



## HYDROPOWER GENERATION - IMPACT ON ENVIRONMENT

Hydropower is an energy source that makes it possible to produce electricity without using fossil fuels, and is subsequently not part of the emissions caused by electricity production in coal, oil, or gas fired power plants. The reported environmental issues related to hydropower are mostly with reference to changes in their characteristic and also to a smaller extent in spite of building of roads and power lines etc. These impacts, however, may not necessarily be categorised as negative impacts. As a matter of fact proper planning and management policy would contribute to improved environment. Hydroelectric power plants do not emit any of the standard atmospheric pollutants such as carbon dioxide or sulphur dioxide given off by fossil fuel fired power plants. In this respect, hydropower is better than burning coal, oil or natural gas to produce electricity, as it does not contribute to global warming or acid rain. Similarly, hydroelectric power plants do not result in the risks of radioactive contamination associated with nuclear power plants.

Despite the reported potential impacts of large dams developed for hydropower projects, there is no universally accepted methodology for monitoring the downstream, reservoir or upstream ecological responses of river systems. Further, there appears to be no systematic monitoring and reporting of the benefits or impacts accrued by large dams. This monitoring could justify the original investment, develop knowledge that could be used in other projects and adapt operational rules to minimize adverse impacts while maximizing benefits.

Another issue requiring attention is positive environmental impacts of hydropower projects. Creation of reservoirs or water bodies helps in developing new aquatic environment. Even, mitigation measures taken such as afforestation helps in developing new eco-system.

It is proposed to discuss the various aspects related to hydropower generation and its impact on environment, particularly issues related to

Environmental impacts of hydropower projects and mitigation measures

A comparison of environmental impacts caused by hydropower projects and other conventional power projects based on coal, gas, diesel & nuclear fuel,  
Positive environmental impacts of hydropower projects,

Environmental impacts of a big project vs environmental impacts caused by series of smaller projects

The emphasis would be on critical analysis through case studies with a view to arrive at recommendations for improving the planning and management of hydropower projects to make it efficient and eco-friendly.