

## Toner Cartridge Recycling Initiative in Luganville

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### Summary

This case study describes a recycling scheme introduced in September 2013 to residents of Luganville, Vanuatu through a partnership involving the Municipal Council, a local business, a New Zealand based recycling company, and Pacific Direct Line—a shipping company. Through this partnership, printer toner cartridges, cell phones, and cell phone batteries (considered hazardous wastes) are being collected and safely recycled in New Zealand. This reduces the pollution associated with disposal of such waste to land.

### Introduction

Luganville is the second largest city in Vanuatu, and the main urban centre within Sanma Province. It has a population of 13,561 in 2,582 households (2009 Census), spread over an area of 2.5 square kilometres. As with other towns in the Pacific, Luganville is experiencing rapid growth as people from the rural areas migrate into the town centre. The annual growth rate of Luganville is 4.2% compared with the national growth rate of 2.6%.

The 2013 results from an annual waste characterisation survey conducted by the Municipality show that approximately 6,926 tonnes of municipal solid waste are generated annually from households and the business community, of which over 80% (5,669 tonnes) could potentially be recycled, including potentially hazardous wastes such as toner cartridges, cell phones and cell phone batteries.


The Municipality recognised that this waste stream was increasing as computers and printers were becoming more popular in schools, offices, and in homes. Mobile phone usage is also increasing, with many people owning 2 mobile phones (1 from each provider) in an attempt to improve phone reception. The hazardous nature of the cell phone batteries makes this a priority waste stream to be addressed, and this is recognized as a priority action in the *Sanma Province & Luganville Municipality Waste Management Plan 2013-2016*.

The Municipality therefore commenced this recycling initiative with support from a local business house, Lo Chan Moon, who also had an existing relationship with Pacific Direct Line.

### The Approach Taken

Lo Chan Moon had been collecting used toner cartridges for several years using a public drop-box located inside their store; however, it was a very low-key operation and not well publicised. The boxes once full were shipped by Lo Chan Moon (at their cost) to the suppliers of the original goods. This arrangement subsequently broke down because of the refusal of the suppliers to accept the used cartridges, at which point Lo Chan Moon approached the Municipality for assistance.

Croxley Recycling in New Zealand was approached about their interest in receiving used printer toner cartridges from Luganville if transport could be arranged. The parent company Croxley is a popular supplier of several stationery and office technology products to the Pacific, so Croxley Recycling was very keen to



come on board and provide this service. Croxley Recycling also provides a recycling service for cell phones and were keen for the Municipality to include this waste stream in the collection programme. As part of their contribution to the programme, Croxley Recycling provided 30 Croxley recycling drop-boxes at no cost, to be distributed to the business houses across Luganville.

Pacific Direct Line, which is based in New Zealand and provides shipping services mainly for the the Pacific, was also approached to provide support for this programme. The company expressed a keen interest in supporting the initiative and offered free transport of the used cartridges.

The Municipality distributed the recycling boxes to selected business houses, banks, government departments, computer shops, stationery stores, and printing shops, all of whom were keen to participate in the new recycling programme. The general public and schools can drop off their used toner cartridges, cell phones and cell phone batteries at any of the participating stores.

When each box is full, the business house contacts the Municipality to collect it and replace it with a new, empty box. The filled boxes will be stored on Lo Chan Moon premises and shipped by Pacific Direct Line (at their cost) to New Zealand where Croxley will recycle the waste in their factory.

Once Croxley has recycled the materials, the stakeholders will receive a documented audit path, showing how the materials were managed. The plastic recycled from the cartridges is typically used to manufacture a range of items including coat hangers, electric fence insulators and scooter stands, metal is sent to a metal recycling company, while the toner is used to make paint. All cardboard and paper are re-pulped to make new cardboard.

The goal of this new initiative is to raise awareness and understanding of hazardous waste among the population and to foster environmentally-responsible behaviour in customers whereby they return empty cartridges when purchasing new ones. The programme encourages separation of waste at source and demonstrates to residents and businesses that the Municipality is 'walking the talk' by taking the initiative to manage hazardous waste streams.

When the first report is issued demonstrating the amount of hazardous waste diverted from landfill through this initiative, it is hoped that the recycling programme will continue to grow and more people will be encouraged to think twice before they put their used toner cartridges and cell phones in the bin.

## Results and Lessons Learnt

This toner cartridge recycling programme will be monitored closely over the coming months to assess the costs of running the programme, the results and positive impacts, and to identify areas for improvement, and to explore possible replication in other Pacific Island Countries.

## Sustainability

The Municipality chose this partnership approach as it believes it is the most sustainable option. When there are several parties involved, the responsibility falls on each one to deliver on their part of the process. If the programme was entirely reliant on the Municipality (and likely on one staff member) there is a much higher likelihood that the system would unravel.

## Contacts/Links

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Customer returning a used cartridge (photo by Mary O'Reilly)