

UNSW Sydney: Trifecta success for innovative battery recycling project

Recycling Data and Cost and savings:

Calendar Year	Batteries recycled by MRI (Kg)	Batteries donated for research (Kg)	Total Recycled	Cost of Recycling MRI (\$2.4 per Kg)	Cost if disposed off as Chemical Waste (\$8 per kg approx)	Net Saving/Year
2010	Project conceived					
2011	152		152	\$365	\$1,216	\$851
2012	220		220	\$528	\$1,760	\$1,232
2013	268		268	\$643	\$2,144	\$1,501
2014	581		581	\$1,394	\$4,648	\$3,254
2015	943	100	1043	\$2,503	\$8,344	\$5,841
2016	641	300	941	\$2,258	\$7,528	\$5,270

Battery types and quantities analysis:

Received Date on or after 30/06/2012 (Trial period)
 Received Date Before 19/03/2014

Shipment ID	Received Date	Client	Batteries -Lead Acid	Batteries -Alkaline	Batteries -NiMH	Batteries - Lithium Polymer	Batteries -Li Ion	Batteries -NiCad - Sealed	Batteries -Li	Totals
Description of Battereis			12 V box style, wet sealed battereis from labs	single use, AA, AAA, C, D, 9 volt	energizer type rechargeable batteries	laptop, some mobile phones	larger, ups style, wet batteries, rechargeable	larger, 6 to 12 volt light batteries	button and other AA, AAA batteries	
	55666	University of NSW (UNSW)		10	109	35		25	26	15
	60535	University of NSW (UNSW)		27	184	5	4	25	7	16
Totals				37	291	40	4	50	33	31
% weight / kg				10	68.6	2	1.5	9.3	2.6	6

Estimated number of AA Misc battereis per tonne of diverted batteries:

From above data almost 75% (750 kg per tonne) of all collected batteries are Alkaline and Li batteries. Approximately 60% by weight of these are AA type (observation).

Weight of AA batteries per tonne of total batteries (approx)= **450kg**

*Number of AA battereis per kg (approx)= **50**

Number of AA batteries per tonne of collected batteries (approx)= **22500**

*considering average weight of AA batteries as 20g