



Council on Competitiveness Bioeconomy Initiative

Working Session 3 Prep Brief

Recommendations for Build Fast, Scale Big: Investment, Commercialization, and Biomanufacturing Leadership

Virtual Working Session | Thursday, October 1, 2026 | 2:00–3:00 p.m. ET

Zoom: <https://compete-org.zoom.us/j/89468652757?pwd=JG0y56FTZfoG0mDMc7LC659G0PPGaS.1>

Table of Contents

<i>BIOECONOMY PROJECT BACKGROUND</i>	2
The Six Session Process	2
<i>SESSION BACKGROUND</i>	3
<i>FROM CHALLENGES TO RECOMMENDATIONS</i>	4
<i>KEY CHALLENGES FROM SESSION 1, AND QUESTIONS TO SHAPE RECOMMENDATIONS</i>	4
1. Build an End-to-End U.S. Commercialization and Scale-Up System	4
2. Close the Capital and Cost Gap.....	5
3. Build the Science and Engineering of Scale-Up.....	6
4. Turn Scale-Up Experience into a National Asset	6

BIOECONOMY PROJECT BACKGROUND

The Council has been building a body of work around the U.S. bioeconomy and its implications for competitiveness, innovation, and national economic security. This effort builds on discussions at the [2025 National Competitiveness Forum](#), the leadership gathering hosted by Jim Stutelberg at [Primient in Lafayette](#), the Council's April 2026 bioeconomy [working session](#), and the Nebraska Competitiveness Conversation hosted by University of Nebraska System President Jeff Gold.

Building on these discussions and the growing national focus on biotechnology and biomanufacturing, the Council is convening six virtual working sessions starting on Thursday, September 17 and concluding on Thursday, October 22, each scheduled for one hour from 2-3 PM Eastern. The virtual working sessions will identify a focused set of high-impact, strategic recommendations to strengthen U.S. competitiveness and leadership in the global bioeconomy.

The Six Session Process

The six one-hour sessions will examine three complementary dimensions of the U.S. bioeconomy, with two sessions devoted to each:

- 1. Build Fast, Scale Big.** *Investment, Commercialization, and Biomanufacturing Leadership*
- 2. Win the Market.** *Demand and Global Competitive Advantage*
- 3. Build National Capacity.** *Talent, Infrastructure, and Ecosystem Leadership*

The first session in each focus area will surface emerging trends, critical challenges and chokepoints, opportunities for U.S. leadership, and potential solutions. Following each session, the Council team will circulate a summary of the discussion, highlighting emerging recommendations and areas for further exploration, and invite participants to provide feedback. The second session will build on this input by challenging and refining the recommendations, assessing feasibility and impact, identifying gaps and unintended consequences, and prioritizing the ideas with the potential for transformational impact.

Council staff will synthesize the work across all six sessions into a concise strategic recommendations report for release at the [2026 National Competitiveness Forum](#). For additional background on the initiative, see the [Bioeconomy Initiative Project Plan](#).

SESSION BACKGROUND

Session 3 | Recommendations for BUILD FAST, SCALE BIG. Investment, Commercialization, and Biomanufacturing Leadership

The first working session (September 17, 2026) on “Build Fast, Scale Big: Investment, Commercialization, and Biomanufacturing Leadership” examined one of the central challenges facing U.S. bioeconomy leadership: how to move promising biological science and technologies more rapidly from discovery to commercial-scale production in the United States.

The discussion surfaced a broad set of technical, institutional, infrastructure, financial, and policy barriers, as well as revealing general agreement around those barriers for scaling the bioeconomy, including (see the [summary report from Session 1](#) for greater detail):

1. Manage commercialization with greater discipline
2. Integrate biology, process engineering, and manufacturing from the outset
3. Build a true U.S. scale-up ecosystem, not a collection of isolated facilities
4. Build a shared national data and learning infrastructure for scale-up
5. Strengthen the science and measurement of biomanufacturing readiness
6. Look across the bioeconomy for platforms and “lily pad” opportunities
7. Build the institutional infrastructure for an engineered bioeconomy
8. Address the U.S. capital and cost disadvantage
9. Build on regional strengths when locating biomanufacturing infrastructure
10. Design for modularity, mobility, and process intensification
11. Create a level playing field and durable market demand

This October 1, 2026, session (the second of two Build Fast, Scale Big sessions and the third in the Council’s bioeconomy virtual workshop series), will build on these challenges and begin to develop ideas for what should change.

Following an update from the National Security Commission on Emerging Biotechnology, the Council will reflect briefly on what we heard in Session 1 and then focus the discussion on: *What should the United States actually do differently to accelerate commercialization and scale-up of the bioeconomy?*

Specifically, in the session we will brainstorm specific, actionable recommendations that the Council could advance as part of its broader Bioeconomy Initiative.

