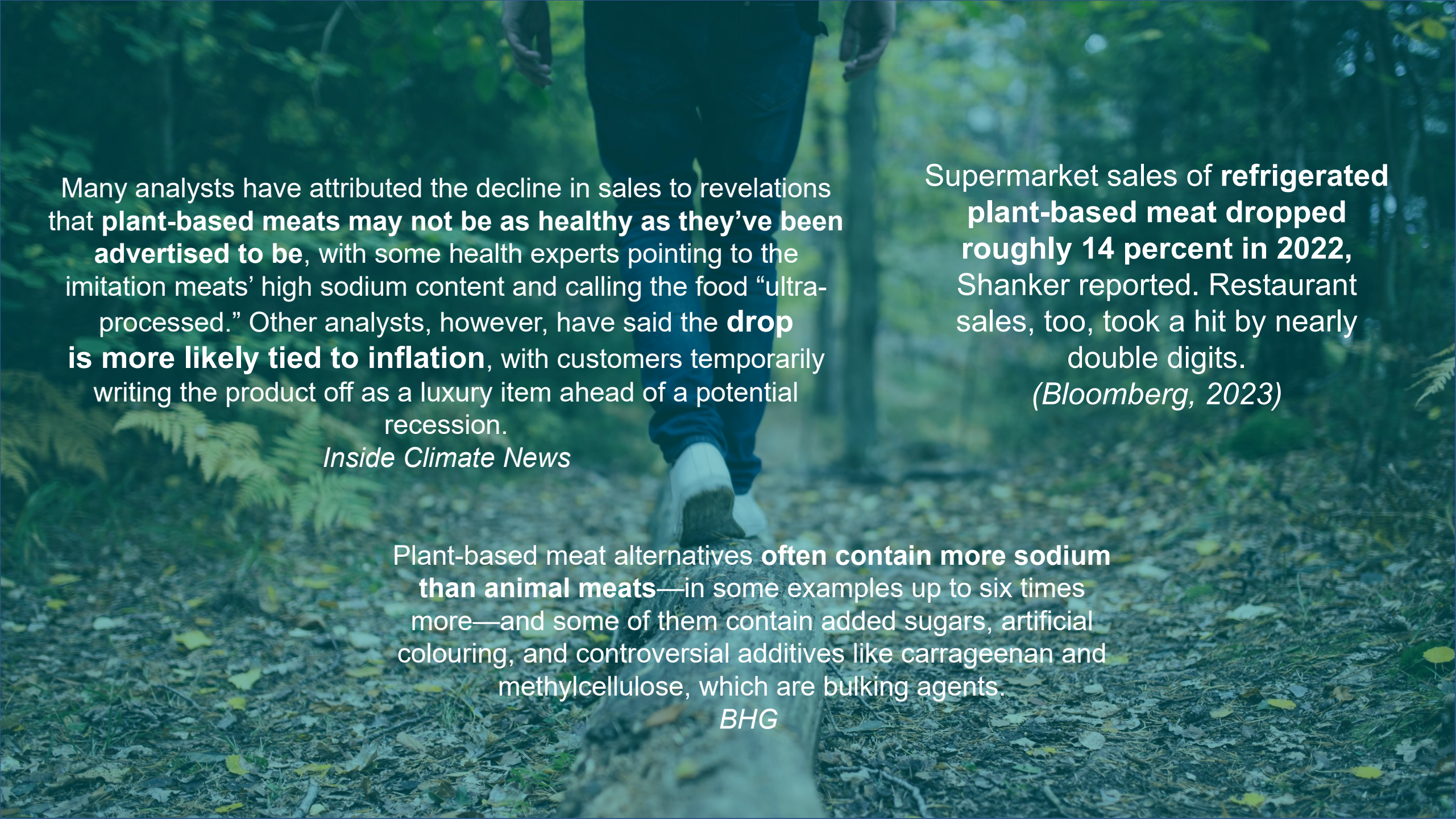
When it comes to so-called “fake meats”, **many are highly processed. Ultra-processed foods (UPFs)**, most produced by a handful of powerful multinational companies, have increasingly taken the space in our shopping basket.

These are complex foods with long lists of ingredients, many of which we may not recognise, sourced from across the globe, making their impact harder to quantify.

*Ruth Hegarty, director of egg&chicken consulting,  
Irish Times*





A person is walking away from the camera on a dirt path in a forest. The path is covered with fallen leaves and small plants. The background is filled with green trees and foliage. A semi-transparent teal overlay covers the entire image, making the text stand out.

Many analysts have attributed the decline in sales to revelations that **plant-based meats may not be as healthy as they've been advertised to be**, with some health experts pointing to the imitation meats' high sodium content and calling the food "ultra-processed." Other analysts, however, have said the **drop is more likely tied to inflation**, with customers temporarily writing the product off as a luxury item ahead of a potential recession.

*Inside Climate News*

Supermarket sales of **refrigerated plant-based meat dropped roughly 14 percent in 2022**, Shanker reported. Restaurant sales, too, took a hit by nearly double digits.

*(Bloomberg, 2023)*

Plant-based meat alternatives **often contain more sodium than animal meats**—in some examples up to six times more—and some of them contain added sugars, artificial colouring, and controversial additives like carrageenan and methylcellulose, which are bulking agents.

*BHG*



# Plant-Based Alternatives

## Global Market Size



### Meat Alternatives

(Meat & Seafood)  
\$6.1 billion (+8%)



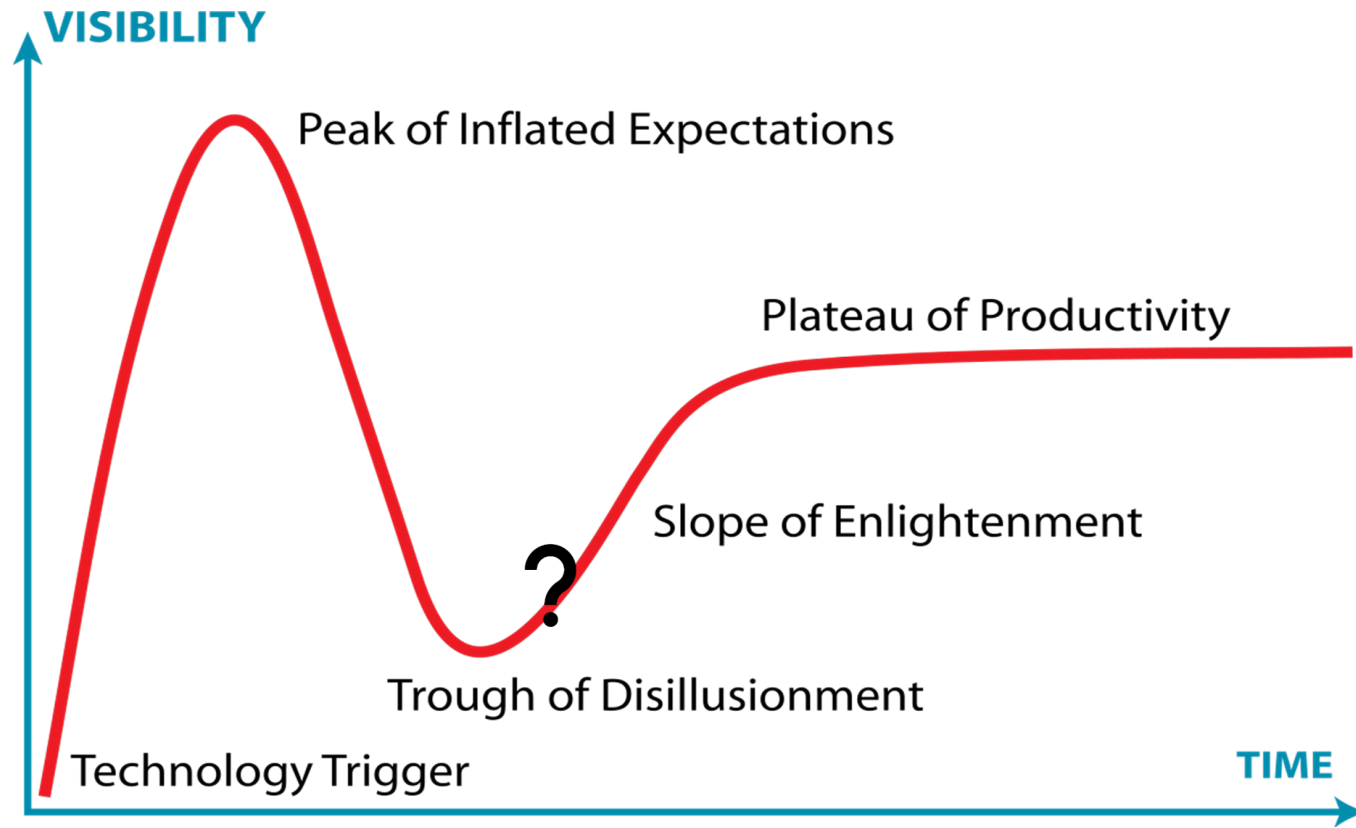
### Dairy Alternatives

(Milk, Cheese, & Yogurt)  
\$21.6 billion (+7%)

|                         | Dollar sales | 1-yr. dollar growth | 3-yr. dollar growth | Dollar share | Unit sales | 1-yr. unit growth | Unit share | Household penetration | Repeat rate |
|-------------------------|--------------|---------------------|---------------------|--------------|------------|-------------------|------------|-----------------------|-------------|
| Total plant-based foods | \$8.0 B      | 7%                  | 44%                 | 1.4%*        | 1.9 B      | -3%               | 1.2%*      | 60%                   | 80%         |
| Plant-based meat        | \$1.4 B      | -1%                 | 43%                 | 1.3%**       | 255 MM     | -8%               | 1.7%**     | 18%                   | 63%         |
| Plant-based milk        | \$2.8 B      | 9%                  | 36%                 | 15.3%        | 749 MM     | -2%               | 14.7%      | 41%                   | 76%         |

*U.S. Retail plant-based food sales metrics, 2022*  
*Custom GFI categories created using SPINS Data ending 01/01/2023*

# The Gartner Hype Cycle



Source: Libelium One

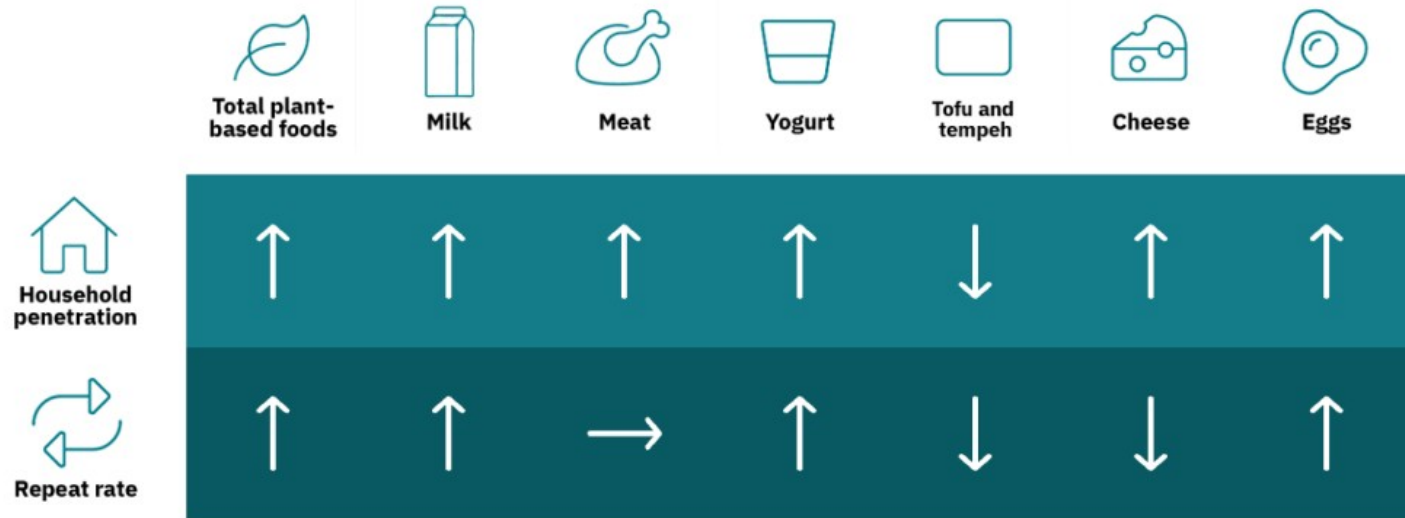
The Gartner Hype is a graphical representation to represent the **maturity, adoption** and **social application** of specific innovations.

According to the cycle, once a new technology has been triggered, it reaches **peak visibility** and experiences '**Inflated Expectations**'. When the challenges and issues associated with the technology are realised, the innovation moves along the cycle to '**The Trough of Disillusionment**'. Assuming that the innovation can improve on or solve these issues, it moves along '**The Slope of Enlightenment**' and will eventually reach '**The Plateau of Productivity**'



# Alternative dairy

## Purchase dynamics of plant-based foods, Change from 2020 to 2021



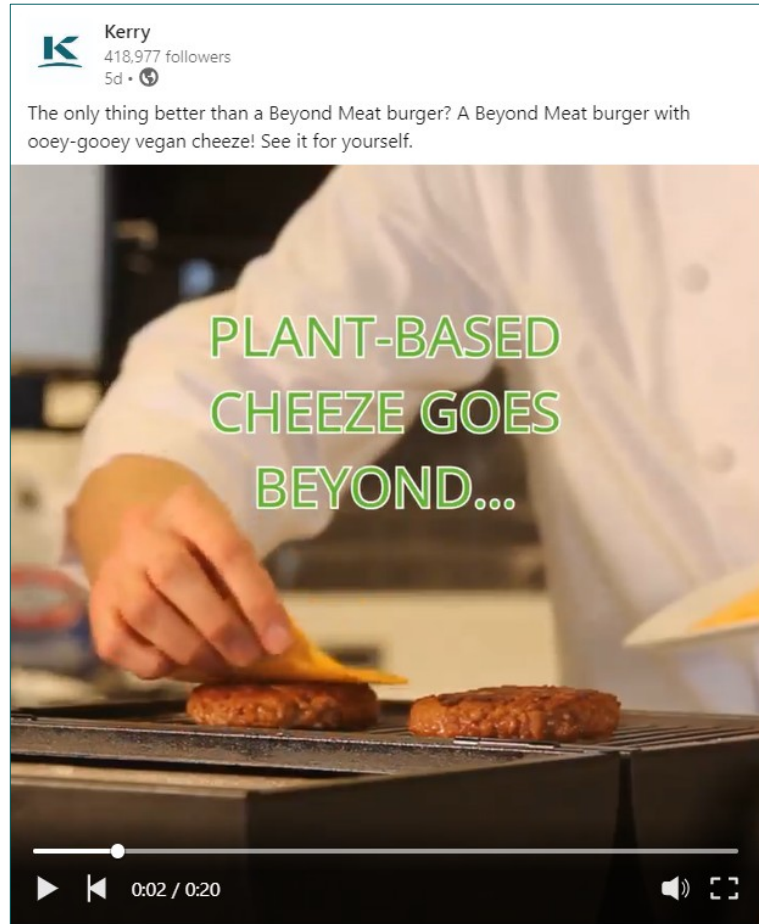
Source: NCP, All Outlets, 52 weeks ending 12-26-21.

[https://gfi.org/wp-content/uploads/2022/10/2021-U.S.-retail-market-insights\\_Plant-based-foods\\_GFI-1.pdf](https://gfi.org/wp-content/uploads/2022/10/2021-U.S.-retail-market-insights_Plant-based-foods_GFI-1.pdf)

National Consumer Panel data (> 100,000 homes in US) shows a stagnation in meats in a number of ways:

- Value Sales Flat
- Repeat Rates Poor

# Irish dairy companies diversifying into plant-based alternatives



## Tirlán customers looking for plant offerings - Bergin

Dairy leaders have suggested that planted-based and traditional dairy product offerings go hand in hand.



Tirlán CEO Jim Bergin says the co-op is in a position to sell plant-based products alongside its dairy offering.

# Market Sizing


*Commercial Expectations*





# Market Sizing- Free From Meat

## Optimistic GAGR Rates Continue

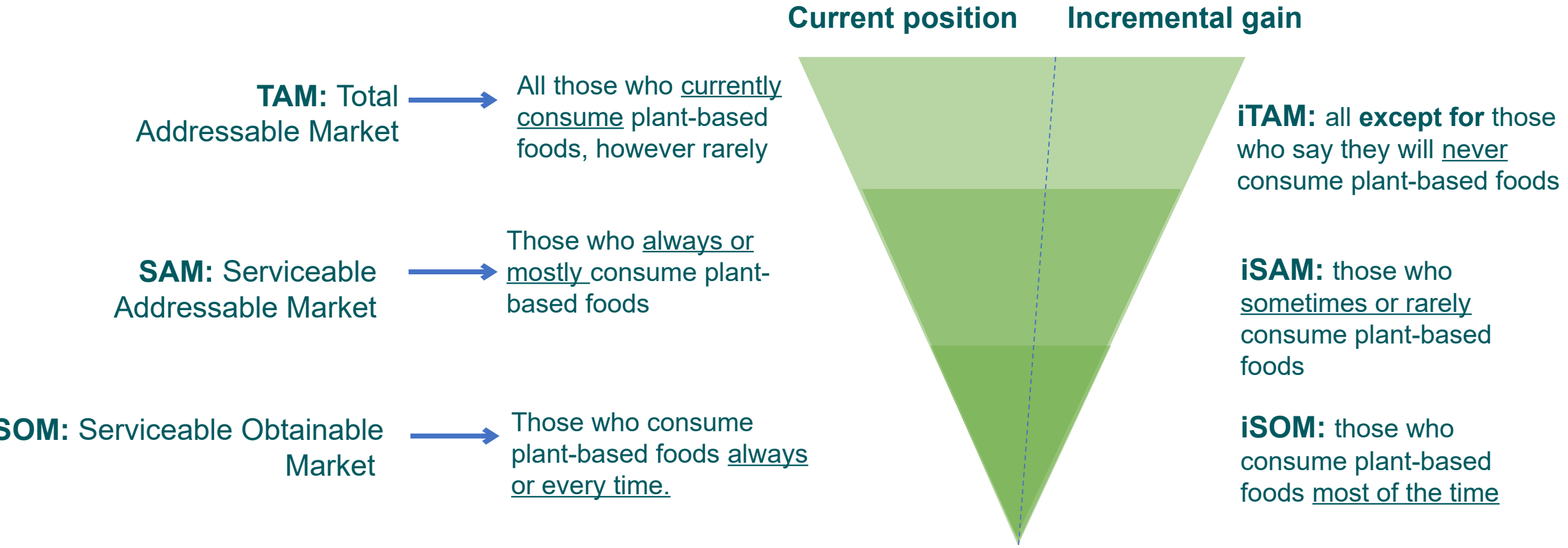
|                                                                                    |         |         |      |      |      |     |     |
|------------------------------------------------------------------------------------|---------|---------|------|------|------|-----|-----|
| 2021 Sales Value Actual<br>(Millions)                                              | ¥77,007 | \$956   | £314 | €231 | €156 | €20 | €16 |
| 2026 Forecast Value<br>(Millions)                                                  | ¥87,779 | \$1,069 | £498 | €466 | €271 | €37 | €51 |
| CAGR                                                                               | 2%      | 2%      | 8%   | 12%  | 10%  | 11% | 21% |
|  |         |         |      |      |      |     |     |



Source: Euromonitor International

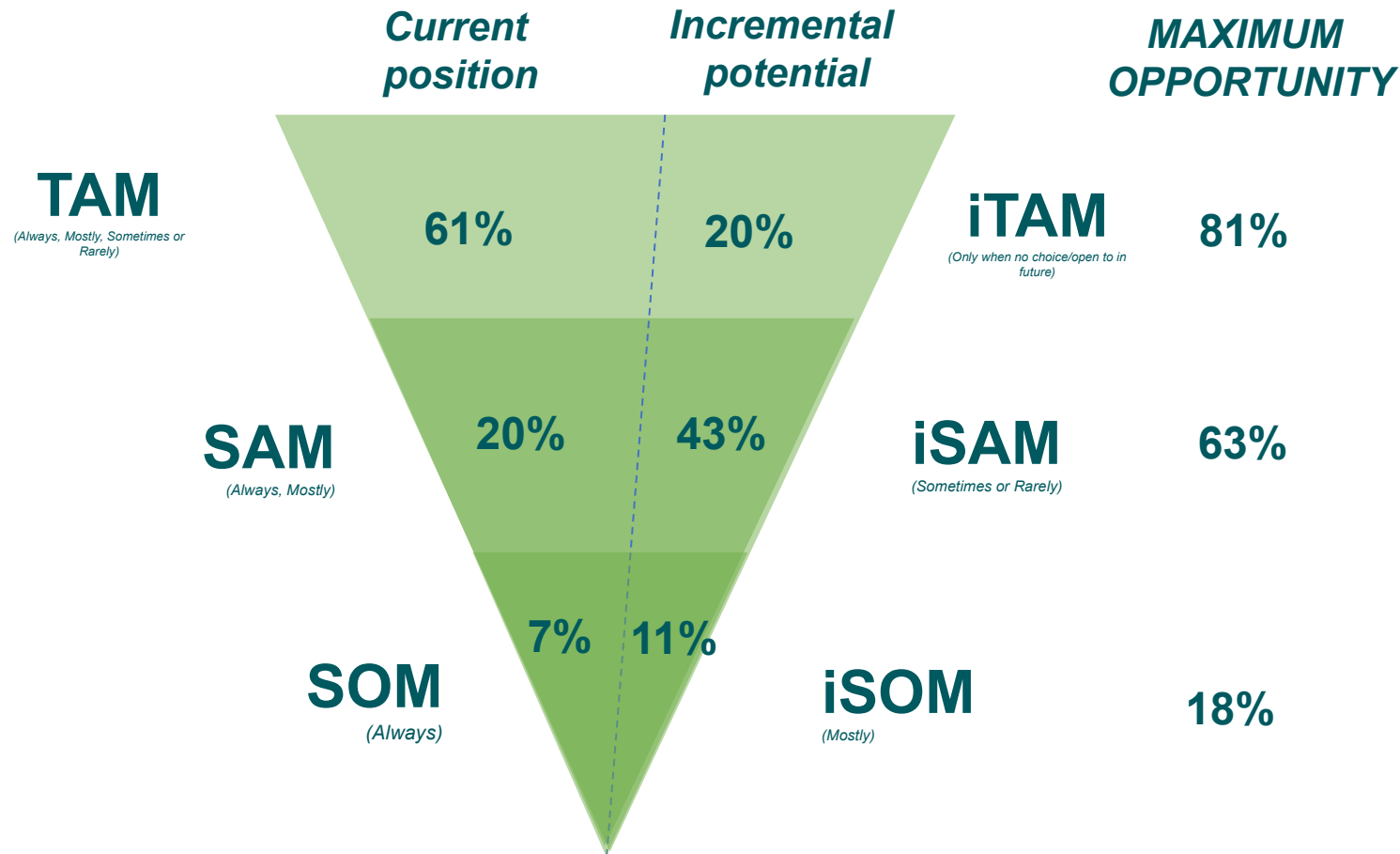
# Introduction: Market size and trajectory

*TAM, SAM and SOM are used in market sizing exercises to define the potential size of prize.*





# Market size and trajectory for **meat** alternatives



If also “mostly” users switched to “always”, it would mean 18% of consumers becoming exclusively meat PBA.

This figure is highest in the UK (21%), followed by Germany (20%).

