

Precise, validated and actionable data is key to the improved sustainability of animal protein production

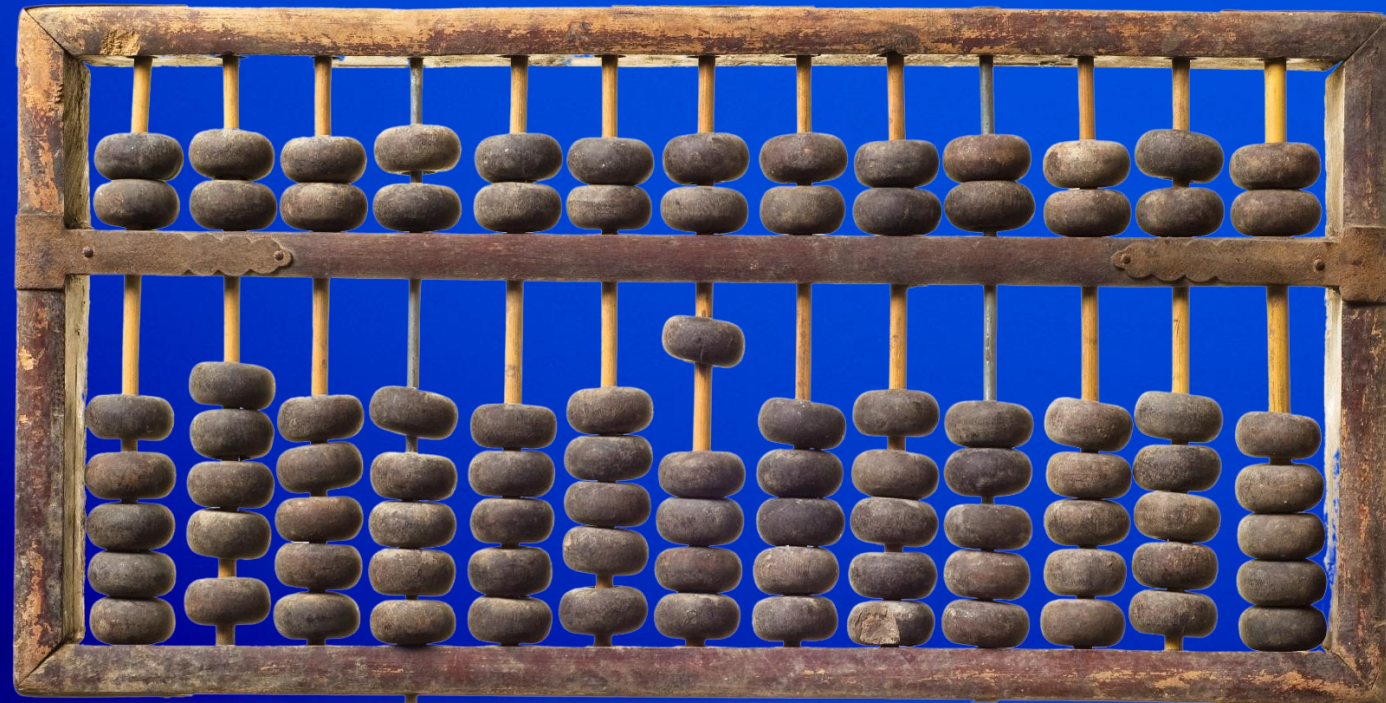
Carlos M. Saviani  
Global Sustainability Lead

September 2023

AFMA FORUM  
5-7 September 2023 • Sun City, South Africa  
Feed & Food - The 4<sup>th</sup> Agricultural Revolution

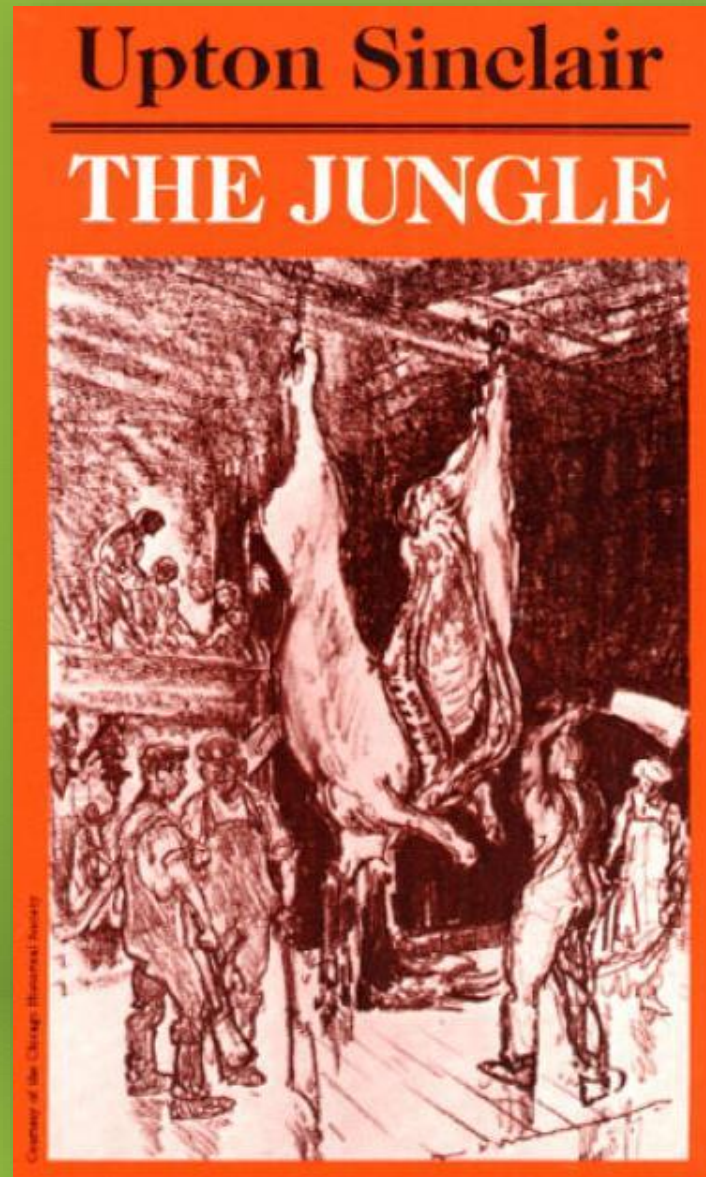


dsm-firmenich 



**7,500**  
years ago

116  
years ago





**Now**

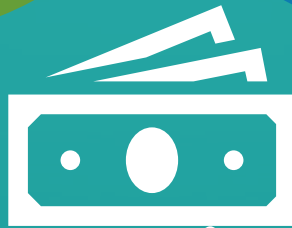




**People**



**Planet**



**Profit**

MARKETS BUSINESS INVESTING TECH POLITICS CNBC TV INVESTING CLUB PRO

ACCESS ASEAN

# Southeast Asia turns to alternative meats as fight against climate change ramps up

PUBLISHED TUE, AUG 15 2023, 8:28 PM EDT | UPDATED WED, AUG 16 2023, 12:46 AM EDT

Nyshka Chandran

SHARE f t i n e

## Almonds are out. Dairy is a disaster. So what milk should we drink?

A glass of dairy milk produces almost three times more greenhouse gas than any plant-based milk. But vegan options have drawbacks of their own

Like sending bees to war: the deadly truth behind your almond milk obsession

Mail & Guardian

News Thought Leader Environment Friday

THOUGHT LEADER / 19 JUN 2023

# Meat-eating South Africa, is it time to slow down?

By Ozayr Patel

f t i n s

BBC CBBC

Shows Games Quizzes Watch

## Study analyses environmental impacts of pet diets

© 21 November 2022 • Comments

TIM GRAHAM

Researchers in Brazil have studied the production of more than 900 types of

Forbes

FORBES > BUSINESS

BREAKING

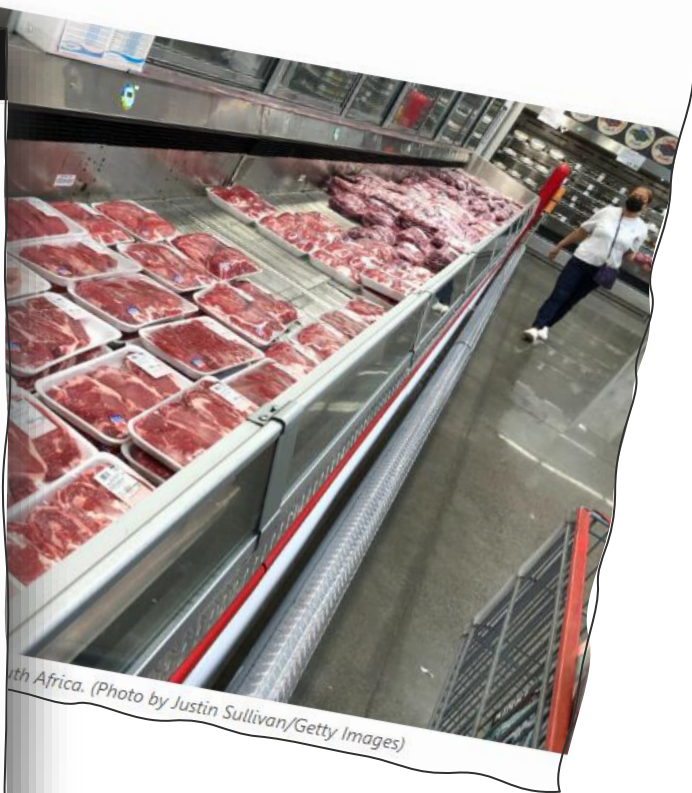
# Heat Waves Driven By Climate Change Have Cost The World \$16 Trillion Since The 90s

Robert Hart Forbes Staff  
I cover breaking news.

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Oct 28, 2022, 02:00pm EDT

Listen to article 5 minutes



**CLIMATE** Heat waves propelled by climate change have cost the global economy at least \$16 trillion since the early 1990s, according to a study published Friday in the journal *Science Advances*, a burden that has disproportionately fallen on the

# Animal protein is part of a healthy balanced diet

but has environmental footprints that do need addressing



Water use



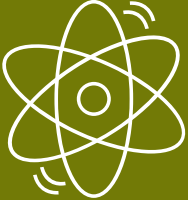
GHG emissions



Ammonia emissions



Biodiversity



Phosphorus & nitrogen



Land use



Food loss & waste

# If animal production continues without change

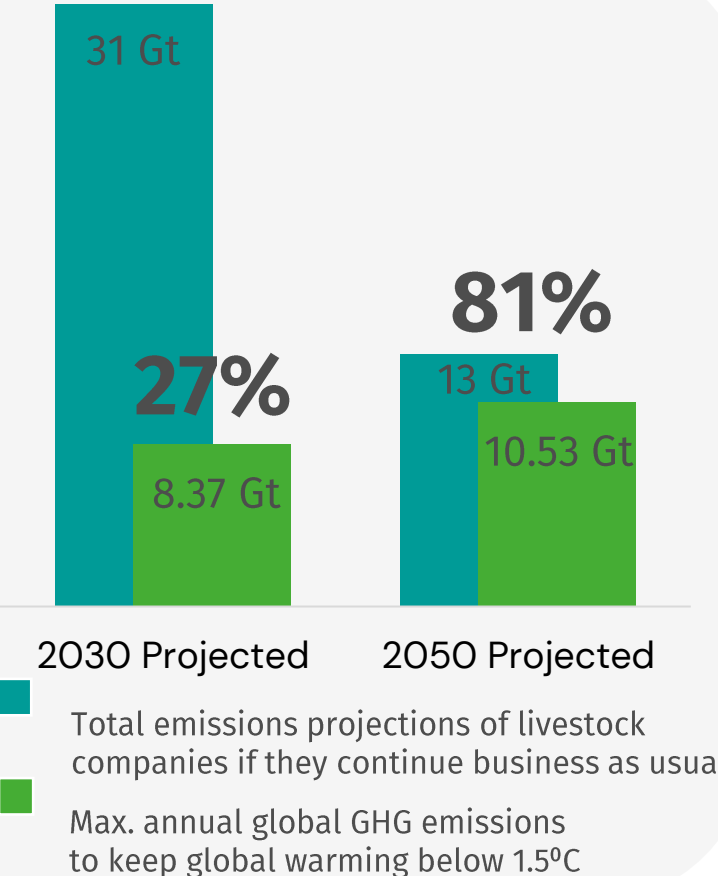
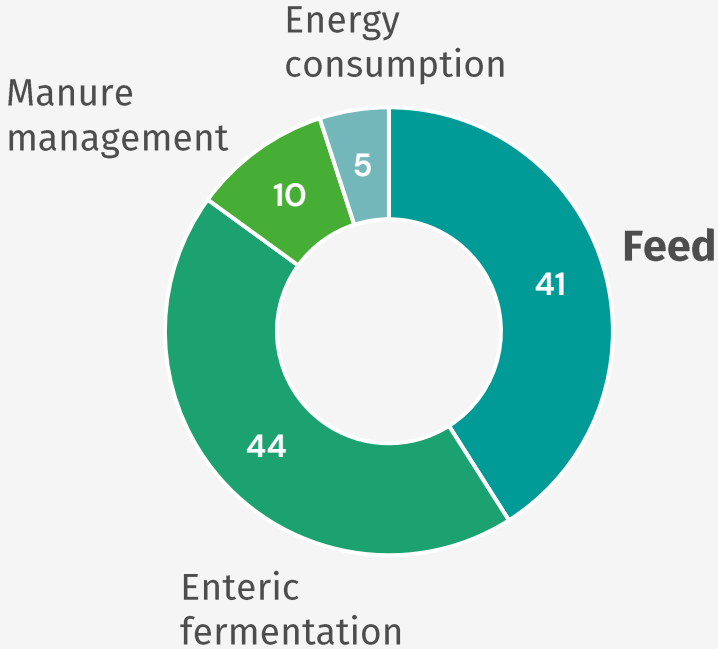
it will consume an increasing proportion of the worlds' GHG budget ...



