FUTAMURA

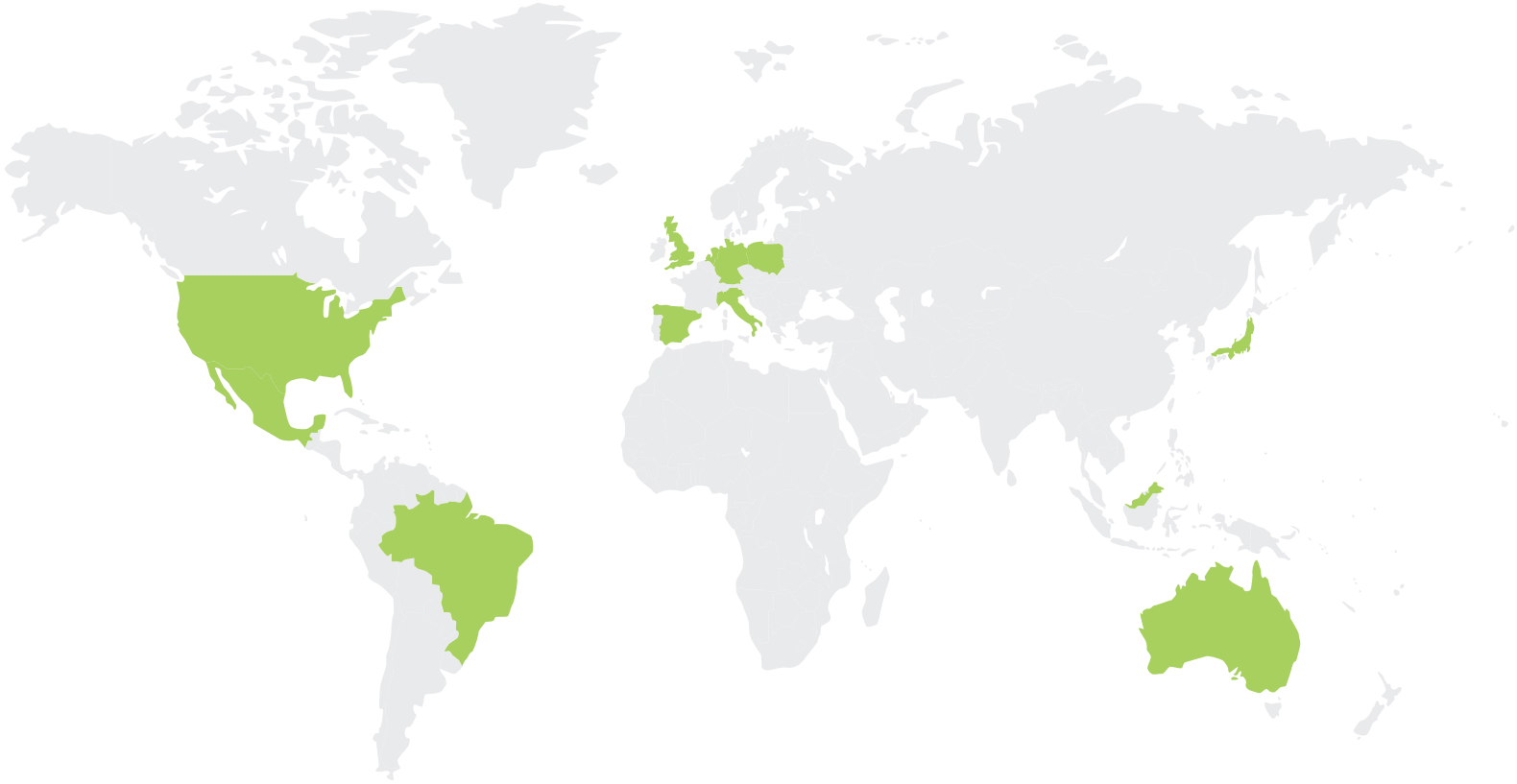
Corporate Social Responsibility

UK 2025 REPORT



Company Information

Global Locations



Futamura USA, Inc.

- Tecumseh Manufacturing Plant

Futamura USA, Inc.

- New York Sales Office

Futamura Comercial Do Brasil Ltda.

- Sao Paulo Sales Office

Futamura Chemical UK Ltd.

- Wigton Manufacturing Plant

Futamura UK Ltd.

- England Sales Office
- Netherlands Sales Office
- Spain Sales Office
- Poland Sales Office
- Italy Sales Office
- Germany Sales Office

Futamura Japan

- Ogaki Manufacturing Plant: Polypropylene film, Polyester film, Cellulose film, Fibrous casing, Non-woven fabric, Agricultural materials

Futamura Japan

- Head Office

Futamura Australia Pty Ltd.

- Melbourne Sales Office



Managing Director's Message

Here in Wigton, Cumbria, we adopt our Japanese parent companies' approach of prioritising the importance of contributing to society. We do that through continually evolving and transitioning towards greener manufacturing and producing from natural products.

Our site has manufactured cellulose films for over 90 years, and we understand that to remain relevant, sustainable, and be here for another 90+ years, we must build on our portfolio of products made from the most abundant of natural materials, cellulose. We are putting our cellulosic expertise to work in developing new products and putting new solutions into the market.

Back in 2021 we embraced the Bruntland report, we use this to describe our approach to business. We start with Profit and target achieving stable growth, that allows us to re-invest in our People by supporting employee development and financial stability, and Place by delivering innovation for our cleaner and greener future. In doing so we serve both our local community and protect the environment.

One of our site values is **"Making tomorrow better than today"**, a simple phrase that can apply to so many topics. However, for us, it is the work we do in our production facility, research labs and customer service teams to making packaging part of the solution, not the problem. Packaging should be renewable, compostable and environmentally responsible.

We recently completed a body of work under a pending patent to re-write 130 years or so of Viscose manufacturing history. In doing so, reducing the environmental footprint of our process. Further to that, we are currently building a facility to process sulphurous waste gases with sulphur, to create both energy for use on site and sulphuric acid for use on site and for resale. Our Japanese owners have a founding principal of creating something from nothing, this is an example of us creating something we want, from something we don't want.

Adrian Cave

Managing Director

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About this Report

This Corporate Social Responsibility (CSR) Report outlines how Futamura UK integrates environmental stewardship, social responsibility, and good governance into its operations at the Wigton manufacturing site located in Cumbria.

It brings together topics such as our sustainability vision, environmental performance, community initiatives, employee wellbeing, product responsibility, and our pathway to net zero emissions.

The reporting period covers 1 January 2025 to 31 December 2025, including Scope 1, 2 and 3 emissions reported for the 2025 financial year - aligned with UK Streamlined Energy and Carbon Reporting (SECR) requirements. Emissions data is reported in accordance with the GHG Protocol Corporate Accounting & Reporting Standard and UK Government GHG Conversion Factors.