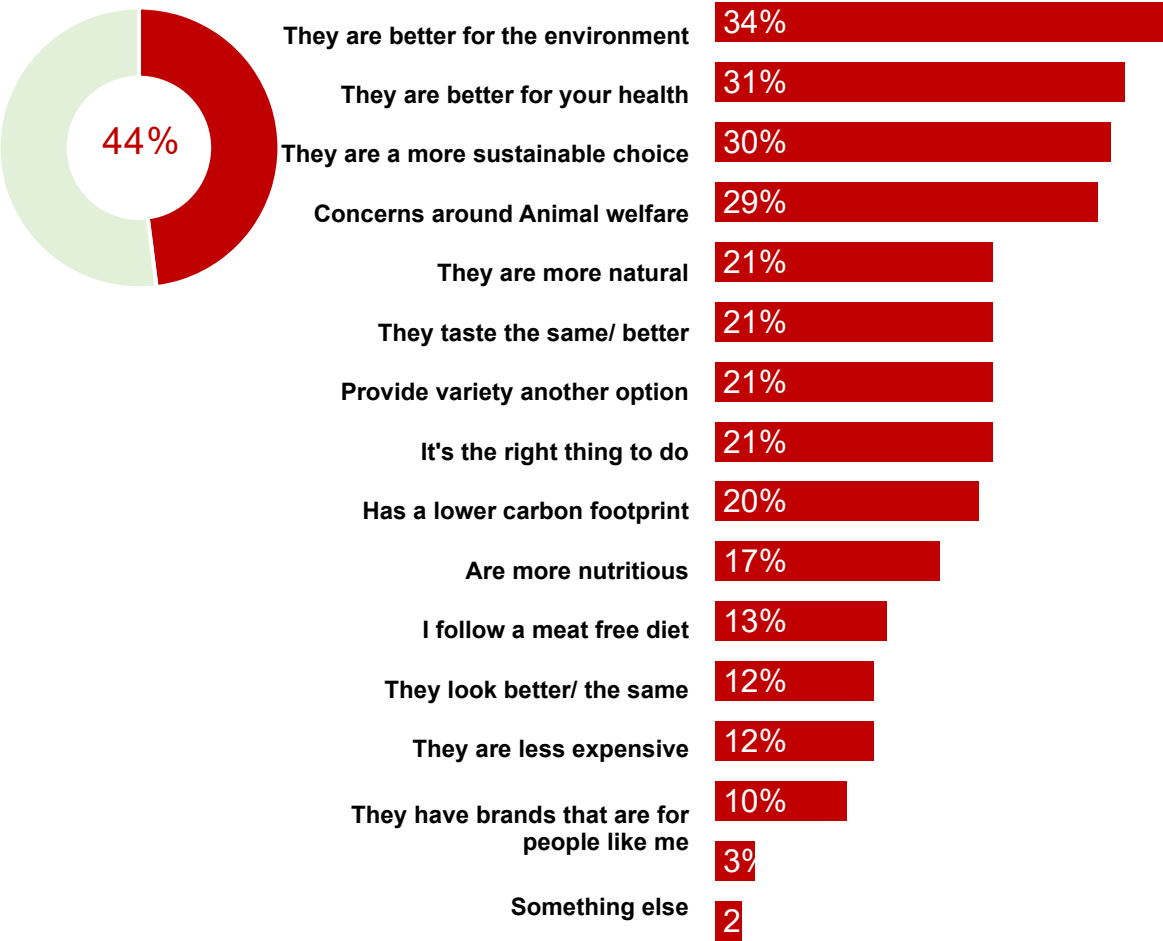
P1. How often, if ever, do you intentionally choose plant-based alternatives in place of regular meat products?



# Why plant-based alternatives are chosen

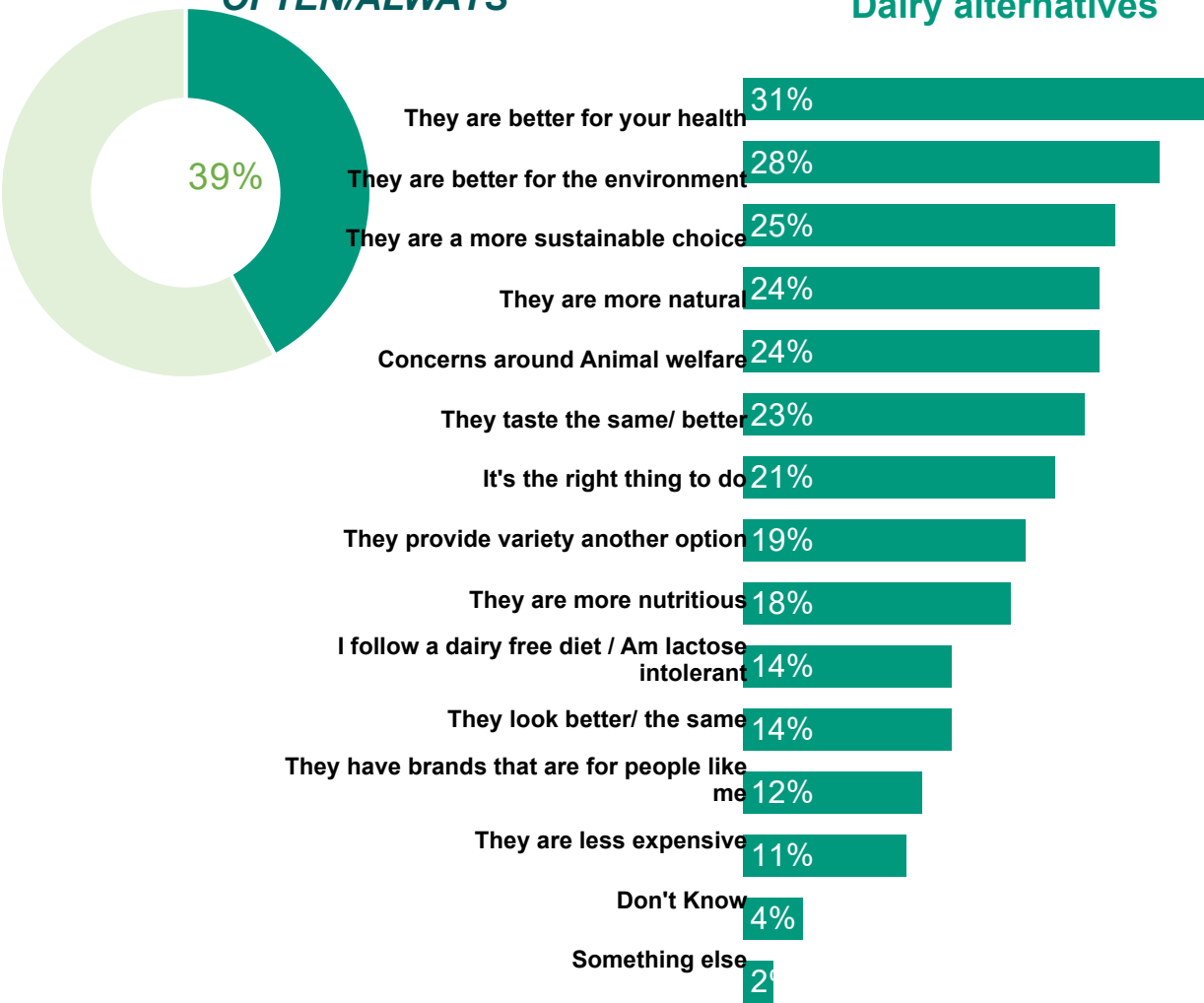
(Base: All Markets excluding China, n=6,077, IE, UK, DE, NL, US, FR)

## OFTEN/ALWAYS



And why do you choose plant-based alternatives to meat?

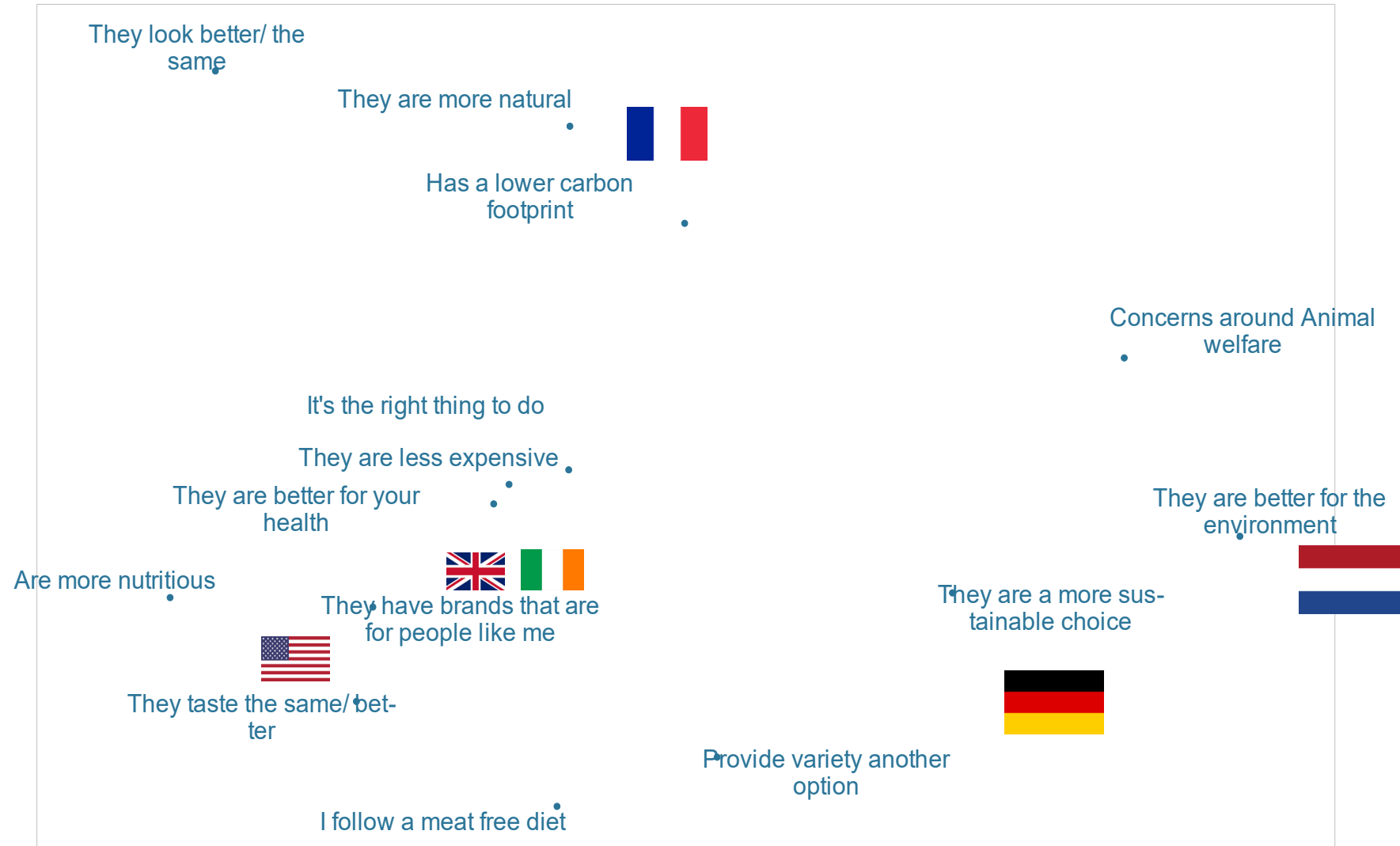
## OFTEN/ALWAYS



And why do you choose plant-based alternatives to dairy?

# Why choose plant-based **meat** alternatives?

(Base: All plant based meat consumers, n=1,945)











**In Western European markets the prevailing drivers revolve around eco-ethical concerns, while taste and nutrition and are more relevant and in Ireland, UK and the US**

# Market Sizing: Dairy Alternatives





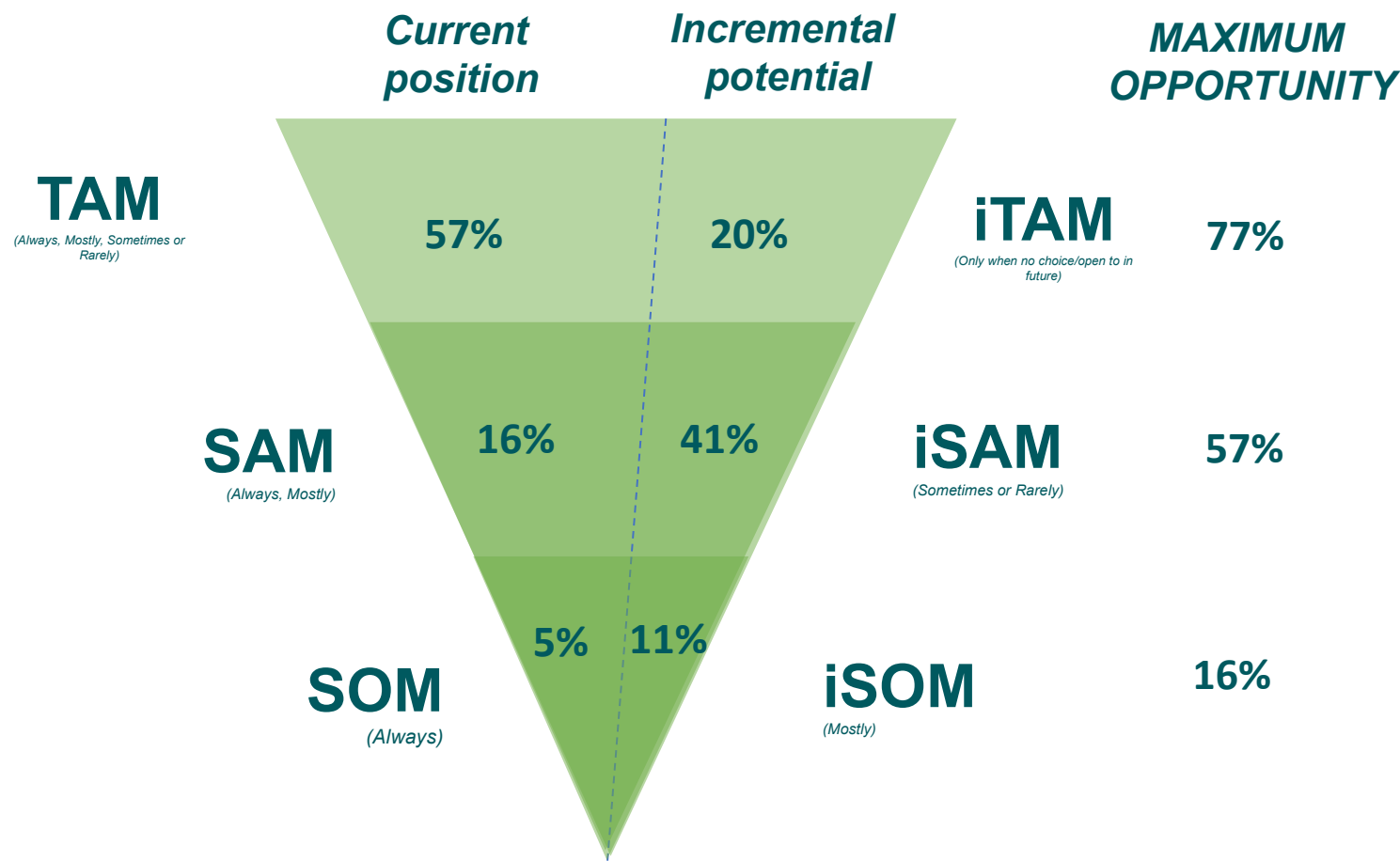
# Market Sizing- Free From Dairy

|                                       |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|---------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 2021 Sales Value Actual<br>(Millions) | ¥37,216                                                                           | \$2,433                                                                           | £549                                                                               | €406                                                                                | €266                                                                                | €37                                                                                 | €34                                                                                 |                                                                                     |
| 2026 Forecast Value<br>(Millions)     | ¥31,769                                                                           | \$3,785                                                                           | £669                                                                               | €507                                                                                | €756                                                                                | €42                                                                                 | €63                                                                                 |                                                                                     |
| CAGR                                  | -3%                                                                               | 8%                                                                                | 3%                                                                                 | 4%                                                                                  | 19%                                                                                 | 2%                                                                                  | 11%                                                                                 |                                                                                     |
|                                       |  |  |  |  |  |  |  |  |

Source: Euromonitor International

# Market size and trajectory for dairy alternatives

(Base: All Markets excluding China, n=6,077)



16% of consumers say they always or mostly consume dairy alternatives.

This figure is highest in the USA (20%), followed by the UK (18%) and the Netherlands (17%)

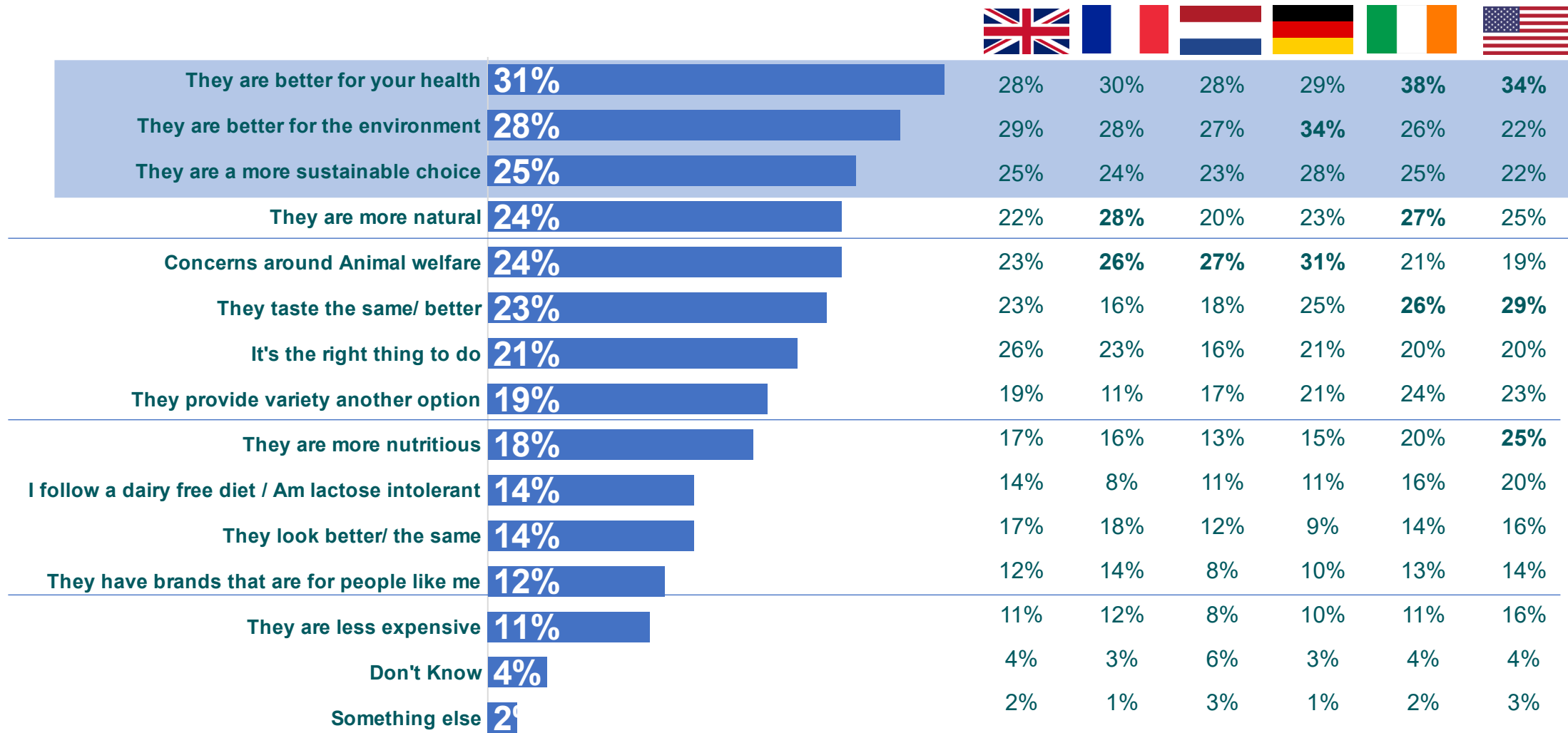
Interestingly, rejection (would never consume) is also high in the US (37%), along with France (41%) and Ireland (37%)

P2. How often, if ever, do you intentionally choose plant-based alternatives in place of regular dairy products?



# Reasons for choosing plant-based dairy alternatives

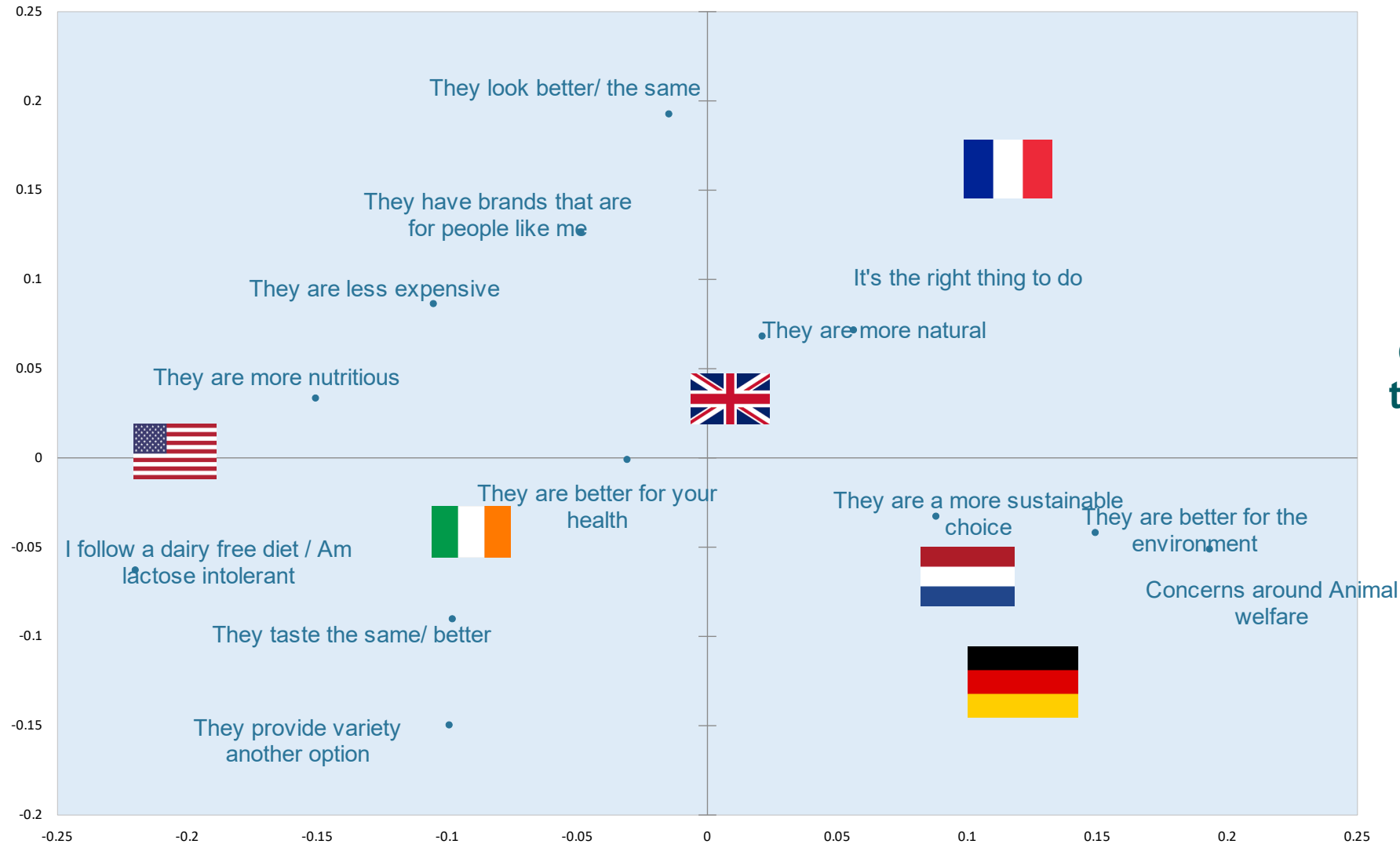
(Base: Plant-based dairy consumers (excluding China) n=2,360)





# Why choose plant- based dairy alternatives?

(Base: All plant based dairy consumers, n=1,487)



**We can see the disproportionate impact of the environment in Western European markets when it comes to choosing plant based dairy alternatives**

