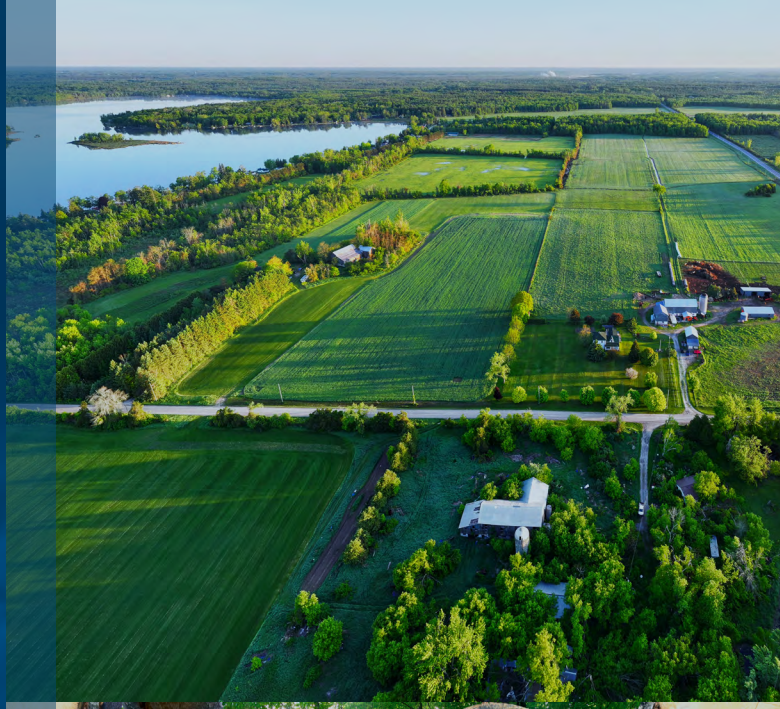
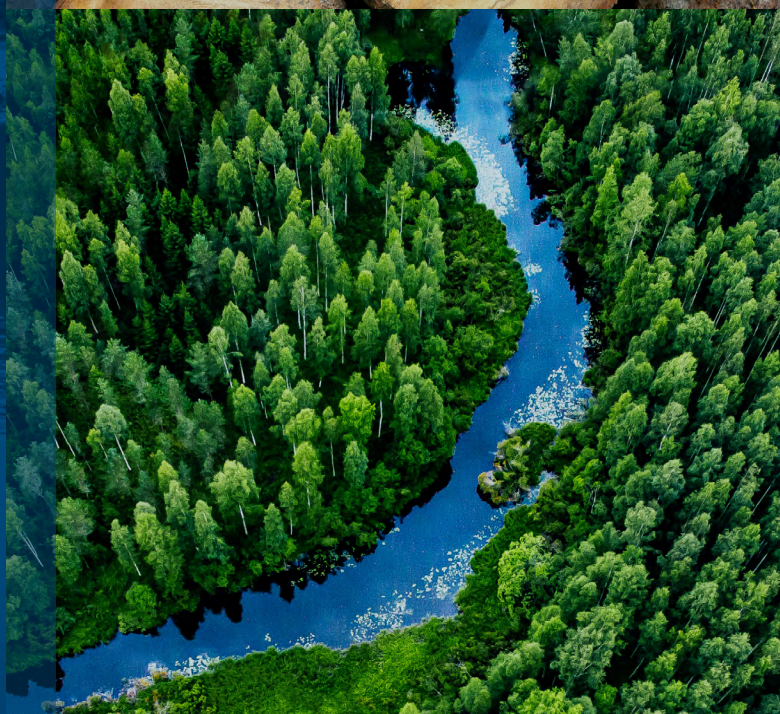
CSA GROUP™

What We Heard Report

Criteria for Claiming Bio-Based Content







September 2026

Legal Notice

This document is provided by the Canadian Standards Association (operating as "CSA Group") as a convenience only.

Disclaimer and exclusion of liability
This document is provided without any representations, warranties, or conditions of any kind, express or implied, including, without limitation, implied warranties or conditions concerning this document's fitness for a particular purpose or use, its merchantability, or its noninfringement of any third party's intellectual property rights. CSA Group does not warrant the accuracy, completeness, or currency of any of the information published in this document. CSA Group makes no representations or warranties regarding this document's compliance with any applicable statute, rule, or regulation.

IN NO EVENT SHALL CSA GROUP, ITS VOLUNTEERS, MEMBERS, SUBSIDIARIES, OR AFFILIATED COMPANIES, OR THEIR EMPLOYEES,DIRECTORS, OR OFFICERS, BE LIABLE FOR ANY DIRECT, INDIRECT, OR INCIDENTAL DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES, HOWSOEVER CAUSED, INCLUDING BUT NOT LIMITED TO SPECIAL OR CONSEQUENTIAL DAMAGES, LOST REVENUE, BUSINESS INTERRUPTION, LOST OR DAMAGED DATA, OR ANY OTHER COMMERCIAL OR ECONOMIC LOSS, WHETHER BASED IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR ANY OTHER THEORY OF LIABILITY, ARISING OUT OF OR RESULTING FROM ACCESS TO OR POSSESSION OR USE OF THIS DOCUMENT, EVEN IF CSA GROUP HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES,INJURY, LOSS, COSTS, OR EXPENSES.

In publishing and making this document available, CSA Group is not undertaking to render professional or other services for or on behalf of any person or entity or to perform any duty owed by any person or entity to another person or entity. The information in this document is directed to those who have the appropriate degree of experience to use and apply its contents, and CSA Group accepts no responsibility whatsoever arising in any way from any and all use of or reliance on the information contained in this document.

