



# Status of PCBs/POPs Waste in Namibia

by

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## **Introduction**

Developing Countries are currently facing difficulties in addressing the long-overdue problems of pollution and poverty. One of the challenges facing these countries in general, and Namibia in particular, is the approach to sound management of PCBs containing equipment.

Map 1. Map of Namibia

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- ◆ Like many African countries, Namibia is a party to the Stockholm convention. But we still have a long way to meet all our obligations to this Convention.

## **Related International Instruments and the PCB Issue**

*The Rotterdam Convention.*

*The Stockholm Convention.*

*The Basel Convention.*

*The Bamako.*

## **PCB Inventory Process in Namibia**

### **◆ Major Stakeholders**

Ministry of Mines and Energy;

Local authorities;

Namibia Power company (Nampower), and other  
Electricity Distributor companies

## Main Objectives of the PCB Inventory

- a. to compile a national statistical database on the number of transformers and capacitors that are both in operation and out of operation;
- b. to collect oil samples with a view to identify transformers that are PCB positive and thereby manage such transformers in an environmentally sound manner;
- c. to create a favourable platform for the management and disposal of obsolete transformers;
- d. to raise public awareness about the adverse effects of PCBs on human health and environment;

## Legislation

- **Namibia's Pollution Ordinance 1976**, which is outdated, is the only specific legislation which is currently considered to be directly relevant to the management of PCBs as pollutants.
- **The Public Health Act 1919** is equally irrelevant to issues concerning hazardous waste management.
- A new legislation, **the Environmental Act of 2007** is expected to be in force this year.

## ◆ PCB Sources in Namibia

Transformers,  
capacitors,  
voltage regulators; etc.

### **Recent Developments on PCB inventory**

The MET has networked with various stakeholders like NamPower to compile a preliminary inventory, which quantifies the total number of transformers in the country giving a rough estimate of **116000**.

Through NamPower, Namibia has managed to purchase a **PCBs analyser at about USD9000**.

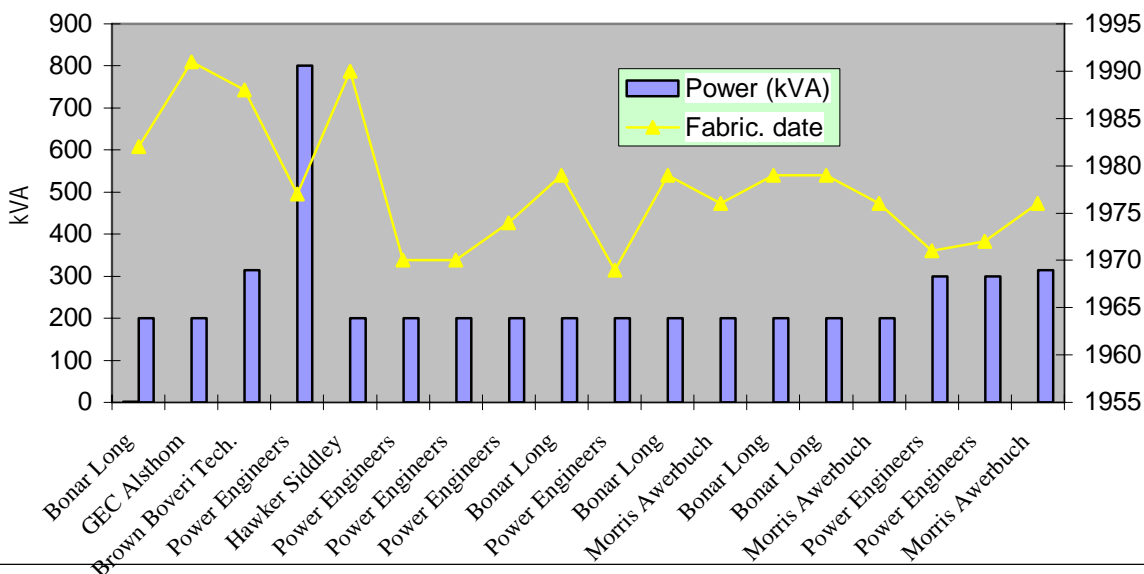
## Map 2. Sampled Locations within the City of Windhoek