# Interestingly, parents are more likely to be open to plant-based alternatives..



## Dairy alternatives

23% currently consume dairy alternatives (*vs 13% no kids*)

24% consume plant-based alternatives to dairy because “it’s the right thing to do” (*vs 19% no kids*)



## Meat alternatives

24% of parents say they always/mostly consume plant-based meat alternatives (*vs 14% of those with no kids*)

*They are more likely to consume alternatives due to: nutrition, naturalness, look better/the same, “for people like me”  
Less about animal welfare than those with no kids*



**What is stopping non-users  
consuming plant based meat  
and dairy alternatives?**



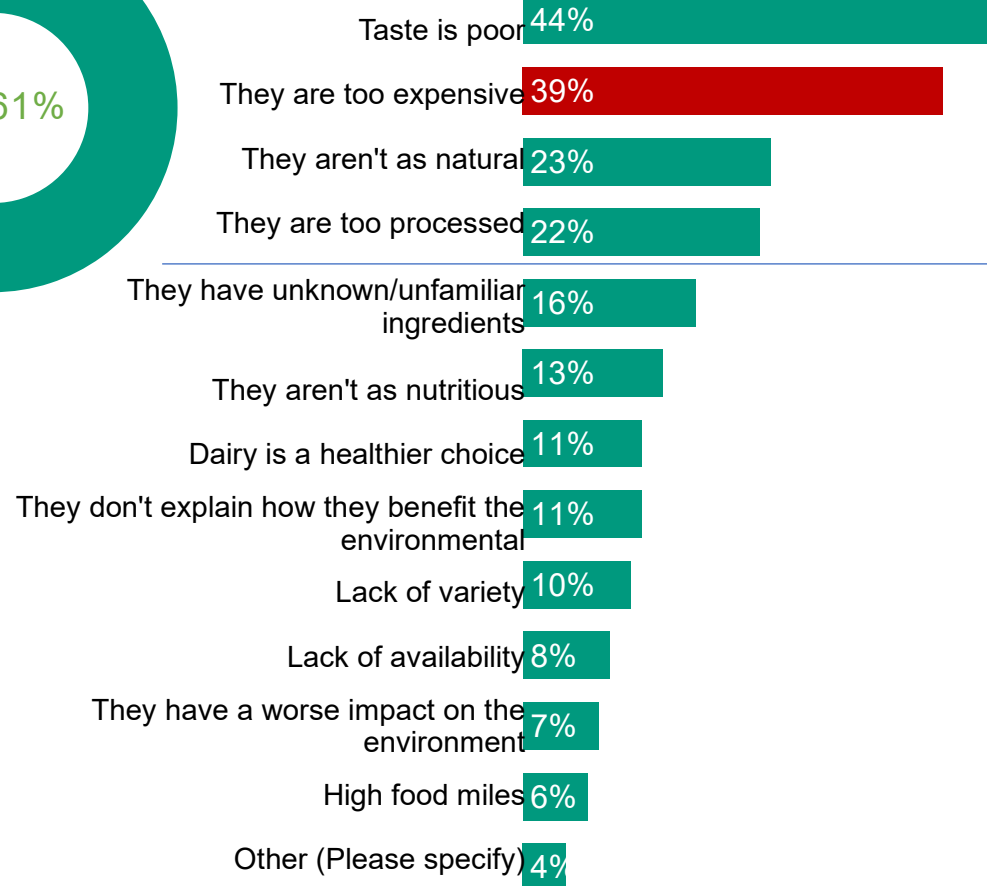
# Barriers

(Base: All Adults n=6,077, IE, UK, DE, NL, US, FR – EXCLUDING CHINA)

RARELY/NEVER

## Dairy alternatives

61%

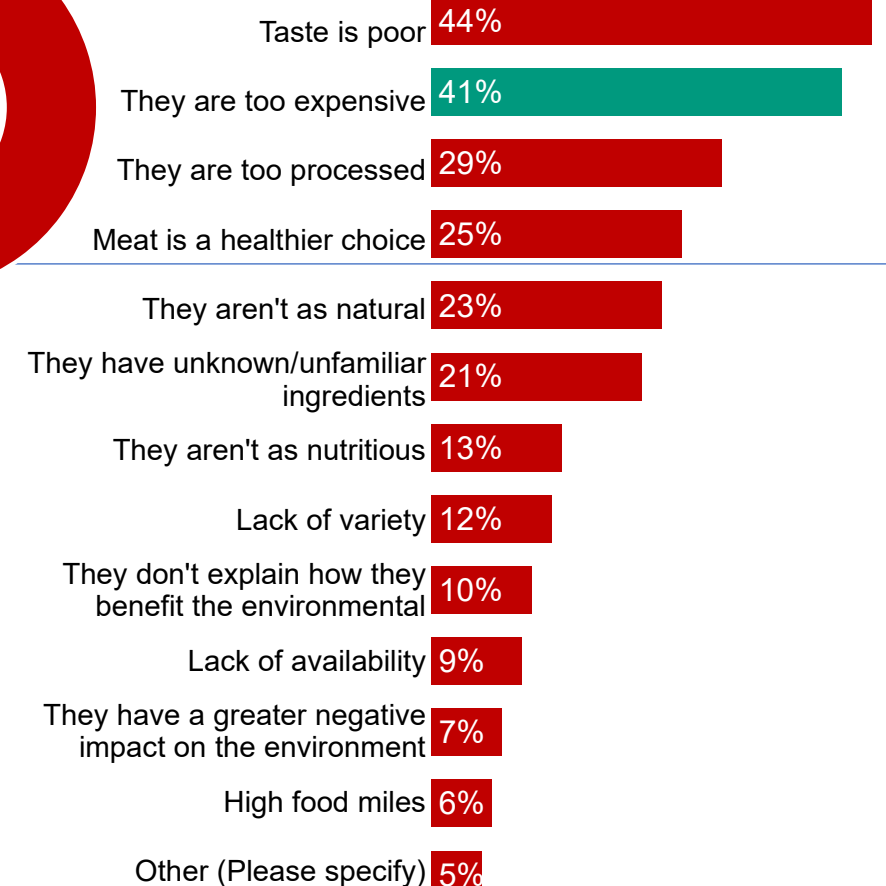


You say that you don't consume plant-based alternatives to dairy products often. Which of these reasons best describe why you do not eat these products?

RARELY/NEVER

## Meat alternatives








56%



You say that you don't consume plant-based alternatives over meat products often. Which of these reasons best describe why you do not eat these products?

# Consumers are marginally more likely to outrightly reject dairy alternatives than meat alternatives (23% vs 19%)

*"I never choose them and I won't in the future"*

|                           | TOTAL |  |  |  |  |  |  |  |
|---------------------------|-------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Meat alternatives</b>  | 19%   | 19%                                                                               | 17%                                                                                 | 20%                                                                                 | 18%                                                                                 | 19%                                                                                 | 19%                                                                                 | 21%                                                                                 |
| <b>Dairy alternatives</b> | 23%   | 23%                                                                               | 22%                                                                                 | 23%                                                                                 | 22%                                                                                 | 24%                                                                                 | 22%                                                                                 | 24%                                                                                 |

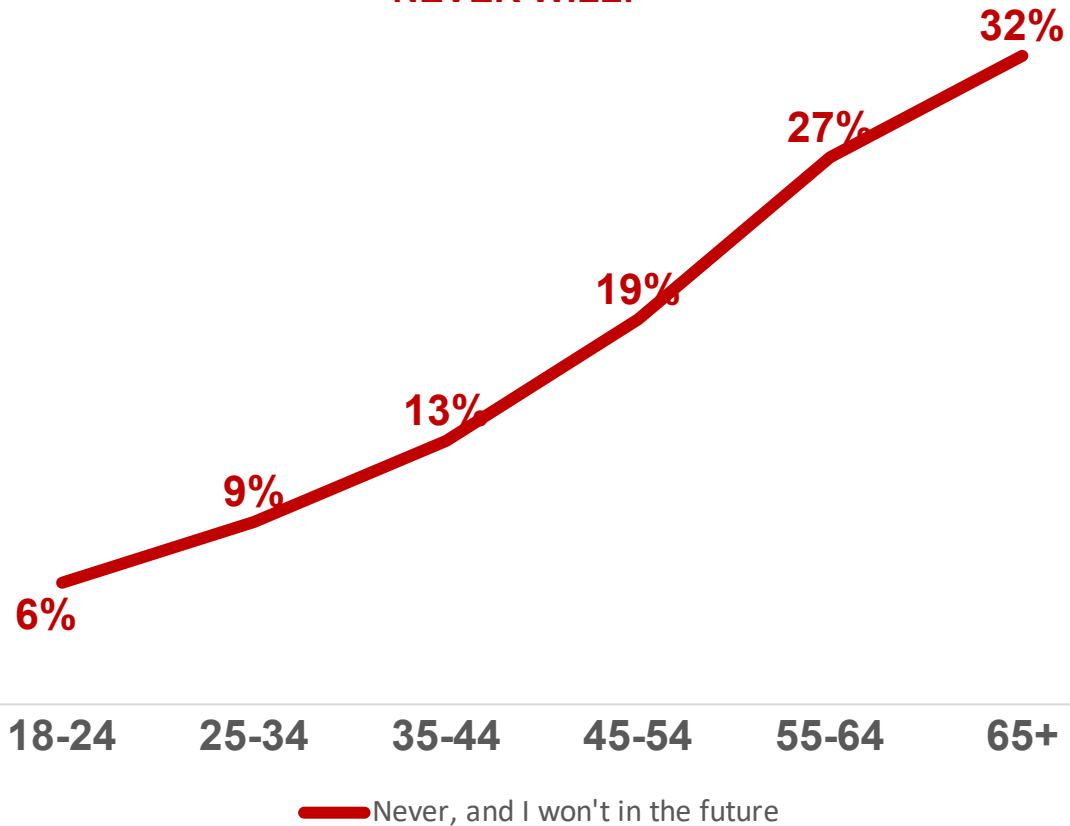
P1. How often, if ever, do you intentionally choose plant-based alternatives in place of regular meat products?

P2. And how often, if ever, do you choose plant-based alternatives in place of regular dairy products?

# Rejectors of Plant-Based Meat Alternatives

(Base: All Adults n=6,077, IE, UK, DE, NL, US, FR – EXCLUDING CHINA)

**THOSE WHO HAVE NEVER CONSUMED  
PLANT-BASED MEAT ALTERNATIVES AND  
NEVER WILL!**



**19% of the total sample say they have never consumed meat alternatives, and won't in the future.**

Outright rejection rises with consumer age, with 32% of those over 65 saying they have never trialled the alternatives and do not plan to.

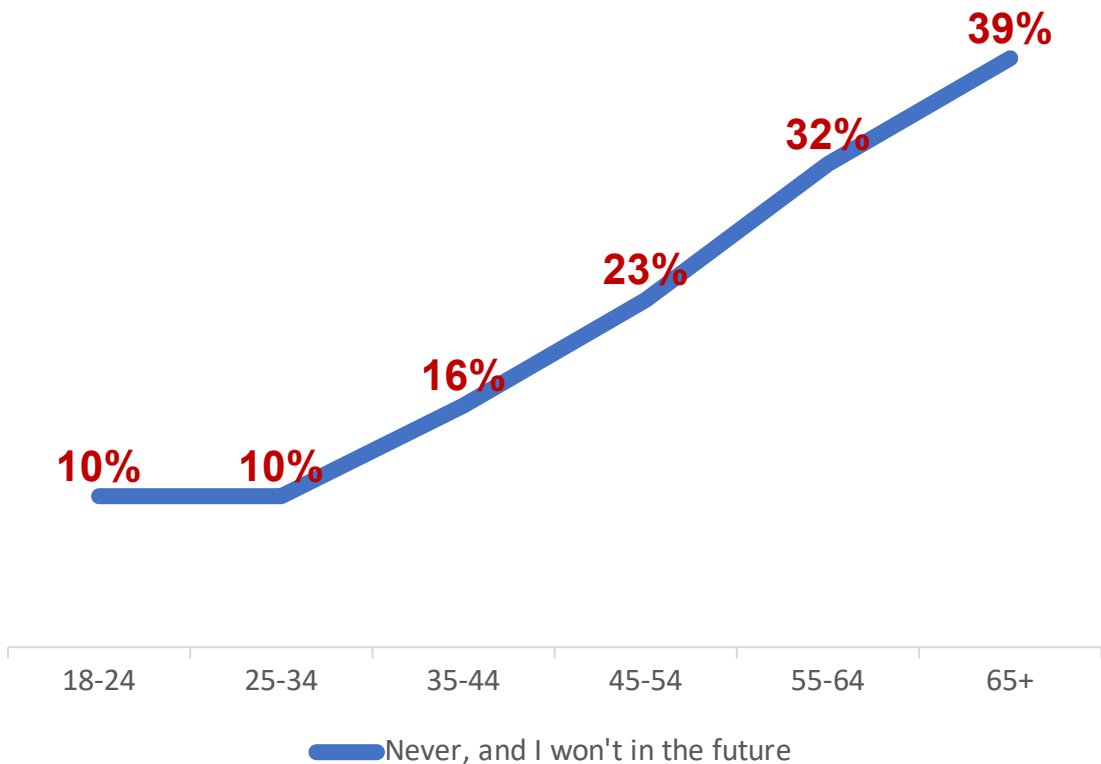
This figure is highest in the US (21%) and France (20%).

P1. How often, if ever, do you intentionally choose plant-based alternatives in place of regular meat products?



# Rejectors of Plant-Based Dairy Alternatives


THOSE WHO HAVE NEVER CONSUMED PLANT-BASED DAIRY ALTERNATIVES AND NEVER WILL



23% of the total population say they have never consumed dairy alternatives, and won't in the future. Outright rejection rises with consumer age, with 39% of those over 65 saying they have never trialled the alternatives and do not plan to.

This figure is highest in Germany (24%), France (23%) and the USA (24%). This is driven by those without children (26% vs 15% with children)

P2. And how often, if ever, do you choose plant-based alternatives in place of regular dairy products?



**83%**  
think that people won't  
change their habits unless  
sustainable choices are  
made cheaper

*In 2023, plant-based burgers, dairy, and egg alternatives derived from soy, peas, and other plant-based proteins will attain price parity. (GFI)*

Plant-based meat has achieved price-parity in the Netherlands - "Vegan Burgers are now 78c cheaper per kg than beef" (Food Navigator)



# Cost

*Cost is seen as more important than the environment for all markets, most evidently in the USA, Ireland, and the UK.*

## Rank



85% of global consumers think that the **rising cost of food** will impact on what they eat and drink in the future



83% don't think people will change their habits unless **sustainable choices are made cheaper**

Cost is seen as a barrier to trialling plant-based foods

65% agree that plant-based meat alternatives are too expensive compared to meat/dairy equivalent

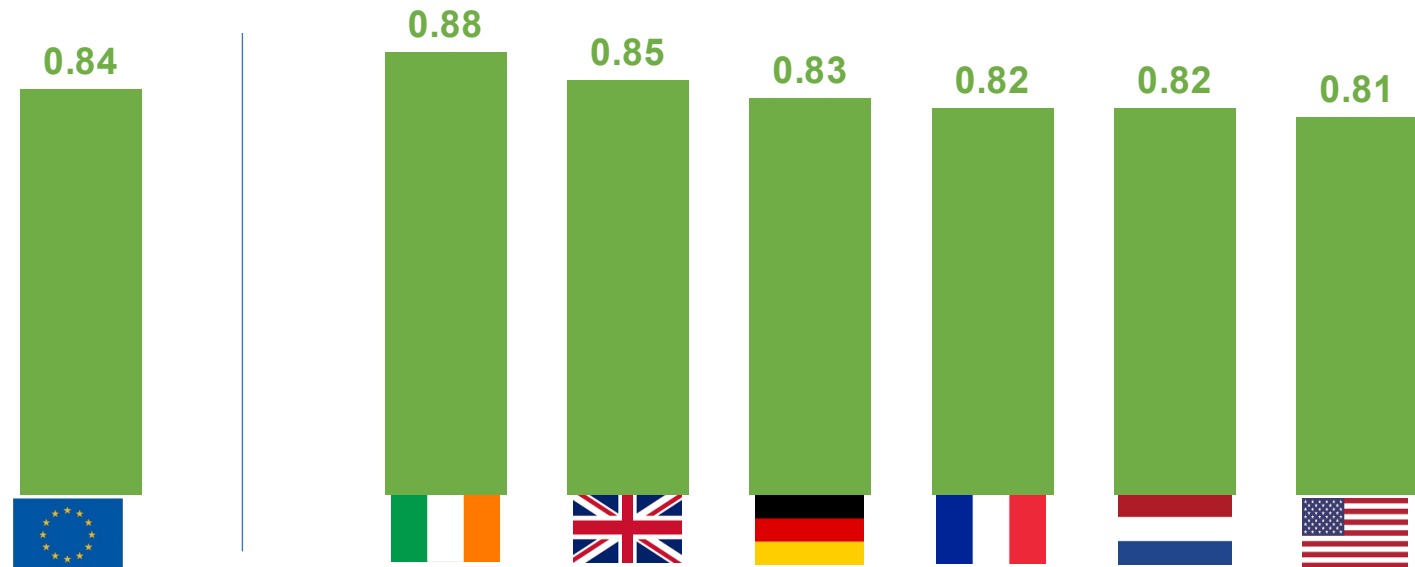
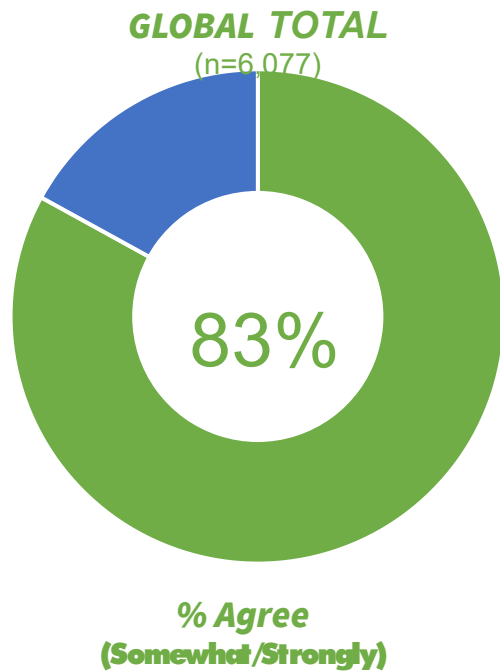


This is particularly seen while eating out of home, with 68% citing this as a barrier





***“I don’t think people will change their habits unless sustainable choices are made cheaper”***



***Affordability is a significant barrier to making more sustainable choices....***



# Taste is crucial too

***“We eat for comfort and taste as much as we do for nutrition”***

*Deirdre McCafferty, Cornucopia*

Image by IStock



1. PBA meats have previously seen **exceptional CAGR predictions and while these have been tempered somewhat**, they remain positive.
2. Despite this we are seeing **challenges for leading incumbent brands** like Beyond Meat and Impossible Foods among others.
3. **Questions around ingredients, naturalness, and healthiness are part of this**, but the current **inflationary pressures are a more significant drag on demand**. Bloomberg report a 14% drop in sales of chilled PBA meats in 2022.
4. Given the importance of health and nutrition for current PBA consumers, this Achilles's heel is important to consider in future development within this category.
5. **CAGR forecasts are more subdued for Dairy Alternatives** and in fact are negative in China. And while they have a higher prevalence overall when compared to meat PBAs, rejection of dairy PBAs is also higher.
6. **The main reasons cited for not using PBA meat and PBA dairy are similar; Taste, health credentials and cost.**



# The Out of Home Experience



# Barriers to Consuming Plant-based Out of Home

(Base: Regular consumers of meat/ dairy alternatives , n=1,436)

|                                                                                     |     | VEGAN | VEGETARIAN | FLEXITARIAN |
|-------------------------------------------------------------------------------------|-----|-------|------------|-------------|
| It is <b>often an expensive choice</b> when I am out of home                        | 68% | 73%   | 65%        | 70%         |
| Fine dining restaurants have a more limited range of plant- based offerings         | 67% | 76%   | 72%        | 65%         |
| The options are very limited out of home                                            | 66% | 70%   | 72%        | 63%         |
| I find I can get great plant-based options out of home                              | 64% | 72%   | 61%        | 63%         |
| Too many options are Bought-in" and not made on-site"                               | 64% | 68%   | 61%        | 67%         |
| Fast food/quick serve restaurants have a great range of plant based options now     | 60% | 61%   | 60%        | 60%         |
| I sometimes have to choose non-plant options when I am out of home                  | 59% | 63%   | 42%        | 61%         |
| I avoid eating out of home sometimes due to the lack of availability of plant based | 56% | 67%   | 64%        | 49%         |

Flexitarians are feeling it too....



# Foodservice



66% of consumers agree that plant-based options are limited when eating out of home

68% agree they are an expensive choice

59% say they sometimes have to choose non-plant items out of necessity

Fine dining restaurants are also perceived as having a more limited range of plant-based offerings, with 70% agreement at total sample level Vs 76% in Ireland

Photo by Gabriel Gurrea on Unsplash



# Out of Home Operators Driving Change

*In the UK and Ireland, foodservice supplier Sodexo reported a marked increase in the demand for vegan and vegetarian dishes at its workplace catering sites.*

*The company will also ensure that 42% of all meals served at its US university campuses are plant-based by 2025.*

*89% of chefs globally have already seen growing consumer interest in plant-based meat and dairy substitutes, **while 33% now regularly list them on their menus** ([GEA](#), 2023).*

Photo by Naim Benjelloun from Pexels:





# Wagamama have been pioneers in tackling both of these foodservice barriers



## join our plant pledge

our world is demanding action, but where do we begin? **we believe small choices create big change** + collectively we can make a difference. eating less meat + dairy has been dubbed the most essential + ownable action we can all take, to reduce carbon emissions (**poore + nemecek, science journal 2018**)

which is why our plant-based bowls make up 50% of our menu, a commitment we met in 2021. **that same year, we launched our plant pledge + saw over 14 thousand of you join our journey + make your own plant pledge for the planet**

**this year, we go again.** whether it's finding a new go-to vegan side or choosing to eat meat-free for half the week. **positive change can start small + begins with all of us**

make your first ever plant pledge or pledge again + to say thanks, and you'll receive a voucher for a vegan side on us

**terms + conditions** apply  
you have to be 18+ years old to take part

# Foodservice and catering

## *The Opportunity*

University of  
Cambridge

### Cambridge University students vote for completely vegan menus

Union will hold talks with catering services about removing all animal products from cafes and canteens

Nadeem Badshah and  
agency

Tue 21 Feb 2023 19:26 GMT



The University of Cambridge's catering services removed beef and lamb from all its menus in 2016. Photograph: Pajor Pawel/Shutterstock

***Contract caterers have a big opportunity to make positive changes amongst large groups of people.***

Compass Foods UK & I reported a 36% reduction in emissions from animal proteins in its first in-depth climate impact report (Feb 2023)



Companies like Rebel Meat (Austria) provide hybrid solutions for schools & creches, introducing the concept at a young age.



