

# TOWARDS CARBON NET ZERO BRITISH DAIRY

OUR CLIMATE  
ACTION ROADMAP





# ARLA HAS THE SIZE, STRENGTH & INFLUENCE TO DRIVE SIGNIFICANT CHANGE

<b>FOREWORD</b>	<b>5</b>
<b>OUR ROADMAP TOWARDS NET ZERO BRITISH DAIRY</b>	<b>6</b>
<b>01 FARM</b>	<b>8</b>
<b>02 PRODUCTION AND SITES</b>	<b>14</b>
<b>03 TRANSPORT AND LOGISTICS</b>	<b>18</b>
<b>04 PACKAGING</b>	<b>24</b>
<b>05 OUR BRANDS AND PRODUCTS</b>	<b>28</b>
<b>06 GOVERNANCE, DATA AND REPORTING</b>	<b>30</b>





# FOREWORD

**from Ash Amirahmadi**

Managing Director, Arla Foods UK

## This is a defining decade for food.

Over the past few years, the UK food industry has rallied to feed the nation in the face of extraordinary upheaval from Brexit, Covid-19 and labour shortages. We are emerging strongly, but now confront a cost of living crisis, meaning that many struggle to afford a nutritious diet.

At Arla, we're committed to supporting people with affordable, natural dairy nutrition, which is recommended as part of a healthy, balanced diet by the FAO (Food and Agriculture Organization of the United Nations) and by dietary guidelines across the world. Dairy is both nutritious and accessible, but we must produce it in a way that also builds a stronger planet.

As one of the world's largest dairy producers and the fourth largest food and drink company in the UK, Arla has the size, strength and influence to make a significant impact when it comes to sustainability and protecting our planet. We take this responsibility very seriously.

In March 2019, we launched our global commitment to become carbon net zero by 2050. We have since set milestone targets for 2030 to reduce our scope 1 and 2 greenhouse gas emissions from production and our own logistics operations by 63%. We will also reduce our scope 3 emissions from purchased goods and services – including raw milk from our farmer owners – by 30% per kg of raw milk by 2030. Our targets have been approved by the Science-Based Target Initiative<sup>1</sup> as consistent with emissions reductions required to keep global warming to 1.5°C, making Arla the first large dairy company in the UK to receive this important approval.

This roadmap sets out clear plans for reaching our targets. As we follow it over the coming years, we'll monitor our progress and share it openly, including disclosing how we are driving climate action on farms through our Climate Check programme; and our yearly emissions data via our UK financial reporting.

We know that we can't deliver on our ambitions alone. Arla's 2,100 UK farmer owners – representing



around a third of British dairy farmers – are fast-tracking the sustainability journey they have been on for many years, but we're also deepening our collaboration with customers, consumers, UK government and other organisations who share our vision of creating a sustainable future for dairy.

Reducing emissions and achieving carbon net zero is the most significant long-term challenge facing us. This roadmap is a vitally important statement on how we will get there.

<sup>1</sup> sciencebasedtargets.org

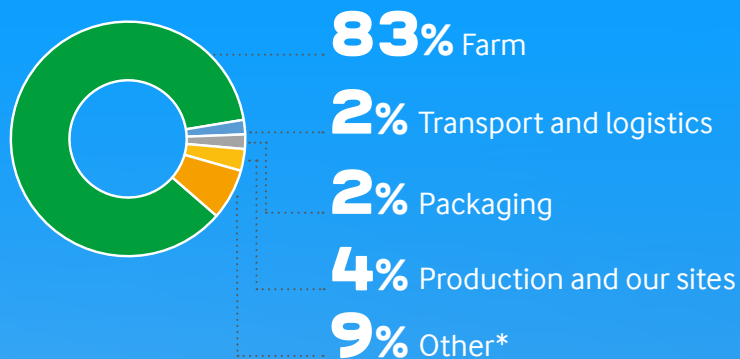


# OUR ROADMAP TOWARDS NET ZERO BRITISH DAIRY

## OUR JOURNEY SO FAR...

In 2021, our total scope 1, 2 and 3 UK greenhouse gas emissions footprint was 4,835 ktCO<sub>2</sub>e (ca. 24% of the global Arla Foods footprint and 3% of the total UK food system footprint (WRAP<sup>1</sup>, 2021)).

Arla's emissions come from the following areas of our global supply chain:



\*The majority of other emissions come from purchased whey. Whey is purchased by the global Arla Foods business but not by Arla Foods UK

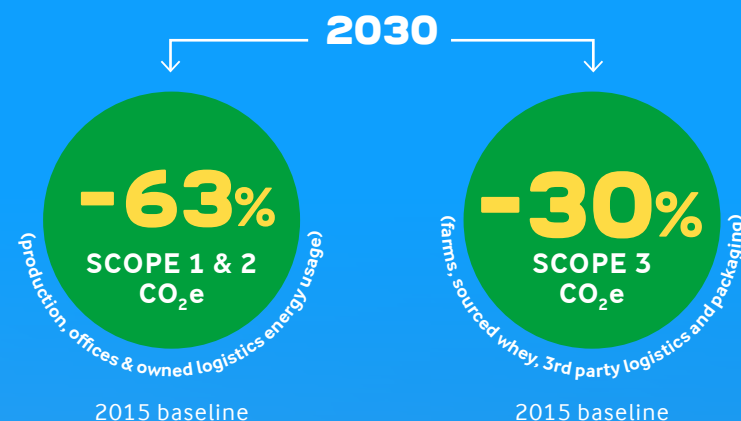
### UK emissions reductions 2015-2021:

- ▼ **14%** Farm (per kg raw milk)
- ▼ **25%** Transport and logistics
- ▼ **24%** Production and our sites
- ▼ **18%** Packaging

In 2021, Arla UK farmers produced milk with average emissions of 1.13 kg CO<sub>2</sub>e per kg milk – they are amongst the most climate efficient in the world.

## THE ROAD TO 2030

We have set two global targets to drive emissions reductions across our entire value chain by 2030.



### Key emissions reduction areas on-farm:



- Optimising farm resource use
- Sustainable feed, energy and fertiliser
- Carbon farming

### Key emissions reduction areas beyond farm-gate:



- Energy and fuel efficiency
- Renewable electricity
- Biogas and alternative transport fuels
- Circular packaging

## REACHING OUR DESTINATION: CARBON NET ZERO BY 2050

We are investing in research and innovation that we expect to unlock new ways to reduce on-farm greenhouse gas emissions. Feed additives and biochar represent two key research areas where we are encouraged by initial findings (see page 13).

We will support delivery of advanced agricultural techniques alongside efforts to accelerate towards zero emissions logistics and production. Residual emissions that are not possible to eliminate will be neutralised and compensated for by investing in high-quality solutions that enhance and protect carbon sinks and/or reduce or avoid emissions.



2015

2022

2030

2050



<sup>1</sup><https://wrap.org.uk/resources/report/uk-food-system-ghg-emissions>



# 01 FARM

Our work to produce milk on-farm accounts for 83% of the emissions across the Arla Foods global value chain and it is our most important focus area.

We are supporting our farmers to accelerate emissions reductions, while ensuring affordability, and no detriment to the high animal welfare standards of Arla cows or quality of Arla dairy products.



