The U.S.-Australia Strategic Innovation Alliance

Bioeconomy in Australia Factsheet

Overview

In 2025, Australia's bioeconomy is emerging as a vital component of the national economy, driven by advances in biotechnology, sustainable agriculture, and biomanufacturing. The sector encompasses a wide range of activities, including biopharmaceuticals, biofuels, synthetic biology, and agricultural biotechnology. Supported by government strategies and increasing private investment, the bioeconomy is positioned to contribute significantly to economic growth, environmental sustainability, and global competitiveness.

Market Size and Structure

The biotechnology industry in Australia was valued at approximately $8 billion in 2025, reflecting a compound annual growth rate of around 1.8 percent over the preceding five years. This growth is supported by a mix of large companies, startups, and research institutions. The sector includes biopharmaceuticals, diagnostics, vaccines, biosimilars, and bio-based products.

Leading companies and institutions such as CSL Limited, CSIRO, and Amgen Australia collectively generated revenues exceeding $1.6 billion in 2024, with CSL alone reporting $850 million. The largest segment by revenue is contract research and manufacturing services, but human health biotechnology continues to be a key growth driver.[1]

Government Policy and Strategic Initiatives

The Australian Federal Government has demonstrated a commitment to the bioeconomy through funding programs and strategic roadmaps. The Australian Renewable Energy Agency (ARENA) is actively supporting bioenergy projects, while the Department of Industry, Science and Resources is developing a national roadmap to guide the bioeconomy's growth.

[1] IBISWorld, "Biotechnology in Australia - Market Research Report (2015-2030)," October 2024.

In 2024, the government announced increased funding for biomanufacturing infrastructure, aiming to enhance the country's capacity to produce vaccines, therapeutics, and bio-based chemicals domestically. This is part of a broader strategy to improve supply chain resilience and reduce dependence on imports.[2]

Research and Innovation

Australia boasts a robust research ecosystem supporting the bioeconomy. Institutions such as CSIRO, the Garvan Institute of Medical Research, and several universities are pioneering work in synthetic biology, genomics, and bioprocessing technologies.

Recent breakthroughs include the development of genetically engineered crops with enhanced drought tolerance and pest resistance, as well as advances in microbial fermentation processes for sustainable chemical production. These innovations have the potential to increase agricultural productivity while reducing environmental impacts.[3]

Sectoral Applications

- **Human Health:** Biopharmaceuticals, vaccines, and diagnostics are the largest and fastest-growing segments, driven by aging populations and increased demand for personalized medicine.
- **Agriculture:** Biotechnology is improving crop yields, pest management, and soil health, contributing to more sustainable farming practices.
- **Bioenergy:** Biofuels and biogas projects are expanding, supported by government incentives and private sector investment.
- **Industrial Biotechnology:** The production of bio-based chemicals, plastics, and materials is gaining traction, offering alternatives to fossil fuel-derived products.

Market Trends and Challenges

Investor interest in Australian biotech firms has grown, with more companies reaching profitability and scaling operations. According to IBISWorld, there are 930 biotechnology businesses in Australia as of 2024, reflecting a 3.1 percent increase from the previous year. Additionally, the Australian biotechnology sector has experienced significant growth, with the

[2] Bioenergy Australia, "Australian Federal Government Commits to the Future of Australia's Bioeconomy," June 2024.
[3] CSIRO, "Advances in Synthetic Biology and Bioprocessing," Research Report, 2024.

number of companies undertaking biotech research and development increasing by 40 percent since 2019.

However, challenges remain in commercializing research, navigating regulatory frameworks, and competing in global markets dominated by larger players in the United States and Europe. To address these challenges, the Australian government has implemented various programs to support the biotechnology sector. For instance, the Medical Research Future Fund (MRFF) provides funding for medical research initiatives, while the Biomedical Translation Fund (BTF) stimulates private investment in the sector. These programs aim to enhance the commercialization of research and foster a more competitive biotechnology industry in Australia.

The sector also faces workforce shortages, particularly in specialized areas such as bioprocess engineering and regulatory affairs. Efforts to enhance education and training are ongoing.[4]

[4] Australian Biotechnology Council, "Workforce Development in the Bioeconomy," March 2025.