

# A Perspective on Asbestos Waste Management in NSW

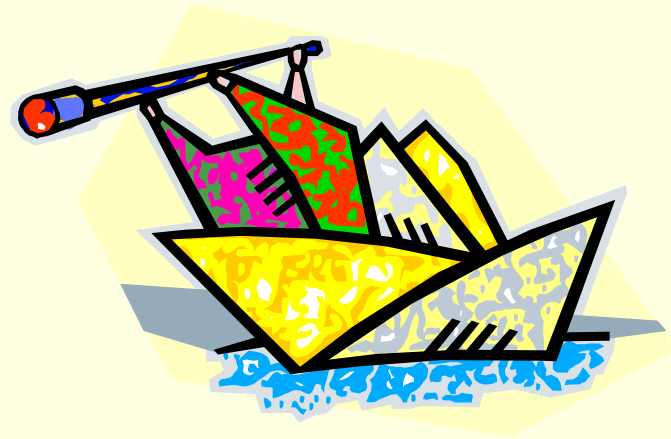
Andrew Doig



# Introduction

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- Overview
- Asbestos basic management
- Landfills and asbestos
- Recycling and asbestos
- Illegal disposal
- Summary



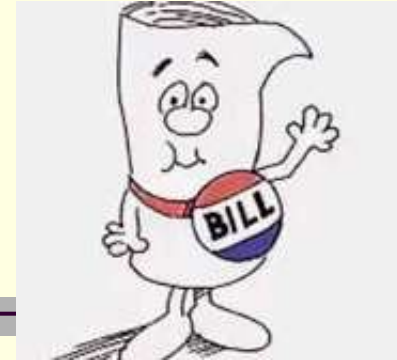
# ASBG Who are we?



- The **Australian Sustainable Business Group** is an business representative body
- We operate to assist **businesses** to deal with rapidly changing environmental laws
- Provision of topical **seminars**, **newsletters** and **conferences** and **lobbying** for members
- See more at [www.asbg.net.au](http://www.asbg.net.au)
- **Submissions under *Policy, ASBG Submissions***

Contact Andrew Doig 02 9453 3348

# ASBG Wins



- Achieved a 50% reduction for 2 yrs, then 25% for another 2 on the waste levy for the metal shredders
- Reduced the multiplier under Risk Based Licensing for administrative fees from 3 to 2
- Prevented the LBL fees being subject to the above multiplier
- EPA prepare a document with ASBG input to provide more self regulation for low risk EPL sites
- Placed environmental insurance as an option on the EPA website for coverage of regulatory directed clean ups
- Use of insurance policies as an alternative to bank guarantees for Financial Assurances

# Management of Asbestos - Burial



There is only one practical method for management of asbestos → BURIAL

Once buried it is immobile and inert → Options:

1. Asbestos waste → to a licensed landfill
  2. Asbestos contaminated materials (soils) can be buried on site as a 'capped landfill' or other methods
  3. Alternative options to be considered for local burial
- Require an efficient, low(er) cost approach to safely manage asbestos
  - Bury properly and mark where it is
  - If need to be recovered appropriate safety actions can be taken

# Contaminated Land

## Asbestos in soils – Issue 1



- WHS Reg permits removal and separation of asbestos from other materials on-site
- Contaminated land NEPM criteria permit leaving a minimal risk level of asbestos on site → properly buried
- Require a robust location identification process attached to lots under planning laws → know where it is for future excavations
- WA has a very good and easy system for recording notations on title – this is not the case in most other states

**On-site asbestos mgt.**  
**Risk based approach**  
**WHS Regulations**  
**Contaminated site rules**  
**Audited**

**Off-site asbestos mgt.**  
**Leaves the site → asbestos waste disposal**

# Asbestos Waste Data Thresholds

	Threshold to count as asbestos	Tracks hazwaste?	Tracks asbestos?	Tracking threshold
<b>Qld</b>	Not stated	Yes	Yes	0 kg for asbestos specialists; >250kg for domestic self-haul & commercial
<b>SA</b>	Not stated			0kg for commercial removal; no tracking of domestic self-haul
<b>Vic</b>	?			100kg or 10m <sup>2</sup> for “transporters of asbestos”
<b>NSW</b>	No lower limit			
<b>WA</b>	0.001%	No	No	
<b>ACT</b>	Not stated			
<b>NT</b>	Not stated			
<b>Tas</b>	?			