Unless otherwise stated, the data in this report relates solely to Futamura UK operations at the Wigton site. Statements relating to targets and future performance are forward looking and subject to uncertainties.

Our Business, Products and Purpose



In July 2016, the Wigton site became part of the Futamura Group, headquartered in Nagoya, Japan.

The group operates a diverse portfolio of businesses across cellulosic films (Cellophane™ and NatureFlex™), casings (MEATLONN™), non-wovens (NatureLace™), cellulose beads (NatureSphere™), plastic films, activated carbon (Taiko® series), starch, agricultural products (Pearl Light®, Dream Sheet, Fruit hat®), and phenolic laminated sheets (Taiko Lite).

Cellulose film manufacture exists across three sites in the UK, US and Japan, with additional sales offices located across Japan, Europe, North America, Asia, Australia, and South America.

Packaging from Nature

Who We Are

Futamura UK is based in Wigton, Cumbria, and manufactures flexible packaging films derived from cellulose - a renewable, natural, organic polymer sourced from wood pulp.

The site has been producing cellulosic films for almost 100 years, having originally operated as a jam factory before transitioning into packaging manufacturing. The Wigton site employs over 280 people and has a strong local workforce and deep community roots.

100 years of prodcution

280+ employees

Our Sustainability Vision, Values and Strategy

Sustainability Vision

Our vision is to contribute to society through continuous improvement and responsibly designed, renewable products. We aim to remain relevant and sustainable for the long term by balancing environmental responsibility, social value and economic performance.

Contributing to society through greener manufacturing and natural products.

Our Core Values

Our culture is guided by three core values:

Helping each other:

- Recognise and appreciate colleagues for their contributions.
- Foster teamwork through mutual support.
- Proactively share skills, knowledge, and experience.

Making tomorrow better than today:

- Prioritise safety, wellbeing, and personal growth.
- Be proactive and ambitious in our goals.
- Embrace change and adapt with a positive mindset.

Doing the right thing:

- Act with honesty and integrity, standing up for what is right.
- Treat everyone fairly and with respect.
- Hold ourselves and each other accountable.

Governance and Management Systems

Management Systems

Futamura UK operates within a robust management system framework, ensuring accountability, transparency and continuous improvement. The site holds the certifications:

ISO 9001:2015
(Quality Management)

ISO 14001:2015
(Environmental Management)

ISO 45001:2018
(Occupational Health & Safety)

BRCGS
Packaging Materials Global Standard

FSC™ and PEFC
Chain of Custody

Additionally. we are currently progressing towards ISO 50001:2018 Energy Management certification, further strengthening our structured approach to energy efficiency and carbon reduction.

Futamura UK are also active members of the Chemical Industries Association (CIA), participating in the Responsible Care Committee and Sustainability Strategy Group. This engagement supports best practice, regulatory insight and ongoing performance improvement.





Cyber Security

Futamura recognises that strong cyber security and information protection are essential to operating responsibly and maintaining the trust of our employees, customers, suppliers and partners.

We have been working to strengthen our systems and processes, working in close collaboration with colleagues across the wider Futamura Group. A new Global Security Policy has been developed to provide a consistent, group wide approach to information security and risk management across all regions.

Enhanced technical controls have been implemented to improve the protection of devices, networks and user accounts, supported by continuous monitoring and proactive threat detection.

Improvements to identity management, system monitoring and automated safeguards have strengthened our ability to detect and respond to potential security risks more effectively. Network security capabilities have also been enhanced, with improved visibility and alerting to help identify unusual or suspicious activity and enable timely response. These measures support the ongoing resilience of our operations and critical systems.

CYBER ESSENTIALS

In parallel, Futamura is progressing towards compliance with the Cyber Essentials standard, led by the UK Government and National Cyber Security Centre. This work is reinforcing both technical controls and internal processes, while helping embed cyber security best practices across the organisation. Employee awareness remains a key part of our approach.

Ongoing training and awareness programmes through the KnowBe4 platform to support colleagues in recognising cyber risks, using systems responsibly, and playing an active role in keeping our digital environment secure. Together, these actions are strengthening Futamura's cyber security capability and supporting a more resilient, responsible and trusted business for the future.

Futamura was also pleased to report zero whistleblowing or corruption reports in 2025.

People: Our Social Responsibility

Employee health and wellbeing is one of Futamura's critical success factors

Health, Safety & Wellbeing

Employee health and wellbeing is one of Futamura's critical success factors and is of paramount importance to the company - underpinning all of our business activities. As well as holding ISO 45001:2018 for Occupational Health & Safety, Futamura provides a range of initiatives to all employees to promote physical and mental wellbeing, examples including:

- Weekly Pilates sessions on site
- Monthly health and wellbeing webinars covering topics such as addiction awareness, musculoskeletal health and cancer awareness
- Health and wellbeing notice boards
- On site specialist health drop ins including flu vaccine clinic
- Safety Hub training
- Partnerships with Samaritans & Andy's Man Club
- Monthly delivery of free fresh fruit for employees
- Physiotherapy in works time
- Mental health first aiders
- Body composition testing
- Cycle to work scheme

In 2025, Futamura UK hosted an on-site health and wellbeing day comprising several exhibitors with outstanding attendance from our employees. Exhibitors included ANDYSMANCLUB, Citizens Advice, Macmillan Cancer Support, and many more!

The results of our employee satisfaction survey were also published internally in 2025, achieving a high level of engagement, with responses from 150 out of 280 employees.















Community Investment and Social Value

Futamura UK is deeply embedded in the local Wigton community and is proud to support initiatives that promote wellbeing and opportunities across the town. Throughout 2025, we contributed to a wide range of community, charitable and educational activities, reflecting our commitment to delivering positive social value beyond our operations.

Our ongoing support for local sports included headline sponsorship of Wigton Rugby Club, sponsorship of the Wigton Road Runners Charity 10K, match ball sponsorship for Carlisle United F.C., equipment donations to Wigton A.B.C. Boxing Club and support for youth sports initiatives such as Aspatria Hornets Rugby U12s.

Futamura employees actively contributed to wider charitable causes throughout the year. This included participation in fundraising activities for the Great North Air Ambulance Service, donations to Cash for Kids' Mission Christmas, seasonal donations to local families, schools and care homes, and the donation of Easter eggs to children's wards at West Cumberland Hospital, Cumberland Infirmary and Barnardo's. We also supported local fundraising events through prize donations, including for a charity comedy and music night at The Greenhill Hotel.

Education and skills development remain central to our community engagement. In 2025, we invested in local education infrastructure by funding three new lathes for The Nelson Thomlinson School engineering workshop, enhancing practical learning opportunities for students. Additionally, each year at Cockermouth School, Futamura presents the Richard Armstrong Award for Outstanding Chemist of the Year, with the 2025 winner being Zac Swain. This special award honours the memory of our colleague Richard Armstrong, who sadly passed away in 2020.







