

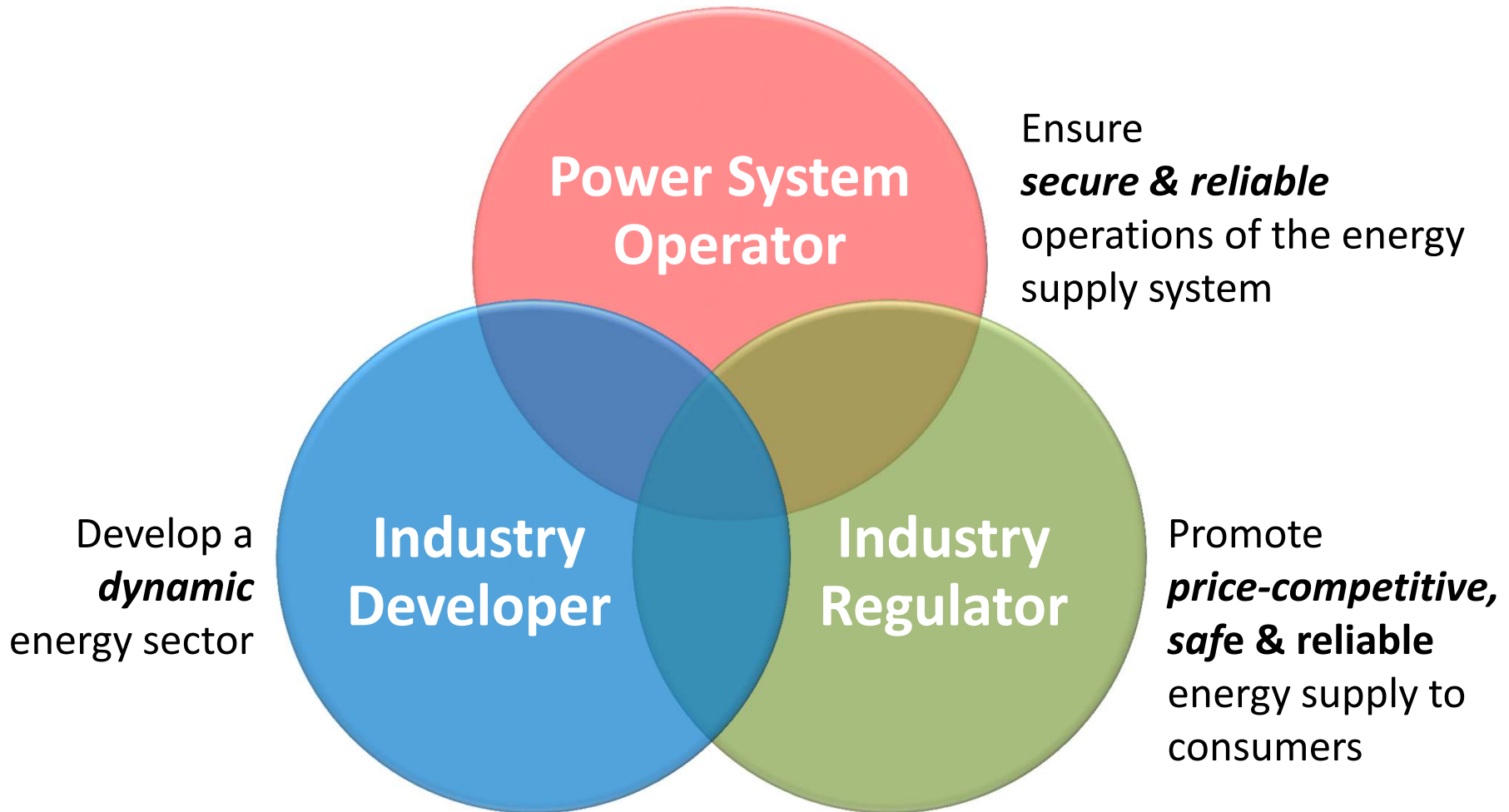


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## **EMPOWERING CONSUMERS IN THE SINGAPORE ELECTRICITY MARKET**

# ENERGY MARKET AUTHORITY (EMA)

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# Reform of Singapore's Electricity Industry

