



BIO-BASED AND BIODEGRADABLE
INDUSTRIES ASSOCIATION

Registered Office 2 Old College Court
29 Priory Street
Ware
Herts
SG12 0DE

Telephone 03707 369369
E-mail admin@bbia.org.uk

September 2017

BBIA UK Policy Document Autumn 2017- Executive Summary

Context

As the UK Government prepares important policies around the Clean Growth Plan, the 25 Year Environment Plan, the Bioeconomy and the Industrial Strategy and ties these into the context of Britain leaving the European Union, BBIA wishes to make its contribution to help the Government understand what industrial biotechnologies can contribute to these policies.

BBIA's vision for the UK post- Brexit is a country which competes on the quality of its environmental standards as a way to attract investments, increase trade, stimulate new industrial technologies and create employment. By adopting measures which improve the quality of our food chain, reduce and manage our waste, protect our soil and waterways, the UK can become a leader in industrial biotechnologies and close the gap on European and overseas competitors, creating jobs, increasing exports, and making the UK a cleaner, greener country to live in.

BBIA's Mission is to help Government and businesses make this happen. BBIA wants the UK to become a major player in industrial biotechnologies currently developing rapidly in Germany, USA, France, Italy, Sweden, Brazil, Finland and Japan. Growth in this sector is estimated to average 10-15% per annum globally, yet the UK is still only on the margins of this development.

BBIA Members use low- carbon technologies (known as Green Chemistry or Industrial Biotechnologies) to produce materials and products that have a role in reducing pollution and waste. The chemistry involves transforming bio-based feedstocks, instead of traditional petroleum – based feedstocks, into new materials. The UK has enormous bio-based resources that are potential feedstocks for these technologies. Product examples are biodegradable lubricants for use in machinery and motors that when spilled do not pollute soil and waterways; biopesticides that have low impact when used, both for the workers and the land/plants on which they are applied; bioplastics, that can be used in certain packaging streams, to drive food waste collections, or as speciality materials in (for example) the automotive industry; or as soil mulch, naturally absorbed into soil after use; insulating materials that use resources more efficiently and reduce the amount of waste produced; and a host of chemical products for use in cosmetics, pharma, coatings and paints, and consumer goods.

BBIA asks for Government to take leadership and make certain environmental goals national targets to meet over the next five years. These targets will then stimulate the growth of production and investments in materials that can help achieve the goals of greater environmental quality. Below are suggested policy goals which BBIA members regard as important to stimulate the growth of the industrial biotechnology industries in the UK.

BBIA is available to assist Government in understanding how to develop these policies.



BIO-BASED AND BIODEGRADABLE
INDUSTRIES ASSOCIATION

Registered Office 2 Old College Court
29 Priory Street
Ware
Herts
SG12 0DE

Telephone 03707 369369
E-mail admin@bbia.org.uk

September 2017

BBIA's Policy Document Autumn 2017- Full Text.

The context

The Government has confirmed it will negotiate an exit of the UK from the European Union. This gives the UK an extraordinary chance to develop policies that are best suited to its own development and growth while remaining an important trading partner with Europe and the world.

Simultaneously the Government has announced policy initiatives on the Clean Growth Plan; is expected to announce its 25 Year Environment Plan; and has terminated consultations on Bioeconomy and Industrial Strategy, which are awaiting follow up.

In this context a series of overlapping and complementary policies are being elaborated in Whitehall. It is important to get them right because the UK will need all the stimuli it can find to ensure economic prosperity outside of the European market system. This will mean increased manufacturing, investments into new technologies and sectors, whilst not losing sight of the UK's strategic international commitments on reducing carbon emissions and achieving the Sustainable Development Goals.

Industrial biotechnologies as developed by many BBIA members, can provide solutions to these challenges, and this paper lays out what these are, what they can achieve and what is needed from Government to make them happen.

What is BBIA's Vision for the UK ?

We want to see a country in ten years time which

1. enhances protection of public health and the environment by adopting measures which improve waste (including reducing food waste), packaging (including recovery), waterway, marine and soil management by raising standards of protection and reducing pollution to our Natural Capital.
2. attracts investment into the UK to produce materials which can respond to the needs of new policies, that are bio-based, using our enormous potential to produce resources from agriculture, agricultural by-products, and waste; that are biodegradable or recyclable, to reduce packaging waste, pollution of our soils and waterways; and that are produced through new, cleaner industrial biotechnologies.
3. has created long-term secure employment for thousands of UK workers through the deployment of industrial biotechnologies across a range of uses



BIO-BASED AND BIODEGRADABLE
INDUSTRIES ASSOCIATION

Registered Office 2 Old College Court
29 Priory Street
Ware
Herts
SG12 0DE

Telephone 03707 369369
E-mail admin@bbia.org.uk

4. has improved the coordination between science, research, business development and government policy, raising the standards on bringing IP to market and creating new biotechnology industries from research start-ups

These aims are part of a wider vision to grow a bioeconomy sector in the UK to ensure long-term and sustainable industrialisation using new technologies and creating products and materials that respond to the need for enhanced environmental protection.

