

Energy Procurement for SingHealth



Wednesday, 21 August 2013



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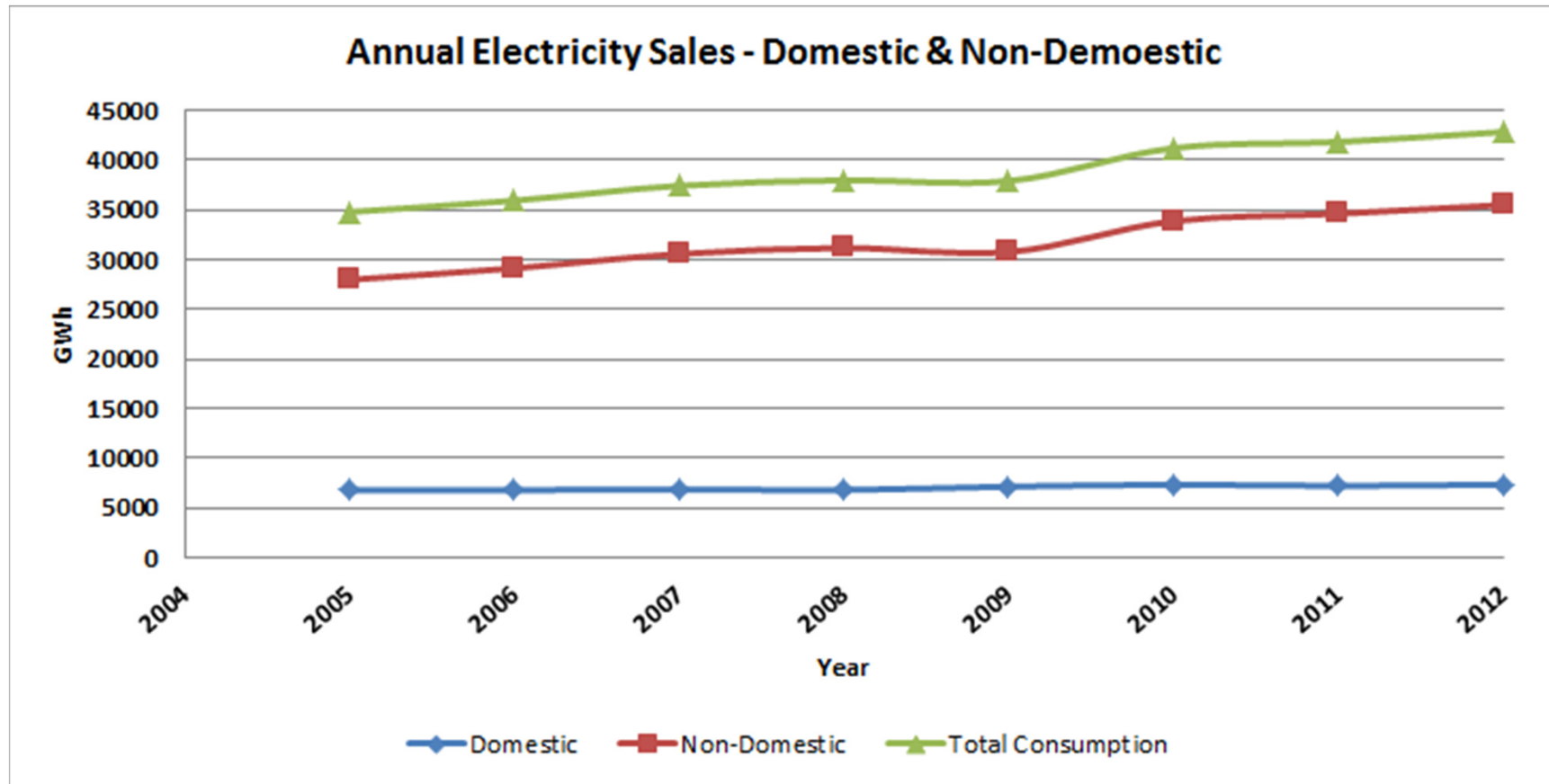
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Agenda

- Singapore Liberalised Electricity Market
- The Main Players and their Roles
- Energy Plans Offered by Energy Retailers
- DTZ Energy Procurement Services
- Conclusion