Intellectual property rights and ownership
As between CSA Group and the users of this document (whether it be in printed or electronic form), CSA Group is the owner, or the authorized licensee, of all works contained herein that are protected by copyright, all trade-marks (except as otherwise noted to the contrary), and all inventions and trade secrets that may be contained in this document, whether or not such inventions and trade secrets are protected by patents and applications for patents. Without limitation, the unauthorized use, modification, copying, or disclosure of this document may violate laws that protect CSA Group's and/or others' intellectual property and may give rise to a right in CSA Group and/or others to seek legal redress for such use, modification, copying, or disclosure. To the extent permitted by licence or by law, CSA Group reserves all intellectual property rights in this document.

Use of this document
This document is being provided by CSA Group for informational and non-commercial use only. If you do not agree with any of the terms and conditions contained in this Legal Notice, you may not use this document. Use of this document constitutes your acceptance of the terms and conditions of this Legal Notice.

Table of Contents

Executive Summary 5

Introduction 7

Topic 1—Level Setting: Where is Canada and the World Today? 8

Perception of the Canadian Bioeconomy 8

Prioritizing the Canadian Bioeconomy 9

Defining Bio-Based Content 9

Assessing the Opportunity for Bio-Based Content Standards 9

Current Practices Regarding Bio-Based Content Claims 10

What are Canadian companies currently doing? 10

What is the role of government and regulations? 11

What is going on internationally? 11

What are the challenges with bio-based content claims? 11

Topic 2—The Role of Standards 12

Perception of the Canadian Bioeconomy 12

What are the goals of voluntary standards development? 12

What are the potential challenges? 13

Summary of Perspectives on Bio-Based Content Standards 14

Criteria for Bio-Based Content Standards 14

Definition of Bio-Based Content 15

Environmental Attributes and Sustainability Considerations 15

Biomass Sourced in Canada 16

Verification of Bio-Based Content Claims 16

Topic 3—Standards in Action 17

Standardized Labelling for Bio-Based Content 17

What would labelling represent? 18

Overall Usefulness of Labelling 18

Potential for Preferential Treatment for Bio-Based Products 19

Would customers pay more for bio-based? 19

A Canadian bio-based procurement initiative 19

How Standards Can Support International Trade Opportunities 20

Considerations for Industry Adoption 20

Ensure Simplicity 21

Support with Market Drivers 21

Integrate with International Practices 21

Conclusions 22

Next Steps 23

Annex A, Workshop Attendees 24

Executive Summary

CSA Group, with support from the Canadian Forest Service (CFS) of Natural Resources Canada (NRCan), convened a one-day industry consultation workshop on the criteria for claiming bio-based content in products and materials. The session brought together participants from across industry, industry associations, academia, and the federal government.

The workshop was structured around twelve discussion questions organized into three overarching themes:

1. **Level-setting**
   Understanding the current Canadian and global landscape;
2. **Role of standards**
   Exploring how standardization could support credible bio-based content claims;
3. **Standards in Action**
   Considering how such standards might be implemented in practice, including labelling, procurement, and verification.

The workshop provided insight into how voluntary standards could support the growth of Canada's bioeconomy by improving the credibility and transparency of bio-based content claims. Participants agreed that any future standardization activity must be practical, voluntary, and aligned with international approaches to facilitate trade and market access.

A common view was that potential standards should maintain a low barrier to entry, especially for small and medium-sized enterprises (SMEs), establish thresholds for bio-based content that are both impactful and achievable, complement existing domestic priorities such as economic growth, job creation, and sustainability and harmonize with international standards and definitions to ensure consistency with major trading partners.

Participants emphasized that standards development should avoid unnecessary duplication and draw from existing models where possible, and supplemented when necessary. One example is the United States Department of Agriculture (USDA) BioPreferred Program, which provides a recognized framework for defining and promoting bio-based products.

Top-Down
Top-down led government that would lay out a national bioeconomy strategy including a procurement program

Bottom-Up
Bottom-up led by market demand for bio-based products

Several participants noted that Canada's abundant biomass resources, particularly from the forestry and agricultural sectors, create a strong foundation for a "Made in Canada" narrative that could advance both environmental and economic objectives. Standards and associated labelling could help mitigate concerns related to greenwashing by providing clear definitions and transparent verification mechanisms.

Two potential approaches were identified for advancing a national bio-based content initiative:

Participants agreed that defining bio-based content is the most immediate and practical priority for advancing credible claims in Canada. Establishing a clear definition was viewed as essential for comparability, communication, and procurement, and should be advanced ahead of more complex considerations related to environmental attributes or life-cycle performance. Verification was also identified as a core requirement for maintaining credibility, reducing the risk of misleading claims, and supporting commercialization, with scalable options needed for smaller enterprises. While some participants noted that environmental and sustainability attributes may become relevant at later stages, the initial focus should remain on a definition and verification approach that is simple, transparent, and aligned with international practices.

As next steps, further consultation should focus on three priority areas: (1) establishing threshold requirements or tiered criteria that can credibly support bio-based content claims across sectors; (2) assessing verification mechanisms and governance models, including cost-effective options for small and medium-sized enterprises; and (3) determining how Canadian approaches can be harmonized with existing international methodologies to support market access, reduce duplication, and provide clarity for producers and purchasers. These priorities reflect the four criteria themes identified during the workshop: definition, environmental attributes and sustainability considerations, sourcing of biomass, and verifiability of claims. Together, they provide a practical foundation for continued engagement and technical assessment.

Introduction

In February 2025, CSA Group, in partnership with the Canadian Forest Service (CFS) of Natural Resources Canada (NRCan), hosted a one-day consultation workshop in Ottawa focused on the development of criteria for claiming bio-based content in products and materials. The objective was to gather perspectives from Canadian interested parties on the potential benefits, challenges, and implementation considerations for voluntary standards in this area.

The workshop was attended by fourteen participants representing industry, industry associations, academia, and government, with three additional experts providing written input. To facilitate discussion, participants were divided into four breakout groups of four to five individuals. Each group addressed specific questions related to one of the three thematic areas and reported its conclusions back to the full group.

