Tanawan Jaiboonma 2007: A Cost Comparison Study of a Combined Cycle Power Plant (with the Green House Gas Cost) and a Hydroelectric Power Plant. Master of Economics, Major Field: Economics, Department of Economics. Thesis Advisor: Associate Professor Ruangdej Srivardhana, Ph.D. 112 pages.

Nowadays, electricity energy becomes one of the main factors that drive the economic growth of Thailand. The Electricity Generating Authority of Thailand (EGAT) is the state-owned enterprise that operates and controls the electricity generation; running the power plants, producing electricity power, controlling the transmission system, and buying electricity from both local and neighbor countries' private power plants, in order to ensure that the electricity power in the system meets the demand of electricity power of the country. There are many power plant types used for electricity producing in Thailand such as Thermal Power Plant, Combined Cycle Power Plant, Coal-Fire Power Plant, and Hydroelectric Power Plant. For this study, the Combined Cycle Power Plant and Hydroelectric Power Plant were selected in order to make a cost comparison of a Combined Cycle Power Plant which includes the greenhouse gas impact and the cost of having a Hydroelectric Power Plant that has no greenhouse gas impact.

The study was conducted by gathering information from one of the major independent power producers in Thailand- Ratchaburi Electricity Generating Company Limited, and various resources in the energy sector including websites, the companies' journals, and other publications to analyze the differences of costs of the Combined Cycle Power Plant Project (which included the greenhouse eradication cost) and the cost of Hydroelectric Power Plant Project. The analysis were made through the use of the average cost per unit and cost effectiveness, with the purpose of indicating the project with a lower cost

As the study shows, Hydroelectric Power Plant Project contains lower average cost per unit and more cost effectiveness than the Combined Cycle Power Plant Project. Therefore, the Hydroelectric Power Plant Project is more preferable than the Combined Cycle Power Plant.

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