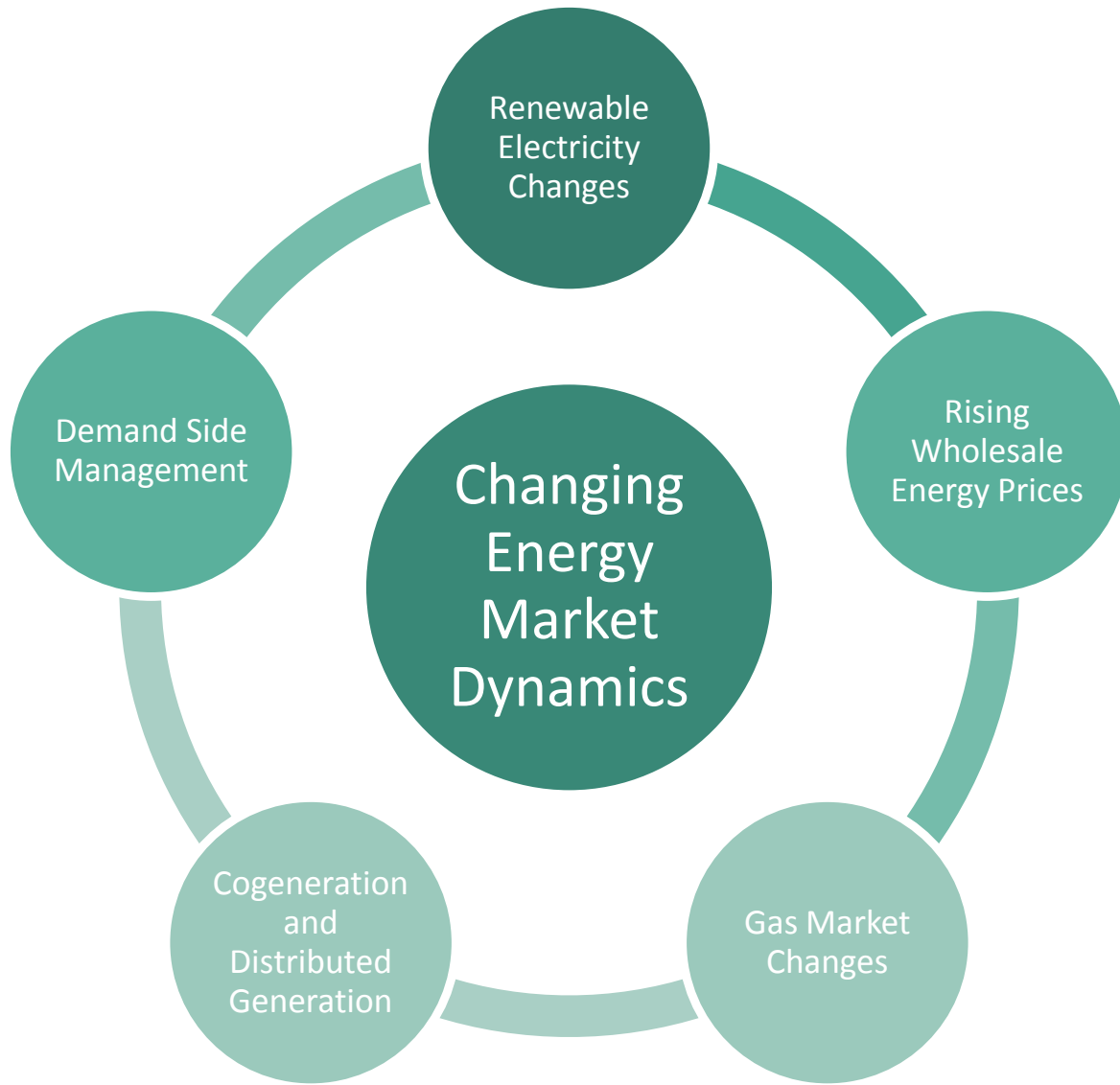


ENERGY MANAGEMENT FOR COMPANIES, TRENDS AND CHALLENGES

PACIA Network Meeting, November 2009

seed



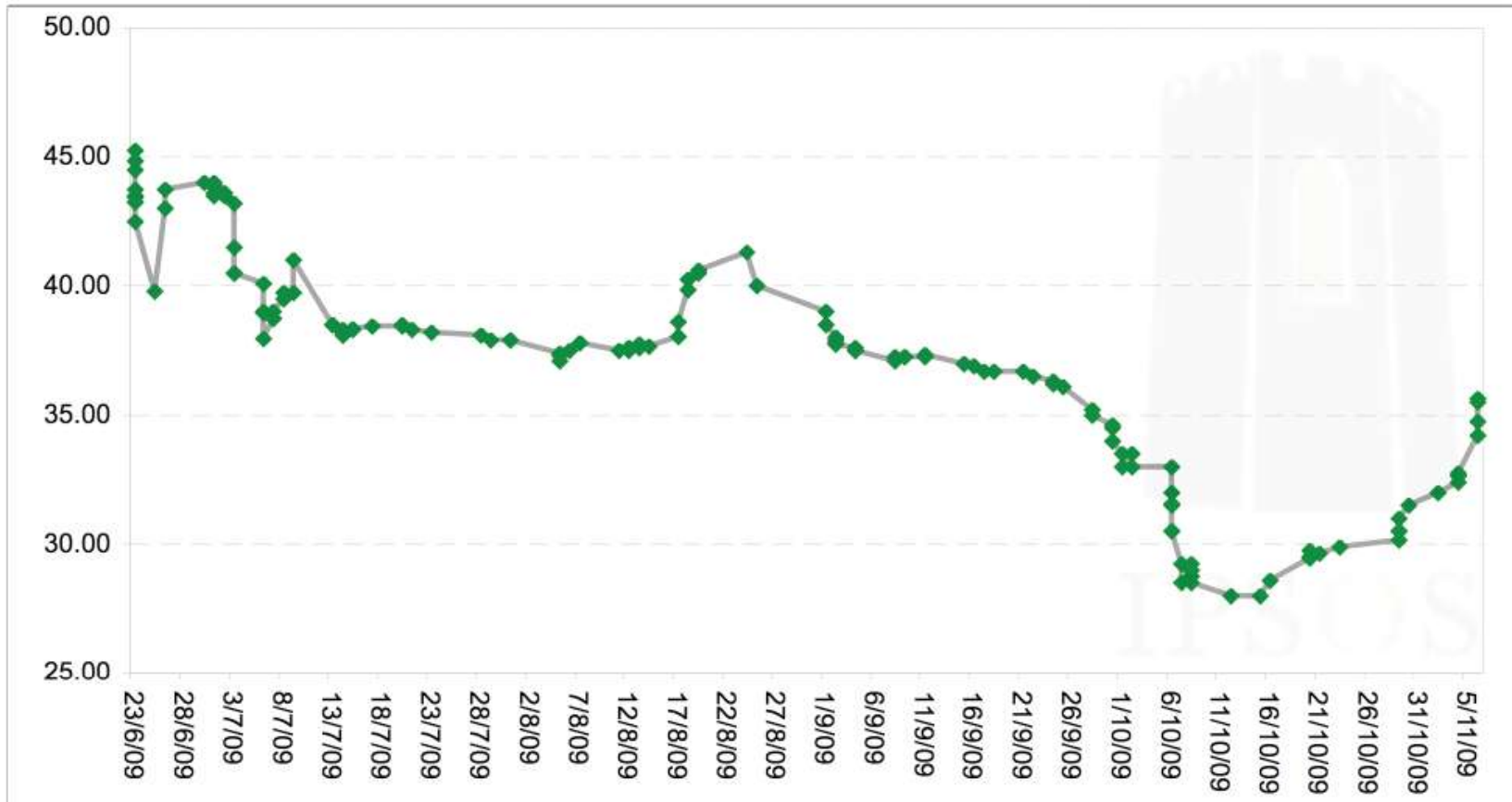


Recent events

- Expanded renewable electricity target legislation passed through Federal parliament - 20% by 2020
 - State based schemes will eventually merge into expanded Federal scheme
- Oversupply of renewable energy certificates (short term)
 - Increased uptake of State and Federal government initiatives to support installation of solar hot water
 - Prices dropped from highs of \$50+ / MWh to about \$35-\$40 / MWh
 - Increased pressure on ability to obtain finance for long term projects
 - A number of longer term projects 'on hold' till price reaches more sustainable levels
- May be opportunities to purchase renewable energy at 'cheaper' prices