The consultation provided a forum to explore whether and how voluntary standards could strengthen the credibility of bio-based content claims in Canada, and to examine the potential role of such standards in enabling market development, supporting policy objectives, and improving consumer and industry confidence.

This report summarizes the key messages and observations from the workshop. It reflects what was heard from participants and does not represent a consensus or policy position of CSA Group or the Government of Canada. The intent is to capture industry perspectives on the opportunities, challenges, and design principles associated with potential standards for claiming bio-based content.



Topic 1—Level Setting: Where is Canada and the World Today?

This section outlines the current landscape Canada's bioeconomy and the global context in which it operates. It examines how bio-based content is presently defined, perceived, and applied in practice, and identifies opportunities for voluntary standards to strengthen credibility and market development.

Perception of the Canadian Bioeconomy

Participants recognized that Canada's abundant natural resources position the country to play a leading role in the global transition toward a bio-based economy. The workshop discussions revealed strong interest in creating conditions that allow domestic industries to capitalize on this potential while ensuring alignment with international approaches.

Several participants noted that although Canada possesses the natural advantages needed to thrive in the bioeconomy—such as sustainable forestry, agricultural production, and access to renewable biomass—the absence of a unified national strategy has limited progress. Establishing consistent definitions and transparent standards for bio-based content was viewed as a foundational step toward expanding market confidence and encouraging investment.

Two frequently referenced definitions for the Bioeconomy are provided below[1,2]

1. **Organization for Economic Co-operation and Development (OECD)**
   Economic activities in which biotechnology, life sciences, and chemistry convert biomass into food, materials, chemicals, and fuels.

2. **United States Department of Agriculture (USDA)**
   Products derived from renewable agricultural, marine, and forestry materials that provide an alternative to petroleum-based products.

1 Jim Philp and David Winickoff, Innovation Ecosystems in the Bioeconomy, OECD Science, Technology and Industry Policy Papers No. 76 (Paris: OECD Publishing, 2019), https://doi.org/10.1787/e2e3d8a1-en.

2 U.S. Department of Agriculture, BioPreferred® Program – Biobased Products, BioPreferred.gov, accessed [January 22, 2026], https://www.biopreferred.gov/BioPreferred/faces/pages/BiobasedProducts.xhtml. [biopreferred.gov]

Prioritizing the Canadian Bioeconomy

Participants generally agreed that Canada should define and promote its bioeconomy in a way that aligns with international norms, while reflecting national strengths and policy priorities.

Canada's bioeconomy, participants suggested, should aim to reduce reliance on non-renewable, hydrocarbon-based materials by advancing the use of renewable biological feedstocks. With approximately 360 million hectares of forests and 60 million hectares of agriculture land[1,2], Canada can leverage its existing industries to produce low-carbon, renewable alternatives that meet domestic and international demand.

> "The bioeconomy is simply the economy."
>
> – Workshop participant

Many participants emphasized that developing standards and criteria for claiming bio-based content could help operationalize this vision, providing measurable benchmarks for progress and supporting broader economic and environmental objectives.[3]

Defining Bio-Based Content

Discussions revealed differing perspectives on what should qualify as a bio-based product. Five broad definitional approaches emerged:

- **High-purity definition** – Products composed entirely of biological materials (100%).
- **Incremental improvement definition** – Products containing any amount of bio-based material above a baseline of fully non-renewable inputs (e.g., 1–100%).
- **Threshold definition** – A fixed minimum percentage requirement (e.g., 50% bio-content).
- **Tiered definition** – A graded system in which products are classified according to increasing levels of bio-based material (e.g., 10%, 25%, 50% or more).
- **Sector specific definition** – A flexible approach allowing thresholds to vary by industry or product type.

Participants agreed that thresholds must be set high enough to be meaningful yet achievable enough to encourage participation. Establishing the right balance between ambition and practicality was viewed as essential for credibility and adoption.

Assessing the Opportunity for Bio-Based Content Standards

Participants considered the potential benefits of introducing voluntary standards for claiming bio-based content. Many observed that such standards could serve as a market-pull mechanism—creating consistent expectations, improving comparability, and facilitating commercialization of emerging bio-based products and materials.

Participants suggested that before standards are developed, there must be a clear national understanding of what Canada seeks to achieve through its bioeconomy strategy.

1 Natural Resources Canada, How much forest does Canada have?, Government of Canada, accessed [January 22, 2026], https://natural-resources.canada.ca/forest-forestry/state-canada-forests/much-forest-does-canada-have.

2 Agriculture and Agri Food Canada, Overview of Canada's Agriculture and Agri Food Sector, Government of Canada, https://agriculture.canada.ca/en/sector/overview.

3 Jim Philp and David Winickoff, Innovation Ecosystems in the Bioeconomy, OECD Science, Technology and Industry Policy Papers No. 76 (Paris: OECD Publishing, 2019), https://doi.org/10.1787/e2e3d8a1-en.



Current Practices Regarding Bio-Based Content Claims

What are Canadian companies currently doing?

Participants noted that Canadian companies are at varying stages of making bio-based content claims. Some rely on self-declarations, while others use established standards and verification mechanisms. Concerns were raised that inconsistent definitions and unverified claims contribute to consumer confusion and potential greenwashing. Existing instruments that could inform future standards include:

Environmental Product Declarations (EPDs)
Third-party-verified reports summarizing a product's environmental performance.

International Organization for Standardization (ISO)
Frameworks for environmental declarations and claims.

Clean Fuels Standard
Mandates minimum blending of ethanol and biodiesel, demonstrating a regulatory precedent for specifying bio-content levels.

Two themes emerged that could serve as the "why" behind advancing the bioeconomy:

1

Environmental Benefits

Bio-based products generally exhibit **lower carbon intensity** than conventional alternatives. Aligning bio-based content standards with carbon-intensity or life cycle analysis (LCA) frameworks could position them as tools for achieving greenhouse-gas-reduction objectives. Participants referenced policy trends in U.S. jurisdictions such as California and in European markets, where carbon-performance metrics increasingly guide product eligibility and procurement.

