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"Analyzing Sustainability State of Construction Equipment in the State of California."

**Abstract:** Construction equipment are known as highly polluting machines adversely affecting the environment. Management tools are necessary for sustainability assessment of construction equipment fleets to allow contractors to reduce their emissions and comply with local or federal regulations. In addition to management tools there is need for a metrics that will allow companies to accurately assess the sustainability of their construction equipment fleets. In many instances the State of California is adopting the innovative approaches for reducing adverse human impact on the environment. Once successfully implemented the chances are that such practices attract other states for adopting similar approaches. The concept in this paper is based on evaluation of construction equipment fleets and data analysis. Once measured and recorded such results for equipment can be used along with decision-support tools for selection and utilization of construction equipment. The metrics for construction equipment evaluation as well as the tool for sustainable decision-making are developed based on readily available data from manufacturers or maintenance shops without adding extra trouble for contractors or government agencies for their adoption. Developed metrics and decision support tool incorporate logical strategies of supply chain management for optimal selection of construction equipment for any construction site while taking into account the availability, costs, and mobilization related issues as constraints. The metrics and the model can benefit both the government agencies responsible for inspection of fleets and owners of construction companies in their decision-making processes. Cleaner environment is imperative for having healthier future and this goal is feasible.