## Preliminary data on the PCB inventory

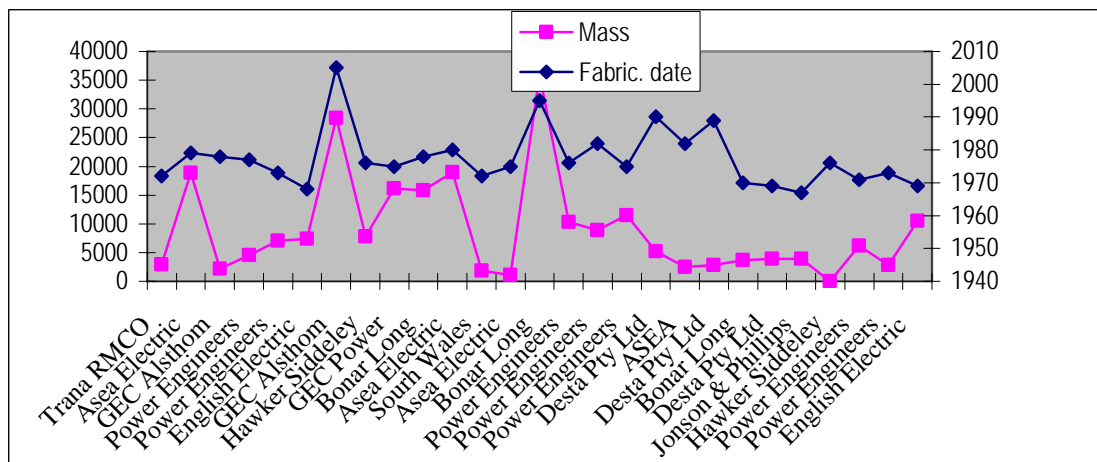
ID Nr	Country of Manufacture	Equipment Manufacture	Equipment Serial Nr.	Power (kVA)	Fabric. date	core	Mass	Litres

Figure 1. Windhoek's Transformer Fabrication Date by kVA



Most of the transformer equipment within the City of Windhoek were manufactured by South Africa's Power Engineers company.

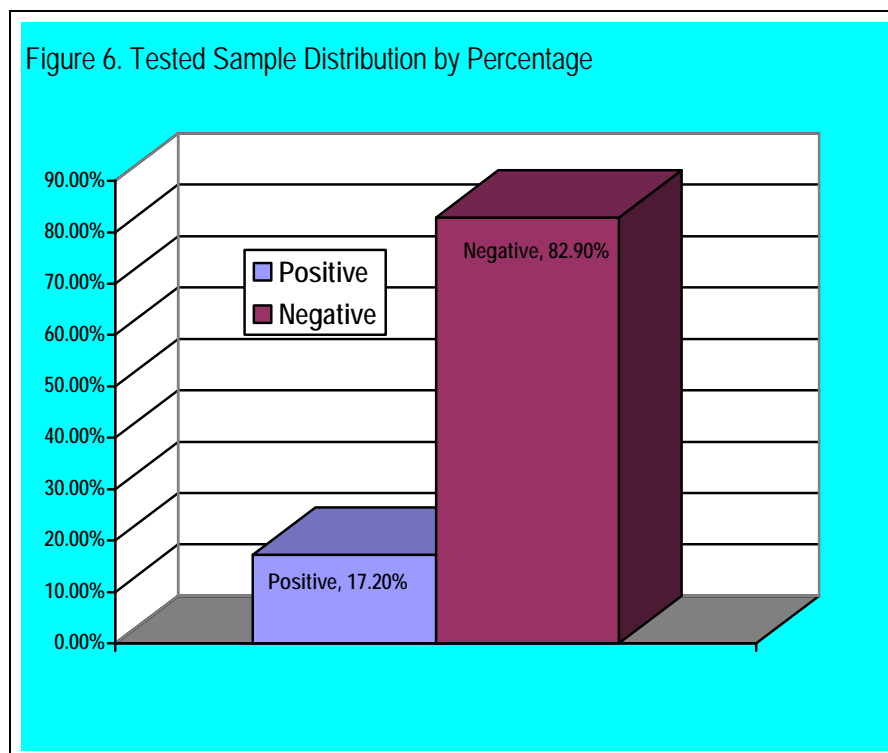
Figure 3. NamPower's Disposable Mass Balance