Singapore Electricity Market

A \$10b per annum market



Singapore Electricity Market

Electricity Market Liberalization

From late 1990s, Singapore Government has decided to liberalise the electricity market to achieve the following:

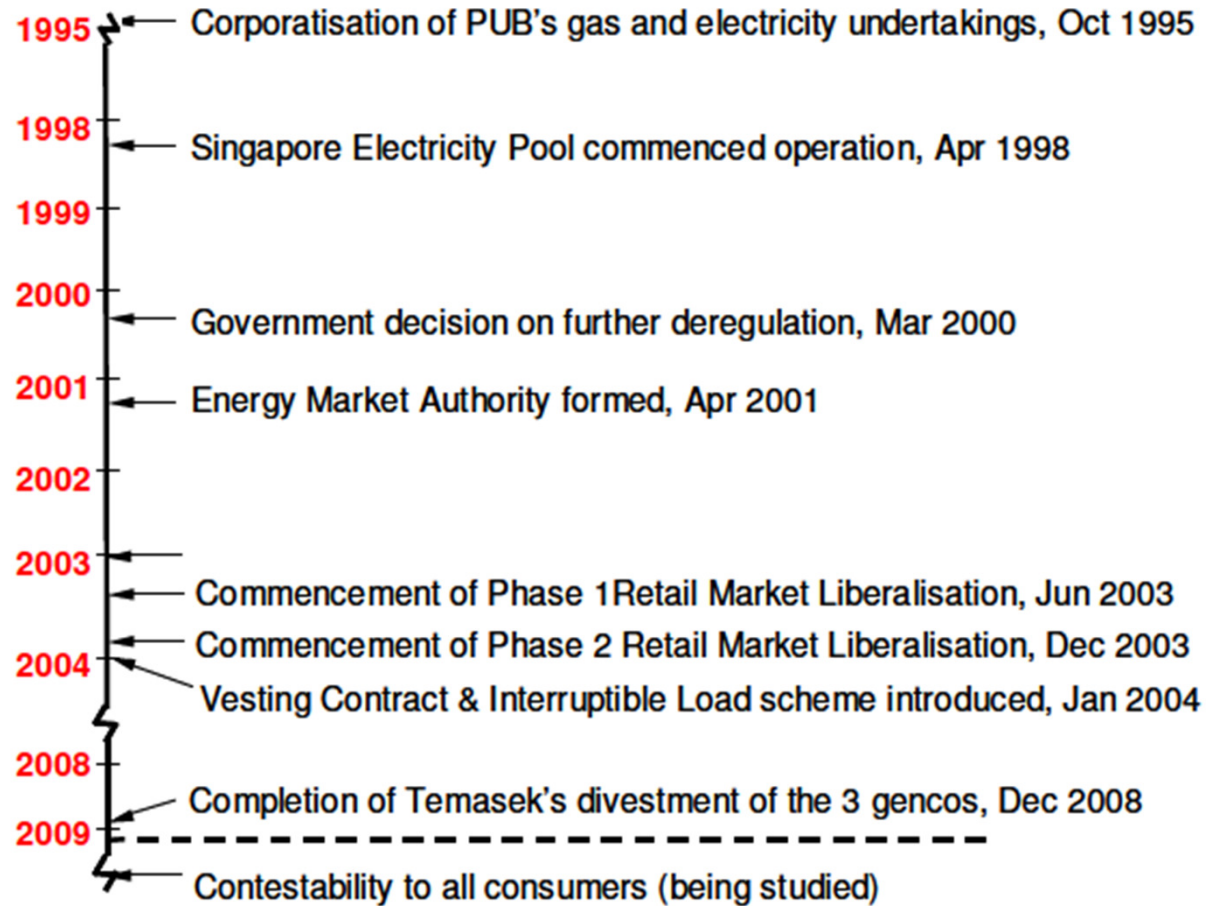
- Promote competition among the Electricity Suppliers
- Give electricity consumers a choice of energy supplier to suit their individual requirement
- Enable energy suppliers to invest in the most energy efficient generation technologies and provide innovative energy packages
- Improve suppliers' service quality

Currently consumers usage exceeding 10,000 kWh/month are classified as contestable and have a choice of supplier.