Animal farming accounts for

**14.5%**

of all human derived GHG emissions



Source: FAO GLEAM 2.0 Assessment of GHG emissions and mitigation potential. 2018; adapted from GRAIN and IATP report: Emissions impossible, July 2018

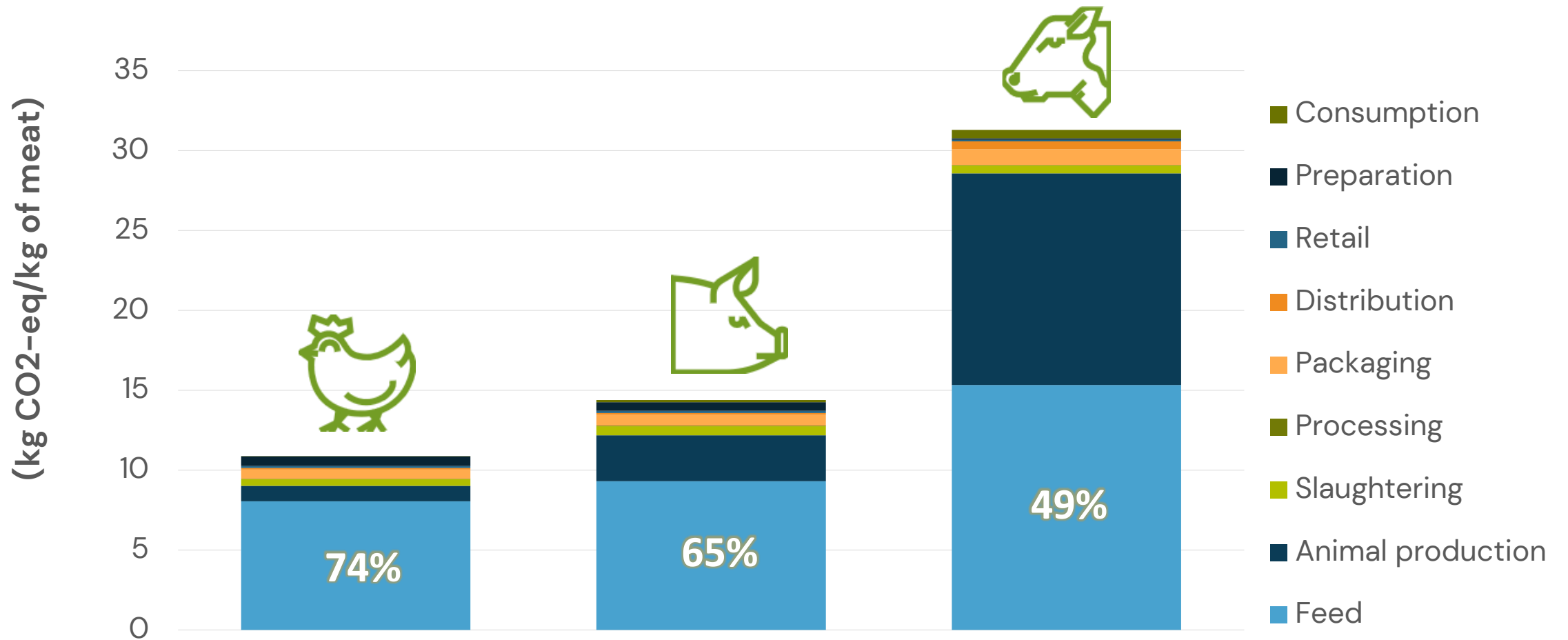


# The global GHG footprint of main animal proteins

Compared to	<u>Total GHG-emissions</u>	<u>GHG emissions by food production</u>	<u>GHG emissions by livestock</u>
<b>Total</b>	50,154 MT CO <sub>2</sub> -equiv	12,909 MT CO <sub>2</sub> -equiv	7,575 MT CO <sub>2</sub> -equiv
<b>Poultry meat</b>	1.1 %	4.2 %	7.2 %
<b>Eggs</b>	0.6 %	2.2 %	3.8 %
<b>Pork</b>	1.6 %	6.4 %	10.8 %
<b>Beef</b>	6.1 %	23.7 %	40.4 %
<b>Milk</b>	2.9 %	11.5 %	19.5 %

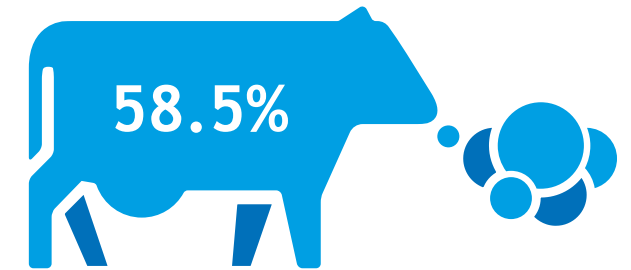
Source: FAO and GDP 2018, 2015

# Comparison of GHG footprint of 3 different meats



# Global footprint of a liter of milk by source

- Manure management CH4
- Manure management N2O
- Direct energy and indirect CO2
- Feed CO2
- Feed N2O
- LUC: soy & palm CO2



58.5% of dairy GHG emissions come from enteric methane.

# The worldwide drive for sustainable animal protein demands accurate footprint measurement & improvement



Sustainability conscious consumers put pressure on food brands & retailers



Investors want to mitigate risks & put pressure on the industry



Regulators setting new boundaries in which farms can operate

# Sustainably-marketed products are unlocking significant market value

Example US consumer packaged goods

32%

of CPG market value came from sustainably-marketed products

2.1x

Sustainably-marketed products grew faster than the CPG market

17%

of the US CPG market are sustainably-marketed products

28%

weighted price premium over conventionally marketed products<sup>1</sup>



recyclable metal tube



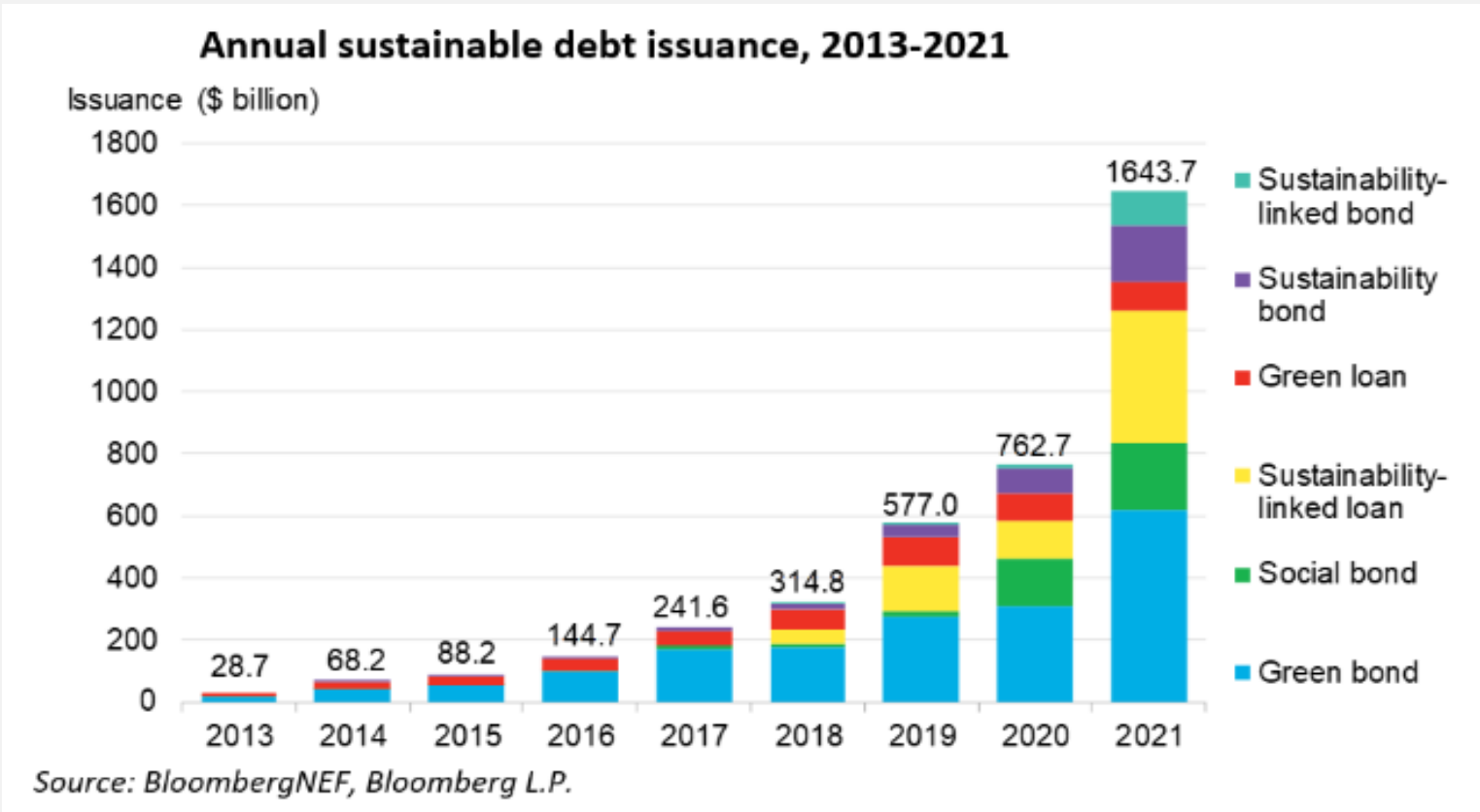
100% recyclable paperboard + printed with soy inks.



Source: NYU Stern Center for Sustainable Business, Sustainable Market Share Index report 2021, updated April 2022. Covered 36 CPG categories that represent 40% of the total US CPG market. <sup>1</sup>Weighted by \$ sustainable sales of categories examined; analysis excluded store brand/private label

# Financial sector plays a key role in driving sustainable farming

Sustainability-linked loans have been increasing over the last years – trend will only continue if sustainability can be measured credibly



*Sustainable Debt Issuance Breezed Past \$1.6 Trillion in 2021 | Bloomberg NEF (bnef.com)*

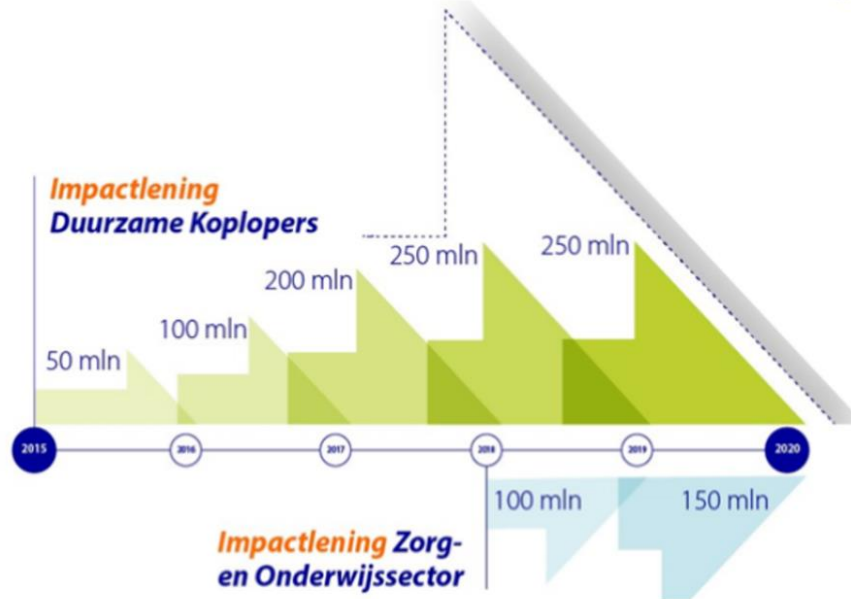
# Rabobank's goal is to become the leading financier of food system transition worldwide

## Impact loans

Reaching a total volume of 1 billion in 2020!



- 40+ eco-labels
- 20+ different sectors (mainly agriculture)
- 1 Focussed on sustainable frontrunners (EIB & Rabobank)
- 1 Focussed on sustainable healthcare and education (CEB & Rabobank)



Page 1

**AGRI3 FUND**

AGRI3 Fund aims to mobilise additional public and private capital at scale, to contribute to sustainable agricultural value chains and avert deforestation.

**Rabobank** **FMO** **idH** **UN environment** **Ministry of Foreign Affairs**

Entrepreneurial Development Bank the sustainable trade initiative



## Comunicação

# JBS ANNOUNCES THE ISSUANCE OF US\$1 BILLION IN SUSTAINABILITY-LINKED BOND (SLB)

*The first operation linked to sustainability targets among companies in the same sector in Brazil*

JBS issued and priced in the international market unsecured Sustainability-Linked Bond (SLB) due in 2032 in connection to the Company's commitment to reduce greenhouse gas emissions by 30% in scopes 1 and 2 by 2030.

JBS' Sustainability-Linked Bond structure is in line with the Company's sustainability strategy, outlined by the Net Zero 2040 Commitment, announced on March 23, 2021.

The Senior Notes will be guaranteed by JBS and the Company intends to use the net proceeds to extend its debt maturity profile by refinancing shorter maturity indebtedness, in addition to covering other general corporate purposes. The ISS ESG agency was the SPO (independent opinion, Second Party Opinion) in the financial operation and the issuance has Santander, Barclays, Bradesco BBI, BTG Pactual, Mizuho and XP as part of the syndicate.



# FAIRR

A COLLER INITIATIVE



**Social Risk**

- LABOUR RIGHTS
- WORKING CONDITIONS



**Climate Risk**

- GREENHOUSE GASES
- WATER SCARCITY



**Biodiversity**

- AQUACULTURE
- DEFORESTATION
- REGENERATIVE AGRICULTURE
- WASTE & POLLUTION



**Alternative Proteins**

- FOOD TECHNOLOGY
- SUSTAINABLE PROTEINS



**Antibiotics & Health**

- AMR
- ANIMAL WELFARE
- EMERGING DISEASES

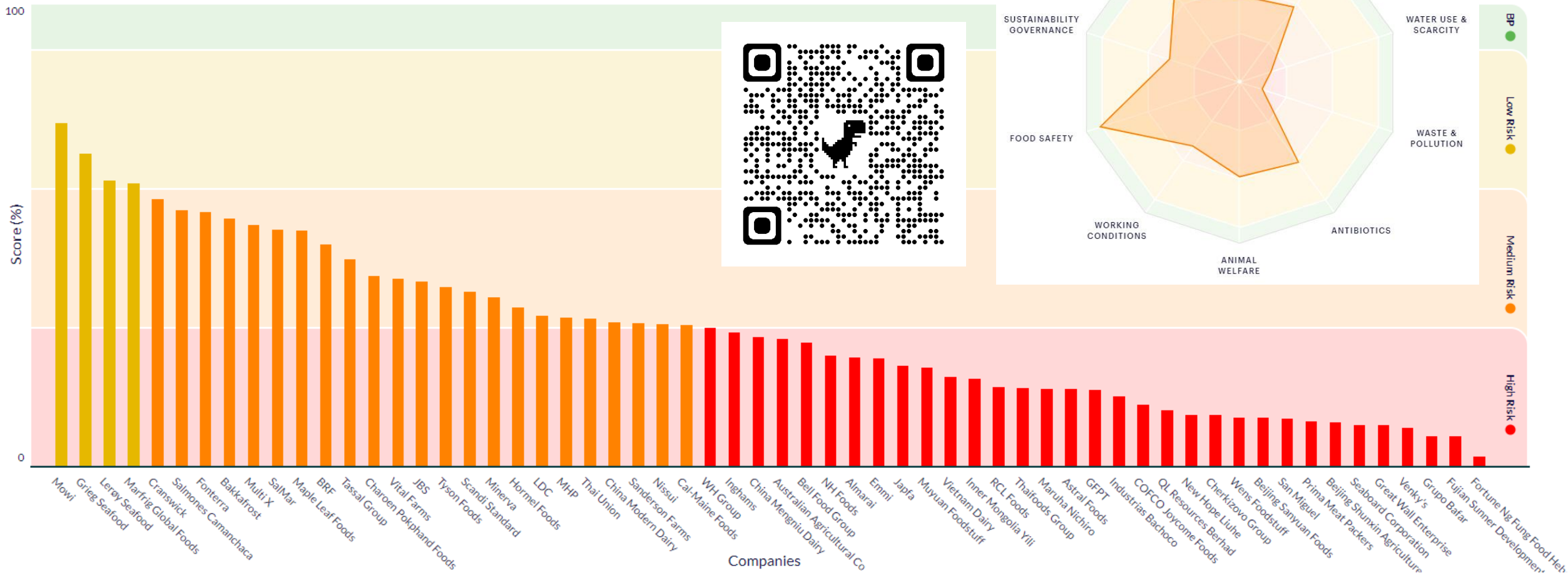
**\$70 trillion**  
Investor Member AUM

**117 Companies**  
Assessed in our Research

**370+ Members**  
In the Network

# 2022 FAIRR Animal Protein Producer Index

A company's ranking is determined by the Risk & Opportunity Score, which reflects its score across the 10 risk and opportunity factors





## SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



WORLD  
RESOURCES  
INSTITUTE



3316

with science-  
based targets

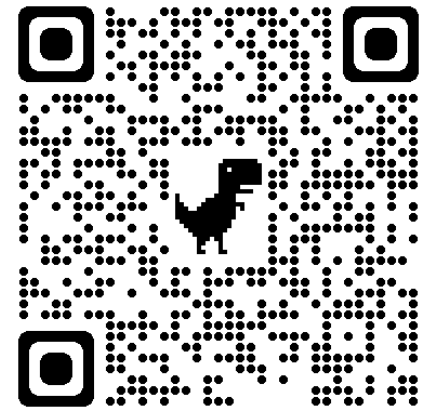
5851

companies taking action

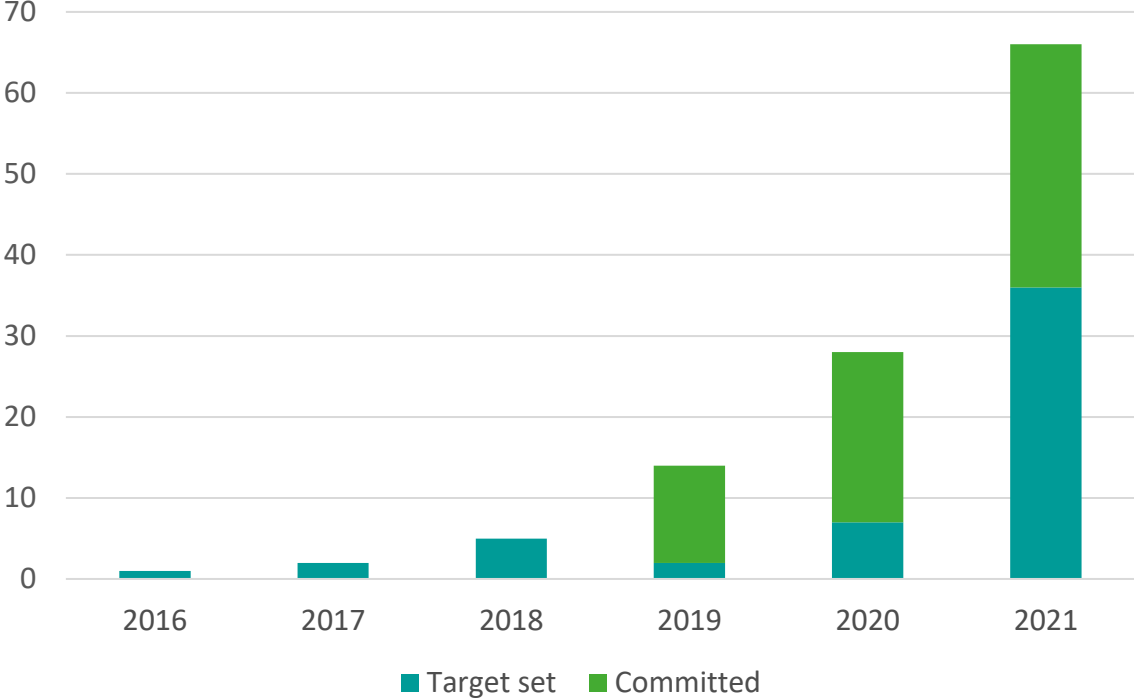
2351

net-zero  
commitments

- ✓ Commit: submit a letter establishing your intent to set a science-based target
- ✓ Develop: work on an emissions reduction target in line with the SBTi's criteria
- ✓ Submit: present your target to the SBTi for official validation
- ✓ Communicate: announce your target and inform your stakeholders
- ✓ Disclose: report company-wide emissions and track target progress annually



