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**Extended abstract for**

**Diploma Thesis**

**Consumption pattern of natural resources worldwide and  
its solutions**

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## Summary

The thesis aims at obtaining the consumption pattern of exhaustible natural resources across the globe. It also aims at deriving the potential of alternate in-exhaustible natural resources for the future. The global consumption of natural resources is increasing at an alarming rate and hence, it is very important to derive the consumption patterns of these resources. The consumption as well as production of coal, oil and natural gas, the three widely used exhaustible natural resources across the globe is discussed in the thesis. The sustainability of these resources at the current rate of consumption is obtained and projections for its future availability are derived. The impact on the environment by using exhaustible natural resources like coal, oil and natural gas is obtained in the thesis.

The habits of the young people are evaluated by obtaining data from them and its impact on the consumption pattern of these resources is derived. The daily usage of these resources through the consumption of energy obtained from it is derived in the thesis. An alternate use of other resources that are in-exhaustible is provided with the purpose of reducing the hazardous impact on the environment and increase the sustainability of the exhaustible natural resources.

**Keywords:** Exhaustible natural resources, consumption pattern, in-exhaustible natural resources, renewable energy, sustainability, electricity generation.

## Objectives

This will section comprises of the major objectives which are supposed to discussed and analysed with the help of the Methodology used to analyse the consumption of natural resources in the present and forecast the sustainability of the resources is evaluated.

The main **objectives** of the thesis are:

- To identify the time period for which the natural resources would be lasting at the current rate of consumption.
- To derive the consumption patterns of usage of these resources.
- To derive appropriate methods to increase its efficiency.

- To identify different methods for increasing the use of renewable and alternate source of energy and measure its impact on the consumption patterns of natural resources.

### **Sub-objectives:**

The sub-objectives are the sub-elements which are to be derived from the main objective. The sub-objectives of the thesis are as follows:

- To derive the consumption patterns of current use of natural resources across the globe.
- To obtain the potential of the alternate energy sources for producing energy (electricity),
- To identify the estimated reserves of coal, natural gas and crude oil through the current rate of consumption,
- To derive measures through which the efficiency across the use of the natural resources can be increased,
- To measure the impact of increasing the use of alternate substitutable sources of energy on the consumption patterns of the use of natural resources throughout the globe.

### **Research Questions**

The thesis is based on the following research questions which are discussed in it:

- What are the current consumption patterns of natural resources like coal, oil and natural gas?
- What is the potential of alternate sources of energy across the globe?
- How can the current consumption pattern of coal, oil and natural gas be changed and its dependency be reduced in the future?
- What is the impact of increasing the use of alternate sources of inexhaustible energy on the usage of exhaustible natural resources

## **Methodology**

Methodology refers to the method of collecting the data from a specific source related to the subject taken into consideration. There are different research methods that are available for carrying the research (Tharenou, Donohue, & Cooper, 2007). It involves considering the significant parameters affecting the results generated by the research. In this research, the research philosophy that is taken into consideration for achieving the aim of the thesis is provided below along with the research approach, research design and type.

### **Research data**

In this study, primary data is collected by obtaining responses from the participants taken into consideration. The participants that are taken into consideration are the students studying in different universities across the globe. They are in the age group of 18-25 years. The data is obtained with the help of surveys that are conducted online. The survey is developed on the basis of a questionnaire shown in Appendix A.

In this study, secondary data is also used. It is obtained in the form of variables that indicate specific characteristics of the consumption of exhaustible natural resources like coal, oil and natural gas across the globe. Secondary research involves studying research papers, energy reports, journal articles, conference publications and proceedings and other such well-acclaimed and credited work by research scholars pertaining to the subject. After studying, the data obtained from these sources is evaluated and analysed with respect to its impact on the consumption of exhaustible natural resources. The potential of in-exhaustible natural resources is taken into consideration through obtaining its current utilization across the globe.

## **Results**

The results that are derived from the methodology carried out in the thesis consist of deriving the responses from the participants and plotting them in charts and pie diagrams. It also involves considering the impact of using in-exhaustible natural resources on the current consumption patterns of exhaustible natural resources. It involves deriving the importance of the research and discussing them with the variables taken into consideration. The personal habits and preference of the students studying in universities across the globe are determined

with respect to their utilization of renewable sources of energy as well as the non-renewable sources of energy.

The thesis achieves its aim of obtaining the consumption patterns of exhaustible natural resources with the help of studying and evaluating research papers, journal articles, books and conference publications. It is observed that the current consumption of the exhaustible natural resources is increasing tremendously and the most feasible way to reduce it is to increase the usage of in-exhaustible natural resources. The consumption of natural resources like coal, natural gas and oil is mostly for generating and in the form of fuel. Hence, in order to reduce its usage as observed from its consumption patterns, developing means to increase the use of energy derived from solar, hydro, wind, geo-thermal and other such in-exhaustible sources of energy. People in the young age between the age-groups of 18-25 years are considered as they are the major players in the present to decide this choice of sustainable development and prevent future ecological imbalances.

The consumption pattern of electricity and fuel that constitute to be the major contributing areas in the usage of exhaustible resources is derived. The link between the consumption of electricity and fuel is derived by collecting information from the students through an online survey. It helped in obtaining the habits of the students that impact the consumption of electricity and fuel. Along with, their knowledge and preference about the use of alternate sources of energy which are in-exhaustible in nature is also derived. Solar Energy and Hydro power is observed to have the highest potential in the future along with other in-exhaustible sources like wind, geo-thermal and biomass.

## **Recommendations**

I have derived my recommendations about the current consumption patterns of using natural resources on the basis of the research carried out in the thesis. The use of hydrogen fuelled car is preferred owing to its benefit in terms of saving the consumption of fuels as well as its environmental benefits in reducing the emissions through the vehicles. It is a great option to reduce the consumption of fuel and help in obtaining sustainable environment. However, it is dependent on the development of technology that increases the production of vehicles that work on alternative fuels. But, the consumption of fuel can also be reduced currently by reducing the number of personal vehicles and opting for using public

transportation instead. It has the potential to reduce the consumption of fuel used for the vehicles. Hence, my recommendation would be to increase the facilities provided through public transportation and make sure that a greater percentage of the population is using it.

Due to globalisation, people are in pace with the moving world, but initiatives for green environment need to be considered by using recent technology to reduce energy consumption which is obtained from coal, natural gas and oil. This can be explained by providing adequate support from the governments across the different countries for providing subsidised energy sources such as bio-fuels, solar panels, windmill can be provided used by people especially in all countries across the world. World forums needs to take upon adequate action on making guidelines and regulations on emissions from natural resources and also advocating the sustainable development for the future generation.

Similarly, the consumption of electricity has to be managed by saving it and also by developing alternate means of production other than the exhaustible sources of energy like coal, oil and natural gas. For this purpose, the potential of solar energy, hydro power, wind energy, geothermal energy, biomass and other such in-exhaustible sources of natural resources is to be utilized to its maximum. The current usage of solar energy is derived with the help of its installation in the surroundings around the students belonging to different countries which are taken into consideration as participants in the study.

Hence, I would recommend derive great number of devices that make the consumption of in-exhaustible sources of energy to be feasible and help in reducing the consumption of exhaustible natural resources like coal, natural gas and oil.

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