

## File name: Recycling of Sodium Nickel batteries.docx

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## **Recycling of Sodium Nickel batteries**

Recycling of energy storage batteries is a current weakness in the industry for many battery technologies.

The SoNick or Zebra battery is 100% recyclable with a recycle program already in place in Europe and the USA, which can easily be duplicated in Australia at the appropriate time. The battery materials are recycled to produce stainless steel where the nickel and iron go into alloys, while the salt and ceramic are used for road beds.

One company, Inmetco has successfully recycled more than 20 tonnes of SoNick or Zebra cells. Firstly the management electronics (BMS) are removed then the battery is processed by adding them to a standard submerged arc smelting furnace to produce nickel containing remelt alloy used in the stainless steel industry. The ceramic and salt contained in the cells is collected and the slag is compatible with this process. This is then sold as a replacement for limestone used in road construction – nothing goes to landfill.

Also there is sufficient value in the recycling process to cover any transport costs back to a recycler which makes the recycling process at worst cost neutral which means no additional recycling cost should need to be added to the consumer.

> Guide to recycling option Australian B



ons for large and industrial batteries attery Recycling Initiative						
Manufacturers	Local recycling companies	Overseas recycling companies	Companies with export permits	Collectors	Recycling value and constraints	Transport requirements
	existing industries for	Xstrata Nickel	North Control of Contr		industries for	

development / applications hybrid and sodium: (common (ZEBRA) electric 3292 salt), sodium, (Canada) (? vehicles e.g. aluminium, the production of stainless steel buses, trucks iron, copper, production of plastics stainless steel and road Back-up, and road paving<sup>6</sup> energy paving<sup>5</sup> storage

Excerpt from document providing a guide to the recyclability of batteries that are being used, or are under development, for energy storage. Companies involved in the manufacture, distribution, use or recovery of batteries need to work together ensure that all batteries are recycled at the end of their life.

The guide was developed by the Australian Battery Recycling Initiative (ABRI) with assistance from CSIRO and other members of the Clean Energy Council's PV Storage Working Group.

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Inmetco
Dudacanbar 03, 1998
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Certificate of Waste Material Recycling
Whereas, The International Matals Reclamation Company, Inc. MMSPCD) operates a hasardess/een-basardesk weeks reclamation farility, dor the rules of the Feaneylvania Department of Environmental sources and the U.S. ESA (10 De. FMU07540.05).
Now, therefore, INMETCO does hereby issue this certificate to 2 mBH to evidence the consumption of Socium Ni Chleride, Dry (Sebre), E226376 on Sales Order Number 104722 received on 6/06/98.
Said Consumption has been completed on or about 13/30/90, in a more consistent with acceptable engineering standards and in myliacce with applicable rules and regulations set forth by the rate of Pennoylvania and Todoral authorities.
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**Battery type** 

Stage of

**UN Number** 

Components



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