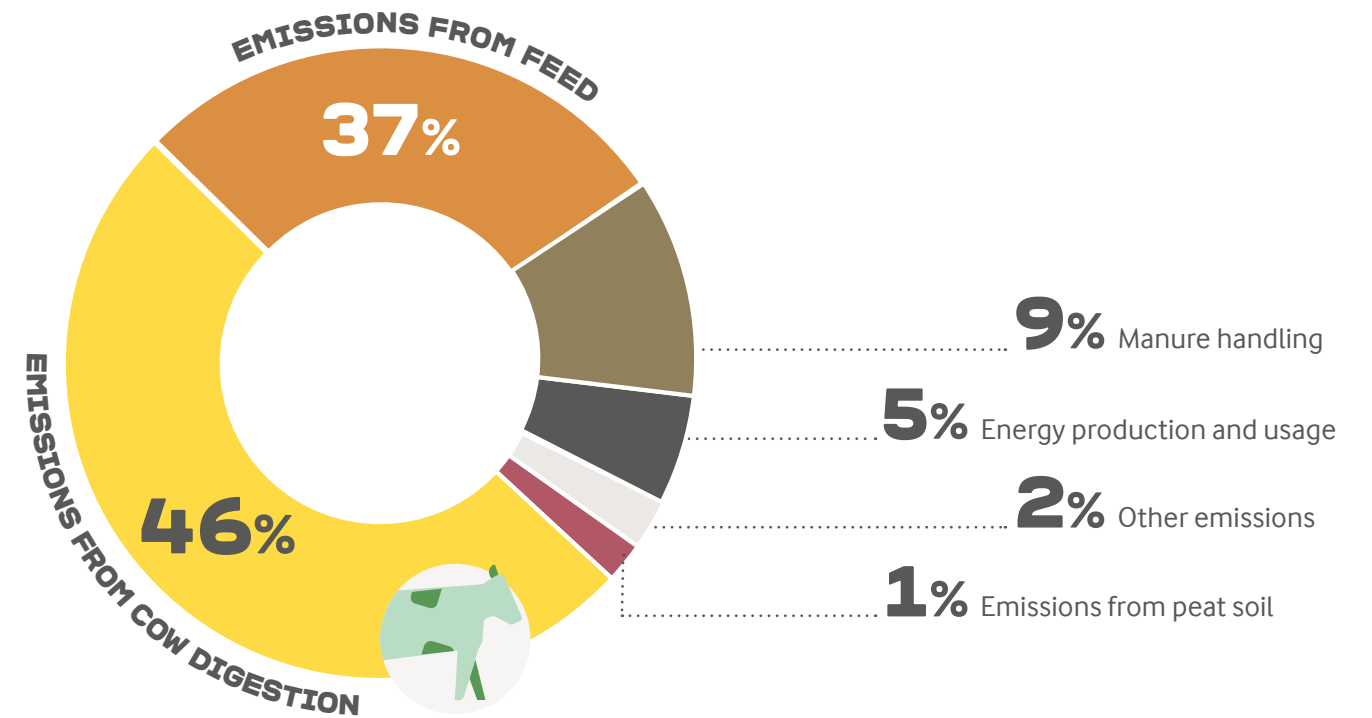
## OUR TARGET

**-30%**  
CO<sub>2</sub>e PER KG FAT & PROTEIN  
CORRECTED MILK  
BY 2030

(2015 baseline)

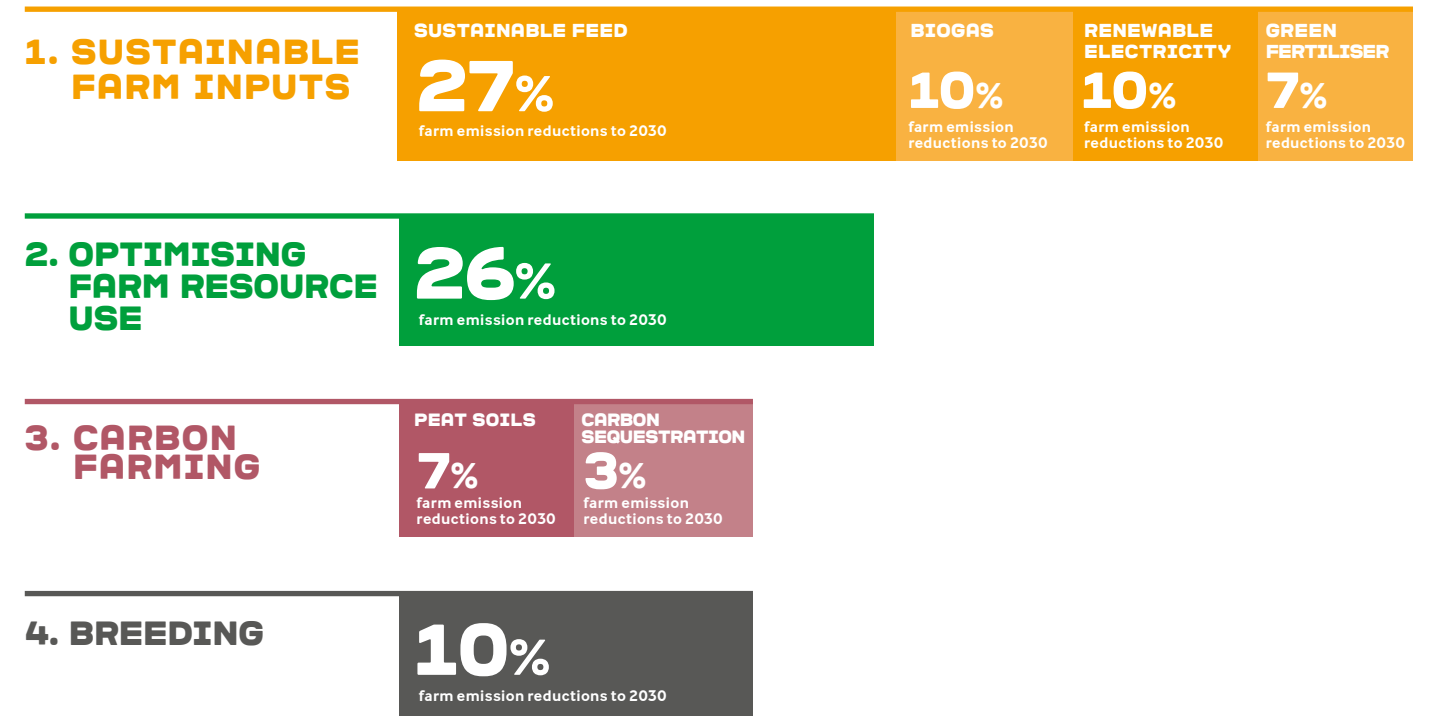
Between 2015 and 2021, we reduced our total on-farm CO<sub>2</sub>e emissions per kg raw milk in the UK by 14%. In 2021, on average, Arla UK farmers produced every kg of raw milk with 1.13 kg CO<sub>2</sub>e. While not all methodologies are the same, looking at the closest comparisons, this equates to around half the average emissions of milk production globally (2.5 kg CO<sub>2</sub>e per kg, FAO) and is less than the UK average of 1.25 kg CO<sub>2</sub>e (NFU), making Arla UK farmers amongst the world's most climate-efficient.

## WHERE ARLA UK FARM EMISSIONS COME FROM



## HOW WE WILL REDUCE FARM EMISSIONS

Our current view of how we will reduce our farm emissions to deliver our 2030 climate targets as a global Arla Foods business:



<sup>1</sup>Our current view has been defined based on Arla Foods global business data as of June 2022 and may be subject to change over time.



