

ENVIRONMENTAL PROTECTION: SIMULTANEOUS BIOLOGICAL WASTE TREATMENT AND BIOFUEL PRODUCTION, CLEAN DEVELOPMENT MECHANISM

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ABSTRACT: *Environmental protection is currently a global concern since it affects all people in the society. Achieving a safe environment is therefore a key objective shared across the world. This is certainly because the environment forms one of the most important components of human life. Within the environment, there exists resources that support life and degradation of this resources leads to the Due to this importance the environment requires to be protected accordingly. The purpose of this paper is to analyze the various tools used to promote the protection of the environment. A critical analysis is done on biofuels, biological waste treatment and clean development mechanism in relation to environment protection.*

I. INTRODUCTION

In the past years, bioenergy and biofuel have emerged as more suitable and thus more rapidly growing industries.

The human environment is composed of numerous variables that support human life accordingly. As such, the most important role that people should play in regards to the environment is its protection. Protecting the environment and all of its resources is important to promote the quality of human life. Moreover, environmental protection offers a strategy for ensuring that the environment remains safe and beneficial to future generations. In the modern world, achieving this full protection of the environment is a challenging task. This therefore makes it necessary for all individuals to play a role with the objective of protecting the environment. Individual efforts sum up to form a collective effort by society to protect the environment. Simultaneous biological waste management, biofuel production and clean development mechanism are some of the most efficient methods of protecting the environment. They ensure that the environment is protected from excessive manipulation and pollution.

In the modern world, production of waste is synonymous with human development across various sectors. With continued development more waste products are produced as the industries increase production activities. Such increase in production simultaneously causes an increase in waste production, which leads to environmental degradation. Treating waste biologically is therefore a modern method that helps solve this issue of environmental pollution in modern industries. Another major strategy that is analyzed in this article is biofuel production as a method of protecting the environment. Most production methods across the globe fail in this task of environmental protection [1]. They have all contributed to the greenhouse gas emissions currently being experienced in the world. A gradual increase in such emission proves that production processes directly affect the environment. However, processes like biofuel production are developed in ways that ensure little or no pollution of the environment is done. Biofuel is produced through safe methods that promote the quality of the environment by reducing the negative effects of the process in the environment. Biofuel production also makes safe products available for use in other procedures therefore reducing the

negative effect on the environment indirectly. Clean development mechanisms make a great effort to ensure that the environment is protected. As the word suggests, methods with modest or no pollution effect on the environment are developed and used appropriately.

A. *Biological Waste Treatment*

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Every production process has two major products; waste and the desired product. In most procedures, the stakeholders are often only interested with the desired product. They make great effort to ensure that the product is desirable and meets the requirements of the consumers. The second result of these procedures is referred to as waste. Waste is any form of products in a process that is not useful and undesirable to the consumers and stakeholders. As such, most stakeholders do not handle the waste appropriately for they do not have any use of the waste. This waste is often released to the environment where it causes a lot of damage [2]. Such human activities lead to the pollution of the environment which affects the quality of life. Numerous cases have, for example, been seen of major corporations releasing untreated waste into water bodies across the globe. Such waste may include oil spillage, industrial chemicals and hot water that negatively affect the water animals.

To protect the environment, this waste must therefore be managed accordingly. Managing waste through various procedures ensures that the waste does not have a negative effect on the environment in general. One of the most efficient methods of managing this waste is biological waste treatment. Treating waste biologically involves the use of biological processes to reduce or eliminate the negative effects of waste before releasing it into the environment. This waste may also be converted to useful products biologically to promote environmental protection. Water is saved through the use of biological waste treatment.

B. *Biofuel Production*

Technological development in recent times has facilitated the development of various sources of energy. With the increased need for fuel to drive large economies, new mechanisms have been obtained that produce enough fuel while also protecting the environment. In previous years, most fuel industries were

only concerned with the production of energy and neglected the crucial aspect of environmental protection. They focused most of their efforts on increased production without putting in place strategies that ensure that the environment remains protected. However, in recent years new production methods like biofuels has changed this situation completely.

Biofuel production has changed the fuel production industry especially in terms of the effects on the environment. Using a renewable organic material to produce fuel is a major step forward towards achieving full environmental protection. This is primarily because biofuels lack the undesirable environmental effects compared to fossil fuels. Biofuels lack extremely harmful emissions, making them a desirable source of fuel [3]. Some of these undesirable products derived from the use and production of biofuels include conventional and greenhouse gases, resource depletion and pollutant emissions. Use of biofuels promotes the reduction of greenhouse effect that is a great risk facing the environment in the modern world. Producing biofuels is a more stable process and therefore greenhouse and conventional gases are not produced. Resources used in the production of biofuels are organic and renewable. Due to these factors, the environment is preserved since the resources are not depleted as the case with fossil fuels. A given quantity of resources can be used to produce large amounts of fossil fuels over time. The environment is therefore protected through saving the available resources. Increased availability of biofuels has reduced the consumption of fossil fuels, which creates a better environment since environmental pollution from the use of fossil fuels is reduced.

C. Clean Development Mechanisms

Increased industrial activities around the globe have led to the increase of greenhouse gas in the atmosphere. The levels have been increasing gradually over the recent years because of this increased activity. Such increased causes a great negative effect on the environment and control is required to ensure that the levels do not continue to grow. Control can be achieved through several policies and practices across the world. One major strategy is the use of clean development mechanism [4]. These mechanisms are formulated to precisely reduce the greenhouse emissions from various programs. A controlled reduction in the emission is achievable by the use of clean mechanisms since it mainly focuses on projects that emit such gas. Project managers are encouraged to use mechanisms that do not produce greenhouse gas in the

programs. Clean development ensures that the project protects the environment without necessarily affecting the production process. Clean development mechanisms therefore serve a great role in protecting the environment when used appropriately. The clean Development mechanism is part of the world political agenda and developing rapidly as part of the kyoto protocol to tackle global warming [5]

II. CONCLUSION

Environmental protection remains a global issue that all members of society should strive to achieve. Increased development in the world has led to the vulnerability of the environment since more waste products are produced in the industries. To protect the environment various tools should be used appropriately [6]. Examples of such tools include biofuel production, clean development mechanism and waste management. As illustrated above these tools work efficiently to promote environmental protection in the modern society. The tools should therefore be used accordingly to ensure that the environment is protected accordingly.

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