Position Statement

Harnessing the Bioeconomy for Industrial Transformation

The EU's 2025 Bioeconomy Strategy reaffirms the central role of biological resources and renewable carbon in driving industrial competitiveness, strategic autonomy, and climate mitigation. By placing biomass, residues, biogenic waste, and carbon dioxide at the centre of industrial feedstock policy, the EU aims to accelerate the shift away from fossil-derived materials while enabling new markets, regional value creation, and high-quality employment.

The UK stands to gain significantly from adopting a similarly strategic approach. The domestic bioeconomy contributed an estimated £220 billion in GVA and supported more than 5 million jobs in 2024. Early evidence from emerging initiatives, such as bio-based standards, regional biomass hubs, and targeted research funding, demonstrates how coordinated intervention can unlock industrial-scale adoption of bio-based solutions.

For the UK chemical sector, which is currently reliant on imported fossil feedstocks, this represents a transformative opportunity. Scaling the production and use of bio-based feedstocks, intermediates, and materials can strengthen domestic supply-chain security, support net-zero objectives, and position the UK as a leader in advanced manufacturing and engineering biology.

To unlock the full potential of the UK's bioeconomy, the Chemical Industries Association recommends that the Government act on the below policy measures:

1. **Prioritise cascading use of biomass:** The UK's 2023 Biomass Strategy recognised the need to adopt a cascading use framework but has yet to introduce policy to operationalise it. A clear hierarchy prioritising material uses of biomass, such as bio-based chemicals, polymers, and construction materials, ahead of energy recovery, is essential to maximise economic value and carbon abatement. Strategic mobilisation of domestic bio-waste, agricultural residues, dedicated crops, and biogenic carbon dioxide can displace fossil feedstocks in chemicals, plastics, textiles, and other industrial value chains.
2. **Consistent and enhanced collections of waste:** A coherent UK-wide policy framework is required to ensure consistent, reliable, and high-quality collection of bio-waste, with particular priority on separately collected food waste and other organics. While the Resource and Waste Strategy highlights the potential of chemical recycling and bio-to-chemicals pathways, it lacks clear implementation timelines and measures. Enhanced waste collection will reduce emissions from landfill and incineration, create new revenue streams, and provide essential feedstocks for bio-based chemicals production, supporting both circularity and domestic industrial resilience.
3. **Build industrial capacity and regional hubs:** To compete with international bioeconomy leaders, the UK must accelerate development of regional biomass aggregation hubs, bio-refineries, and circular industrial clusters. Investment in pre-treatment technologies, advanced bioprocessing, and infrastructure for storage, conversion, and distribution will be critical. Strengthening

domestic value chains reduces exposure to global market volatility, increases economic retention, and supports regional reindustrialisation.

4. **Support innovation, research, and workforce skills:** The UK should expand support for research and development in bio-based chemistry, industrial biotechnology and biomanufacturing, chemical recycling and renewable carbon, bioplastics and functional materials, as well as engineering biology and synthetic biology. Parallel investment in workforce skills, including bioprocess engineering, fermentation scale-up, and life-cycle sustainability assessment, is needed to ensure industrial readiness and future-proof the sector.
5. **Introduce market incentives:** Government should utilise targeted mechanisms such as green public procurement, carbon contracts for difference, investment tax credits, and support for certification, traceability, and sustainability metrics. Well-designed market incentives can accelerate adoption, derisk private investment, and improve the competitiveness of UK-manufactured low-carbon chemicals.
6. **Strengthen policy coherence and governance:** Effective growth of the bioeconomy depends on regulatory clarity across industrial and environmental policies. Current inconsistencies, such as the treatment of bio-based plastics under the Plastic Packaging Tax and the classification of compostable polymers under packaging Extended Producer Responsibility, undermine innovation and discourage investment. Bio-based content should be recognised as equivalent to recycled content where appropriate, and compostable materials should be given a dedicated category under Extended Producer Responsibility frameworks. Alignment across standards, waste policy, and industrial regulation will reduce compliance burdens and create a more enabling environment for bio-based materials.
7. **Implement monitoring and life-cycle accounting:** To ensure biomass resources deliver maximum climate benefit, the UK should adopt harmonised sustainability criteria and life-cycle assessment methodologies, drawing on international benchmarks such as RED III. Within the chemical sector, Product Carbon Footprint requirements can stimulate demand for low-carbon inputs and support downstream sectors' decarbonisation goals. Consistent, transparent accounting will guide optimal resource allocation and incentivise best-in-class technologies.
8. **Promote circularity and redefine waste management:** Current waste regulations and definitions can unintentionally restrict the use of agricultural byproducts, municipal organic wastes, and other residues for higher-value valorisation. The Government should clarify definitions of waste, residues, and byproducts to keep valuable molecules circulating. Harmonised terminology for bio-based, biodegradable, and compostable materials embedded across the Plastic Packaging Tax, packaging Extended Producer Responsibility, and waste frameworks will support consumer understanding and reduce regulatory fragmentation.
9. **Ensure sustainable biomass supply and international alignment:** A resilient bioeconomy relies on secure, sustainable feedstock supply. The UK should prioritise domestic waste streams, residues, and sustainably grown biomass, while accelerating the transition to second- and third-generation sources. International initiatives such as the COP30 Bioeconomy Challenge highlight the importance of global coordination, harmonised standards, and cross-border partnerships. By aligning with these frameworks, the UK can maintain competitiveness and shape emerging global markets for bio-based chemicals and materials.

The bioeconomy is no longer peripheral to industrial policy; it is a strategic lever for economic competitiveness, supply-chain resilience, and the delivery of national net-zero commitments. By adopting a coordinated approach that integrates innovation, sustainable feedstock management, industrial capacity, regulatory coherence, and market incentives, the UK chemical sector can lead global progress in bio-based manufacturing. A forward-looking strategy will enable the UK to scale world-class bio-based solutions, attract investment, and secure a central role in the emerging renewable carbon economy.

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About the CIA

The Chemical Industries Association (CIA) is the organisation that represents chemical and pharmaceutical businesses throughout the UK. Our activities are split between lobbying and provision of advice and services. Our policy agenda stretches across the economy and competitiveness; our products and the way we work; health, safety & environment and employment issues. We represent all sizes of chemical and pharmaceutical businesses, of which approximately 70% are overseas headquartered. This illustrates the increasingly international nature of the industry.