# HOW OUR FARMERS ARE REDUCING THEIR EMISSIONS

There's no one simple magic bullet for farming sustainably. Every farmer faces different opportunities and challenges, often influenced by their location in the UK. Geography has significant implications for climate and soil type which affect the types of feed and farming systems our farmers can use.

In 2019, we introduced our Climate Check Programme<sup>1</sup>, offering all farmers the chance to understand the annual carbon footprint of their farm and identify bespoke steps to reduce it. A huge 94% of Arla UK farmers participated in 2020/2021 – we'll communicate findings from this round of checks in the autumn

of 2022 and update results annually.

Although every farm is different, the Climate Check data shows common themes in the emissions across all farms. We expect our on-farm emissions reductions towards 2030 to come from four main areas:

## 1. SUSTAINABLE FARM INPUTS

As well as finding the right balance of inputs and outputs, the origin of those inputs and whether they are produced sustainably also matters for reducing on-farm emissions.

### I. Feed

Science indicates that for optimum health, milk production and sustainability, a cow must eat the right amount of nutritious food, grown or sourced in the most climate-friendly way.

The majority of the average Arla cow's diets is made up of grass, but also includes grains and roots, concentrates and minerals, agricultural by-products and other forages. Our farmers decide how much feed to grow, what types of protein and energy sources to provide for their cows and how to adapt feed depending on the animals' age and factors such as whether it is milking.

To measure the true sustainability of the cows' diet, it's essential to consider not just what a cow eats, but the amount of land used to grow feed and where it's located. Any feed brought onto an Arla farm comes with a carbon footprint from growing, processing and transporting the feed. See here<sup>2</sup> for more on Arla's responsible sourcing policies, which covers soy and palm oil used in cow feed.

### II. Energy

Increasingly, Arla farmers are generating their own renewable energy to power farming operations and reduce emissions. In 2021, 27% of Arla's UK farmers (533 farms) produced green electricity from wind or solar.

Some farmers are also feeding renewable energy back into the grid for others to use. We've established a process for the global Arla cooperative to buy Renewable Energy Guarantees of Origin<sup>3</sup> from our farmer owners, which will help reduce emissions from energy usage throughout the Arla supply chain. Through our Organic 2.0 farm standards programme, we are supporting all Arla UK organic farmers to convert to 100% renewable electricity by the end of 2022.

Some Arla farmers are also using anaerobic digestion to turn cow manure into green gas for electricity, heating or transport – both on and beyond farm. In the UK, anaerobic digestion is still very limited and is currently used by 19 Arla farms. However, we estimate that Arla's 460,000 cows could provide enough power each year to fuel over 1.2 million UK homes.

In order to unlock this opportunity, we call on the UK Government to promote a national network of anaerobic digestion plants and build a strategy to ensure that the UK is maximising opportunities to turn agricultural waste, municipal waste and other feedstocks into green gas.

### III. Fertiliser

The energy-intensive production of artificial fertiliser is a significant source of on-farm greenhouse gas emissions. However, in the near future, 'green' fertiliser will be made using renewable energy and using optimised production processes, dramatically lowering its carbon footprint.



## 2. OPTIMISING FARM RESOURCE USE

Our Climate Check data and findings from other agriculture climate action studies point to five ways that farmers can reduce emissions by making the best use of farm resources:

**I. Optimising feed efficiency** so feed given to cows results in the greatest milk output

**II. Maximising protein efficiency** to avoid methane emissions linked to protein overconsumption

**III. Managing healthy, contented cows** to produce the highest-quality milk and with a longer life expectancy

**IV. Avoiding nitrogen surpluses** produced by excess **fertiliser use**

**V. Improving crop yields** to reduce **land use** associated with growing cow feed



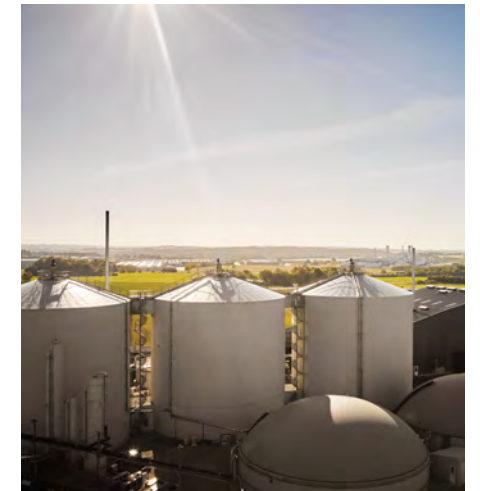
## 3. CARBON FARMING

Grass is a key part of the diet for British cows and the process of growing and grazing grass also helps sequester carbon (the process of taking carbon out of the atmosphere) and keeps it locked in soils. Arla is proud to be part of the international project C-Sequ alongside other food companies, through which we're developing an internationally recognised, globally used method to be used in dairy farm carbon footprint assessments.

Alongside helping to create a science-based methodology, we are trialling methods to increase the carbon

captured in our soils, including through the Arla UK 360 programme (see page 13). Our pilot programme in partnership with regenerative farming experts FAI Farms<sup>4</sup> will boost knowledge of how regenerative dairy farming techniques can improve carbon capture.

We are also developing plans to support Arla farmers to protect and restore peatlands – a type of wetland found in almost every country. They cover at least 12% of UK land area and are a vital carbon sink, but can turn into a source of CO<sub>2</sub> emissions when degraded.



## 4. BREEDING

By carefully selecting dairy cattle for breeding, cows stay healthy and fertile for longer, utilise feed more efficiently, produce good milk yields and generate less methane per kg of milk.

Although the benefits of improved breeding practices will only be experienced over the medium to long term, we expect improved techniques to contribute around 10% of the on-farm emissions reductions needed for us to hit our 2030 targets.

Arla is currently participating in a research project focused on climate-friendly breeding techniques with a view to scaling lessons to support our farmers to adopt best-practice.



<sup>1</sup> <https://www.arlafoods.co.uk/food-for-thought/climate-checks>

<sup>2</sup> <https://www.arla.com/490a53/globalassets/arla-global/company---overview/responsibility/code-of-conduct/code-of-conduct-for-suppliers/responsible-sourcing.pdf>

<sup>3</sup> <https://www.arla.com/company/news-and-press/2021/pressrelease/arla-farmers-to-power-their-own-dairy-company/>

<sup>4</sup> [https://www.arla.com/4a6ee6/globalassets/sustainability/regenerative-farming/arla\\_regenerative-farming-pilot-farm-network-brochure\\_english.pdf](https://www.arla.com/4a6ee6/globalassets/sustainability/regenerative-farming/arla_regenerative-farming-pilot-farm-network-brochure_english.pdf)





## ARLA FARMERS' BESPOKE COW DIETS PLANS MINIMISE EMISSIONS FROM EXCESS PROTEIN

Arla's global Climate Check data shows that 78% of the difference between Arla farms with the highest and lowest climate footprint can be explained by whether and how they are optimising farm resource use by:

1. **Optimising feed efficiency**
2. **Maximising protein efficiency**
3. **Managing healthy, contented cows**
4. **Avoiding nitrogen surpluses produced by excess fertiliser use**
5. **Improving crop yields to reduce land use associated with growing cow feed**

Together, these five steps can take us almost a third of the way to our 30% on-farm reduction target by 2030. Focusing on these levers has also been shown to be good for farmers' bottom line.

