Innovation for Sustainability: Collaborative Solutions from Australia and Californian Agrifood Systems

1 Speakers and Panelists:

1.1 Speaker 1

1.1.1 Name: **Karen Ross**

1.1.2 Organisation name: Secretary of the California Department of Food and Agriculture (CDFA)

1.1.3 Type of organisation: Government

1.2 Speaker 2

1.2.1 Name: **Matt Lowe**

1.2.2 Organisation name: Deputy Secretary, Agriculture, Fisheries and Forestry Policy Group, Department of Agriculture Fisheries and Forestry (DAFF) Australia.

1.2.3 Type of organisation: Government

1.3 Speaker 3

1.3.1 Name: **Joshua Viers**

1.3.2 Organisation name: Professor, School of Engineering, University of California, Merced.

1.3.3 Type of organisation: Academic

1.4 Speaker 4

1.4.1 Name: **Karen Warner**

1.4.2 Organisation name: CEO, Bioeconomy, Agriculture, and Manufacturing (BEAM), California.

1.4.3 Type of organisation: NGO

1.5 Speaker 5

1.5.1 Name: **Andrew Taylor**

1.5.2 Organisation name: CEO, Regional Circularity Co-operative in Bega, Bega Group, New South Wales, Australia.

1.5.3 Type of organisation:

1.6 Speaker 6

1.6.1 Name: **Cindy Cassidy**

1.6.2 Organisation name: Executive Director, SNSW Innovation Hub, Australia

1.6.3 Type of organisation: NGO

1.7 Facilitation

Andy Hall: Senior Principal Research Scientist, Commonwealth Scientific and Industrial research Organisation (CSIRO), Australia.
Josette Lewis (moderator): Vice President and Chief Scientific Officer at Almond Board of California
Peat Leith (Q&A): Director of CSIRO's Valuing Sustainability Future Science Platform

2 Content

2.1 Session Abstract (max. 500 words)

Agrifood systems globally are facing challenges including climate change, finite natural resources, increasing input costs, changing consumer preferences and shifts to net-zero economies. In this context, innovation is key to supporting sustainability and driving system-wide adaptation. Yet innovation as we have known it will not be enough. Producers, industry representatives, governments and researchers will need to collaborate, embrace new ways of thinking and shift our approach to innovation to meet the challenges of the coming decades.

Experts and practitioners from Australia and California will share their experiences, knowledge and insights in a facilitated panel discussion. Public policy, circular economy, technology, research and innovation lenses will be applied by the panellists. Please join us to consider the innovation systems of the present and future and how agrifood systems can be productive while adapting to climate and resource challenges.

The Memorandum of Understanding between the Government of the Commonwealth of Australia and the Government of the State of California of the United States of America signed in 2023 has been the impetus for this event. The MoU provides a forum for cooperation and information sharing on issues including sustainability in agriculture.

2.2 Project Objectives

List the key objectives your session or project aimed to achieve.

2.2.1   Objective 1: Bring together experts from California and Australia, in the context of a Memorandum of Understanding signed between the two states for collaborative action on climate change mitigation and adaptation.

2.2.2   Objective 2: Discuss policy innovations in Australia's and California's agri-food innovation systems with special reference to Climate smart agriculture, Circular Economy, Biosecurity and Drought hubs.

2.2.3   Objective 3: Public policy, circular economy, technology, research and innovation lenses will be applied by the panellists.

2.3   Key Themes

- Environment and Climate
- Policy, Democracy & New Governance
- Other: Innovation for sustainability

Planned Impacts of the science and innovation presented in your session

2.4   Contribution to the SDGs

The SDGs provide a comprehensive framework for addressing the world's most pressing challenges and promoting sustainable development globally. Select the Goal/s that your project contributes to (max 3 SDGs)

12. **Responsible Consumption and Production**: Ensure sustainable consumption and production patterns.

13**. Climate Action**: Take urgent action to combat climate change and its impacts.