# Food Retailers are signing up to science-based targets to add credibility & accountability to sustainability efforts



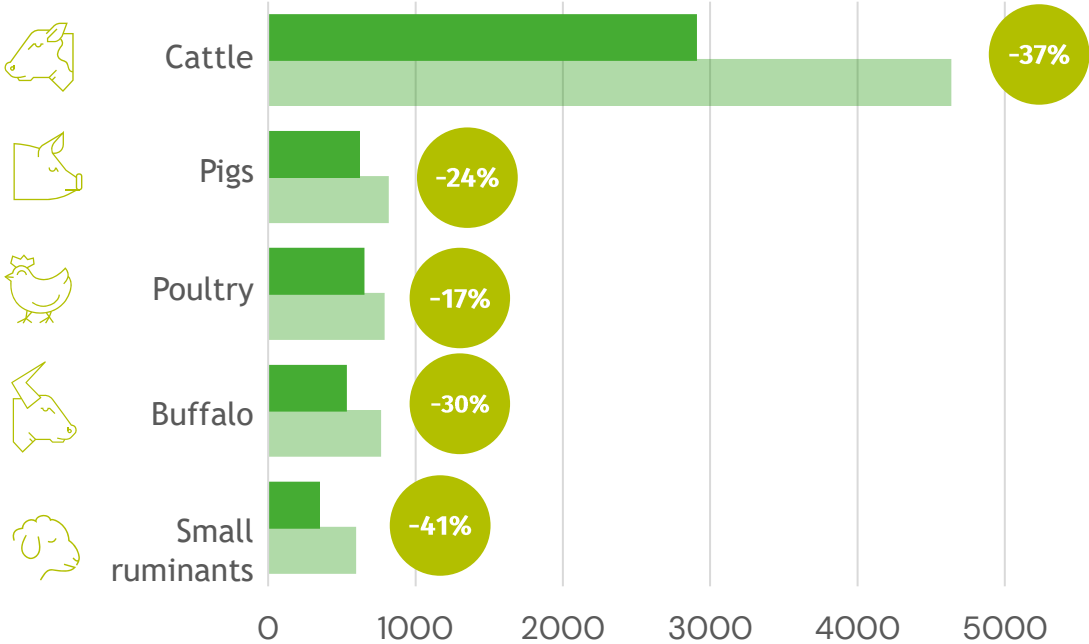
90% of their total carbon footprint are **Scope 3** emissions (from their upstream supply chain)



Source: McKinsey & Company. Climate sustainability in retail: Who will pay? May 2022



# Footprint reductions in animal proteins are not only possible but make business sense: win-win in the majority of cases



This can be achieved through the following

**Productivity gains**  
especially milk & meat production and reducing food loss & waste

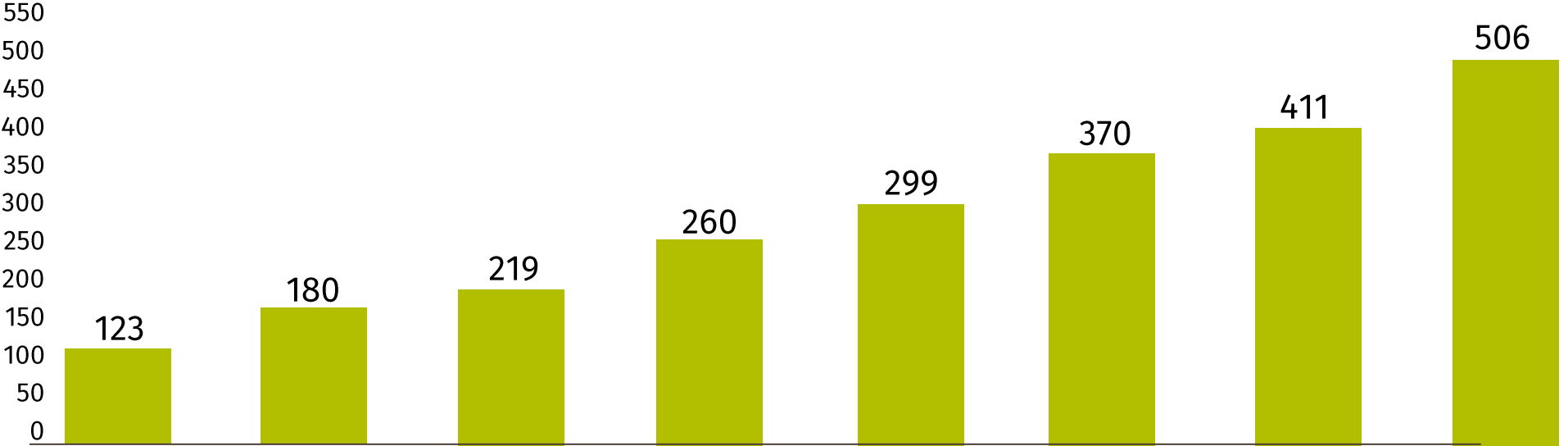
**Improved nutrient utilization**  
including the consequential reduction in manure nitrogen & its reactive forms

**Enteric methane inhibition**  
imperative for fast and effective GHG reduction

Reductions based on applying practices of the 10th percentile of producers with the lowest emissions while maintaining constant output. Million tonnes CO2-EQ

Source: FAO GLEAM 2.0 Assessment of GHG emissions and mitigation potential; IPCC 2019; WRI 2019

# Environmentally efficient animal production requires large-scale adoption of best practices



GHG (in MtCO<sub>2</sub>-eq)



N-inhibitors on pasture



Technologies that increase livestock production efficiencies



Feed-grain processing for improved digestibility



Anaerobic manure digestion



Animal feed additives



Animal feed mix optimization



Improved animal health monitoring and illness prevention



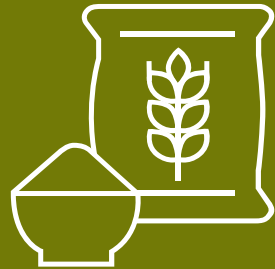
GHG-focused breeding and genetic selection

# But we don't improve (and can't communicate) what we don't measure

Understanding the footprint of animal protein is key to sustainable food systems



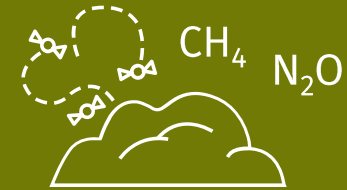
Raw material  
production



Feed  
production



Feed  
use



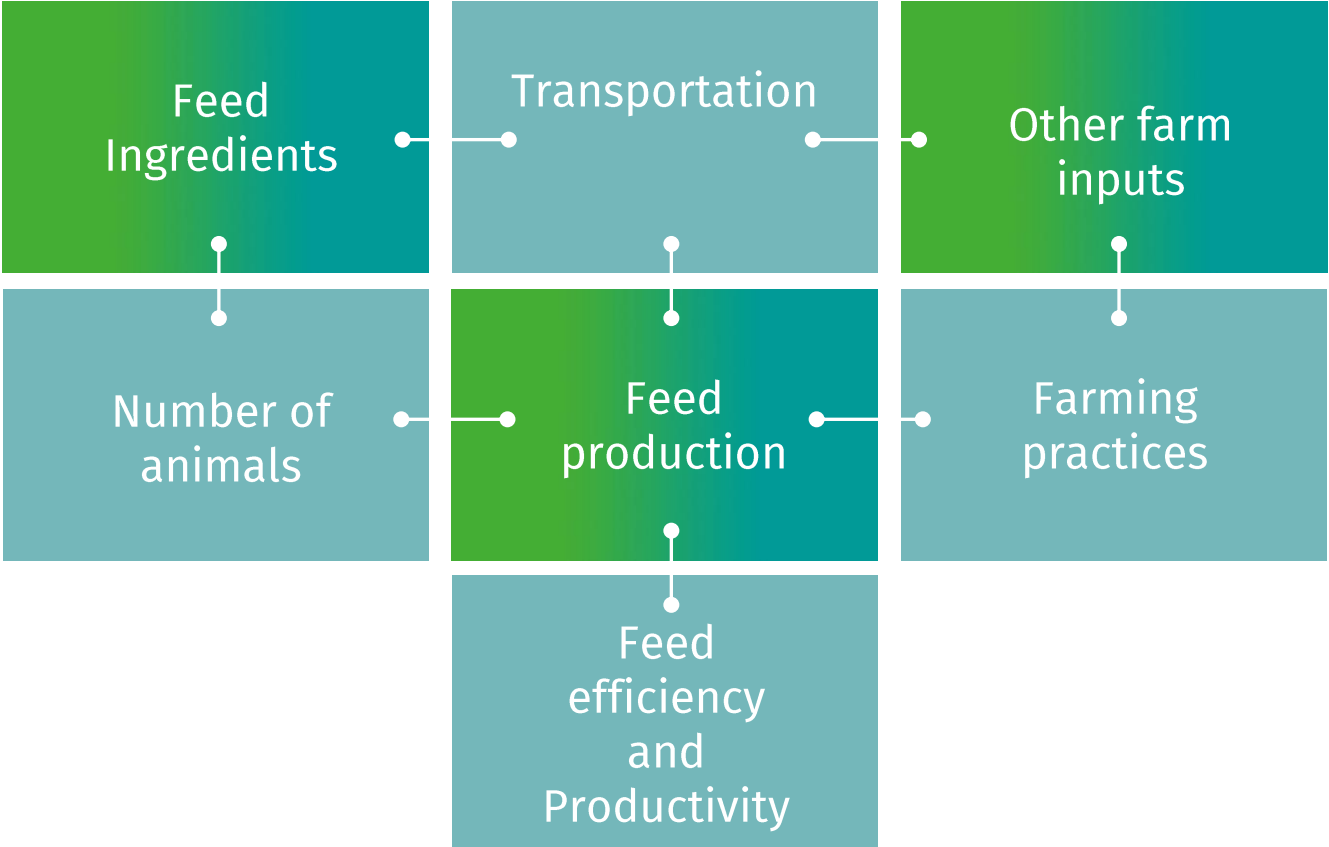
Manure  
disposal



# Good news: Life Cycle Analyses (LCAs)

LCAs allow us to measure and reduce footprints in animal production in a credible way

From feed and farm data....

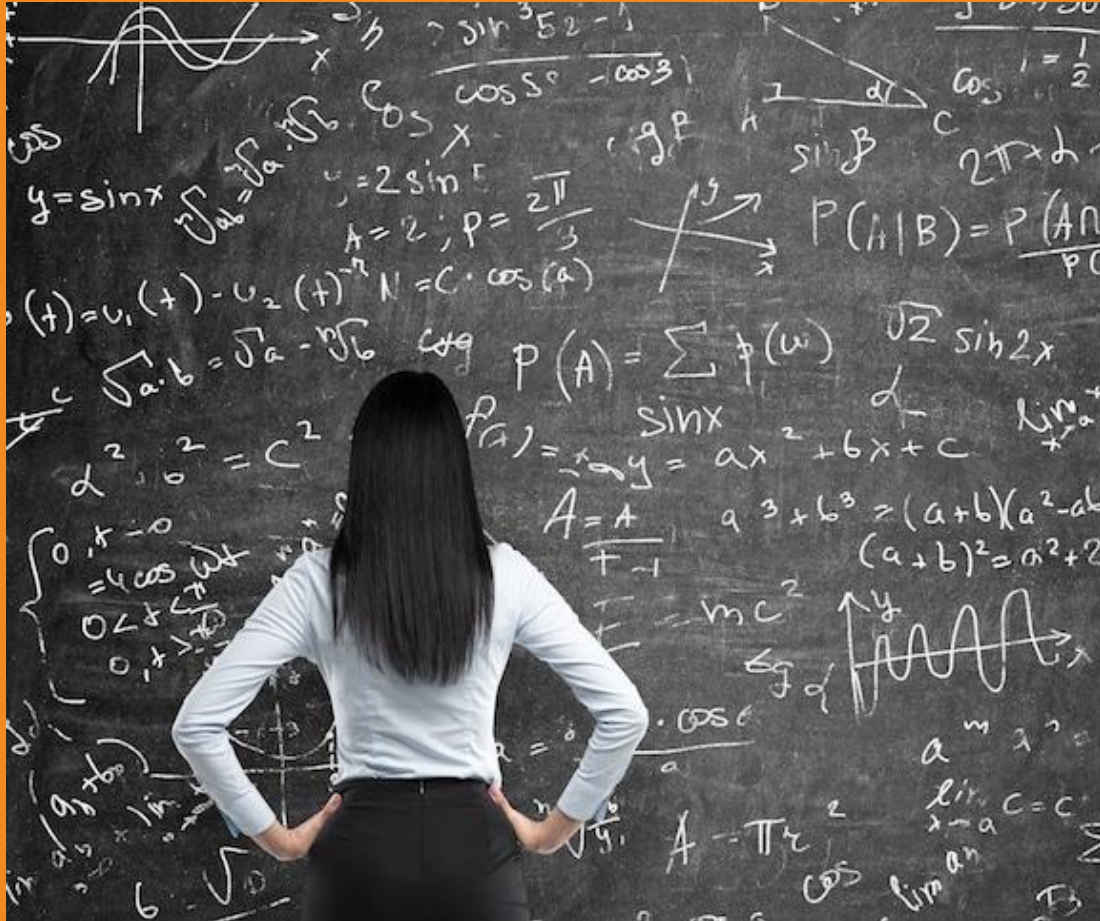


and the use of .....

methods, guidelines and databases



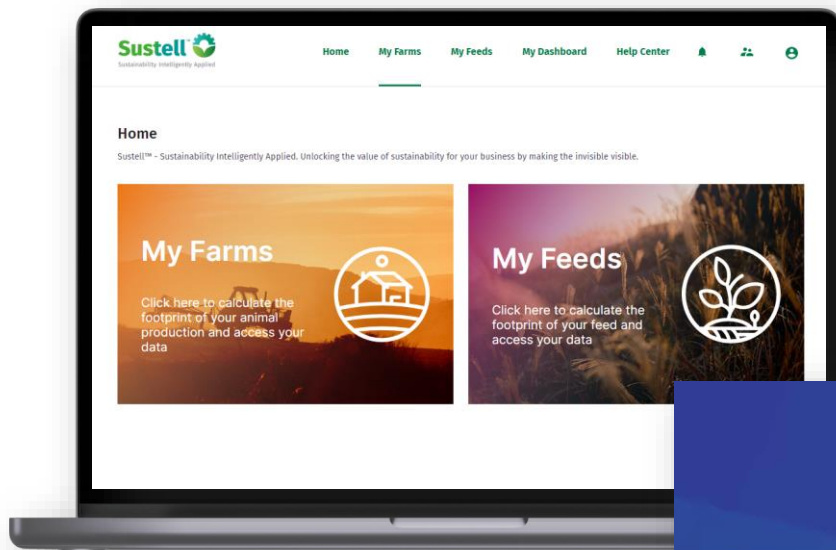
But are complex, take time and require expensive LCA consultants



until now...