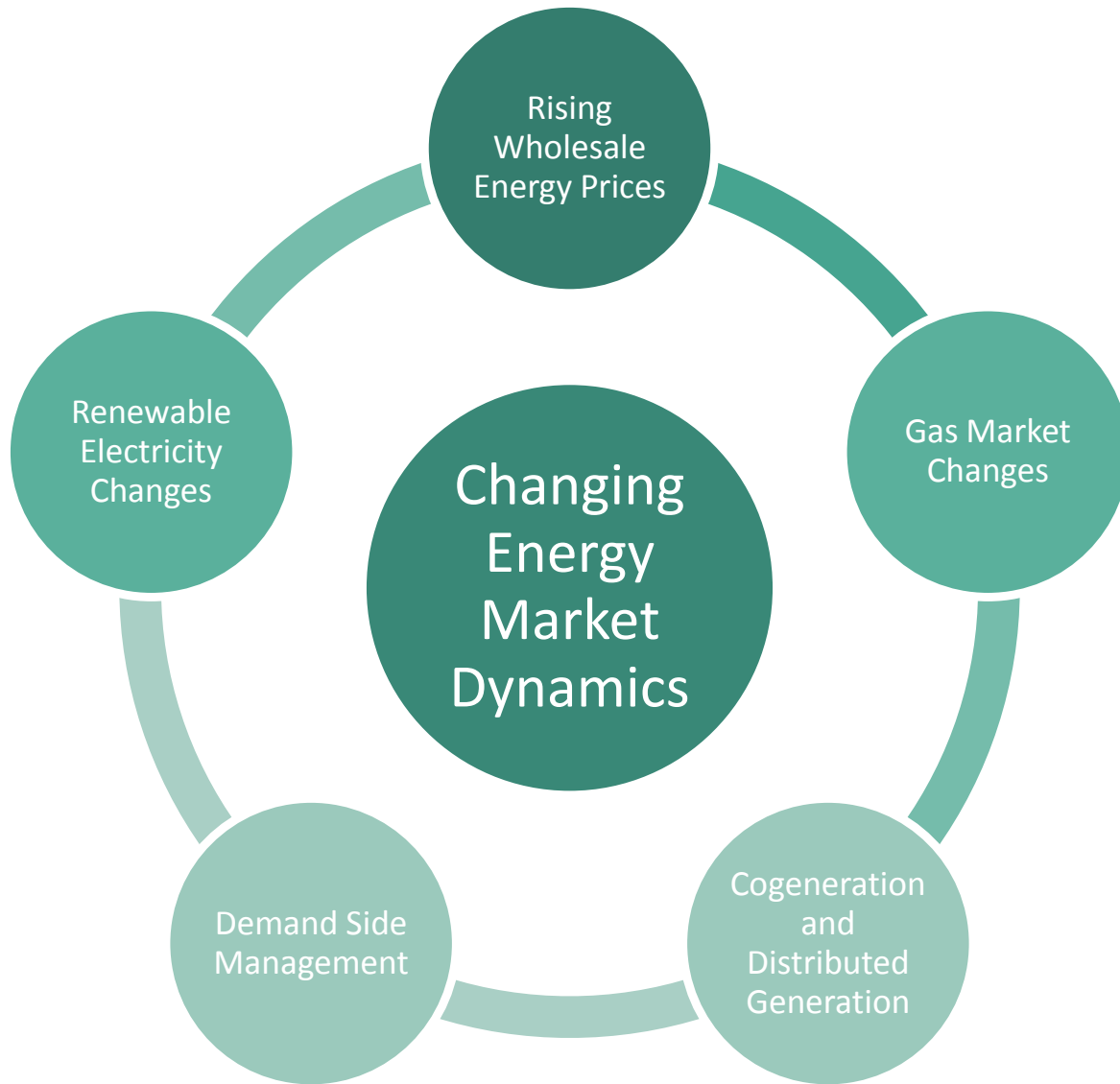


Renewable Electricity Certificate Spot prices (\$/MWh)