- From Apr 2014, contestability threshold reduced to 8,000 kWh/mth
- From Oct 2014, contestability threshold reduced to 4,000 kWh/mth

Singapore Electricity Market

Timeline for Deregulation of the Singapore Electricity Industry



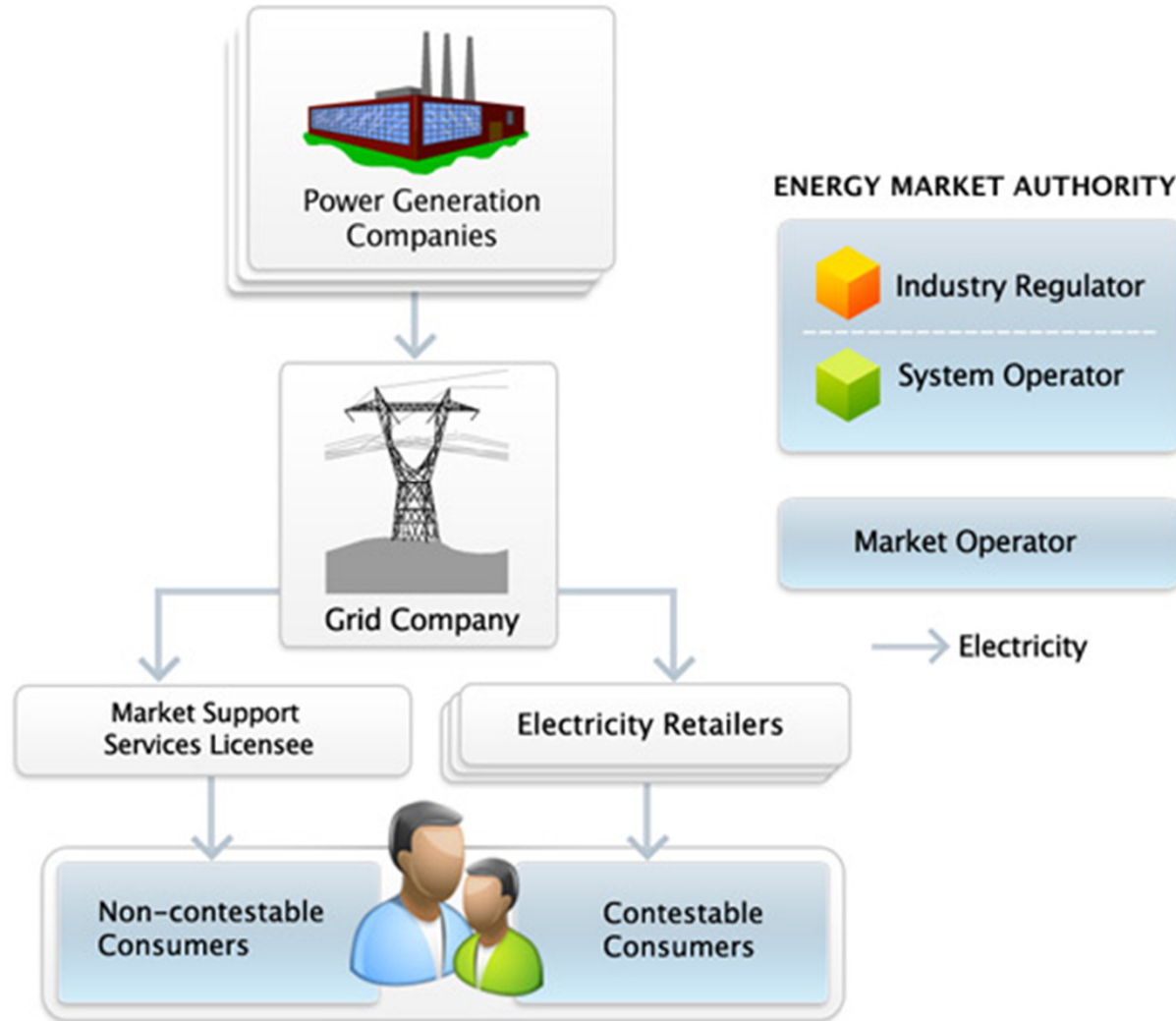
Apr 2014 contestability threshold reduced to 8,000 kWh/month