Of these five levers, managing protein levels to avoid greenhouse gases linked to protein overconsumption has the largest emissions reduction potential. Arla is supporting its farmers to develop bespoke diet plans to help cows eat exactly the right amount of protein, which could unlock 8% of the on-farm emissions reductions needed to meet our 2030 targets.

The feed farmers give to their cows must be rich in protein to ensure they have the right nutrition to grow and produce milk but, as with humans, there is a limit to the amount of protein a cow can absorb. The optimum amount of protein a cow should consume is around 16% of the total feed. Overfeeding of protein leads to unnecessary methane and nitrous oxide emissions being released.

Through the Arla UK 360 programme, we have identified opportunities to cut costs, increase milk production and reduce CO<sub>2</sub> emissions by managing protein consumption. We are sharing lessons learned with all of our farmer owners across the UK.

## BEYOND 2030: HARNESSING ADVANCED AGRICULTURE TO UNLOCK NEW WAYS TO REDUCE EMISSIONS

We are investing in research and innovation that we expect to unlock new ways to reduce on-farm green-house gas emissions beyond our plans to meet our 2030 targets.

**Three key research areas where we are investing significant R&D efforts and are encouraged by initial findings are:**

- **Feed additives** that can be introduced to cows' diets to reduce emissions – widespread use of additives is still a number of years away from being mainstream on farm but early trials show promise (as acknowledged by the UK Government's Food Strategy) and we are testing an extensive range of solutions in partnership with Aarhus University in Denmark. We have also initiated a large-scale on-farm pilot with Royal DSM<sup>1</sup> to test the first additive to be approved in the European Union: Bovaer, which has the potential to reduce dairy methane emissions by ca. 30% without compromising on animal welfare.

- **Sustainable fertiliser** – we are testing a new technology that treats slurry (a mixture of cow manure and water) to produce a natural fertiliser that has a better impact on crop yield and soil health than chemical alternatives. It also reduces methane and ammonia emissions associated with spreading untreated slurry on fields.

- **Biochar**, which is a type of charcoal that is produced by heating organic matter at extremely high temperatures and in the absence of oxygen. It has the potential to create lots of benefits when spread on soil, including: long-term carbon storage, reduced nitrogen and ammonia emissions; and the improvement of soil health. We are working with the Department

of Business Energy and Industrial Strategy (BEIS) and sustainability consultancy Sofies to test the practical and commercial feasibility of using biochar to sequester carbon on 10 Arla farms.

The Arla UK 360 programme, which is supported by our customers Morrisons, Aldi and Starbucks, supports farmers to trial advanced agriculture technologies, working with ground-breaking science and technology innovation partners. The Arla UK 360 'Innovation Farm' near Aylesbury serves as a central hub to host cutting-edge trials in order to assess the risk, costs and benefits before sharing lessons with all Arla farmers.



<sup>1</sup> <https://www.arla.com/company/news-and-press/2022/pressrelease/arla-foods-and-dsm-start-large-scale-on-farm-pilot-programme-to-reduce-greenhouse-gas-emissions-from-dairy-cows-by-30-per-cent/>



02

# PRODUCTION & SITES

Emissions from our production sites and offices account for 4% of the overall emissions from our total business operations. They are a by-product of processing raw milk collected from our farms and producing dairy products sold to customers and consumers, plus the energy used at our head office in Leeds. Between 2015 and 2021, we reduced our UK CO<sub>2</sub> emissions from production and sites by 24%.



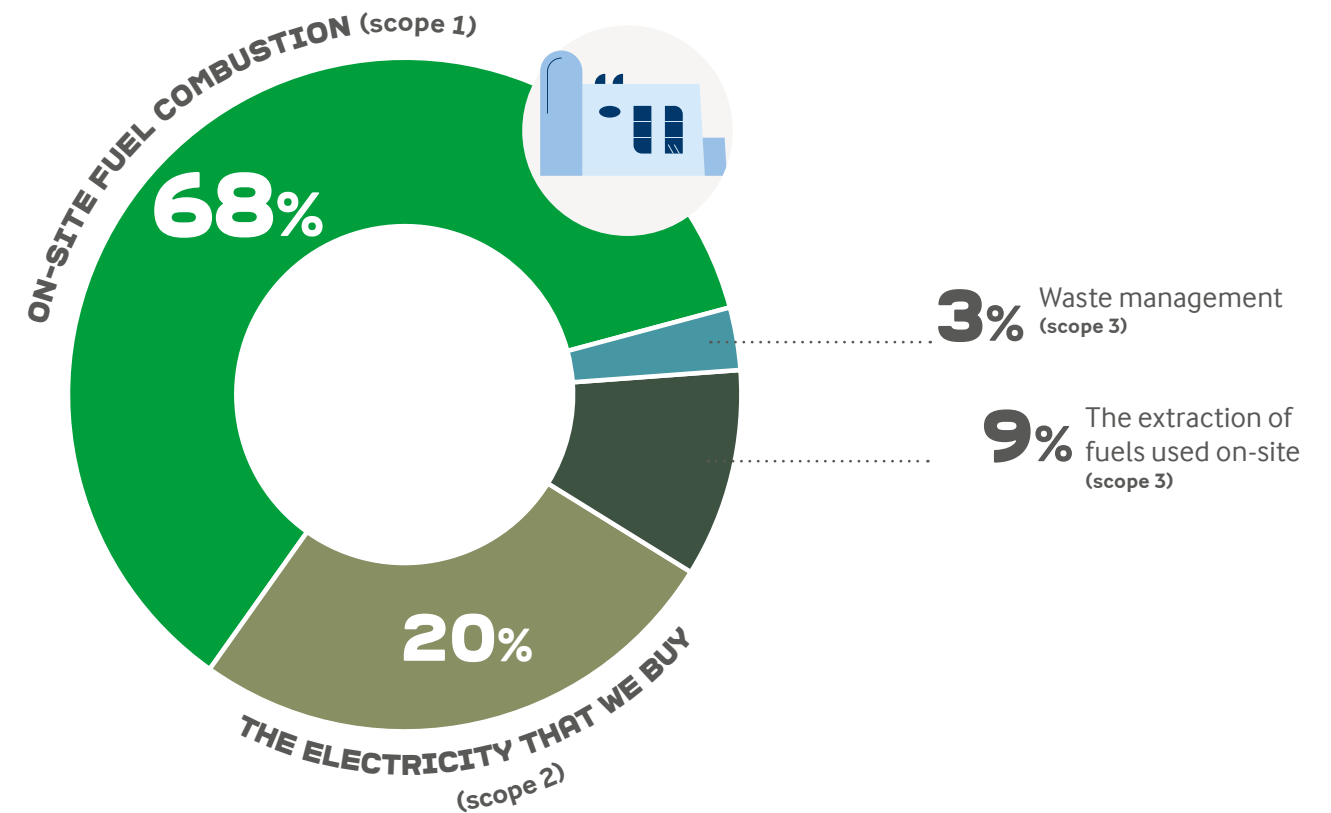
## OUR TARGETS

**-63%**  
CO<sub>2</sub>E IN ARLA OPERATIONS  
BY 2030

(2015 baseline)