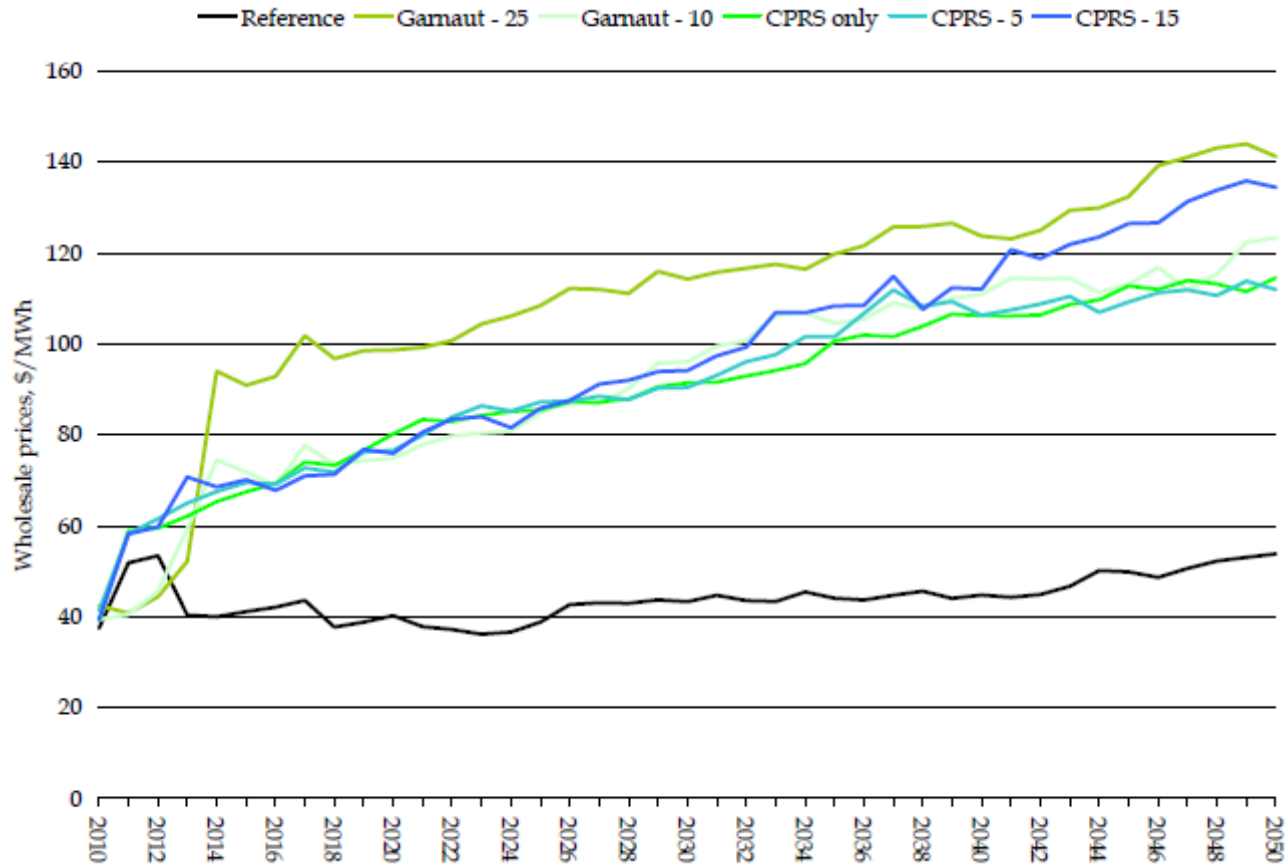


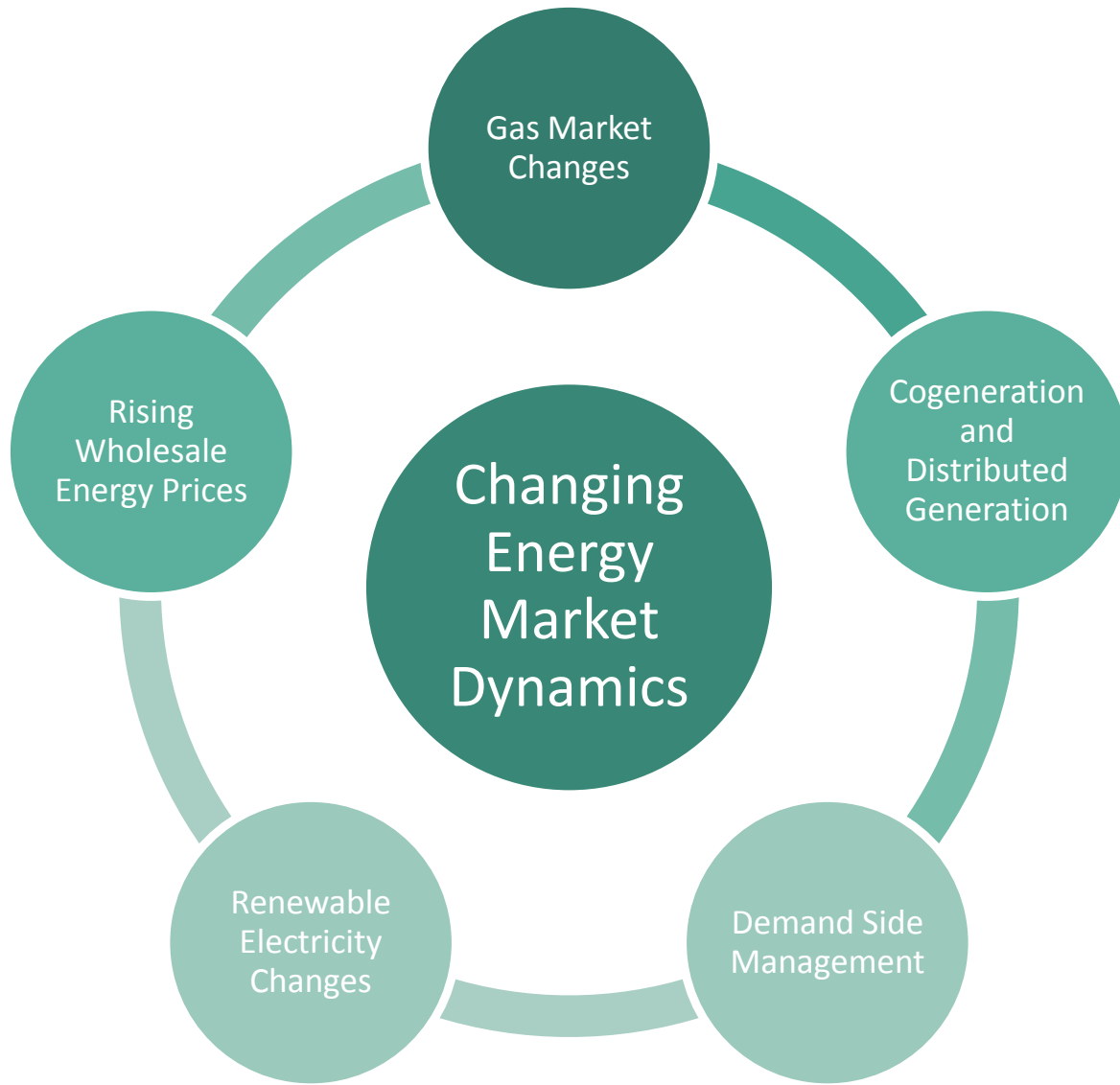
Source: Ipsos Renewable Energy Market Report, 5 November 2009





Wholesale Electricity Price Forecasts (Australia)