Oct 2014 contestability threshold reduced to 4,000 kWh/month

Singapore Electricity Market

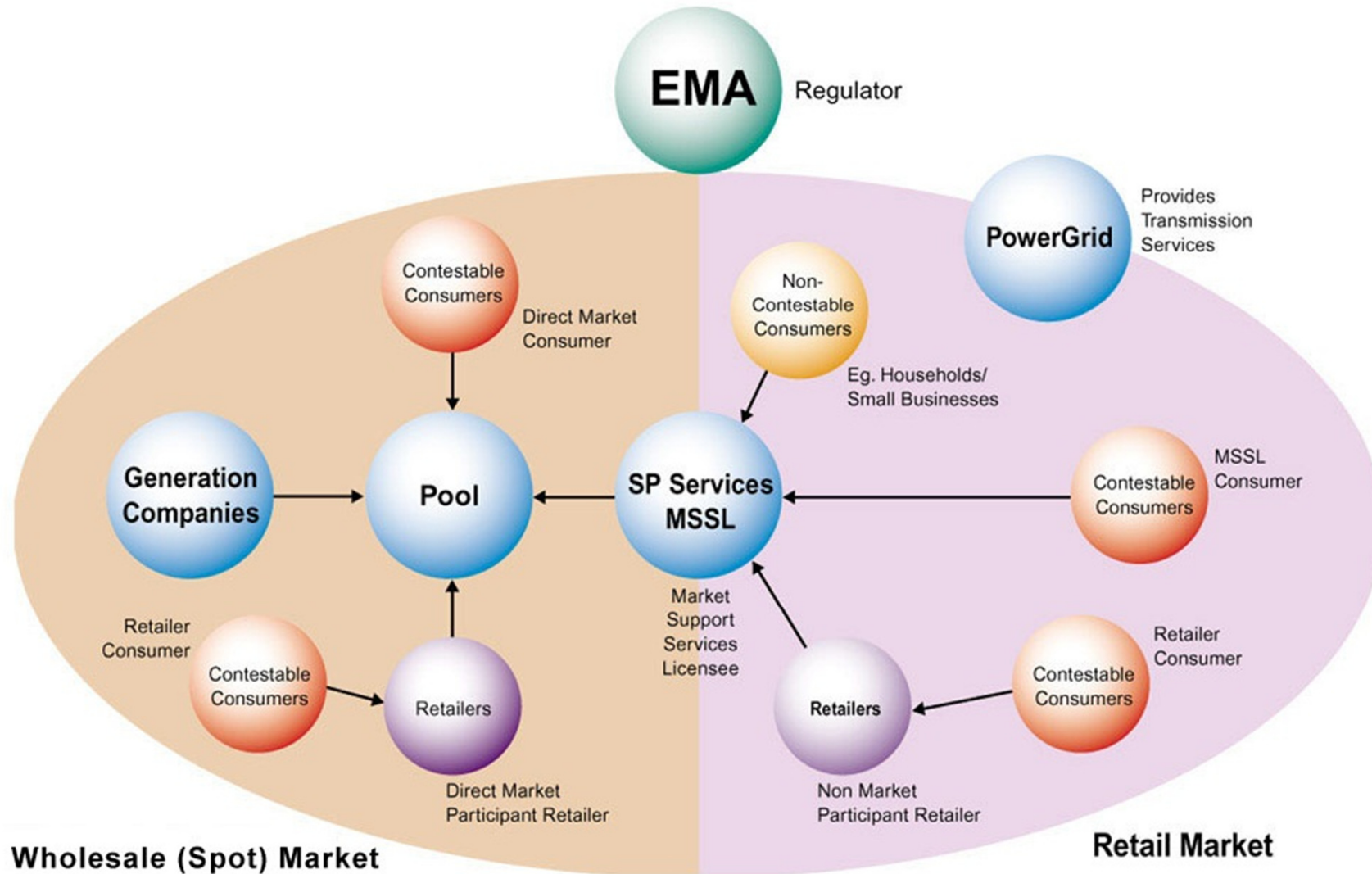
Electricity Industry Structure and Players

