

RENEWABLE ENERGY

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ABSTRACT

The world is facing serious challenges of energy depletion and carbon dioxide buildup in the atmosphere. After the 1980s the search for alternative energy sources has become a global concern. Global energy demand has been growing over the years and this is due to population growth associated with increasing energy consumption per capita. The sharp expansion of energy consumption, though it may reflect the economic boom and the improvement of quality of life, have negative aspects, such as the possibility of depletion of resources used for energy production, environmental impact produced by this activity and the high investments required in the search for new sources and construction of new plants. The alternative energy sources are those generated and provided to meet current needs, but without compromising the ability of future generations to meet their needs. Sustainability, i.e. the quality of what is sustainable, will incorporate the meaning of maintenance and conservation of natural resources. This requires scientific and technological advances that permanently enhance the capacity to use recover and conserve these resources. The implication is that sustainable development requires not only those sustainable energy resources are used, but that resources are used efficiently [1]. Hermann (2006) raises a reflection to quantify the overall exergy resources, and to examine the use of these resources. This reflection can guide efforts for technological research. Shells and known exergy flows are more than enough to supply the energy services associated with population growth and human activity. Therefore, it is important to identify and evaluate a wide range of energy resources in order to provide enough power options for a sustainable energy future [2]. Despite the advantages in the use of renewable energy they present major difficulties, as the discontinuity of generation. Renewable energy sources depend on the weather, which is why its use requires a complex project planning and control. Fortunately, continuous advances in computer hardware and software are allowing researchers to deal with these problems using computational resources.

REFERENCES

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