2

Supporting the Canadian Economy

Participants highlighted Canada's comparative advantage in biomass as an opportunity to grow domestic industries, promote a "Made in Canada"narrative, and attract investment. Standardization could provide a platform to support key sectors—especially agriculture and forestry—while enabling the development of new value chains in advanced materials, packaging, and fuels.

> "The bioeconomy is not just about the environment – it's about jobs, competitiveness, and keeping Canada at the forefront of innovation."
>
> – Workshop participant



What is the role of government and regulations?

Participants observed that Canada currently lacks comprehensive policy mechanisms that explicitly encourage the use of bio-based materials, beyond the Clean Fuels Standard. They pointed to examples from other jurisdictions where regulatory requirements have driven market demand:

> **In the United States** Environmental Product Declarations (EPDs) are required for federal buildings.

> **In Toronto** Construction projects must meet specific carbon intensity levels, which could indirectly promote bio-based solutions.

These examples suggest that government policy can play an enabling role in scaling up bio-based product adoption.

What is going on internationally?

Internationally, several structured certification programs exist:

- **U.S. Department of Agriculture (USDA) BioPreferred Program** – Requires a minimum of 25% bio-based content for federal procurement and establishes product categories and verification methods.
- **European bio-based certification systems** – Operate under harmonized regulatory frameworks across multiple jurisdictions, providing consistent product labelling and market recognition.

Participants emphasized the importance of maintaining alignment with trading partners to prevent market fragmentation or trade barriers.

What are the challenges with bio-based content claims?

While participants recognized the potential of bio-based products to contribute to sustainability goals, they also noted limitations. Bio-based content alone does not necessarily equate to improved environmental performance unless accompanied by comprehensive life cycle analysis.

To reduce the risk of greenwashing, participants strongly supported third-party verification, transparent metrics, and the integration of bio-based content claims within broader sustainability frameworks such as carbon-intensity accounting.

Topic 2—The Role of Standards

This section summarizes the perspectives on the role that voluntary standards could play in strengthening the credibility of bio-based content claims and advancing Canada's broader bioeconomy objectives. Discussions focused on the potential benefits, challenges, and success conditions for developing such standards.

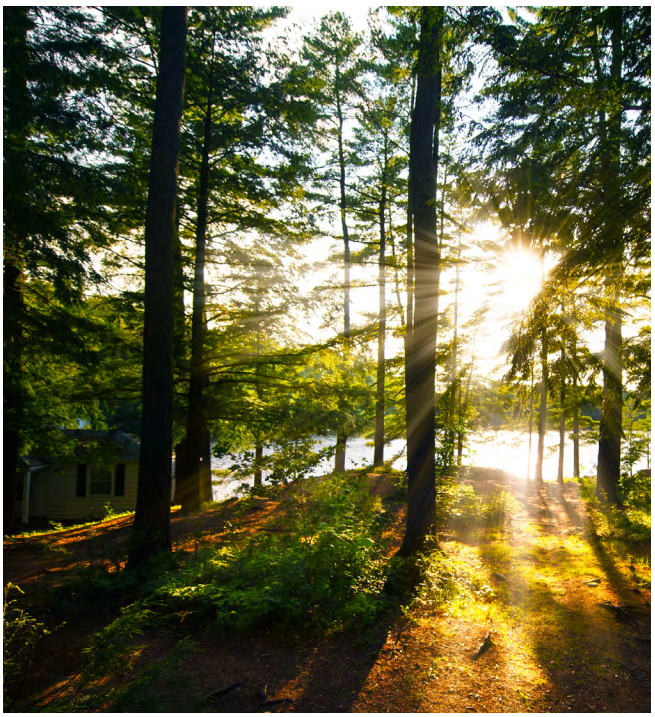
Perception of the Canadian Bioeconomy

Participants generally viewed standardization as a practical tool to increase transparency and comparability within Canada's bioeconomy. Many suggested that voluntary standards could address the current absence of consistent definitions, improve market confidence, and help distinguish credible claims from unverified marketing statements.

Two perspectives emerged regarding the purpose and scope of standards:

1. **Supportive View**
   Several participants saw standards as necessary to reduce ambiguity and prevent greenwashing. In their view, establishing measurable, verifiable criteria for bio-based content would strengthen consumer and industry trust while creating a level playing field across markets.

2. **Cautionary View**
   Others expressed concern that introducing additional standards—particularly those involving life cycle analysis (LCA) or environmental performance—could create complexity, increase compliance costs, and potentially slow commercialization of new bio-based materials.



Despite differing opinions, there was broad consensus that if standards are pursued, they should initially be voluntary, simple, and aligned with international frameworks to avoid duplication and trade inconsistencies.

What are the goals of voluntary standards development?

When discussing the potential development of voluntary standards for claiming bio-based content, participants emphasized the importance of first clarifying the underlying objectives. Standards should address a clearly defined need within the bioeconomy and demonstrate tangible benefits to both producers and end-users.

Potential goals identified during the workshop included:

- **Environmental outcomes:** Supporting greenhouse-gas (GHG) reduction and carbon-intensity objectives by providing measurable benchmarks for low-carbon materials.
- **Government procurement:** Enabling consistent criteria for public purchasing of bio-based products, which could stimulate early market demand.
- **Market development:** Facilitating commercialization and investment by creating confidence in the credibility of claims.
- **Consumer transparency:** Clarifying labelling practices and providing consistent information to avoid confusion.
- **Terminology alignment:** Establishing a shared national definition of what "bio-based" means in the Canadian context.

Several participants highlighted that standards could also help attract investment and grow domestic markets by providing confidence to investors and customers. Others questioned whether consumer demand would be sufficient to drive adoption, emphasizing the need to demonstrate practical value and clear economic incentives for industry participation.

