ACS GREEN CHEMISTRY INSTITUTE®

BIOCHEMICAL TECHNOLOGY LEADERSHIP ROUNDTABLE (BTLR)

FAQs

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1. **What do you mean by “biochemical technology?”**

Biochemical technology is defined as a range of technologies that are used to produce chemicals and products through biological transformations of bio-based and renewable materials to promote and advance the circular economy. The use of bio-based and renewable chemical feedstocks (e.g., biomass, waste CO₂, methane, etc.) and the products made from them are essential means to reduce environmental footprints. In addition, many of these technologies possess attractive features that hold the potential to spark innovative new products, services, and pathways to greater resource productivity and performance. These innovations will ensure sufficient resources to support a higher quality of life for a rapidly expanding global population.  
*This Strategic Plan refers to these technologies under the label “sustainable chemicals.”*

2. **What need is the BTLR addressing?**

Meeting the major environmental and societal challenges the world faces - climate change, water accessibility, bio-diversity loss, and human and ecosystem health impacts - will require private, public, and civil sectors of society to drive next generation technologies that change how we live, learn and work. There is an ever-increasing number of organizations that are working to reduce their environmental footprint and ensure there will be sufficient resources for future generations.

Discussions with over 50 leaders representing about 35 organizations across the bio-based and renewable chemicals value chain, including academics, government, and NGOs, highlight the current, unrealized potential of the sustainable chemical economy. Increasingly, new bio-based and renewable chemical products are delivering competitive performance and prices while introducing novel and innovative applications. Despite proven advantages, the bio-tech industry still needs to overcome multiple obstacles as the industry gains footing the market place. Lack of awareness, inertia in purchasing behaviors, questions regarding quality, price pressures, and environmental performance all present challenges. The industry – from R&D to consumers – needs to break down silos and actively collaborate to build a thriving, competitive, high-performing, and sustainable industry.

3. **What is the vision, mission, and scope of the BTLR?**

The **vision** of the BTLR is to foster a sustainable chemicals economy
The **mission** of the BTLR is to facilitate greater industrial implementation of relevant technologies.¹

The **scope** of BTLR will be chemicals made using bio-based and renewable technologies.

The scope of BTLR will not cover aspects of biofuel.

### 4. What’s the BTLR’s value proposition?

The BTLR will be uniquely devoted to catalyzing and enabling the bio-based and renewable chemicals economy in the pre-competitive space by promoting the underlying science required for its development and implementation. Because bio-based and renewable chemicals frequently displace existing value chains, the BTLR member companies will seek creative scientific mechanisms to establish supply chain pull that supports commercialization.

Below is what we consider to be the value proposition of the BTLR:

- Pre-competitive collaboration will enable more efficient development of proprietary technologies
- Identification and development of talent across businesses and academia will accelerate innovation
- Trust built among stakeholders through enhanced perception of sustainability performance
- Creating pull across the entire value chain will support commercialization of bio-based and renewable products

¹ As one target metric for the vision and mission, the BTLR will look to support the momentum toward building by 2030 a trillion dollar bio-based chemicals economy that becomes a force to help the world meet the ambitious global agenda set by the Sustainable Development Goals. Meeting this vision would put the sustainable chemicals industry on its way to surpassing (based on current forecasts) 20% of the overall chemical industry’s market. This thriving, bio-based chemicals economy will underpin a global movement towards sustainable production, build a high-quality and cost-competitive supply of bio-based and renewable resources, and generate substantial financial and economic benefits for those investing in biochemical resources. Research conducted in 2011 forecasts that the green chemical industry will grow to $98.5 billion in revenues by 2020. Research conducted by USDA estimates the US bio-based products industry contributes $369 billion and over 4 million jobs to the economy. The chemical industry is expected to approximately double in size from €2.6 trillion to €5.6 trillion. See the following sources:

• Advancement of greener, more sustainable chemistry will help to address global challenges
• Companies will shape and benefit from research, standardized performance criteria, relationship brokering, and best practice sharing

5. What strategic priorities will the BTLR address and how were these formed?

Proposed strategic priorities are based on feedback from over 50 stakeholders. From this consultation, ACS GCI has identified a few key areas where a member-led industry Roundtable may influence progress and achieve results. These strategic priorities are presented here for the purpose of promoting discussion and the final strategic priorities will be selected by BTLR member companies. Suggested priorities include:

• **Drive research priorities.** Identification of key research enablers including manufacturing efficiencies, technology transfer, education and collaboration, enabling and catalyzing efforts to reduce the costs and improve the performance of feedstock conversion/transformation.
• **Industry benchmarking.** Development of a credible scientific information base for businesses regarding trends in the science of bio-based and renewable chemicals that promotes commercialization, standards setting, and policy. Development of a science-based forum to perform credible comparisons including performance benchmarking.
• **Support scale-up.** Identification of opportunities for supporting efforts to scale-up promising bio-based and renewable chemical technologies
• **Develop a Toolbox.** Development of tools and methodologies to inform risk-based decision making in bio-chemical and renewable chemical technologies design, specification, and use
• **Global collaboration and leadership.** Enhance collaboration globally to provide green chemistry and engineering expertise to bio-based and renewable chemical companies worldwide by utilizing the ACS GCI network of international affiliates and researchers, by sharing best practices among our members, and by educating and influencing today’s and tomorrow’s leaders on the business value and scientific merit of bio-based and renewable chemical technologies.
• **Global Connections and Conversations:** Facilitate and catalyze connections and conversations across the supply chain through collaborative platforms such as Innovation Portal developed by ACS GCI and GC3.

6. Who are the BTLR’s key stakeholders, and how will they be engaged? Who can become a member?

The results of ACS GCI’s extensive consultations suggest that the primary stakeholder for the BTLR will be industry. Membership will be open to manufacturing companies. The BTLR will seek to create a diverse membership that welcomes representatives from each part of the value chain: start-up innovators,
SME suppliers; manufacturers, purchasers, and distributors; and commercial product developers and original equipment manufacturers.

In addition, the BTLR will be structured to engage with key stakeholders such as:

- R&D scientists innovating new bio-based and renewable chemical technologies
- Academics, public sector officials, and thought leaders engaged in understanding the potential for the bio-based and renewables chemical economy
- NGOs advocating for the use of more sustainable materials.

7. How will the BTLR be governed?

The American Chemical Society (ACS), as the world’s largest scientific society, is leveraging the expertise and connections of its scientific community through the ACS Green Chemistry Institute® (GCI) and the support and interest of leading organizations representing business, science, and education. ACS GCI will convene and facilitate the BTLR.

The BTLR will be a business-led partnership among organizations that understand the value and opportunity in collectively advancing the growth of the bio-based and renewable chemicals economy. Member organizations will lead and set the agenda for the BTLR’s work.

8. How does my organization get involved?

ACS GCI is currently leading a process to finalize the purpose, focus, and scope of work for the BTLR. Once completed, ACS GCI will be pleased to provide information on membership and other ways to get involved. For further questions and inquiries, please contact:

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