Furthermore, in 2025, our Research and Innovation team visited Thomlinson Junior School during British Science Week, engaging pupils across multiple year groups and promoting the message that curiosity is the foundation of a career in science.









Beyond primary education, Futamura continued to work closely with local schools and colleges to promote careers in manufacturing, science and engineering. Activities included participation in National Apprenticeship Week promoting our apprenticeship opportunities, attending careers fairs, hosting work experience students, and welcoming Caldew School Year 11 students for a “Work Ready Day” at the Wigton site.

At an international level, we maintained our long standing collaboration with Michigan State University, hosting packaging students for their annual visit to the Wigton factory. The visit provided students with insights into cellulose film manufacturing, compostable materials and the role of renewable packaging solutions such as NatureFlex™. Through these activities, Futamura aims to support local communities, inspire future talent, and strengthen the social fabric of the region in which we operate.

Futamura aims to support local communities, inspire future talent, and strengthen the social fabric of the region in which we operate.

Industry Leadership, Advocacy and Policy Engagement

Futamura UK actively contributes to industry collaboration and policy dialogue to help shape responsible, future ready packaging systems. Through engagement with recognised industry bodies, we share technical expertise, support evidence based decision making and contribute to the development of practical solutions that advance sustainability across the value chain.

In 2025, Futamura played an active role in industry initiatives led by organisations such as the Bio-based and Biodegradable Industries Association (BBIA) and the Compostable by Design Platform (CbDP).

Through CbDP, Futamura contributed to the development of the Compostable by Design Guidelines, launched in October 2025.

These guidelines provide practical tools to support responsible design decisions, including a decision tree to determine when compostability is appropriate, technical design recommendations, and up to date guidance on EU legislation, standards and certification. The work supports better alignment between product design, waste infrastructure and regulatory requirements.

Additionally, throughout the year, Futamura



COMPOSTABLE BY DESIGN PLATFORM

Read the Compostable by Design Guidelines here



representatives also engaged directly with MPs and policymakers at Westminster, showcasing bio-based and compostable packaging solutions and contributing technical insight to discussions on packaging sustainability and end of life pathways. In addition, we were pleased to welcome Markus Campbell Savours MP and Councillor Elaine Lynch to our Wigton manufacturing site, providing an opportunity to discuss renewable materials, innovation and recent investments at the site.

Futamura became a founding signatory of WRAP's UK Packaging Pact, launching in April 2026. By joining organisations from across the packaging value chain, Futamura is supporting a coordinated approach to optimising packaging design – helping to accelerate the UK's transition to a circular packaging economy.





Awards and Events

At the end of 2025 we were delighted to receive the Food & Drink Matters **'Sustainable Packaging Company of the Year'** award - representing our on-going dedication to sustainable packaging innovation.

Throughout 2025, we were also proud to be presented several awards for our industry- including an award for the first compostable sachet for liquid products, developed in collaboration with Repaq and GK Sondermaschinenbau.

This included being a finalist for the 'Marketing











Excellence Award' at the in-Cumbria 2025 Business Awards, achieving second place for the 'Innovation Award' at the EUBP Annual Conference, and also placing as second runner-up in the Product Innovation category at the BBIA Demeter Awards.

2025 was another successful year for trade shows & exhibitions. Futamura UK were proud to be in attendance at several events including, TAROPAK, Labelexpo, Interpack, Fruit Logistica, BIOFACH, Packaging Innovations & Empack, and many more!

Furthermore, our Japanese colleagues travelled from Nagoya to visit our Wigton plant for an Asia-Pacific sales meeting, a first time visit for some.

It was a valuable couple of days collaborating between the Sales & Marketing teams and exploring development opportunities in the Asia-Pacific market. Key members from Quality Assurance and Production also travelled over to exchange technical knowledge between our two sites.

Futamura UK actively contributes to industry collaboration and policy dialogue to help shape responsible, future ready packaging systems.

Product Strategy and Sustainable Sourcing

The Role of Cellulose Films and Bio-based Materials

Compostable and bio-based packaging, such as NatureFlex™, can support improved management of biowaste in applications where packaging is frequently contaminated with food residues and therefore unsuitable for conventional recycling. Where the co-collection of food waste and packaging is allowed and treated together, compostable materials help divert biowaste away from landfill and incineration and into organic recycling routes.

Certified industrially compostable materials break down in industrial composting facilities under controlled conditions, whereas certified home compostable materials are able to disintegrate under more variable, low temperature conditions. When handled within their intended end of life systems, certified compostable materials break down into carbon dioxide, water and biomass, returning organic matter, nutrients, and biogenic carbon to soils - supporting a circular economy. Additionally, this process can support soil health by enhancing soil structure and water retention.

Where the co-collection of food waste and packaging is allowed and treated together, compostable materials help divert biowaste away from landfill and incineration and into organic recycling routes.



NatureFlex™
NEXT GENERATION PACKAGING

Circularity, Compostability, and End of life Pathways

NatureFlex™ films were designed with circularity and a responsible end of life in mind.

NatureFlex™ can be composted at home, or collected by local authorities for industrial composting, where accepted, together with biowaste collections. NatureFlex™ films are also suited to anaerobic digestion according to ISO 15985.

Designed with circularity and a responsible end of life in mind.



End of Life Options

- ✓ Industrial compostability
- ✓ Home compostability
- ✓ Anaerobic digestion
- ✓ Recycling

Raw Materials

- ✓ Managed Forestry
- ✓ Low impact cultivation
- ✓ >90% Renewable raw materials

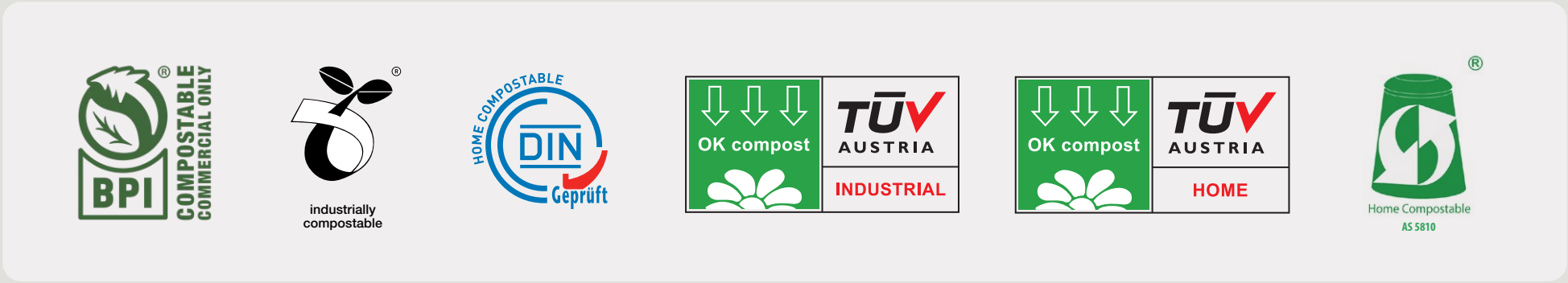
Manufacturing Process

- ✓ Peer reviewed LCA
- ✓ In-house LCA expertise
- ✓ Carbon footprint reduction
- ✓ Proven environmental investment

Packaging Performance

- ✓ Tailored moisture barrier
- ✓ Aroma and gas barrier
- ✓ Static-free
- ✓ Heat-resistance
- ✓ Machine friendly

NatureFlex™ films are certified for home composting according to the OK Compost Home protocol and/or are certified by Din Certco/ABA against the French (NF T51-800) or Australian (AS 5810) standards. In terms of industrial composting, our NatureFlex™ films are certified against robust standards such as EN13432, ASTM D6400, AS 4736 and ISO 17088.



is a registered trade mark of the Australasian Bioplastics Association. is a registered trade mark of European Bioplastics e.V. in the EU.