# Lunch

*Striking the Balance: Plant, Protein and the Planet*



# Embracing Change

Exploring alternatives

# There is a willingness to change



**2 in 3**

claim they are willing to significantly  
**change their food consumption  
behaviour to improve the environment**

*25-44 year olds most willing to change*



**62%**



**63%**



**66%**



**68%**



**69%**



**72%**

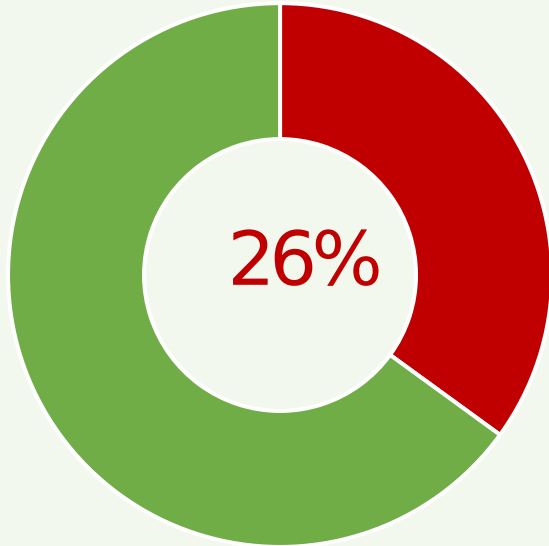


# Openness to consideration: Country view

(Base: All Adults n=6,077, IE, UK, DE, NL, US, FR)

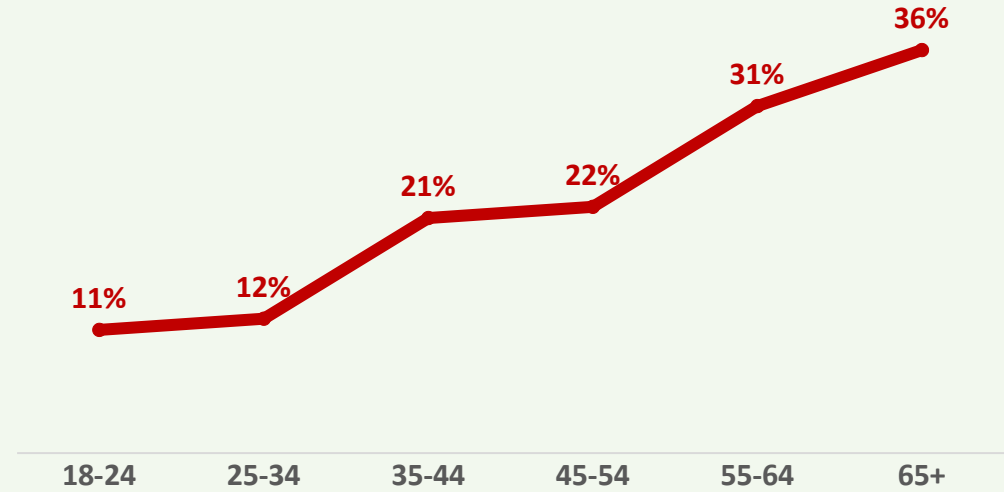


|                                                                               |     |     |     |     |     |     |     |
|-------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|
| Vegetable/Plant-based proteins (pulses, beans, peas, soy , nuts etc.)         | 43% | 46% | 36% | 42% | 43% | 48% | 43% |
| Proteins made from surplus food ingredients to reduce food waste              | 23% | 22% | 18% | 26% | 19% | 25% | 25% |
| Myco-protein from mushrooms/fungi                                             | 21% | 28% | 17% | 20% | 20% | 23% | 20% |
| Hybrid/ blended protein products (eg blended burgers such as beetroot & beef) | 21% | 23% | 20% | 20% | 14% | 26% | 21% |
| Protein from insects                                                          | 15% | 16% | 20% | 17% | 16% | 12% | 11% |
| Lab grown/cultured proteins                                                   | 13% | 18% | 8%  | 15% | 14% | 13% | 13% |
| Air proteins turning elements in to air to protein                            | 13% | 15% | 11% | 11% | 13% | 13% | 15% |
| 3D Printed Proteins using edible ingredients                                  | 11% | 12% | 9%  | 12% | 9%  | 13% | 10% |
| I would not consider any of these product types                               | 23% | 20% | 31% | 26% | 30% | 18% | 15% |

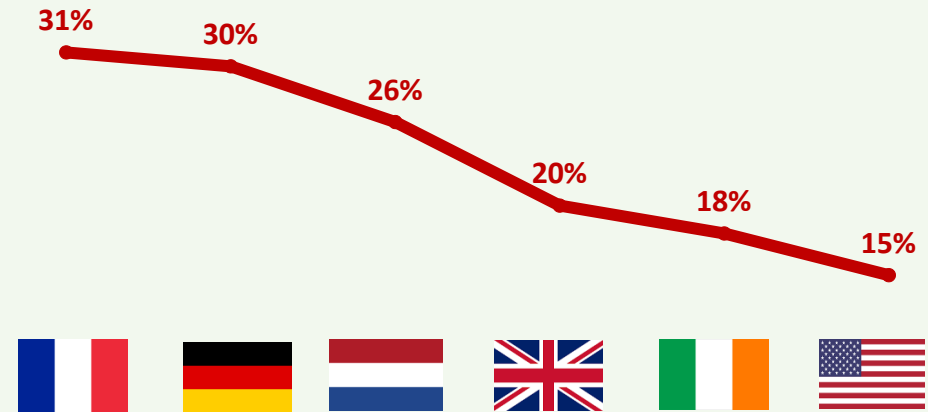



... would not consider **ANY** of these new alternatives

... would not consider **ANY** new alternatives



... would not consider **ANY** new alternatives





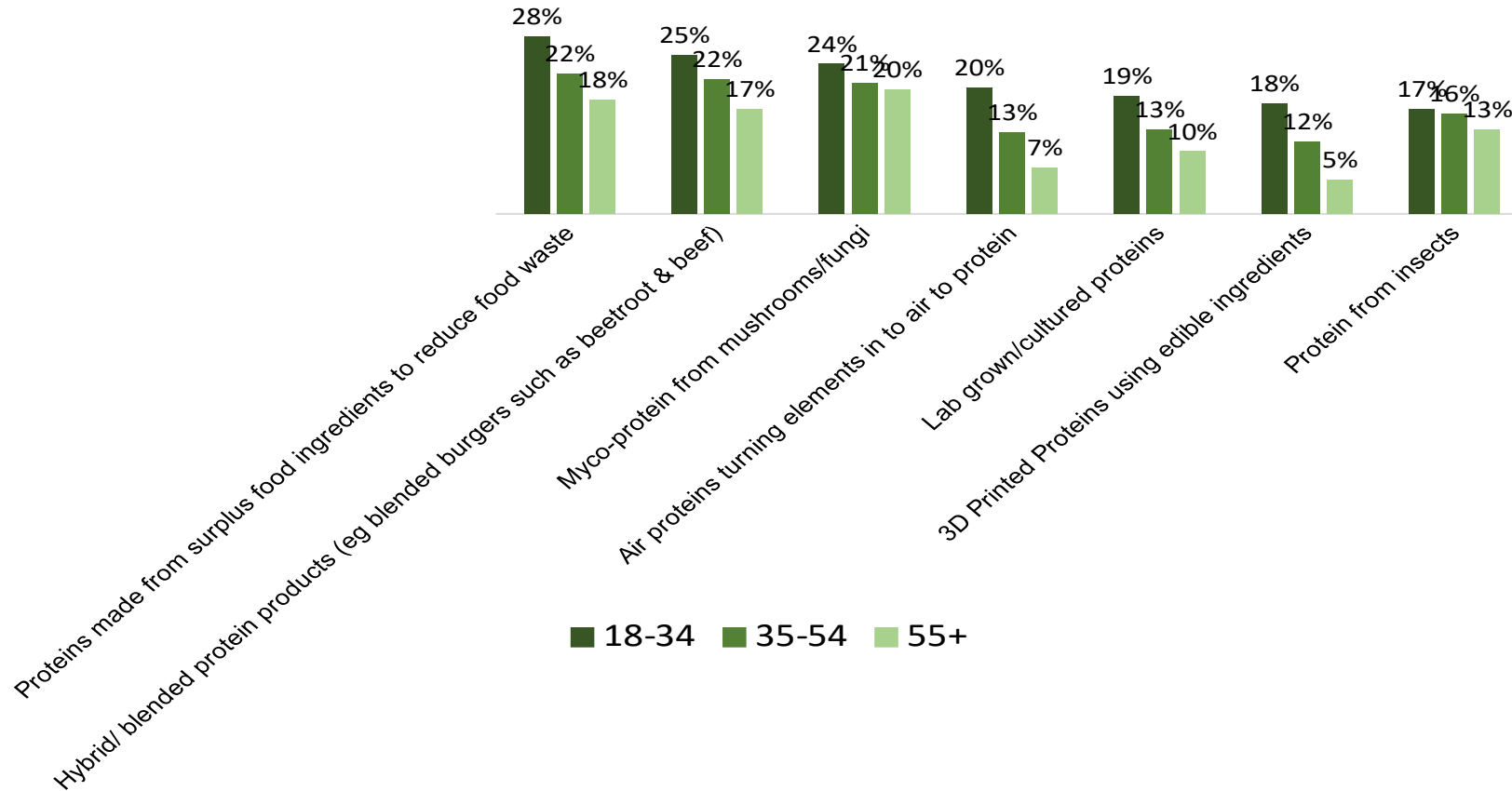
***“Younger consumers priorities differ. They are more focussed on things like taste, convenience and price. But they are more open to different options”***

-Mary Shelman, Thought leader- Global Agribusiness



# Younger consumers are more likely to trial NEW alternative protein types

## OPENNESS TO TRIALLING ALTERNATIVE PROTEINS



Acceptability of the newer and more innovative concepts drops off in the over 55 age group.

# New Frontiers: **Flexitarian** Futures

## *Open to consider*

(Base: All Flexitarians, n=1,243)

**% Open to considering in future**

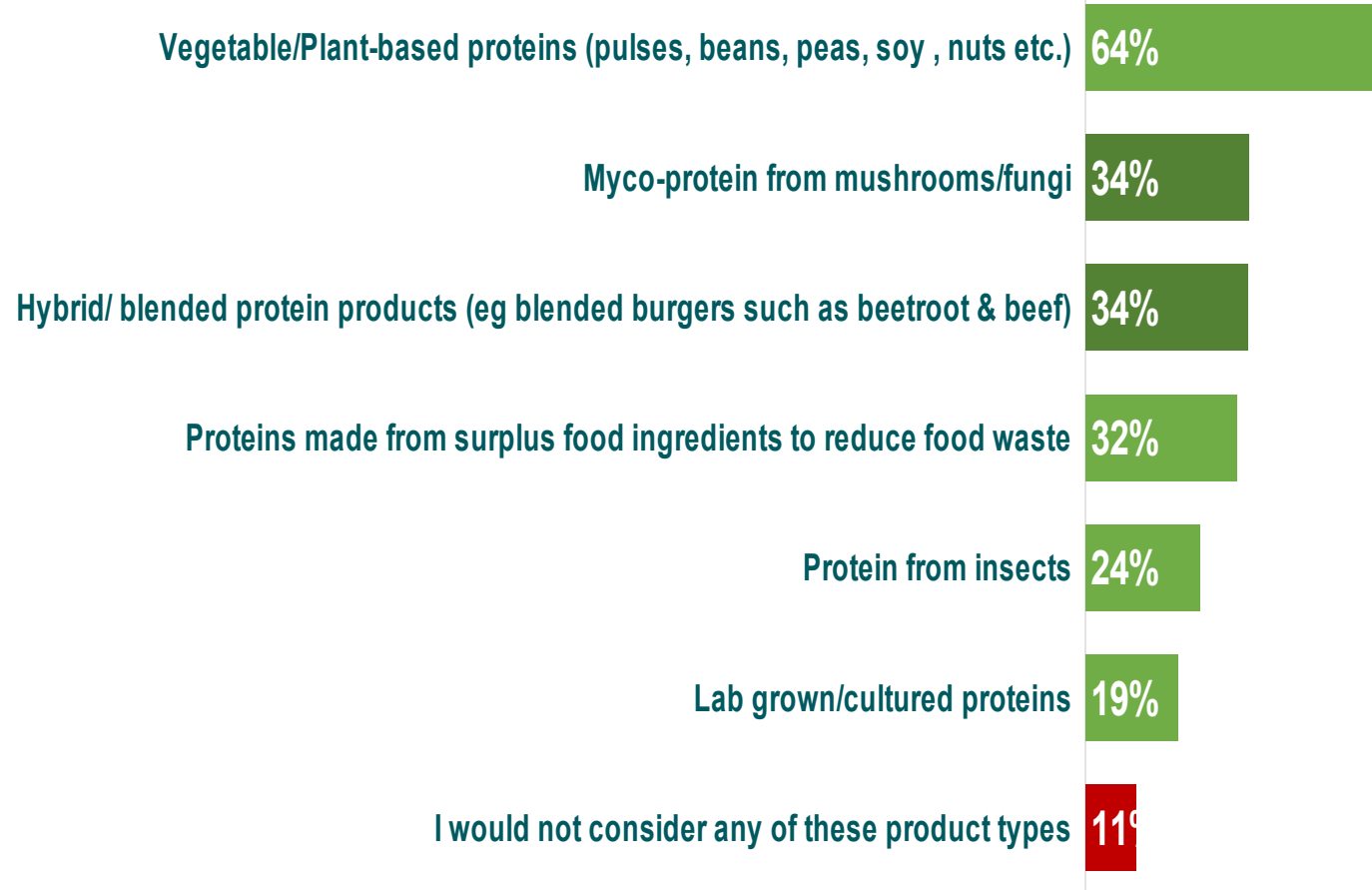
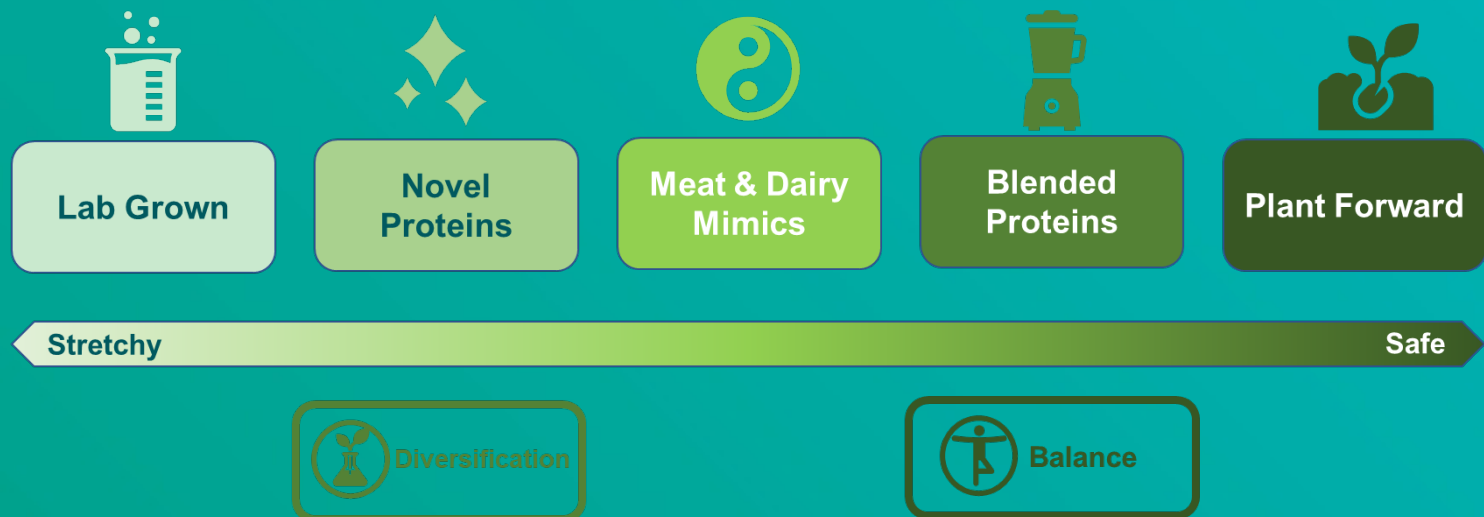


Photo by [Wesley Tingey](#) on [Unsplash](#)





1. **Two thirds say they are willing to alter their diets** to improve their environmental impact overall.
2. “Close in” options like vegetable-based alternatives, blended proteins, myco and those produced from waste streams have the most “mass” appeal.
3. **Insects and other “high tech” food innovations though have some way to go** despite significant interest and evidence of their increasing visibility at the vanguard of food innovation.
4. Acceptance of all of these options is unsurprisingly related to age and once again we see it is **health, naturalness and affordability credentials that prevail** in consumer’s consideration of these.
5. PBAs as ingredients are a significant area of potential for the future.





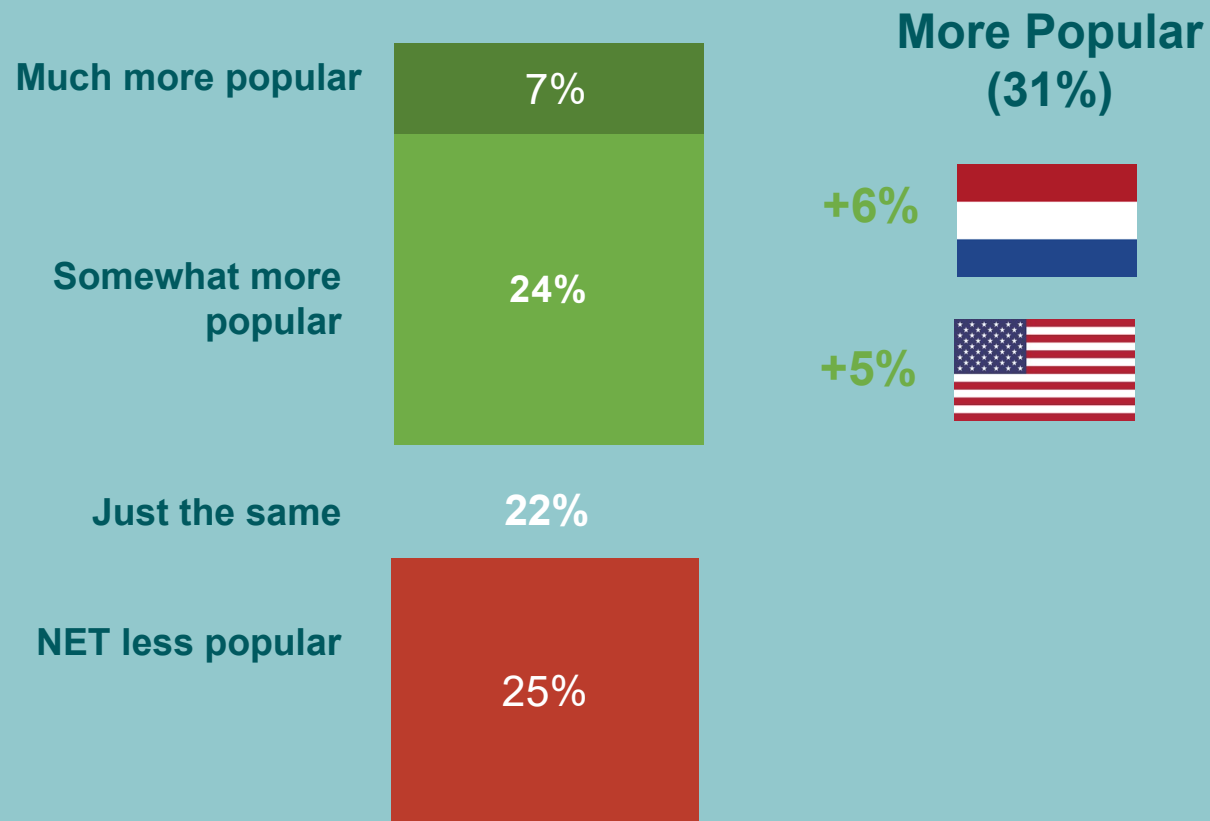
# New Frontiers?

Headline Response to New Proteins

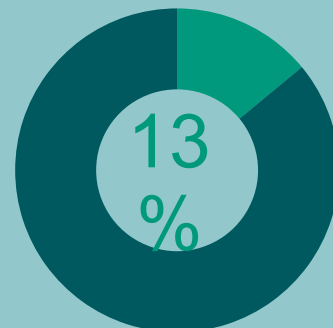


# Lab grown/cultured proteins

*Do you think lab grown/cultured proteins will become more or less popular in the future?*



Open to considering in future:

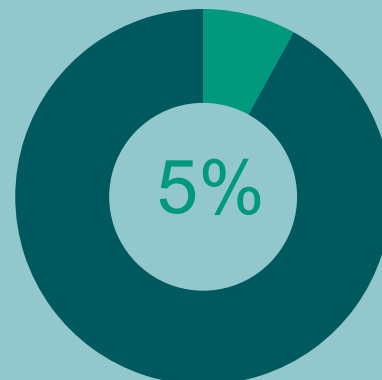


+ 5%



+ 2%

Ever consumed:



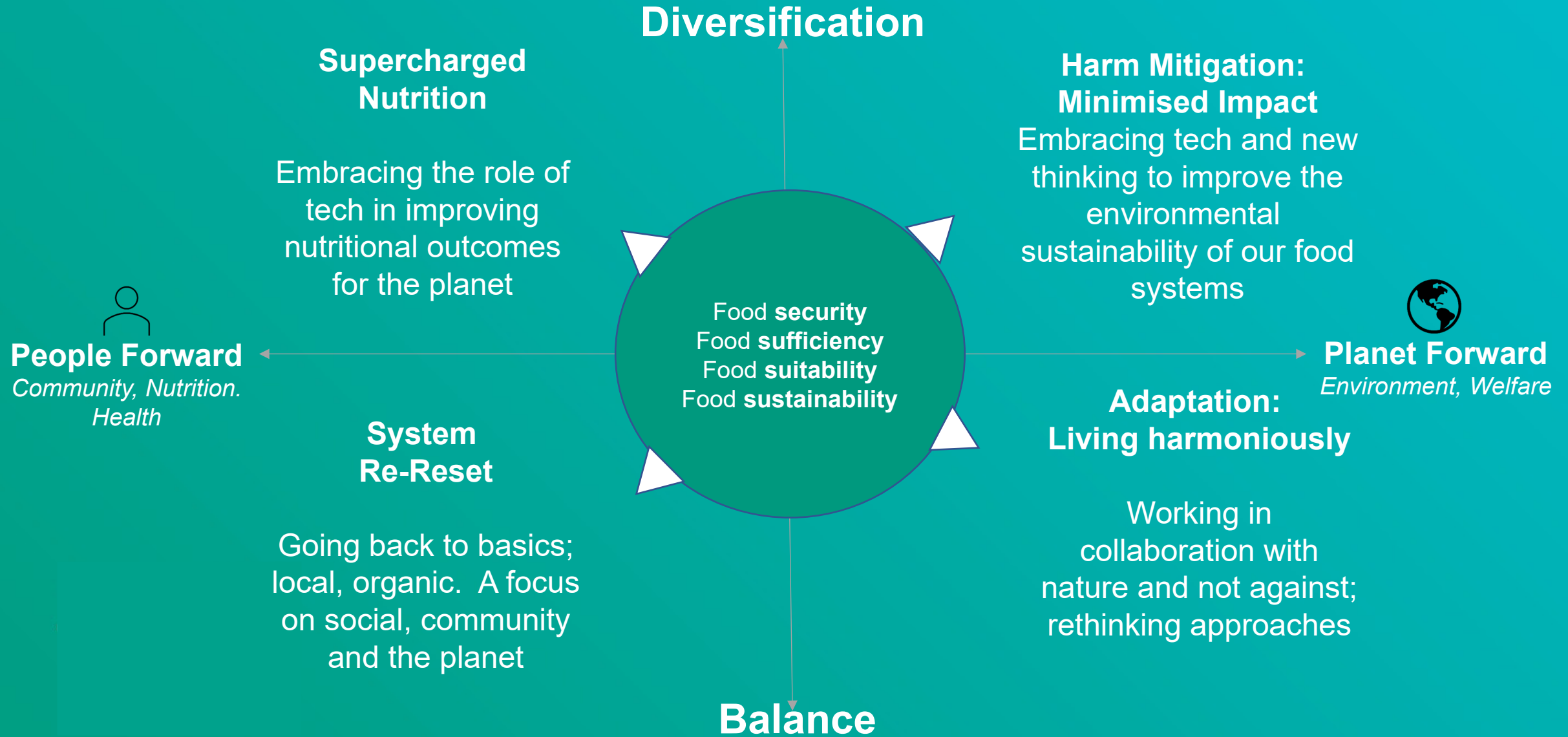
+ 1%

Top statements related to lab grown/cultured proteins

- 1 Is too processed and unnatural
- 2 Will result in less animals suffering
- 3 A good solution to help feed the growing world population

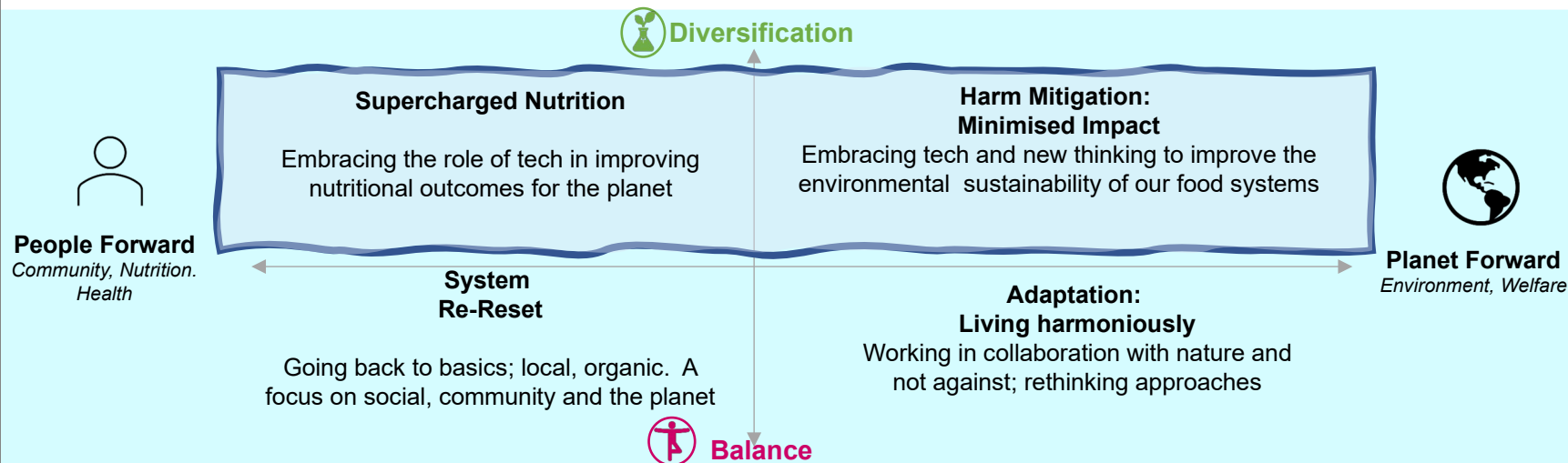


# Reminder Directions of Travel?





# Lab Grown/Cultivated Meat



Lab grown investment remains buoyant....