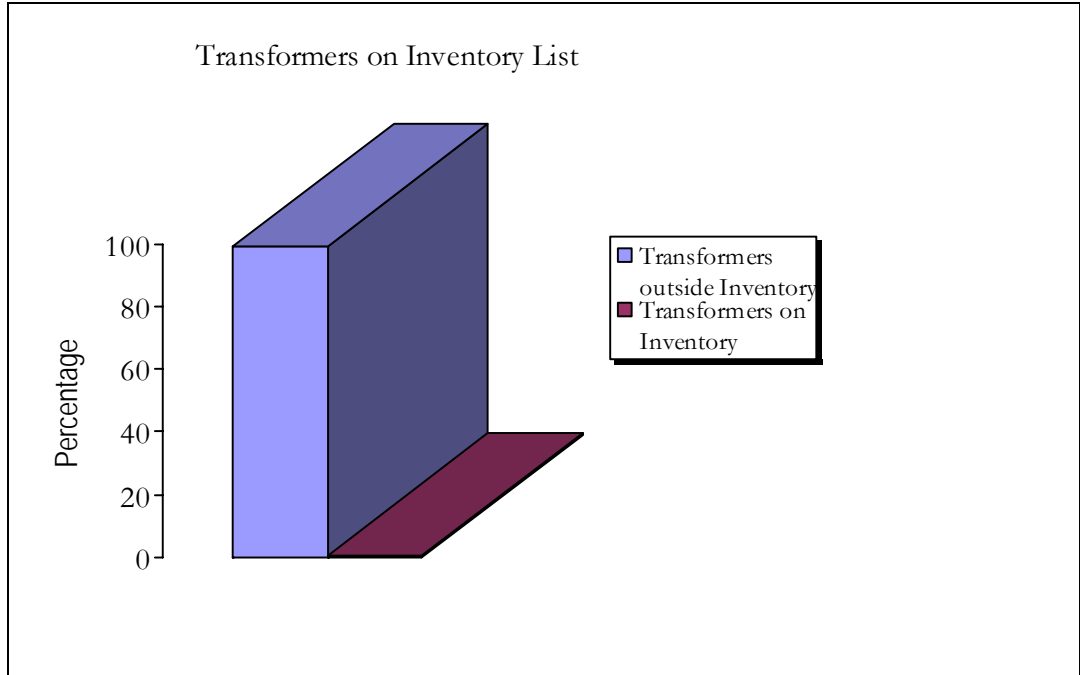




Heavier transformers, with the mass balance of over 500kg are known to be generally expensive to move for disposal purposes.

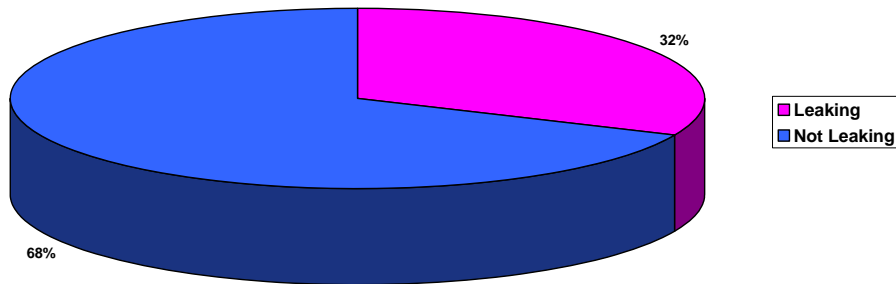
### Preliminary Sample Analysis and results





Most of the equipment is kept with very few protective measures in place. Though the greatest part, so far, is being kept in a fenced area, it is still installed on natural soil, which leaves the risk for environmental contamination.

### Condition of electrical equipment



32% of the sampled transformers were found to be leaking.

### ◆ **Constraints to PCB Inventory Development**

- Financial resources to dispose unwanted transformer;
- Personnel and equipment to sample the entire country;
- Management of electrical utilities with differential interests;
- Time consuming in sampling and inventory of sealed and poll mounted transformers;
- The vastness of Namibia is also a factor in time and cost (825,418km<sup>2</sup>);
- Public awareness;
- Namibia is a DDT user and we are looking forward for a reliable substitute once available;
- Namibia has not yet submitted its NIP.

## **Conclusion**

What is needed is the mobilization of human and financial resources to establish institutional linkages to develop a more comprehensive PCB inventory in Namibia.