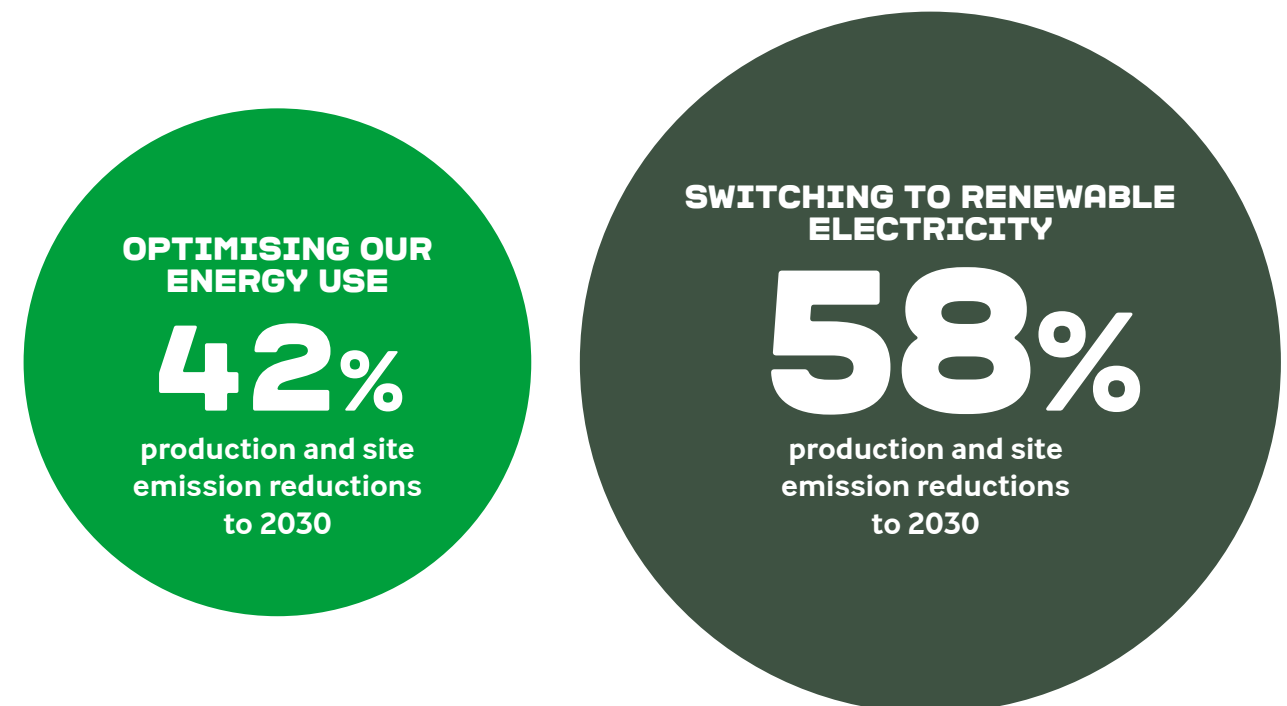
**100%**  
RENEWABLE ELECTRICITY  
BY 2025

## WHERE ARLA UK PRODUCTION AND SITE EMISSIONS COME FROM



## HOW WE WILL REDUCE PRODUCTION AND SITES EMISSIONS

Our current view of how we will reduce our production and site emissions to deliver our 2030 climate targets as a global Arla Foods business



<sup>1</sup>Our current view has been defined based on Arla Foods global business data as of June 2022 and may be subject to change over time.



# HOW WE ARE REDUCING OUR PRODUCTION AND SITE EMISSIONS

## 1. OPTIMISING OUR ENERGY USE

We are making investments across our UK dairy sites to optimise our processes, assets and equipment to reduce energy consumption, heat loss, waste and carbon emissions.

We're currently auditing all of our UK sites to identify strategic energy optimisation opportunities. By analysing and applying latest best practice and technologies to our dairy process engineering, we can reduce heat loss during milk pasteurisation and cooling, and increase our ability to capture and reuse heat. For example, by insulating coil and pipes; designing pipework to enable easy milk flow and reduce pumping needs; installing cutting-edge heat

pumps; and monitoring milk flows to ensure optimal performance.

We also continuously assess the condition and energy efficiency of all assets and equipment at site, identifying opportunities for replacement or modification. We have replaced ca. 85% lighting across our UK sites with energy-efficient LED solutions (ca. 50-70% CO<sub>2</sub> saving per light switched) and have plans to achieve 100% coverage in 2022. In April 2022, we also completed installation of new state-of-the-art milk powder dryers at our Westbury site, enabling reuse of excess heat and offering savings of 4,100 tCO<sub>2</sub> every year (approximately

8% of total site emissions).

Human behaviour matters too, and we're working hard to build an energy and carbon performance management culture, so our pursuit of efficiency and optimisation remains ingrained. This year, we have launched a competition to identify energy saving ideas at our Taw Valley site and introduced energy saving 'champions' across all sites.

We're currently upgrading our carbon and energy data management systems to show how and why we use energy, and to increase transparency, drive behaviour change and strengthen investment decisions.

## 2. SWITCHING TO RENEWABLE ELECTRICITY

We've set ourselves the goal of switching to 100% renewable electricity by 2025. To achieve this, we are investing in four routes:

**I. Entering power purchase agreements (PPAs) with renewable electricity suppliers**, typically covering a 10-15 year period. These enable suppliers to invest in new projects, and mean the renewable electricity supplied to Arla is additional to existing energy.

**II. Buying and owning our own renewable energy projects**, which ensures that the renewable electricity we receive is additional to what would have otherwise been supplied to the grid.

**III. Purchasing green electricity certificates**, including from our farmer owners, to guarantee that the electricity

that we buy from the grid comes from renewable electricity that is already in production (electricity bought from the grid is considered to be non-renewable unless proven otherwise).

**IV. Greening the electricity that we produce on-site through combined heat and power (CHP) plants.** By capturing excess heat that would be normally lost during the process of burning gas for electricity generation, CHP technologies have helped us make our energy use more efficient. To further drive down emissions, we'll ensure that our CHP plants run on green gas by switching from natural gas to biogas and/or buying biogas certificates to cover our energy use.



## FARMERS TO POWER ARLA OPERATIONS THROUGH CLOSED LOOP RENEWABLE ENERGY

We're giving our farmer owners the opportunity to secure a better profit by helping to power Arla's operations using renewable energy, produced on-farm.

This farm-to-factory circularity loop is created via Renewable Energy Guarantees of Origin certificates, issued to farmers for electricity produced on-farm. Until now, the farmers' only option has been to sell these into the renewable energy certificates market, with

associated costs. Now, however, by selling certificates directly to Arla, third parties are omitted from the transaction and the farmers are rewarded with the full market value that Arla would pay on the open market. Simultaneously, Arla benefits from a new pathway towards achieving 100% green electricity by 2025.

We estimate that around a fifth of Arla Foods' total global operational electricity usage could be covered by farmer-produced renewable

power. But, while many Arla UK farmers have very successfully installed renewable energy technologies on their farms, others have reported delays and significant expense in securing grid connections allowing them to sell power back into the system. We urge the UK Government and Ofgem to ensure the network operators do all they can to ease this process and help Arla and its farmer owners accelerate our renewable energy transition.

## NEW MILK POWDER DRYING FACILITIES AT OUR WESTBURY DAIRY TO CUT YEARLY SITE EMISSIONS BY 8%

The complexity of dairy process engineering means that big emissions reductions can sometimes be found by optimising our processes, assets and equipment.

