

Optimization of Hydrogen Supply Chain with Centralized Hydrogen Storage Model

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Global climate change and exhaustion of fossil fuels have been making pressure to introduce renewable and sustainable energy sources. Hydrogen is one of the most promising energy carriers which can increase energy efficiency and reduce carbon emission. While the use of hydrogen fuel is expected to rapidly increase in transportation, energy storage system, and fuel cell for electricity generation, research on optimization methodology to design hydrogen supply chain is still required to minimize investment cost for hydrogen infrastructure. This study constructs an optimization model for hydrogen supply chain in case of South Korea and considers various hydrogen supply pathways and storage configurations with different types of production technologies and transportation modes.