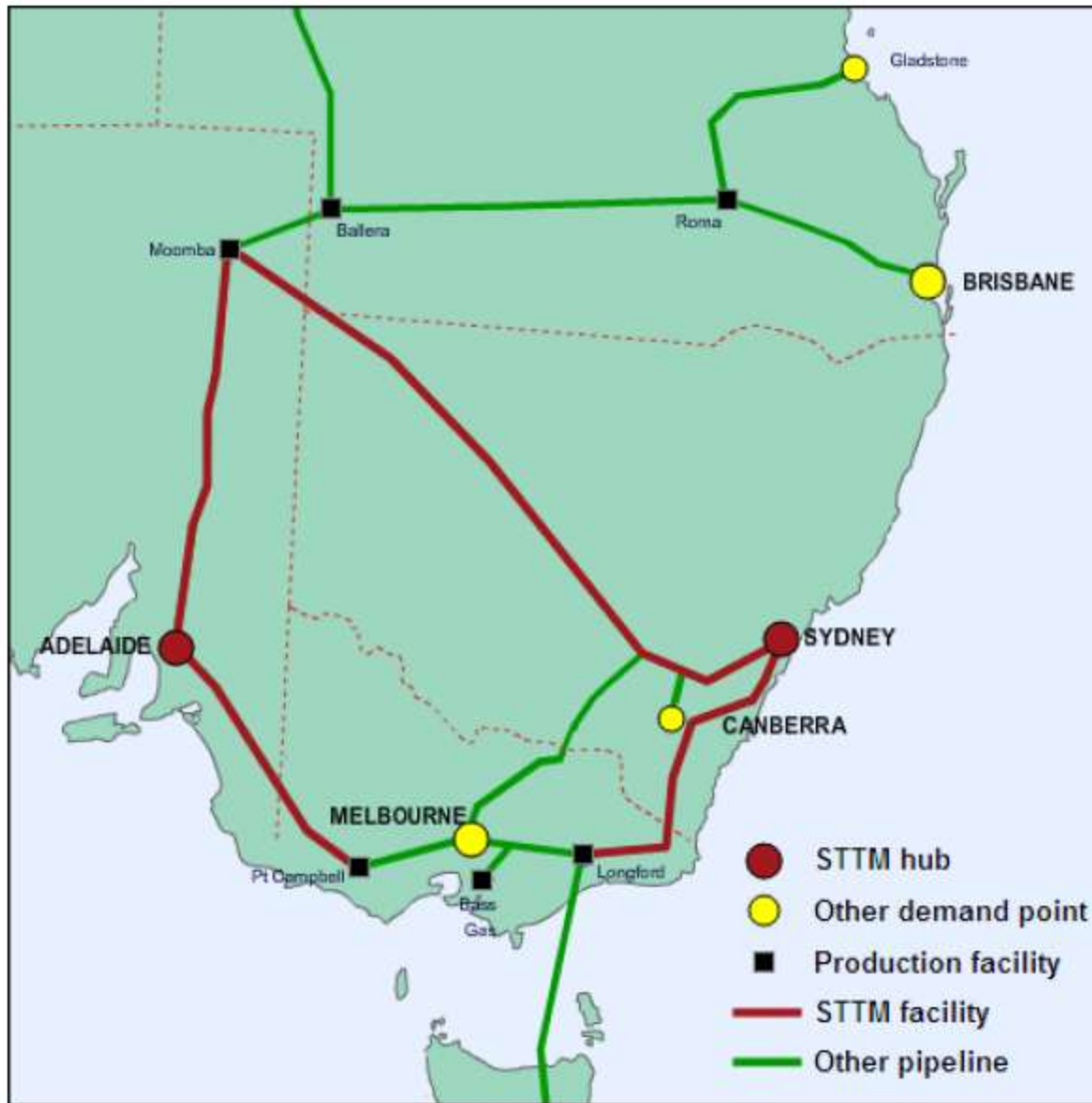


Key Changes

- Increased growth of gas fired generation
 - Lower emissions intensity and relative cost is driving uptake
 - Results in increased convergence of gas and electricity markets
- Development of Short Term Trading Market (STTM) in NSW and SA in 2010
- Increased interconnectedness of East Australian gas markets
- Increased importance of Coal Seam Gas in East Australian gas markets
- Increased international demand for LNG
 - A number of LNG projects in development in Australia
 - Impacts on local prices and availability of natural gas
 - West Australia seen significant price rises in local gas prices
 - Unknown impact as yet on East Australian gas prices
 - Response from Government to ensure availability of gas in Australia is to reserve gas for 'domestic use'



