**American Society of Agricultural and Biological Engineers**

**Circular Bioeconomy Systems Institute (CBSI**)

**A proposal to create CBSI Affiliate Membership in ASABE**

**WHAT IS PROPOSED**

This proposal seeks from ASABE to:

1. Provide CBSI opportunities to recruit individuals who are active members of other recognized professional societies and would be contributors to CBSI Mission and Vision, and
2. Approve that these individuals be registered as ASABE’s ***CBSI Affiliate Members***.

**OBJECTIVE**

To recruit individuals globally who bring a wide range of expertise in multiple disciplines and experiences from public and private sectors to join CBSI and enable it to form multidisciplinary-stakeholder teams to *advance education, professional development, and innovations for developing sustainable circular bioeconomy systems*, andto fulfill CBSI’s vision, *a healthy planet driven by vibrant, sustainable circular bioeconomy systems producing plentiful food, feed, forest products, and renewable resources.*

**RATIONALE**

Given that food and agricultural systems, along with the bioeconomy, constitute interconnected systems, it is crucial to enhance their sustainability and resilience to align with societal objectives. Currently, most of them follow a linear path of *take-make-use-waste*, which is prone to degrading and depleting the natural resource base (*e.g.*, soils, surface and groundwater, nutrients), generating pressure on the environment (*e.g.*, water pollution, greenhouse gas (GHG) emissions, loss of biodiversity), and contributing to climate change[[1]](#footnote-1). Different decision makers control activities along food and agricultural systems value chains, and there are scarcely any public or private recovery infrastructures for productively using unwanted outputs, which are discarded as wastes thus result in the loss of valuable resources.

 Some critical questions for our times are: 1) How to increase supply of food by nearly twofold for the expanding population without using more fresh water and land? 2) How to significantly increase production of biomass to a degree that it will meet demands for biobased feedstocks to replace fossil-carbon sources? 3) How to reduce loss of freshwater quality and soil health, and lower contributions to GHG emissions, pollution, and degradation of the Earth’s ecosystems, which cause climate change? and 4) Can food and agriculture contribute solutions to climate change rather than be a major GHG contributor to it?

 The answers may lie in the adoption of the fact that efficiency and sustainability of nature are a result of its many circular systems that continuously interact and dynamically respond to changing conditions. One organism’s “waste” is another organism’s “food, energy, and nutrients” in continuous cycles of growth, decay, and reuse.

 Over the past four years the ASABE’s CBS initiative engaging multiple disciplines and stakeholders has shown the potential for using the following five principles of circularity to transition current systems into circular bioeconomy systems: 1) increase input efficiency, 2) design out waste and pollution (recover discarded wastes for productive use); 3) keep products and materials in continuous use as long as possible; 4) regenerate natural systems; and 5) provide economic benefits. Furthermore, systems thinking and use-inspired-transdisciplinary research by collaborative partnerships with multiple disciplines and stakeholder groups are deemed essential for achieving these grand challenges.

 ASABE members are primarily systems engineers who integrate diverse knowledge and experiences to create system-level solutions for the health of food and agriculture, natural resources, and economy. They are in a position to play a primary role in the innovation of solutions for making the transition to circular systems. However, we have to build deeper partnerships with multiple disciplinary societies and stakeholder groups to achieve the goals.

**BENEFITS to ASABE**

The benefits of CBSI Affiliate membership will be that it will

1. Add professional richness to ASABE and increase its visibility,
2. Enable our members to become more effective by learning of the latest advancements in sister disciplines and needs of users to innovate system-level sustainable solutions, and
3. Increase membership in ASABE that will positively impact and increase its effectiveness in achieving its mission.

**ELIGIBLITY**

All those interested in CBSI are welcome to join, regardless of principal discipline, stage in career, or educational background. ASABE members will constitute CBSI leadership team. The ASABE Executive Director will implement a process for accepting applications.

**CBSI AFFILIATE MEMBER ANNUAL DUES and BENEFITS**

1. **Annual Dues**

We propose that the annual dues schedule for the CBSI Affiliate Members should NOT be prorated by age. In general, Affiliate member dues are suggested to be half of the highest ASABE member rate. See the Table below for details

|  |  |  |
| --- | --- | --- |
| **Membership Type** | **ASABE** | **CBSI Affiliate Member** |
| Undergraduate students | Zero | Same as ASABE rates |
| Graduate students | $40 |
| Member age <34 years | $145 | $95 |
| Member age 34 to 64 years | $190 |
| Member age 65 to 75 years | $80 |
| Member age 79 to 89 years | $17 |
| Members from low-income countries | $27-$95 | Half of ASABE member rate |
| New and reinstating Fee | $10 | $10 |

1. **CBSI Affiliate Member Benefits**

***ASABE Meetings and Conferences***

CBSI Affiliate Members are eligible for discounted ASABE member registration rate at CBSI related-meetings. Participation of individuals from other professional societies is central to the growth and impact of innovations in CBS. Furthermore, this will encourage new attendees, diversify expertise, enhance quality of presentations, and increase potential of recruiting new ASABE members.

***Publications (Does Not include Standards)***

CBSI Affiliate Members publications

* *Page charges* to publish in ASABE publication be the same as ASABE member rates.
* *Access* to published articles, journals, and the technical library set at non-member rates.

Rationale for these recommendations is to increase impact of ASABE journals by 1) providing incentive to publish CBS innovations ASABE journals, 2) increasing citation of ASABE articles, 3) increasing articles on topics covering the entire food and agricultural values chains, 4) enhancing quality of publications and 5) growing membership, visibility and impact of ASABE.

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**CONCLUSION**

CBSI Affiliate Membership is critical to the success of CBSI and has the potential of making ASABE a pivotal organization for innovations to advance circular bioeconomy systems.

1. [↑](#footnote-ref-1)