Upside Foods first cell-based meet to receive safety sign off from the FDA

Aleph Farms from Israel the first Kosher Lab-grown meat

Good Meat secured regulatory approval in Singapore to produce lab-grown serum free meat which cuts costs and allows vegan certification

# Lab Grown Meat

## *International Policies*

### All sizzle, no steak: how Singapore became the centre of the plant-based meat industry

The first country to approve the commercial sale of cultivated meat has engaged its tech industry to become a global hotspot for alternative protein projects

- Get our [morning and afternoon news emails](#), [free app](#) or [daily news podcast](#)



📷 Chicken nuggets made from lab-grown cultured chicken, developed by Eat Just. Photograph:

Singapore

### Lab-grown chicken safe to eat, say US regulators

🕒 17 November 2022 · 💬 Comments



GETTY IMAGES

By Shiona McCallum  
Technology reporter

USA

### Italy moves to ban lab-grown meat to protect food heritage

🕒 29 March



NICHOLAS YEO/AFP

| Food safety authorities in the US and Singapore have already approved synthetic meat and the EU is also expected to

By Paul Kirby  
BBC News

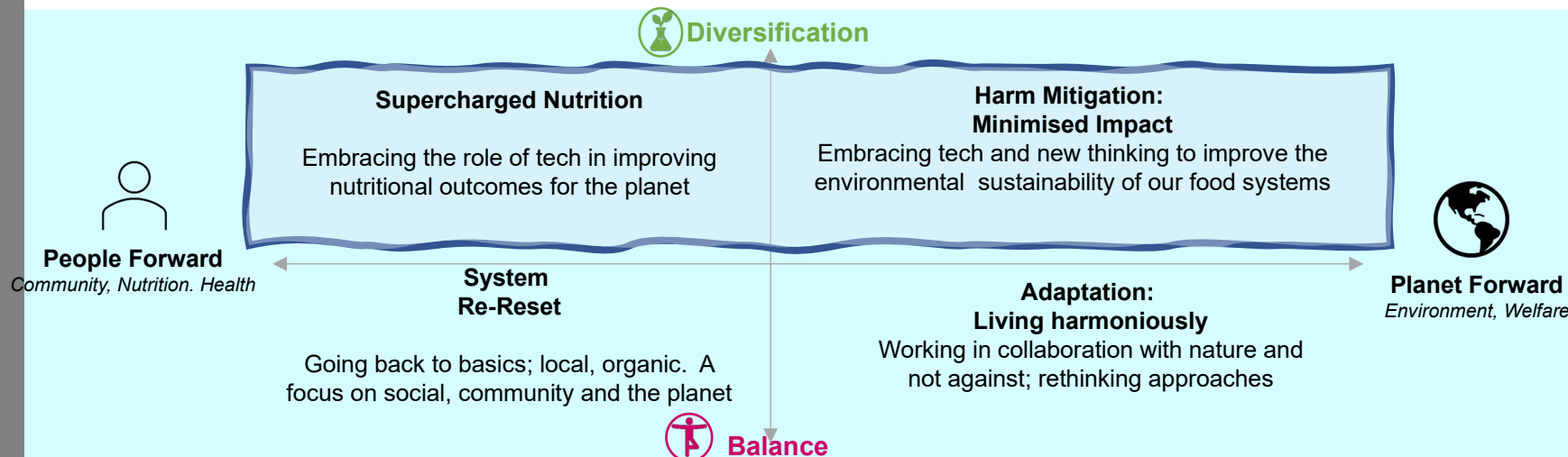
Italy

# Lab Grown/Cultivated Dairy



## Animal-free dairy

Uses precision fermentation to create a whey protein that mimics dairy in taste, texture and nutrition, while producing up to 97% less carbon emissions than traditional milk.





# Animal Free Dairy

In 2019 Kraft Heinz invested in **New Culture**, a San Fran start up making animal free dairy cheese with casein proteins made from **microbial fermentation** instead of cows milk.

Ingredient company **Perfect Day** makes animal-free dairy proteins, which are available in General Mills' new Bold Cultr cream cheese, as well as ice cream, cake mix, whey protein powder and cream cheese made by The Urgent Company, its CPG arm.

While **Perfect Day** has used its technology to create **animal-free whey**, which has recently been incorporated into a cream cheese product under food tech's Modern Kitchen brand, **New Culture** is using precision fermentation to replicate **casein**.

## New Culture Bags \$25M To Serve Animal-Free Mozzarella in Pizzerias By 2022

By Sally Ho — Last updated May 18, 2022

ALT PROTEIN | FERMENTATION-BASED ALT PROTEIN



## General Mills Brand Bold Cultr Debuts As First Major U.S. Precision Fermentation Cheese Launch

By Jill Ettinger — Last updated Nov 19, 2021

ALT PROTEIN | FERMENTATION-BASED ALT PROTEIN



General Mills' Bold Cultr precision fermentation cheese

Companies that have invested in animal free dairy include:

- Kraft Heinz
- Dr Oetker
- General Mills
- Mars
- AB InBev
- Cargill





# *Insects*

About 80 percent of people around the world regularly consume one or more of the 1,700 edible types of insects, which are very high in protein for their size.

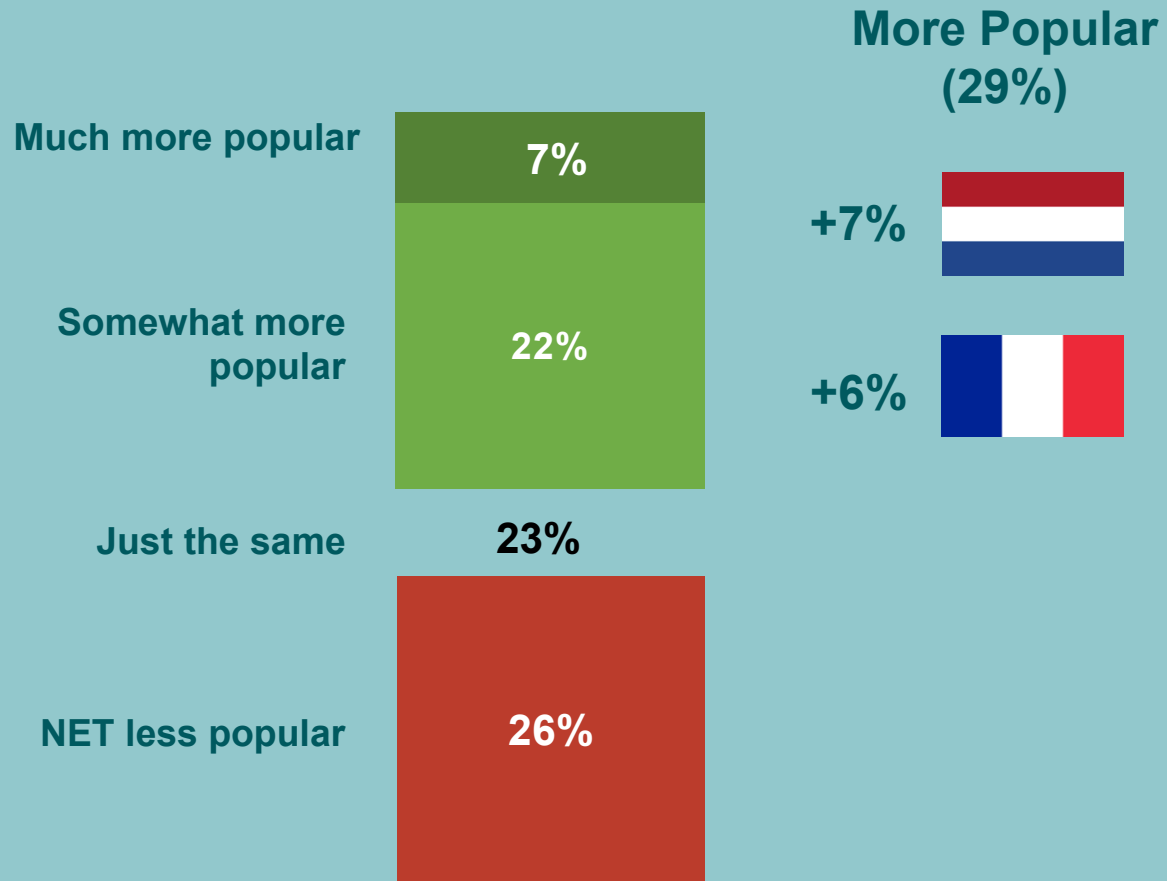
<https://healthyeating.sfgate.com/worlds-main-sources-protein-7395.html>

Photo by Julia Filirovska from Pexels:

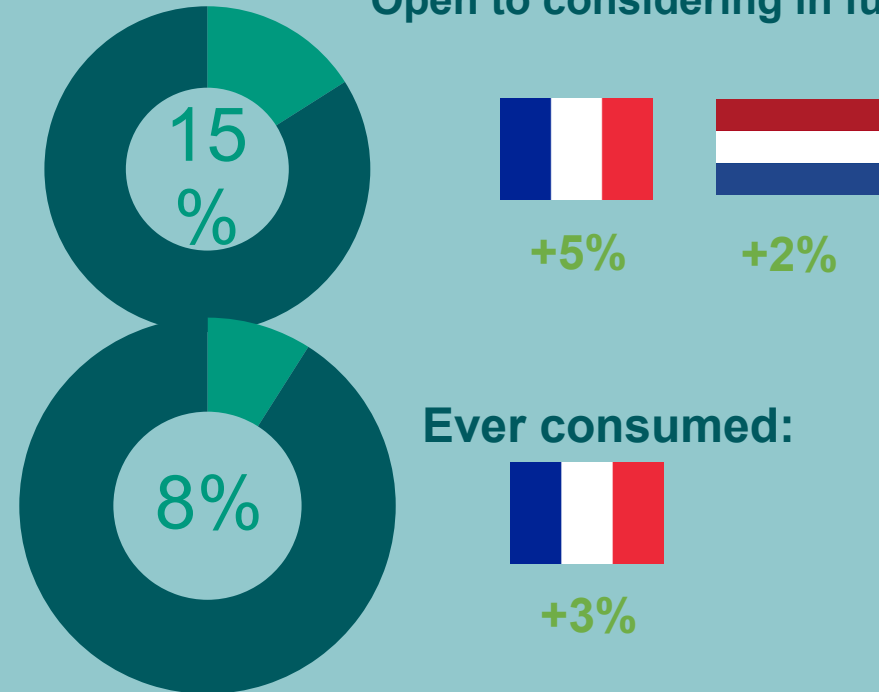


# Insect proteins

*Do you think insect protein will become more or less popular in the future?*



Open to considering in future:



## Top statements related to Insect Proteins

- 1 A good solution to help feed the growing world population
- 2 Is a natural option  
A good source of nutrition  
I think we will have to consume this in future whether we like the idea or not





# Insect protein: Ireland & the UK

As of 2022, the European Commission has approved three insects for sale and consumption as food – namely, **crickets**, **mealworms** and **locusts**. These can be sold in frozen, dried and powder forms.



Trail mixes & lollipops available in the UK

*“I think there’s going to be a lot of mind opening down the line. We are all going to be eating this stuff if we want sustainability and nutrition”*

Aveen Bannon, Registered Dietician

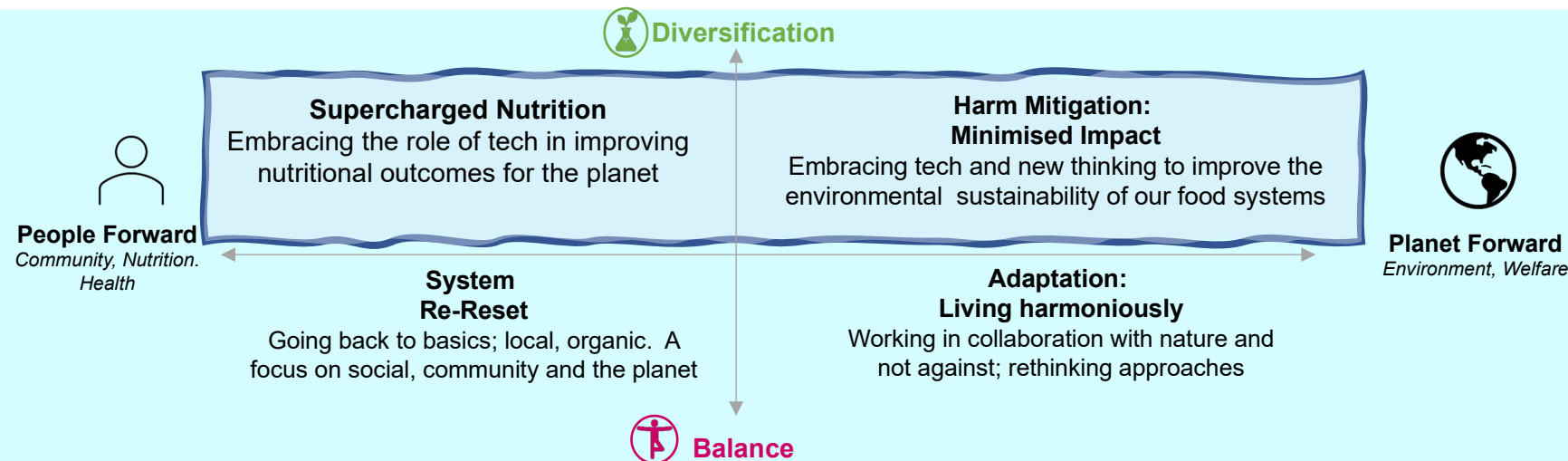


Soya & Insect  
Burgers for  
sale in Lidl  
Ireland  
€2.99 for 277g  
(2 burgers)

# Novel Proteins



New ingredients and technologies like 3D printed meats, insects & even proteins made from air are slowly gaining traction and approval from the FDA/EFSA.





# Is insect protein a possible future?



*“Grasshoppers are the most widely eaten insect in the world, consumed by 2.5bn people across Asia, Africa and Central America, and are both Kosher and Halal.”*

*They are also highly nutritious, containing all essential amino acids and omega 3 and 6s.* FoodNavigator USA

*5 places in LA that you can get edible bug cocktails*



*Crickets (Chapulines in Spanish) served as a bar snack in South America*

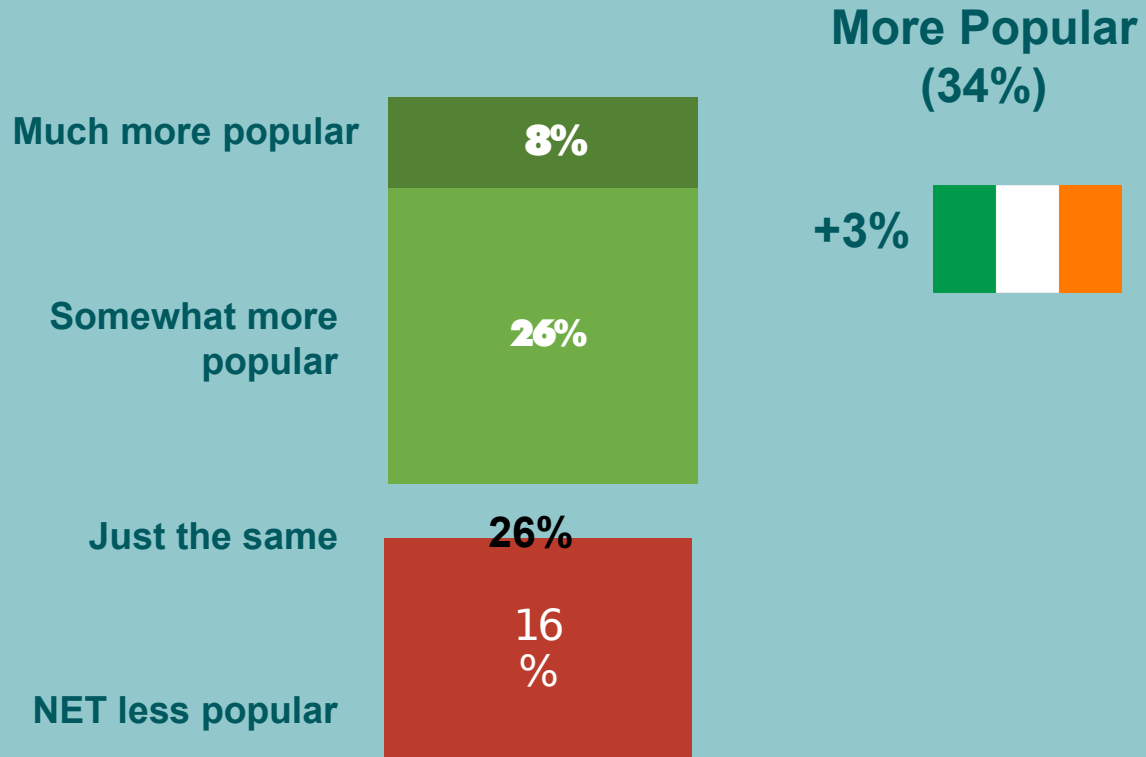


<https://www.timeout.com/los-angeles/blog/5-places-in-la-that-serve-edible-bug-cocktails-101315>



# Myco-protein made from Mushroom/Fungi

*Do you think mycoproteins will become more or less popular in the future?*



Open to considering in future:



+2%



+7%



Ever consumed:



+5%



+1%

## Top statements related to Mycoproteins

- 1 Will result in less animals suffering
- 2 An environmentally sustainable choice
- 3 I think it would be too expensive
- 3 A good solution to help feed the growing world population

# Quorn – the original Mycoprotein

- Created in the 1960s as an alternative protein to feed the growing world population
- Originally positioned as a health food
- ✓ High protein with all essential amino acids
- ✓ Low fat, low calorie
- Meat replacement rather than vegan alternative as some products contain eggs



**Marlow Foods, parent company of Quorn, sets up ingredients division to make its mycoprotein available to others**

April 17, 2023



## UK Market Share

45%  
2019

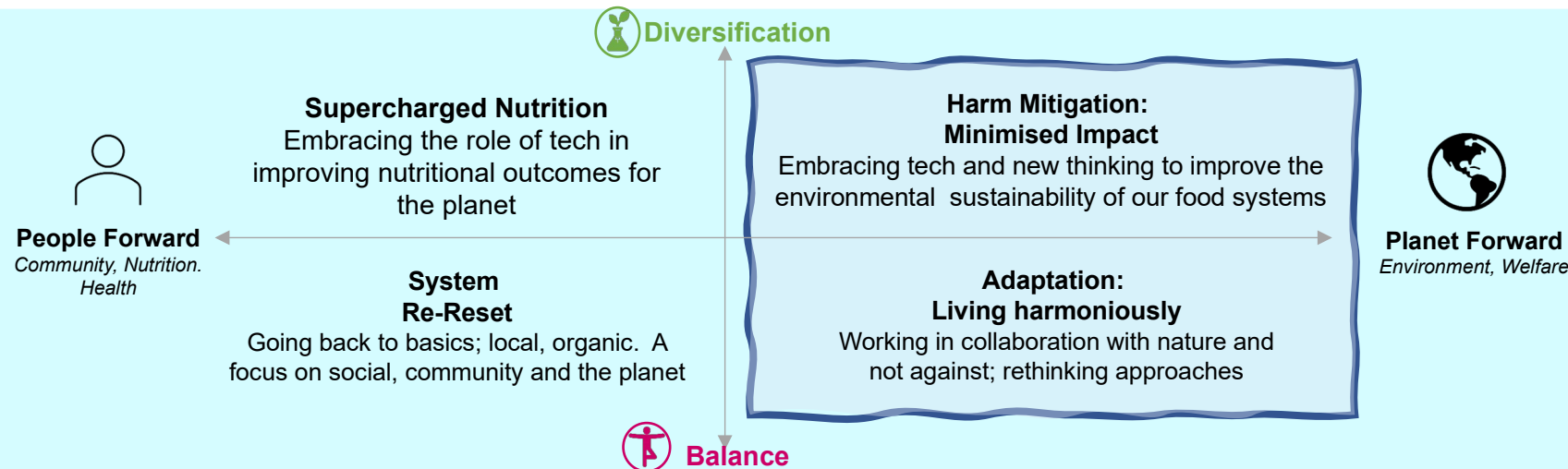
➔

27%  
2022

# Meat & Dairy Mimics



Products like **THIS™**, Beyond Meat burgers and Dairygold's Dairyfree appeal to those who are choosing alternatives for environmental or animal welfare reasons, but still want the same great taste.





# Meat Mimicry



U.K.'s fastest growing retail brand (2 year CAGR growth of 246%!).

# Juicy Marbles

Plant-based premium meat  
alternative, founded in Slovenia  
Available for retail and  
foodservice

Made from a mix of plant  
proteins and soy, using beetroot  
powder for colour.