What is BBIA's Mission ?

Our Mission is to make the UK a major international player in the bioeconomy sector. Other countries have seized the opportunities to create wealth and respond to the call for enhanced environmental protection, with new industrial biotechnologies producing new materials. We want to ensure the UK does not miss this train.

As a country that may no longer be subject to EU policies on these issues, this is an excellent opportunity for the UK to show leadership and grasp the opportunity presented by new technologies to stimulate growth, employment and improved environmental quality.

What do BBIA members do ?

Companies belonging to BBIA produce and market raw materials and final products that have a component of bio-based content; and that are usually biodegradable when their life cycle comes to an end. Such products can be made using less toxic or less polluting technologies, assisting the pathway to a low carbon economy and improving environmental and human health when made and used; and can be often recovered through organic recycling (such as composting) to be recycled as compost and fertiliser useful for the maintenance of soil quality.

Such products will include biodegradable oils for use in motors and engines that when accidentally spilled in the environment biodegrade without polluting water streams and soils; or pesticides that are of low impact that reduce farm-worker health risks, improve food quality, reduce the side effects of residue accumulation and biodiversity loss; farm mulch that is biodegradable in soil and can be left to be naturally assimilated into the soil at the end of the season; packaging that is made with compostable materials that can be collected, recycled and recovered through organic recycling, as is composting.

The production process to make these materials often is similar to that which has been used to make bio-fuels from biomass, but technological progress has allowed industry to go one step further- instead of using the chemicals to make fuels, these can now be transformed into new materials in plants known as biorefineries. The link between production processes, local agricultural supply chains, research, and return to soil of many of these materials in a circular loop, is at the heart of the bioeconomy.



BIO-BASED AND BIODEGRADABLE
INDUSTRIES ASSOCIATION

Registered Office	2 Old College Court 29 Priory Street Ware Herts SG12 0DE
Telephone	03707 369369
E-mail	admin@bbia.org.uk

The essential ethos driving the companies making these products is to create materials and products which reduce environmental impacts and improve our quality of life. For example, biodegradable farm mulch avoids having to extract sheets of PE from the soil at the end of the farm season, and avoids fragments of plastic contaminating and accumulating in the soil; biodegradable lubricants avoid damaging water courses and farm land; compostable packaging for food uses can improve food waste collection volumes and quality and raise the amount of organic carbon returning to soil; bio-based pesticides have a much lower toxicity and reduce biodiversity loss.

The technologies behind the production of these materials are relatively new, the frontier of industrial biotechnology being one that has developed in the last decade. However, the growth rate of these industries is very fast as Governments and industries see the advantages in cleaner production and raise environmental standards to improve human health and environmental quality. These new products offer solutions which have an outcome in terms of environmental and health standards that respond to public and private concerns around climate change, air quality, waste management, food security, animal welfare, water quality.

What is the context for BBIA members to be able to help the UK Government ?

Currently very few of the industries producing these materials are doing so in the UK. Quite simply, without raising environmental standards these products find it difficult to enter into market-places that are consolidated, and less driven by concerns about the issues BBIA members are facing. So just as it was acceptable to dump our sewage waste into the oceans (as it was in the UK until the 1970s), we did so. When we raised the environmental and health standards around sewage, we stopped dumping it and started treating it. Just as we banned lead in petrol, or the use of asbestos, or CFC gasses, or stimulated renewable energies, changes to the quality of our life and environment usually derived from Government policies that often result from campaigning by public interest groups or from new scientific evidence and technological progress.

Nations around the world have adopted policies which have stimulated the growth of industries BBIA members are involved in. In Germany for example, the use of biolubricants on its waterways is obligatory- Germany still has a huge movement of goods down its rivers and biolubricants reduce pollution from spills. Similarly, the Bay of San Fransisco has adopted a “biolubricants only” policy for shipping. Kenya has adopted policies to reduce pesticide pollution, promoting the use of bio-pesticides. Italy has banned plastic carrier bags except for compostable bags, and has made food waste collection with compostable bags obligatory. California has adopted similar policies. France has tried to ban plastic throw-away tableware allowing only compostable materials (a process is on-going in the European Commission); while France’s ban on non compostable fruit and vegetable bags has created a boom in the local industries making compostable bags.

