

CHAPTER 1

INTRODUCTION

1.1 RESEARCH BACKGROUND

Global warming has now become an issue that is often dealt with at the international level today. A contributor to this issue is the impact of greenhouse gas from solid municipal waste collected from households. Solid waste management is becoming increasingly complex with the production of solid waste per household averaging 0.8kg/day in 1995 and continuing to increase reaching 1.4kg/day to year 2025. (Kathirvale et al, 2004).

National Strategic Plan 2005 has developed solid waste management methods for long-term in an effort to preserve the city for the convenience of future generations in Malaysia. This is in line with the use of the Cleansing Management Act 2007 which state solid waste is controlled waste. (Act 672). Methane gas and leachate must be managed properly so as not to add to the effects of greenhouse gases and pollution of underground water resources.

Study of solid waste disposal centre in Pekan and Rompin district as well as methods of waste management at present can be a model to support the government's efforts to generate energy from municipal solid waste revenue.

1.2 PROBLEM STATEMENT

Currently on-site solid waste management is a traditional junk or open dumping. One the one hand with high ambient relative humidity the solid waste will emit methane gas to the atmosphere creating global warming effect at 21 times higher than CO₂ per kilogram basis .On the other hand leachate that seeped into the soil will contaminate underground water resources for human consumption and stability of the eco system.

1.3 SIGNIFICANCE OF STUDY

After achieving the objective methods available to support government efforts in enhancing the overall solid waste management in Malaysia and see how much potential in generating electrical energy from solid waste.

1.4 RESEARCH OBJECTIVE

The objectives of this paper are as follows:

- i. To study the solid waste management system in Malaysia.
- ii. To study the changing technology of solid waste to energy and its potential in generating alternative energy sources.

1.5 RESEARCH SCOPE

For the main purpose of this research the following scope are developed:

- i. Predict the data obtained from the total collection of solid waste for Pekan municipal open landfill dumping.
- ii. Study of MSW management in other countries.
- iii. Analyze solid waste management method using incinerator, open dumping and sanitary landfill.
- iv. Recommend the best system for managing solid waste on landfills in Malaysia using the concept of converting waste to energy for generate electricity.

1.6 PROCESS FLOW CHART

Table 1.1: Flow chart of research