We are committed to expanding the end-of-life possibilities for our products.

While NatureFlex™ was designed for composting, we are actively exploring emerging advanced recycling technologies, such as enzymatic techniques, to support a multi-pathway approach to sustainable waste management.

Further information on the end-of-life possibilities of our NatureFlex™ films can be found in our *'End-of-Life Flyer'* on our website.

Responsible Sourcing and Traceability

NatureFlex™ films are derived from renewable sources and have been tested according to ASTM D6866 for bio-based content (measured by ^{14}C analysis), confirming that standard NatureFlex grades typically contain at least 90% biobased content.

Futamura's main raw material is wood pulp sourced from eucalyptus trees, which do not require additional irrigation and the use of herbicides, insecticides and fertilisers are low to minimise environmental impacts.

FSC
www.fsc.org
FSC™ C119399
The mark of responsible forestry

PEFC
PEFC/16-33-1610
Promoting Sustainable Forest Management
www.pefc.co.uk

Look for this symbol, which identifies USDA certified biobased products.

Moreover, Futamura supports responsible forestry practices by our commitment to only sourcing our pulp from FSC™ or PEFC certified plantations. Our UK and US operations hold FSC™ and PEFC Chain of Custody certification - demonstrating our dedication to responsible sourcing and traceability throughout the supply chain, in line with our Wood Sourcing Policy.

In addition to our product sustainability initiatives, Futamura UK takes steps to reduce environmental impacts associated with packaging, logistics and procurement. Responsible sourcing and supplier standards form part of our wider governance approach. Futamura UK is a member of Supplier Ethical Data Exchange (SEDEX) - a global membership organisation dedicated to driving improvements in ethical and responsible business practices in global supply chains.

We also operate an Approved Contractor List under a preference for using SafeContractor certified contractors, supporting high standards of health, safety and responsible working practices and operating in line with our Anti Slavery and Human Trafficking Policy.

SafeContractor APPROVED www.alcumusgroup.com

In terms of packaging, Futamura UK aims to ensure that the plastic overwrap and bubble wrap used for shipping NatureFlex™ reels and sheets contains a minimum of 30% recycled content. The cores used for winding film, along with core bungs, are manufactured from 100% recycled fibre and are fully recyclable at end of life. Additionally, where possible, pallets are repaired and reused, and we operate a pallet take back scheme with Returnable Packaging Services (RPS) to support reuse and reduce waste. Other packaging materials, including chipboard, are manufactured using recycled content and sawmill by products and are themselves recyclable, supporting a more circular approach to material use.

We also seek to minimise transport related impacts by optimising shipping efficiency. This includes sourcing materials locally where feasible to reduce road miles, utilising local ports, and applying a modal shift approach to favour lower carbon transport options where available.

Pallet and container configuration is continually reviewed to maximise space utilisation and reduce unnecessary movements. Further efficiencies are achieved through procurement practices, such as purchasing chemicals in concentrated form where possible, diluting on site, to avoid the transport of water, as well as bulk purchasing to reduce packaging and transportation requirements.



Environmental Performance



Product Carbon Footprint

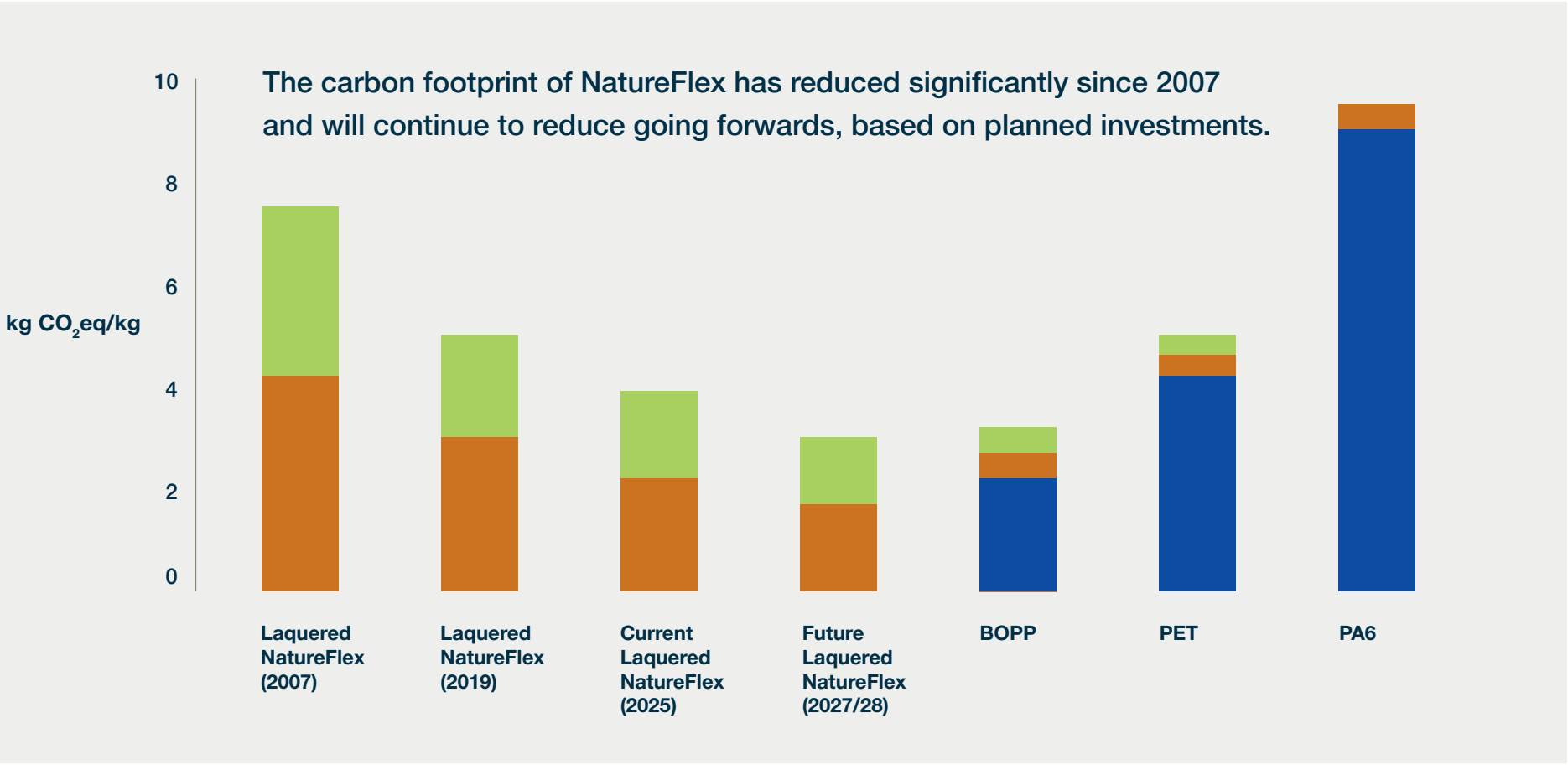
Global warming potential (GWP), commonly known as a ‘carbon footprint’, measures the potential global warming impact of a process in CO_2 equivalents of greenhouse gases between a defined start and end point. Different emissions can have a lesser or greater global warming impact so, for convenience, they are measured and then converted into ‘CO equivalents’ of greenhouse gases. For instance, one tonne of methane has the equivalent global warming impact of 25 tonnes of carbon dioxide.