> "Any proposal should clearly identify who benefits, who bears the cost and how a verification system would be established, and more importantly, maintained."
>
> – **Workshop participant**

What are the potential challenges?

Participants also identified challenges and barriers that could affect the development and adoption of standards for bio-based content.

While broad participation across sectors was viewed as desirable, participants acknowledged that achieving consensus on definitions and criteria may prove challenging. Nonetheless, they agreed that some level of standardization is essential to ensure consistent claims and maintain market credibility.



Complexity
Given the diversity of industries that could fall within the bioeconomy—ranging from forestry and agriculture to consumer products and packaging—a single, cross-sector standard may be difficult to design. Participants cautioned that sector-specific differences in materials, production methods, and regulatory contexts must be taken into account.



Cost to SMEs
Compliance and verification processes could present disproportionate costs for smaller companies. Participants stressed the need for scalable requirements that avoid disadvantaging SMEs or limiting their participation in the early stages of standards adoption.

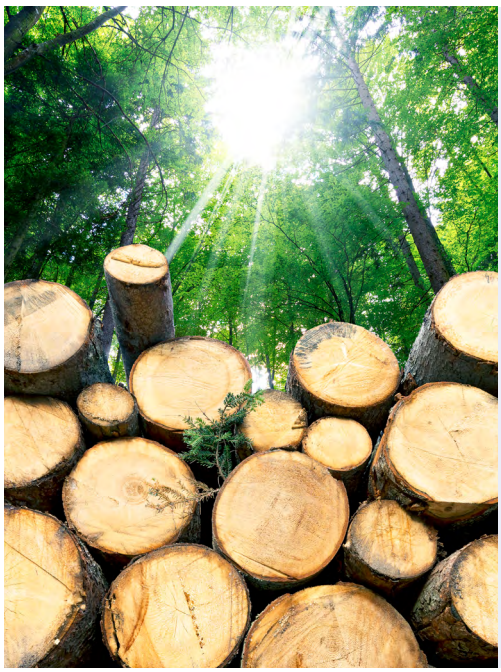


Risk of Overcomplication
Introducing sustainability metrics such as LCA or carbon accounting without clear alignment to existing frameworks could add unnecessary complexity and deter participation. Many participants favored a phased approach, starting with simpler definitions and allowing for progressive integration of environmental attributes over time.

Summary of Perspectives on Bio-Based Content Standards

The discussions revealed a shared understanding that voluntary standards can provide value if implemented carefully. The table below summarizes the perceived benefits, challenges, and key conditions for success as identified by participants.

Potential Benefits	Potential Challenges	Conditions for Success
Increases transparency and trust in bio-based content claims	Could introduce additional compliance costs, especially for SMEs	Keep standards voluntary and straightforward at the outset
Helps prevent greenwashing through verification and clear definitions	May slow commercialization if overly complex	Align with existing international standards to avoid duplication
Creates a common national definition of "bio-based"	Risk of overcomplicating with LCA and environmental attributes	Focus on simplicity and clarity during initial stages
Supports investment and market development	One-size-fits-all approach may not suit all sectors	Build on existing frameworks (e.g., carbon intensity models)
Enables consistent and credible labelling for consumers	Some sectors may see little immediate benefit	Allow standards to evolve over time in response to market experience



Criteria for Bio-Based Content Standards

Beyond determining whether standards are needed, participants discussed the criteria that should guide their development. Four major themes emerged:

1. **Definition of bio-based content**
2. **Environmental attributes and sustainability considerations**
3. **Sourcing of Biomass**
4. **Verifiability of Claims**

Definition of Bio-Based Content

Opinions varied on how narrowly or broadly "bio-based content" should be defined.

The minimum approach

Focuses solely on verifying the proportion of biological material in a product—similar to the USDA BioPreferred model

The expanded approach

Incorporate additional indicators such as carbon intensity, sustainability performance, or life-cycle impacts.

Participants agreed that whichever approach is selected, it must remain consistent with definitions used by major trading partners to ensure coherence in global markets.

Environmental Attributes and Sustainability Considerations

Participants debated whether sustainability metrics should be integrated into bio-based content standards.

As mentioned above, participants discussed the extent to which standards for bio-based content should consider environmental attributes and sustainability criteria.

Some participants were not in favour of including carbon and sustainability criteria into bio-based content considerations. They were concerned that calculating life cycle carbon and sustainability ratings could delay advancements in the commercialization and marketing of bio-based products and materials.

While some had the idea of an environmental benefits rating system which would grade the level of sustainability of bio-based content, others expressed concern that the benefits of such a rating system were not enough to justify the cost. This group suggested that sustainability considerations are already included in the regulations and practices of some industries such as forestry and, therefore, measuring them as part of bio-based content standards would be redundant. For example, Canadian forests are managed under sustainable forest management practices. As such, if the bio-based content of a product comes from sustainably managed Canadian forests, that should be sufficient to conclude that the product meets sustainability criteria.

Arguments for Inclusion	Arguments Against Inclusion
Bio-based content alone does not guarantee sustainability	Could delay commercialization of bio-based products
Integrating carbon intensity, life cycle analysis (LCA), and extended producer responsibility could strengthen credibility	Adds costs and complexity without clear benefits
Carbon intensity could serve as the guiding logic to incentivize bio-based content adoption	Added criteria may be redundant. Many sectors already operate under sustainability regulations (e.g., sustainable forest management for the forestry sector).
Could align with global environmental priorities and bolster Canada's climate goals	Risk of creating trade barriers if criteria differ from international frameworks



However, other participants suggested that bio-based content alone does not guarantee sustainability. They advocated for the adoption of sustainability-based criteria including carbon intensity, life cycle analysis, and extended producer responsibility. Some suggested that, given bioproducts' high biomass content, concepts such as carbon intensity could be the guiding logic to incent bio-based content and advance the bioeconomy, while acknowledging this approach's challenges.

