

Impact of vesting contracts on the efficiency of Singapore electricity market

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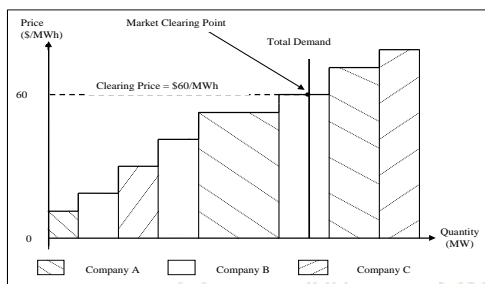
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Impact of Vesting Contracts on the Efficiency of Singapore Electricity Market

Introduction

- ❖ In Jan 2004, vesting contracts were introduced to the new electricity market of Singapore (NEMS) to:
 - Mitigate market power
 - Promote competition in the electricity market
- ❖ This project aims to examine:
 - **The behaviour of uniform Singapore electricity price (USEP) under the impact of vesting contracts from 2004 to 2012**
 - **Potential of market power exercised by the large generation companies**

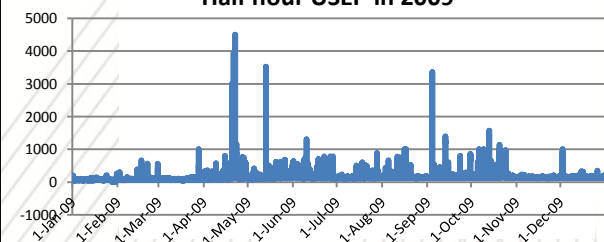
Half Hour Market Clearing Equilibrium



Monthly USEP from 2004-2012

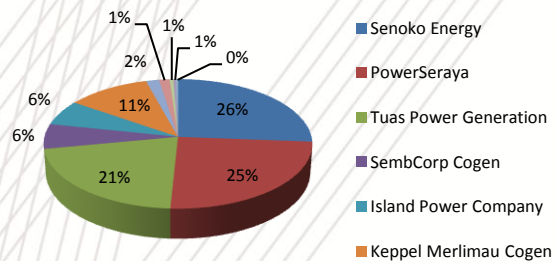


Half hour USEP in 2009



Project Title: How efficient is Singapore Electricity Market?
Supervisor: Asst Prof Chang Youngho

Company Authorised Generation Capacity (%)



Methodology

- ❖ Supply Function Equilibrium (SFE)
- ❖ Half Hour Market Clearing Equilibrium mechanism

Results

- ❖ Sustained price spikes starting since 2nd quarter 2009
- ❖ Contributing factors to these high USEP periods
 - Oil price movements
 - Planned outages
 - Demand fluctuations
- ❖ A surge of USEP over vesting contract hedge price (VCHP) for the 3 last quarters of 2009 based on public data acquired from EMC website
- ❖ In general, steady trend of USEP

Further Research

- ❖ Are vesting contracts effective in curbing market power?
 - Construction of competitive benchmark price
 - Price cost mark-up index
- ❖ Impact of electricity futures market and LNG imports on pricing behaviour?