In early 2022, replacement milk powder drying facilities were installed at our Westbury dairy, which will reduce site emissions by 8% and save 4,100 tCO<sub>2</sub> per year – equivalent to the emissions needed to power around 1,500 houses in the UK for a year.

As well as producing the nation's much-loved Anchor™ branded butter, Westbury houses

milk powder drying facilities which we use to produce long shelf life dairy products when Arla farm milk supply exceeds demand for fresh milk products from customers.

The EUR 11.5 million investment in the site was a strategic project to replace two 19 year old thermal oil heaters, also improving overall safety and process continuity. We are working to identify other strategic energy optimisation opportunities by auditing all of our UK sites.





03

# TRANSPORT & LOGISTICS

Emissions from transport and logistics make up 2% of the overall emissions across our value chain. This covers our work to collect raw milk from our farmers and transport it to our manufacturing sites as well as delivery of finished goods to distribution centres and customers. Between 2015 and 2021, we reduced our UK logistics CO<sub>2</sub> emissions by 25%.



## OUR TARGETS

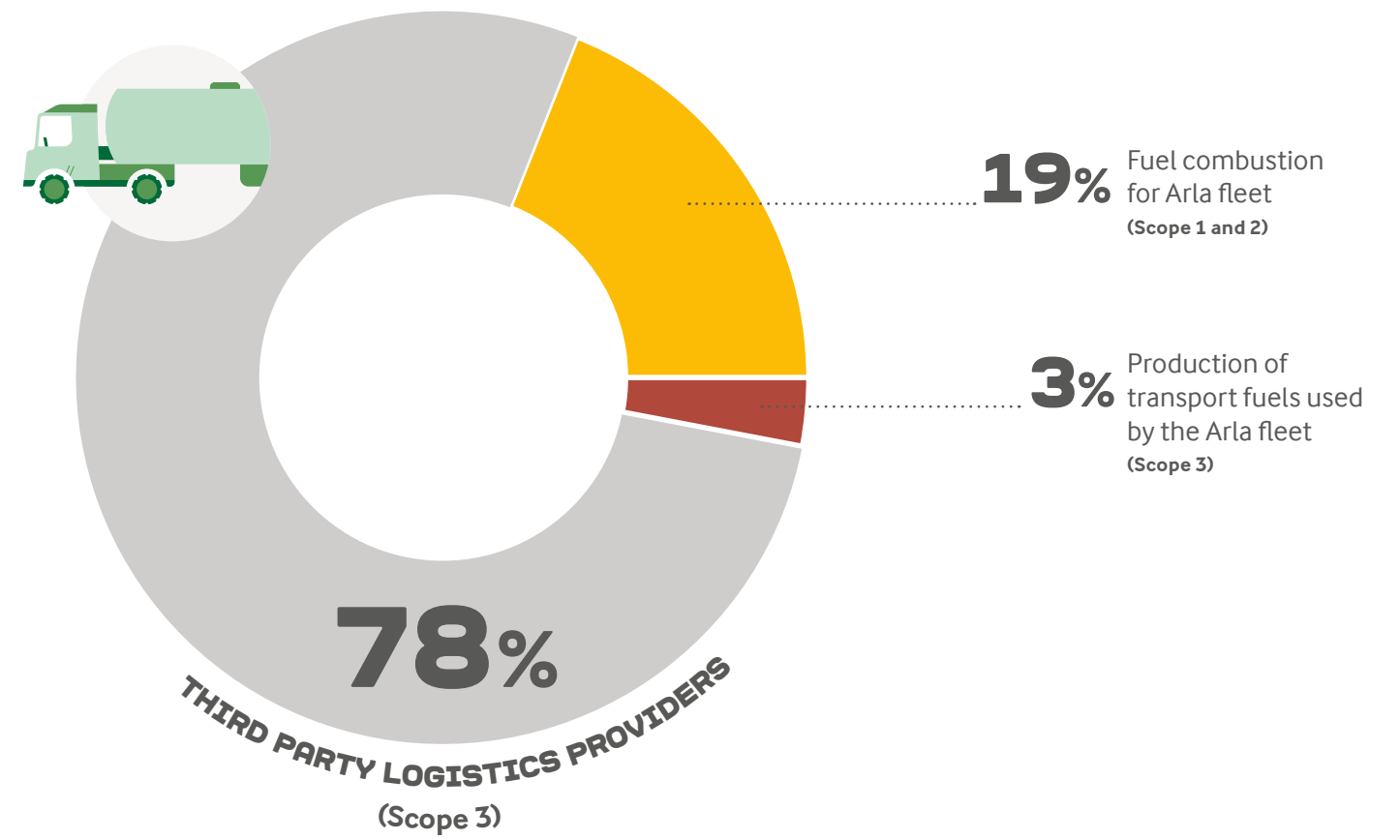
**-63%**  
CO<sub>2</sub>E IN ARLA LOGISTICS FLEET EMISSIONS BY 2030

(2015 baseline)

**-30%**  
CO<sub>2</sub>E IN THIRD PARTY LOGISTICS FLEET PER KG RAW MILK BY 2030

(2015 baseline)

## WHERE ARLA UK TRANSPORT AND LOGISTICS EMISSIONS COME FROM



## HOW WE WILL REDUCE TRANSPORT AND LOGISTICS EMISSIONS

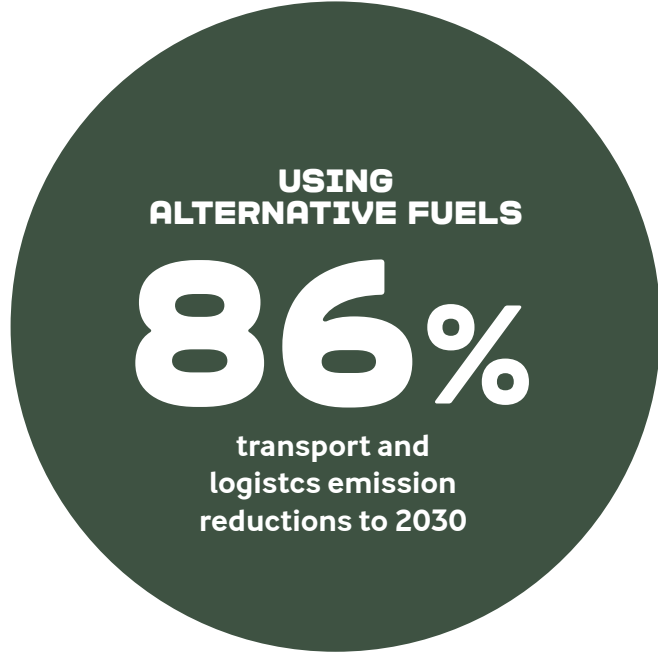
Our current view of how we will reduce our transport and logistics emissions to deliver our 2030 climate targets as a global Arla Foods business

OPTIMISING LOGISTICS TO REDUCE ROAD MILES AND IMPROVE EFFICIENCY



transport and logistics emission reductions to 2030

USING ALTERNATIVE FUELS



transport and logistics emission reductions to 2030

<sup>1</sup>Our current view has been defined based on Arla Foods global business data as of June 2022 and may be subject to change over time.