In addition to concerns over the potential complexity of including environmental attributes, they cautioned that there is no globally accepted definition of sustainability. Whatever the approach taken, we need to ensure we do not create barriers that will negatively affect trade between Canada and its trading partners.

Biomass Sourced in Canada

Several participants proposed that bio-based content derived from Canadian feedstocks could serve as a signal of sustainability, given the country's robust environmental and forest-management regulations. A "sourced in Canada" or "Made in Canada" designation might therefore indicate that environmental attributes have already been accounted for.

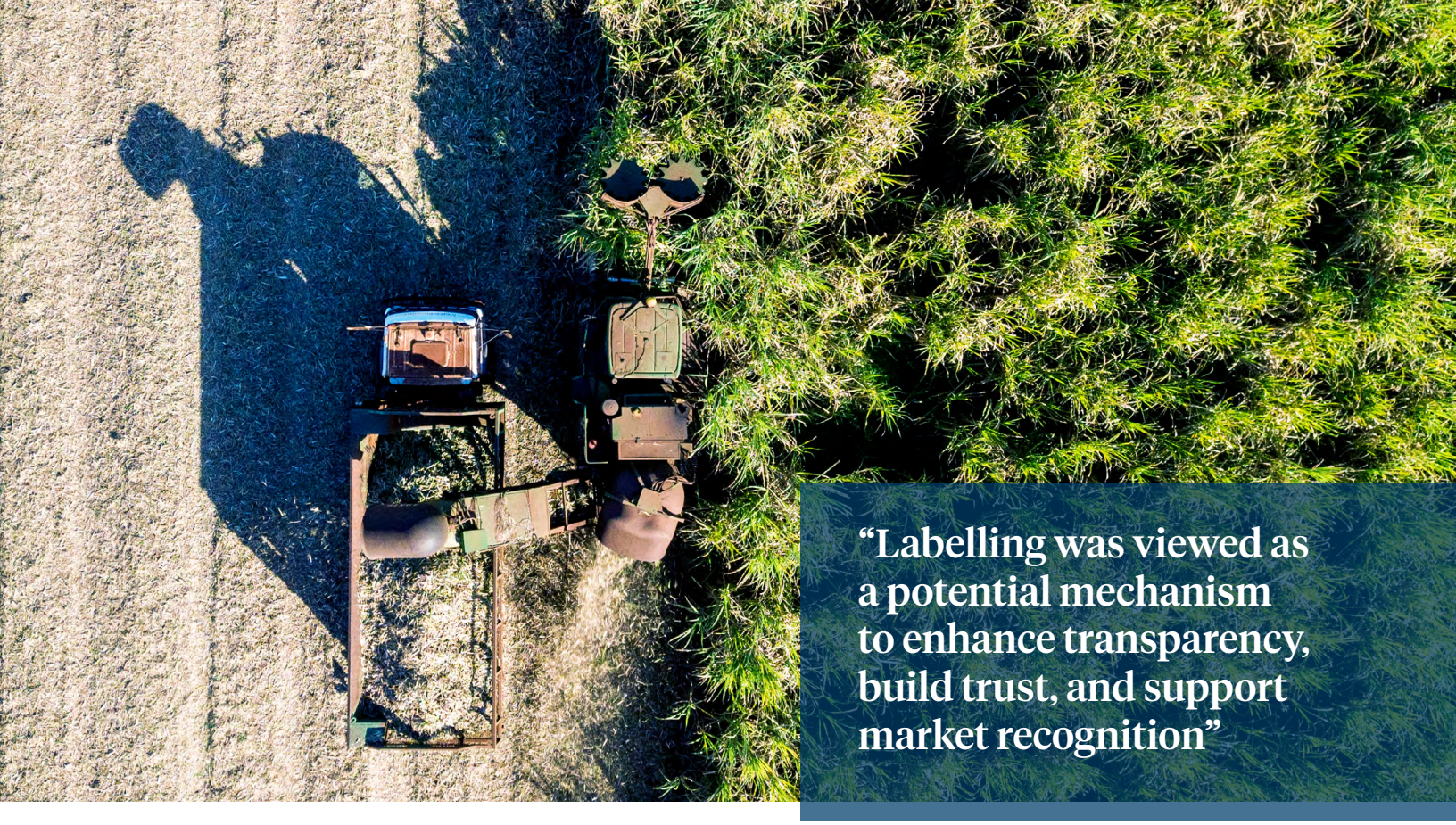
However, participants cautioned that standards should not exclude imported biomass, as doing so could disadvantage manufacturers using global supply chains. Any national approach must balance support for domestic production with openness to international trade.

Verification of Bio-Based Content Claims

Participants strongly emphasized the importance of verification to maintain credibility and reduce the risk of false or misleading claims. Potential approaches include:

- Independent third-party audits recognized across industries;
- Digital or blockchain-based traceability tools to document feedstock origin and processing history; and
- Transparent reporting mechanisms that allow consumers and purchasers to verify bio-based content levels.

Verification was seen as a key component for ensuring that bio-based content claims are both trustworthy and comparable across sectors.



> “Labelling was viewed as a potential mechanism to enhance transparency, build trust, and support market recognition”

Topic 3—Standards in Action

This section explores how potential bio-based content standards could be applied in practice. It covers participants perspectives on standardized labelling, market incentives, procurement opportunities, international trade implications, and industry adoption conditions. The discussions emphasized the need for simplicity, alignment with existing frameworks, and a balanced approach to promoting adoption across sectors.

Standardized Labelling for Bio-Based Content

Participants discussed how standardized labelling could communicate credible bio-based content claims to consumers and procurement agencies. Labelling was viewed as a potential mechanism to enhance transparency, build trust, and support market recognition—similar to established symbols such as the Energy Star™ mark for energy efficiency.

