

Is it a fertiliser.....

Is it a waste

No its.....













- Presentation Outline
 - What is happening now
 - Future Developments
 - Emerging issues and technologies
 - Questions and Discussion











- Background
 - Biosolids production occurs at over 100 WWTPs state-wide – i.e. lots of small and wide spread plants
 - Goals are to reuse biosolids in a responsible, sustainable and economical way
 - Opportunities for improvements statewide









- Around 8,000 dry tonnes per year produced
- Equates to around 50,000 cubic m pa to deal with – either in liquid or dewatered forms
- 5,000 truckloads pa = 100 truckloads / week
- Some legacy volumes sitting in treatment lagoons - better understood now after audits









 Volumes increasing with higher levels (and highly loaded) treatment plants



Biosolids production (Southern Water) - Tonnes / ML



Typical biosolids Biosolids Partnership









Australian & New Zealand Desludging lagoons...











- Existing arrangements for transport, reuse and disposal – still generally continuing with the Council "handshake" agreements
- Corporations considering long term strategies







<u>Biosolids</u> <u>destinations</u>



	Agriculture	Composting	Landfill	Stockpile	Other
Australia	55%	10%	4%	23% (Melbourne)	8%
Tasmania	31%	19%	39%	8%	2%







<u>Biosolids</u> in Tasmania



- 39% going to landfills
 - Capping (mixed with green waste) and burial
 - Expensive, unsustainable, wasting a resource
- 31% reused in agriculture
 - Agricultural land in general needs Carbon input
 - Nutrient benefits
 - pH benefits from limed biosolids
 - Scientific research supports benefits













Biosolids future



Spreading







- Carbon pollution reduction scheme how will this impact?
 - Greenhouse Gas emissions, climate change
 - Higher use of lime for stabilisation
- 1999 Tasmanian Biosolids Reuse Guidelines
 - review proposed by EPA in 2010
 - Issues Paper developed early 2011
 - Working group selected







Biosolids in Tasmania



- Future sustainable reuse
 - Reducing land-filling, more to agriculture and composting?
 - Improving efficiency (saving \$ for the community)
 - Turning from a waste to a valued resource
 - Maximising nutrient recycling
 - Minimising risks improved management
 - Reprocessing compositing (% nearly double national average)







Biosolids Future Issues



- Peak Phosphorous fertilisers will become more expensive
- Emerging research and technologies
 - Co-digestion with other wastes
 - Pyrolysis and biochar (energy) production
 - Bioleaching of metals and nutrients
 - May not stack up in Tasmania due to size and locations







<u>Biosolids</u>



<u>in Tasmania</u>

The issues – Product consistency

- 80% water
- Distances to reuse
- Specialised equipment to spread
- Acceptance by farmers and communities
- Resources to manage and monitor











The missing links

- Marketing and promotion not a waste but a valuable product, backed up by science
- Increase demand needed competition for a limited resource







Biosolids

<u>in Tasmania</u>

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Biosolids Partnership

Questions and discussion





cradle mountain w A T E R



southern water