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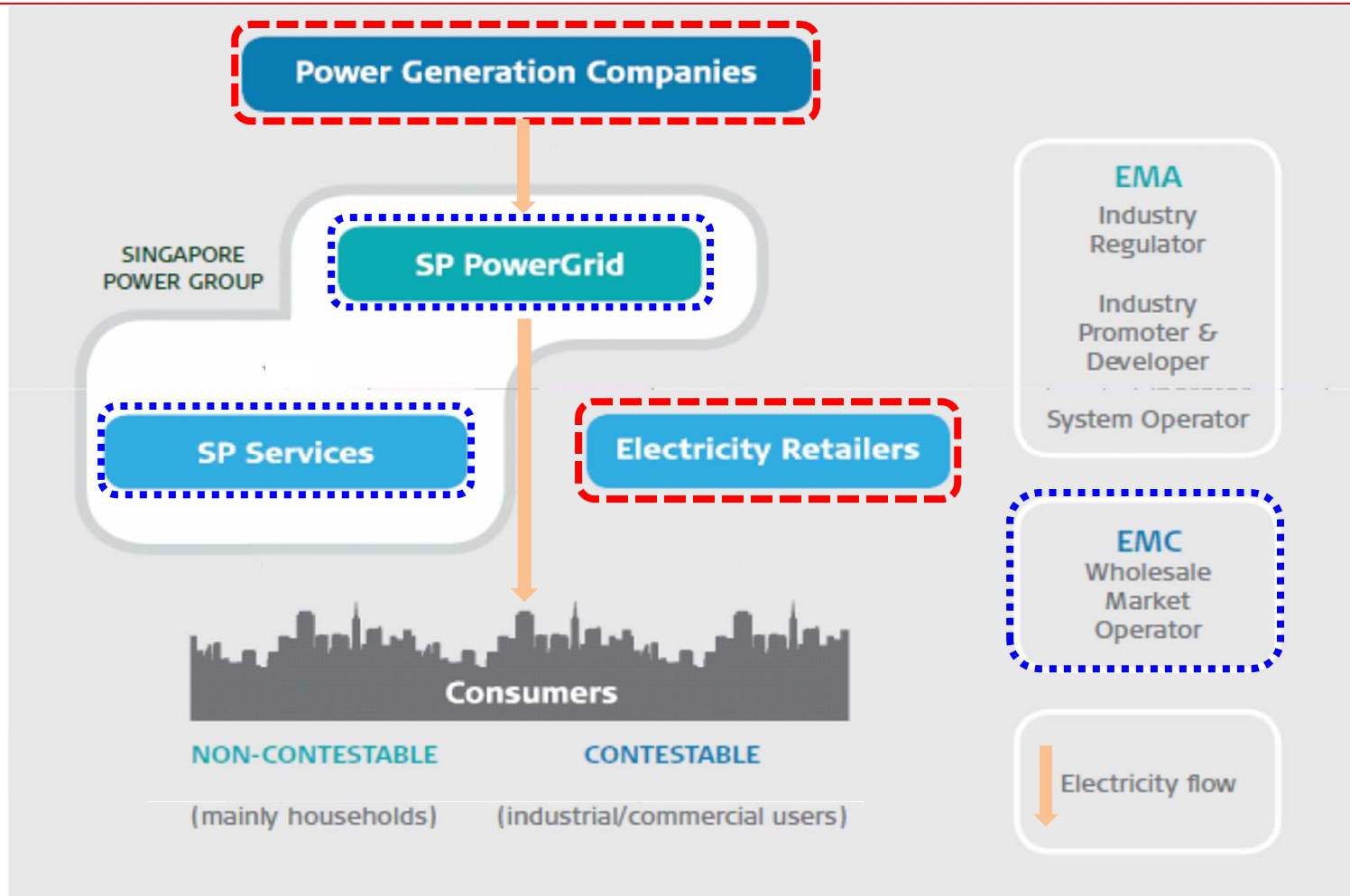
- Singapore's electricity industry had traditionally been vertically integrated and Government-owned.
- Restructuring of electricity industry began in 1995, and continued through 2000, where the government decided to press on with further liberalisation of the electricity industry and obtain the full benefits of competition.

## Key Initiatives for Restructuring:

- Clear separation of competitive businesses (contestable) from natural monopolies\* (non-contestable) to ensure level playing field; and
- Open access to monopoly infrastructure.