# Limit for Asbestos Waste



Under AS 4964 *Quantitative Identification of Asbestos in Bulk Samples* → 'no asbestos detected':

- 7 The sample can be reported 'no asbestos found at the reporting limit of 0.1 g/kg', when analysis has been conducted in accordance with Clause 8.2.3 or 8.2.4, and if -
- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres);
  - (b) the estimated weight of non-respirable asbestos fibres bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1 g/kg; and
  - (c) these non-respirable asbestos fibre bundles and/or the asbestos-containing materials are only visible under stereo-microscopic viewing conditions.

NSW EPA says regardless of concentration:

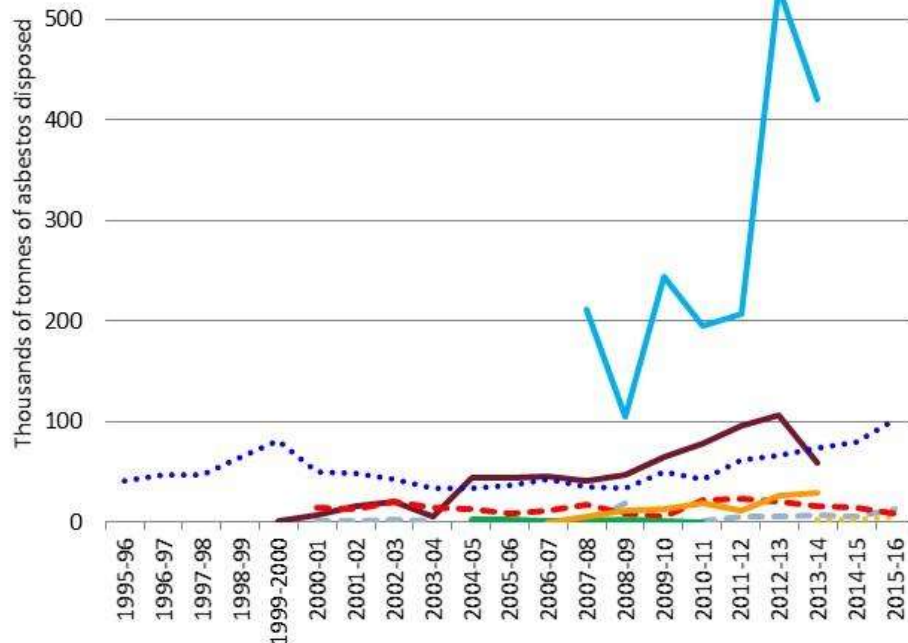
*If asbestos is found, but is below the reporting limit, it is the EPA's position that the laboratory must still report the presence of asbestos, and the waste is represented by the sample must be classified as Special Waste Asbestos as a minimum*



