

# **Sustainability Study of Co-firing (A case study of co-firing at X Steam Power Plant, Indonesia)**

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## **Abstract**

Energy use is currently dominated by fossil energy, to minimize emissions from burning fossil by mixing biomass or co-firing. The problem is there is no comprehensive assessment sustainability of co-firing at X steam power plant. The challenges are continuity of co-firing, goals of this study to evaluated sustainability of co-firing. The method used is Life Cycle Assessment (LCA), descriptive, and Analytical Hierarchy Process (AHP). The research by comparing of full coal and co-firing, the result is decrease in Global Warming Potential 0,13%. Co-firing give affects 81,56% of the risen jobs potential, 3,47% saving cost raw materials. The selection of alternative types of sawdust biomass from the assessment sustainability of co-firing 41,15%. The conclusion of this study is the assessment of sustainability co-firing using sawdust biomass in the moderately sustainable category.

**Keywords:** Co-firing, Sustainability, Sawdust, Steam Power Plant, LCA, Socio-economy