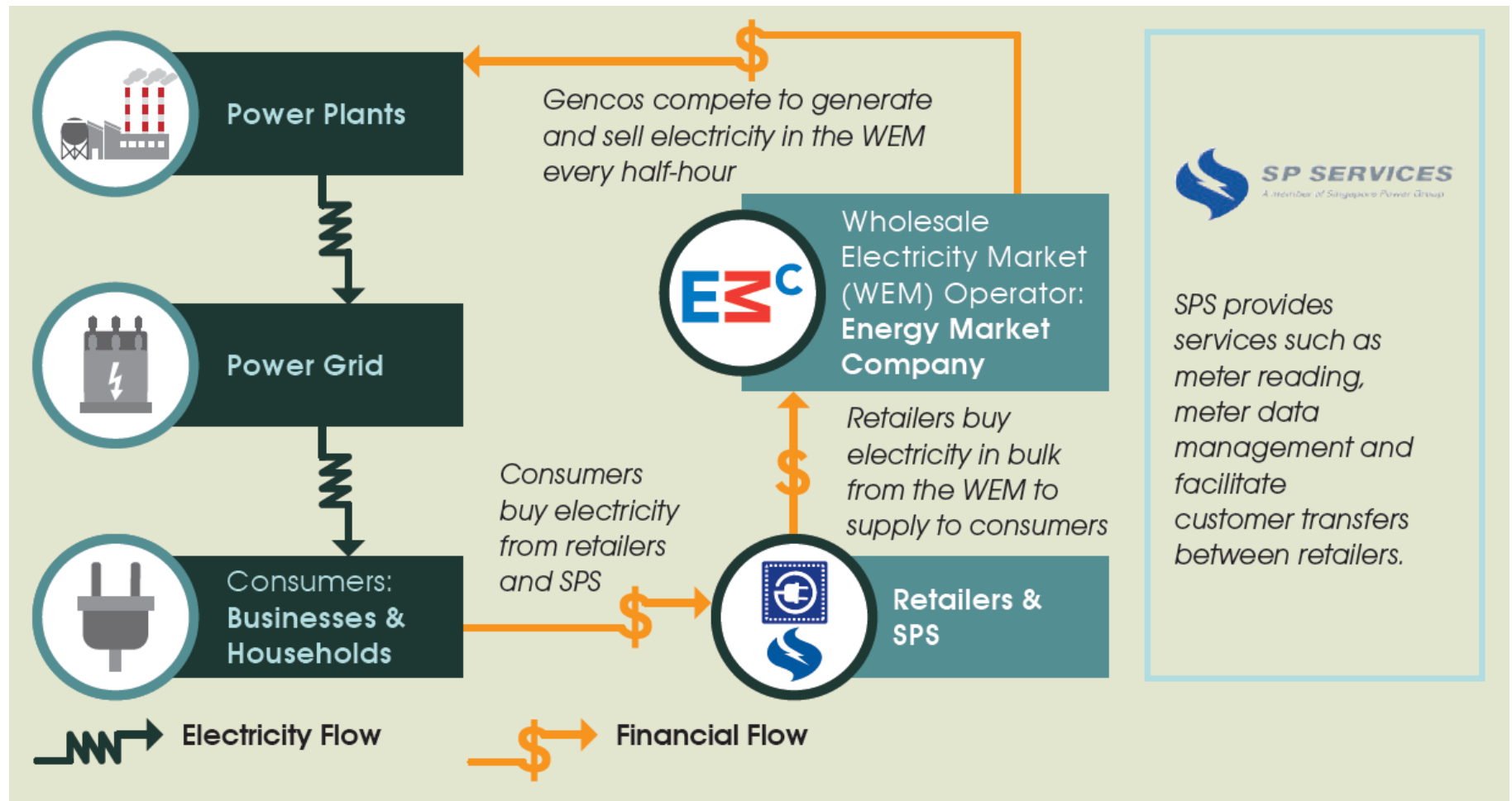
*\* A natural monopoly is a firm whose business requires significant capital investments, creating economies of scale that are large relative to the market size. In this situation it is most efficient to have the firm as a single supplier of the goods/services.*