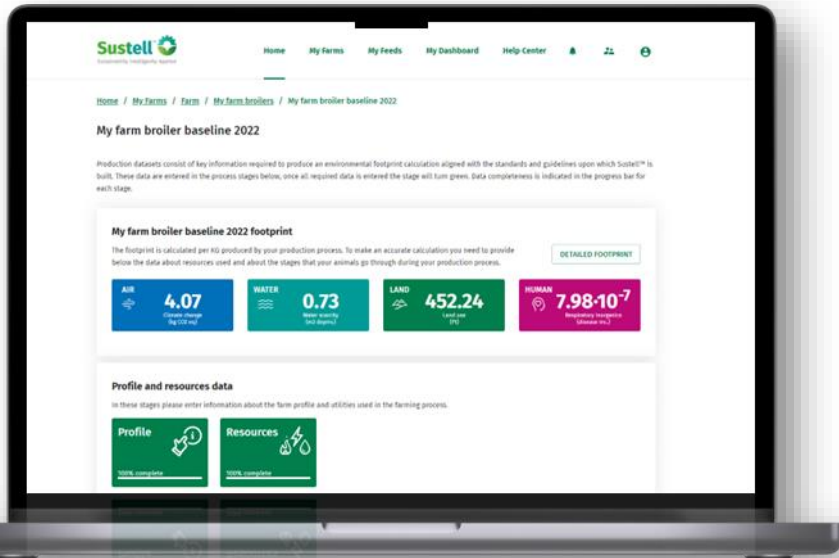
# Intelligent Sustainability SaaS Platforms

Self-service footprint measurements from primary feed and farm data using practical, science-based and proven sophisticated solution to unlock the value of sustainability across different feeds, species and farming systems globally



and to intuitively unlock the value of sustainability.

# They can intelligently unlock the value of sustainability



- **High precision:** use of primary farm & feed data (linked to credible LCA databases, Agri-Footprint and GFLI) & customer specific compliant LCI data
- **Credibility:** LCA process assured to ISO 14040/44, aligned with leading methodologies such as FAO LEAP, IDF, EU PEF, and IPCC guidelines.
- **Full environmental feed & farm footprint:** (aligned with impact assessment methodology EF 2.0) gives detailed insights & understanding of levers for improvement
- **Business insights dashboard:** allows multi-farm footprint analysis for business decisions via an intuitive user experience
- **Scalable:** fast, efficient multi-farm & feed analysis and multi-species 'what if scenarios', with the ability to link to data systems with API's
- **Meeting the needs:** of the value chain e.g., feed mills, integrators, farm advisors, farmers, finance, ESG, Scope 3, labelling, data privacy & ownership
- **Ease of use:** The intuitive multi-user-interface saves time and cost, requires little training and is easy to use

# Providing full environmental foot-printing

Covering 19 environmental variables

## CLIMATE CHANGE

FOSSIL



1

BIOGENIC



2

LAND USE &  
TRANSFORMATION



3

## RESOURCE USE

MINERALS AND METALS



4

ENERGY CARRIERS



5

WATER  
SCARCITY



6

AGRICULTURAL AND URBAN  
LAND OCCUPATION



7

ECOTOXICITY  
FRESHWATER



8

TERRESTRIAL, FRESHWATER & MARINE EUTROPHICATION

TERRESTRIAL



9

FRESHWATER



10

MARINE



11

ACIDIFICATION TERRESTRIAL & FRESHWATER

TERRESTRIAL



12

FRESHWATER



13

CANCER HUMAN  
HEALTH EFFECT



14

NON CANCER HUMAN  
HEALTH EFFECT



15

RESPIRATORY  
INORGANICS



16

PHOTOCHEMICAL OZONE  
FORMATION



17

IONISING  
RADIATION



18

OZONE  
DEPLETION



19

# Data and data interpretation is key for credibility & value creation in sustainable food systems



## **Assured data**

From feed ERP systems & Farm Management systems

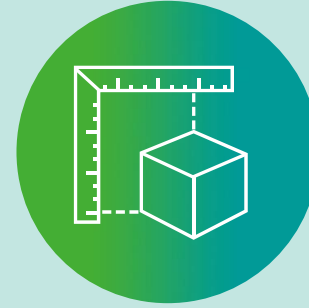
Credible databases such as Agri-Footprint & GFLI



## **LCA methods & ISO assurance**

Adherence to the latest, internationally recognized LCA guidelines & methods

ISO assured LCA footprinting platform



## **Data based interventions**

Based on proven evidence / science-based technologies



## **Data transparency**

Traceable, credible, assured data from the data eco-system to unlock the value



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[Optimeal](#) | [Agri-footprint](#) | [APS-footprint](#) | [LUC Impact](#) | [Tailored tools](#) | [More databases](#)

# Agri-footprint

The world's leading source of environmental footprint data for the agri-food sector

[AGRICULTURE](#) | [ANIMAL FEED](#) | [DATABASES](#) | [LIFE CYCLE ASSESSMENT](#)



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## Support global improvement of sustainable feed.

Develop a freely available Feed Life Cycle Analysis (LCA) database and tool



# As seen from a Sustainability Intelligent Platform: real case of milk production



Dairy (Dairy) ...

Current dataset created on 05/01/2023

**CLIMATE**



**1.30**  
kg CO2 eq

**WATER**



**1.63**  
m3 depriv.

**LAND**







**188.50**  
Pt

**HUMAN**




**1.75·10<sup>-7</sup>**  
disease inc.





GO TO PRODUCTION  
PROCESS DATASETS →

Category	Value
 <b>Climate change</b> Total of all climate change categories: biogenic, fossil, land use & transformation and peat oxidation.	<b>1.30</b> kg CO2 eq
 <b>Climate change - Biogenic</b> Impact due to emissions of biogenic derived molecules. Since CO2 has a 0-characterization factor, due to its short life cycle, this is mainly connected to CH4 emissions (methane).	<b>0.61</b> kg CO2 eq
 <b>Climate change - Fossil</b> Impact due to the emissions of fossil and peat derived molecules leading to higher concentrations of greenhouse gases (GHG's) in the atmosphere.	<b>0.58</b> kg CO2 eq
 <b>Climate change - Land use and LU change</b> Impact due to emissions connected to Land Use Change (LUC). This is due to depletion of carbon stock caused by for example deforestation.	<b>0.11</b> kg CO2 eq



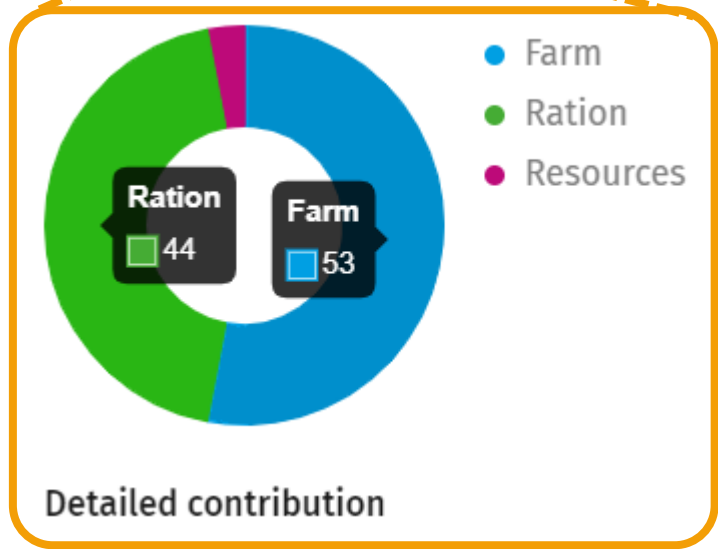
# Contributions to climate change

 Dairy (Dairy) ...

CLIMATE	WATER	LAND	HUMAN
			
1.30 kg CO2 eq	1.63 m3 depriv.	188.50 Pt	1.75·10 <sup>-7</sup> disease inc.

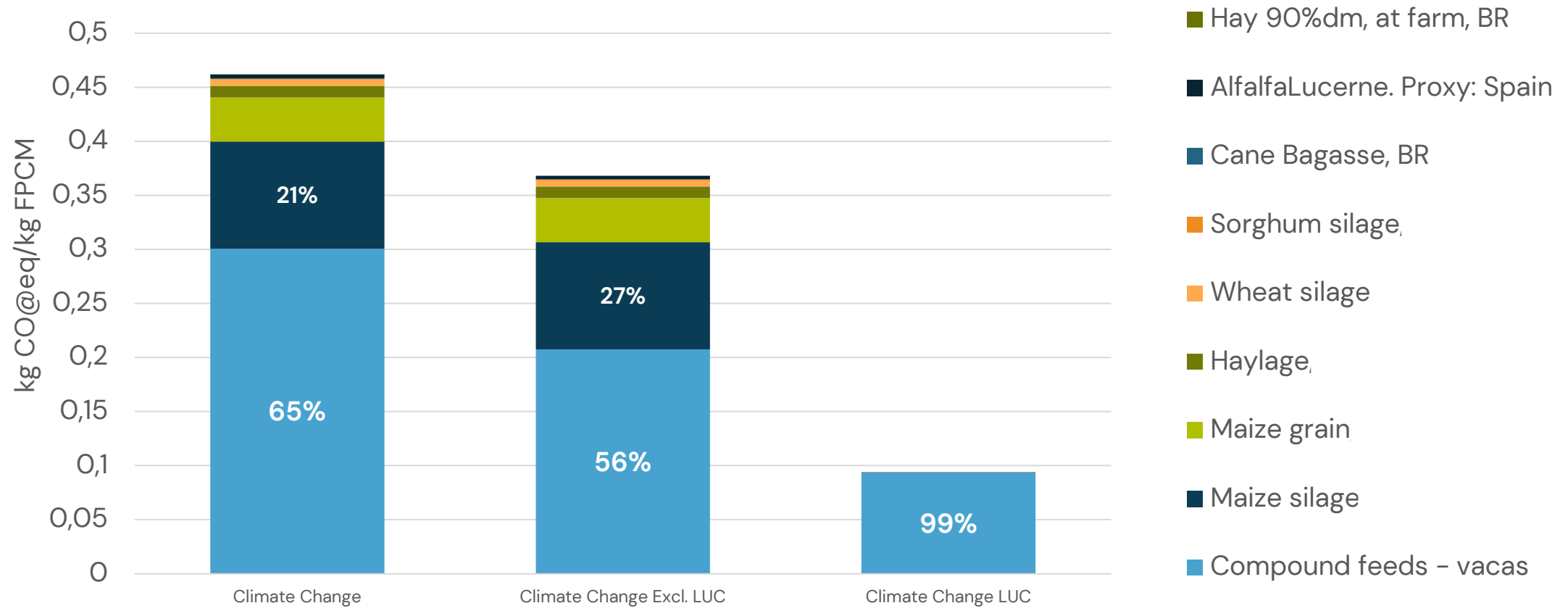
GO TO PRODUCTION PROCESS DATASETS →

Current dataset created on 05/01/2023



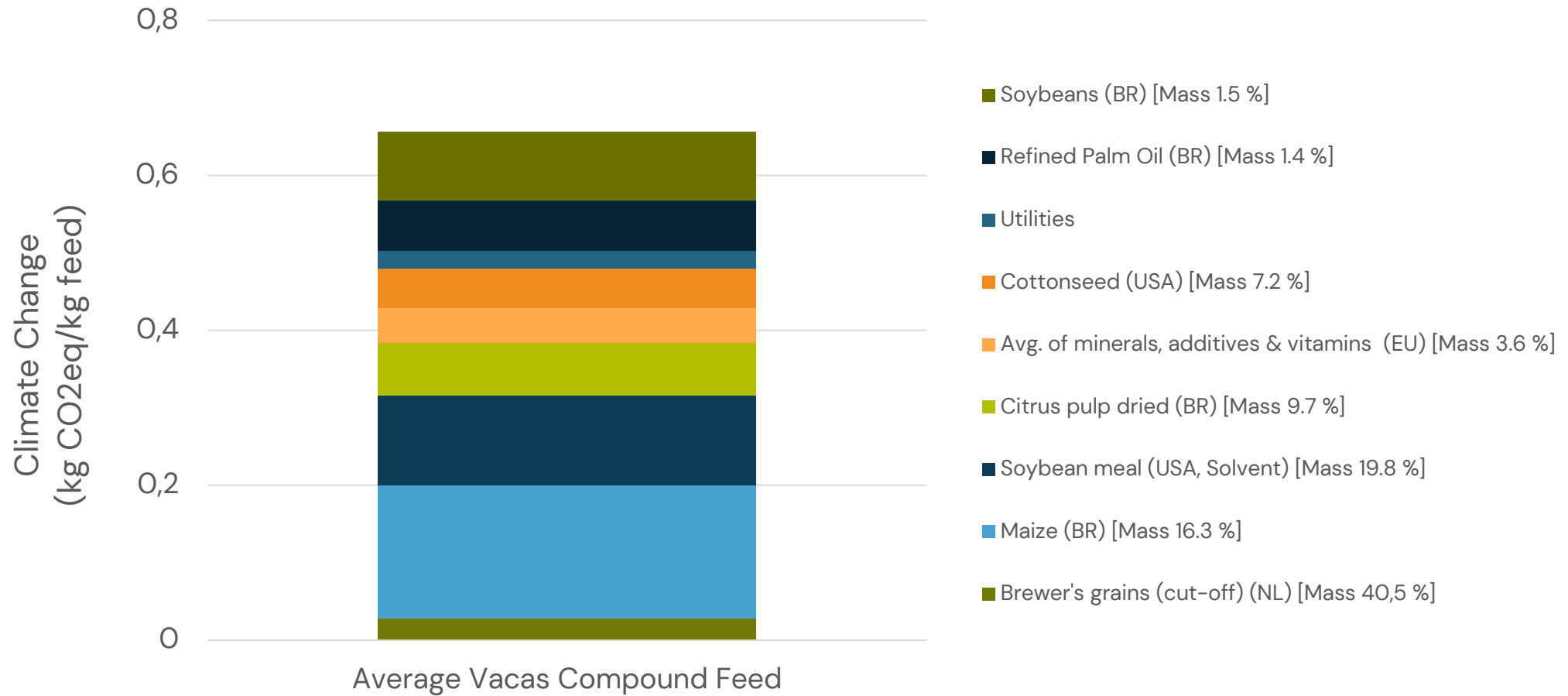
**Hotspot analysis:** what could be done better? Emissions, Feed, reproduction, Ingredient sourcing?

