# A rolling horizon heuristic for optimal trading in the LNG spot market

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We present a stochastic multi-stage mixed integer optimization model for spot trading in the liquefied natural gas supply chain. The model captures order lead times, capacity constraints and other operational characteristics, combined with uncertainty in LNG and local gas spot prices. The decision variables are: when to place orders, and when to regasify and sell gas. To solve the model, we propose a novel rolling horizon heuristic, which represents the uncertainty in spot prices but stays numerically tractable for practically relevant problems sizes. Based on conditional expectations and probabilities, we construct a series of reduced scenario trees that are solved for each day of the planning horizon.

Keywords: stochastic programming, LNG spot trade, rolling horizon heuristic, reduced scenario tree

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