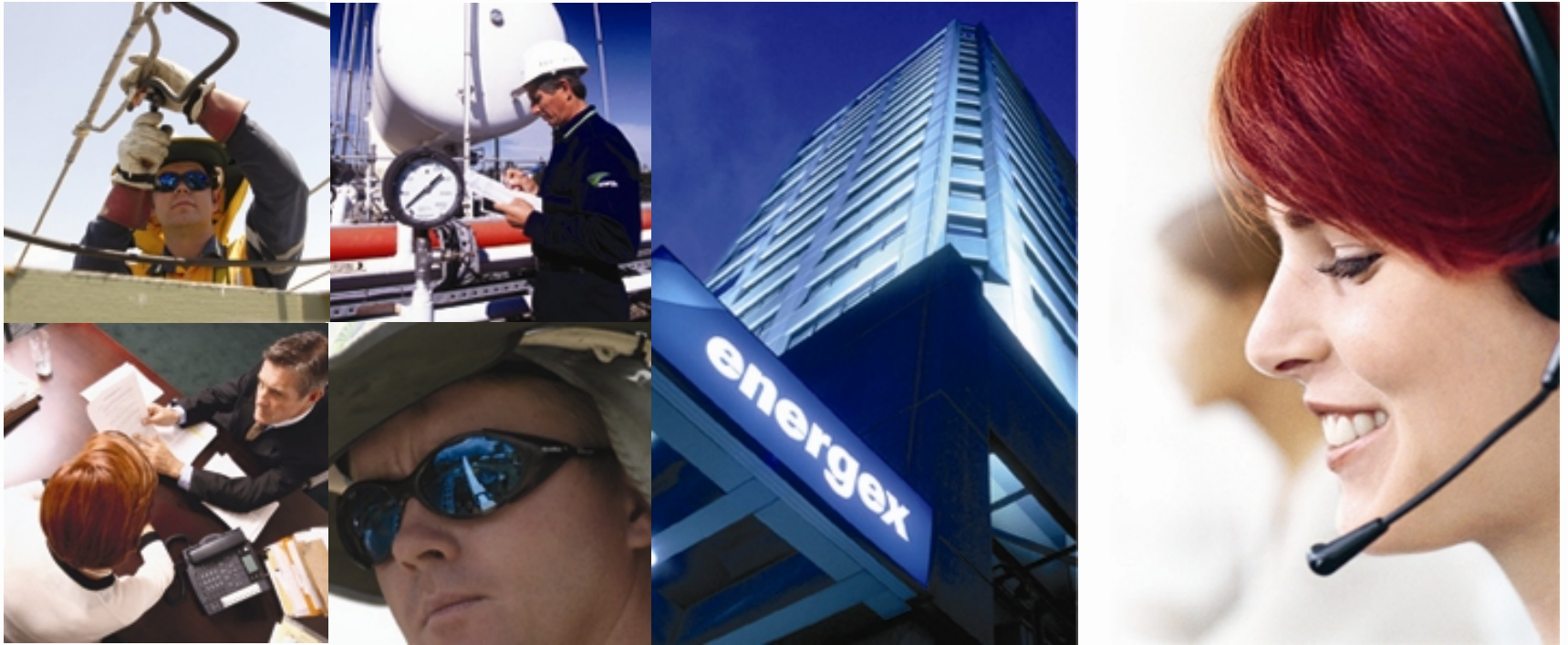




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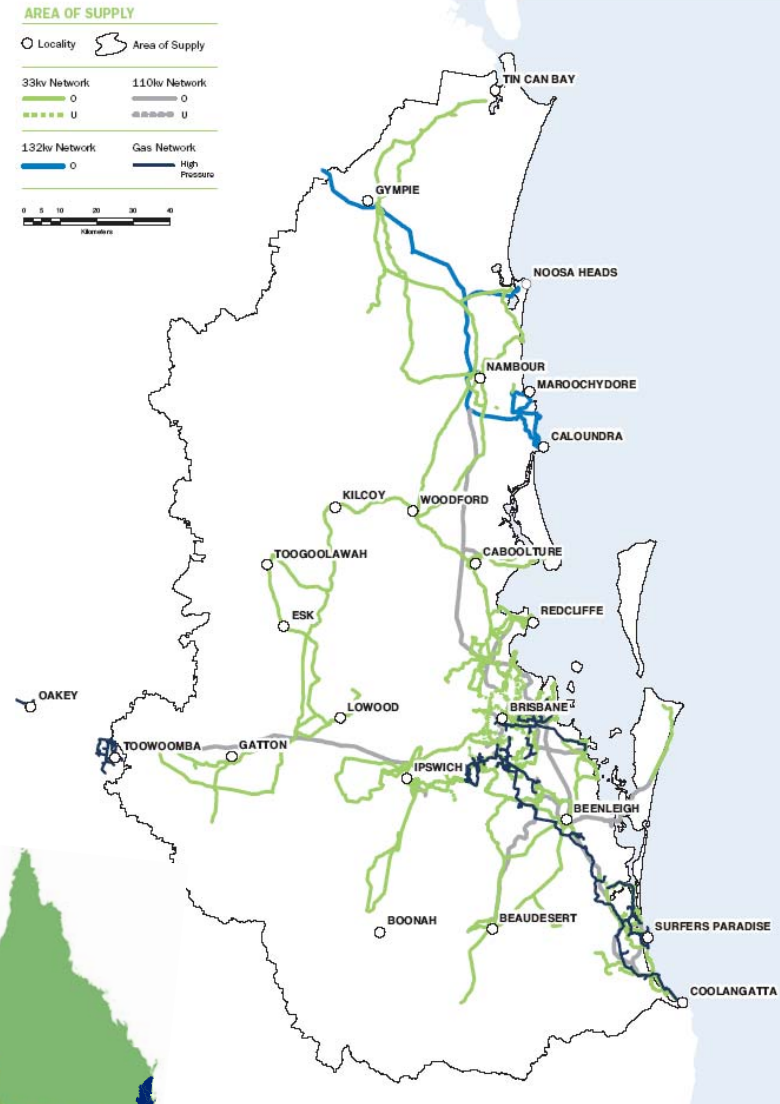
Clean Energy Council Energy Efficiency Seminar