# Soil Contaminated with Asbestos

At least 250,000 tpa going to landfill in NSW annually

If across Australia a similar amount ~ 1 Mt pa

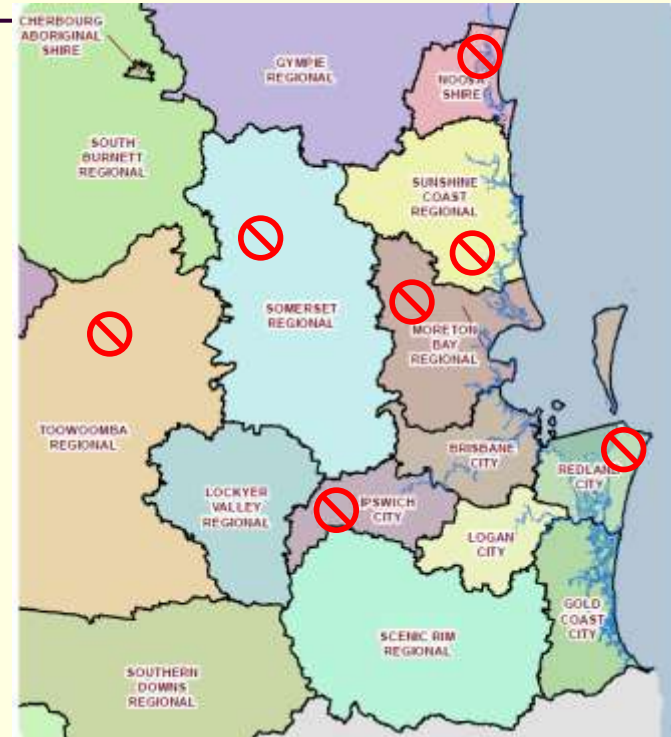


Landfill filling up faster and need new solutions

Permits to bury for resource reuse is either banned or subject to tight controls

# Are there enough landfills accepting commercial amounts?

- Many landfills refuse to accept commercial quantities
- Domestic asbestos loads are of small volumes and less of an issue
- Some lists asbestos taking landfills
- Few landfills across NSW, QLD and other states accept commercial quantities → increases costs and transport distances
- This increases pressure for on-site burial
- This can place on-site asbestos remediation/on-site burial at odds with the local community



# Issue 2 → Asbestos and Landfills

- Should a minimum number of landfills be required to accept asbestos in an area?
- Asbestos contamination of landfills makes maintenance difficult → better controls mapping?
- Need for practical and safe methods to manage asbestos at landfill sites
- Identification of where asbestos is placed → future excavations
- Levy reduction → limited to cost of packaging asbestos or else all becomes asbestos waste



# Idea: Asbestos Management



ASBG's possible solution:

- Make a Specific Resource Recovery Order (SRRO) for managing low level asbestos soils, possible criteria:
  - Soils to meet ENM RRE limits
  - Only have asbestos as the only other contaminant
  - Be limited to about 1% max asbestos materials
  - Permitted for use as fill material in specific infrastructural sites → e.g. road works, foundations etc (need a licence?)
  - Tracking and wrapping as per current
  - Buried with an engineered cap
  - Included on land title and mapped → dial before dig future
  - No waste levy to apply