# HOW WE ARE REDUCING OUR TRANSPORT AND LOGISTICS EMISSIONS

## 1. OPTIMISING OUR LOGISTICS ROUTES TO REDUCE ROAD MILES AND IMPROVE EFFICIENCY

Working with our customers, farmer owners and suppliers, we are decreasing the distance that our milk tankers and trucks travel, reducing fuel usage through network and route redesign. We have already reduced road miles by:

- Minimising the frequency of milk collections from UK Arla farms, which saved over 1,000 tCO<sub>2</sub> in 2020 and 2021 alone – equivalent to taking 6.5 Arla trucks off the road for a year.
- Simplifying our logistics network and optimising delivery frequency to customers, which has saved over 3,710 tCO<sub>2</sub> since 2019 – equivalent to taking 24 Arla trucks off the road for a year.



## 2. CONVERTING OUR HEAVY AND LONG-DISTANCE FLEET TO RUN ON ALTERNATIVE FUELS

Where feasible, we will convert our heavy and long-distance fleet to biogas – a renewable fuel produced from organic matter. Powering logistics trucks with biogas instead of diesel can eliminate approximately 80% of emissions.

While we have clear plans for converting our internal fleet to run on biogas, doing so is not without its challenges – not least the UK’s varying availability of biogas. Diesel truck engines can, however, be converted to run on biodiesel with relatively minor modifications, making biodiesel a useful alternative.

Using biodiesel in our logistics operations would currently be very expensive but we expect its cost-competitiveness to increase later in the decade. Biodiesel can eliminate 87% of net CO<sub>2</sub> emissions when compared to regular diesel.

We will also continue to explore opportunities to transition to battery electric vehicles in our urban fleet, including through a trial in our outbound operations in London’s Ultra Low Emission Zone, and fuel cell electric vehicles, powered by hydrogen, on our long-distance fleet over the long-term as electric vehicle technology continues to mature.





## MANURE TO THE MOTORWAY – OUR STRATEGY FOR SCALING BIOGAS AS A TRANSPORT FUEL

Switching to biogas will drive the majority of emissions reductions needed to decarbonise our logistics and transport operations. Doing so also has big potential to reduce carbon emissions across many other industries. Because cow manure can be processed into biogas through anaerobic digestion, dairy farmers can play an important role in unlocking this potential.

This year, we have begun transitioning the 160 trucks in our internal UK fleet to run on biogas – a process that will accelerate from 2024 onwards. This year, we are replacing 7 Arla UK fleet diesel trucks with biogas alternatives.

We're also working with 11 third-party logistics providers (5 inbound, 6 outbound) to develop joint carbon reduction plans and encourage them to use biogas trucks. This year, they have introduced 16 biogas trucks.

Using anaerobic digestion to treat cow manure is one way to supply biogas. With over 1.2 million tonnes of cow slurry produced annually by Arla's 2,100 UK farmers, our farms could generate enough green energy to power Arla's internal UK logistics fleet three times over.

In 2020, we ran a three-month trial in which we used cow manure to generate biogas to power two milk tankers. Manure from about 500 cows on Arla UK farms was sent to a nearby anaerobic digestion plant where it was converted into usable fuel. Two special Arla tankers were adapted to run on biogas to transport milk between dairy processing sites. Together, they covered around 90,000 km and helped reduce Arla's carbon impact by 80 tCO<sub>2</sub> – equivalent to 23 car journeys around the world. The trial made Arla one of the first UK businesses to use waste from its own farms to generate power for its

fleet and also created nutrient rich, natural fertiliser for Arla farmers, making it entirely closed-loop.

To support our transition to biogas, we will also build out our internal refuelling infrastructure and collaborate with third party providers and others to develop an action plan to 2030. We are calling on UK Government to reduce fuel duty on biogas to encourage its wider take-up as a transport fuel and to help accelerate the creation of a nationwide network of biogas stations by giving greater certainty around the cost of biogas.



## ARLA 'ECO DRIVERS' SHOW THAT SMALL CHANGES CAN MAKE A BIG DIFFERENCE

All Arla colleagues have a role in helping us achieve our climate and sustainability ambitions. This includes over 400 Arla UK tanker and truck drivers who deliver milk from Arla farmers to production sites and customers.

Through a new programme, which establishes an Arla Eco Driver as the gold standard for best-in-class driving, we are supporting our

inbound drivers to adopt driving practices that reduce fuel usage and CO<sub>2</sub> emissions – for example:

- Focusing on accelerating vehicle speed gradually
- Minimising time when the vehicle engine is running unnecessarily ('idling')
- Encouraging 'coasting', whereby the driver avoids

using the accelerator and relies on momentum and gravity to maintain speed

- Avoiding harsh braking
- By incentivising more environmentally-friendly driving practices, we hope to save 285 tCO<sub>2</sub> per annum – equivalent to 82 passenger cars travelling all the way around the world.



# 04 PACKAGING

Packaging materials (plastics, paper, board, metals, glass) are critical for making sure we can supply high quality products to our consumers safely. Overall, packaging accounts for around 2% of our total emissions footprint and, between 2015 and 2021, we reduced our UK packaging CO<sub>2</sub> emissions by 18%. However, the sustainability of our packaging is about more than just emissions: it is also crucial for combatting the impact of plastic waste on the natural environment and reducing food waste. To minimise the environmental impact of our packaging, we're working to find better ways to get more out of less and aiming to use only recyclable packaging while eliminating the use of virgin fossil-based plastic.



## OUR TARGETS

**100%**  
RECYCLABLE PACKAGING  
FOR OUR BRANDED PRODUCTS  
**BY 2025**

**0%** VIRGIN  
FOSSIL  
PLASTIC  
USED IN BRANDED  
PRODUCT PACKAGING  
**BY 2030**



## HOW WE ARE REDUCING THE ENVIRONMENTAL IMPACT OF OUR PACKAGING

We want to ensure that our packaging is produced with the lowest possible emissions and that none of our packaging ends up in landfill or contributes to pollution or resource degradation. These are big ambitions and achieving them in a balanced way will be very challenging, but we believe the best way is to roll out a fully circular packaging approach.

To maximise circularity, we are currently focused on:

1. Intensifying efforts to remove all unnecessary packaging
2. Making sure packaging is fully and widely recyclable in the UK
3. Eliminating fossil-based virgin plastic by:
  - a. Prioritising use of recycled and renewable plastic
  - b. Switching to non-plastic alternatives (eg, cartons and other fibre-based materials) where feasible
4. Making sure consumers can dispose of our packaging responsibly
5. Collaborating with the UK Government, food and drink manufacturers and suppliers to accelerate innovation and unlock circular packaging solutions; and ensure the infrastructure exists for our consumers to recycle our packaging easily

Moving towards full circularity will help us to reduce the environmental impacts, including greenhouse gas emissions, associated with producing packaging from virgin materials. We will continue to fine-tune our long-term category packaging plans in line with developments in global sustainable packaging innovation.



## ARLA'S POSITION ON PLASTIC

Plastic is essential to ensure the safety and quality of our products, but it's our priority to make the plastic we use as sustainable as possible. We are signatories to the Waste and Resources Action Programme's (WRAP) Plastic Pact, which envisions a world where plastic is valued and doesn't pollute the environment. The world's plastic use is creating significant environmental problems, but we also know that

not all plastic is created equal. We are dedicated to rolling out a circular packaging system that reduces plastic use whenever possible and improves the plastic quality where it isn't – for example, by eliminating fossil-based virgin plastic, switching to bio-based plastic and maximising recyclability. We need to be very careful that we avoid reinventing our

relationship with plastic in a way that creates other sustainability challenges – for example, increased consumer food waste, which is itself a huge contributor to the global climate crisis. Alternative packaging materials that could replace plastics also come with challenges. None have a perfect sustainability scorecard and most cannot be scaled at an affordable price point for Arla or our consumers.