Energy Conservation and Demand Management in South East Queensland

**TERRY McCONNELL BUSINESS AND INDUSTRY RELATIONSHIP MANAGER,
ENERGEN** **June 2009**

ENERGEX

- Electricity distributor SEQ
- \$7B+ assets
- 1.3M customers
- 36,000 km overhead lines
- 13,000 km underground cables
- 600,000+ poles
- 249 substations
- 3,800+ staff





"Today, in much of the world we take energy for granted... We treat it as a right and we're careless in its use... In order to reliably meet that greater energy need, power companies have to invest in additional generating capacity which is unused for much of the day."

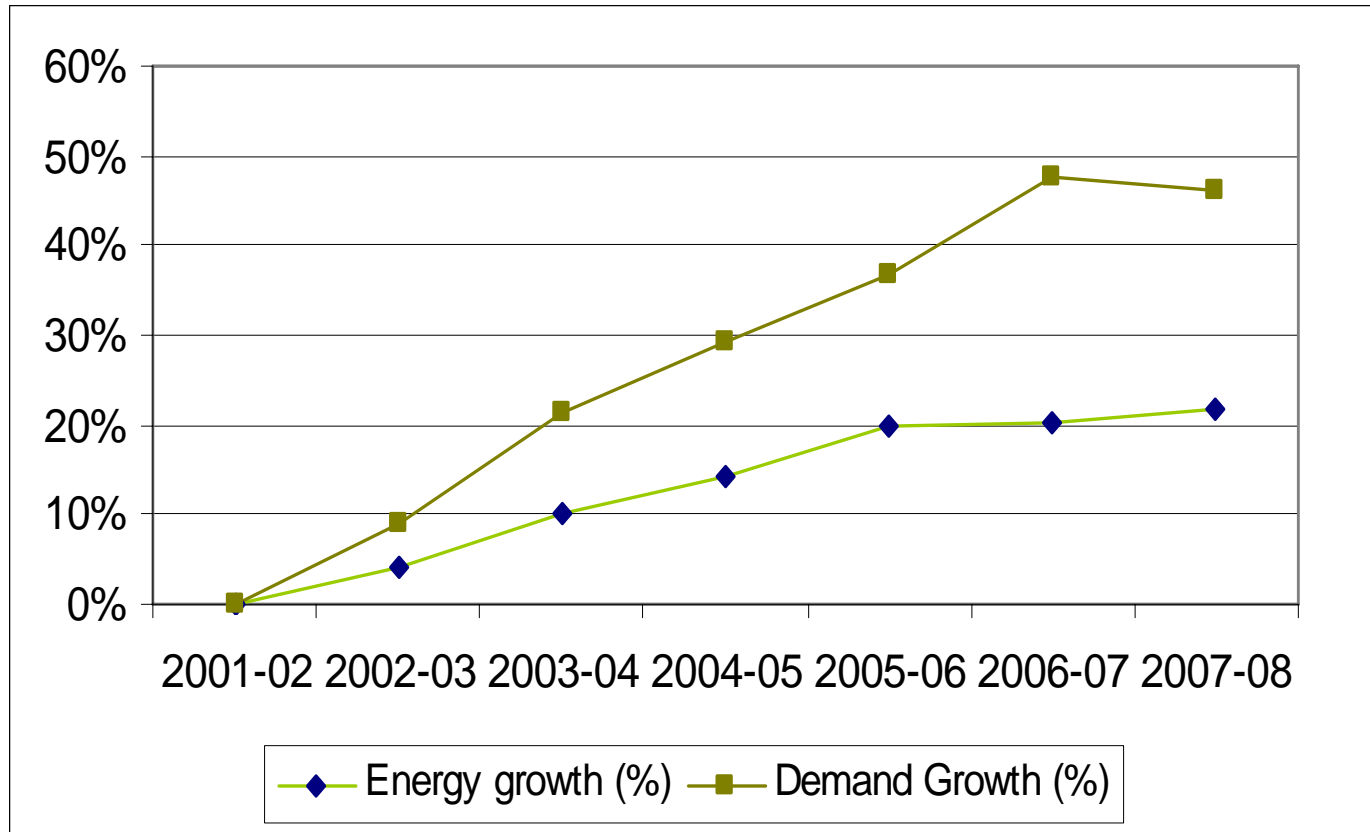
- Russell Caplan, Chairman of Shell companies in Australia



