

Financial feasibility of the development of Sunda strait bridge conceptual design using value engineering method

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Abstrak

Sunda Strait Bridge (SSB) is one of the mega-infrastructure projects offered by the Indonesian government and is expected to contribute to national economic growth by bridging economic connectivity between two major islands in Indonesia. At first, SSB construction was offered as a US\$ 10 Billion project in 2010 and revised into a US\$ 25 billion project with additional scope of work, i.e. industrial area development along the site, in 2011. Yet, it was still unattractive to private investors due to lacking of technical and financial feasibility. Thus, Value Engineering (VE) approach is used to increase and improve the project's feasibility by generating innovative ideas. Innovation through additional functions for Sunda Strait Bridge development is comprising of: 1) Development of renewable energy-based power plant by using tidal and wind power; 2) Integration of oil and gas pipelines; (3) Fiber optic pipelines; 4) Tourism Development in Sangiang Island which may be accessed by using either road bridge or hanging train; 5) Development of industrial area. The life cycle cost analysis by IRR and NPV approaches confirmed that Sunda Strait Bridge development with additional functions increased the internal rate of return of the overall project up to 7.26% and had a positive NPV value.