FROM CHALLENGES TO RECOMMENDATIONS

The first session generated a substantial number of potential interventions. The next step is to make them more specific, and as you consider potential recommendations, please think about:

1. **What specific barrier does it remove?** What is preventing a promising technology from moving forward today?
2. **What should change?** Is the recommendation a new program, financing mechanism, infrastructure capability, institutional arrangement, policy change, standard, partnership, or something else?
3. **Who needs to act?** Federal government, industry, investors, universities, national laboratories, states, regional ecosystems, or some combination?
4. **How does it change the economics, risk profile, or timeline?**
 - a. Reduce the time required to reach market?
 - b. Reduce the cost of scale-up?
 - c. Reduce technical or commercial risk?
 - d. Improve access to capital?
 - e. Increase the utilization of existing infrastructure?
 - f. Improve the probability of successful commercialization?
5. **Can we build on something that already works?** Are there existing programs, institutions, regional models, financing mechanisms, or international examples that provide a foundation for the recommendation?

KEY CHALLENGES FROM SESSION 1, AND QUESTIONS TO SHAPE RECOMMENDATIONS

Several themes emerged repeatedly across the discussion, including in the conversation, chat, and follow-up survey (thanks to all who shared their insights).

1. Build an End-to-End U.S. Commercialization and Scale-Up System

The United States has many of the necessary pieces: universities, national laboratories, federal programs, startups, companies, specialized facilities, and regional innovation ecosystems. But they do not yet function as an integrated system capable of moving promising

technologies from discovery through pilot, demonstration, first commercial production, and scale. The challenge is connecting the pathway and ensuring the right capabilities and infrastructure exist at each stage.

Key question: How can the United States build and better connect the capabilities, infrastructure, institutions, and regional ecosystems needed to move promising technologies from discovery to commercial scale?

- What would your recommendation be?
- What specific institutional, programmatic, infrastructure, or partnership change would make the commercialization and scale-up pathway materially faster and more effective?

Thought starters:

1. Where are the most consequential gaps or handoffs in the commercialization pathway?
2. What capabilities need to be national, and what should be private or built through regional ecosystems?
3. How can industry gain earlier access to promising technologies, facilities, and expertise?
4. What existing programs, facilities, and institutions could be better connected without creating another layer of bureaucracy?

2. Close the Capital and Cost Gap

Session 1 highlighted the substantial capital requirements associated with biomanufacturing and the economic gap between building and scaling facilities in the United States and competing countries. Financing gaps can become particularly acute as technologies move into pilot, demonstration, and first commercial production, when capital requirements increase while commercial risk remains high.

Key question: Where does the U.S. capital stack break down, and what mechanisms could close those gaps and reduce the cost and risk of domestic scale-up?

- What would the recommendation be?
- What specific financing or de-risking mechanism could unlock investment that is not occurring today?

Thought starters:

1. Where does private capital currently pull back, and why?

2. Which risks are appropriate for government to share, and which should remain with private capital?
3. Could new public-private financing models address first-of-a-kind facilities or the transition from demonstration to commercial production?
4. What role could loan guarantees, tax incentives, grants, blended finance, or new financing models play?

3. Build the Science and Engineering of Scale-Up

Session 1 suggested that scale-up itself needs to be treated as a scientific and engineering challenge. Biological performance alone does not determine commercial success. Process engineering, manufacturing economics, downstream processing, measurement, process intensification, and scale-up need to be considered much earlier in the development process.

Key question: What capabilities and institutions would allow U.S. innovators to design for manufacturability, commercial economics, and scale from the outset?

- What would the recommendation be?
- What specific capability or institutional change would reduce the amount of trial and error between laboratory success and commercial production?

Thought starters:

1. What capabilities are missing from the U.S. research and innovation system, and where should they reside?
2. What should be developed as shared national capabilities?
3. How could federal research funding better recognize scale-up science and manufacturing engineering?
4. What tools, standards, or approaches would allow innovators to identify technical and economic problems earlier?

4. Turn Scale-Up Experience into a National Asset

Companies, laboratories, and universities accumulate valuable knowledge about what works, what fails, and why technologies encounter difficulties as they move toward commercial production. Much of that knowledge remains fragmented, limiting the ability of the broader U.S. ecosystem to learn from individual scale-up efforts.

Session 1 highlighted the potential to capture and share precompetitive data, successful and stalled project experiences, and better measures of technical, manufacturing, and economic readiness.

Key question: How can the United States capture, share, and apply scale-up knowledge to reduce the time, cost, and risk of the next project?

- What would the recommendation be?
- What specific national capability, institution, or mechanism could turn individual scale-up experience into a shared U.S. asset?

Thought starters:

1. What scale-up data and experience should be captured and shared across industry, government, universities, and national laboratories?
2. How can we better capture lessons from both successful and unsuccessful projects?
3. What should be considered precompetitive, and how can information be shared while protecting intellectual property and commercial interests?
4. How could common readiness measures help companies, investors, researchers, and policymakers make better decisions?