Key Messages

1. The greenest kWh is the one we don't use – energy conservation is the starting point.
2. ENERGEX is about to significantly expand its EC & DM programs via its 2010-2015 regulatory submission.
3. Time of Use is also key to the reduction in the overall carbon footprint.
4. The integration of renewables (particularly Micro-generation) will require a more intelligent network
5. Customer enablement and participation are key.

Peak demand growth over recent years is about double energy volume growth

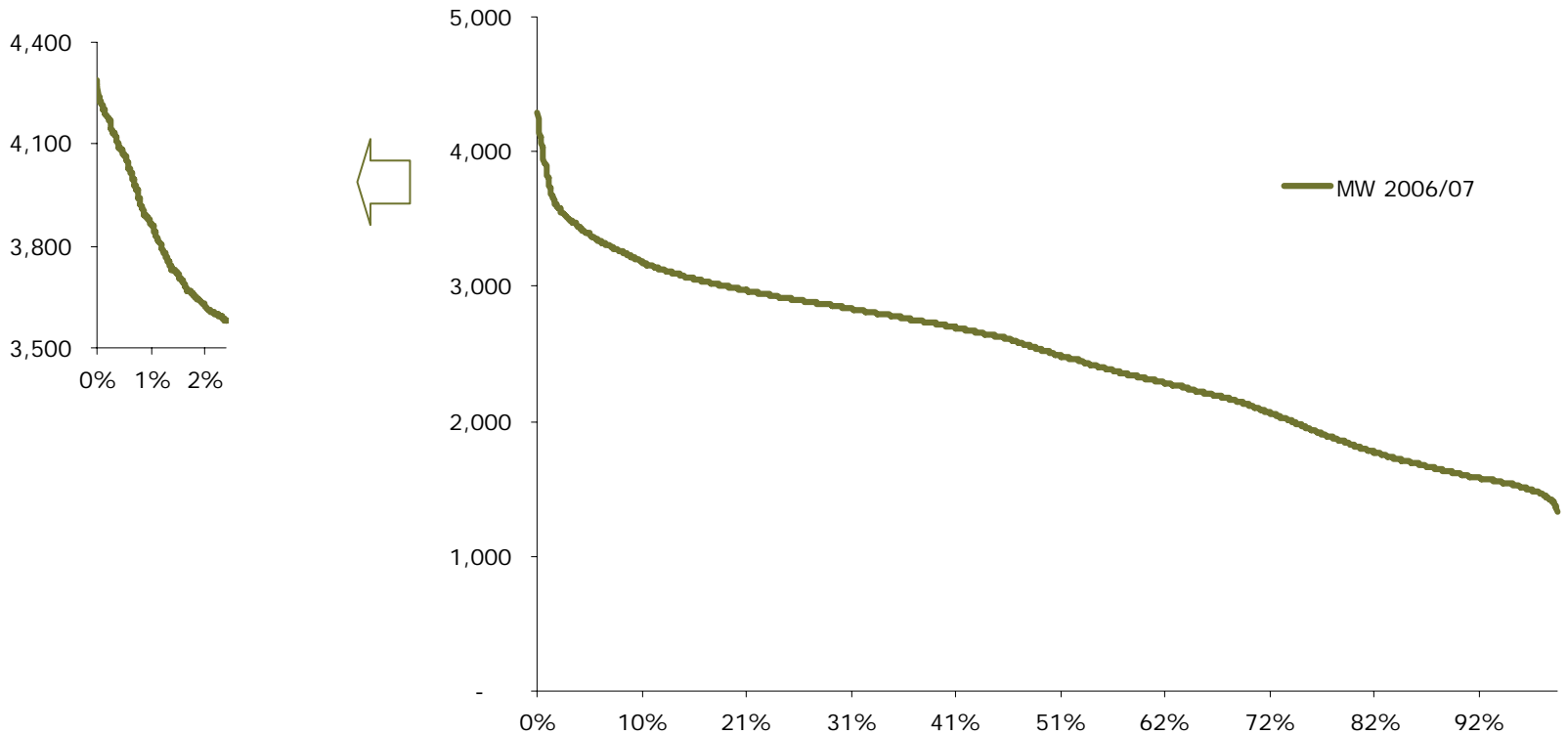


Peak Demand drives network investment

There is no shortage of capacity or energy but both cost money



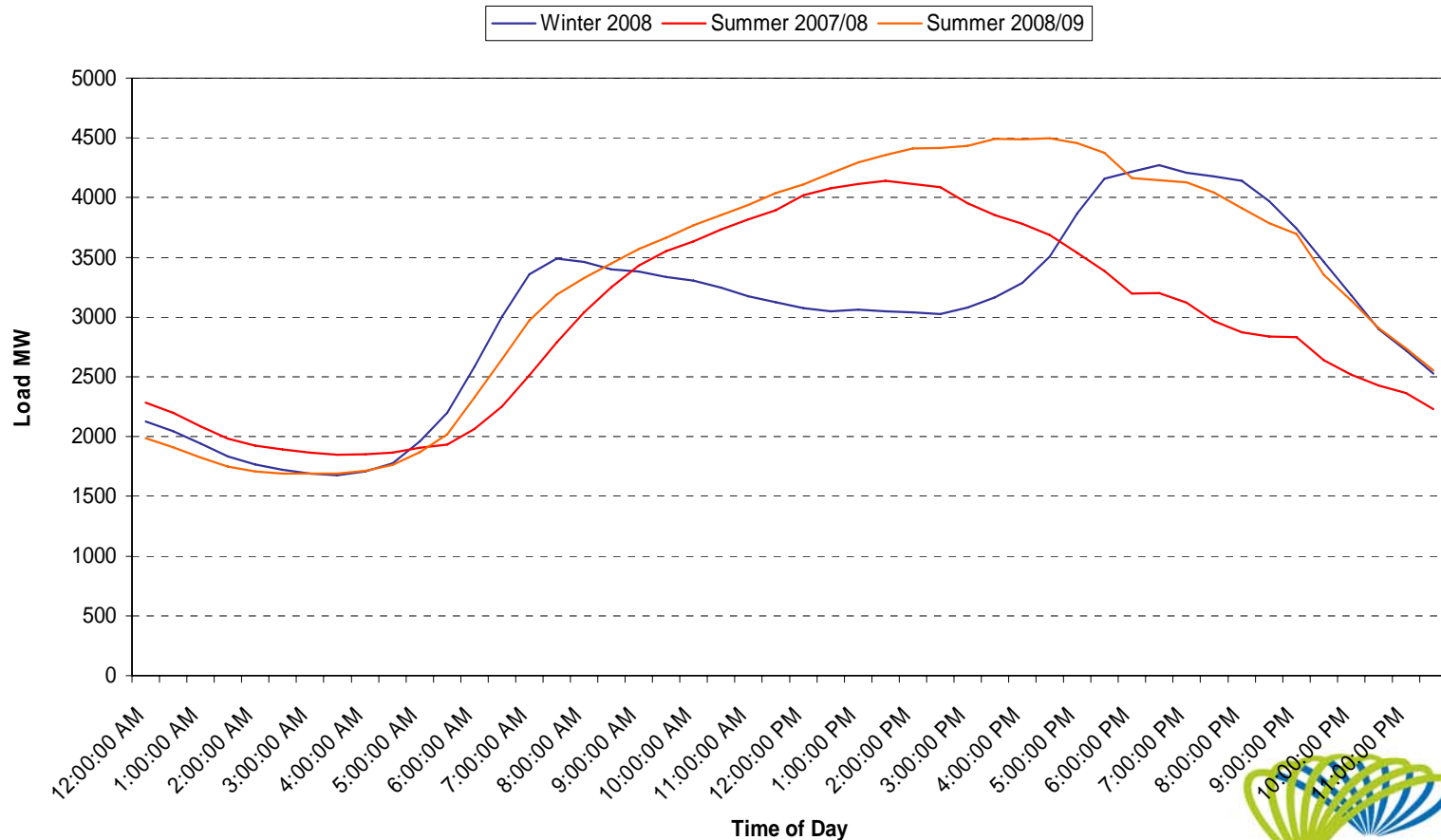
Short term peak demand is driving significant investment