# Issue 3 -Recycled Materials and Asbestos

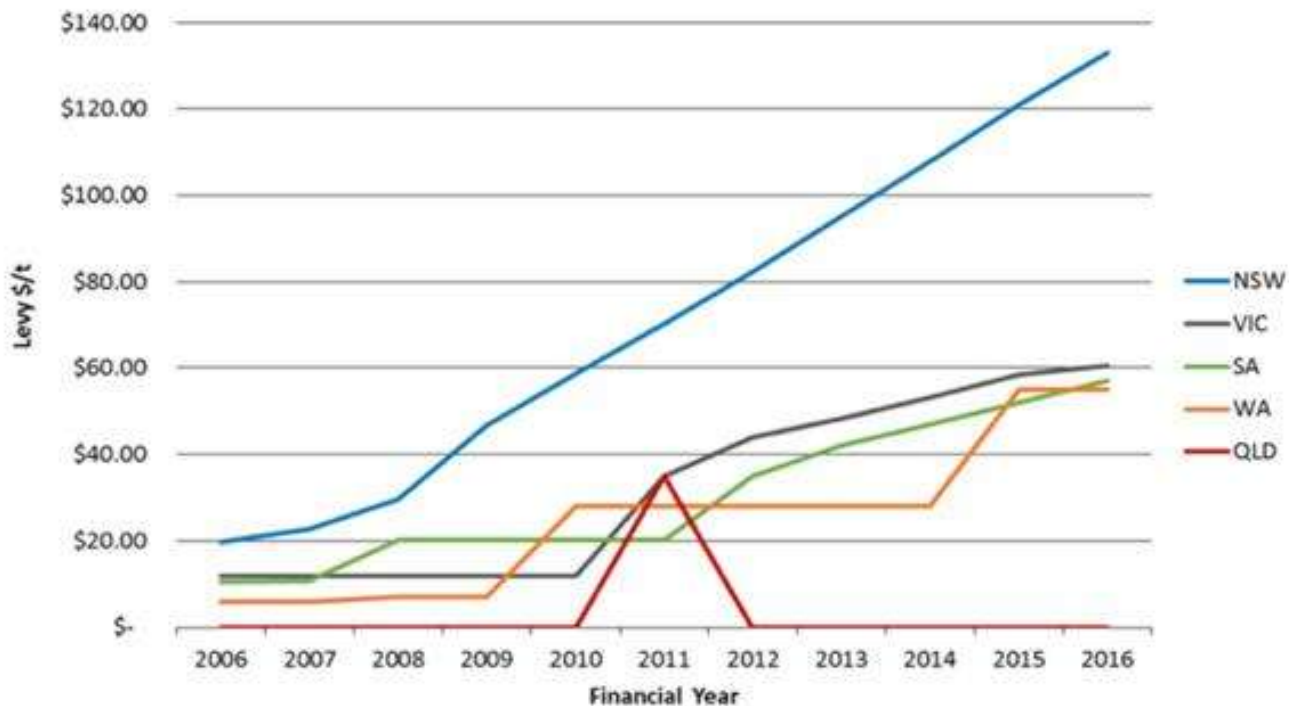
Recycling of C&D wastes can occur:

- On the site of generation where asbestos removal is permitted → recycled products:
  - This material can be re-used on site or if passes an “asbestos free” threshold → can it be used off-site?
- At off-site facilities where C&D and other wastes are processed to produce recycled products
  - Any asbestos in received loads, load is rejected
- You cannot guarantee that all asbestos will be captured or removed → some traces will make it through, like any contaminant

