

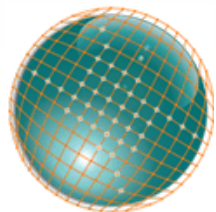
Australia Smart Grid Trials – Influences Goals & Strategies

Grahame Foulger

Director SmartGrid Partners

gfoulger@smartgridpartners.com.au

+61419502980



4th International Conference on
**Integration of
Renewable and Distributed
Energy Resources**

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Albuquerque, NM, USA

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Overview

- Australian Market Main Issues
- Australian Smart Grid Trials
- A Smart Direction
- Summary

2 Major Issues

- Need to address the **price** and **security** of energy.
- Need to **de-carbonise** the energy sector as part of a broader environmental agenda



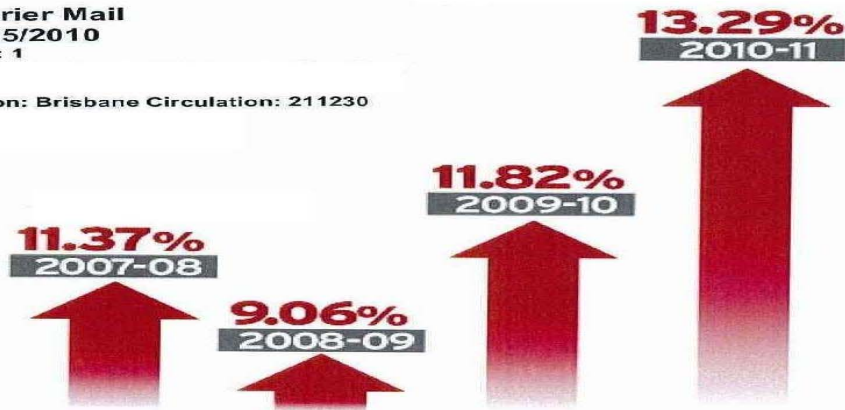
ZAPPED

Bill shock as electricity soars \$240 a year



Courier Mail
29/05/2010
Page: 1

Region: Brisbane Circulation: 211230



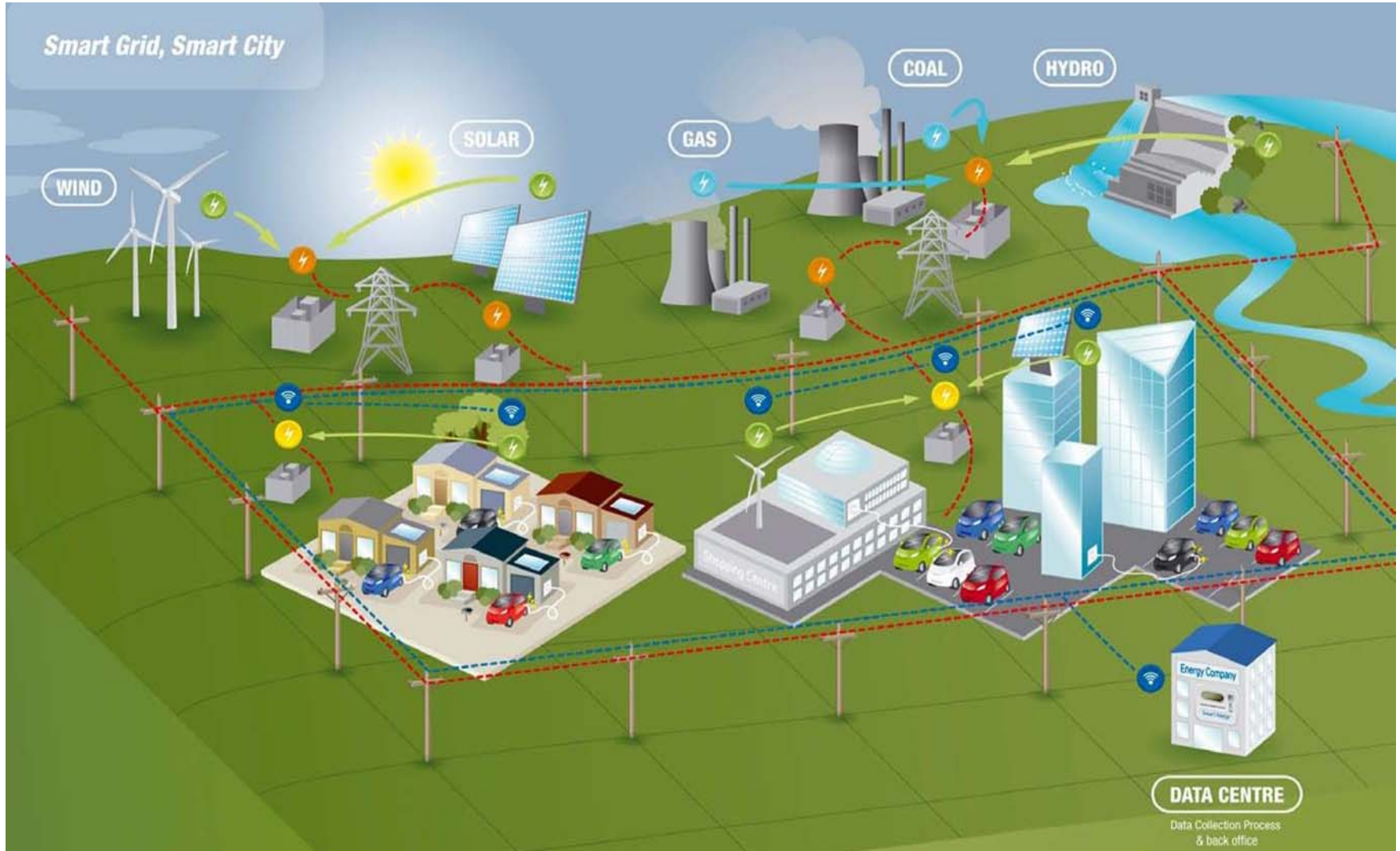
**Its the Same Story All
Over Australia!**

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Distributed Renewables Growing Rapidly

- The Solar Bonus Scheme was announced by the NSW Government on 23 June 2009 and commenced on 1 January 2010.
- Between 1 January 2010 and 30 June 2010 the total installed capacity in NSW has more than doubled to 52.4MW with a total of 28,513 connections.
- Energy Australia and Integral Energy networks have grown by 68% and approximately 200% between 1 January 2010 and 30 June 2010
- In Queensland - 36MW at end of April 2010 to 78MW at the end of September 2010 (approx 42,000 systems)

Smart Grid, Smart City - Overview



Four Project Objectives



Commercial-scale deployment in Australia

Test business case



Build public & corporate awareness of the benefits of smart grids

Obtain buy-in from industry



Gather information & data to inform a broader industry roll-out of Smart Grids across Australia

