

DOCKETED	
Docket Number:	22-ERDD-02
Project Title:	Climate Innovation Program
TN #:	253808
Document Title:	Advanced Building Construction Collaborative Comments - Response to the Forestry & Agriculture Workshop -Dec
Description:	N/A
Filer:	System
Organization:	Advanced Building Construction Collaborative
Submitter Role:	Public
Submission Date:	1/5/2024 10:40:02 AM
Docketed Date:	1/5/2024

*Comment Received From: Advanced Building Construction Collaborative
Submitted On: 1/5/2024
Docket Number: 22-ERDD-02*

**Comment Letter in Response to the Forestry and Agriculture
Workshop on December 12, 2023**

Additional submitted attachment is included below.

Aurimas Bukauskas, PhD
Senior Associate
Advanced Building Construction Collaborative
abukauskas@rmi.org
+1 207 558 2509

Jan 4, 2024

Climate Innovation Program
California Energy Commission
715 P Street
Sacramento, California 95814

Re: Comment Letter in Response to the Forestry and Agriculture Workshop on December 12, 2023

Dear Climate Innovation Program Leadership,

On behalf of the RMI-led Advanced Building Construction Collaborative (ABC-C), I am writing to share our input following the recent Forestry and Agriculture Workshop hosted by the Climate Innovation Program (CIP). Our experience in the field of sustainable construction aligns closely with the CIP's objectives, particularly in advancing innovative solutions for California's climate goals.

We firmly believe that solicitations by the CIP should prioritize businesses employing **industrialized construction**¹ to incorporate bio-based feedstocks, especially bio-wastes from agriculture and forest management, into high-value building products and assemblies.

Buildings as climate assets: Buildings are responsible for 40% of global emissions, with roughly a [quarter of these arising from "embodied carbon,"](#) or the emissions associated with building products and construction processes. California has a housing deficit of roughly [3.5 million homes](#). With an estimated embodied carbon of [40 tons CO_{2,eq} per home](#) using conventional methods and materials, building these homes will come with an embodied carbon price tag of 140 million tons – [roughly 35%](#) of California's total annual emissions. Bio-based materials as part of holistic low-embodied-carbon design strategies could reduce the embodied carbon of this residential construction by [as much as 83%](#). Stimulating businesses that convert abundant renewable bio-wastes to high-performance, low-embodied-carbon and carbon-storing building components could capture dollars currently slated for non-renewable high-embodied-carbon materials and profitably turn California's buildings **from climate liabilities into climate assets** while helping to address California's housing crisis.

Funding resilient living infrastructure: California's living infrastructure, especially forests and agricultural lands, filters [60% of Californians drinking water](#) and yields [11% of American agricultural revenue](#). [More than 25% of Californians live in areas classified as having very high or extreme fire threat](#), while over [40% of Californians are likely threatened by wildfire smoke](#). Using low-value bio-wastes (especially small-diameter forest thinnings from wildfire treatments and wastes from agriculture) in high-value building products directs revenue to critical land-management activities to support **resilient living infrastructure**.

¹ "Industrialized construction" refers to the application of modern manufacturing and installation practices to optimize construction. These practices often include prefabrication, standardized or repeatable elements, automation, digital tools, and integrated workflows.

Industrialized construction scales quickly and cost-effectively: Technology exists today to convert bio-based materials into building products using site-built methods. However, scaling these is limited by highly skill- and labor-intensive methods and expensive quality control, compliance, and marketing. Construction using prefabrication, standardization, and modularization **reduces costs while allowing for high-volume production** of the sustainable products needed for California's building stock. [Plantd](#), [TimberHP](#), and [BamCore](#) are demonstrating success in systematically incorporating traditionally low-value bio-based materials into sought-after building products and assemblies suitable for rapidly deployable industrialized construction.

Investments in rural communities: The new land-based business models created by bio-based building products stimulate economic development in disadvantaged rural communities. [Bio-wastes occur diffusely across California's rural landscapes](#), and are most cost-effectively processed into building materials [close to their source](#), meaning businesses creating bio-based building products for scalable industrialized construction could **bring significant skilled and unskilled jobs and revenue** to communities in agricultural regions and the wildland-urban interface.

In conclusion, ABC-C strongly advises the CIP to recognize and support projects that utilize innovative and industrialized construction techniques to transform bio-wastes into sustainable building materials. Such an approach is not only in line with the CIP's objectives but also pivotal in moving California towards a more sustainable, resilient, and equitable future.

Thank you for considering our viewpoints. We look forward to the opportunity to contribute further to the CIP's vital work.

Sincerely,



Aurimas Bukauskas, PhD, on behalf of the Advanced Building Construction Collaborative