VICE

TC TechCrunch

FOX  
NEWS

CNN

Bloomberg

LIVEKINDLY

HYPEBEAST

thrillist

FAST COMPANY



# Revo Foods

Plant-based seafood made in  
Austria

Made of peas, plant oils and algae  
(soy and allergen free)

Source of protein, omega 3s and  
vitamins D and B12

Available in 20+ European countries





# Meat Mimicry: A cautionary tale

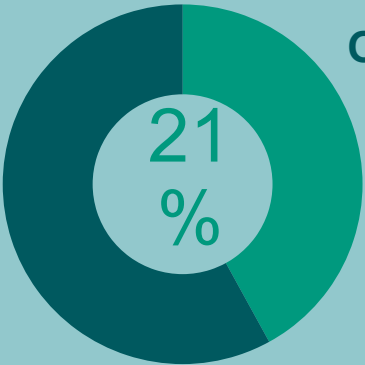
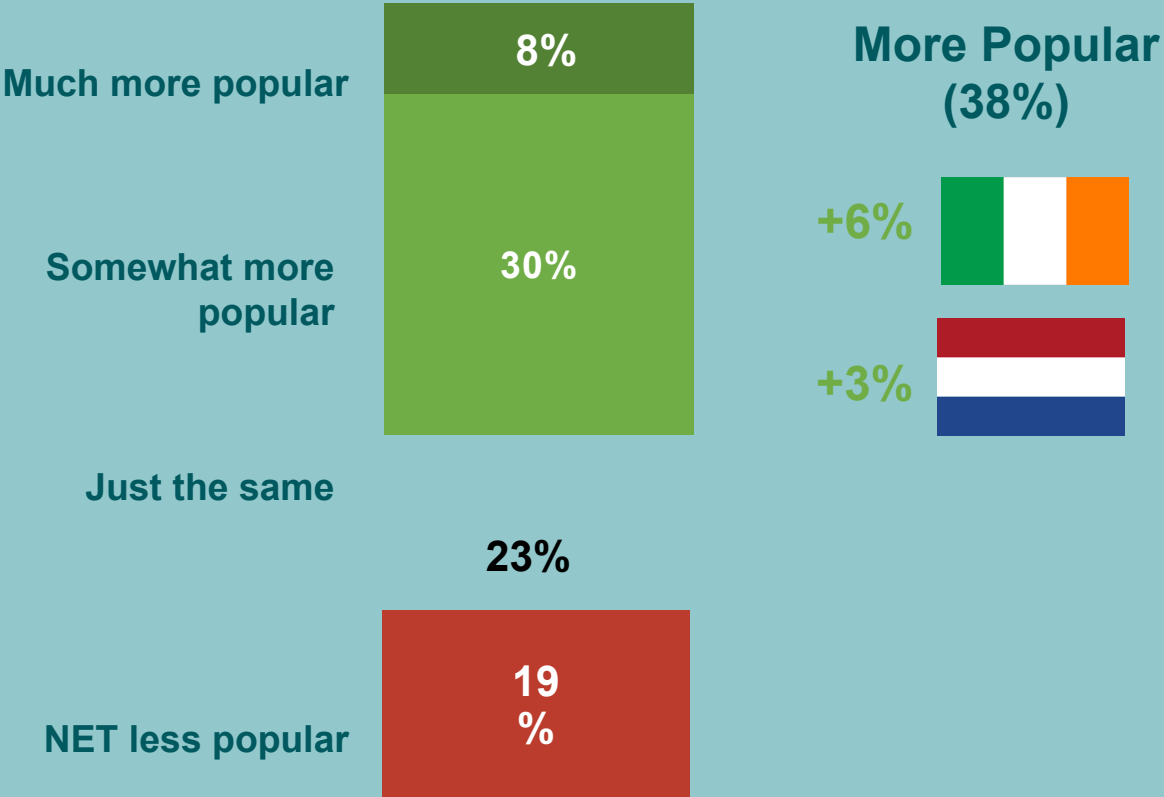


The US test run of the McPlant burger was quietly shelved last month (it is still available in some markets, including the UK) in one of a series of setbacks for a meatless-meat industry that only a year ago was claiming it could change the great American menu for ever.

Multiple chains that partnered with the company (Beyond Meat), including McDonald's, have quietly ended trial launches.

# Hybrid/blended protein products

Do you think hybrid/blended proteins will become more or less popular in the future?



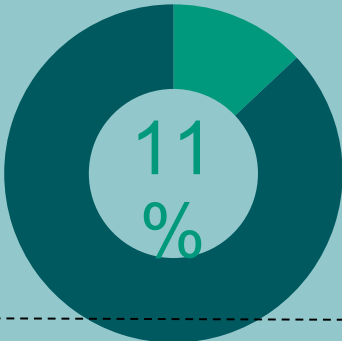
Open to considering in future:



+ 5%



+ 2%



Ever consumed:



+2%



+2%



+ 2%

## Top statements related to hybrid/blended proteins

- 1 A good source of nutrition
- 2 A good solution to help feed the growing world population
- 2 I think we will have to consume this in future whether we like the idea or not
- 2 Is too processed and unnatural

# Blended/Hybrid Meat Products



Kepak Blended Burgers

Position as a healthier alternative to traditional meat products

- ✓ lower in fat
- ✓ higher in fibre
- ✓ reduced carbon emissions



Waitrose Eat:Flexi Chipolatas



Rebel Meat Hybrid Nuggets, Austria

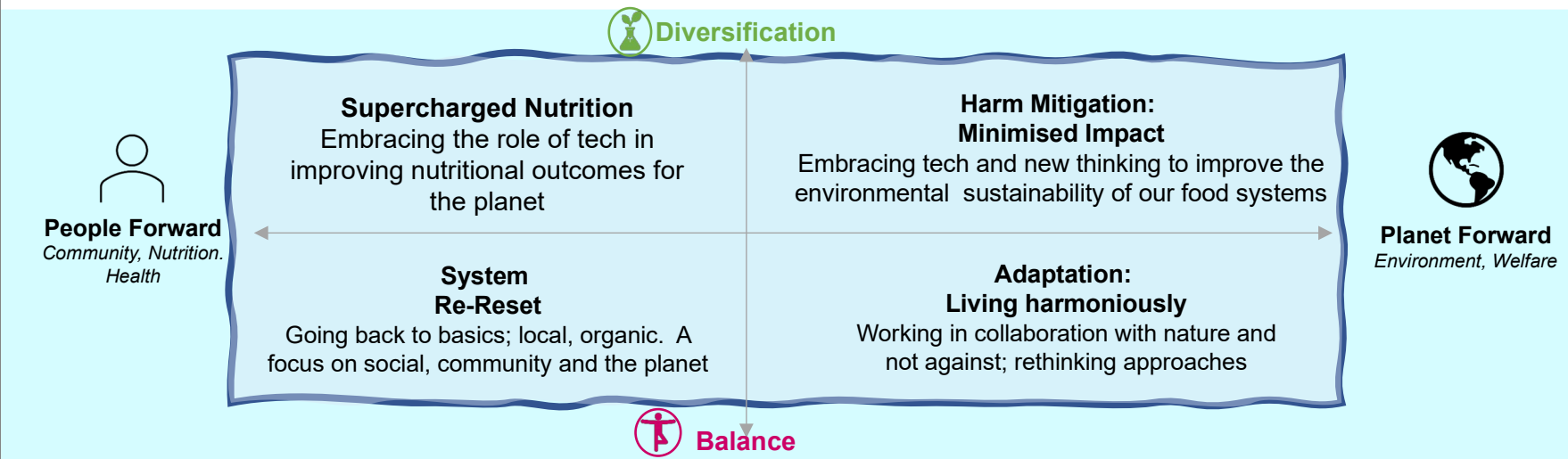


# Blended Proteins



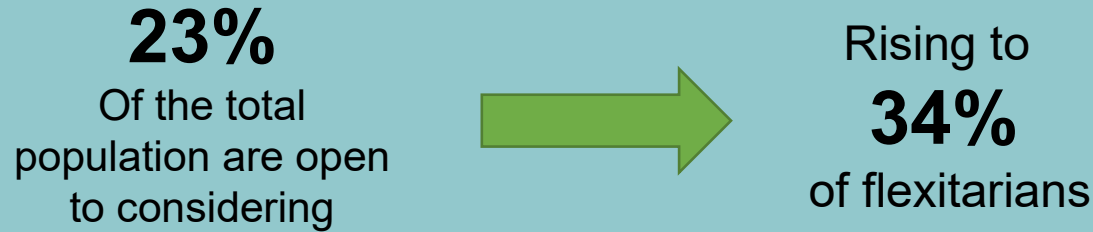
**Blended Proteins**  
e.g. beef burgers mixed with mushrooms, lentils or beetroot are a potential solution to reduce the carbon emission of meals without compromising on taste.

This is also seen in dairy products, with 50% dairy/plant-milk options available on shelf in France and the US.



# Blended protein products

Blended protein products, e.g. beef burgers mixed with mushrooms, lentils or beetroot are a potential solution to reduce the carbon emission of meals without compromising on taste.



If McDonalds & Burger King (representing 2-3% of global beef purchases) swapped out 50% of the beef in their burgers for plant-based meat to create blended burgers, demand for global agricultural land would reduce by about 8.5m hectares (21m acres). **That's an area the size of Ireland.** Combined, this is a reduction of 51m tonnes of CO2 equivalent, and more than **80% of the way to both companies' net zero targets.**

Hybrid burgers are also well liked by consumers, with a recent blind taste test finding that **consumers actually ranked the taste of blended burgers above beef burgers.**



How can we cut soaring demand for meat?  
Try a hybrid burger  
*Joseph Poore*

Blending lentils or vegetables into meat products could have huge benefits for the environment, animal welfare and human health



McDonald's McPlant burger was successful enough to stay on the menu in the UK and the US.' Photograph: Justin Sullivan/Getty Images

<https://www.theguardian.com/commentisfree/2022/nov/07/soaring-demand-meat-hybrid-burger-blending-benefits>

# Blended/Hybrid Dairy Products



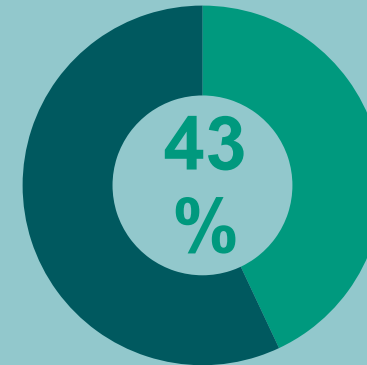
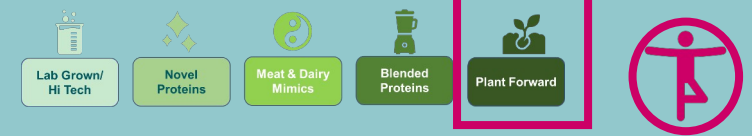
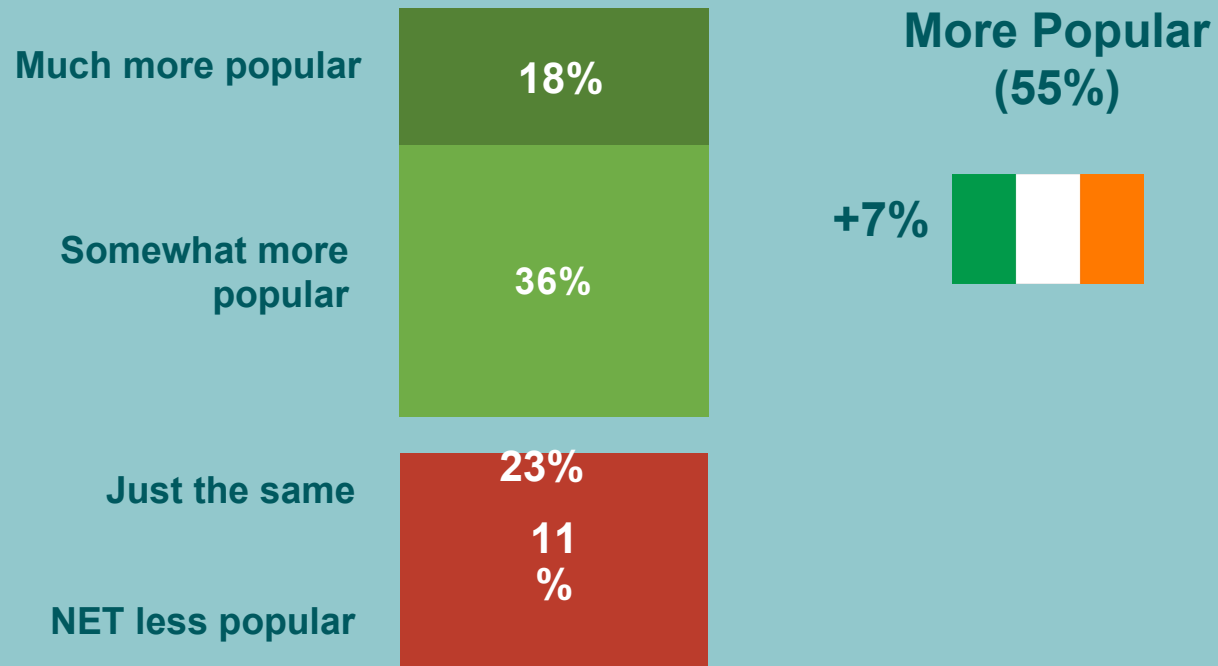
75% of the UK population who use plant-based alternatives also use standard dairy milk, and this clearly highlights that the usage of plant-based drinks are not limited to people following an exclusively plant-based diet (Mintel, 2020b).





# Vegetable/plant-based proteins

*Do you think vegetable/plant-based proteins will become more or less popular in the future?*



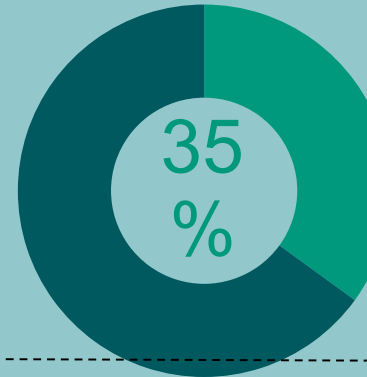
Open to considering in future:



+ 3%



+ 5%



Actually consumed



+ 5%



+ 7%

## Top statements related to Plant-Based Proteins

- 1 Will result in less animal's suffering
- 2 An environmentally sustainable choice
- 3 Is a natural option  
A good source of nutrition  
I expect this to get more popular

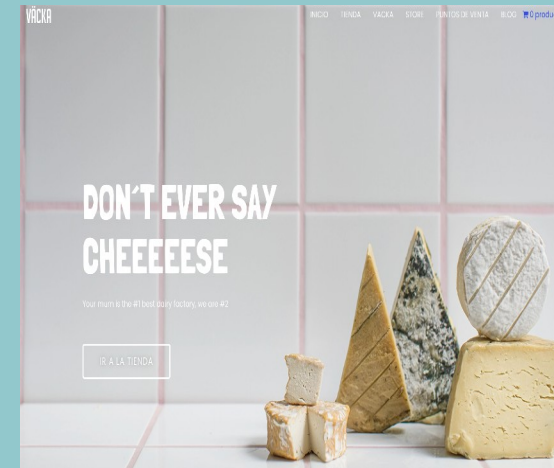
# Vegetable/plant-based proteins



Mince alternative  
made from jackfruit.



High protein veggie  
balls made from  
lentils spinach and  
tomatoes.



Cheddar and  
Mozzarella from melon  
seeds (Aviko Rixona)

*“The mushroom is an underappreciated superfood. It’s a bioeconomic superhero and has a wide range of benefits for health and wellbeing”*

- Peter Corcoran



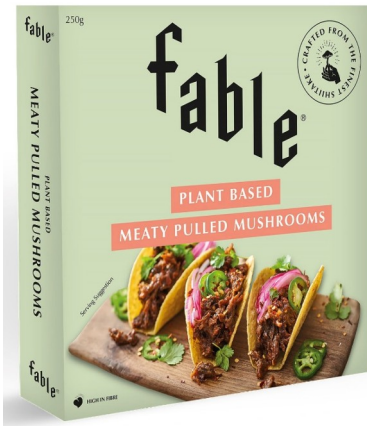
Mushroom meat, plant based company “Fable”

*“Mushrooms definitely have the potential to be centre-plate as a meat substitute”*

MBio

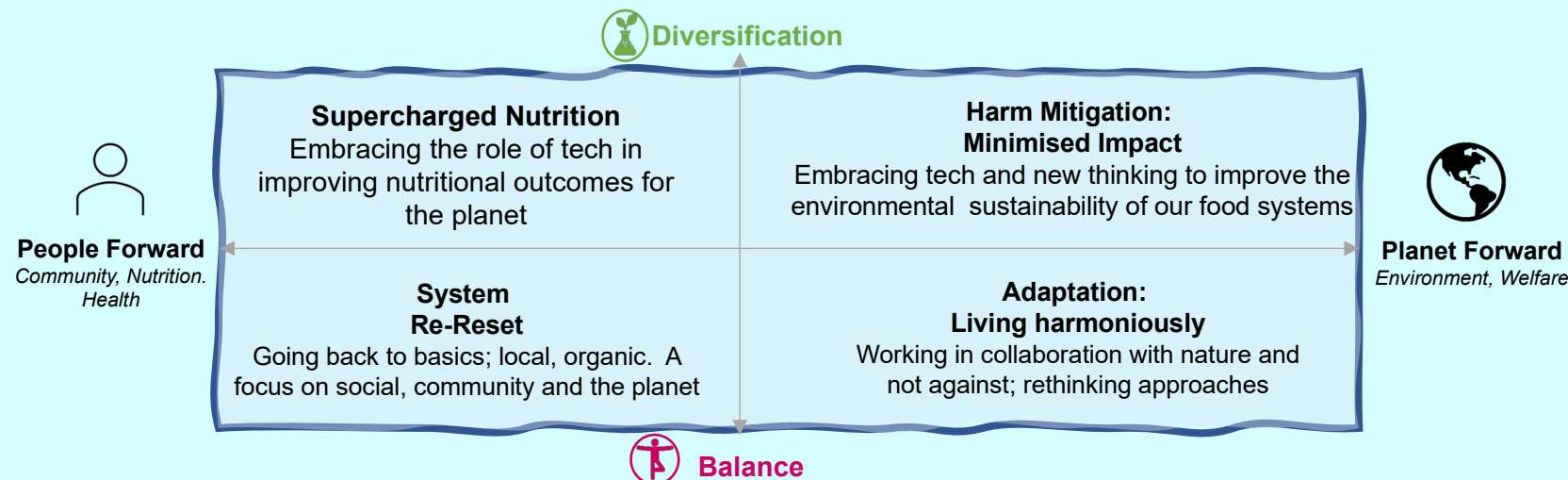


# Plant Forward

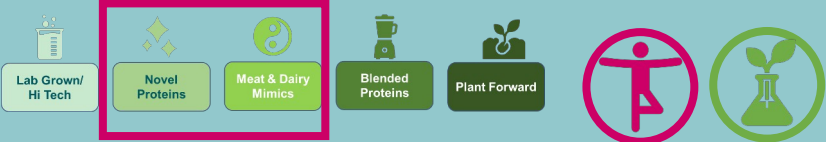


## Plant-forward

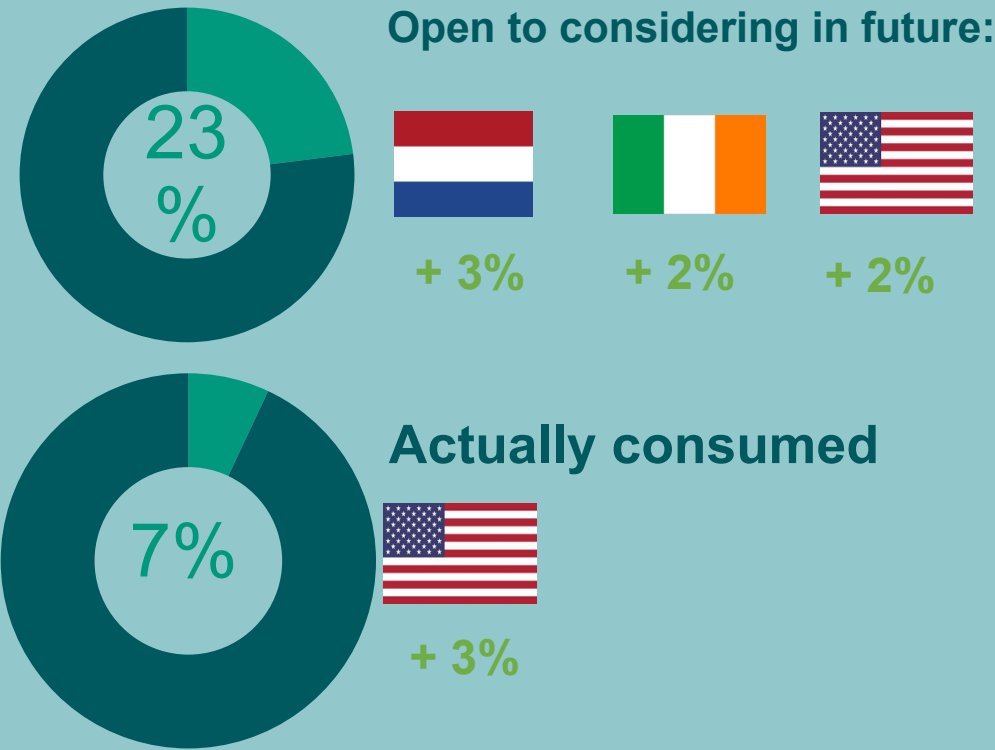
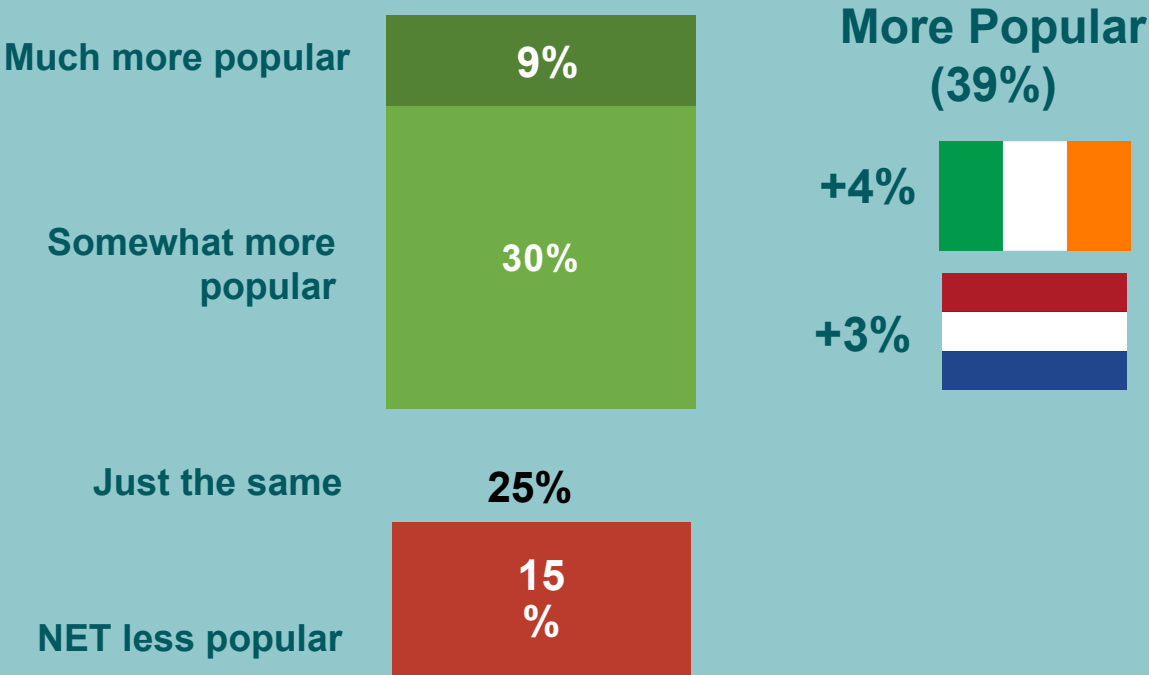
While being the most accessible option for those looking to reduce their consumption of animal products, some plant-forward options do not adequately replace the protein content.