# ELECTRICITY INDUSTRY STRUCTURE

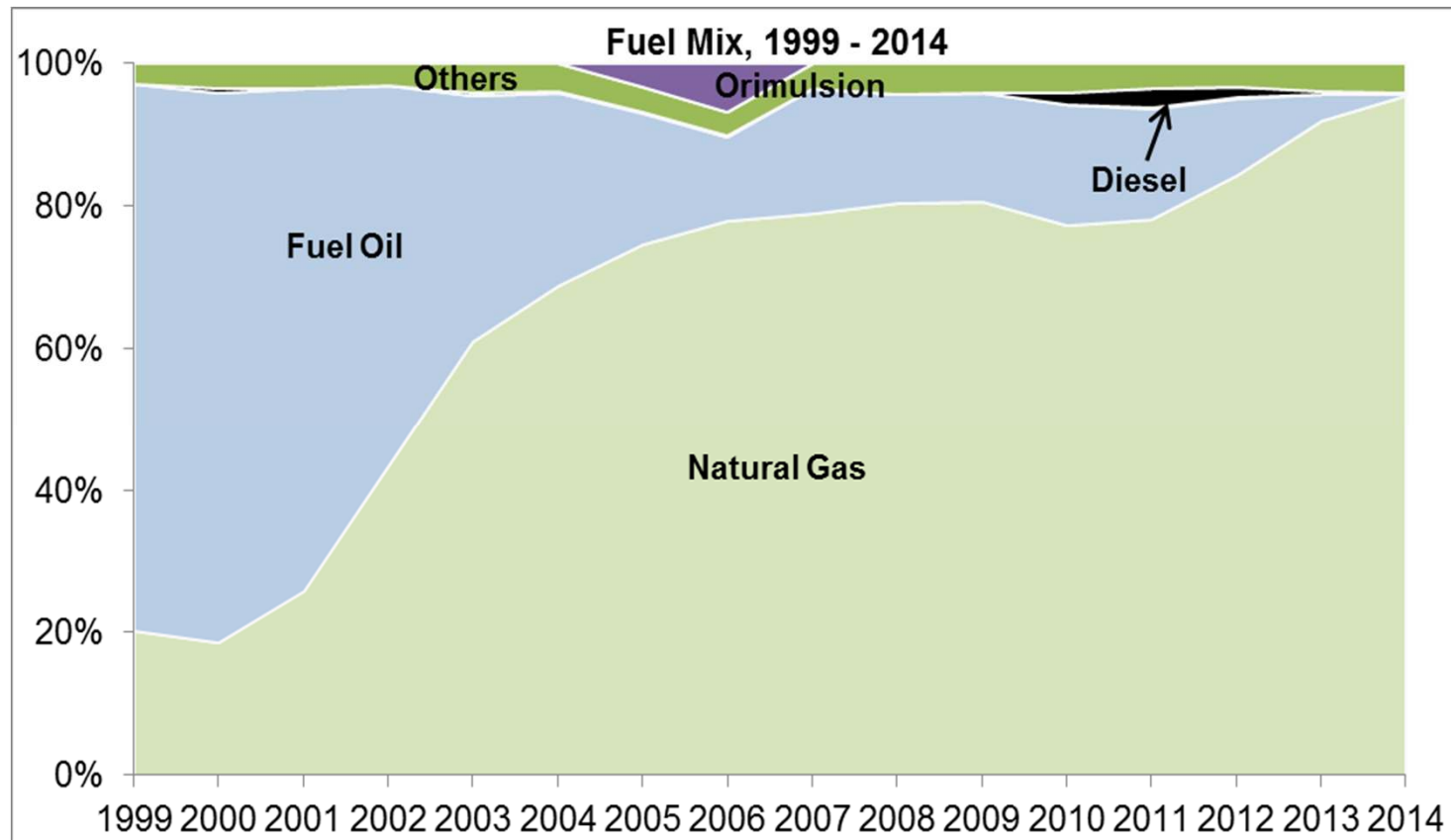


..... Non-Contestable