ELECTRICITY INDUSTRY STRUCTURE



Singapore Electricity Market

Wholesale and Retail Electricity Market



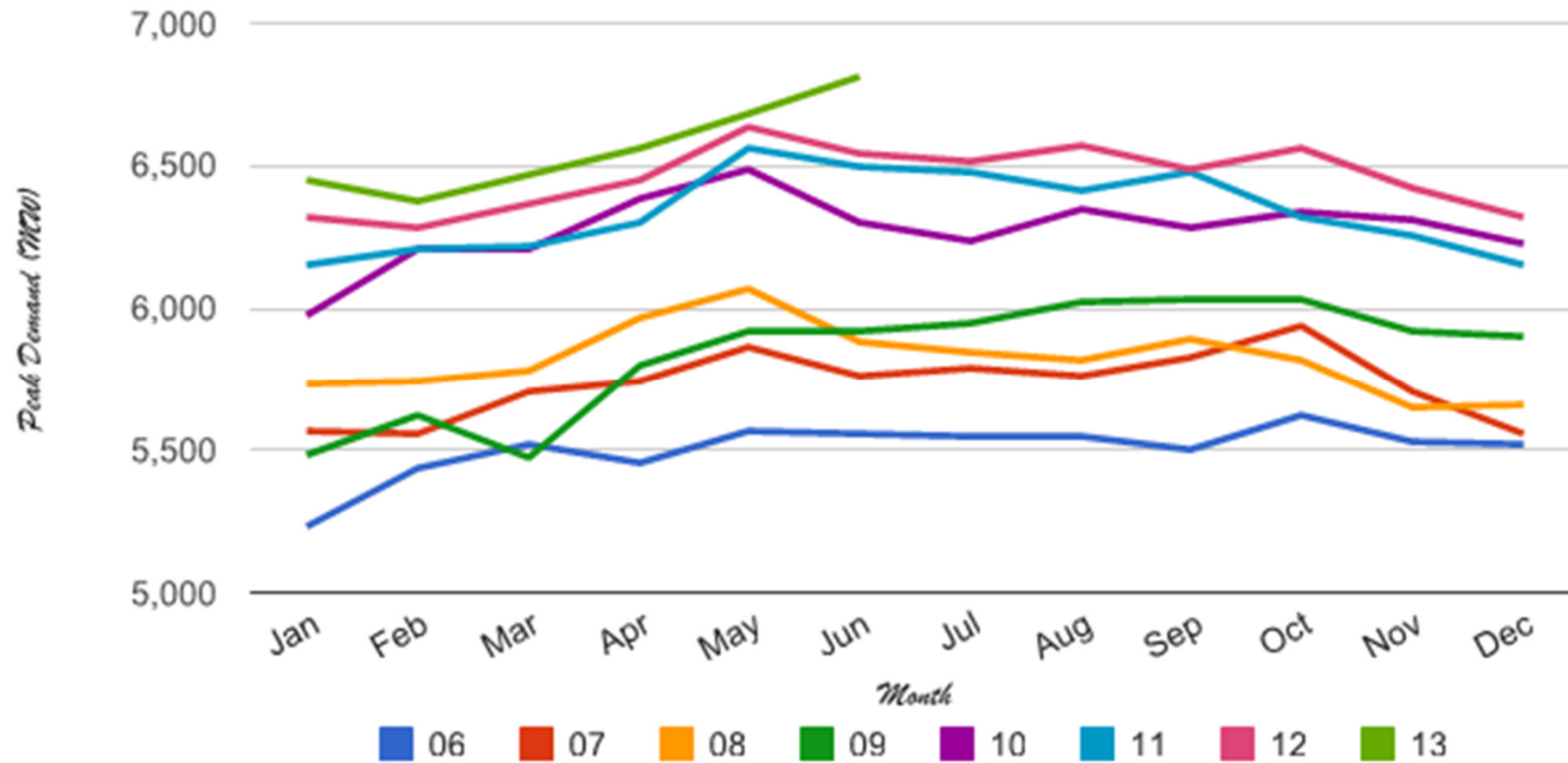
Singapore Electricity Market

Roles of various Players

1. **Energy Market Authority, EMA** is the market regulator and power system operator and ensure competitive, secure and reliable electricity supply to consumers
2. **Energy Market Company, EMC** operate and administer Singapore Wholesale Electricity Market
3. **Generating Companies** build and operate power plants to generate electricity to compete to sell to the Wholesale Electricity Market
4. **SP PowerAssets**, the Transmission Licensee, own and manage the transmission and distribution networks and collect use of system and capacity charges
5. Retailers retail electricity through various energy plans to contestable consumers
6. **SP Services, the MSSL**, provides various market support services to the various players and consumers

