

WOMEN IN BIOPLASTICS



DR JEN VANDERHOVEN

Career Journey

Jen graduated from The University of Sheffield, with a first-class Masters of Biological Sciences in 2004 and a PhD in Biochemistry in 2007. With a 20-plus year progressive career in biotechnology, spanning both higher education and the commercial sector, Jen has held roles in research and development, sales and marketing, business development, and business change and transformation. Jen is currently the COO of the BBIA, and runs her own successful sustainable biomanufacturing consultancy, FREY, which provides expert advice in business development, fundraising, stakeholder engagement, strategic partnerships, policy development, marketing & communications, and project management for the biotech sector. Jen also co-authored the Industrial Biotechnology Industry Forum 'National Vision for Industrial Biotechnology to 2030' and the Innovate UK 'Sustainable Carbon for the UK Chemicals Industry' Report (2024). Jen is a member of the Industrial Biotechnology Innovation Forum, BBSRC Follow-on-Fund, Government led Chemicals Innovation Forum, SCHEMA Industry Advisory Board, and is a co-founder of the UK Alliance for Sustainable Chemicals and Materials.

Meet the Expert Dr Jen Vanderhoven

 Field of Focus or specialization
Bio-based and Biodegradable chemicals and materials

• Current Job Title
BBIA and FREY, United Kingdom, COO, BBIA, CEO,

INTERVIEW QUESTIONS

Q1: What inspired you to enter the bioplastics or sustainable materials field?

My entry into the bioplastics and sustainable materials field was a natural progression from a career deeply rooted in bioscience innovation and driven by a long-standing commitment to addressing global challenges through science and collaboration. Early in my career, managing a BBSRC Network in Industrial Biotechnology and Bioenergy gave me a front-row seat to the potential of biotechnology to create real, sustainable change—particularly through materials that could replace fossil-based plastics.

What truly inspired me was witnessing the disconnect between the scientific advancements in sustainable materials and the commercial, regulatory, and policy frameworks needed to support them. I became passionate about closing those gaps—whether through authoring national roadmaps, leading trade associations like BBIA, or driving regulatory science initiatives that give industry and policymakers the clarity they need to scale these solutions.

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Through my consultancy, FREY, and my engagement across government and industry, I've seen the urgent need—and immense potential—for sustainable materials to form the backbone of a thriving, low-carbon UK bioeconomy. This field aligns with both my scientific background and my mission to foster cross-sector collaboration that translates science into real-world impact. That intersection is what continues to inspire me every day.

Q2: What does your current role involve on a day-to-day basis?

As Chief Operating Officer of the Bio-based and Biodegradable Industries Association (BBIA) and founder of my consultancy FREY, my day-to-day is fast-paced and highly varied, centered around driving forward the UK's sustainable bioeconomy. I lead strategic initiatives, manage organisational growth, and foster partnerships that connect industry, academia, and government. Through FREY, I advise clients on sustainable biomanufacturing, policy development, and stakeholder engagement, often contributing to national reports and strategy documents. I regularly engage with government bodies, research councils, and innovation hubs—whether evaluating funding proposals, sitting on advisory boards like the EPSRC Sustainable Chemicals Hub, or shaping national roadmaps. Community-building is a constant thread in my work, whether through running events like Pioneer Presents or leading cross-sector dialogues to align science, regulation, and industry goals. Each day is an opportunity to push the boundaries of what's possible in bioplastics and sustainable materials, helping build a resilient, circular economy for the UK.

Q3: What's an exciting trend or innovation you're seeing in bioplastics today?

One of the most exciting innovations in bioplastics right now is the rise of waste-derived biopolymers—materials that not only reduce reliance on fossil fuels but actively remove CO₂ and reuse waste streams in their production.

For example, I Chair the Sustainable Biomanufacturing Hub (C-Loop) project, which aims to make the manufacturing of everyday products – more than 90 per cent of which are manufactured from fossil fuels using unsustainable chemical processes – cleaner and part of a circular economy. The Hub will use engineering biology techniques to transform carbon-based waste usually destined for landfill into next-generation materials including pharmaceuticals and cosmetics.

Q4: What does leadership mean to you in a field like this?

Leadership in the bioplastics and sustainable materials field means being a connector, a catalyst, and a changemaker. It's not just about steering your own organisation, but about aligning diverse stakeholders—scientists, industry leaders, policymakers, and the public—around a shared vision for a more sustainable future. In a space where innovation must meet regulation, and scientific discovery must translate into commercial and societal impact, leadership requires strategic foresight, deep technical understanding, and the ability to build trust across sectors.

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To me, leadership also means creating the conditions for collaboration, not competition—ensuring that ideas, funding, and capabilities are shared to accelerate progress across the ecosystem. It's about removing barriers, championing evidence-based policy, and ensuring that sustainable materials don't just exist in labs or niche markets, but are embedded into national strategies, supply chains, and everyday products. Ultimately, it's leading with purpose, resilience, and a systems mindset to turn global sustainability goals into real-world, scalable solutions.

Q5: What advice would you give to other women entering the science or sustainability space?

My advice is to be boldly visible and unapologetically ambitious. The science and sustainability sectors need more diverse voices—not just in the lab, but at the decision-making tables where real change happens. Don't wait for permission to lead or speak up; your insights and perspective are not only valid, they're essential. Build a strong network early, seek out mentors and allies who champion your growth, and don't be afraid to create your own path if one doesn't exist.

Also, recognise that leadership comes in many forms. Whether you're driving research, shaping policy, or building bridges between sectors, your ability to navigate complexity and bring people together is a strength. Finally, protect your sense of purpose—it's what will sustain you through the inevitable challenges and help you create meaningful, lasting impact. Science and sustainability are not just fields—they are movements, and we need more women shaping their future.



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