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A joint pricing and inventory control problem under an energy buy-back program. (English)

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Summary: The demand for power keeps rising with rapid economic development and growth of industrialization. The frequent mismatch created between demand and supply can be mitigated by the use of energy buy-back programs. This paper models a buy-back program using a periodic review joint pricing and inventory model, incorporating compensations and setup cost over finite planning horizons. It is shown that an (s, S, A, P^*) policy is optimal for the decision maker for maximizing the expected total profit.

MSC:

90B05 Inventory, storage, reservoirs

91B24 Microeconomic theory (price theory and economic markets)

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Keywords:

energy buy-back; dynamic programming; pricing and inventory; (s, S, A, P^*)

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References:

- [1] Cappers, P.; Goldman, C.; Kathan, D., Demand response in US electricity markets: empirical evidence, *Energy*, 35, 1526-1535, (2010)
- [2] Chao, X.; Chen, F., An optimal production and shutdown strategy when a supplier offers an incentive program, *Manufacturing & service operations management*, 7, 130-143, (2005)
- [3] Chao, X.; Yang, B.; Xu, Y., Dynamic inventory and pricing policy in a capacitated stochastic inventory system with fixed ordering cost, *Operations research letters*, 40, 99-107, (2012) · Zbl 1242.90008
- [4] Chen, W.; Feng, Q.; Seshadri, S., Sourcing from suppliers with random yield for price-dependent demand, *Annals of operations research*, (2012)
- [5] Chen, Y.; Sethi, S.; Zhang, H., A production – inventory problem for an energy buy-back program, *IEEE transactions on automation science and engineering*, 4, 3, 395-406, (2007)
- [6] Chen, X.; Simchi-Levi, D., Coordinating inventory control and pricing strategies with random demand and fixed ordering cost: the finite horizon case, *Operations research*, 52, 887-896, (2004) · Zbl 1165.90308
- [7] Chen, X.; Simchi-Levi, D., Coordinating inventory control and pricing strategies with random demand and fixed ordering cost: the infinite horizon case, *Mathematics of operations research*, 29, 3, 698-723, (2004) · Zbl 1082.90025
- [8] Coy, P., Exploiting uncertainty: the “real options” revolution in decision making, *Business week online*, 118-124, (1999)
- [9] Federgruen, A.; Heching, A., Combined pricing and inventory control under uncertainty, *Operations research*, 47, 454-475, (1999) · Zbl 0979.90004
- [10] Li, Q.; Zheng, S., Joint inventory replenishment and pricing control for systems with uncertain yield and demand, *Operations research*, 54, 696-705, (2006) · Zbl 1167.90342
- [11] Petruzzii, N.; Dada, M., Pricing and the newsvendor model: a review with extensions, *Operations research*, 47, 183-194, (1999) · Zbl 1005.90546
- [12] Sethi, S.; Cheng, F., Optimality of (s, S) policies in inventory models with Markovian demands, *Operations research*, 45, 931-939, (1997) · Zbl 0895.90079
- [13] Wald, M., Utilities try new ways to vary energy pricing, *NY times*, July 17, (2000)
- [14] Woo, C.; Kollman, E.; Orans, R.; Price, S.; Horii, B., Now that California has AMI, what can the state do with it?, *Energy policy*, 36, 1366-1374, (2008)
- [15] Zhu, S., Joint pricing and inventory replenishment decisions with returns and expediting, *European journal of operational research*, 216, 1, 105-112, (2012) · Zbl 1237.90033

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