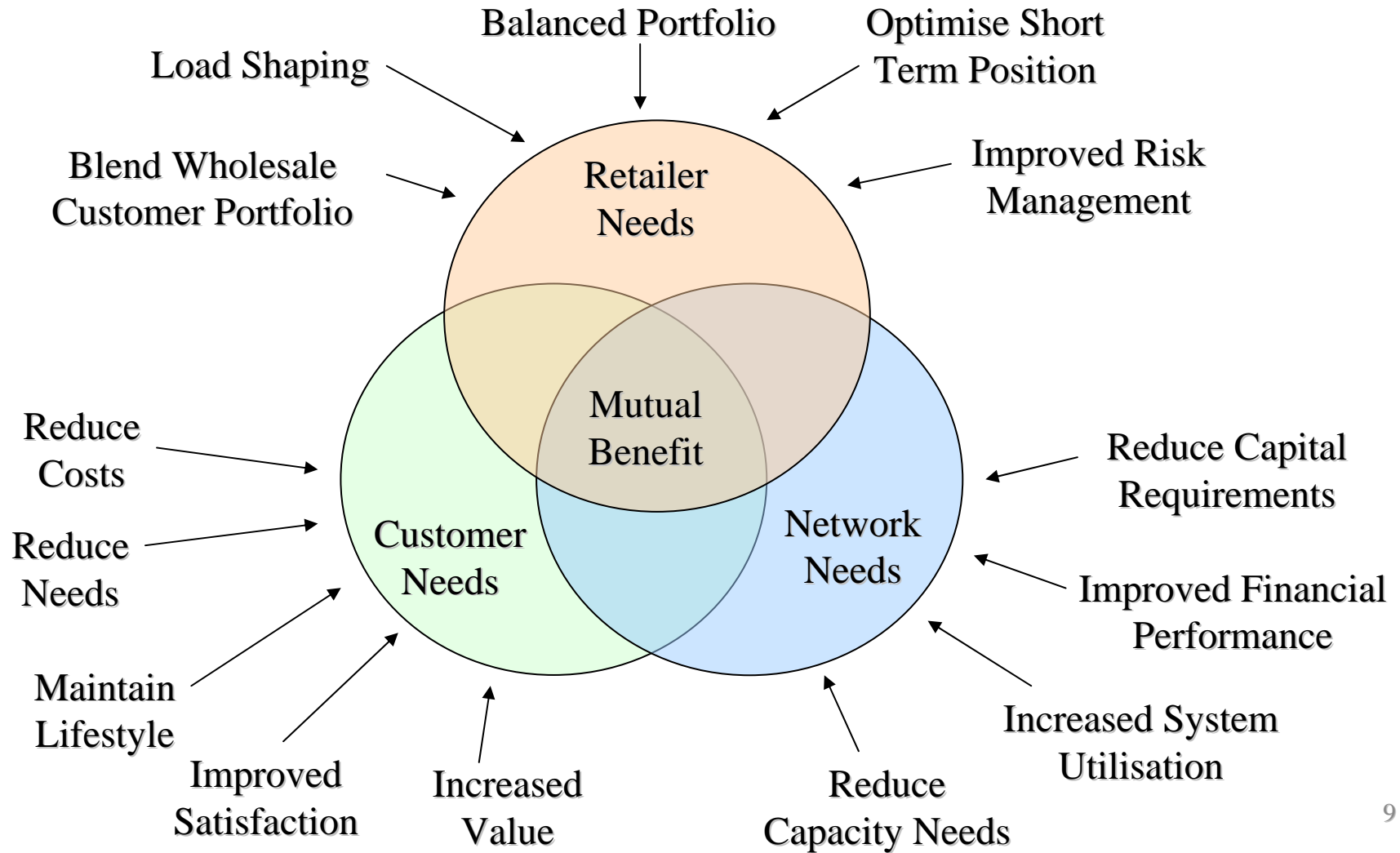


Investigate synergies with other networks: gas, water & tele-communications

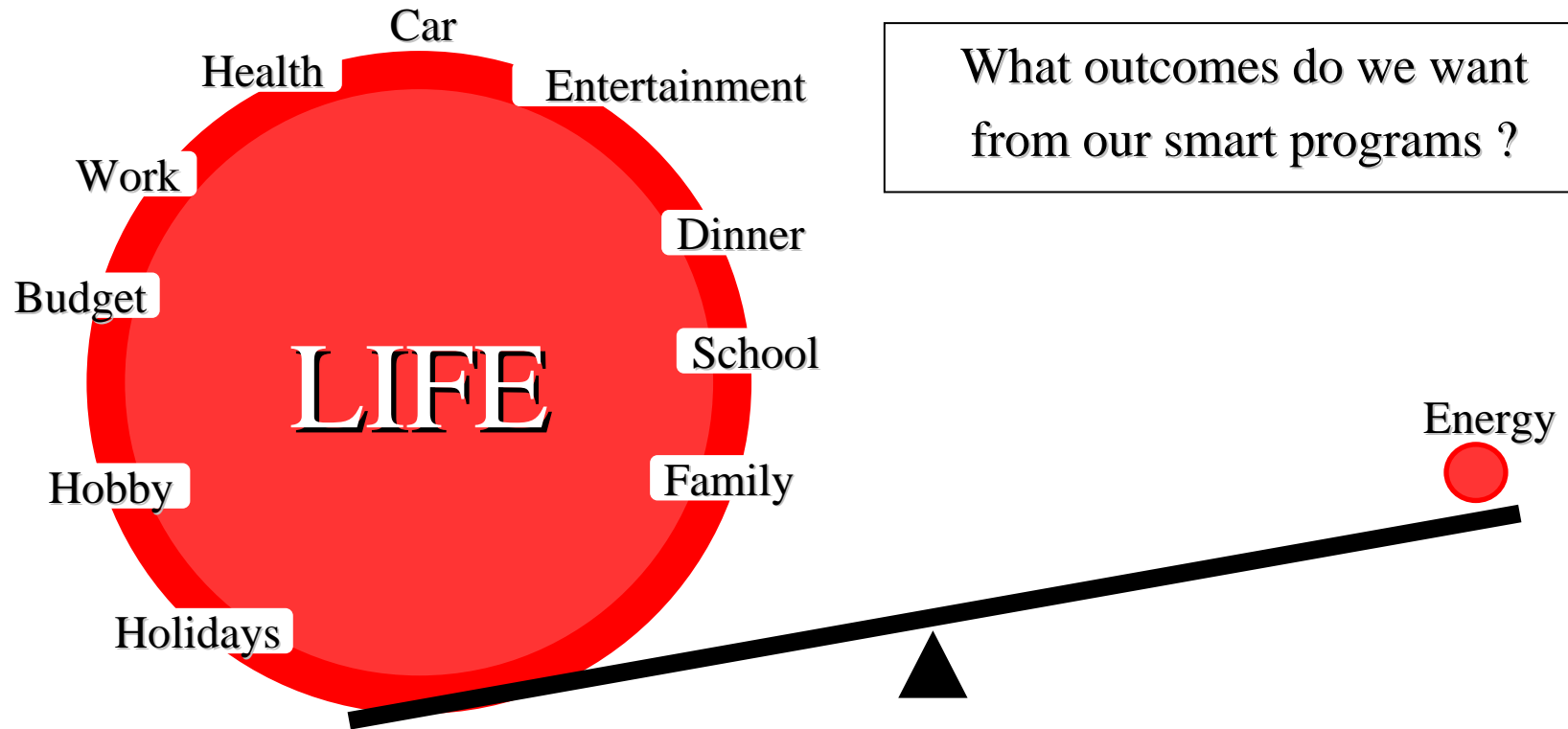
Example - ENERGEX 'Feeder of the Future'

- Newmarket Zone Substation – 7 by 11 kV Feeders
- Sensors and monitoring
- Volt VAR Management – centralised & decentralised trial (DMS)
- FDIR – Reliability
- DER
 - Storage trials University of Queensland CSIRO
 - Embedded in network
 - Control of smart inverters
- AFLC transition Options
 - Analysis & Trials
- Protection
 - Application IEC 61850
 - 2 way energy flow

A Smart Direction for Smart Grid



Customers Lives are more than Energy



What are we trying to do?

- To get their attention and enable customers to change their life based on energy information; or
- To ensure energy doesn't interrupt their life

Diagram source: Patti Harper-Slaboszewicz Utilipoint

Summary

- Peak electricity demand is still escalating at a rapid rate
- T&D asset owners still incentivised to build
- Most people think the price increases are related to carbon impact on energy
- The smart network is a key enabler to address the “elephants”
- Smart asset management emerging as key plank of smart grid in Australia
- Customer education and participation is essential to transition to a new more sustainable energy future
- Managed EV’s is the path of least customer cost
- Willingness to collaborate is a positive