

## AUSTRALIAN AND NEW ZEALAND BIOSOLIDS PARTNERSHIP

### REQUEST FOR QUOTE

#### Australia and New Zealand Biosolids Production and Use Project

Deadline for submissions – 30<sup>th</sup> June 2021

#### Key contact

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#### Objective

Develop an accurate and comprehensive dataset of Biosolids Production and End Use for Australia and New Zealand, and present this data in an easy to understand format suitable for publication to a broad audience of ANZBP subscribers. Expand on survey data from previous years as described in the description of deliverables, creating a coherent report format comparable to previous reports but with new data elements.

#### Description of deliverables

The consultant is to collect accurate biosolids production statistics from Australian and New Zealand wastewater treatment plants (in tonnage) including final end use. The data is to be collated in a database and then summarised in two reports (one for Australia and one for New Zealand) for publication on the ANZBP Subscribers website. The information should express on a state by state basis (Australia only) and also aggregated to produce overviews on a national level for each element of the research. Complete spreadsheets of the biosolids statistics underlying the final reports will be shared with the ANZBP Advisory Committee for internal use only.

The information to be collected from WWTPs (where available) is:

1. Biosolids production in dry tonnes per day
2. Biosolids production in wet tonnes per day
3. Stabilisation Grade
4. Contamination Grade
5. Stabilisation process
6. Dewatering process
7. End use

The final presentation of the data must be clear and simple to interpret, allowing for future analysis. In addition, to illustrate the results of the research in a manner suitable for quick reference by ANZBP Subscribers, the final report should contain appropriate graphs and figures to clearly depict the data collected for each of these characteristics on a state and territory level and aggregated to a national level.

The focus of this work is on accessibility for members so clarity is of paramount importance. Methodologies should be summarised, as should explanations of the classification processes used.

Previous reports can be found on the member-only section of the ANZBP website via the following link: <https://www.biosolids.com.au/biosolids-atlas/statistics/>. Please contact the Program Manager if you are not a member of the ANZBP and would like to request a copy of a previous report.

By way of example, the following images show the table of contents for the 2017 reports:

Australia:

ANZBP		BIOSOLIDS PRODUCTION IN AUSTRALIA 2017	
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3.	Classifications..... 1
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Table 3-1:	Stabilisation Gradings..... 2

## Approaches to data collection

This data collection must be nationwide in reach (for both Australia and New Zealand) and include approaches to all eligible treatment works based on the following principles:

Due to the urbanised nature of Australia, the large number of small community wastewater treatment plants and the difficulties in obtaining data from these facilities, a minimum solids processing capacity\* of 30,000 Equivalent Persons (EP) has been set for this investigation. Similarly, a minimum solids processing capacity of 25,000 EP has been set for New Zealand. Both of these figures cover roughly 80% (+/- 10%) of the total population of those countries. In previous years, a minimum influent size has been adopted, however importing biosolids for centralised treatment is becoming more common (e.g. New Zealand's Taupo biosolids facility imports sludge from 3 or 4 surrounding plants) so minimum solids processing capacity is more appropriate.

Limitations of any data must be clearly documented.

## Additional material for and changes in the 2020-21 report

In 2020-21 the ANZBP Advisory Committee seek the following additional inputs to the data collection report:

Quantitative inputs:

- Data comparison – include comparison with previous data in ongoing reports. Data is available as a summary from 2009-2019.
- Biosolids production – report on average % dry solids by state. Data is collected already, one additional graph required.
- Biosolids end use – change “Landscaping (compost)” to “Landscaping” and add “landform restoration or quarry rehabilitation (bulk fill)”, “landfill capping”, “commercial sale”, and “given away”
- Sludge type – new question. Include “primary sludge”, “waste activated sludge”, “humus sludge”, “tertiary treatment sludge” and “other”.
- Stabilisation process – split into “main stabilisation process” and “further stabilisation”. Use the same list of process options for both categories.
- Stabilisation process options – add extended aeration, solar drying, sludge drying beds and drying lagoons, pyrolysis and gasification
- Stabilisation process options – have anaerobic digestion in the stabilisation process option list and have sub-options for this including mesophilic anaerobic digestion, thermal hydrolysis pre-treatment, temperature-phased anaerobic digestion (TPAD), thermophilic anaerobic digestion and acid phase anaerobic digestion
- Dewatering process – add screw press as an option
- Stockpile data – add new question: Does your organisation have historical stockpiled biosolids (Yes/No)? If yes, please provide the tonnage of biosolids stockpiled for the year, tonnage of biosolids reused from the stockpiles for the year and the net total stockpile tonnage.
- Transportation – add new question: How far are biosolids typically transported for end use? 0 to 50km, 50 to 150 km, 150 to 400 km, over 400 km
- Processing costs – add new questions:

- What is the typical annual end-to-end biosolids management cost? (\$ per dry tonne, including all parts of the process between the point where the sludge is produced and the end use)
- If able to disclose, please provide a breakdown of processing, transportation and end use costs (\$ per dry tonne).

Optional questions for data providers in 2021:

- Is your biosolids analysed regularly for PFAS or other compounds that are not regulated? Please provide a short statement on the businesses risk management approach to emerging contaminants.
- Is biosolids end use managed in-house or via a third party?
- Please outline what type of clients comprise your end user base? Farmers, land rehabilitation, etc?
- Have you (or a third party) branded your biosolids? If yes, and able to disclose, what is the brand?
- Do you produce renewable energy from biosolids (e.g. from biogas produced during sludge digestion)? If so, please provide the annual energy generated (GWh/year).
- Do you consider end-fate carbon in your biosolids management approach? If so, and able to disclose, what accounting method is used?
- Would you be willing for the data you provide from **future** biosolids end use surveys to be shared with the Commonwealth Department of Agriculture, Water and Energy for a waste data digitisation program under which data use is limited to an agreed set of users which may include state or federal government departments and data providers? Yes/No; Please provide further comments on what would be acceptable limitations on the sharing of background data in the waste digitisation program. Please note that no data will be shared without consent from data providers.

### Requirements of Consultant’s Proposal

Any proposal for the above work must detail the work methods and organisational arrangements that will be used in delivering this project, and the capacity of the Consultant to undertake the work. The proposal must include:

1. A statement as to the methodology to be employed for completion of the project.
2. Details of the Consultant’s project team, including:
  - The names of key personnel to be allocated to tasks and a brief description of their role in the Consultant’s organisation.
  - A statement as to the hours allowed for each task and hourly rates (please note, contracting will be done on a lump sum basis)
  - The names of any sub-consultants to be engaged, and details of the activities in which they will be involved
3. The schedule of Lump Sum Prices, at a minimum set out to the following level of detail:

Task	Task Description (Defined by Consultant)	Lump Sum Fee (excluding GST)
a) Data Collection		
b) Analysis		
c) Reports and database production		

<b>Total</b>		
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4. Confirmation that the work can be completed within 13 weeks of commencement (assuming a predicted commencement date of 1<sup>st</sup> August).
  
5. Consultants are also required to declare any potential conflict of interest arising from the tasks under this brief for their firm. Where a potential conflict of interest does exist, consultants are required to advise how such a conflict will be managed during the project.