

Impact Evaluation of energy saving in the emissions reductions in the fossil fuels power generation using ecological efficiency coefficient

Tanya Moreno Coronado (*), Victor Bazán Perkins (*)
Hernando Romero Paredes(**) and Juan José Ambriz García

(*) Universidad Nacional Autónoma de México

(**) Universidad Autónoma Metropolitana-Iztapalapa

A.P. 55-534, México 09340 D.F. Phone. (52) 5804-46-44 y 45, Fax 5804-4900.

e-mail: agj@xanum.uam.mx hrp@xanum.uam.mx taymor29@yahoo.com.mx
energia@universo.com

The fossil fuels power generation in Mexico is and will be of big magnitude in comparison with other technologies (~80%), at least in the next 15 years. Due to this and to the growth in the electrical demand, it is very important to analyze the indices of contamination by the generation of electrical energy.

In the present work is made an analysis of the environmental impact increase due to the grow on fossil fuels power generation in Mexico and it is also analyzing the impact of energy saving projects in all sectors, using, as evaluation method, an ecological efficiency coefficient. To evaluate the environmental impact caused by fossil fuel burning, the emissions of CO₂, SO_x, NO_x and PM as an integral form are considered. Those emissions are compared with international standards using a parameter called ecological efficiency that estimate both, energy and ecological efficiency in power plants.

The ecological efficiency coefficient is used as an integral parameter allowing a join evaluation of intrinsic thermal efficiency and environmental impacts issues.

Concludes that it is important to follow with this type of studies in the frame of capitalizing on carbon revenues for energy savings activities, where additional emissions reductions being generated in the fossil fuel power plants and in energy users sectors.