

**POSSIBILITY OF USING WASTE WATER
ENERGY TO GENERATE ELECTRICITY USING
SMALL DESIGN HYDROPOWER TECHNOLOGY
THROUGHOUT HOME PIPELINE**

This thesis is presented in partial fulfillment for the award of the
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ABSTRACT

Small design hydropower technology was used to generate electricity instead of flowing water. The system of hydropower design should be able to generate power, use a pressure water instead of flowing water to rotate the turbine and can be applied on domestic pipeline. Three different permanent magnet direct current motors were tested in order to observe the performance in generating electricity. Water pressure gauge and valve were used to observe the pressure and control the water pressure instead of water flowing. In this paper, the greater the pressure the greater the power was produced. Moreover, the speed of water increased when nozzle was used. The result showed the water turbine rotated in high speed when the speed of water flow was increased. In addition, this paper presented the experimental setup system and the result of the experiment. From the experiment, the power generated by the system directly proportional to the speed of the water turbine rotation. This paper found that the small design hydropower technology instead of flowing water able to produce electricity.

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF STUDY

Hydropower is not a new technology. But the technology is a one of green technology, renewable and clean source compared to others. Most people that live in 20th century made hydropower is one of greater influence [1]. Hydropower technology use a principle of conversion energy in flowing water to mechanical power which means that the conversion of potential water and kinetic energy into electrical energy [2].

This project is about small design hydropower that use a flowing water throughout home pipeline. In this project, water pressure is the main medium that use to spin turbine to generate electricity. High water pressure high electricity that can be generate. From this concept, small scale hydropower on the pipeline is become a hot research in order to implant at home, factory and companies. This is because it can give more benefits to earth and human.