



SMART SOLAR AQUARIUM

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ABSTRACT

The solar energy is used as a power source to give supply in the project. The solar power will be stored in the battery bank and at the same time it charges the battery. The project is build to save the uses of power supply from the power station. In addition, this project is free-pollution project. After the solar energy converted, it will be stored into a battery bank. In addition, this project is design to reduce the cost of electricity bill and at the same time it can operate during blackout. Then, the power will be supply to LED and buzzer. The LED will only function at night because it uses the light sensor. The buzzer will alert the owner to feed the fish every 12 hours. The timer is programmed in PIC16F877A microcontroller. It can be conclude that the uses of solar energy is more reliable and help saving budget thus it will help in conserving the environment. In other hand, by using microcontroller the whole process can be controlled.

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Inventors unlocked the secrets of turning the sun's rays into mechanical power more than a century ago, only to see their dream machines collapse from lack of public support. Modern solar engineers must not be doomed to relive their fate.

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Many of us assume that the nation's first serious push to develop renewable fuels was spawned while angry Americans waited in gas lines during the "energy crisis" of the 1970s. Held hostage by the OPEC oil embargo, the country suddenly seemed receptive to warnings from scientists, environmentalists, and even a few politicians to end its over-reliance on finite coal and oil reserves or face severe economic distress and political upheaval.

But efforts to design and construct devices for supplying renewable energy actually began some 100 years before that turbulent time—ironically, at the very height of the Industrial Revolution, which was largely founded on the promise of seemingly inexhaustible supplies of fossil fuels. Contrary to the prevailing opinion of the day, a number of engineers questioned the practice of an industrial economy based on non-renewable energy and worried about what the world's nations would do after exhausting the fuel supply.

More important, many of these visionaries did not just provide futuristic rhetoric but actively explored almost all the renewable energy options familiar today. In the end, most decided to focus on solar power, reasoning that the potential rewards outweighed the technical barriers. In less than 50 years, these pioneers developed an impressive array of innovative techniques for capturing solar radiation and using it to produce the steam that powered the machines of that era. In fact, just before World War I, they had outlined all of the solar thermal conversion methods now being considered. Unfortunately, despite their technical successes and