



Think in  
other terms...



National University of



Science and Technology

**FACULTY OF INDUSTRIAL TECHNOLOGY  
CHEMICAL ENGINEERING  
DEPARTMENT**

**FINAL YEAR RESEARCH  
PROJECT**

**TITLE: COAL TAR PROCESSING  
TECHNOLOGIES**

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**STUDENT NUMBER: N006 596C**

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## EXECUTIVE SUMMARY

It is a research direction to utilize coal resources effectively whilst satisfying the requirements for environment protection in the globe. Coal tar is one of the by products in the carbonization of coal. The research and development on the deep processing of coal tar to produce environmental-friendly fuel/chemical products with high quality is an area of interest to a number of countries due to the increasing consumption of petroleum resources worldwide accompanied by the increase in the import ratios of petroleum products in countries without oil deposits. More attention must be paid to how to make use of coal tar properly as a substitute for petroleum in order to obtain high quality fuel oils and other chemical products.

An average of 600 tonnes of crude tar is produced each month, and sold at a subsidised price of \$60 per tonne. The production rate is expected to double by the end of the year 2012. Due to the rising competition, the crude tar prices are not sustainable and there is need to identify a more profitable use of crude tar and coke oven gas. Competition has risen in the market due to new players in Zimbabwe's coke making industry, leading to a marked reduction in sales and value. To avoid loss of revenue and ultimately loss of crude tar to the environment as handling capacity decreases, there is need to identify a suitable use/ process for the by product.

### General objective

The general objective of the study is to explore the various coal tar processes globally available and hence provide a detailed report on the possible coal tar processes and suggest the most suitable coal tar process for the Hwange Colliery Company Limited.

### Specific objectives

- To study and give a detailed outline of the various ~~possible methods of~~ tar processing, this will be entailing:
  - A detailed report on each tar processing method and if possible a plant layout and flowchart is to be provided for a selected process(es).
- To select the best suitable and most viable technology for coal tar processing at HCCL.
- To suggest suitable process which can be applied at the HCCL in a typical coke oven battery By Products plant.
- To carry a preliminary economic evaluation of selected of process and comment on its viability.