3   Contribution to the UN Summit of the Future

3.1   Main challenges (max 200 words)

Agrifood systems globally are facing challenges including climate change, finite natural resources, increasing input costs, changing consumer preferences and shifts to net-zero economies. In this context, innovation is key to supporting sustainability and driving system-wide adaptation. Yet innovation as we have known it will not be enough. Producers, industry representatives, governments and researchers will need to collaborate, embrace new ways of thinking and shift our approach to innovation to meet the challenges of the coming decades.

3.2   Additional goals (max 200 words)

The Memorandum of Understanding between the Government of the Commonwealth of Australia and the Government of the State of California of the United States of America signed in 2023 has been the impetus for this event. The MoU provides a forum for cooperation and information sharing on issues including sustainability in agriculture. This panel, as part of the Science Summit of the 79th session of UN General Assembly, will discuss policy innovations in Australia's and

California's agri-food innovation systems with special reference to Climate smart agriculture, Circular Economy, Biosecurity and Drought hubs.

3.3   Integration: economic, social and environmental (max 500 words)

Australia-California Memorandum of Understanding follows on from the national-level Climate, Critical Minerals and Clean Energy Transformation Compact announced by Prime Minister Albanese and President Biden in May 2023. In 2022, California and Australia had codified in law a landmark legislation in their respective 2045 and 2050 targets for carbon neutrality and net-zero emissions with interim targets for greenhouse gas and emissions reductions. This law enshrined commitments to protecting and conserving 30 percent of lands and coastal waters in California and of lands and oceans in Australia by 2030.

Australian Government and Californian Government have identified several projects to pursue in this respect. The initial step is a series of expert symposia, seminars and workshops to explore adaptation of the agrifood innovation systems of Australia and California, with particular focus on addressing climate change and other sustainability-related challenges.

Sequential workshops will address:

- *What were current agrifood innovation systems originally designed to do?*
- *What new demands do climate and other sustainability challenges place on them?*
- *How do our agrifood innovation systems need to adapt? What is the role of government/s?*

These workshops will generate evidence for adapting Australia's and California's innovation systems to meet grand challenges such as climate change, and practical policy options for doing so. This would complement work already underway examining Australia's agricultural and food related innovation systems, drawing on experience from other countries.

3.4   Impact on the 2030 Agenda (max 1000 words)

The Australia-California Memorandum of Understanding (MoU) project is strategically positioned to mainstream the UN 2030 Agenda by advancing two critical Sustainable Development Goals (SDGs): SDG-12 on Responsible Consumption and Production and SDG-13 on Climate Action. Despite differing political governance structures and cultural influences, California and Australia are similar with respect to their diverse geographical landscapes, multicultural societies, agrarian histories, and sustainability challenges. The two states have a long history of cooperation, trade, and collaborative learning. This project will drive sustainability transitions in food systems and address the intertwined challenges of climate change, biodiversity loss, and pollution in Australia and California.

Mainstreaming SDG-12: Responsible Consumption and Production: SDG-12 emphasizes the need for sustainable consumption and production patterns, a challenge that is particularly acute in agrifood systems. The MoU project directly targets this goal by initiating a series of expert symposia, seminars, and workshops designed to rethink and adapt the agrifood innovation systems in both Australia and California. These systems have traditionally focused on maximizing productivity and economic growth, often at the expense of environmental sustainability. However, with the growing demands for sustainable practices, this project seeks to transform these systems into models that prioritize resource efficiency, minimize waste, and reduce environmental footprints.

The workshops will explore how agrifood systems can be reoriented to meet new sustainability challenges, such as reducing the carbon and water footprints of food production, promoting circular economy

principles, and ensuring that agricultural practices are in harmony with the natural environment. By focusing on innovation and the role of government in steering these changes, the project will generate practical policy options that align with SDG-12's objectives. This will include strategies for promoting sustainable agricultural practices, enhancing resource efficiency, and reducing food loss and waste throughout the supply chain.

Mainstreaming SDG-13: Climate Action: SDG-13 calls for urgent action to combat climate change and its impacts, a priority that is central to the MoU project. Both Australia and California have set ambitious targets for carbon neutrality and net-zero emissions by 2045 and 2050, respectively. The project will support these targets by drawing policy options to redirect innovations in climate-smart agriculture, which is essential for mitigating climate impacts and building resilience in food systems.