Sector    - - - - Contestable Sector

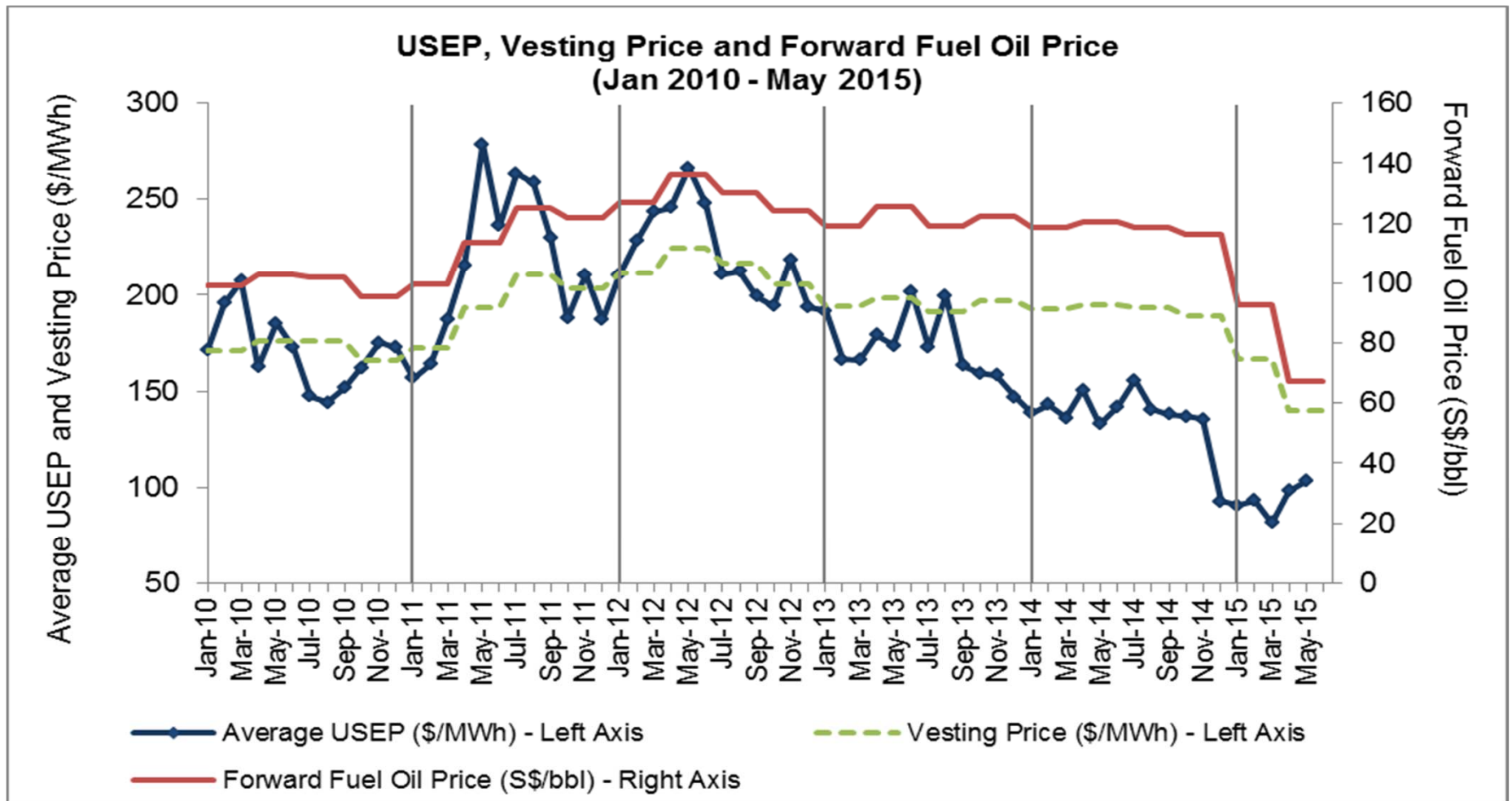