In the case of NatureFlex™, a complete Life Cycle Assessment (LCA) has been carried out from ‘Cradle to Gate’. This has allowed us to measure and understand the impacts of all our raw materials, through the whole of our manufacturing process until the finished slit reel of film is ready to leave our site. Futamura’s LCAs have all been carried out by Sphera (previously Thinkstep), or ERM, using the GaBi software.

Significant improvements have been made to the raw materials we employ and to our manufacturing process, since we started monitoring our process using LCA in 2006. The most recent LCA was carried out in 2025 and shows that the carbon footprint has reduced by almost 50% since 2007. Historical data showed that already by 2006 the carbon footprint had reduced by 57% from the 1990’s. Looking forward, we are predicting a further reduction of approximately 10% by 2027/28 based on future investments in our process.

It is increasingly common for companies to seek to compare the carbon footprints of different materials, however, great care must be taken to ensure that the comparisons are made only between materials with similar functional properties, using the same LCA methodologies and assumptions, with the same start and end points.

The most recent LCA was carried out in 2025 and shows that the carbon footprint has reduced by almost 50% since 2007.



The graph shown above compares the carbon footprint (kg CO_2eq / kg) of three conventional plastic films; polyethylene terephthalate (PET), polypropylene (BOPP) and polyamide (PA6) – together with the current carbon footprint of lacquered NatureFlex™ NVS film. It also includes a projected carbon footprint for lacquered NatureFlex™ in 2027/28, based on planned improvements to our manufacturing process.

NatureFlex™ has similar technical properties to polypropylene, but in terms of density, mechanical properties, printability and heat resistance, polyester is the closest comparative film. NatureFlex™ is also a good alternative for polyamide film as NatureFlex™ has a very good oxygen barrier and a similar stiffness.

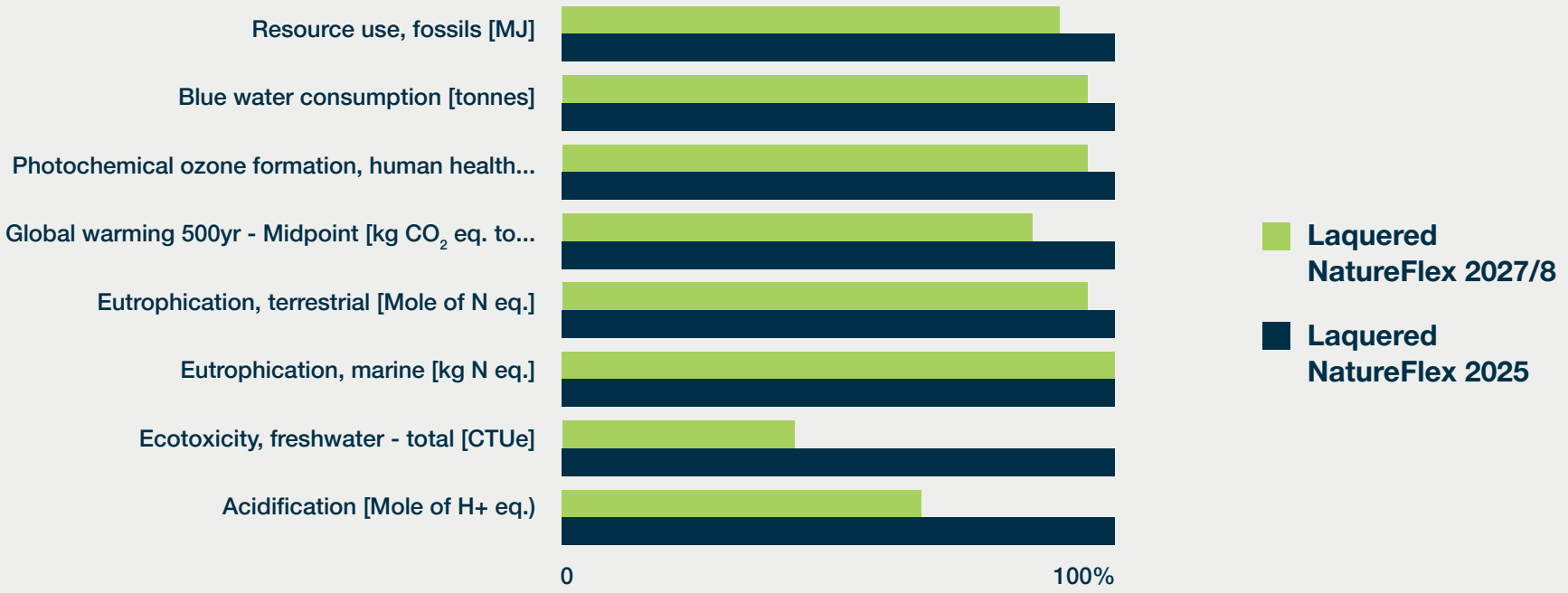
While the term ‘carbon footprint’ is now known to almost all of us, it is only one of a number of key environmental indicators that can be measured by way of LCA.

It is not possible to compare all of the environmental impacts since our first LCA due to the fact that some of the results have changed significantly caused by updates to the databases.

The graph below illustrates the projected improvements across multiple impact categories for our lacquered NatureFlex™ between 2025 and 2027/28, driven by ongoing process improvements.

Results in the graph are shown for Lacquered NatureFlex™ based on PEF methods (EF 3.1) for all environmental indicators except for Global Warming, which was based on Impact 2002+.