Singapore Electricity Market

Increasing Singapore Electricity System Demand - More Generation Capacity required



Singapore Electricity Market

Generation Capacity in Commercial Operation (MW)

By Plant type as at 31 Mar 2012	Steam	Combined Cycle Gas Turbine	Open Cycle Gas Turbine	Incineration & Others
Generation Companies				
• PowerSeraya	1,448	1,472	180	-
• Senoko Power	500	1,945	105	-
• Tuas Power Generation	1,200	1,470	-	-
• SembCorp Cogen	-	785	-	-
• Keppel Merlimau Cogen	-	500	-	-
• National Environment Agency (NEA)	-	-	-	180
• Keppel Seghers WTE Plant	-	-	-	22
• Senoko WTE	-	-	-	55
• Others	-	-	-	30
Total	3,148	6,172	285	287
Total Capacity for all plant types	9,892			

Singapore Electricity Market

New generation capacities in next 2 years:

Gencos	MW	Plant Type	Operation Date
Keppel Merlimau Cogen	420 420	CCGT	2013
PacificLight Energy	400 400	CCGT	2014
Tuas Power	400	CCGT	2013/2014
SembCorp Cogen	400	CCGT	2014
Tuaspring	410	CCGT	2014
Tembusu Multi-Utilities Complex	160	Circulating Fluidised Bed (CFB) technology	2013/2014

With arrival of LNG in 2013, about 3,000 MW of additional capacity is expected within next 2 years

