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Purpose Over the past decade, the number of tall buildings being constructed has increased due to developments in material technology and structural engineering. Additionally, the amount of energy consumed has greatly increased on construction projects. Thus, it is necessary to apply energy-saving technology and a sustainability strategy in the construction stage. We propose an energy-regenerative system for a construction lift in order to reduce energy consumption in the construction field¹. **Method** Authors surveyed the performance criteria and key technology of the regenerative system and then designed a new lift system based on the survey result. Finally, we developed regenerative lift and tested the lift for measuring regenerative energy. An economic analysis was also performed by comparing the operating cost of the proposed regenerative lift with that of the traditional lift (Table 1). **Results & Discussion** The result showed that the energy-regenerative lift can achieve about 30% energy-saving comparing traditional lifts, when we tested a construction lift that moved about 60m/min.

References

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Table 1. Comparison of regenerative systems

Source	Traditional system	New regenerative system
Hardware	Regenerative inverter	Regenerative inverter
	Motor	Regenerative motor and clutch
Software	Storage device	
	Regenerative energy supply system	Two-way control system Regenerative protection system