# Protein made from surplus food ingredients



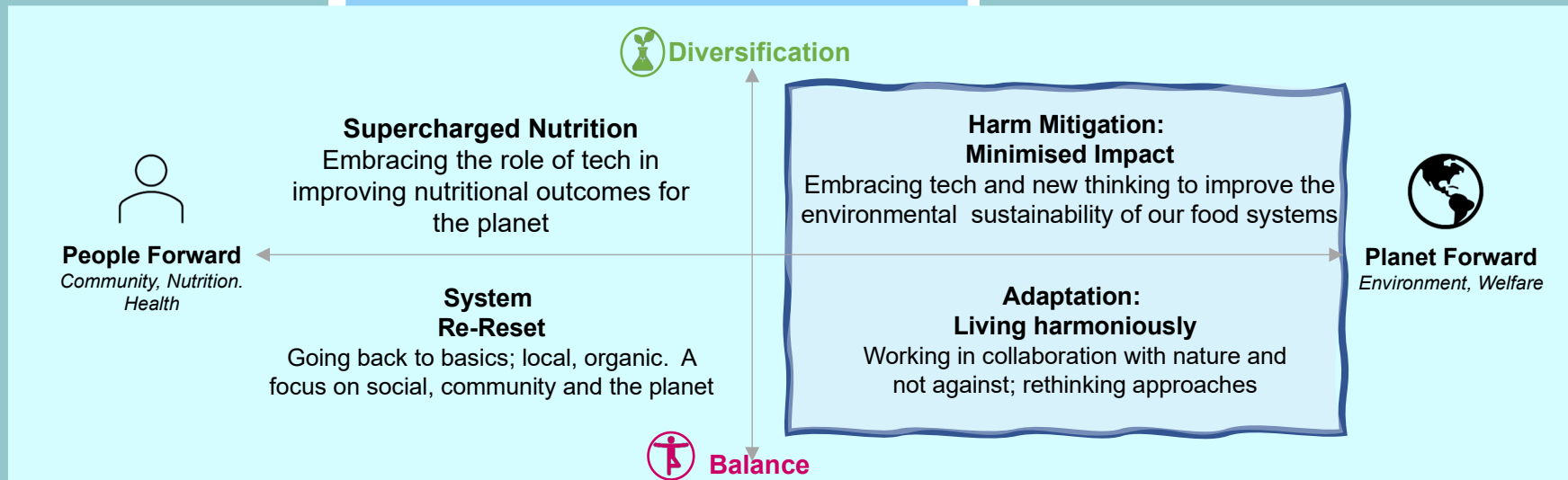
*Do you think proteins made from surplus food ingredients will become more or less popular in the future?*



# Protein made from surplus food ingredients



New concept in development by Nutrapharma, not yet available to consumers







### Lab Grown/ Hi Tech

13% would  
consider in future

Only 11%: Natural  
40% “unnatural &  
processed”



### Novel Proteins

18% would  
consider in future  
(avg. insect, myco  
etc)

Only 11% (insect),  
17% (myco) expect  
to taste good



### Meat & Dairy Mimics

25% strongly wish they  
made meat and dairy  
alternatives that are  
just like the original

31% among  
vegan/vegetarians



### Blended Proteins

21% would  
consider in future

21% willing to  
consider “myco  
proteins” in future



### Plant Forward

43% would  
consider in future

38% strongly prefer  
vegetable, not  
products pretending to  
be meat/dairy

Stretchy

Safe



Diversification

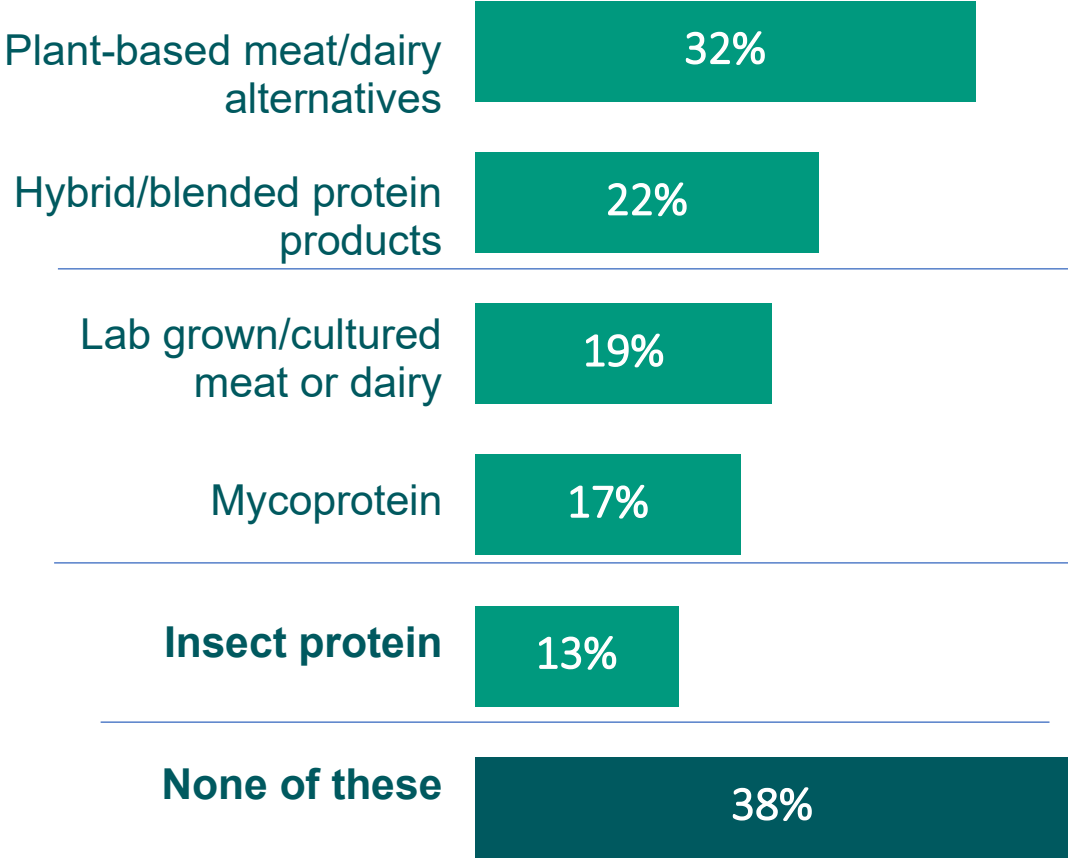


Balance

# Back to some challenges for these Alt-Proteins

# Taste Expectations

*"I would expect it to taste good"*



|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 33% | 23% | 32% | 36% | 34% | 34% |
| 24% | 19% | 19% | 21% | 27% | 25% |
| 21% | 18% | 21% | 18% | 18% | 20% |
| 21% | 17% | 13% | 18% | 16% | 18% |
| 12% | 17% | 15% | 15% | 10% | 10% |
| 37% | 42% | 40% | 36% | 37% | 36% |





Believe that plant based  
alternatives are **less  
natural** than their  
meat/dairy alternatives

So...

Where do various alternative proteins  
sit on the scale of naturalness?



# Naturalness

(Base: All Adults n=6,077, IE, UK, DE, NL, US, FR)

***“Is a natural option”***

Plant-based meat/dairy  
alternatives

38%

Insect protein

24%

Mycoprotein (protein  
derived from fungus)

22%

Hybrid/blended protein  
products

16%

**Lab grown/cultured  
meat or dairy**

11%

None of these

31%

***“Is too processed and  
unnatural”***

**Lab grown /cultured  
meat or dairy**

40%

Hybrid/blended

22%

Mycoprotein (protein  
derived from fungus)

21%

Plant based meat/dairy  
alternatives

20%

Insect protein

17%

None of these

33%



# Cleaning Up

**MEALA**  
CLEAN BITE | REAL TASTE

Meala

About Us



## Clean Bite. Real Taste.

Charting new paths for plant-based products.



### Better ingredients, healthier future.

By replacing stabilizers and emulsifiers widely used in the alt-meat, alt-fish and alt-dairy industries, our products will create healthier plant-based products. Get ready to taste the change.

#### HYDROCOLLOIDS

**Methylcellulose**  
Modified food starch  
Xanthan gum  
Modified cellulose  
Carrageenan  
Gellan gum  
Arabic gum

PLANT  
BASED  
MEAT

**MEALA**  
CLEAN BITE | REAL TASTE



PLANT-BASED  
PROTEINS



Although plant based foods are considered a natural option by **38%**, consumers still need convincing of other alternatives such as lab grown

with **4 in 10** considering it too unnatural and processed

Meanwhile,  
Only 17% consider  
insect protein to be  
unnatural

“Consumers wonder, how is my food built? What ingredients are used in its fabrication?”

MBio

“Consumers don’t want the integrity of their food to be compromised by technical processes”

MBio



These alternative proteins could initially be used in processed foods, replacing milk and dairy in lower-value channels.



***“The aim is to allow traditional meat and dairy to become less commodified, premiumising the cow”***

*Perfect Day, Precision Fermentation*

Photo by Leon Ephraim on Unsplash

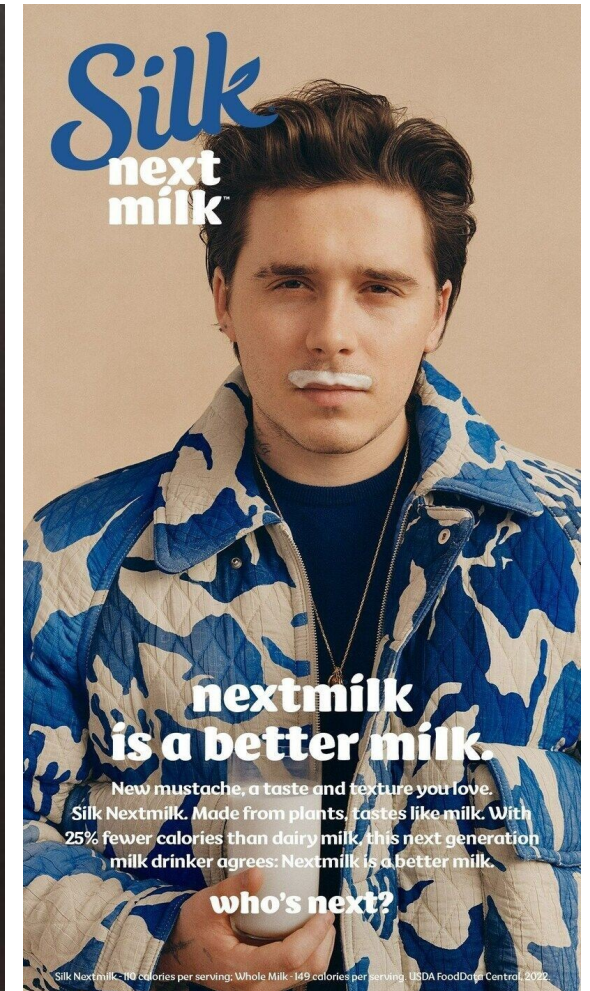
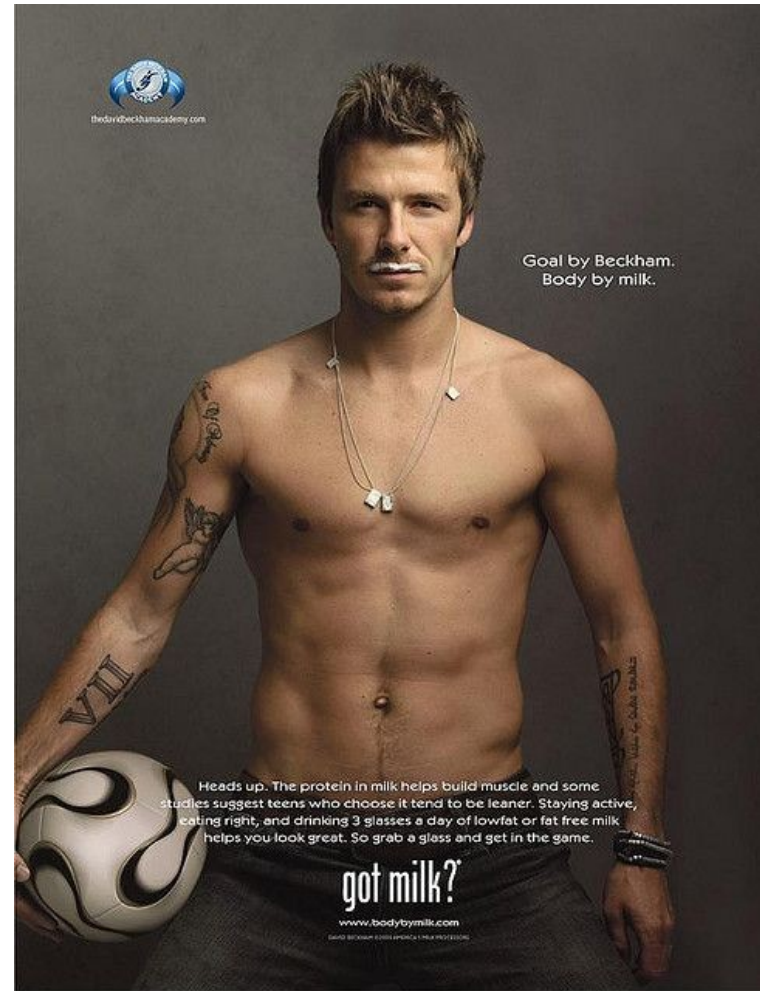
# Claims Evaluation

On pack Messaging






believe that  
**marketing  
communications**  
will impact what  
we eat and drink in  
the future



### *From “Got Milk” to “Silk”*

Children of the original Got Milk campaigns star in ads for a plant-based alternative.





***“A lot of companies have these products  
but don’t know how to market them to  
consumers”***

*-Mary Shelman, Thought leader- Global Agribusiness*



***“ESG has now become really important. Shareholders won't invest anymore if businesses don't have it built in in some way”***

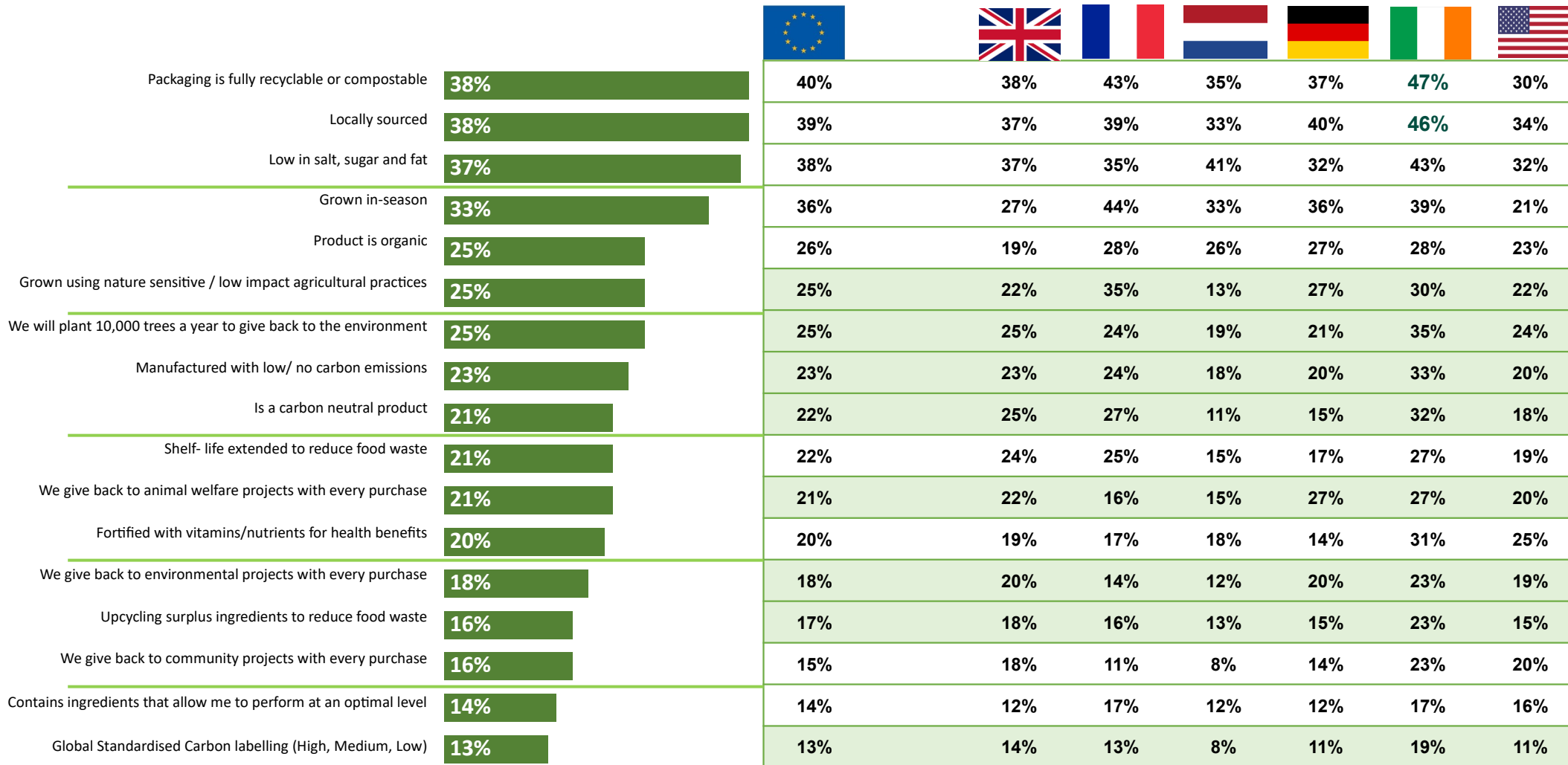
Enda O' Dowd, Lecturer Product Design

***People want environmental and social commitments from the brands they are buying from”***



# Most resonant “on-pack” messages

(Base: All Adults n=6,077, Market Sample n=1,000 approx.)



Eco Influences



*“While we are creating beautiful food products,  
they need to be in beautiful packaging that  
doesn’t destroy the environment”*

Enda O’ Dowd, Lecturer Product Design

Photo by Cats Coming from Pexels

# But businesses need to walk the walk

72%

think that food and drink brands use ethical and sustainability messages to increase prices for their own benefit

*“A lot of brands are greenwashing, especially when it comes to packaging materials. They’re just putting these labels on because it sounds good and makes them seem green”*