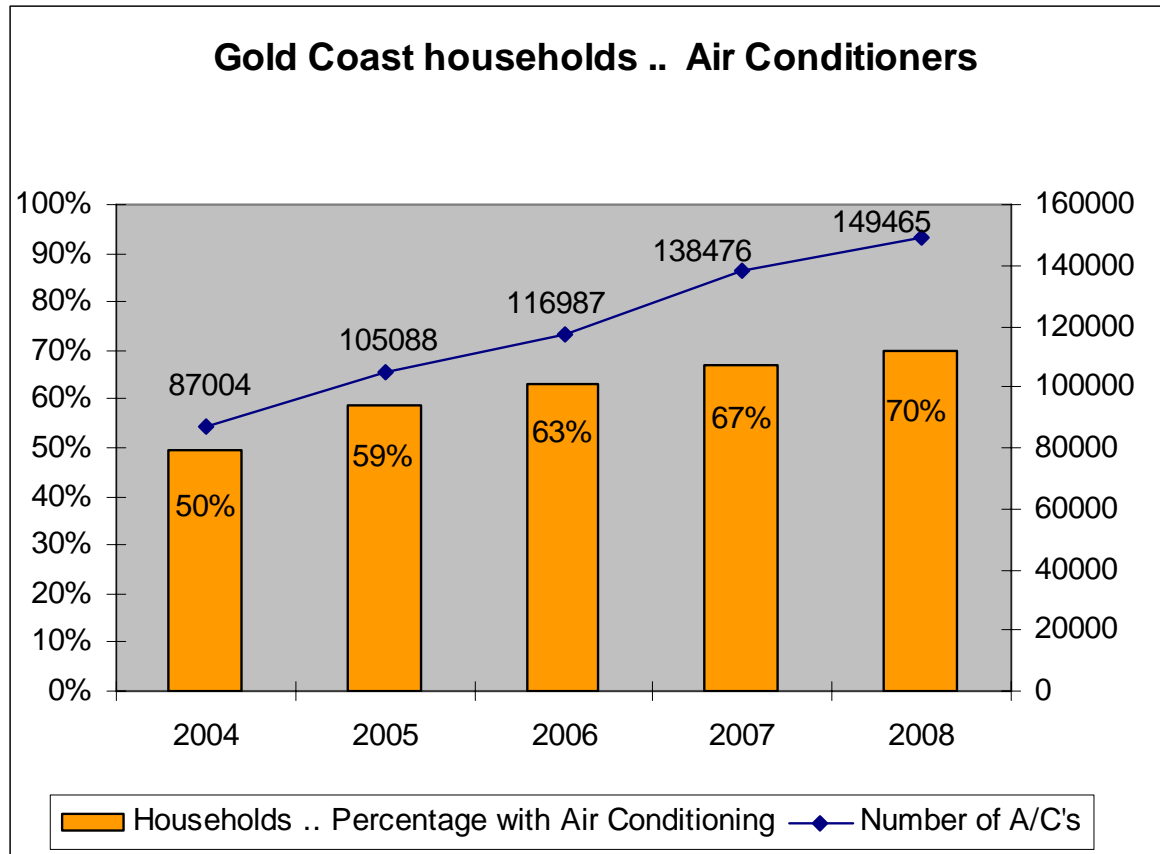
2006/07 ENERGEX load duration curve

Customers in SE QLD have also moved from winter night to summer day peak

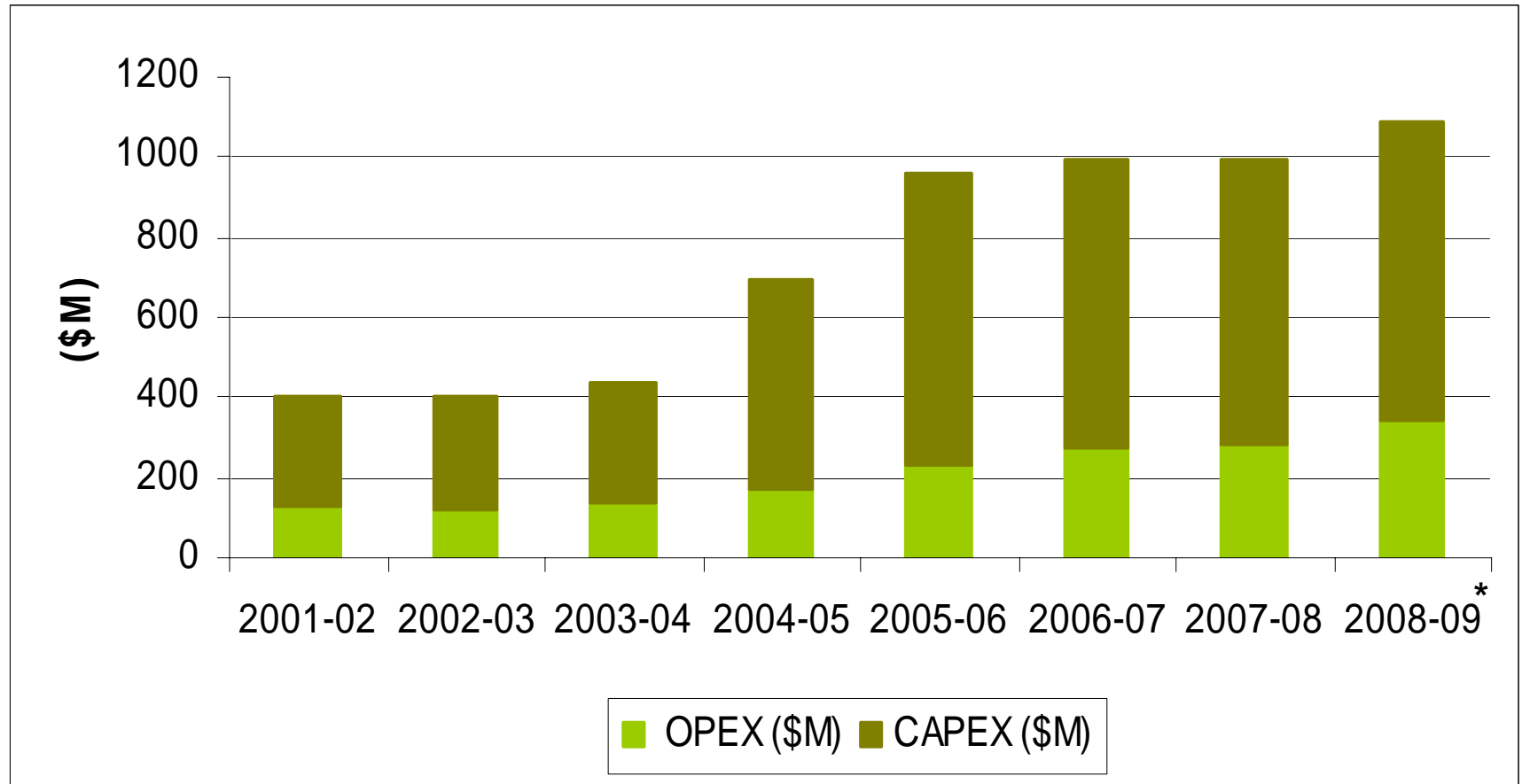
ENERGEX Demand Curves - Winter Monday 28 July 2008, Summer Saturday 23 February 2008, Summer 9 February 2009