Emissions and Energy



Performance

Emissions are reported in accordance with the GHG Protocol Corporate Accounting & Reporting Standard and UK Government GHG Conversion Factors. This includes scope 1, scope 2 and scope 3 emissions as defined below.

In the 2025 financial year, Futamura UK reported total energy use of 159,402,370 kWh and total

Scope 1 (Direct) GHG Emissions

Definition: Includes emissions from activities owned or controlled by Futamura UK that release emissions into the atmosphere. These are direct emissions. Examples of Scope 1 emissions include: emissions from combustion in owned or controlled boilers, company vehicles; emissions from the production process etc.

Scope 2 (Energy Indirect) Emissions

Definition: These include emissions released into the atmosphere associated with consumption of purchased electricity, heat, steam and cooling. These are indirect emissions that are a consequence of Futamura UK's activities, but which occur at sources we do not own or control.

Scope 3 (Other Indirect) Emissions

Definition: These are emissions that are a consequence of business actions, which occur at sources which you do not own or control and which are not classed as Scope 2 emissions. An example of Scope 3 emissions is business travel by means not owned or controlled by Futamura. Futamura UK currently only report grey fleet scope 3 emissions.

Type of Emissions	Activity	kWh	tCO_2e	% of Total
Direct (Scope 1)	Natural Gas	231,331	41.6	0.133
	Company Fleet	216,163	46.9	0.150
	Subtotal	**447,494**	**88.5**	**0.283**
Indirect (Scope 2)	Steam	141,021,572	24,731	78.980
	Electricity	17,920,131	6,490	20.726
	Subtotal	**158,941,703**	**31,221**	**99.706**
Indirect Other (Scope 3)	Grey Fleet	13,173	3.4	0.011
	Subtotal	**13,173**	**3.4**	**0.011**

Total Energy Use (kWh)	159,402,370
Total (Location based Gross Emissions (tCO_2e)	31,312.9
Renewable Electricity (tCO_2e)	0
Production Cast (Tonnes)	9415
Tonnes of Gross CO_2e per Tonne of Production	3.3

gross greenhouse gas emissions of 31,312.9 tonnes CO□e across Scopes 1, 2 and 3. An intensity metric of tonnes CO□e per tonne of production cast (tCO□e/TPC) was used, with a 2025 intensity of 3.3 tCO□e/TPC.

Waste Management

Futamura UK continues to strengthen its approach to waste and resource management through a range of practical initiatives aimed at reducing waste generation and diverting materials from landfill. Examples include the introduction of mixed recycling bins across the site to improve recycling behaviour in offices, welfare areas and operational spaces, increasing the capture of recyclable materials. In addition, dedicated personal protective equipment (PPE) recycling has been implemented to provide a responsible end of life route for used PPE.

In 2025, as part of Simpler Recycling requirements, Futamura UK introduced food waste recycling across the site, enabling organic waste to be diverted from general waste streams for composting or anaerobic digestion. Since implementation, this initiative has diverted approximately 97,500 kg of food waste from landfill.

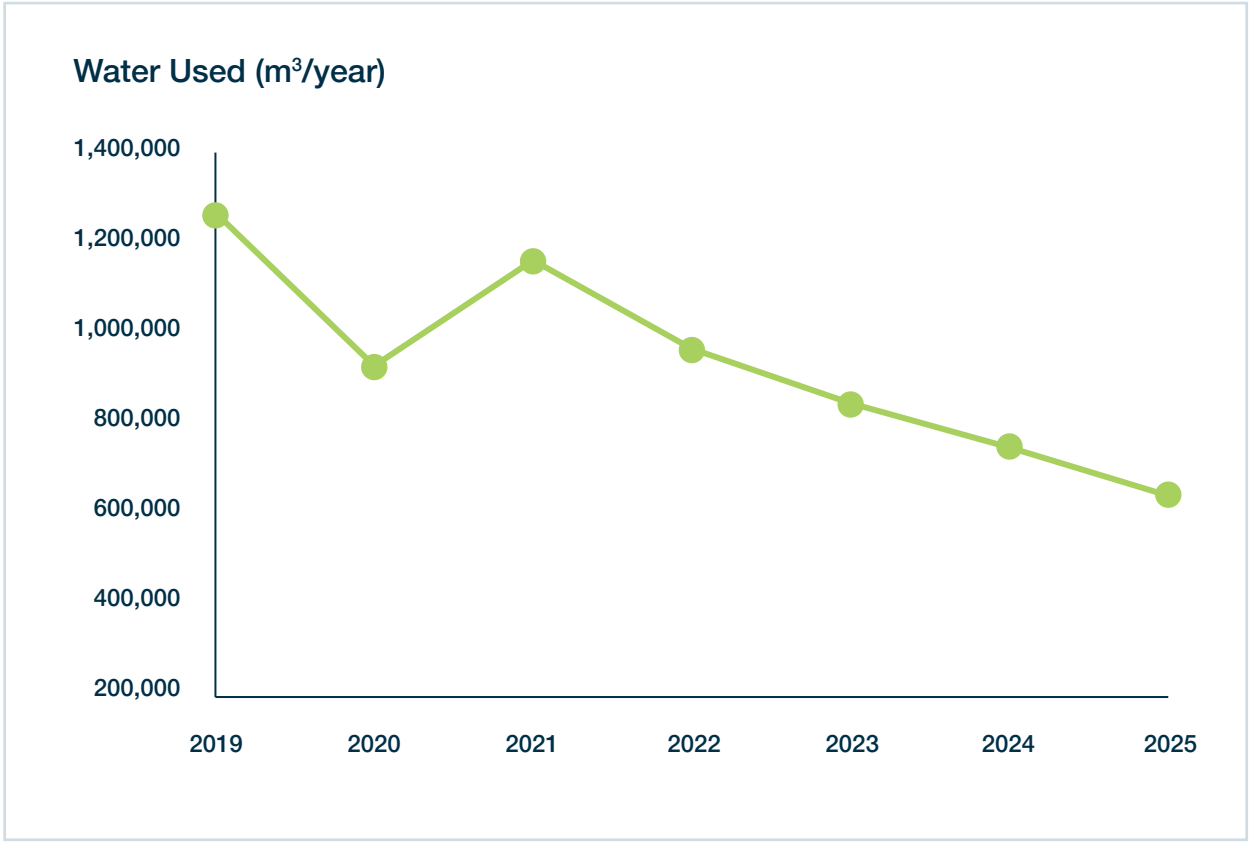
Together, these measures form part of Futamura's ongoing efforts to reduce waste, improve resource efficiency and embed responsible material management throughout day to day operations.

20% reduction in overall site water demand (approx.)

Water Stewardship

Futamura UK has made significant progress in reducing total water consumption in recent years, as demonstrated by the downward trend shown in the graph since 2019.