# ELECTRICITY MARKET



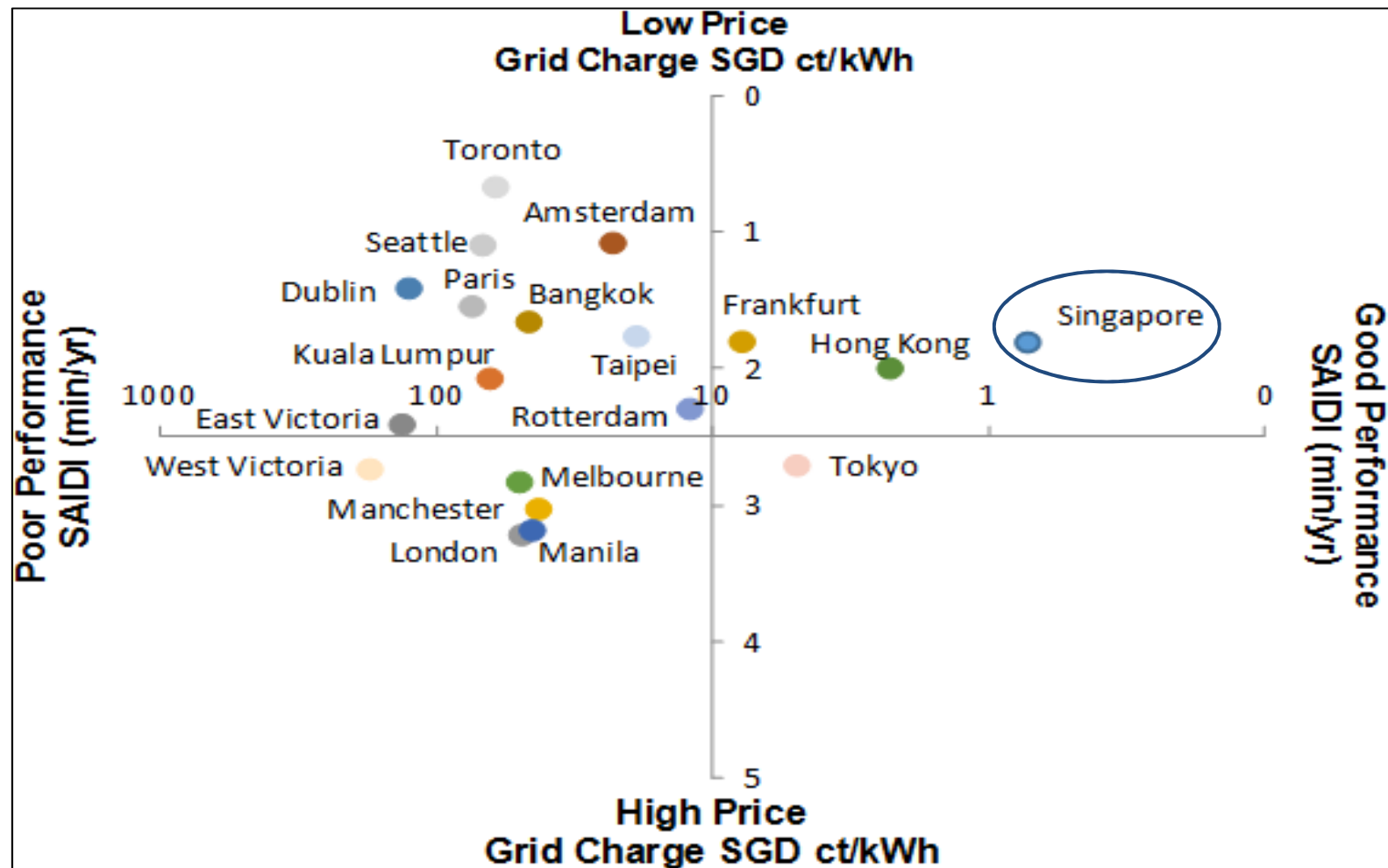
# INCREASED PRODUCTION EFFICIENCY ...



