The impacts of financing investment scenarios on piped-natural gas prices (gps) for households in Indonesia

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Abstrak

The objective of this study was to compare the impacts of financing investment scenarios on piped-natural GPs for households in Indonesia using government, business entity, and mixed investment scenarios. Simulations of cash flow were used for a case study of domestic GPs in City X in Indonesia, which originally used only one investment scheme. The GPs is calculated using the cash flow (CF) method. With the cash flow, GPs is calculated based on the sum of investment costs (Capital Expenditure), operating and maintenance costs (O & M), gas purchase costs, administrative costs (A), tax (t), and margin (m) divided by gas volume. A sensitivity test was performed using the models to observe the effects of changes to each component of each variable regarding price calculations for natural gas. The government divided the type of household into two, one class consisting of simple house and small house and the second group consists of luxury homes, apartments, and condominiums. For 100% government investment scenarios, prices were formulated using management fee systems. For 100% business entity investment scenarios, prices were formulated with a method in which an internal rate of return (IRR) equaled a weighted average cost of capital (WACC). For mixed government and business entity investment scenarios, prices were derived by modifying 100% government investment scenarios calculations. A study of setting piped-natural GPs for households that are equiTable, fair, transparent, and able to meet citizens' purchasing powers was then conducted. Using the calculations and simulations, it was concluded that the government investment scenarios provided the lowest GPs but burdened the state budget. The business investment scenarios provided high GPs and benefitted the firm but not the community. The mixed investment scenario with 50:50 government and business entity investment compotition was recommended for setting GPs; they increased investments and public welfare, could be just and fair, and could meet citizens' purchasing powers.