To support this reduction, Futamura invested in upgrading ageing infrastructure through the commissioning of a new water treatment plant in mid 2019. The system processes abstracted water prior to use in manufacturing and comprises four continuous up flow sand filters, a buffer tank and a lamella solids separation unit. This investment has reduced overall site water demand by approximately 20%, equivalent to around 500 m^3 per day, contributing to improved water efficiency and long term operational resilience.



Pathway to Net Zero

Since 2019, Futamura has delivered a cumulative carbon saving equivalent to removing ~70,000 cars from UK roads for an entire year.

This figure represents avoided CO_2e emissions associated with lacquered (based on NatureFlex™ NVS) and plain film production between 2019 and 2025, calculated using IPCC AR6 GWP100 values from an independent third party life cycle assessment from ERM*. This resulted in an average reduction of 24% of the carbon footprint of NatureFlex™ films.

A key contributor to recent carbon reductions has been the investment in a new, high performance compressed air system to strengthen energy efficiency, reduce carbon emissions, and improve operational resilience.

An independent air survey confirmed that this new system was outperforming expectations. To further enhance the sustainability, Futamura integrated a heat recovery system utilising waste heat from the compressors to pre-heat thermotanks, reducing the steam required for the production process. The new system has proven highly dependable, with no major issues to date. These two improvements have delivered a substantial reduction in Futamura's carbon emissions of over 400 tCO_2e per year.



Equivalent carbon saving:
Removing ~70,000 cars from UK roads for an entire year

Beyond large-scale investments, Futamura has implemented a range of targeted energy efficiency initiatives across its site. In 2022, air conditioning units in the administration block were reprogrammed to operate only when needed and within controlled temperature limits. Employees were also encouraged to switch off lights, monitors, and computers when leaving the building, resulting in a 28% reduction in electrical usage.

Employee engagement also plays an important role in reducing indirect emissions. Futamura has introduced a range of initiatives to support lower carbon behaviours, including the Cycle to Work Scheme, which was relaunched in 2025 and has seen strong uptake. This has been supported by on site bike shelters and free electric vehicle charging, alongside the transition of the pool car fleet to hybrid and electric vehicles. Together, these measures support reductions in emissions associated with commuting and business travel.

*The calculation is based on the difference in the carbon footprint between 2019 and 2025. Based on this, the actual amount of CO_2e saved was ~100,000 tonnes.

Looking ahead, the most significant step in Futamura UK's decarbonisation programme is the £15 million project, internally known as Wet Sulphuric Acid (WSA), scheduled for implementation in 2027/28.

Futamura UK was awarded a UK government grant of up to £4.5 million through the Industrial Energy Transformation Fund (IETF) to support this project.

The project will capture waste gases from the production process and convert them into a usable raw material, while recovering heat to generate steam for site operations. Once operational, this asset will generate 15% of the total energy requirement of the Futamura site.

These investments are projected to reduce Futamura's CO□e emissions even further, the equivalent to removing an additional ~4,000 cars from UK roads every year (based on 2025 production volumes).

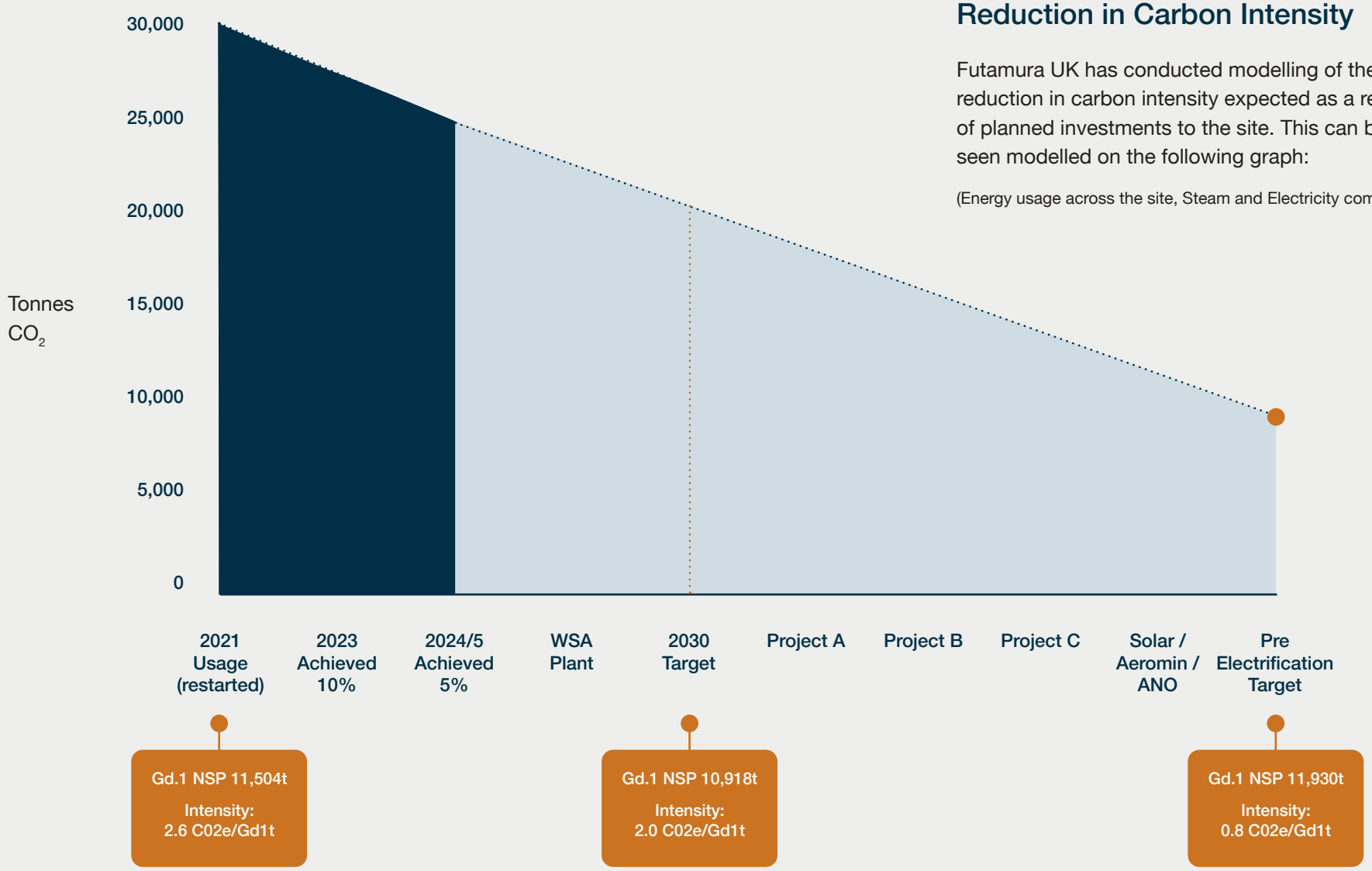
Futamura also has a dedicated Net Zero Team, established in 2021, which aims to coordinate decarbonisation across operations. Together, these initiatives demonstrate Futamura UK's ongoing commitment to reducing emissions, supporting the transition to lower carbon manufacturing and contributing to long term net zero ambitions.



