

Economic analysis for power to gas technology from renewable energy

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With forecasting an increase in surplus electricity generated from renewable energy due to the fluctuating and intermittent nature of it, power to gas technology is getting the spotlight as a candidate of future energy storage system. Unlike batteries, which are well-known method for conventional energy storage with some drawbacks for long-term energy storage, power to gas is considered more suitable because of long-term energy storage and flexible use. In this context, many studies have focused on the technical points of power to gas technology with few on the economic aspect of it. Therefore, economic analysis was carried out to assess its economic feasibility through itemized cost estimation based on capital and operating costs, sensitivity analysis, and profitability analysis using cash flow diagram.