# Cows Ration breakdown

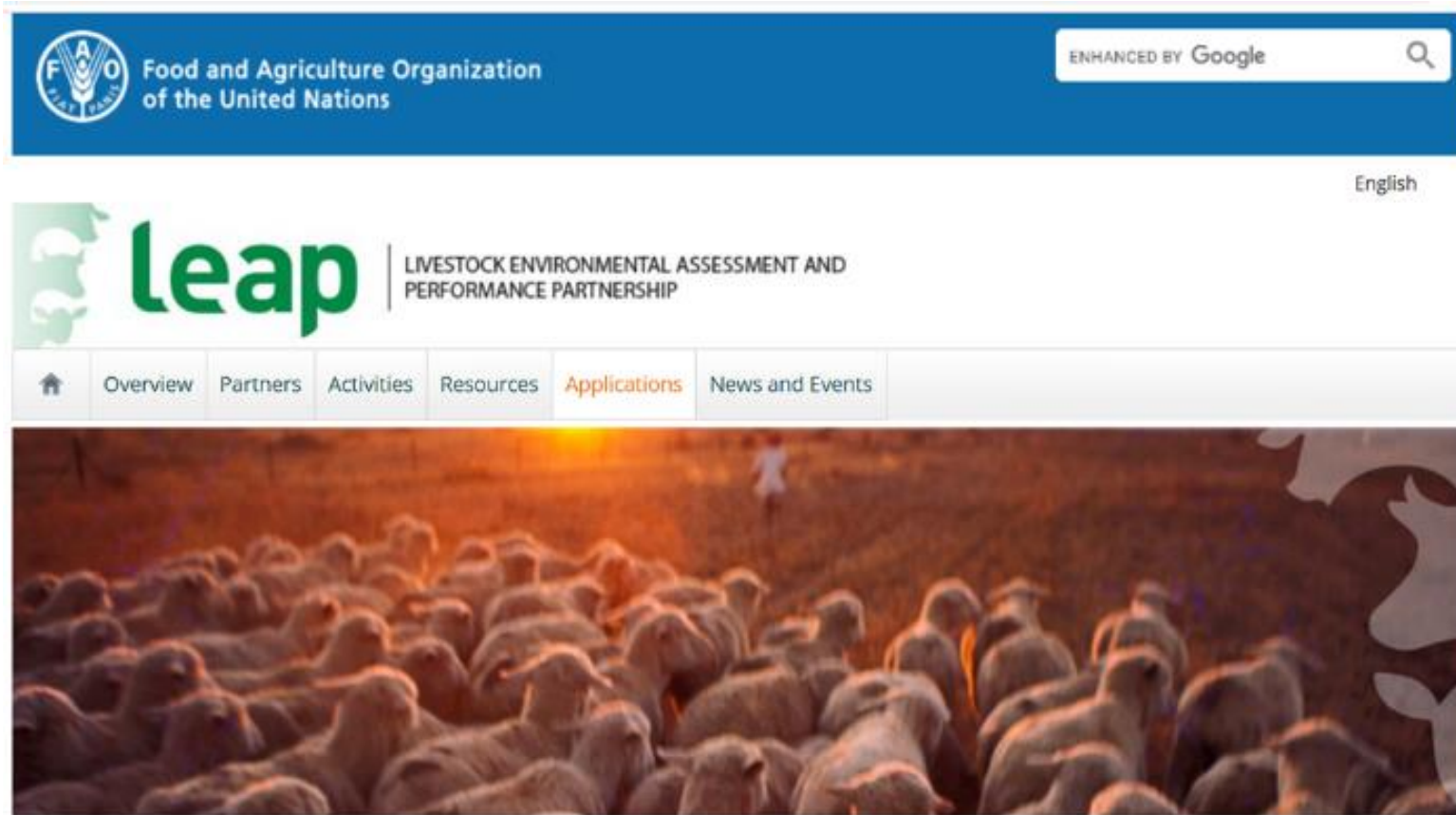


In mass as is, compound feed represents 38% and maize silage 44%.

# Climate Change Contributors of Milking Cows Compound Feed



# Case study validating the FAO LEAP guidelines for calculating and demonstrating reductions of footprints in animal proteins.

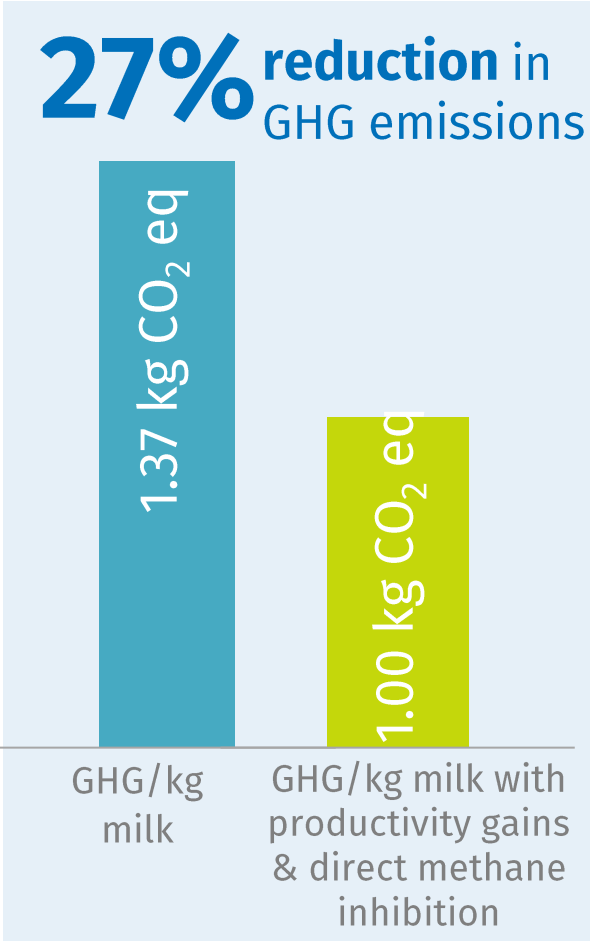




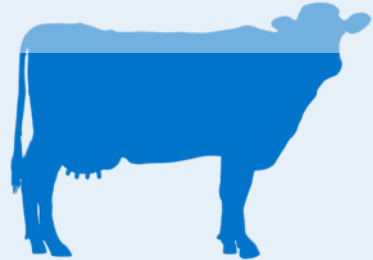
Catalogue of Applications



# Precise footprint measurements plus targeted nutritional interventions offer significant potential to reduce GHG emissions

Example: 200 head dairy farm



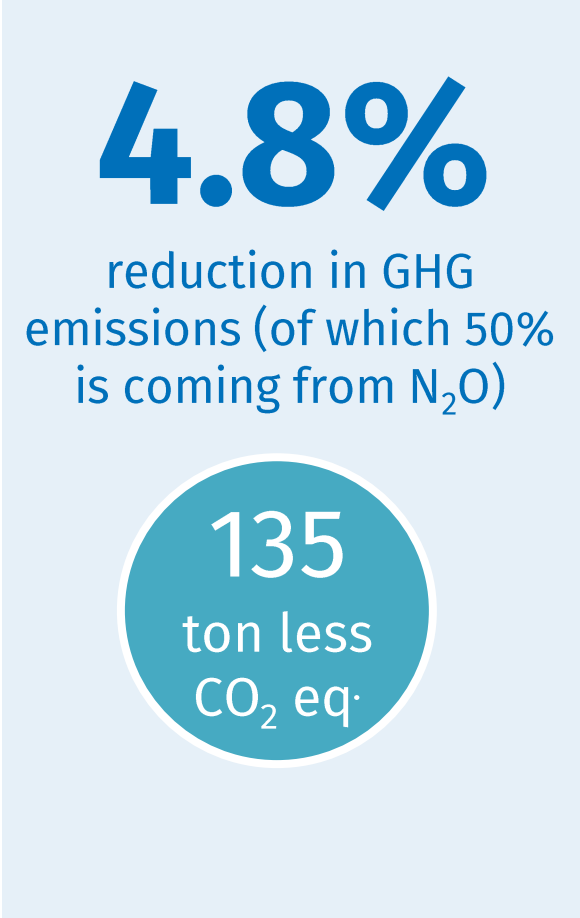
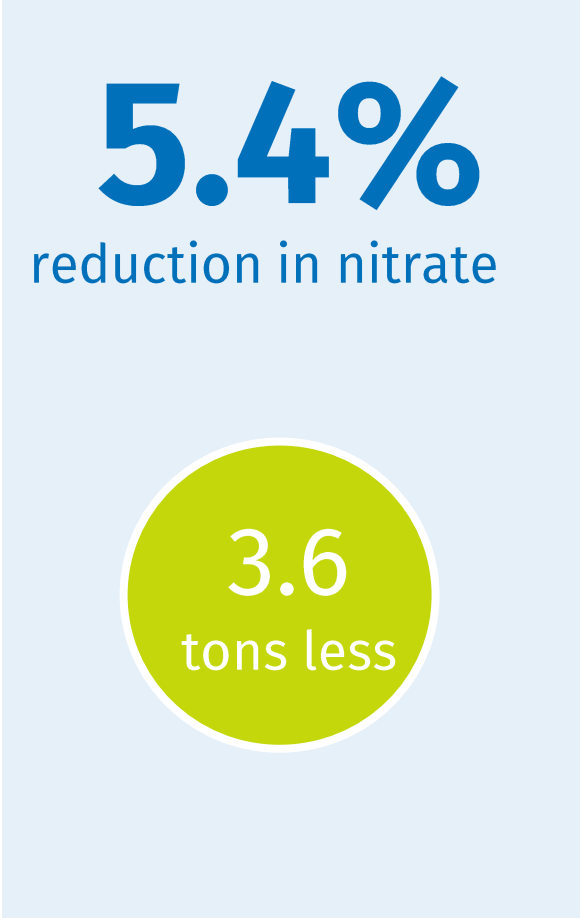
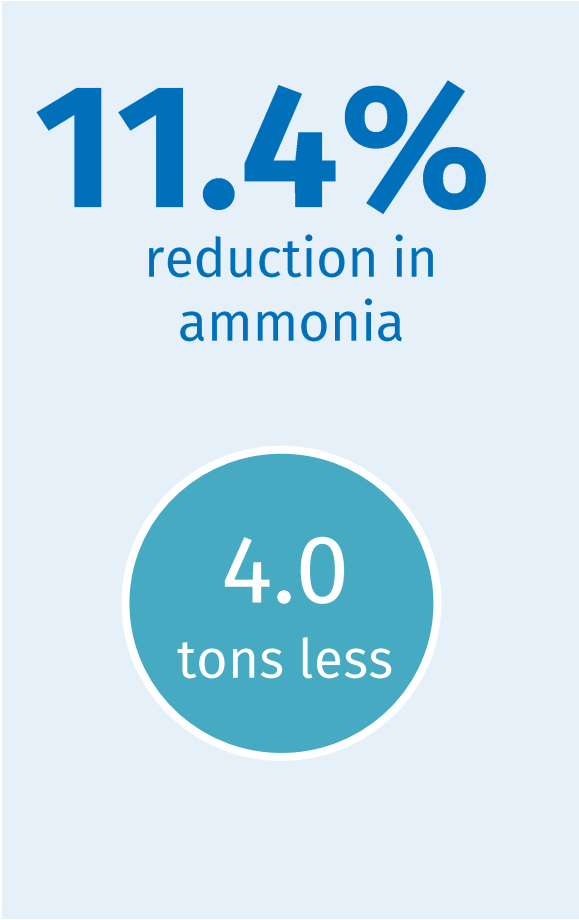
- 5% reduction** by reducing replacement rate and increasing longevity. Matching vitamin nutrition to cows requirements 
- 7% reduction** by improving corn nutrient utilization with feed enzymes 
- 15% reduction** by use of direct rumen methane inhibition additive 

Source: GDP FAO 2019; DSM LCA data 2019



# Productivity improvements significantly reduce the GHG and nitrogen footprint in a 200 dairy cow heard

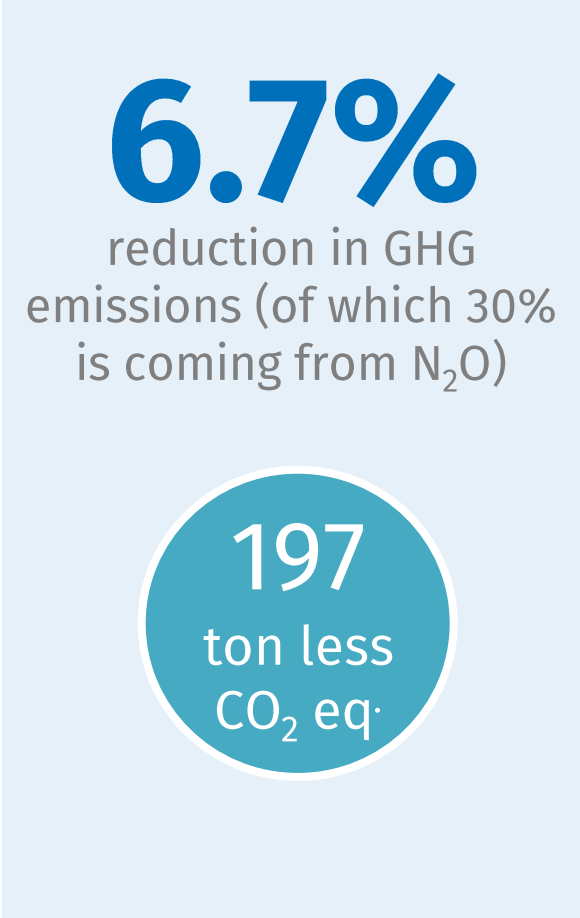
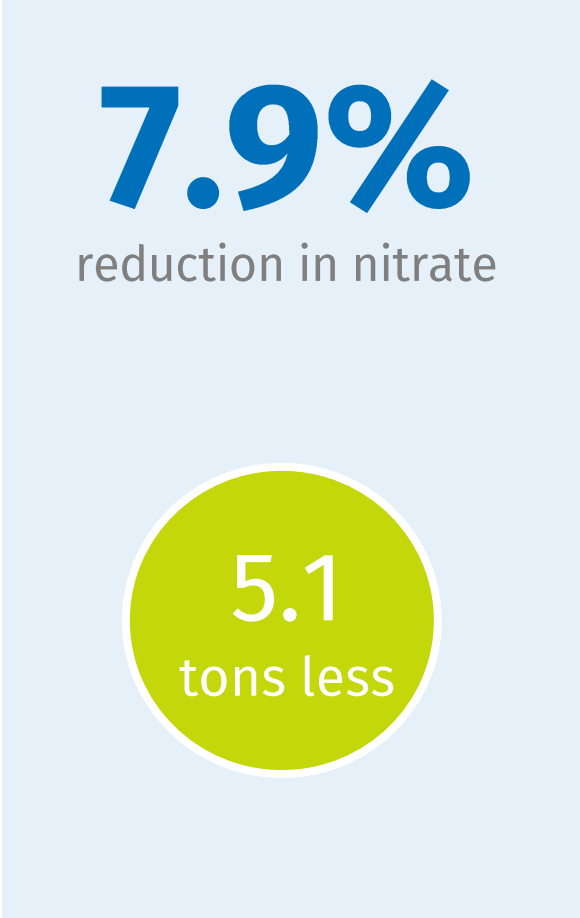
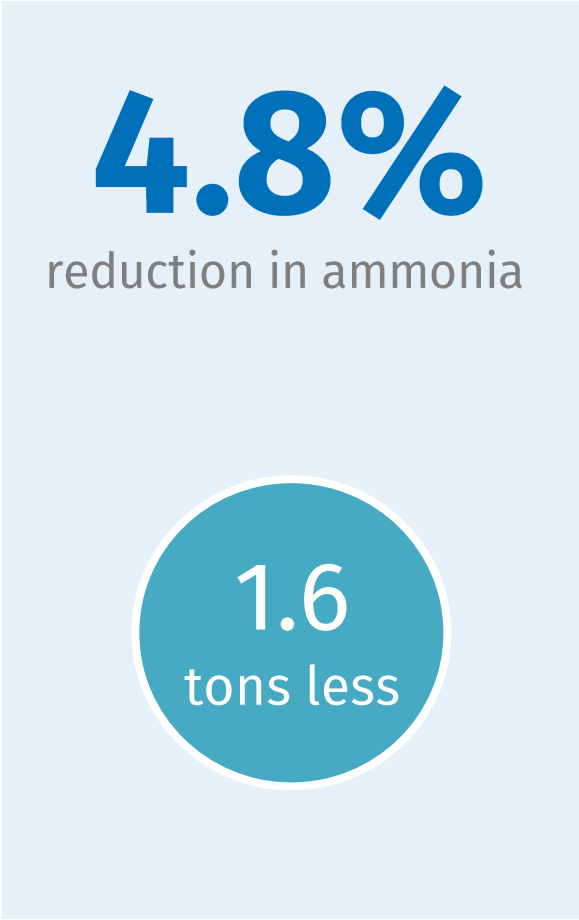
Reducing replacement rate from 40% to 25% and increasing longevity from 2 to 4 lactations has a significant impact on the farm footprint



Source: DSM data; Annual reductions

# And improving nutrient utilization further reduces the GHG and nitrogen footprint of a 200 dairy cow heard...

Improving starch digestibility resulting in improved crude protein digestibility has a significant impact on the farm footprint



Source: DSM data; DM – Blonk APS 2019. Annual reductions, based on +3.8% crude protein digestibility

...by improving milk yield and reducing liquid manure

Example: 200 head dairy herd and 305 days in milk fed with amylase enzyme

**25%**  
**lower**

liquid manure  
excretion  
(cow/year)



**2078 tons less**  
liquid manure

**€8312**

Savings per  
year



**139**  
times

**lower** loading  
of a manure  
spreader



**21**  
hectares

**less** land  
needed for  
manure  
spreading  
based on  
reduced  
manure  
nitrogen  
content

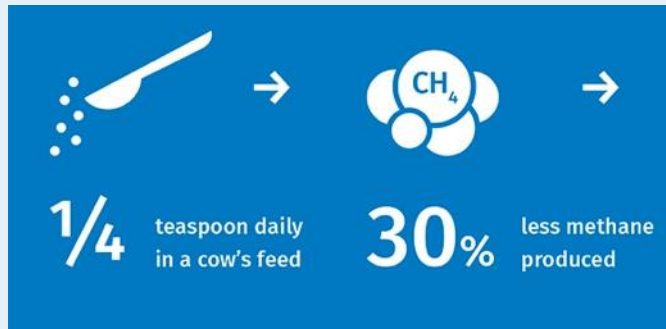
Source: Klingermann et al., 2009 Journal of Dairy Science. Based on 22.4t less crude protein (3.4t less nitrogen) in the manure & EU Nitrogen Vulnerable Zone (NVZ) 170kg N/ha/year. RumiStar made digestibility improvements in DM +5.6%, CP +3.8%, NDF +10.8%, Starch +1.8%.