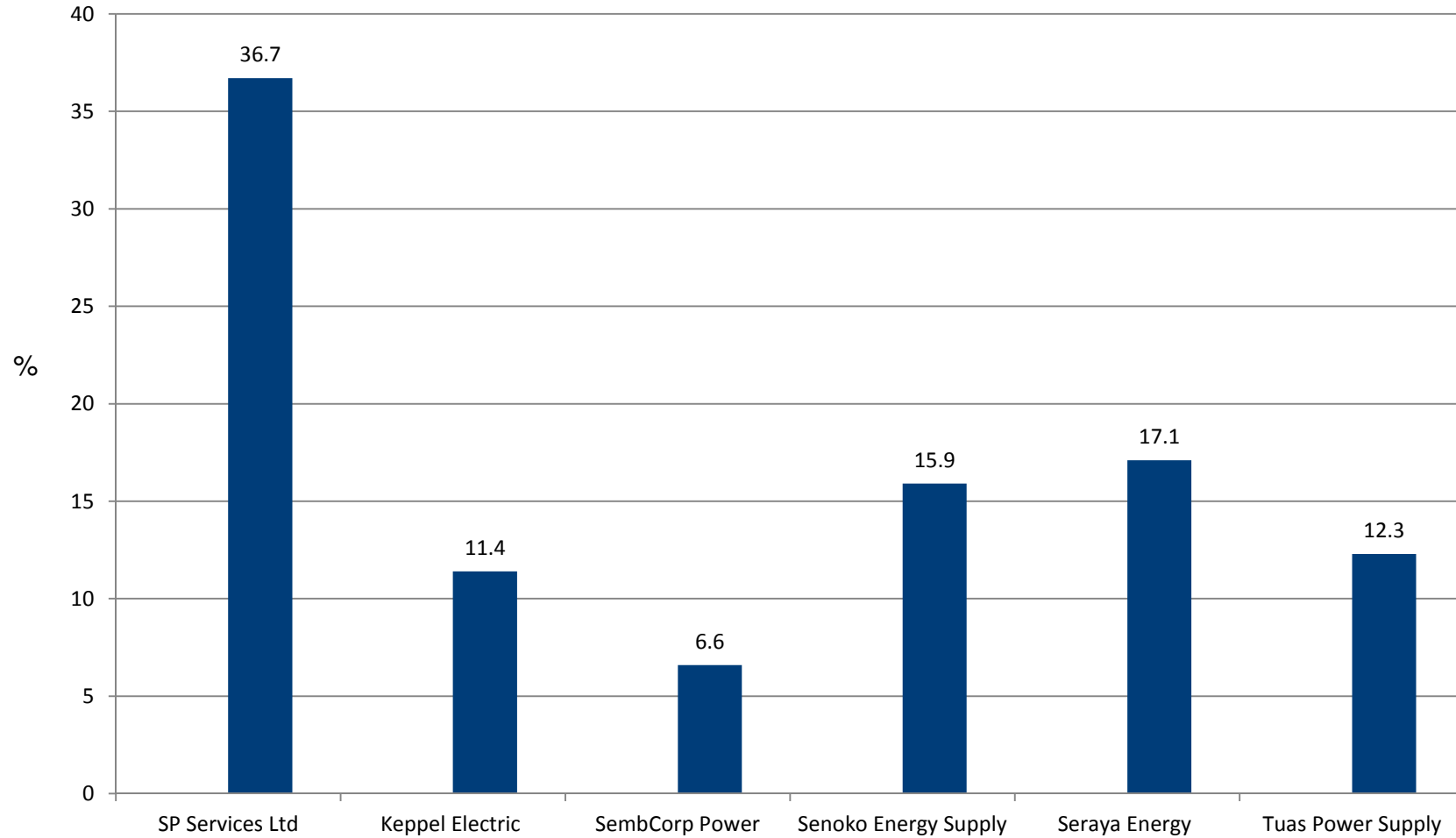


Artist impression of SLNG Terminal. Courtesy of SLNG.

LIQUEFIED NATURAL GAS TERMINAL

Singapore Electricity Market

Market Share of Electricity Retailers (2012)



Energy Plans Offered by Energy Retailers

1. Fixed Pricing Plan

- Fixed energy rate throughout supply contract
- For consumers who need to fix their expenses for planning and product costing

2. DOT Pricing Plan

- Guarantees a saving over regulated SP Services tariff
- SP Services regulated tariff revise quarterly based on oil prices

3. Fuel Indexed Pricing Plan

- Competitive Fuel Indexed formula
- Benefit from decreasing oil price

4. Pool Pricing Plan

- Based on half hourly Wholesale Pricing
- Suitable for consumers who can manage their consumption
- Volatile prices subject to price spikes

DTZ Energy Procurement Consultancy Services

Scope of Work



Procurement Consultancy Services

- Strategies & advice on Energy Plan & duration for energy supply contract
- Energy Risk Management
- Optimal Time to call tender & Bulk Purchase
- Tender Specifications & Management
- Clarification, Negotiation, Evaluation & Recommendation on most competitive energy retailer
- Oil Market Analysis & Intelligence



Value-Add Support Services

- Verification for any billing errors
- Monitoring of Max Demand for Optimal Contract Capacity
- Local Energy Market Development Updates
- Contestability application for new buildings
- One-stop service for any energy market related matters