If tied to a credible, standardized verification system, labelling could:

- Provide consumers with clear, consistent information about the biological content of products;
- Help distinguish verified products from unsubstantiated claims, thereby reducing greenwashing; and
- Encourage companies to meet defined thresholds to access market differentiation opportunities.

Participants noted that labelling may play a greater role in consumer-facing markets than in business-to-business or government procurement contexts. Nonetheless, in all cases, credibility and simplicity were identified as essential.

What would labelling represent?

One area of discussion focused on the type of labelling that could help advance the Canadian bioeconomy and whether bio-based content labelling could serve as proof of sustainability.

Two main points emerged regarding what labelling should communicate:

1. **Keep it Simple**
   Some participants suggested that labelling should simply indicate the presence of bio-based content or identify bio-based content made in Canada. Clear and concise messaging could help consumers understand the claim without overcomplicating or confusing the message. Simplicity was seen as preferable to complex tiered or rating systems, as participants were unsure how customers would interpret or respond to such approaches.

   To provide more detailed information, participants suggested that labels could include a link or QR code directing consumers to a supplementary website.

2. **The "Made in Canada" label**
   Other participants noted that using a "Made in Canada" designation could strengthen the country's competitive position. They felt such a label could:

   - Signal to both domestic and international markets that bio-based content claims are credible and sustainably sourced;
   - Enhance the export appeal of Canadian products in markets that value sustainability; and
   - Encourage domestic investment and production of bio-based goods.

While there was strong support for voluntary labelling, participants agreed that any label must be tied to accountability measures and supported by transparent verification mechanisms.

Overall Usefulness of Labelling

Participants generally agreed that if a standard existed to support bio-based content labelling, it could assist in marketing the broader bioeconomy by creating a recognizable symbol.

They also agreed that labelling should remain voluntary but tied to accountability mechanisms. If a company claims bio-based content on a product, there must be a process to ensure compliance.

Although labelling offers advantages, participants emphasized the need to explore its cost implications, particularly for smaller enterprises. Some expressed additional caution, noting:

> **Consumer-Facing Markets**
> Labelling may be less relevant for government procurement, but it is important for consumer-facing markets

> **Label Fatigue**
> Too many existing labels may already be creating consumer confusion suggesting it may not be as effective or useful as some may hope due to label fatigue



Potential for Preferential Treatment for Bio-Based Products

Would customers pay more for bio-based?

Participants were generally skeptical that consumers would be willing to pay a premium for products containing bio-based content. They observed that purchasing decisions are primarily price-driven: when prices are equal, consumers may prefer the sustainable option, but when prices differ, affordability usually takes precedence.

A few participants suggested that economic incentives—such as carbon credits, tax reductions, or similar mechanisms—could help offset higher production costs and encourage both producers and consumers to choose bio-based products.

A Canadian bio-based procurement initiative

While labelling alone may not drive widespread adoption of bio-based materials, participants agreed that procurement policies could play a strategic role in creating consistent demand.



> "With the rising cost of living, consumer choices are unlikely to be driven by sustainability alone. Targeted incentives and economic benefits will be required to create real market pull for bio-based products."

The U.S. BioPreferred Procurement Program was cited as an example. It mandates federal procurement of bio-based products through a structured and verified model. Participants saw value in establishing a similar approach in Canada, noting that preferred procurement could:

- Support market access for bio-based products;
- Encourage commercialization and investment; and
- Provide predictable demand to help companies scale production.

There was no consensus on which federal body should oversee such a program, but several possibilities were identified:

- The Treasury Board of Canada Secretariat could provide overall oversight;
- Public Services and Procurement Canada (PSPC), Agriculture and Agri-Food Canada (AAFC), and Natural Resources Canada (NRCan) could contribute technical expertise.

Participants also stressed the importance of aligning any procurement program with other federal initiatives—particularly the Greening Government Strategy—to ensure coherence and mutual reinforcement.

They noted that although federal leadership is critical, opportunities could also exist for provincial or territorial procurement programs.

How Standards Can Support International Trade Opportunities

Participants observed that the current policy environment in the United States, where sustainability and bioeconomy priorities appear to be receiving less attention, could open opportunities for Canada to strengthen partnerships with Europe and other regions. However, they emphasized that greater regulatory and standards alignment would be necessary for Canada to fully participate in international bio-based markets.

While increasing domestic consumption remains important, participants stressed that expanding international demand is equally critical. To that end, Canadian standards should be harmonized with those of other countries, particularly regarding thresholds and methodologies—for example, the U.S. BioPreferred requirement of 25–30% bio-based content and the European Union's low-carbon adjustment tax.

The European bioeconomy is characterized by a structured regulatory system and well-funded programs. Participants noted that establishing comparable structures in Canada could improve market access and support trade relationships.

Considerations for Industry Adoption

Participants acknowledged that industry adoption of bio-based content standards will vary by sector. Potential markets include cosmetics, cleaning products, and food-service packaging, where demand and technical feasibility are already emerging.

They identified three main conditions that would influence adoption:

Simplicity	Market Drivers	International Integration
Clear, simple definitions of 'bio-based', avoiding complex tier systems	Investment incentives and funding mechanisms	Align with European and American methodologies
Voluntary adoption at early stages	Alignment with government procurement policies	Ensure consistency with global frameworks
Focus on priority sectors (e.g., fuels)	Support for feedstock suppliers and emerging companies	Avoid creating trade barriers



Participants suggested that voluntary adoption in the early stages would encourage learning and gradual market transformation.

Ensure Simplicity

Given the diversity of industries involved in the bioeconomy, participants emphasized that standards must be simple to implement. Overly complex tiered systems or multiple classification levels could discourage participation.

They proposed focusing first on sectors most ready to adopt—such as fuels, where data and frameworks already exist.