Air Conditioning - Growth



Traditional approach to managing growth



*Forecast



Meeting this demand in growth

Substation Transformer Capacity Added

Year	New Transformer Capacity (MVA)
2004/05	760
2005/06	1,200
2006/07	1,100
2007/08	552
2008/09	830*

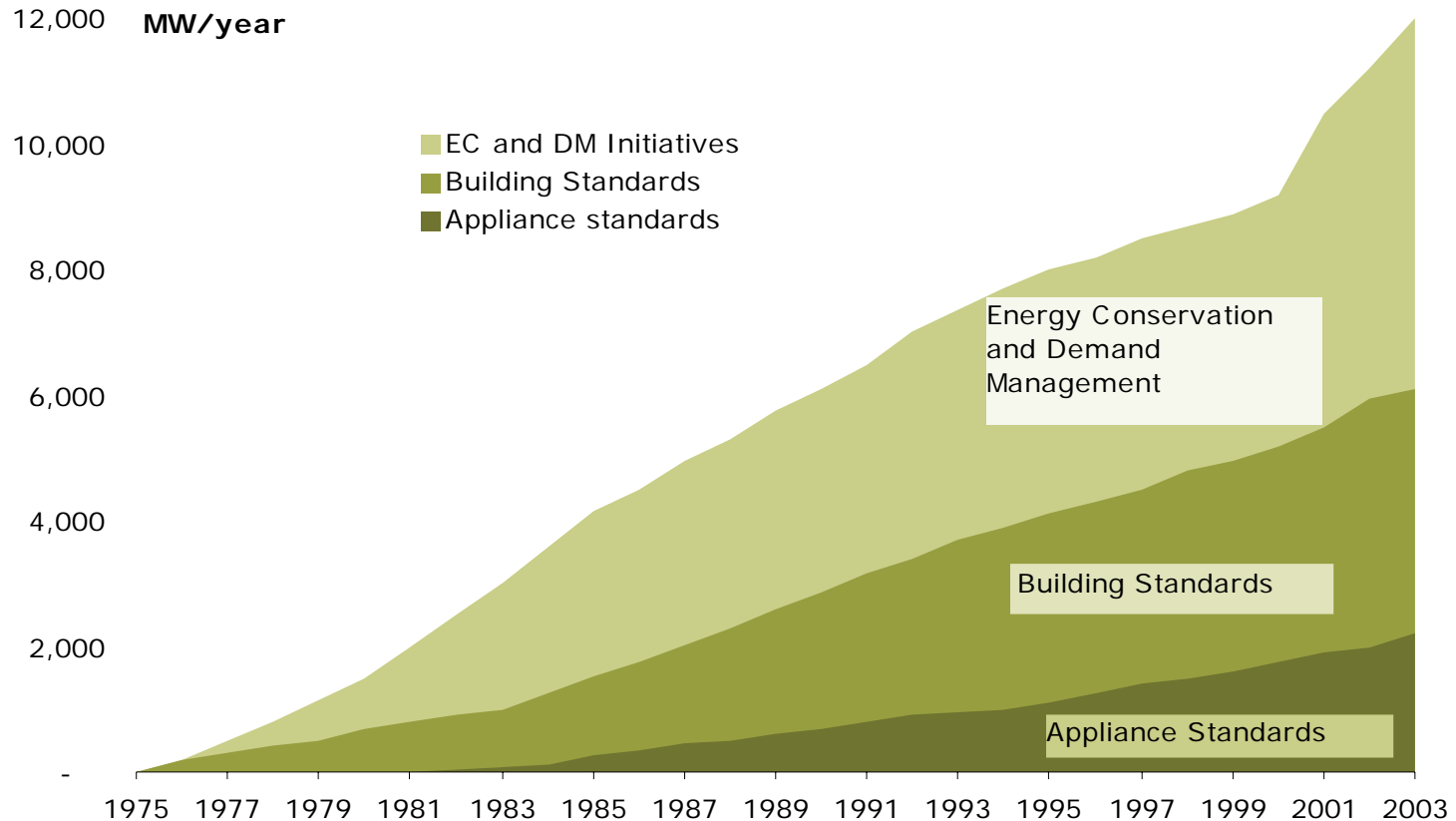
(*Forecast)