DTZ Energy Procurement Consultancy Services

DTZ Bulk Energy Procurement Tender

1. Tender Specifications

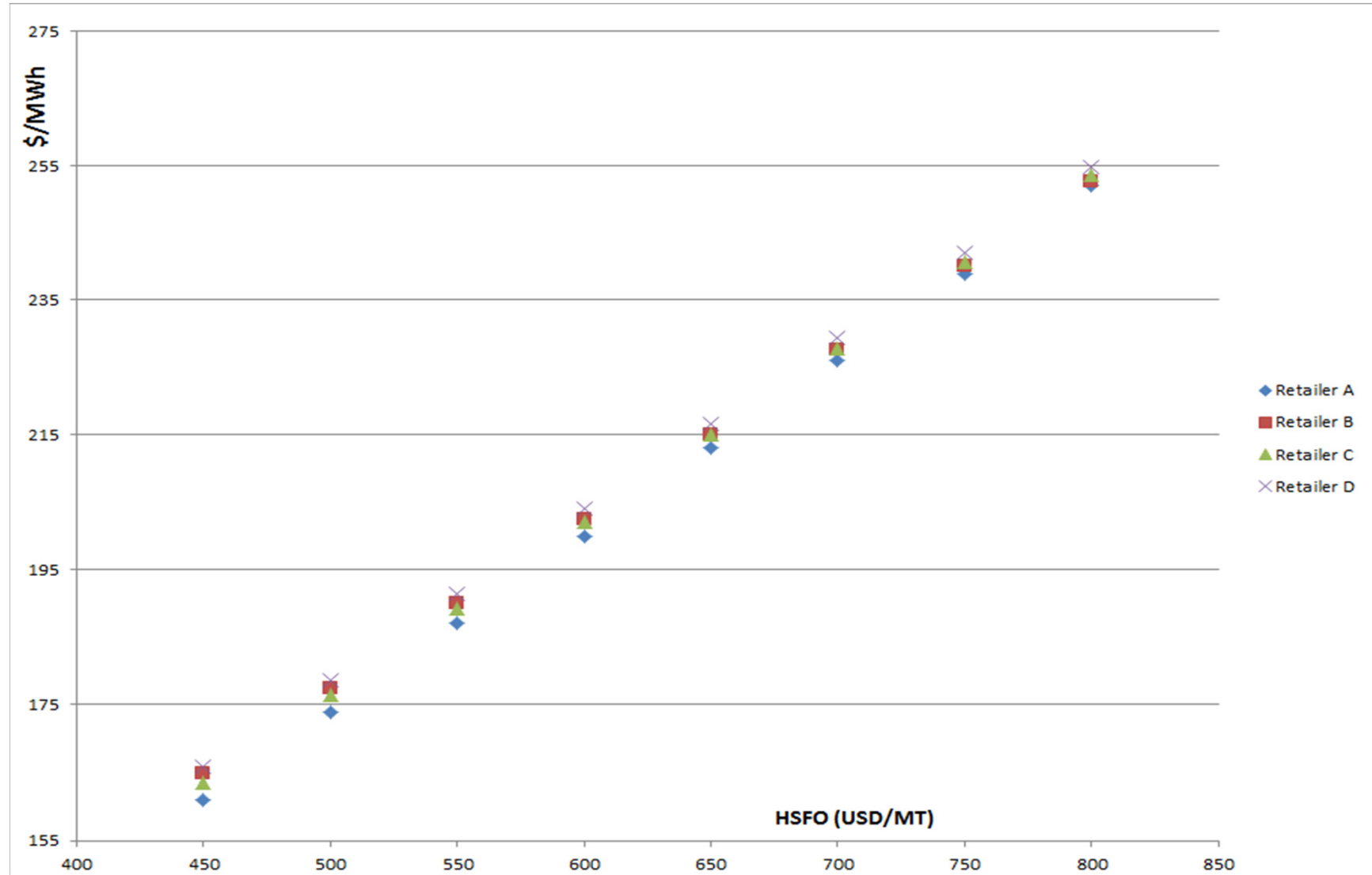
- Contract Duration : 12 or 24 months from 1 Oct 2012 to 30 Sep 2013 or 30 Sep 2014
- Base Energy Plan : Fuel Oil Index : $A + B \times \text{HSO } 180\text{cst} \times Fx$
- With option to lock-in the energy rate over a period of time for a specified duration.
- Contact Flexibility : Switch to DOT Plan (with required notice period)
- Any other Alternative Energy Plans

2. Evaluation Criteria & Recommendation

- Most Competitive energy rate based on:
- A & B values in FOI formula and DOT value
- Favourable and flexible Contract Terms and Conditions

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Comparison of Energy Retailers' FOI Formula



DTZ Energy Procurement Consultancy Services

Provision of Comprehensive Energy Procurement Consultancy Services since 2009



Scope of Services

- Bulk Tender Management
- Energy Risk Management
- ✓ Time Diversification

**Savings Achieved from 2009 to present
\$13 million**

Conclusion

- Liberalisation of Singapore Electricity Market has resulted in more competitive landscape
- Energy Suppliers are investing in the most energy efficient power plants and providing quality services to compete
- Liberalisation has benefitted contestable consumers such as SingHealth in achieving lower energy costs for their operation
- With the availability of LNG from 2013, about 3,000MW or 30% additional generation capacity is expected in next 2 years
- This is expected to result in more competitive energy prices for consumers
- The government is lowering the contestability threshold from 2014 onwards to allow more consumers to have more choice of suppliers

Thank You