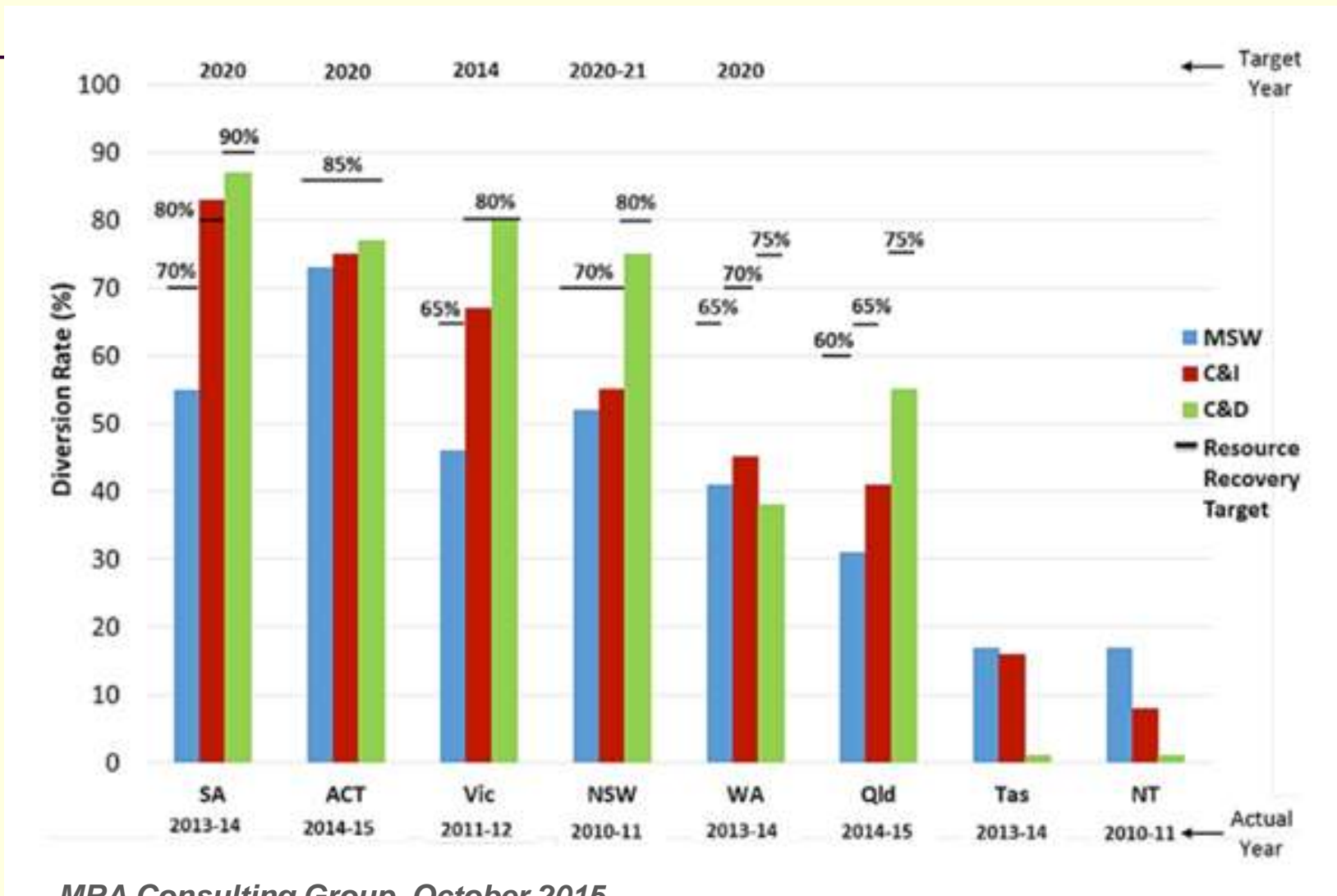


# Recycling Sector Overview

- Australia recycles > 52% of all wastes ~ 24 M tonnes/yr
- Turnover 2011 → ~ \$6.5 to \$11.5 billion
- Waste levies collected NSW >\$704m, Vic ~\$175m, WA ~ \$70m

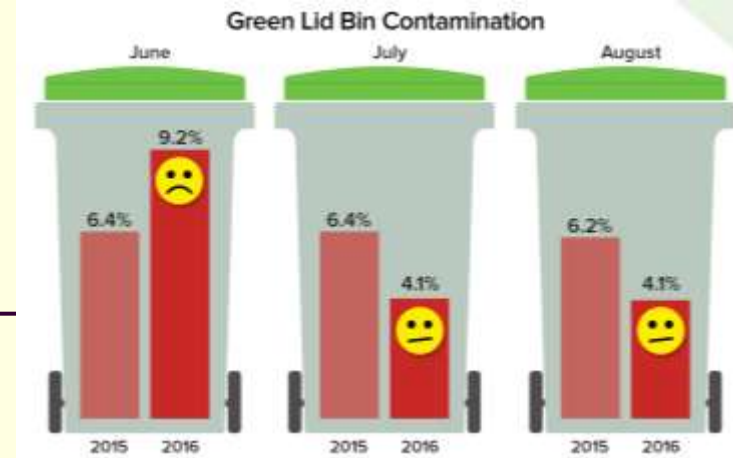


# National Resource Recovery



MRA Consulting Group, October 2015

# Recycling and Asbestos – Issue 2



Most recyclers are highly regulated:

- Environment and WHS agencies regulating and checking
- Products made from recycled materials:
  - *Asbestos free* thresholds must be met
  - ACCC product liability issue as well
- NSW does not permitted reuse or recycle *asbestos waste* s81 POEO (Waste Regulation) 2014
- Recyclers have little control on others bringing in asbestos contaminated materials → C&D and kerbside etc.
- One bag of AC sheeting in a recycling truck → condemned to landfill



# Controlling Asbestos at Recycling Works



Quality Management system used, i.e:

- Load inspection upon arrival at weighbridge
- Load inspection by spreading before stockpiling
- Material Inspection when material is loaded into crushing plant
- Material Inspection when material is being processed crushing plant
- Testing of final product on delivery to stockpile

Issue A: How much material is *contaminated* if a piece of asbestos is found?