## INDUSTRY-LEADING STEPS TOWARDS FULLY CIRCULAR MILK BOTTLES

We intend to make all our milk bottles fully circular by 2030 by reducing packaging weight, maximising recyclability and eliminating virgin fossil-based plastic. We expect these changes to reduce the emissions produced by our milk bottles by around a quarter, which comes on top of the work that we have done to reduce bottle emissions by over a quarter since 2015.

Arla was first to market in the UK with an ultralight 'ecobottle' and, since 2015, we have reduced plastic in our milk bottles by

26%. This has saved 12,000 tonnes of plastic – equivalent to taking around 350,000 4 pint milk bottles\* off the shelves of UK supermarkets. In 2018, we also light weighted our lids and bottle labels.

As well as continuing to find new ways to reduce the weight of our milk bottles, our focus is now on eliminating virgin fossil-based plastic use and maximising recyclability. All our bottles, lids and labels are already fully recyclable at kerbside. In early 2023, we will also switch all of

our milk bottle seals from flexible plastic material to fully recyclable aluminium foil, so all packaging components in our milk bottles will be fully recyclable at kerbside – a UK first.

We currently guarantee that all of our milk bottles contain a minimum 30% recycled content and we are working with our packaging suppliers to make sure that, by 2030, we have replaced all remaining virgin fossil-based plastic in our branded bottles with recycled or bio-based plastic.



\*The average weight of a 4 pint milk bottle in the UK is 33.75 grams



05

# OUR BRANDS & PRODUCTS

Our brands and products are at the core of our efforts to help consumers benefit from great-tasting, nutritious dairy that contributes to a healthy diet and lifestyle and is produced in the most sustainable way.



All Arla products sold in the UK – including those manufactured in other European countries – are produced with the aim of achieving the emissions reductions required to realise our global climate targets.

So far, we have taken steps to demonstrate Arla’s climate journey and help our consumers to minimise their footprint by focusing on sustainable packaging and food waste. We know both issues are well understood and prioritised by consumers in their efforts to make lower-carbon choices. We also rely on consumers to make positive choices to reduce the total lifecycle emissions of our products.

We’re committed to demonstrating to our consumers how we’re reducing our carbon footprint across the value chain – particularly on-farm, which generates the vast majority of our emissions as a total business. We have plans to communicate how Arla farmers are driving climate impact through products that sit under the Arla Masterbrand in 2022.



## MINIMISING FOOD WASTE

If food waste were a country, it would be the world’s third largest emitter after the US and China. Reducing food waste is vital for both cutting emissions and improving resource efficiency in our supply chain.

We aim to halve food waste in our operations by 2030, compared to 2015. We are signatories to the WRAP Courtauld Commitment and collaboration, including with customers and charities, has helped us to make progress. Over the past year, our Arla Deals digital platform has continued to sell short shelf-life products at a discount in the UK. Through our ongoing collaboration with FareShare we are reducing food waste while helping people challenged by food poverty towards a better diet. In 2021, our contributions helped to provide over 1.5 million meals to people at risk of hunger in the UK. We don’t send any finished products to landfill and use the waste hierarchy<sup>1</sup> to guide our actions.

We’re also helping consumers cut food waste at home. In 2021, we

replaced ‘use by’ with ‘best before’ dates across our entire Arla branded portfolio. Building on this, we have created a gold standard for labelling branded and own-label products in a way that best helps consumers reduce food waste, validated by WRAP. This includes optimal shelf life, open life, ‘often good after’ messaging, and freezing and storage instructions for all product types. Rollout of the new labelling started during 2022.

We also use branded activations to inspire consumers to reduce food waste. The Arla Cravendale brand has led the way in this space. In 2021 alone, the brand reached 5.7 million UK consumers with a campaign encouraging food waste reduction, plus a further 2.6

million consumers with ‘waste less Wednesday’ recipes delivered through social media channels. In 2020 and 2021, over 7,000 shoppers redeemed free Cravendale food waste action packs through digital channels – including a fridge thermometer to help consumers keep their fridge below 5°C (the optimum temperature for helping food stay fresher for longer).



<sup>1</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69403/pb13530-waste-hierarchy-guidance.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69403/pb13530-waste-hierarchy-guidance.pdf)



06

# GOVERNANCE, DATA & REPORTING



## SUSTAINABILITY GOVERNANCE

Our climate and sustainability work has been integrated in our business strategy and approach. In November 2021, we launched a new global Future26 business strategy, with a strong sustainability focus. As part of the Future26 launch, we announced that we have further strengthened our climate ambitions by setting targets that have been approved by the Science-Based Target Initiative<sup>1</sup> as consistent with emissions reductions required to keep global warming to 1.5°C. Sustainability is now anchored in the Arla Global Executive Management Team through a new Chief Agriculture and Sustainability Officer role and, during 2020 and 2021, we also appointed senior sustainability managers to our markets, including the UK, to help make our global plans relevant in a local context.

We've introduced a climate lens into our investment processes. Investments aimed at improving sustainability performance often carry a slightly longer payback time. To manage this, a climate-adjusted payback is calculated for all Arla investments above EUR 1 million. This results in a shorter pay-back time for investments that reduce greenhouse gas emissions and prolonged payback times for investments that increase them.

## DATA, MEASUREMENT & ASSURANCE

Pages 61-62 of our Sustainability Report<sup>2</sup> outline the methodology we use to calculate our total greenhouse gas emissions footprint. In 2021, we became the first large dairy company globally to receive reasonable assurance on our complete ESG data, including scope 1, 2 and 3 emissions.

## DISCLOSURE & REPORTING

We will continue to share our progress by disclosing how we are driving climate action on Arla farms through our yearly Climate Check communication; and by disclosing our emissions data through our UK financial and Streamlined Energy and Carbon reporting. We will also share global progress through our Annual Report and Sustainability Report – the first of which also provides details of how we identify, prevent and mitigate risks linked to sustainability.

<sup>1</sup> sciencebasedtargets.org  
<sup>2</sup> <https://www.arla.com/492cbb/globalassets/pdf-files/sustainability-report-2021/sustainability-report-2021.pdf>

## ARLA FOODS UK CARBON EMISSIONS 2015-2021

	2015	2021
	mkg	mkg
<b>CO<sub>2</sub>e scope 1, 2 + 3 (Market-based)</b>	5,651	4,835
<b>CO<sub>2</sub>e scope 1</b>	<b>129</b>	<b>131</b>
Operations	89	110
Transport	40	21
<b>CO<sub>2</sub>e scope 2 Market-based</b>	<b>99</b>	<b>33</b>
CO <sub>2</sub> e scope 2 Location-based	31	27

<b>Energy consumption in MWh</b>	MWh	MWh
Natural gas, fuel and gas oil	463,93	529,35
Electricity	125,26	109,03
Transport with Arla trucks	131,51	80,71
<b>Total</b>	<b>720,70</b>	<b>719,32</b>

<b>CO<sub>2</sub>e scope 3</b>	<b>5,422</b>	<b>4,671</b>
Packaging	106	87
Transport	108	90
Operations	27	20
Milk	5,182	4,474

\*The numbers within this five-year carbon reporting overview only refer to products produced in the UK. They do not include emissions for goods produced at Arla production facilities outside the UK but which are sold in UK.





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