The context in which BBIA members can be of help to the UK Government in creating jobs and making investments in the UK, therefore revolves around the desire of the UK Government to raise the standards of protection of the environment and human health. It is not always true that change



BIO-BASED AND BIODEGRADABLE
INDUSTRIES ASSOCIATION

Registered Office 2 Old College Court
29 Priory Street
Ware
Herts
SG12 0DE

Telephone 03707 369369
E-mail admin@bbia.org.uk

comes without policy. As we have seen with the increasing amount of food waste produced in the UK, despite a voluntary agreement like the Courtauld Commitment, change often does not happen through voluntary agreements. Political leadership is often critically important to stimulate change.

What can BBIA members do ?

If the right policy measures are taken to give some long-term assurance of the Government's intention to raise the standards of human and environmental health, BBIA members can

1. invest in the production of biopolymers in the UK, either primary production or compounding
2. develop the production of secondary materials in the UK, for example, compostable packaging films and materials, biolubricants, packaging
3. according to the CEBR report published in 2015, the development of compostable plastics in the UK could create, through the value chain, some 30,000 jobs.
4. substitute some imported materials in the packaging industry.
5. reversing the continuing decline of UK soil quality and farming in the UK through reduced impacts of pesticides, plastic mulches, oil spills to soil, and by adding organic carbon to soil
6. reduce waste packaging through producing packaging that can be recycled or recovered through composting and returned to soil- currently many composite food packaging materials are impossible to recycle.
7. improve food waste collection through the use of compostable collection bags and help the UK increase its recycling levels, currently falling and well below the EU 50% target for 2020.

What do BBIA members ask from the Government ?

We appreciate that new technologies are disruptive and therefore face strong opposition from consolidated industries and their supply chain. Introducing new products often requires behavioural change- phasing out plastic carrier bags has been a huge success even though it required significant changes in the way supermarkets and their customers implemented the law; and also often requires investments- just as when we stopped dumping sewage in our rivers and oceans, we had to build new collection and treatment systems.

Firstly let's be clear: BBIA members are not requesting subsidies, neither are they asking for enormous research grants to discover the "perfect" material. BBIA sincerely believes that the technological solutions to many of our environment and health challenges are available here and now.

BBIA is asking Government to raise certain health and environmental standards to stimulate new markets in products and solutions which meet the new criteria.

The can be achieved with no extra cost to the Treasury and no loss of tax income.

Here are policies that the Government can adopt now and to which technological solutions are available to implement.



BIO-BASED AND BIODEGRADABLE
INDUSTRIES ASSOCIATION

Registered Office 2 Old College Court
29 Priory Street
Ware
Herts
SG12 0DE

Telephone 03707 369369
E-mail admin@bbia.org.uk

1. reduce the pollution of waterways by imposing the obligatory use of biolubricants on canals, rivers and for small pleasure craft, in our ports. This can be brought in gradually over a five year period to give time for the supply chains to adapt.
2. similarly, stop the use of oil based lubricants in farming- tractors, diggers, chainsaws for example- where oil spills to soil create contamination and are unavoidable. Again, a five year period for adaptation to the new rules will allow both the supply chain to ensure product availability and the end users to use existing stocks.
3. oblige the use of certified soil biodegradable mulches for farming, to avoid microplastic pollution from PE mulches as currently happens
4. oblige all councils in the UK (only England does not) to collect household and business food waste. Currently over 5 million tons of foodwaste do not go to foodwaste treatment, a loss of resources for the production of bio-based soil fertilisers, bio-energy (biogas) and by not treating biowaste, contributing to Green House Gas emissions, contrary to the UK's obligations under the Paris accords.
5. oblige councils to use compostable collection bags for foodwaste to avoid soil contamination from microplastics in the digestate and compost produced post AD.
6. promote the use of compostable packaging and labelling in those uses where food is sold with a short sell-by-date life and can be recycled through composting (for example, fruit and vegetables, sandwiches, bread)
7. use on Government, MoD, and Crown Estates lands low -impact biobased pesticides to reduce loss of biodiversity and to improve worker/soil health and quality.
8. promote the use of bio-based materials, for example as insulating materials, or as packaging, in Government tenders and purchases. The USA has a bio-based preferred purchasing programme run by the US Department of Agriculture which makes it easier for Government departments to introduce bio-based materials in their procurement.

These are a series of policies which can be introduced over time and with graduality to avoid rapid disruption in supply chains. However, without some of these policies the UK will not create the markets which lead to lower societal and environmental impacts, new investments and jobs and competition in the field of a new, rapidly growing international industrial sector.

BBIA is available to help policy makers understand how such policies have been implemented elsewhere and the impacts of them.