



WATER SERVICES
ASSOCIATION OF AUSTRALIA



WSAA RESPONSE TO DRAFT END OF WASTE CODE FOR BIOCHAR

A summary report to present a national perspective on the draft end of waste code for biochar as developed by the Department of Environment and Science, under the Waste Reduction and Recycling Act 2011.



About WSAA

The Water Services Association of Australia (WSAA) is the peak industry body representing the urban water industry. Our members provide water and sewerage services to over 24 million customers in Australia and New Zealand and many of Australia's largest industrial and commercial enterprises.

WSAA facilitates collaboration, knowledge sharing, networking, and cooperation within the urban water industry. The outcome of the approach with our members has led to industry-wide advances to national water issues. Reference to water utilities includes those members who are local councils responsible for the provision of water supply, treatment, and sewage management.

Acknowledgement of country

The Water Services Association of Australia acknowledges and pays respect to the past, present and future Traditional Custodians and Elders of this nation. We recognise their continuing connection to land and waters and thank them for protecting our waterways and environment since time immemorial.

Disclaimer

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TABLE OF CONTENTS

1.1 General comments on the drafted end of waste (EOW) code	4
1.1.1 Key Points for Consideration:	4
1.2 Considerations and Recommendations	4
1.2.1 Quality Criteria and Contaminant Limits	4
1.2.2 Approved Uses and Scope Expansion	5
1.2.3 Storage and Environmental Harm Prevention.....	5
1.2.4 Notification and Record-Keeping	6
1.3 Conclusion	6

1.1 General comments on the drafted end of waste (EOW) code

The industry recognizes the potential of biochar in contributing to sustainable environmental management and is keen to explore its varied applications, particularly in the context of urban water management and circular economy initiatives.

The proposed EOW code provides a foundational framework for regulating biochar production and use. However, it is imperative that the code is developed with a comprehensive understanding of the diverse applications and potential markets for biochar, beyond its use as a fertilizer or soil conditioner. The industry, at a national level, suggests that the code should be adaptive and flexible to accommodate the evolving nature of biochar research, production technologies, and market demands.

1.1.1 Key Points for Consideration:

- **Quality Criteria:** The establishment of clear and evidence-based quality criteria is crucial. However, it is pivotal that these criteria are not overly restrictive and consider the various applications and local conditions that might influence the bioavailability and impact of different elements.
- **Approved Uses:** While the code outlines specific approved uses for biochar, we would encourage the expansion of this scope to explore and facilitate the development of new markets and applications, such as water filtration, construction materials, and more.
- **Storage and Environmental Harm Prevention:** Clear guidelines on storage limits and measures to prevent environmental harm are necessary, ensuring that they are practical and do not unduly restrict production capabilities.
- **Notification and Record-Keeping:** A flexible and practical notification system is essential to ensure traceability and accountability without imposing undue administrative burdens on stakeholders.

WSAA is committed to engaging in further discussions and collaborations to refine the EOW code for biochar, ensuring it is robust, practical, and facilitates the sustainable production and use of biochar across various applications and markets.

1.2 Considerations and Recommendations

1.2.1 Quality Criteria and Contaminant Limits

The draft EOW code for biochar outlines specific quality criteria, particularly focusing on the maximum concentration limits for various contaminants like arsenic, cadmium, copper, and others. If biochar is produced using certain feedstocks like digestate, food waste, food processing waste, and/or biosolids, it must not exceed the quality criteria stated in Table 1 of the document. However, the code would be enhanced through the adoption of an outcome-

focused approach and allow for fit-for-purpose reuse pathways, if the producers can prove the environmental risks are properly managed.

Our understanding is the heavy metals and contaminant leachability and bio-availability from biochar has been shown to be lower than biosolids, and if biochar is reused in industrial applications, the environmental risk may be limited. A proposal is that instead of setting prescriptive limits, the code allows the producers to demonstrate/prove the environmental impact of each reuse pathway. Ultimately, the criteria should be referenced against leachability testing of biochar and/or consider the exposure pathway of the intended reuse.

1.2.1.1 Recommendations:

- **Data Consideration:** Ensure that the derivation of the Resource Quality Criteria considers various factors like aging water infrastructure and local conditions like soil type and pH, which can influence the bioavailability of elements like Cu and Zn.
- **Blended Biochar Products:** Amend the resource quality criteria to accommodate blended biochar products in compliance with the Australian Standard for soil conditioners (AS 4454–2012). Furthermore, there would be value in a few grade categories provided for biochar to leverage different circular economy/beneficial reuse opportunities.
- **Outcome-Focused Approach:** Adopt an outcome-focused approach and allow for fit-for-purpose reuse pathways as long as the producers can prove the environmental risks are properly managed.

1.2.2 Approved Uses and Scope Expansion

The draft EOW code specifies that biochar can be used as a fertilizer and/or soil conditioner on agricultural land or for domestic lawns, gardens, and landscaping. However, we note that this excludes many potential markets for biochar, including incorporation into construction materials and use in forestry.

1.2.2.1 Recommendations:

- **Market Expansion:** Acknowledge and facilitate the development of new markets for biochar beyond the use as agricultural and domestic fertilizers, exploring its potential in areas like construction, industrial and forestry applications.

1.2.3 Storage and Environmental Harm Prevention

The draft EOW code specifies storage requirements and measures to prevent environmental harm, such as ensuring that any storage of the resource on the site of use does not exceed the operational demand for the approved uses. Better clarification and detail on what level of stockpiling is allowed is needed.

1.2.3.1 Recommendations:

- **Flexible Storage Limits:** Consider revising storage limits to allow for larger quantities, facilitating economies of scale while ensuring that environmental safeguards are in place.

- **Clarification on Stockpiling:** Provide clear guidelines on the permissible levels of stockpiling.

1.2.4 Notification and Record-Keeping

The draft EOW code requires that a person intending to use the approved resource must notify the chief executive by giving a notice in the approved form at least 10 days prior to the commencement of using the resource, unless it is to be used on domestic lawns, gardens, and landscaping only. It is unclear how this process would work if the product were sold to distributors and/or retailers directly.

1.2.4.1 Recommendations:

- **Flexible Notification System:** Evaluate the possibility of a more flexible notification system that still ensures accountability and traceability but might be more accommodating of various user needs and scenarios.
- **Clarification on Notification:** Provide clear guidelines on notification requirements when the product is sold to distributors and/or retailers directly.

1.3 Conclusion

In conclusion, WSAA acknowledges the potential and versatility of biochar as a resource that can significantly contribute to environmental sustainability and resource recovery. The proposed End of Waste (EOW) Code for Biochar is a commendable step towards regulating and standardizing its production and use, ensuring that it is safe, effective, and beneficial across various applications.

However, it is imperative that the code is developed and refined through a lens of adaptability, ensuring it is capable of evolving alongside advancements in research, technology, and market demands. A balanced, flexible, and inclusive EOW code will not only safeguard environmental and public health but also foster innovation, facilitate market development, and enhance the sustainable management of resources within the urban water industry and beyond.

We advocate for a continued collaborative approach in refining the EOW code, ensuring it encapsulates the insights, expertise, and concerns of all relevant stakeholders. WSAA is supportive of contributing to this collaborative process, with Queensland Water Directorate as the lead agency, providing insights and expertise to ensure the EOW code is robust, practical, and facilitates the sustainable and beneficial use of biochar across a myriad of applications.

We look forward to ongoing engagement and collaboration with all stakeholders in the development and implementation of the EOW code, working towards harnessing the full potential of biochar in contributing to a sustainable and resource-efficient future.