Enda O’ Dowd, Lecturer Product Design

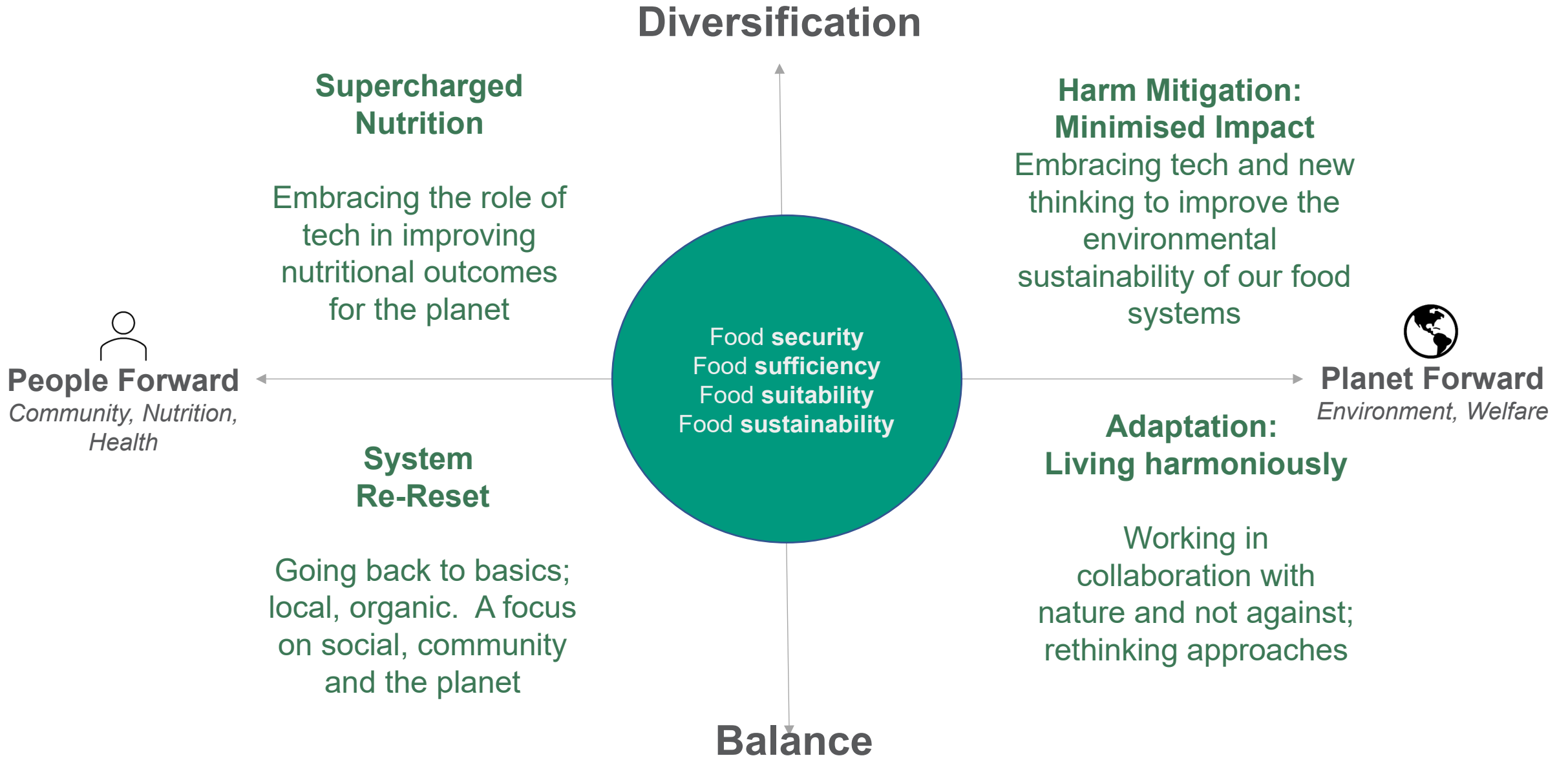


# Future Platforms

Planning for Growth



# Macro Themes

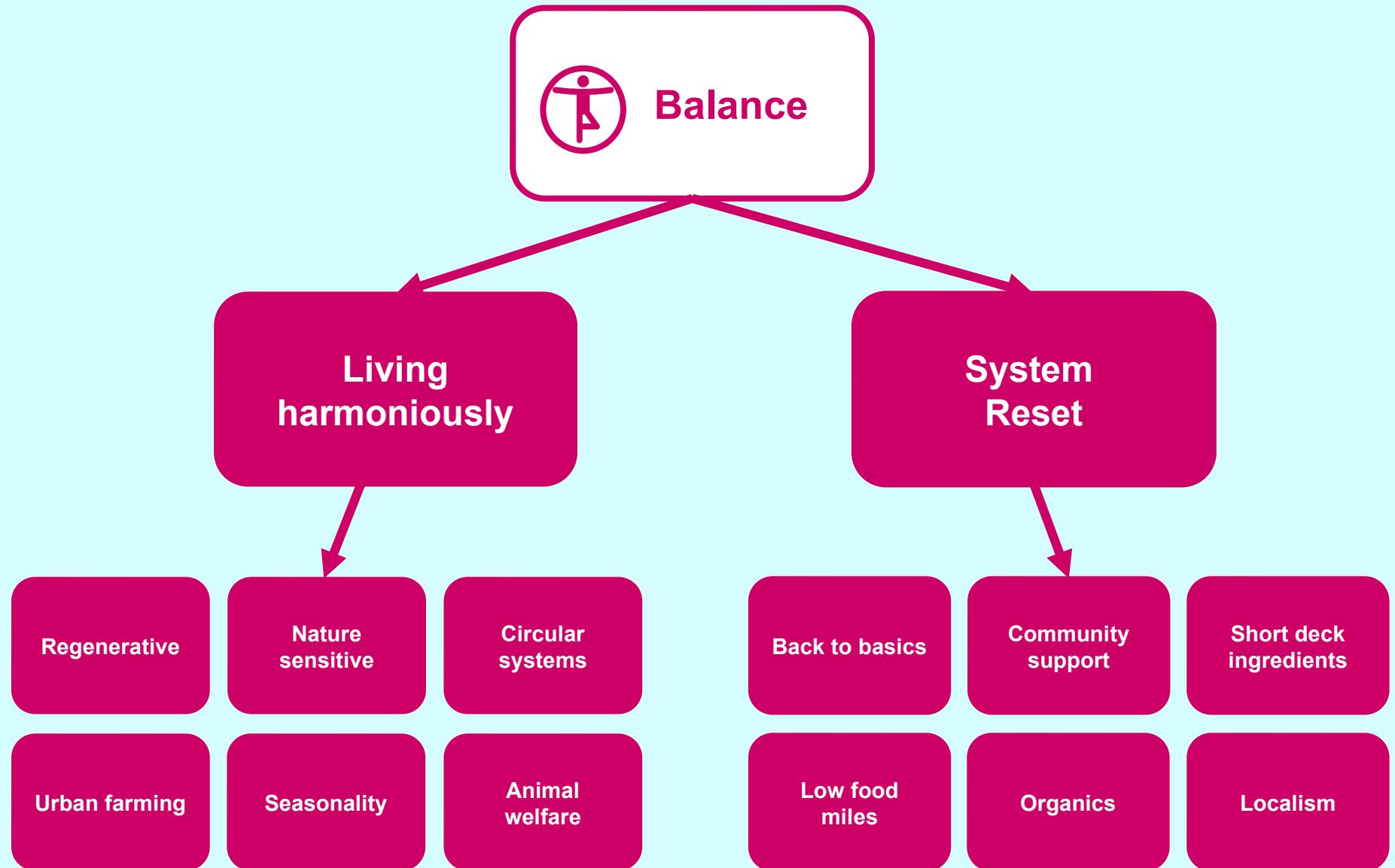


# Themes

*Macro*

*“Dig Sites”*

*Expressions*



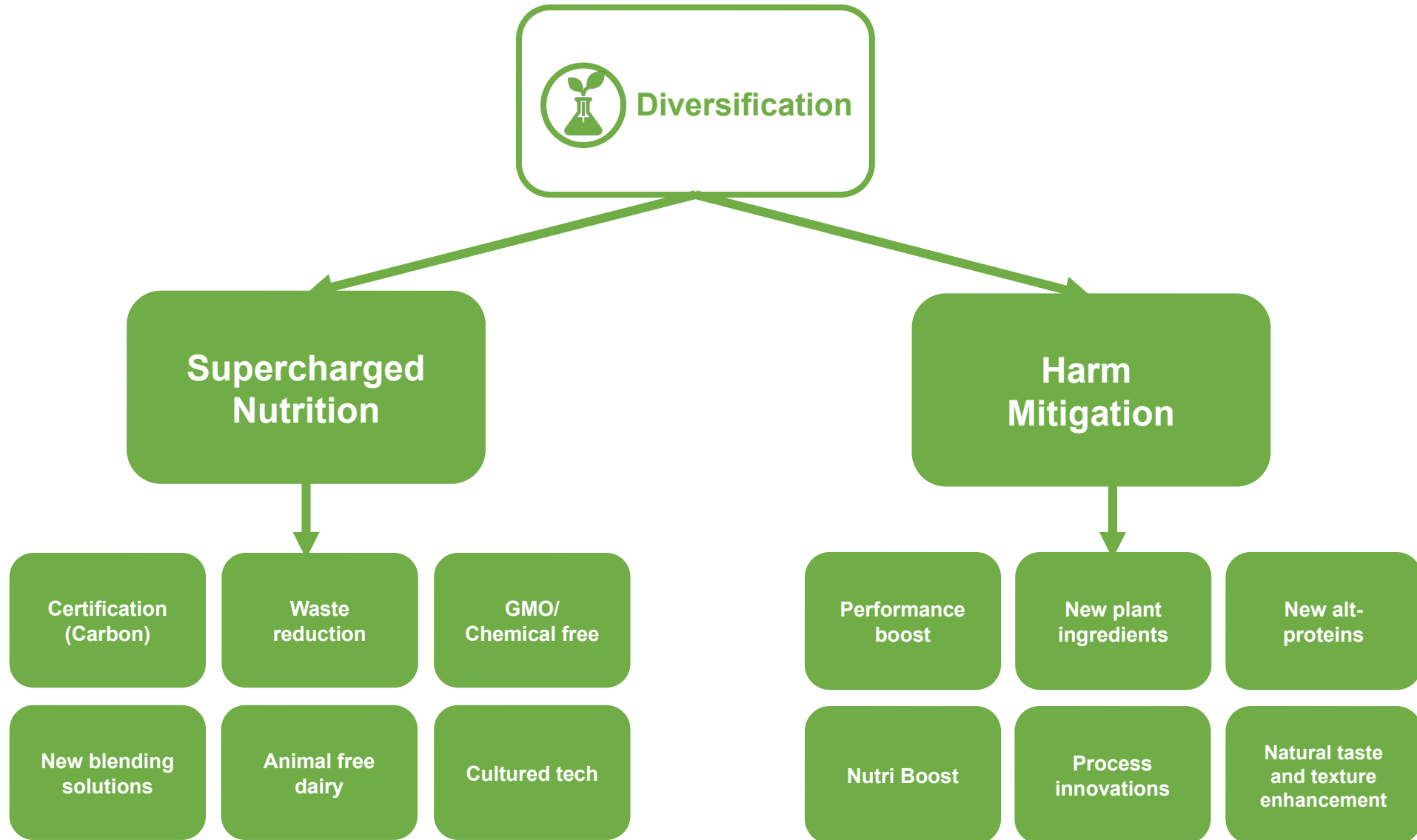


# Themes

*Macro*

*“Dig Sites”*

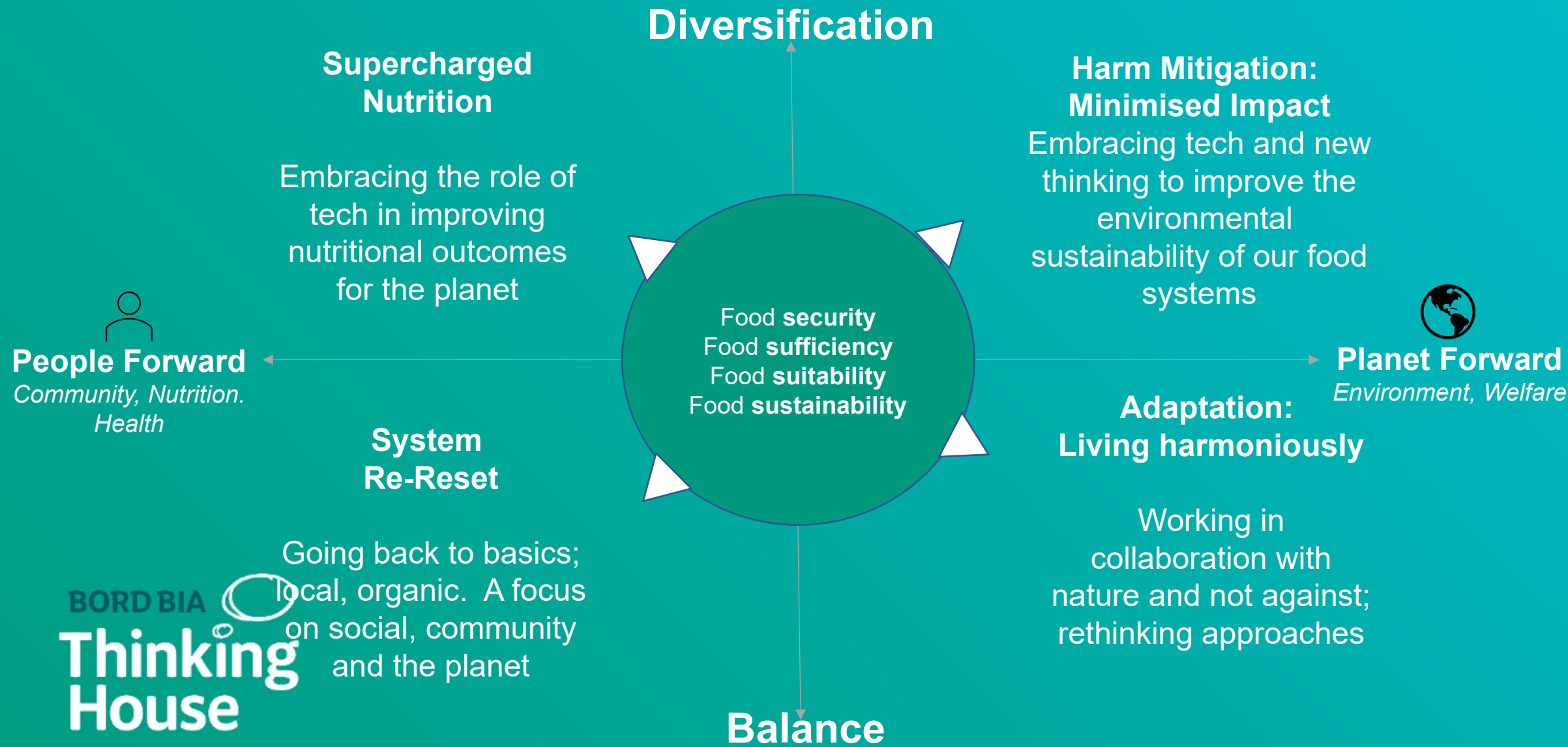
*Expressions*



# Sectoral Implication

Exploring Possibilities

# Directions of Travel?





# Meat

# Where do we go from here?

Platform

Human Insight

Sector Focus

Meat

**Adaptation:**  
Living harmoniously

**Working in  
collaboration with  
nature** and not against;  
rethinking approaches

*“In a world where more people realise that they are a part of and not separate from nature, they are seeking to make eco sensitive choices which align with the rhythm and wisdom of the natural world”*

Some thought starters.

## CONTINUE

- Talking about how the Irish production system is based around seasonality, and welfare..

## CAPITALISE

- On positioning of Irish meat in terms of naturalness compared to other countries production systems and vs lab grown alternatives. Meats such as poultry as a source of low carbon protein

## CONSIDER

- Regenerative agriculture, supporting biodiversity. Balancing with plant through blended solutions (by stealth), sustainable production systems e.g. silvopasture, agroforestry

## CONVINCE

- Detractors that Irish beef production systems are based around seasonality and with the animal's welfare in mind

Inspiration



<https://forceofnature.com/>

Force of Nature, animals are pasture raised and regeneratively sourced. Positive outcomes for biodiversity, soil health and ecosystem functions

 **Defend**  **Embrace**



# Where do we go from here?

Sector Focus

Meat

Platform

## System Reset

Going **back to basics**; local, organic. A focus on social, community and the planet

Human Insight

*“In a world where people struggle to keep up with the rapid pace of technological advancements, there is a countermovement back to a simpler, more natural way”*

Some thought starters.

### CONTINUE

-Talking about small family farms, grass-based production system etc

### CAPITALISE

-On Food Brand Ireland's messaging and it's positioning for Ireland's meat relative to other countries meat production systems

### CONSIDER

-Smaller specialised production and native, premium breeds. E.g. Moiled cow, Kerry blues, Dexter

### CONVINCE

- Beef and other meat is an important part of Irish cultural heritage. Family farms are an important part of the fabric rural of Irish economies and communities .. 'nature intended'

Inspiration



Keadeen Mountain Farms based in Co. Wicklow offer organic Dexter Beef (a native Irish breed) that they produce on their farm

 **Defend**

 **Embrace**



# Where do we go from here?

Sector Focus

Meat

Platform

## Supercharged Nutrition

Embracing the role of tech in improving **nutritional outcomes** for the planet

Human Insight

*“People want to know that the conscientious, healthy choices they make are backed by today’s science, but find it very confusing”*

Some thought starters.

### CONTINUE

- Positioning meat as part of a balanced diet with it's own specific nutritional benefits

### CAPITALISE

- On positioning meat as a premium product for special moments (especially beef)

### CONSIDER

- Exploring lab grown and other tech led innovation, blended products

### CONVINCE

- Superior nutritional quality of meat, B12, Iron, etc..

Inspiration

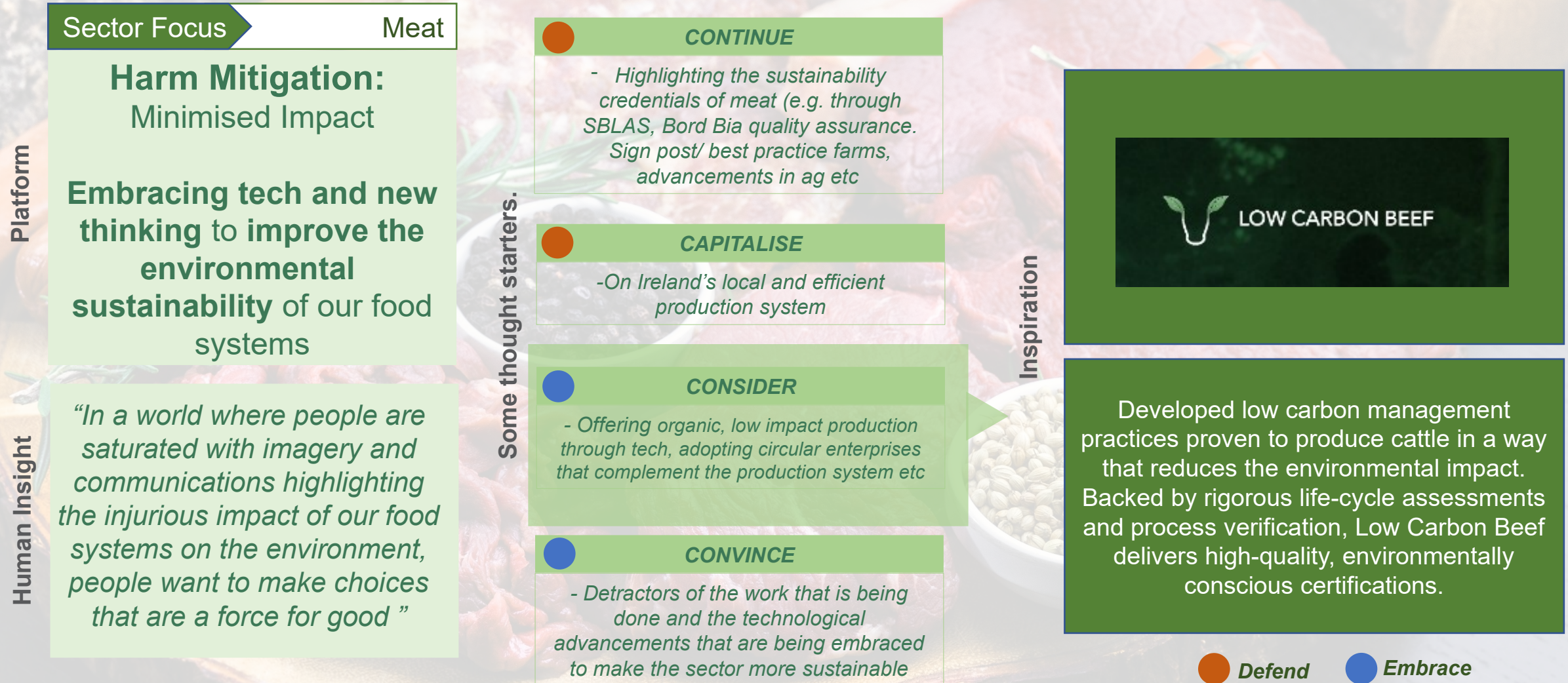


Kepak meets the demand of the fast growing flexitarians, offering a healthier option with blends of mushroom and beetroot

 **Defend**     **Embrace**



# Where do we go from here?



# Dairy



# Where do we go from here?

Platform

Human Insight

Sector Focus

Dairy

**Adaptation:**  
Living harmoniously

**Working in  
collaboration with  
nature** and not against;  
rethinking approaches

*“In a world where more people realise that they are a part of and not separate from nature, they are seeking to make eco sensitive choices which align with the rhythm and wisdom of the natural world”*

Some thought starters.

## CONTINUE

- Talking about how dairy is primarily based on seasonality and linked to the growth of grass

## CAPITALISE

- On the fact that Ireland has a unique climate that is suited to produce dairy in a nature sensitive way

## CONVINCE

- Detractors that a grass- based dairy production system is superior to non-grass based systems from an environmental standpoint and an effective way to produce sustainable nutrition

## CONSIDER

- Dialling up the seasonality of the Irish dairy production system
- Obtaining further certification for Irish Dairy which highlight environmental credentials of the production system

Inspiration



In 2021, Alexandre Family Farm Becomes The First Certified Regenerative Organic Dairy Farm In The United States

 **Defend**

 **Embrace**



# Where do we go from here?

Sector Focus

Dairy

Platform

## System Reset

Going **back to basics**; local, organic. A focus on social, community and the planet

Human Insight

*“In a world where people struggle to keep up with the rapid pace of technological advancements, there is a countermovement back to a simpler, more natural way”*

Some thought starters.

### CONTINUE

- Talking about how dairy products are produced locally in Ireland

### CAPITALISE

- On dairy products natural credentials Vs plant-based and lab grown/ precision fermented alternatives

### CONVINCE

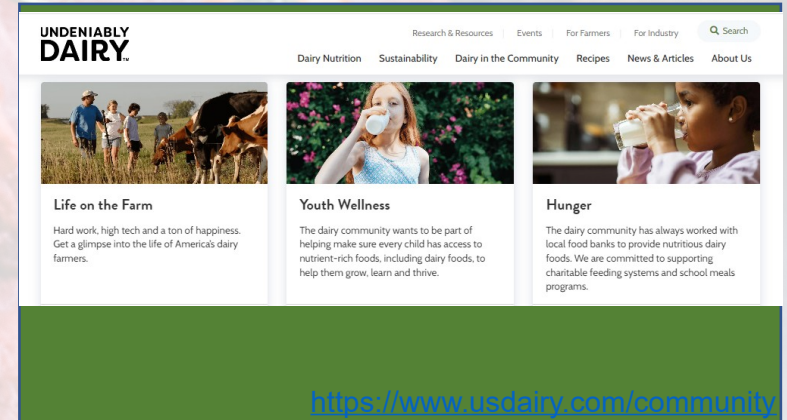
- Sceptics of the environmental benefits of a grass-based production system (e.g. carbon sequestration)

### CONSIDER

- Highlighting the benefits that dairy farming can create for the rural community and economy

● Defend ● Embrace

Inspiration



The dairy checkoff was created by American dairy farmers to build trust in and sales of dairy. In addition to highlighting the sustainability and nutritional credentials of dairy, the site also highlights how dairy ‘helps develop strong, thriving communities’.



# Where do we go from here?

Sector Focus

Dairy

Platform

## Supercharged Nutrition

Embracing the role of tech in improving **nutritional outcomes** for the planet

Human Insight

*“People want to know that the conscientious, healthy choices they make are backed by today’s science, but find it very confusing”*

Some thought starters.

### CONTINUE

- Talking about the superior bioavailability of protein derived from dairy products

### CAPITALISE

- On the superior nutritional credentials of dairy produced from a grass- based system Vs alternatives

### CONVINCE

- Sceptics around the role of dairy as part of a balanced diet

### CONSIDER

- Blending with other ingredients to improve the nutritional and environmental credentials of dairy

Inspiration



<https://hartdairy.com/>

Hart Dairy demonstrates how its pasture- raised and grass- fed credentials results in a product that is superior nutritionally Vs dairy that is not produced from a grass- fed production system.

 **Defend**    **Embrace**



# Where do we go from here?



Platform

Sector Focus

Dairy

**Harm Mitigation:**  
Minimised Impact

**Embracing tech and new thinking to improve the environmental sustainability of our food systems**

Human Insight

*“In a world where people are saturated with imagery and communications highlighting the injurious impact of our food systems on the environment, people want to make choices that are a force for good ”*

Some thought starters.

## CONTINUE

- Talking about how there is high levels of willingness among farmers to become more sustainable
- Highlighting the work that individual farms are carrying out in order to reduce their impact on the environment

## CAPITALISE

- On how advancements in technology are making dairy more environmentally sustainable e.g. improved genetics

## CONVINCE

- People of the merits of a grass- based dairy production system from an environmental sustainability perspective

## CONSIDER

- Blending with other ingredients to improve the nutritional and environmental credentials of dairy
- Embracing new technologies such as precision fermentation to improve the environmental sustainability credentials of dairy

Inspiration



According to Triballat, the brand is bringing something ‘refreshingly different’ to the French market, with ‘high quality ingredients’ and the ‘greatest respect for animal welfare and local farmers’

Defend Embrace

# PCF



# Where do we go from here?

Platform

Human Insight

Sector Focus

PCF

**Adaptation:**  
Living harmoniously

**Working in  
collaboration with  
nature** and not against;  
rethinking approaches

*“In a world where more people realise that they are a part of and not separate from nature, they are seeking to make eco sensitive choices which align with the rhythm and wisdom of the natural world”*

Some thought starters.

## CONTINUE

- Creating products that are produced in a nature sensitive way and use seasonal ingredients to minimise harm on the environment.

## CAPITALISE

- On the increased awareness around biodiversity, seasonality etc to produce products that are aligned with consumers values

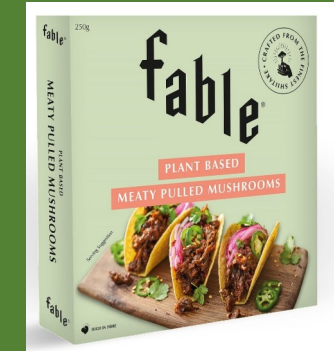
## CONVINCE

- Consumers that they can have a positive impact on the world through their food choices
- Consumers that food choices that have a positive impact on the environment needn't be a compromise

## CONSIDER

- Innovative recipe formulations to make it easy for consumers to do the right thing while not having to compromise

Inspiration



Fable use a variety of mushrooms to replace animal protein

Defend

Embrace



# Where do we go from here?

Sector Focus

PCF

Platform

## System Reset

Going **back to basics**; local, organic. A focus on social, community and the planet

Human Insight

*“In a world where people struggle to keep up with the rapid pace of technological advancements, there is a countermovement back to a simpler, more natural way”*

Some thought starters.

### CONTINUE

*Highlighting produce grown in Ireland, the use of local produce and your brand's impact on the community*

### CAPITALISE

- On products with naturally short ingredients deck. Reformulate products to align with expectations

### CONVINCE

- Consumers that their food choices can have a positive impact on their health, the environment and their community

### CONSIDER

- Using local, more sustainable ingredients to create alternatives of well-loved products

Inspiration



ChicP produces hummus and dips made from surplus vegetables grown in the UK, aiming to reduce food waste and promote ethical consumption.

● Defend ● Embrace



# Where do we go from here?

Sector Focus

PCF

Platform

## Supercharged Nutrition

Embracing the role of tech in improving **nutritional outcomes** for the planet

Human Insight

*“People want to know that the conscientious, healthy choices they make are backed by today’s science, but find it very confusing”*

Some thought starters.

### CONTINUE

- Encouraging consumption of a plant based foods along with traditional meat and dairy as part of a balanced diet

### CAPITALISE

- Inherent naturalness of plant based foods

### CONVINCE

- Plant based has benefits vs meat and dairy equivalents, eg more diverse microbiome

### CONSIDER

- Fortifying plant- based products to match the nutritional properties of their non plant- based equivalents

Inspiration



Athletic greens supplements; dairy free ingredients and plant extracts to enhance nutrition

 **Defend**    **Embrace**



# Where do we go from here?



Platform

Human Insight

Sector Focus

PCF

**Harm Mitigation:**  
Minimised Impact

**Embracing tech and new thinking to improve the environmental sustainability of our food systems**

*“In a world where people are saturated with imagery and communications highlighting the injurious impact of our food systems on the environment, people want to make choices that are a force for good ”*

Some thought starters.

## CONTINUE

- Talking about the environmental credentials of both ingredients and products generally

## CAPITALISE

On the superior environmental credentials of plant-based food and drink Vs meat and dairy (e.g. land use, emissions)

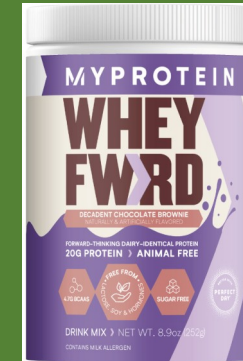
## CONVINCE

- Consumers to trial novel foods and new technologies that minimise the impact of food choices on the environment

## CONSIDER

- Reformulating or developing products that minimise impact on the environment

Inspiration



Perfect day partnered with My Protein using precision fermentation technology to create an animal free whey protein identical in performance and taste

● **Defend**    ● **Embrace**