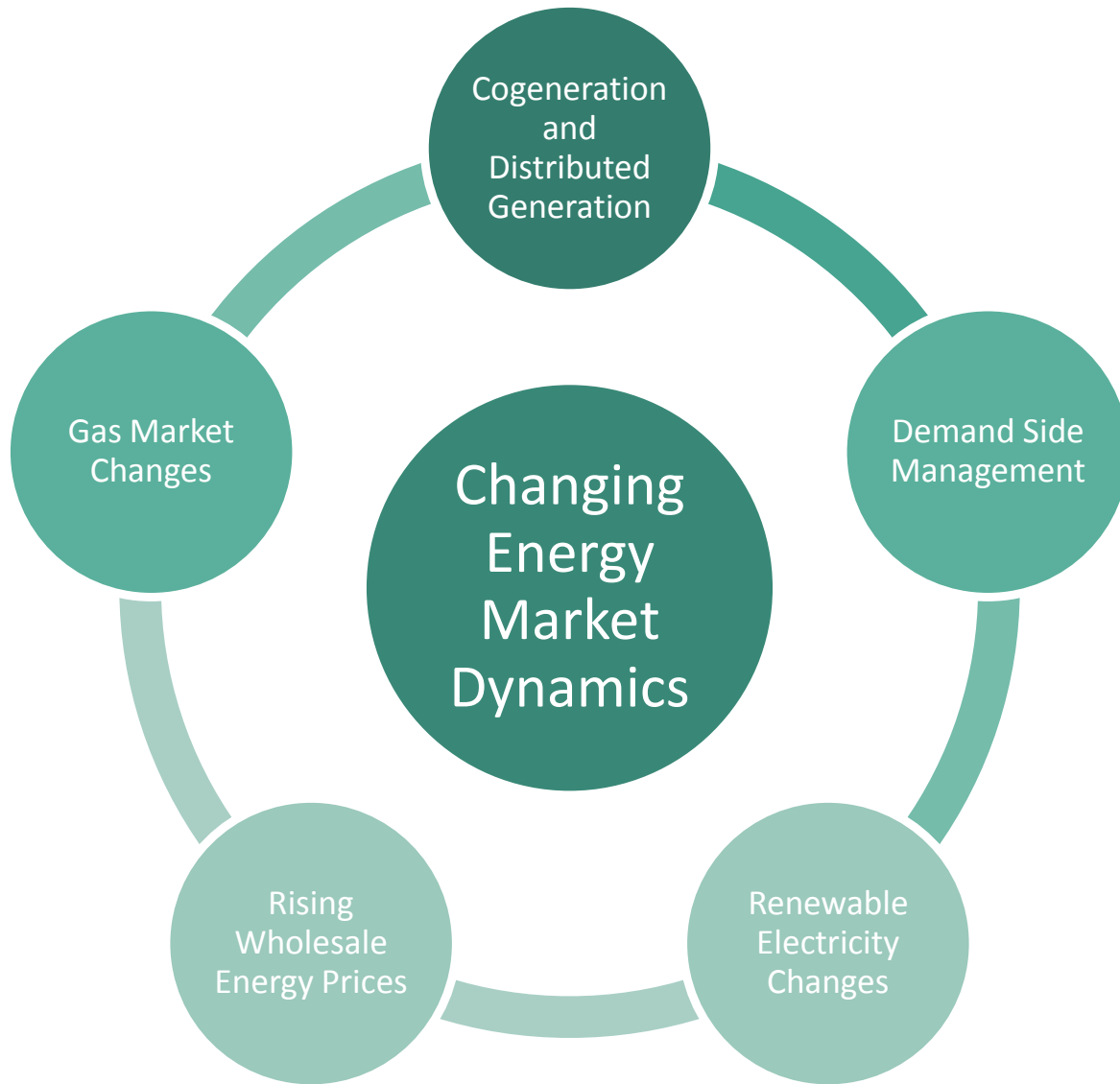
STTM - Geographical context



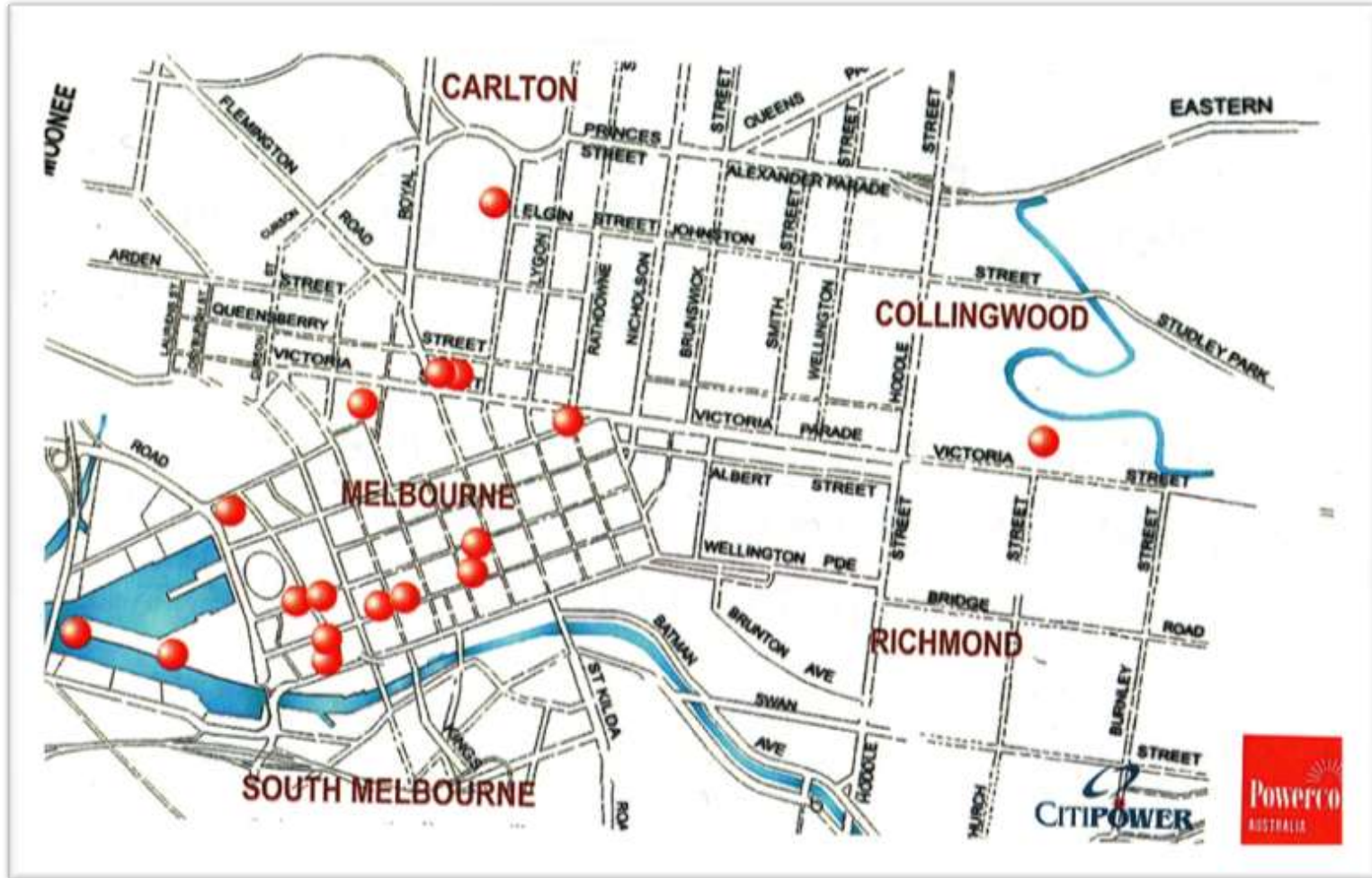
STTM – what is it?

- The Short Term Trading Market (STTM) is a daily market for the trading of natural gas at the wholesale level at defined hubs
 - Initially hubs are in Sydney and Adelaide
 - Additional hubs are possible for the future
- Each hub is scheduled and settled separately, but all hubs operate under the same rules.
 - Gas day is 24 hours from 6:30am to 6:30am EST
- Gas is traded a day ahead of the actual gas day, and the day-ahead price (“ex ante market price”) is applied to all gas that is supplied according to the market schedules through the hub on the gas day
 - Additional charges and costs are incurred by participants for imbalances (deviations), variations and other market events
- Likely to result in:
 - new risks to large consumers
 - potential new contractual restrictions / features
 - changes in price?