Issue B: What standard do we place on recycled materials for asbestos contamination?

# Threats to Recycled Materials

- WA Main Roads in 2011 took > 1 million t recycled C&D mater then stopped → asbestos contamination concerns
- Cannot guarantee zero asbestos → even extensive testing is not good enough for WA market as recycled C&D products *might* contain asbestos
- *‘WA’s tougher specifications by Main Roads in response to fears about asbestos in the material had scared away most buyers.’*
- ~2? Mt pa C&D is going to landfill and or being stockpiled in Perth



# Asbestos impacted soils and recycled products

- Estimated 250 kt pa contaminated soils – at very low levels → can be condemned for any fibre detection in NSW
- WA alone has 2 Mt pa of recycled product → condemned for any asbestos fibres which may be there
- If a no tolerance approach is expanded to all Australia it could prevent most C&D and other recycled products from being reused and recycled
- What % of the 24+ Mt pa would have to be landfilled?
- Where would the tens of millions of tonnes go?



# The Asbestos Disposal Issues

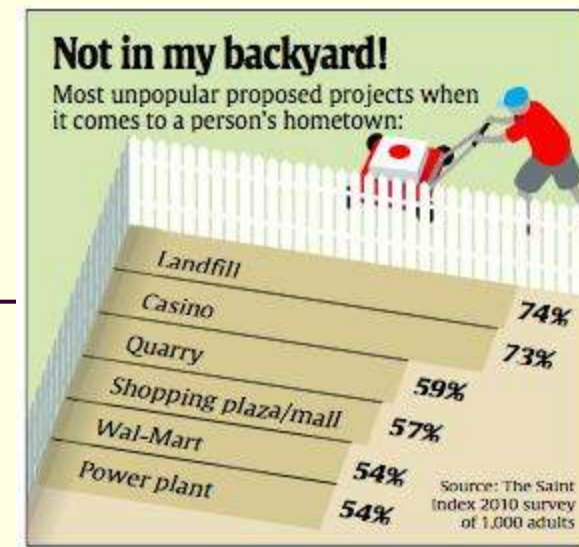
If a **zero** asbestos threshold is required:

A: More waste, which was recycled, goes to landfill:

- Landfills will quickly fill → community opposition to new landfills fierce, a concentration of the problem
- Run out of landfill space → where does the waste go?

A: Reduce costs for asbestos wastes → lower levies, special provisions and treatments:

- But then **all wastes** would be classed as *asbestos wastes* as:
  - They cannot be guaranteed to have zero asbestos
  - Too costly to prove asbestos free
  - Background levels will show up if looked for



# Zero or Free?

- The notion of *zero* is not used by Government, but an “*asbestos free*” threshold is: AS 4964 and visual test?
- NSW criteria is any fibre detected → asbestos waste then to landfill
- SAs recent *Air Quality Policy 2016* lists maximum permitted ground level concentration of asbestos at 0.33 fibres/litre
- Urban background level → 0.01 to 0.2 fibres/litre DoH

*Most pollutants have no safe level, e.g. Particulate matter*

*Like all other pollutants a limit is set based on its health and environmental impacts*

**Issue:** Can we set an acceptable (tiny) limit for asbestos in recycled (or any) product?

The image shows a 'Certificate of Analysis Asbestos Fibre Identification in Bulk Material' from IOM. It includes a table with columns for 'Lab Sample No.', 'Sample Name', and 'Asbestos Type/Amount'. The table lists several samples, all of which are marked as 'NONE DETECTED'. The certificate also features the IOM logo, contact information, and a signature.