Reduction in Carbon Intensity

Futamura UK has conducted modelling of the reduction in carbon intensity expected as a result of planned investments to the site. This can be seen modelled on the following graph:

(Energy usage across the site, Steam and Electricity combined)



R&D and ACORN™

Futamura has two research centres, one in the UK and one in Japan. In the UK, the Research and Innovation (R&I) team connect with various businesses and universities, leveraging joint expertise in valorising biomass to produce useful and sustainable products.

In 2025, Futamura's R&I team took this one step further by launching the Advanced Cellulosic Open Research Network (ACORN™) aiming to harness and expand a collective of shared expertise in the cellulosic space.

From cosmetics and coatings to agriculture and healthcare, ACORN™ is our commitment to finding natural, renewable solutions to problems - together.

ACORN™

Innovation Powered by Futamura

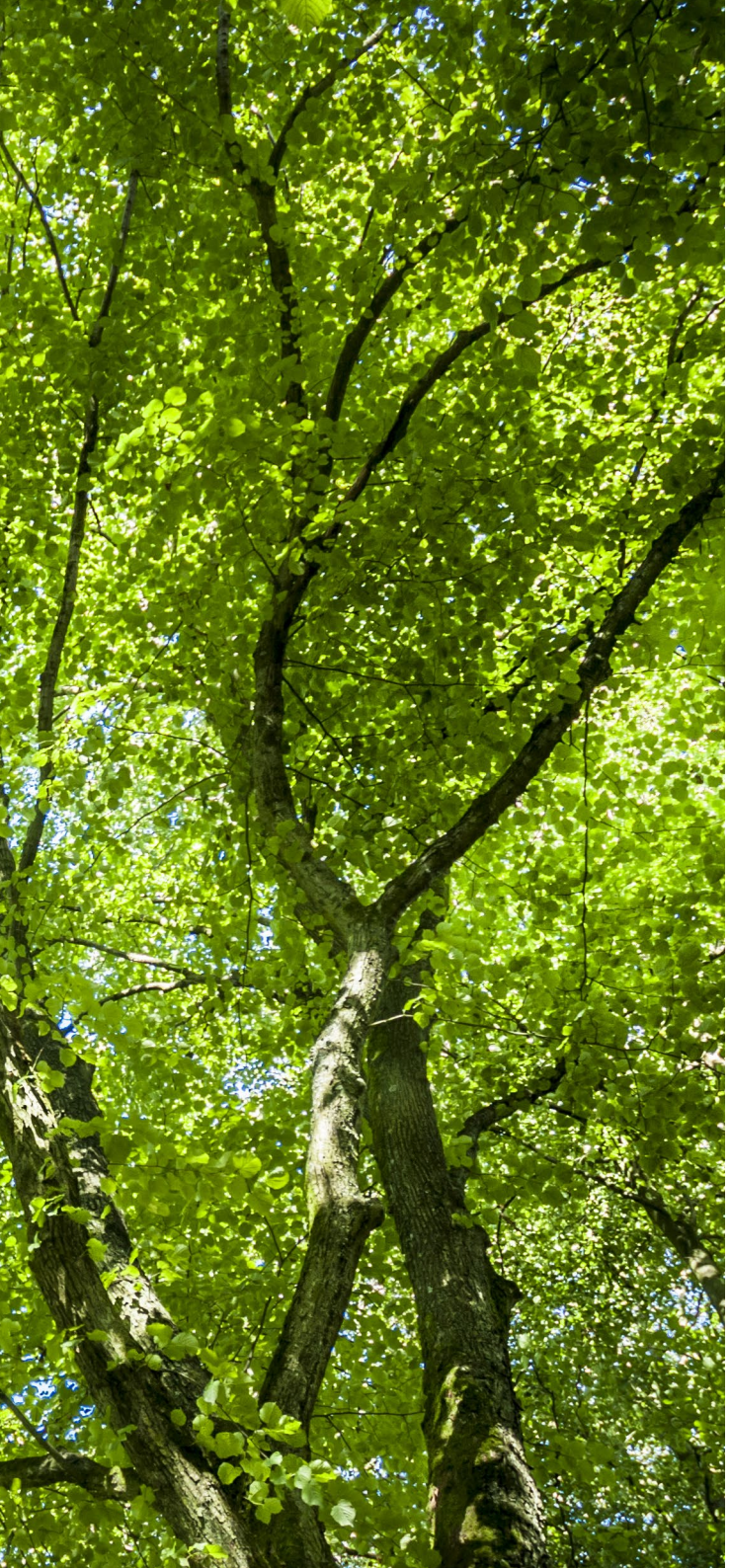
Click to explore ACORN™ LinkedIn page

Futamura's research teams continue to drive innovation in the cellulosics space. One recent example is the launch of NatureSphere™, a renewable cellulose based microbead designed to replace plastic microbeads traditionally used in personal care and cosmetic applications, such as scrubs, foundations and body washes. NatureSphere™ can also be incorporated into films, inks and paints to impart a matt finish.

NatureSphere™ is produced from wood sourced from managed forestry and is certified as home compostable and marine biodegradable, allowing different end of life solutions, depending on the application. The cellulose beads are manufactured using Futamura's proprietary Rahcel™ production method that does not require organic solvents to form the spheres.



NatureSphere™



Future Improvements

Futamura UK remains focused on continuous improvement and is actively planning the next phase of its sustainability and decarbonisation journey. A number of future initiatives are under consideration to ensure the business remains resilient to emerging risks while continuing to reduce its environmental impact.

This includes ongoing horizon scanning, supported by partners such as Enterprising Cumbria, alongside engagement in relevant industry events to help identify future regulatory, technological and market developments. Futamura UK will continue to assess opportunities for low carbon energy generation, including on site renewable options, such as solar and wind, as well as third party solutions and Power Purchase Agreements.

Further reductions in energy consumption will be driven through enhanced monitoring and understanding of site energy use, the development of engineering standards with energy efficiency in mind, and the phased replacement of ageing or inefficient equipment with more modern, lower carbon alternatives.

In addition to the forthcoming Wet Sulphuric Acid (WSA) project, which is expected to become operational within the next five years, Futamura is also progressing longer term technology developments. One example is aqueous coating technology, which has the potential to deliver further significant reductions in carbon emissions in the medium to long term.

To support sustained progress, Futamura will continue to embed environmental best practice across the business through its management systems, including progression towards achieving ISO 50001:2018 Energy Management accreditation, helping to lock in performance improvements, strengthen governance and support long term sustainability goals.

Futamura UK remains focused on continuous improvement and is actively planning the next phase of its sustainability and decarbonisation journey.

FUTAMURA

For more information on the CSR performance of the wider Futamura Group, please see the Futamura Group CSR Report on our website, or click here to read now.

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