# Reducing methane emissions directly in the rumen with 3NOP molecule

Reduces methane emissions from ruminants by

**30%**  
or more



In a cow's rumen, microbes release hydrogen and carbon dioxide. An enzyme combines these gases to form methane. 3NOP suppresses that enzyme, so less methane gets generated



No lasting effects on the animal and safe for humans



3NOP saves 1 tonne of CO<sub>2</sub> cow/year

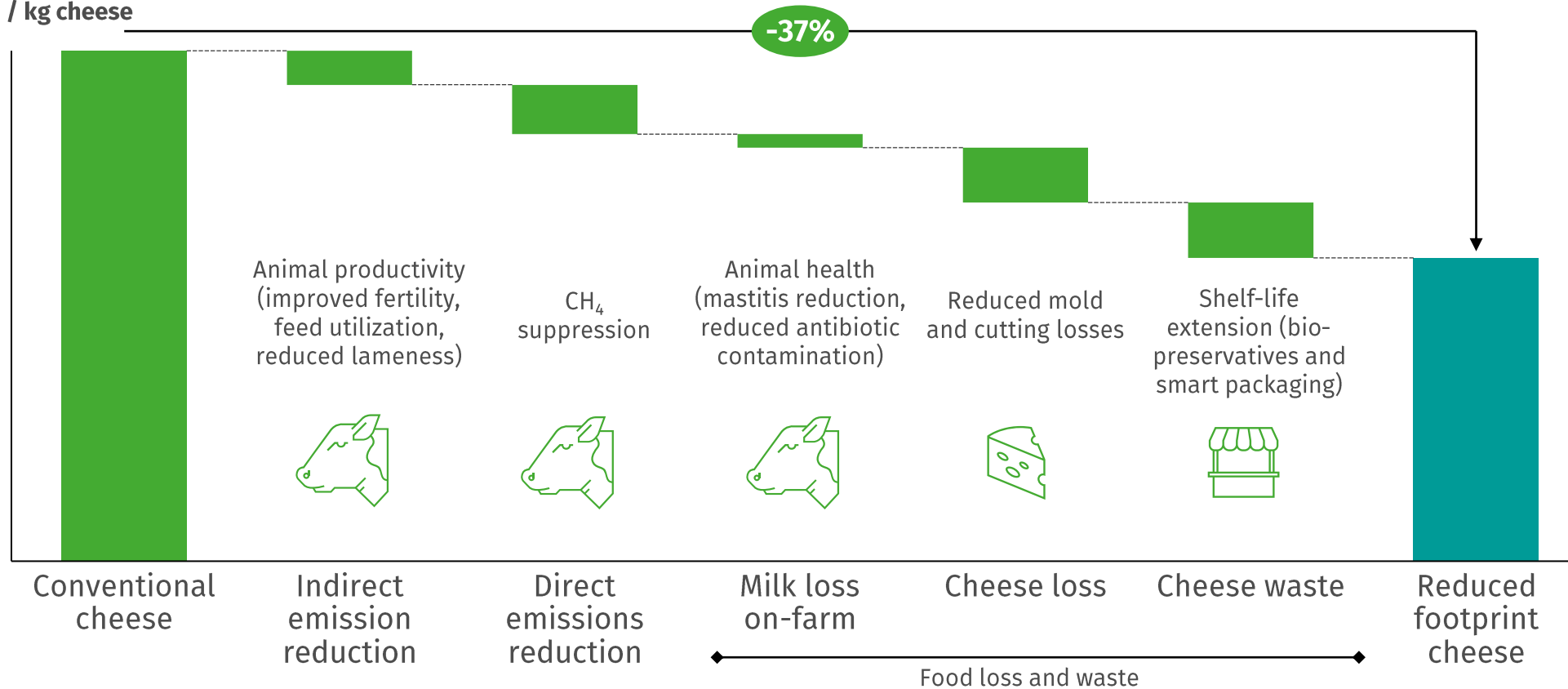
# Measurement combined with practical, science-based, proven solutions unlocks the value of sustainability in the whole value chain

Actual example of decarbonization in the dairy value chain



The dairy value chain is committing to decarbonizing their value chain & setting ambitious Net Zero targets (IDF, GDP)

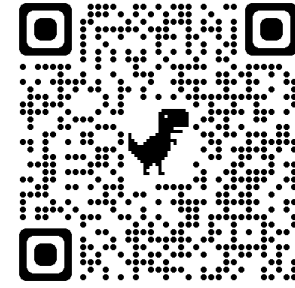
Kg CO2 eq / kg cheese




Based on DSM data and 3<sup>rd</sup> party LCA commissioned by DSM in 2021 for selected solutions, according to FAO LEAP Guidelines and ISO standards  
Base case uses a current Dutch dairy system and Gouda cheese production

**Let's look at a few real  
cases from beef and  
dairy**





 [globaldairyplatform.com/pathwaystodairyzero/](https://globaldairyplatform.com/pathwaystodairyzero/)



22<sup>nd</sup> IFCN Dairy Conference 2021  
**Carbon neutral dairy farming in 2050 – will this be possible?**  
Time: 9<sup>th</sup> of June 2021  
14.00 – 17.00 CET - online

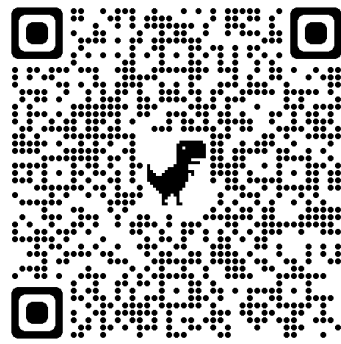
**SAVE THE DATE**

IFCN

Hosting sponsors:  
**Altech**  
DSM  
Gold sponsor:  
DeLaval

Silver Sponsorship opportunities available

**More than 180 organizations, representing 40% of global milk production, have officially support the “Dairy net zero” goal**



## US Whole Dairy Industry Goals



Become carbon neutral



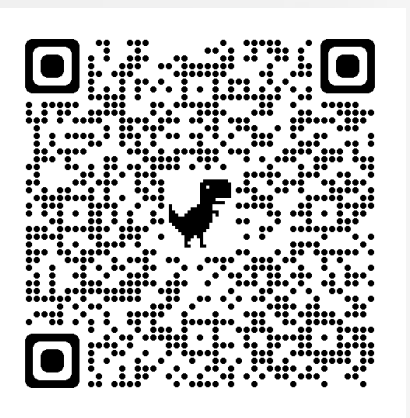
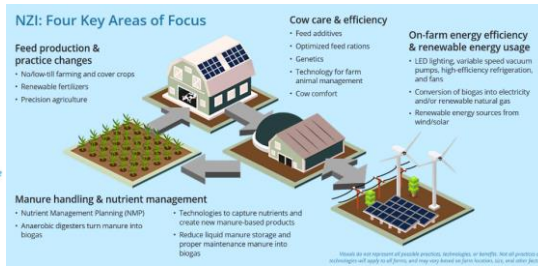
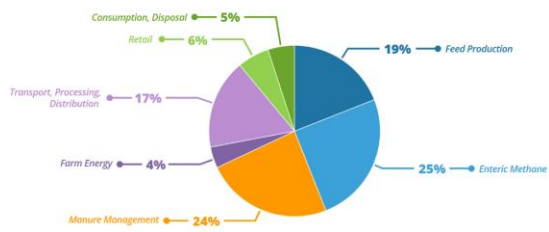
100% of water recycling



100% Nutrient upcycling



## An Environmental and Economic Path Toward Net Zero Dairy Farm Emissions





## GRSB commits to reduce net global warming impact of beef by 2030

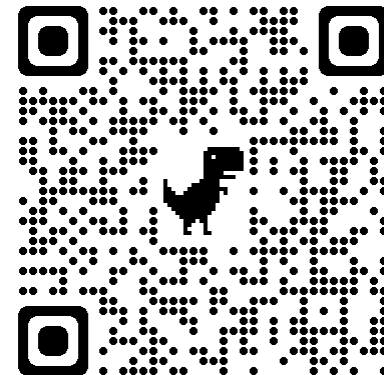
01 July 2021

**The Global Roundtable for Sustainable Beef (GRSB) has committed to reduce the net global warming impact of beef by 30% by 2030 with new global sustainability goals.**

The Global Roundtable for Sustainable Beef (GRSB), has unveiled its global sustainability goals – commitments to advance and improve the sustainability of the global beef value chain. Established by GRSB, the goals will be led and implemented by members of the Roundtable.



**GLOBAL ROUNDTABLE FOR  
SUSTAINABLE BEEF®**





**((NET ZERO))**

**2040**

A COMMITMENT TO FEED THE CHANGE.





# NET ZERO

by

# 2050





**WORLD'S FIRST**  
**MAJOR CARBON**  
**NEUTRAL**  
**FOOD COMPANY**

## MARKETING

# McDonald's promises net zero emissions by 2050

The burger giant said it would work with its operators, suppliers and other partners to cut back on greenhouse gas emissions in a bid to fight climate change.

By *Jonathan Maze* on Oct. 04, 2021



**McDonald's has entered the race to net zero.**



**THE QUARTER POUNDER.  
CANADIAN BEEF.  
NOW SUSTAINABLY  
SOURCED.\***



\*At least 30% of our Quarter Pounder® beef is from certified sustainable sources that meet CSA standards. csa.ca

# Carbon Labels Could Soon Be On All 75,000 Unilever Products



By Sally Ho — Published on Jul 26, 2021 — Last updated Jul 26, 2021

GREEN BUSINESS

CLIMATE CHANGE

FOOD & NUTRITION

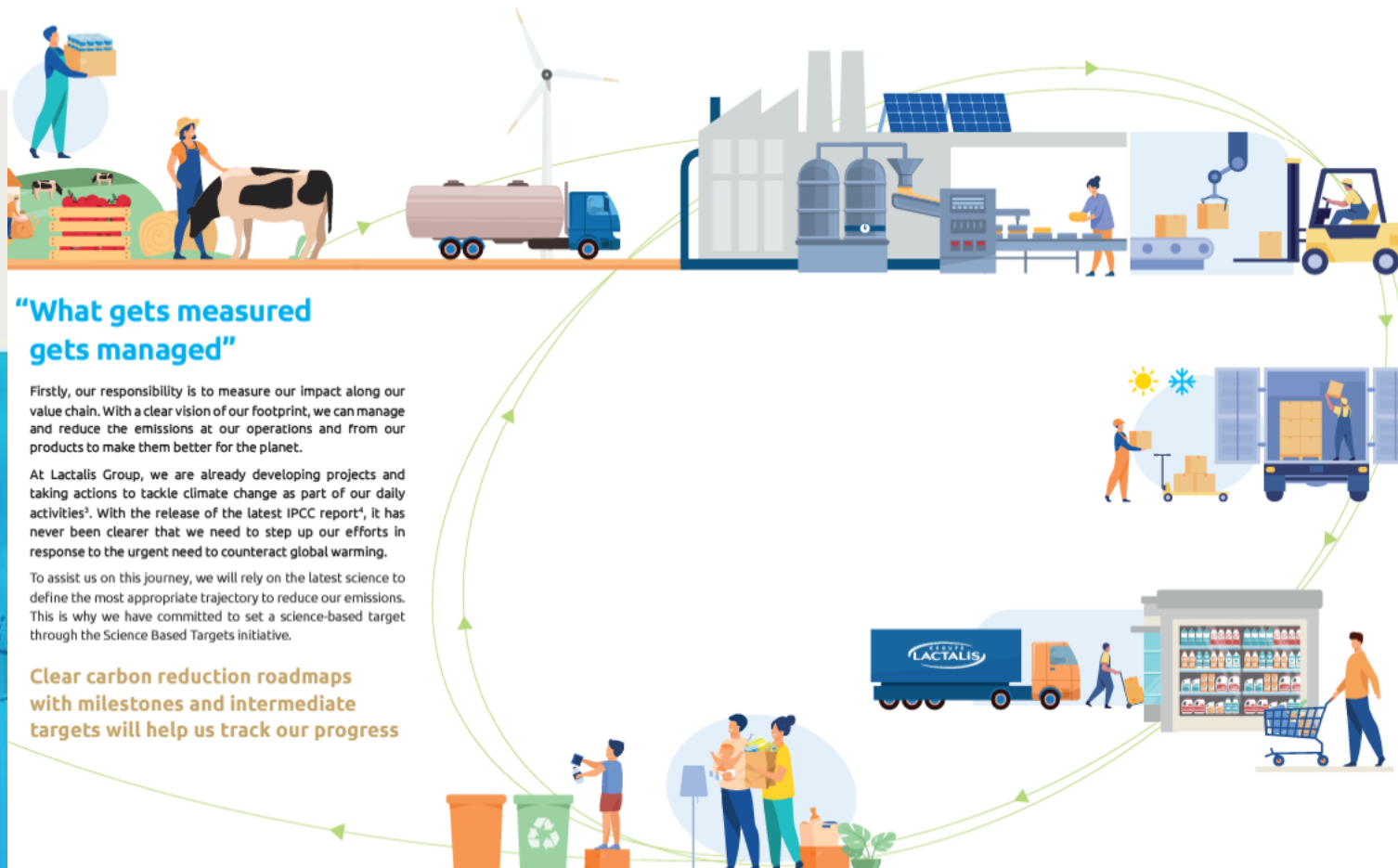


Ben & Jerry's, a Unilever brand

## OUR JOURNEY TOWARDS CARBON NET ZERO BY 2050

Lactalis Group Climate Policy

### 03. OUR APPROACH & AMBITIONS

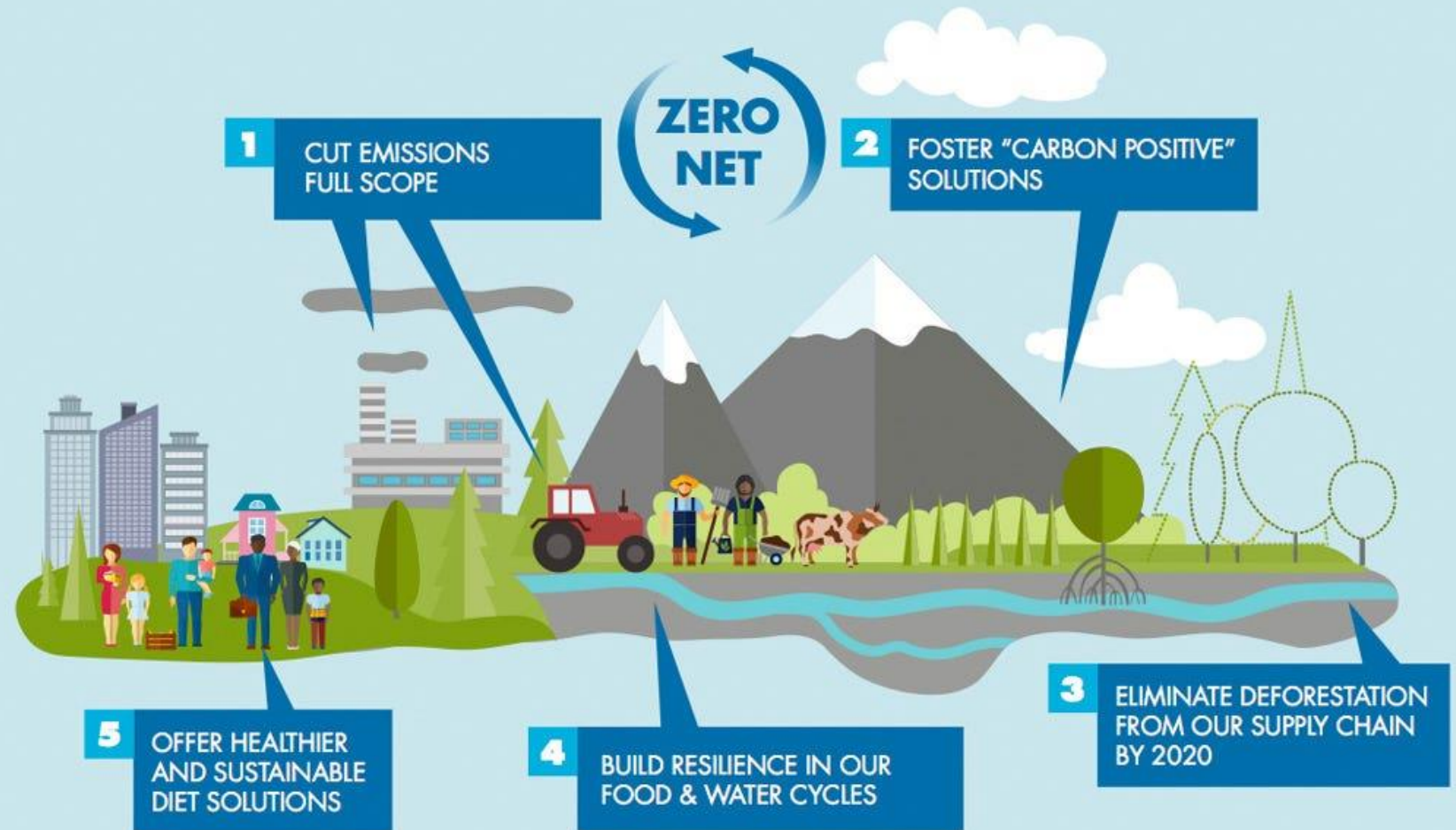




# OUR GOALS & COMMITMENTS

## TARGET ZERO NET EMISSIONS

Danone will set a trajectory to reduce GHG emissions consistent with the 2°C scenario and contribute to establish a decarbonized economy. We want to target zero net emissions in Danone's related full scope of carbon emissions in the long term. Our strategy is structured around five main goals:



**1** CUT EMISSIONS FULL SCOPE

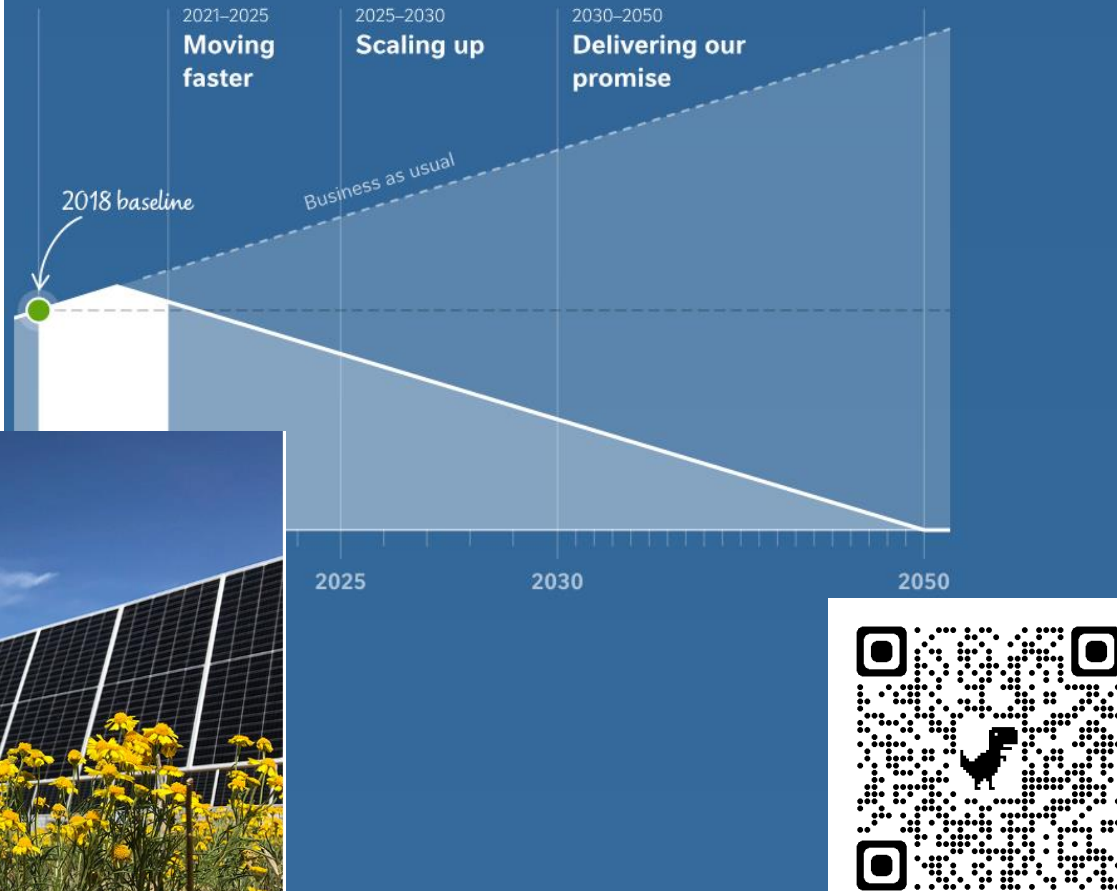


**2** FOSTER "CARBON POSITIVE" SOLUTIONS

**5** OFFER HEALTHIER AND SUSTAINABLE DIET SOLUTIONS

**4** BUILD RESILIENCE IN OUR FOOD & WATER CYCLES

**3** ELIMINATE DEFORESTATION FROM OUR SUPPLY CHAIN BY 2020



## Nestlé to invest \$3.58bn to achieve net zero target

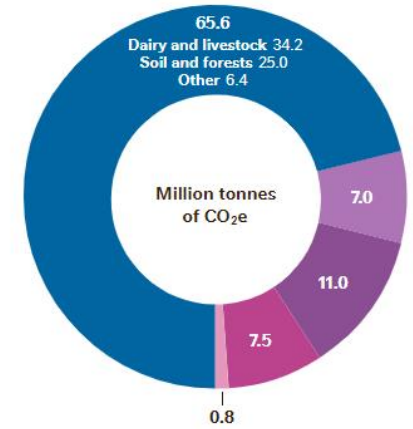
By Emma Upshall  
03 December 2020

Categories: [Agriculture](#) [Beverage](#) [Business](#) [Food](#) [Industries](#) [Plant-based](#) [Social responsibility](#) [Sustainability](#) [Top story](#)

Nestlé has announced that it plans to invest CHF 3.2 billion (\$3.58 billion) over the next five years, in order to halve its carbon emissions by 2030 and achieve net zero by 2050.

As a signatory of the [UN 'Business Ambition for 1.5°C' pledge](#), Nestlé says it is one of the first companies to share its net zero roadmap.

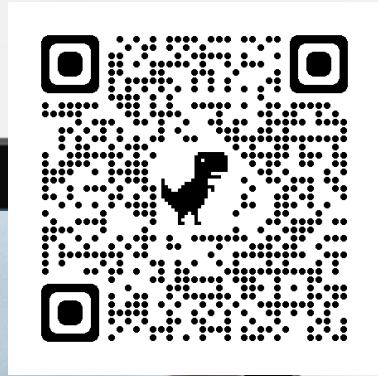
Nestlé's in-scope GHG emissions by operation  
million tonnes of CO<sub>2</sub>e, in 2018



Scope 3		
Sourcing our ingredients	65.6	71.4%
Scope 1, 2 & 3		
Manufacturing our products	7.0	7.7%
Scope 3		
Packaging our products	11.0	11.9%
Scope 3		
Managing logistics	7.5	8.2%
Scope 3		
Travel and employee commuting	0.8	0.8%

Figures have been rounded.



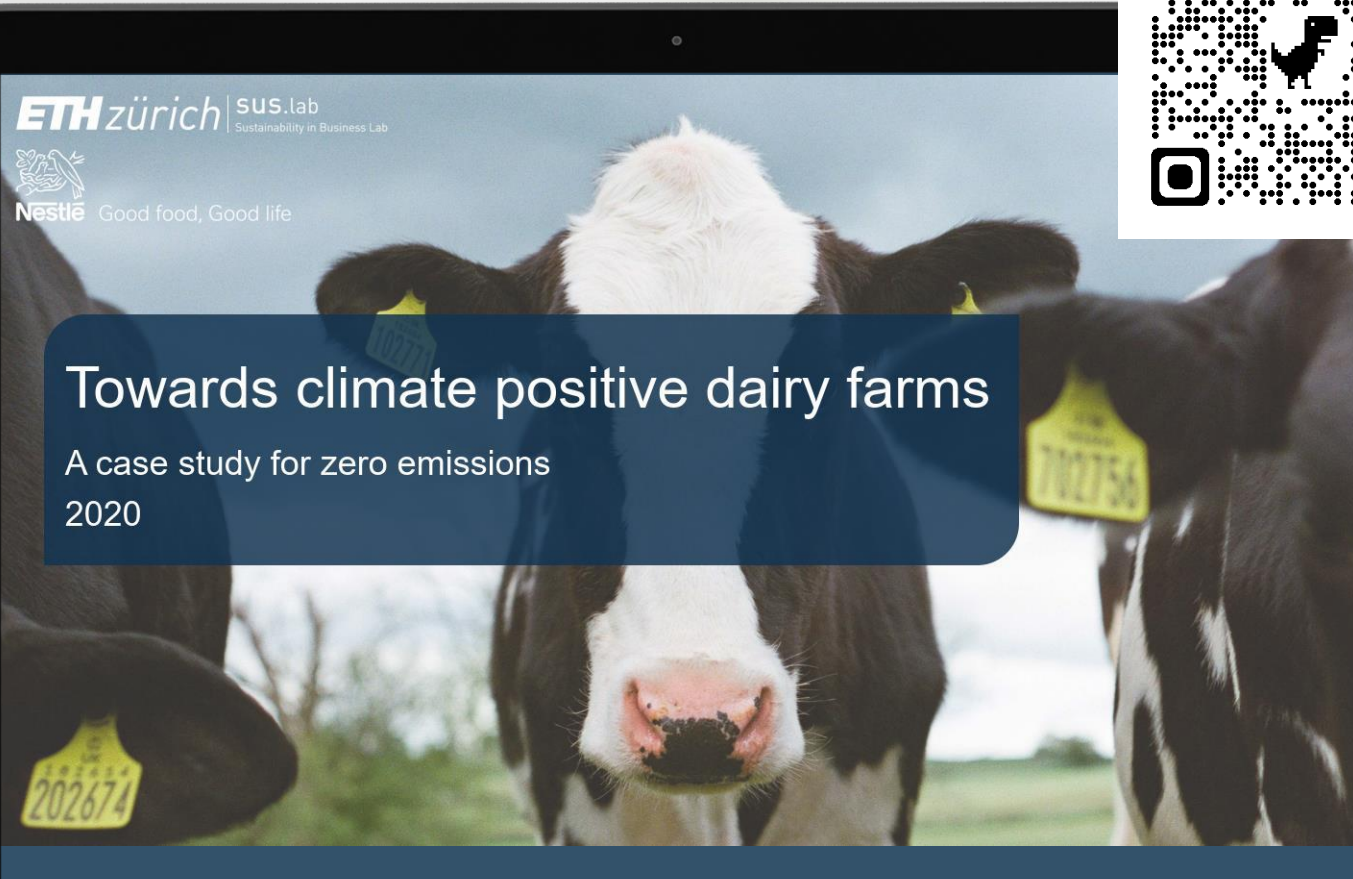


ETH zürich | SUS.lab  
Sustainability in Business Lab

Nestlé Good food, Good life

# Towards climate positive dairy farms

A case study for zero emissions  
2020





# How farmers are incentivized: Arla dairy example



## Farmers

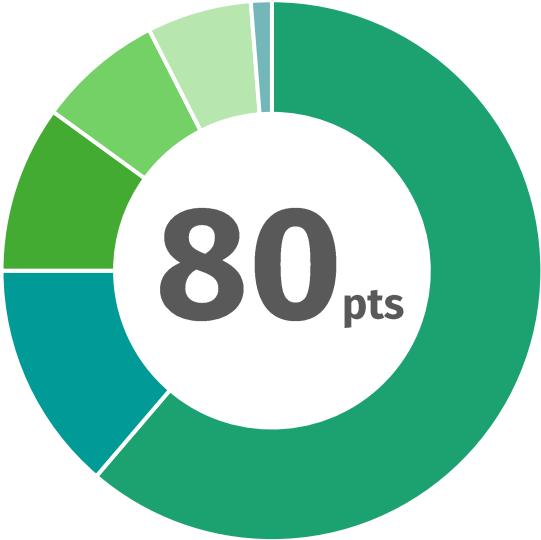
Incentivized to enable Arla to reach their climate goals (30% reduction by 2030)



## Value

80 points available for a value of 2.40 EUR cents per kg milk rising to 3.00 cents in the future (based on 100 points)

Additional income of EUR 26,000 for an average farm producing 1.2m kg milk annually





- Big 5\*
- Sustainable feed
- Biodiveristy & carbon farming
- Manure handling
- Renewable electric
- Knowledge building

Arla Sustainability Incentive. \*Big 5: feed efficiency, fertilizer use, land use, protein efficiency, animal robustness




## ACTIONS NEEDED TO GET POINTS (1/5)



CATEGORY	LEVER	POINTS AND THRESHOLDS												DATA SUBMISSION	POINTS UPDATE FREQUENCY		
		0	1	2	3	4	5	6	7	8	9	10	11			12	13
<b>BIG 5</b> 	<b>FEED EFFICIENCY, kg dm/kg fpcm*</b> ●●●●●●●●●●	>1.21	>1.15 ≤1.21	>1.10 ≤1.15	>1.07 ≤1.10	>1.04 ≤1.07	>1.00 ≤1.04	>0.96 ≤1.00	>0.93 ≤0.96	>0.90 ≤0.93	>0.88 ≤0.90	>0.86 ≤0.88	>0.84 ≤0.86	>0.82 ≤0.84	≤0.82	Pre-filled in Climate Check	Annually
	<b>FERTILISER USE, kg gross N/ha**</b> ●●●●●●●●●●	>359	>326 ≤359	>303 ≤326	>271 ≤303	>247 ≤271	>224 ≤247	>200 ≤224	>174 ≤200	>142 ≤174	>125 ≤142	>104 ≤125	≤104			Pre-filled in Climate Check	Annually
	<b>LAND USE, m<sup>2</sup>/kg fpcm*</b> ●●●●●●●●●●	>2.11	>1.73 ≤2.11	>1.45 ≤1.73	>1.27 ≤1.45	>1.15 ≤1.27	>1.07 ≤1.15	>1.00 ≤1.07	>0.92 ≤1.00	>0.83 ≤0.92	≤0.83					Pre-filled in Climate Check	Annually
	<b>PROTEIN EFFICIENCY, %</b> ●●●●●●●●●●	≤23	>23 ≤26	>26 ≤27	>27 ≤29	>29 ≤30	>30 ≤32	>32 ≤33	>33 ≤34	>34						Pre-filled in Climate Check	Annually
	<b>ANIMAL ROBUSTNESS, %</b> ●●●●●●●●●●	>8.9	>6.0 ≤8.9	>4.3 ≤6.0	>2.9 ≤4.3	>1.3 ≤2.9	≤1.3									Pre-filled in Climate Check	Annually
	<b>FEED MONITORING</b> ●●	<b>2 points:</b> Feed management system in place and/or minimum one advisor-led feed control performed per quarter												Submit information: Confirm the activity and upload documentation	Quarterly, if status has changed		
<b>BIG 5 ASPIRATION PLAN</b> ●	<b>1 point:</b> Big 5 aspiration plan is submitted												Pre-filled in Climate Check	Annually			

\* fpcm = fat and protein corrected milk  
 \*\* gross N/ha = gross Nitrogen from manure and fertiliser applied per hectare land



