

Is a Bioeconomy Still a Viable Strategy?

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The United States leads the world in the bioeconomy. Valued at nearly [\\$1 trillion](#), it rivals the information sector and exceeds the size of the construction industry. With its scientific capacity, natural resources, and manufacturing base, the U.S. is also positioned to capture a significant share of the [\\$4 trillion in annual global economic activity](#) expected from bio-based products, services, and processes over the next decade. Realizing that potential requires a robust policy framework and a broader, more integrated vision of what the bioeconomy can be.

In February, more than 460 experts from over 60 countries gathered in Vienna, Austria, for the [Global Summit on Advancing Sustainable Forest-based Bioeconomy Approaches](#). Hosted by Austria and co-convened with Australia, Finland, Japan, Türkiye, FAO, IUFRO, and the UN Forum on Forests Secretariat, the Summit focused on the future of forest-based innovation. The discussions culminated in the [Vienna Call for Action](#), a global framework for accelerating sustainable forest-based bioeconomy strategies.¹

Five Priorities from the Vienna Call for Action

1. Take leadership for systemic transformation
2. Ensure an inclusive bioeconomy
3. Mobilize targeted financial resources
4. Create enabling conditions for forest-based value chains and innovation
5. Build collaborative partnerships at all levels

These priorities mirror needs already identified in [U.S. policy](#) and [Congressional research](#). Because the bioeconomy intersects with national energy, defense, housing, food, and forestry agendas, it touches every community, as well as producers and landowners, manufacturers, researchers, and innovators. Leadership, targeted investment, and collaboration are keys to success.

The U.S. Bioeconomy's Blind Spot

Despite its strengths, the United States has a critical gap in its bioeconomy strategy: the underrecognition of forests and forest product industries as core contributors to national bioeconomy innovation, resilience, and prosperity.

¹ Additional private sector statement on bioeconomy: [Driving the Forest-Based Bioeconomy: A Call to Action from the Private Forest-based Sector](https://openknowledge.fao.org/server/api/core/bitstreams/fbba46e-f048-4938-a2af-fae06b5a5bee/content) (<https://openknowledge.fao.org/server/api/core/bitstreams/fbba46e-f048-4938-a2af-fae06b5a5bee/content>)

Federal definitions of the bioeconomy focus on agriculture and biotechnology. These definitions do not mention forests, timber, or wood-based products.² Even within the Department of Agriculture, wood innovation, biomass utilization, and forest restoration are not fully integrated into a bioeconomy framework.

National policies in the U.S. have historically put farm and forest interests on separate tracks, sometimes even in competition. Rural communities, which frequently rely on both, navigate fragmented programs and conflicting incentives. This system limits collaboration, suppresses innovation, and prevents regions from building diversified, resilient bioeconomies that reflect the full range of assets and opportunities.

Sustainability Should Drive Integration, Not Exclusion

One reason forests are sidelined in the bioeconomy is that sustainability concerns for forests are often framed as a risk, not a strength. Forests are viewed primarily as ecological assets to protect, rather than renewable and dynamic systems that - through responsible management and care - support a modern bioeconomic strategy.³

This framing of sustainability as a risk is harmful and limiting. The practice and ever wider adoption of sustainable forest management is one of the United States' greatest comparative advantages. Excluding forests from the bioeconomy prevents the investments, technologies, and markets that make sustainability durable.

Forests, farms, and communities share landscapes, labor pools, and ecological processes. Treating forests as “too risky” reinforces silos that no longer reflect how economies function.



Rural Economies Are Multifaceted, Policy Should Be Too

In land-rich regions, bioeconomy opportunities overlap. Food production, working forests, outdoor recreation, mineral resources, watershed protection, wildlife stewardship, and place-based cultural identity all coexist. When policy forces communities to choose or prioritize a single identity - “farm town,” “timber town,” “tourism town” - it imposes false choices that constrain growth.

People and places are capable of writing more than one story at a time. The most resilient economies are those that weave multiple strengths together. A modern bioeconomy can and should reflect that reality.

²The Office of Science and Technology Policy, *Summary of the 2019 White House Summit on America's Bioeconomy*, Washington, DC, October 7, 2019, defined the bioeconomy as: "the bioeconomy represents the infrastructure, innovation, products, technology, and data derived from biologically-related processes and science that drive economic growth, improve public health, agricultural, and security benefits." USDA describes the bioeconomy as a “circular bioeconomy” where “agricultural resources are harvested, consumed, and regenerated.” CRS defines the bioeconomy as the part of the economy based on “products, services, and processes derived from biological resources (e.g., plants and microorganisms).” The NIST lexicon—developed with multiple federal agencies—defines the bioeconomy through biotechnology, biomanufacturing, genomics, and life sciences.

³ Related concerns have been raised in the alignment of biodiversity protection and a growing bio-based economy in the EU, see: [EU bioeconomy aspirations require an increasing supply of renewable wood – EUobserver](#)

By integrating forests alongside farms and honoring the value of residents and visitors the bioeconomy aligns the interests of landowners, producers, and workers. Through this alignment the U.S. can unlock a broader portfolio of bio-based solutions, manufacturing opportunities, and value-added industries. More policies can be designed to recognize the benefits of this combination. Prior work on climate-smart commodities, recent USDA investments, and the Farm Bill provide models and platforms to build from.⁴

The Cost of Exclusion

Leaving forests out of the bioeconomy has real consequences:

- **Funding:** Bioeconomy R&D dollars are not being adequately directed to forest products.
- **Workforce:** National and state-level workforce programs do not fully include forestry or wood product manufacturing.
- **Trade:** Forest products suffer from being regarded as out-dated and high risk commodities, rather than widely available, responsibly-produced, strategic and innovative bio-based materials.
- **Innovation:** Mass timber, biocomposites, lignin-based chemicals, and cellulose-based materials are poorly addressed in policy and under-resourced by investors.
- **Rural development:** Forest-rich regions are overlooked in investment narratives and opportunities.

These are precisely the gaps the Vienna Call for Action seeks to address globally and that the United States can embrace as home-grown priorities as well. A simple first step is to incorporate the language and logic of a *forest-based bioeconomy* more fully into domestic policy.

Looking Forward

In 1873, the Austro-Hungarian government hosted an international exhibition in Vienna that helped inspire the development of the U.S. forest education system and contributed to the leadership in sustainability that would follow.⁴ A century and a half later, Vienna is again offering a vision worth considering.

The question is not whether a bioeconomy is still a viable strategy. It is whether the United States will choose a broad, integrated, and future-focused version of the bioeconomy - one that recognizes forests as essential partners and people as careful stewards.



⁴ Partnership for Climate-Smart Commodities - Legacy Site | USDA, [USDA Announces \\$115.2 Million Investment to Expand Timber Production and Enhance Forest Health in Eight States | Rural Development](#), The Agriculture Improvement Act of 2018 (2018 Farm Bill) | US Forest Service, Farm Bill Primer: Forestry Title | Congress.gov

⁵ Schmidt, Uwe E. 2009. German Impact and Influences on American Forestry until World War II. Journal of Forestry, Volume 107, Issue 3, April 2009, Pages 139–145, <https://doi.org/10.1093/jof/107.3.139>



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