## ... EFFECTIVE PRICE SIGNALS DRIVING EFFICIENT INVESTMENT & CONSUMPTION DECISIONS ...



## ... RELIABLE & COST-COMPETITIVE ELECTRICITY SUPPLY SYSTEM ...





# ... CONSUMERS BENEFIT FROM GREATER CHOICE OF RETAILERS & PRICING PLANS.

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## Current Threshold

Consumption  $\geq$  4,000 kWh

## Threshold From 1 July 2015

Consumption  $\geq$  2,000 kWh

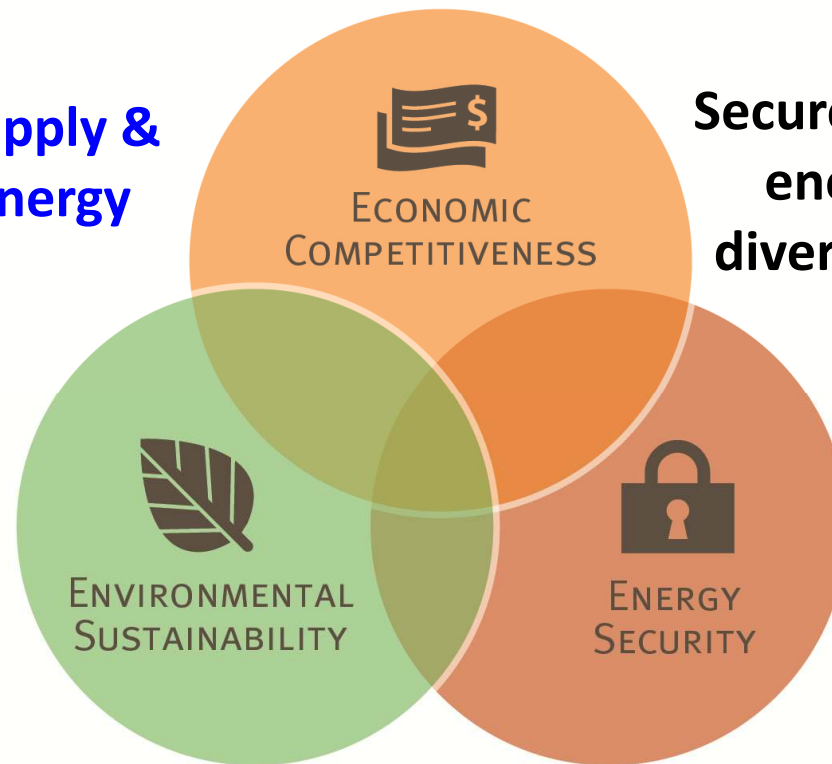
Consumers can add up their electricity usage across different locations in Singapore to meet the prevailing threshold.



# BALANCING SINGAPORE'S ENERGY CHALLENGES

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**Reliable energy supply &  
efficient use of energy**



**Secure and cost-competitive  
energy supply through  
diversification of imported  
energy sources**

**Sustainable energy supply that is clean  
and environmental-friendly for further  
diversification beyond natural gas**

# Diversify Gas Supply Sources



- 95% of electricity generated using natural gas.
- First LNG terminal became operational in May 2013.
- Further expansion of first LNG terminal's capacity from the current 6 Mtpa to 11 Mtpa by 2017. Plans underway to develop second LNG terminal.
- Competitive Licensing Framework to procure LNG supplies on a tranche-by-tranche basis to meet demand growth.



# Facilitate Deployment of Renewable Energy Sources



Enhance market framework and mechanism to facilitate entry of intermittent generation sources (“IGS”)



Leverage on R&D through grant calls, test-beds and commercialisation to prepare for greater penetration of IGS: smart grid (e.g. control systems & condition monitoring), grid-level energy storage & power output forecasting



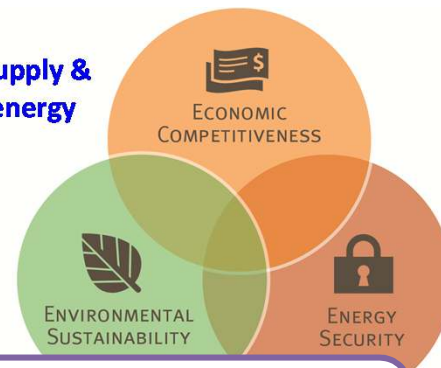
Nuture local workforce & capabilities to support deployment of solar photovoltaic (“PV”) systems in 2 key areas: grid integration of PV systems & design/installation/testing of PV & storage systems to ensure safety



**Sustainable energy supply that is clean and environmental-friendly for further diversification beyond natural gas**

# Giving Consumers More Options to Manage Electricity Costs

Reliable energy supply &  
efficient use of energy

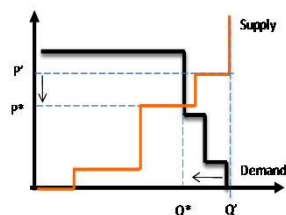


## *Increased Retail Contestability*



- ✓ Commercial and industrial (C&I) consumers with average monthly consumption of 2 MWh or more will be eligible to become contestable to buy electricity at market prices (instead of regulated tariff). Next step: full retail contestability.

## *Demand Response Scheme*



- ✓ Consumers will be able to participate in the wholesale electricity market through demand-side bidding and manage their electricity usage in response to pool price signals.

## *Electricity Futures Market*



- ✓ Provides a platform for industry players, consumers and financial intermediaries to trade “forward” electricity products for risk management and investment activities.

## CONCLUSION

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- Promote competition in the electricity market to drive efficient investment and consumption decisions. Separation of market players in the contestable (generation & retail) sector from the natural monopoly sectors (network & market support services) is key.
- Diversify fuel mix to incorporate cheaper energy sources through promoting greater penetration of renewable energy source such as solar.
- Empower consumers to buy electricity from retailers of their choice and to make informed electricity purchase decisions with more options to manage their electricity costs through demand-side initiatives and raising awareness.

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# Thank You