- Arla Climate Checker with multiple outcomes/points
- Farmers tend to focus at areas with most opportunity benefits (extra points = extra money).
- There is a risk that farmers focus on low-hanging fruits only.
- Further reductions in CO2 are not proportionally linked to the point.
- Within the 18 points of the Climate Check model max reduction of CO2 = 10%

n<sub>o</sub>carb<sup>o</sup>n  
O melhor para Você  
e para o Planeta



[go-planet.org](http://go-planet.org)



**R\$12,40**

Leite Pasteurizado  
Nocarbon Integral  
Orgânico 1L



**R\$11,90**

Leite Pasteurizado  
Homogeneizado Tipo A  
Integral Letti a² Garrafa

**Extra margin per Kg: R\$0.50 or +4.2%**

CLIMATE  
ACTIVE  
CARBON  
NEUTRAL



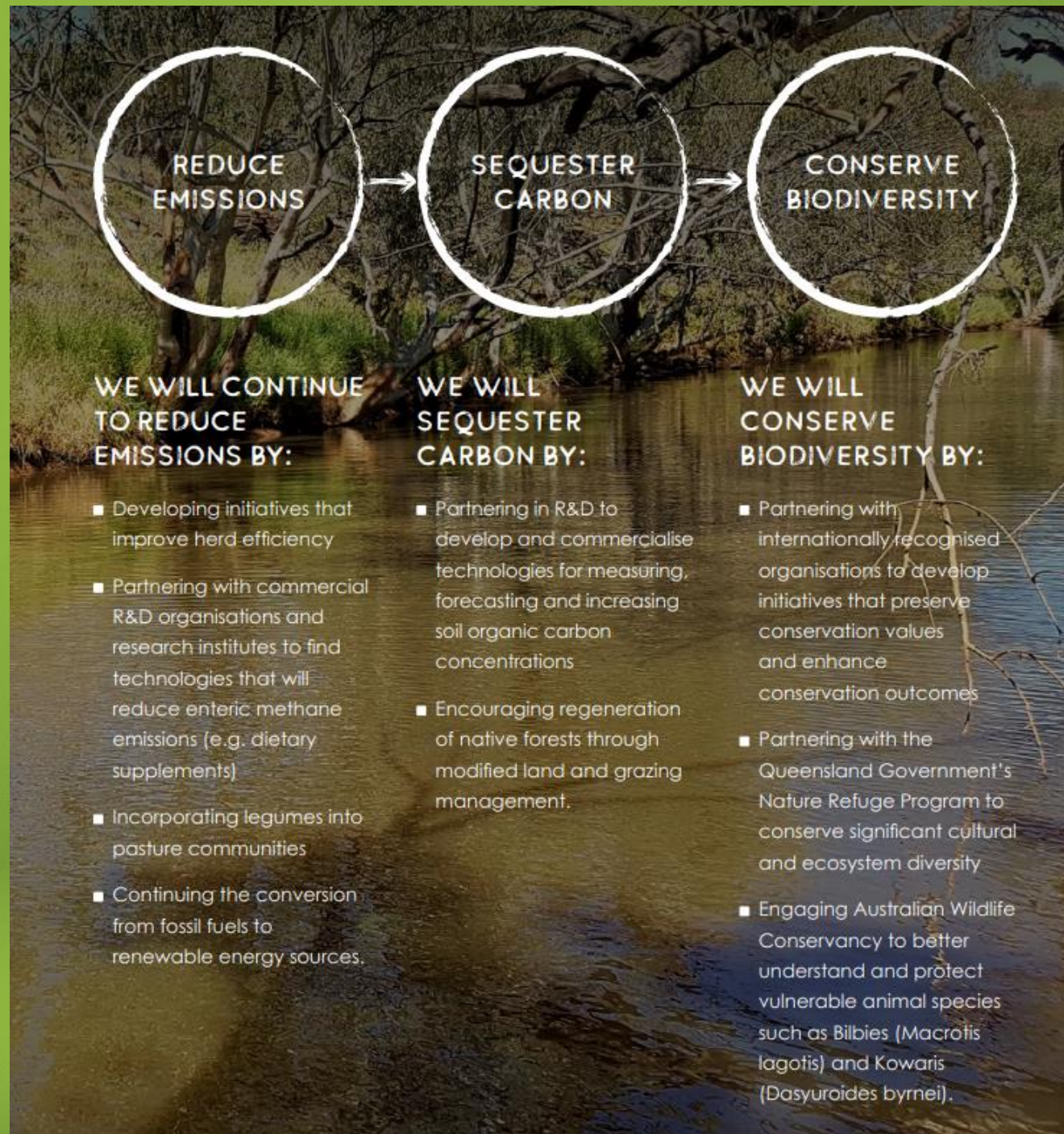
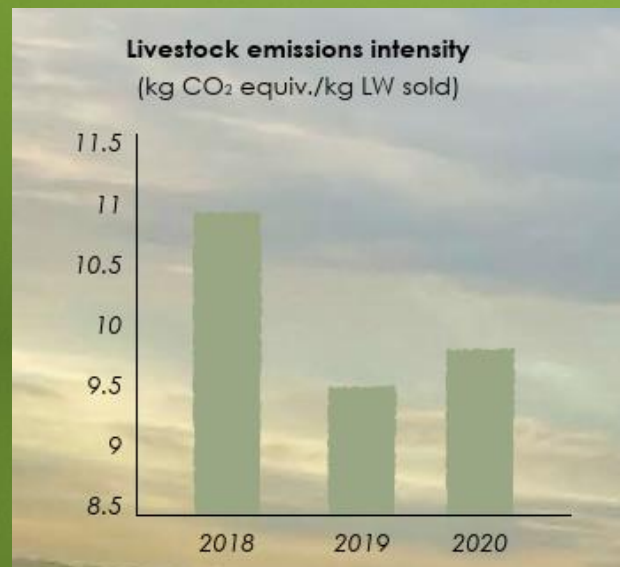
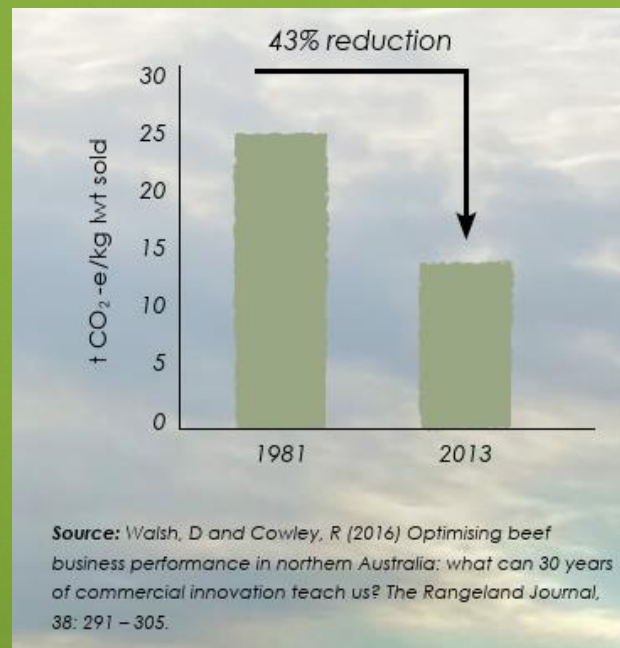
NORTH AUSTRALIAN



PASTORAL COMPANY









## FIVE FOUNDERS CARBON NEUTRAL BEEF PORTERHOUSE STEAK

250g per steak

★★★★★ 3 Reviews

### Description

Climate Active. Carbon Neutral. Now that is truly unique beef! Five Founders is Australia's first certified carbon neutral beef. Read all about it in our information centre. Available per piece. Average weight is 250g.

**\$ 15.25**

Quantity

1

Add to Cart


FREE  Free delivery over \$95


**Per Kg:  
AUS\$61.00**



★★★★★ (99)  
**Woolworths Beef  
Porterhouse Steak Medium  
320g - 800g**

**\$28<sup>00</sup>** \$40.00 / 1KG

Add to cart 


Save to list 




SAVE \$2.75  
★★★★★ (13)  
**Special**  
**Macro Organic Beef  
Porterhouse Steak 200g -  
550g**

**\$27<sup>50</sup>** \$50.00 / 1KG

Was \$30.25

Add to cart 

Save to list 

**Per Kg:  
AUS\$45.00**

**Extra margin per Kg: AUS\$16.00 or +35%**

<https://www.woolworths.com.au/shop/search/products?searchTerm=porterhouse%20steak>





Bife Ancho Cara Preta a Vácuo  
Resfriado Aproximadamente  
1500g  
R\$ 269,85 R\$ 179,90/kg

ADICIONAR

**Per Kg:  
R\$179.00**



Bife Ancho Wessel Kg  
R\$ 144,90

ADICIONAR

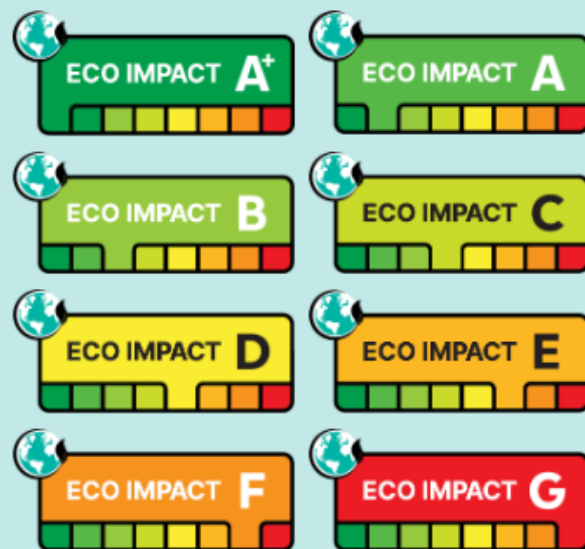
**Per Kg:  
R\$144.00**

**Extra margin per Kg: R\$35.00 or +24%**

## FRONT-OF-PACK ECOLABELS

Foundation Earth is developing a robust, data-driven environmental scoring system for food products, helping businesses innovate in a more sustainable way and transforming food systems for the better. The result is a front-of-pack ecolabel that provides consumers with the clear and credible information they need to make more sustainable buying choices.

**Together, we can build a more sustainable food industry.**



## Exemplo de um produto lacteo já certificado pelo Eco Impact



### Britvic announces acquisition of Jimmy's Iced Coffee



By Phoebe Fraser  
27 July 2023

Categories: [Also in the news](#) [Beverage](#) [Business](#) [Dairy](#) [Industries](#) [Mergers & Acquisitions](#) [Tea & Coffee](#)

Beverage giant [Britvic](#) has announced the acquisition of UK-based ready-to-drink iced coffee brand [Jimmy's Iced Coffee](#).

According to Britvic, Jimmy's Iced Coffee is "the fastest growing RTD iced coffee brand in the segment," generating a retail sales value of £17 million in the year to June 2023, a 43% increase from the previous year.

Jimmy's Iced Coffee  
Limited  
**Jimmy's Iced  
Coffee - Original  
BottleCan -  
275ml**



What is this?

Impact grade label: JI2I

Method: Farm to Shelf

Certified on: 17/02/2022

Assessed for sale in:  
United Kingdom



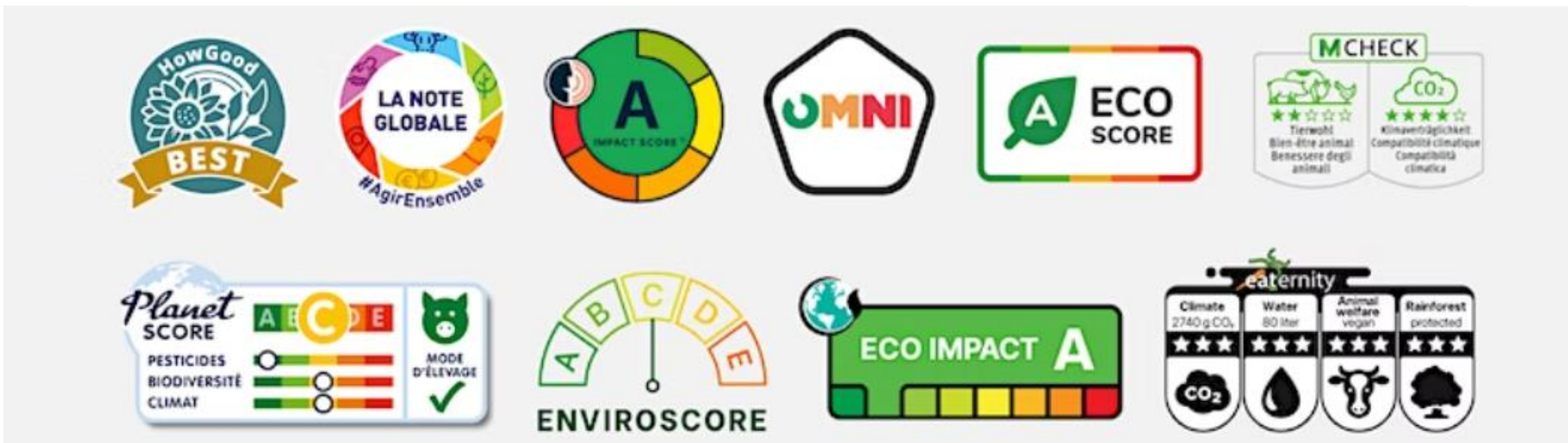
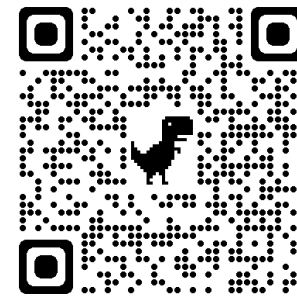
#### Ecological impact

Typical Value	Per 100ml	Per serving	Grade per serving
Carbon (g CO <sub>2</sub> eq)	351.41	987.47	C
Water Usage (L eq)	0.95	2.66	C
Water Pollution (g PO <sub>4</sub> <sup>3-</sup> )	21.9000	61.5300	B
Biodiversity (Species Loss Index)	0.040000	0.120000	A

Share this certificate page and tag a brand that you'd like us to grade!



# 456 Ecolabels tracked by Ecolabel Index and many new appearing focused on environmental footprints





# Example from the feed industry: reduced carbon footprint feed

## nijsen to meet

Nijsen circular animal feed is made completely of materials from the West European foodstuff industry's residual streams. This allows Nijsen to reduce the carbon footprint of the feed significantly. This means that we import fewer raw materials, use less agricultural land and reduce the CO<sub>2</sub> emissions significantly.



Residual streams and waste



Special transport



High value feed



Nutritious and tasty



Circular meat

**62%**

less land needed with production of circular pig feed<sup>1</sup>.

**62%**

less greenhouse gas emissions with production of circular pig feed<sup>2</sup>.

**35%**

CO<sub>2</sub> reduction per kilo of chicken meat<sup>3</sup>.

**38%**

CO<sub>2</sub> reduction per kilo of pork, compared to mash feed<sup>4</sup>.

**53%**

CO<sub>2</sub> reduction per kilo of pork compared to traditional pig feed<sup>5</sup>.

**140.000**  
kiloton

of residual streams and co-products in the Netherlands each year<sup>6</sup>.

**19.000.000**  
pork

from residual streams and co-products in the Netherlands each year<sup>7</sup>.



**Food for Feed for Food**



# Funding livestock sustainability — via a connected carbon marketplace.

Athian's cloud-based platform provides livestock producers a place to benchmark their operation footprint, and a marketplace to monetize reductions resulting from on- farm emissions mitigation.

We're creating an industry-led platform to fund carbon projects within the livestock value chain, enabling partners to make systemic change while optimizing their operations.



## INDUSTRY PARTNERS

# Proudly Partnering With The Livestock Value Chain



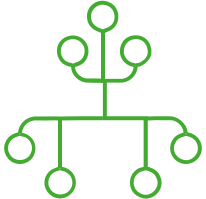
Measurement combined with practical, science-based, proven solutions can unlock the value of sustainability and help customers achieve their business goals



**Take ownership**

of your footprint and don't be judged on industry averages

Unlock your value



**Implement**

best practice with the knowledge to enable continuous improvement



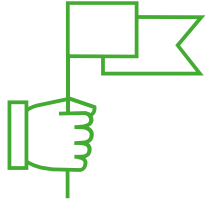
**Reduce**

your environmental footprint & business risk while enhancing the resilience & profitability of animal production



**Engage**

your employees, creating a culture of purpose & sustainability in your business



**Elevate**

your company & product brand and be a leader in sustainability



*If not us, who?  
If not now, when?*

**WE MAKE IT POSSIBLE**