Potential cogeneration projects - Melbourne CBD

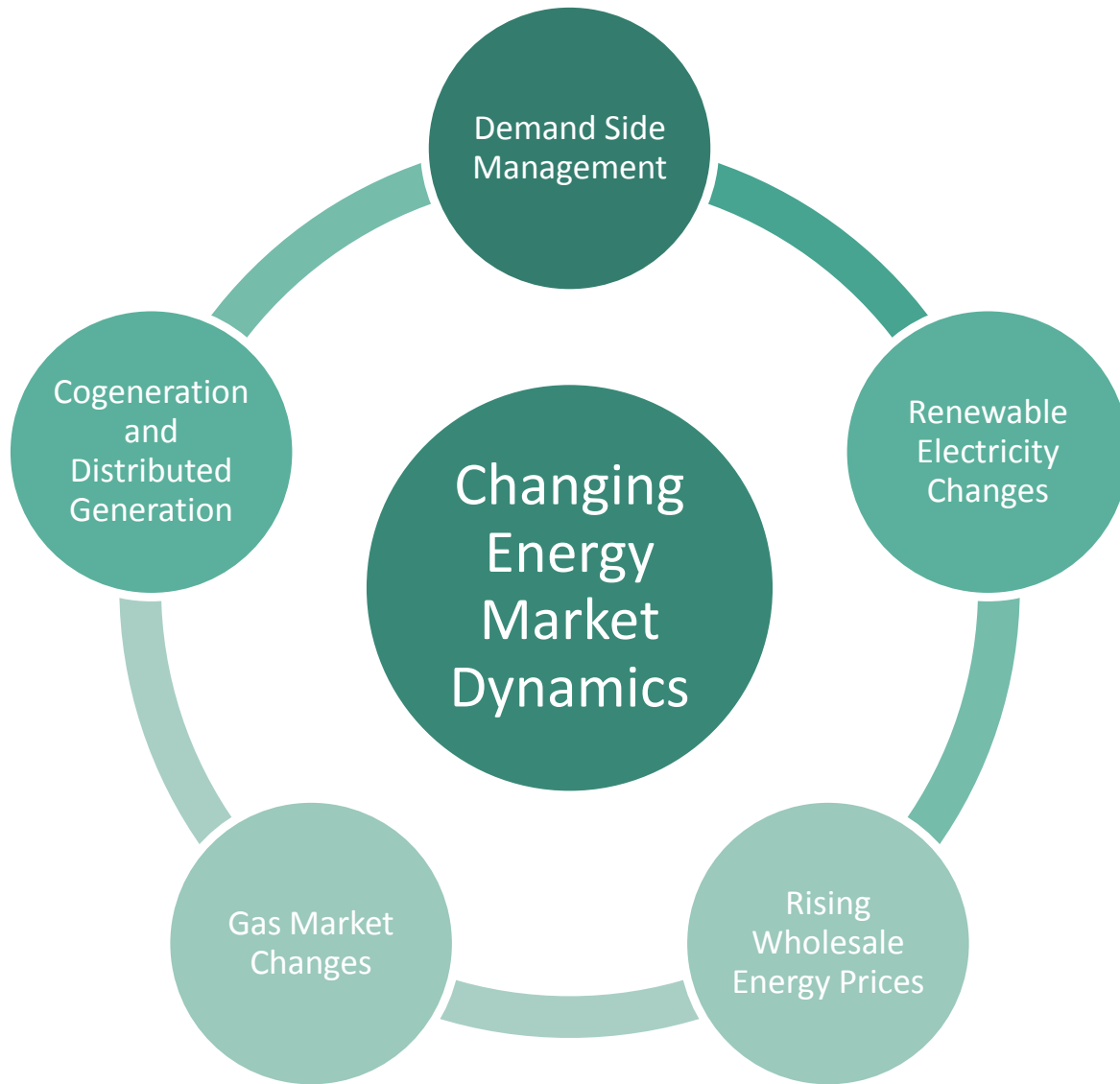


Source: CitiPower, *Climate Change Policy Challenges for the Network*, City of Melbourne 1200, 20 March 2009

Cogeneration – practical challenges

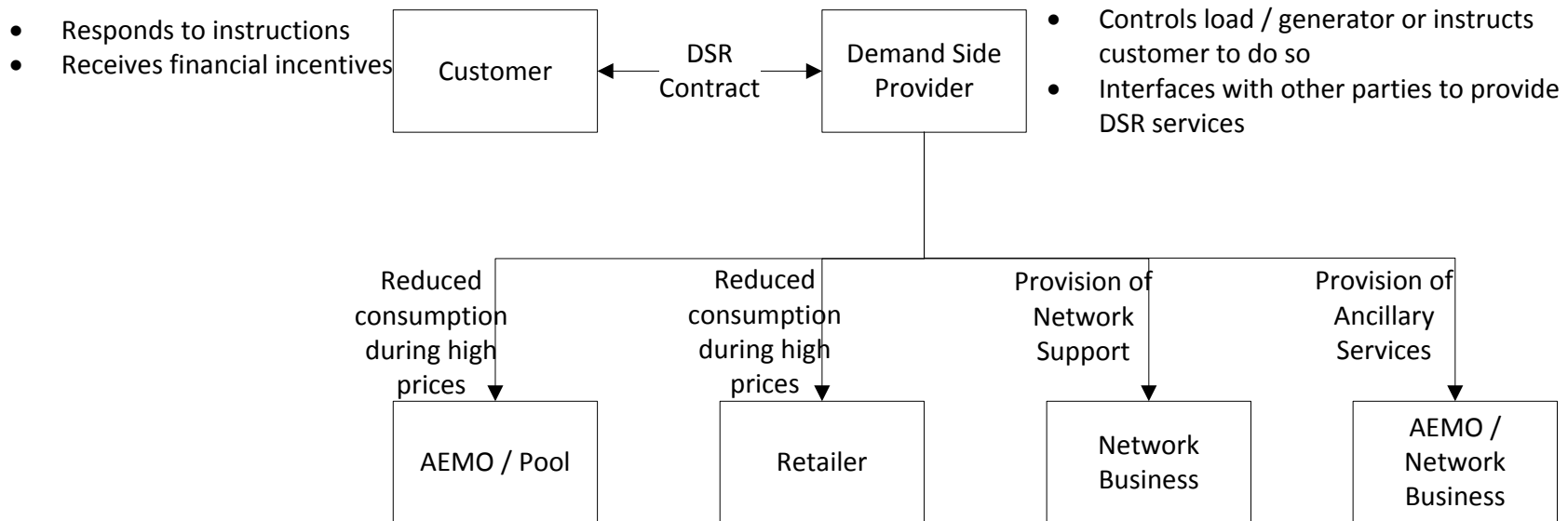
- The connection process
 - Transparency
 - Information sharing
 - Timeliness
 - Who pays
- The commercial problem
 - The costs vs the prospective benefits
- The regulatory debate
 - Current regulatory debate about climate change and the energy market
 - The changing nature of the distribution network