As an example, participants referenced the U.S. BioPreferred Program, which excludes certain product categories, including food and fuel. A similar approach could be used in Canada to maintain clarity in the early stages.

Support with Market Drivers

There was discussion on whether standards should lead market change or follow it. Some participants cautioned that introducing standards ahead of broader economic policies could be seen as premature. Others believed that developing credible standards could provide the foundation needed to attract investment and build market demand. These perspectives align with earlier workshop discussions that suggested both a top-down approach, led through procurement and government programming, and a bottom-up approach, driven by market demand and voluntary adoption, could be viable pathways for advancing credible bio-based content claims in Canada.

Participants agreed that alignment with government procurement and incentive programs would be important to ensure that standards deliver tangible value. They noted that standards could be particularly beneficial for feedstock suppliers and emerging bioeconomy companies, helping them demonstrate credibility and compete more effectively in domestic and international markets.

Participants noted:

A CSA standard aligned with government procurement policies would potentially provide an enabling foundation for industries to recognize the value of bio-based content claims and invest in its implementation.

- **US BioPreferred program at 25-30% bio-based content**
- **EU low-carbon adjustment tax**

Integrate with International Practices

Participants agreed that aligning Canadian standards with those of Europe and the United States would help facilitate trade and investment. As an exporting nation, Canada must ensure that its standards meet the expectations of international buyers and remain compatible with globally recognized frameworks.



Standards should enable growth, not become a barrier.

Conclusions

This workshop confirmed that there are both opportunities and challenges related to developing voluntary standards for bio-based content in Canada.

Participants agreed that the overarching purpose of such standards should be to support and strengthen the Canadian bioeconomy, while minimizing complexity and maintaining practical relevance.

Other key insights from the discussion included:

Clarity as a Starting Point

Defining "bio-based content" is a critical first step before moving on to topics such as labelling, procurement, or other advanced bioeconomy initiatives.

Borrow, Don't Re-Invent the Wheel

Canada can adapt approaches and definitions already established by international organizations such as the OECD, International Energy Agency (IEA), and USDA to ensure consistency and compatibility with global markets.

Sensible Alignment

Discussions about the bioeconomy's contribution to sustainability and carbon intensity should leverage Canada's strengths in natural resources, domestic production, and economic development.

Policy and Markets Both Matter

Voluntary standards for claiming bio-based content could stimulate the uptake of bioproducts within the Canadian market and help build early momentum for supportive government policies and procurement programs.

Who can make it happen?

Participants identified potential leadership roles and partnerships that could advance the development of voluntary standards for bio-based content:

- Lead organizations: CSA Group, Treasury Board of Canada Secretariat, Department of Finance, NRCan, AAFC, PSPC, and ISED.
- Provincial and territorial governments: Align policies and procurement practices across jurisdictions.
- Partners for future engagement: Representatives from land-use and agriculture sectors, brand owners, and consumer market organizations.

Next Steps

The conversation on the need for voluntary standards to support bio-based content in the Canadian economy remains ongoing. While this initial workshop captured perspectives from key industry participants, further exploration and engagement will be required to clarify several outstanding questions.



Determine what percentage of bio-based content would be required to make credible claims.

Examine whether standards should differ by industry and whether some sectors (e.g., food and fuel) should be excluded because of overlapping initiatives.

Consider how bio-based content standards could address concerns about greenwashing and improve trust in product claims.



Understand which interested parties would benefit from bio-based content standards and the associated costs of implementation and verification.

Assess whether bio-based content standards could effectively help drive growth within the broader industrial bioeconomy.

Determine whether bio-based content standards could be integrated into or recognized under broader frameworks, such as carbon-intensity standards.



Identify how potential standards could complement existing government priorities such as sustainability, innovation, and green procurement.

Evaluate the relevance of existing international standards in the Canadian context to ensure alignment and avoid duplication.

Participants agreed that continued collaboration among government, industry, academia, and standards organizations will be essential to determine whether and how voluntary standards for bio-based content can best serve Canada's environmental and economic objectives.

Annex A, Workshop Attendees

Organization	Role
Passmore Group Inc.	Facilitator
CSA Group	Facilitator
Western University – Ivey Business School	Facilitator
Bioindustrial Innovation Canada (BIC)	Workshop Attendee
Canadian Fuels Association (CFA)	Workshop Attendee
TorchLight Bioresources	Workshop Attendee
AFRY	Workshop Attendee
Forest Products Association of Canada (FPAC)	Workshop Attendee
National Council for Air and Stream Improvement (NCASI)	Workshop Attendee
Alberta Forest Products Association (AFPA)	Workshop Attendee
5REDO	Workshop Attendee
Canadian Oilseed Processors Association (COPA)	Workshop Attendee
The Canadian Forest Service, Natural Resources Canada	Workshop Attendee
Innofibre	Workshop Attendee
Centre for Research and Innovation in the Bio-Economy (CRIBE)	Workshop Attendee
Ontario Forestry Industries Association (OFIA)	Written Input Provided
Bioapplied Innovation Pathways	Written Input Provided

CSA Group

CSA Group is a global organization dedicated to safety, social good and sustainability. We are a leader in North American Standards and in Testing, Inspection and Certification around the world.

Our mandate is to hold the future to a higher standard.

The mission of CSA Group's not-for-profit Standards organization is to enhance the lives of Canadians through the advancement of standards in the public and private sectors. We are a leader in standards research, development, education, and advocacy. The technical and management standards developed with our more than 11,000 members improve safety, health, the environment, and economic efficiency in Canada and beyond.

CSA Disclaimer

This work has been produced and owned by Canadian Standards Association. It is designed to provide general information in regard to the subject matter covered. Canadian Standards Association is not responsible for any loss or damage which might occur as a result of your reliance or use of the content in this publication. The views or opinions expressed by the interviewees in this publication do not reflect the opinions of Canadian Standards Association or any of its staff members.



© 2026 Canadian Standards Association. All Rights Reserved.