Through its focus on adapting agrifood innovation systems, the project will explore ways to reduce greenhouse gas emissions in agriculture, promote sustainable land use practices, and enhance the resilience of food systems to climate-related shocks. The collaboration between Australian and Californian stakeholders will facilitate the exchange of best practices and technologies that can be scaled globally, contributing to the broader climate action agenda.

Moreover, the project will address the broader sustainability transitions related to climate change, biodiversity loss, and pollution (Transition-6). By integrating biodiversity conservation and pollution reduction into agrifood systems, the project will not only contribute to climate mitigation but also to the preservation of ecosystems and the services they provide. This holistic approach ensures that climate action is not pursued in isolation but is part of a broader strategy to achieve sustainable development.

Leveraging Circular Economy experience: The MoU project draws inspiration from successful initiatives such as BEAM Circular in California's North San Joaquin Valley and Bega Circular Valley in New South Wales, Australia. Both of these initiatives emphasize the importance of transforming waste into valuable resources, aligning closely with the objectives of SDG-12. BEAM Circular, for instance, is a hub for the circular bioeconomy, focusing on repurposing agricultural byproducts into building materials, renewable energy, and industrial chemicals. Similarly, Bega Circular Valley promotes circular economy practices that ensure resources are kept in use for as long as possible, extracting maximum value before recovering and regenerating materials at the end of their life cycle.

By adapting these circular economy principles within the agrifood innovation systems of Australia and California, the MoU project will draw policy lessons for responsible consumption and production. The project's workshops and symposia will explore how existing agrifood systems can be restructured to minimize waste, enhance resource efficiency, and promote sustainable practices across various sectors.

Conclusion: The Australia-California MoU project is a powerful vehicle for advancing the UN 2030 Agenda, particularly through the mainstreaming of SDG-12 and SDG-13. By focusing on sustainability transitions in food systems and addressing the interlinked challenges of climate change, biodiversity loss, and pollution, the project will generate policy lessons for a sustainable and resilient future. This initiative exemplifies the type of international collaboration needed to achieve the ambitious goals of the UN 2030 Agenda.

4 Forward-looking Statement

4.1 Financial aspects

Why giving $ 1 million to your project will turbo boost the achievement of the SDGs?. Three bullets (50 words/bullet).

- Accelerating Sustainable Practices: A $1 million investment will catalyze the transformation of agrifood innovation systems in Australia and California, fast-tracking the adoption of Circular Economy principles, drought resilience, Climate Smart Agriculture, and Biosecurity.

This will significantly reduce waste, enhance resource efficiency, and promote sustainable consumption patterns, through collaborative learning, directly advancing SDG-12.

- Global Impact through scaling best-practices: The project will leverage proven strategies from green-shoot initiatives such as BEAM Circular (California), Bega Circular Valley (NSW, Australia), drought hubs (Australia) as best-transition-practices. The resulting policy lessons and best practices can be scaled globally, magnifying the project's impact on achieving the UN 2030 Agenda's sustainability goals.
- Policy learning for directional innovation: The funding will support international workshops and symposia as policy-learning opportunities for redirecting innovation to sustainability. At present, such an 'international policy-learning space' is non-existent, which is partly the reason for the inertia in shifts in policies favoring transition. This will align with and accelerate the achievement of SDG-13 targets.

4.2 To further advance your science project, you will need:

Please select an option and develop it further (50 words). Multiple selection is possible.

Establish Partnerships and Collaborations: The missing link in sustainability transformation is the know-how to design enabling policy frameworks for facilitating the shift. The hindrance to this is the path dependency or inertia of the ruling and incumbent policy frameworks, which needs to shift in a direction that redirect innovations to sustainability. This sounds simple and easy, but difficult to achieve in a short time frame. To be able to do that countries and governments need mutual learning opportunities, for which partnerships and collaboration for continuous dialogue and interactive learning is necessary. Our project under the MoU is a very good entry point as well as a boundary object in driving this process. UN funding, even if nominal would empower this project by persuading the countries in question to put their best foot forward in this front.