What is Demand Side Management

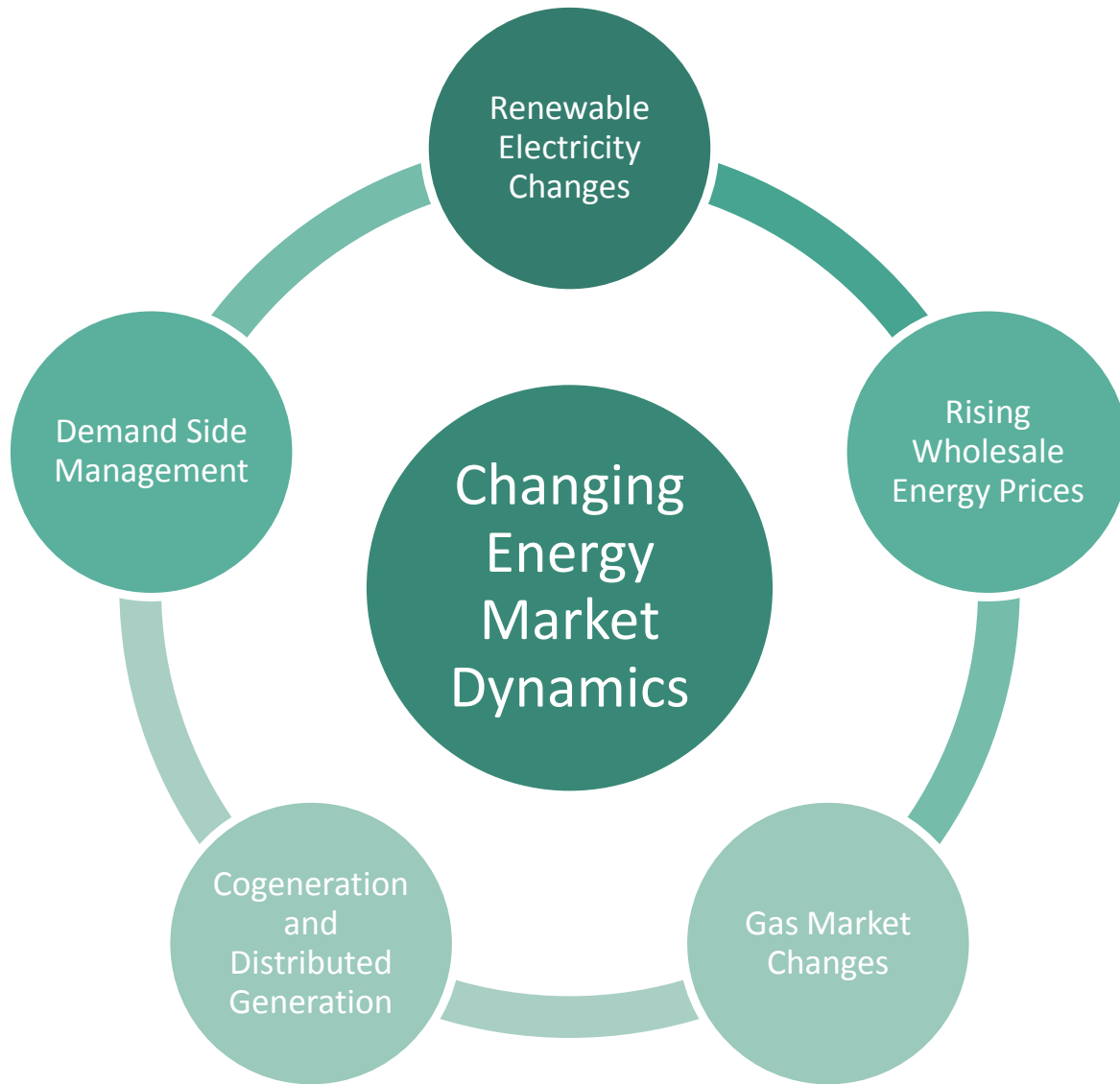
- Control or management of electricity consumption in return for incremental revenue or reduced costs
 - Can also include control or management of on-site generation
- Contractual relationship either with Demand Side Provider or energy retailer or even direct



Key issues and opportunities

- AEMC review into the role of Demand Side Participation in the NEM
 - Open since October 2007
 - Draft report April 2009
- Increased uptake of DSR will result in additional network planning / management and market scheduling / management issues
- DSR will be a focus of Government going forward and is considered a key component of smart grid / smart city developments
- For some customers DSR presents an opportunity to monetise the value of on-site generation or alternatively receive value for controlling their load





Key actions

Now

- Understand business impacts of changing energy market / regulatory environment
- Stakeholder engagement
- Understand energy cost drivers and energy efficiency opportunities

Next

- Understand corporate risk appetite and strategic positioning
- Review energy sourcing, generation and contracting options
- Develop strategic response

Later

- Embedding strategy and management control systems
- Longer term contracting / investment considerations



Patricia Boyce

Director

p> +613 9653 9460

m> 0412 254 589

e> pboyce@seedadvisory.com.au

Peter Eben

Director

p> +613 9653 9460

m> 0411 207 505

e> peben@seedadvisory.com.au

Website: www.seedadvisory.com.au

