

BIOMASS: ANNOTATED BIBLIOGRAPHY



The thesis statement that shall form the guiding factor for the conduct of research for this research paper is the effectiveness of Biomass as an alternative energy solution. The following sources will be applied to provide the information required that will assist the researcher in the conduct of this research.

Biomass Energy Europe (2010). Status of Biomass Resource Assessments Version 3.

This report gives a comprehensive insight not only into the definition of the concept of biomass but also the biomass categories and types. All types of biomass energy as well as the different ways through which biomass energy can be produced are highlighted in detail in this report. It also proceeds to compare the assessment of wood biomass potential in different countries of the world, and in particular European countries comprising of Germany, Ukraine and Finland. The results from this assessment are presented in an orderly manner eliciting clarity and comprehensiveness. In addition, the total biomass potential in these regions if explored and conclusions arrived at by the author. The areas where potential is still untapped is also explored, and the possibility of embarking into the exploitation of these potential areas for the production of biomass energy are also given out here. The qualified researchers of this report, Rettenmaier, N. et.

al, from the Institute of Energy and Environmental Research give a holistic approach to the report, making the information and results they arrive at, to have high credibility and applicability. Therefore, this report gives a good foundation in understanding the biomass capacity and potential in the regions which can find wider replication in the European countries. The challenges present in the exploitation of the biomass form of energy and the possible ways through which these challenges could be mitigated are also explored. The report also compares the use of biomass as a source of energy with other well known sources such as water, wind and nuclear power. The advantages and disadvantages of using this source of energy are also highlighted in this report. Thus stated, this report is an excellent database on the biomass capacity and status to individuals and collectives interested in gaining an understanding of these variables in the European Union which can find applicability in other regions of the world.

Cushion, E., Whiteman, A., Dieterle, G. (2010). Bioenergy Development: Issues and Impacts for Poverty and Natural Resource Management. *Open Knowledge Repository*.

This report provides an overview of the recent developments in bioenergy consumption, both solid biomass and liquid biofuels. It also engages into the enquiry of the major economic issues which are associated with these developments as well as evaluating the potential impact on land utility and the environment, mostly in regard to forests. In addition, it forwards five messages, which emanate from this report which have both short and long-term implications on the use of both solid biomass and liquid biofuel in the world. The highly

reputed authors of this report Cushion, E., Whiteman, A., & Dieterle, G. from World Bank Group which is a highly reputable organization makes the information embedded therein to be valid and reliable. The resource embarks on teaching people in different places and sectors all over the world how the correct and effective utilization of biomass and biomass generated energy could be applied, to bring about a reduction in the levels of poverty existing in different places, in the world. Thus, this is a strong source of information on the recent trends in bioenergy production and consumption as well as the economic implications, mostly based on both the qualitative and quantitative data embedded therein which is very useful to learners in this field of enquiry.

Mendu, V. et. al. (2011). Global bioenergy potential from high-lignin agricultural residue. *Proceedings of the National Academy of Sciences*, 109 (10), 4014-4019.

This journal provides an insight into the energy problems confronting diverse countries around the globe, with this challenge being more severe in the developing countries which places biomass as a formidable source of energy in these regions. Apart from the energy challenges, the first section of this journal proceeds to outline some of the benefits of using biomass as a profound effort not only to increase energy availability but also promote food security. The results show the overall yield of biomass in various regions and from different organic products. The resource also shows that the potential for production of biomass and biomass generated forms of energy is still very high in different areas, and stipulates that this should be fully exploited as the nations of the world could certainly do with a source

of energy that is cheaper and more environmental friendly. As a recent energy publication by competent authors from diverse departments involved in energy issues, the journal by Mendu V. et al. possesses formidable data on the recent energy trends and thus the information is updated and has high validity. This journal has high authenticity and high utility capacity in energy policy making and academic value.

Sustainable energy Ireland renewable energy information office (2012).

What is Biomass?

This informational paper provides the history of biomass as well as providing a robust definition of biomass. It also outlines the cycle of biomass production and also highlights the benefits of using this energy source. It also expounds on the process of converting biomass into energy and the current use of biomass in Ireland. Lastly, it juxtaposes the European Union and Irish policies on renewable energy and concludes by outlining the barriers to biogas use. Sustainable energy Ireland renewable energy information office, having access to biomass energy information in the region thus provides information which is credible. In addition, it provides quantitative statistics in the usage of different biomass energy sources in the country which can be highly usable by learners in this field. Nonetheless, it fails to incorporate the information on the comparison of biomass and other sources of renewable energy.

Waste to Energy (WTE) & Biomass in California. (2012). California Energy Commission.

The information on this website provides an overview of waste production in American perspective; as well as the utility of some of this waste in biomass production. The information given out in this resource will show how the state of California has utilized the concept of biomass production. The resource also shows how these measures and methods employed in California could be replicated all over the world and with similar or even better results. It instigates with the definition of biomass energy and the cumulative total of biomass energy production in this region and also outlines a cycle of biomass to electricity. The importance of biomass electricity in this region is also explored as well as the state policy on biomass and biofuels. The information provided on this website in relation to biogas capacity and production in this region is imperative in policy formulation in this region, which can find applicability in other states in the USA. The website of California Energy Commission, which has a high reputation as well as being the primary energy policy and planning agency in the state, provides information which is highly authentic and reliable based on the fact that this is the core institution mandated with energy regulation in California. Therefore, it can be extremely useful by learners in alternative energy production as well as the policymakers.