Lab Sample No.	Sample Name	Asbestos Type/Amount
23401	WETLANDS (WETLANDS) (WETLANDS) (WETLANDS)	NONE DETECTED
23402	WETLANDS (WETLANDS) (WETLANDS) (WETLANDS)	NONE DETECTED
23403	WETLANDS (WETLANDS) (WETLANDS) (WETLANDS)	NONE DETECTED
23404	WETLANDS (WETLANDS) (WETLANDS) (WETLANDS)	NONE DETECTED
23405	WETLANDS (WETLANDS) (WETLANDS) (WETLANDS)	NONE DETECTED
23406	WETLANDS (WETLANDS) (WETLANDS) (WETLANDS)	NONE DETECTED
23407	WETLANDS (WETLANDS) (WETLANDS) (WETLANDS)	NONE DETECTED

# WHO says...



- *All forms of asbestos are carcinogenic to humans.*
- *Approximately half of the deaths from occupational cancer are estimated to be caused by asbestos*
- Quoted as saying: *“There is no safe threshold level of exposure to any type of asbestos”* → has been removed from their fact sheet
- WHO’s *Air Quality Guidelines* quote on particulate matter and ozone: *“Moreover research has not identified thresholds below which adverse effects do not occur, it must be stressed that the guideline values provided here cannot fully protect human health.”*
- *Globally, 3 million deaths were attributable to ambient air pollution in 2012*

# Issues for Recycled Materials



- A concentration of asbestos in waste where it is not considered asbestos waste → “asbestos free”

- Recycling sector to use a quality system approach to maintain a required standard of asbestos in product

A case for an exemption under WHS laws for recycled products to contain traces?

- Recycled product threshold asbestos concentrations (and other contaminants) to vary according to end use → buried materials could have higher concentrations than for surface use materials due to lower risks
- Requires a comprehensive land mapping to know where this material has been used → future dig ups

# Illegal Dumping of Asbestos

- If you own land on which asbestos waste is dumped, who will clean it up?
- It is victim → occupiers and Councils

In recycling:

- Kerbside collections are often contaminated with asbestos. This in NSW condemns the whole truck load → councils generally pay for the disposal costs
- If missed the asbestos can make it way through the recycling plant resulting in contamination of stockpiles, semi –processed materials and final product. → Recycler pays for the disposal of contaminated materials





# Large Scale Dumping of Asbestos



- Dib Hanna, Serial offender → multiple illegal dumping on private land has over \$500K in fines now with 5 new Clean Up notices. Still not sent to jail.
- Foxman Case → \$390K fine + Ordered to remove asbestos waste (\$5 -\$10m), but could declare bankruptcy. This could lead to another orphan site.
- *Eco Civil* → false certificates and 3,840 tonnes sent to dam fill material. EC went into liquidation and was fined \$36,000 plus costs. Dam site still contaminated
- *EPA v Complete Asbestos Removal* → false certificates, \$188K in fines and costs

May 2016



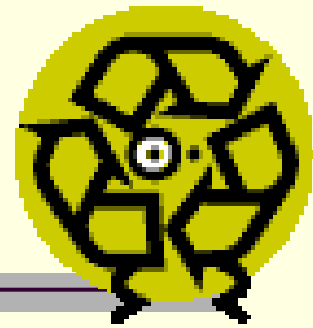
# Illegal Dumping Strategy



EPA has released its illegal dumping strategy but it does not mention:

- The high gate fees and waste levy as a cause
- Focuses only on publically seen illegal dumping and tends to ignore the court cases above
- Provides support for public and government clean up, but not on private land
- Acknowledges that better policing would assist, but the RID Squads only partly cover the greater Sydney region.

# Summary



- Illegal dumping require better policing and treatment of victims of such crimes
- The recycling sector especially, C&D recycling requires certainty in relation to asbestos issues – what are acceptable process methods?
- Require solutions to the limited availability of landfills which can accept commercial quantities of low conc. asbestos waste
- State collecting ~\$1b in revenue from waste levies. Could some levy funds be spent on:
  - Solutions for recycling
  - Solutions for disposal and burial options
  - Means of marking on planning databases where it has been placed.