Issues with traditional approach

- Network reinforcement is expensive for relatively short duration demand peaks – is this the optimal use of scarce capital?
- Customers pay an average price for electricity and do not see the impacts of peak demand
- Environmental sustainability of supply side solutions all the way along the supply chain

There is another way...

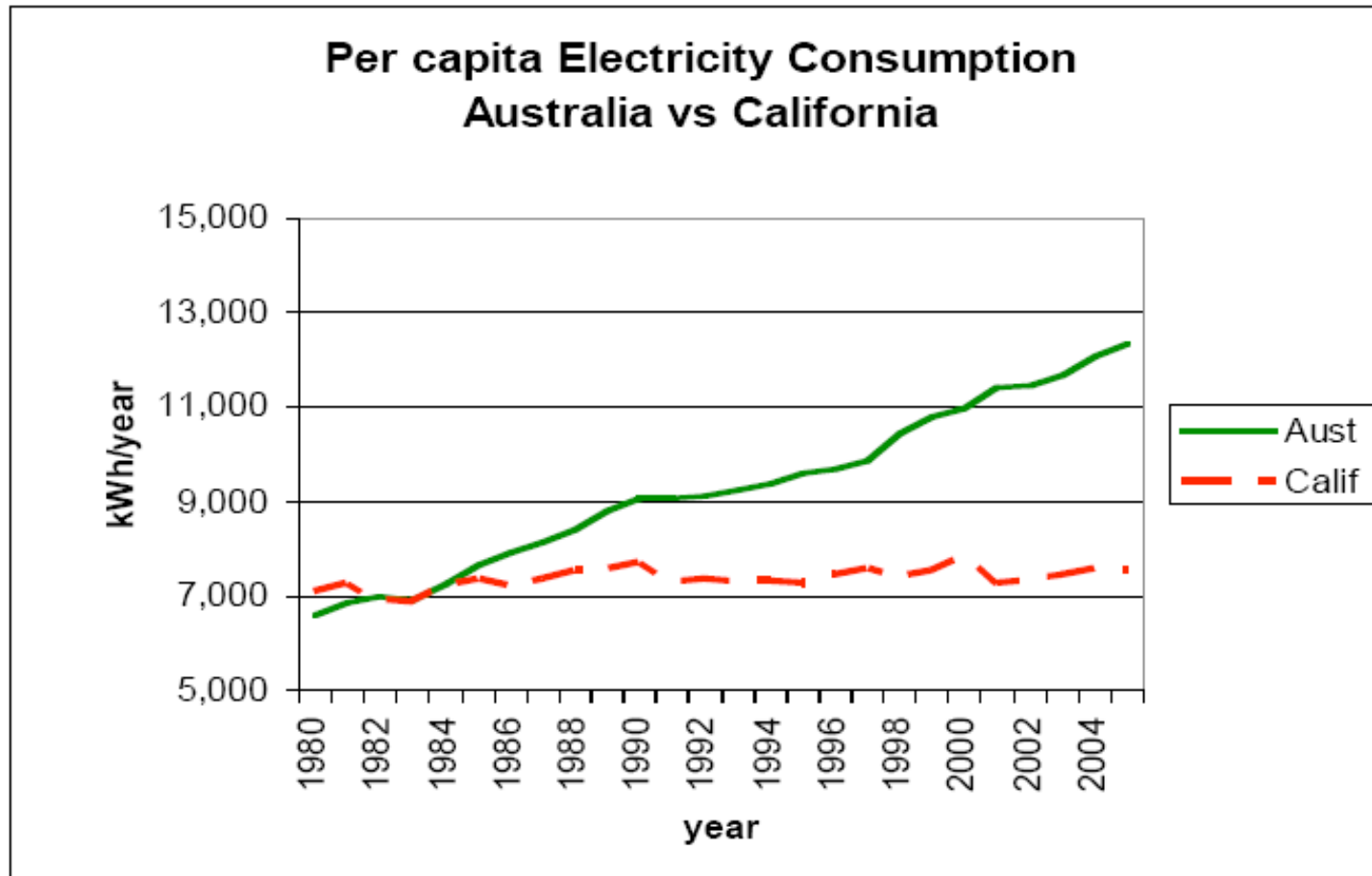


Annual Peak Savings from Efficiency Programs and Standards: California



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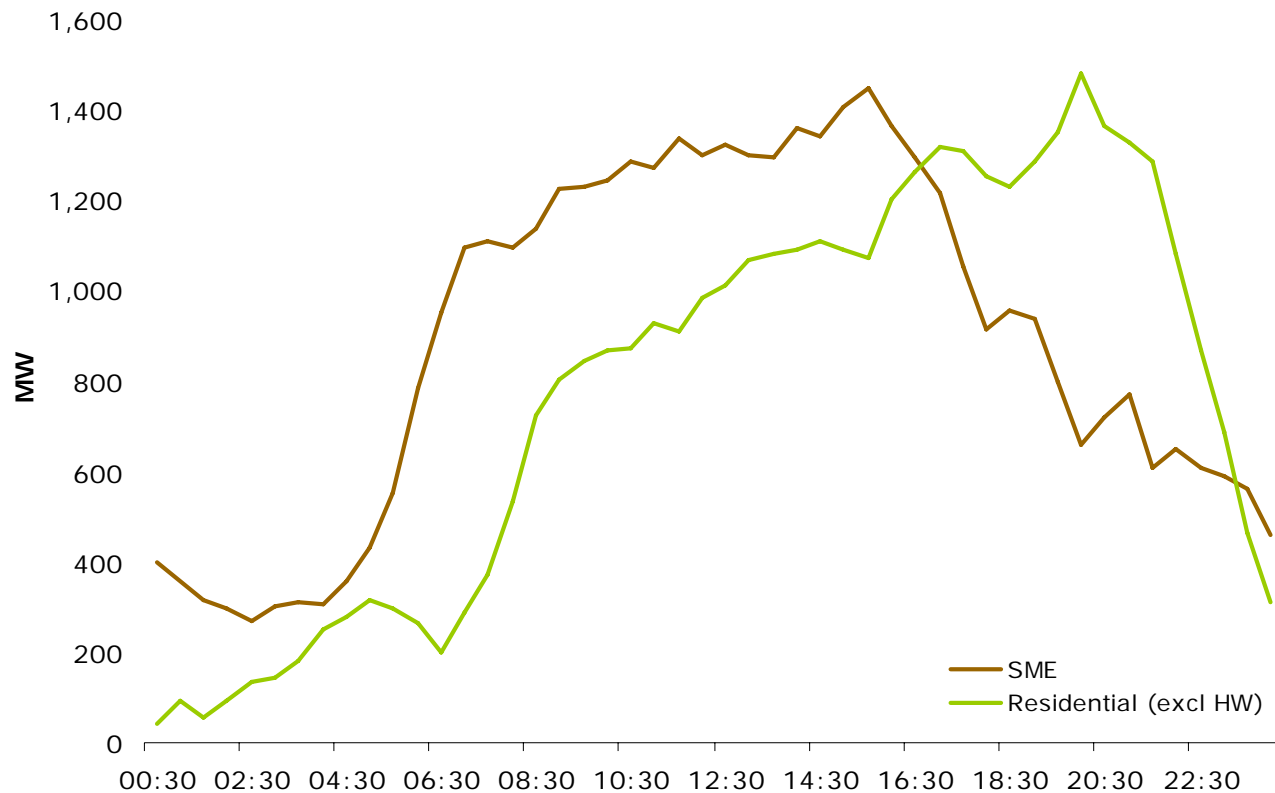
Sources: Australian Bureau of Statistics n.d.; California Energy Commission 2006; Real Estate Center 2006; Australian Bureau of Agricultural and Resource Economics 2006.

Business Drivers for Changing BAU

- structural changes to the **primary fuel markets** driving higher costs;
- **customers** demanding improved service and greater choice / participation in managing their energy needs/costs;
- **aged assets** coupled with **high summer growth** rates requiring significant capital investments;
- the emergence of the **digital economy** with a heavy reliance on an “interruption free” electricity supply;
- the drive to a **lower carbon** world and a greater emphasis on renewables and broader environmental stewardship; and
- an **emerging technological** shift that will offer economic alternatives and distribution energy resources (DER).



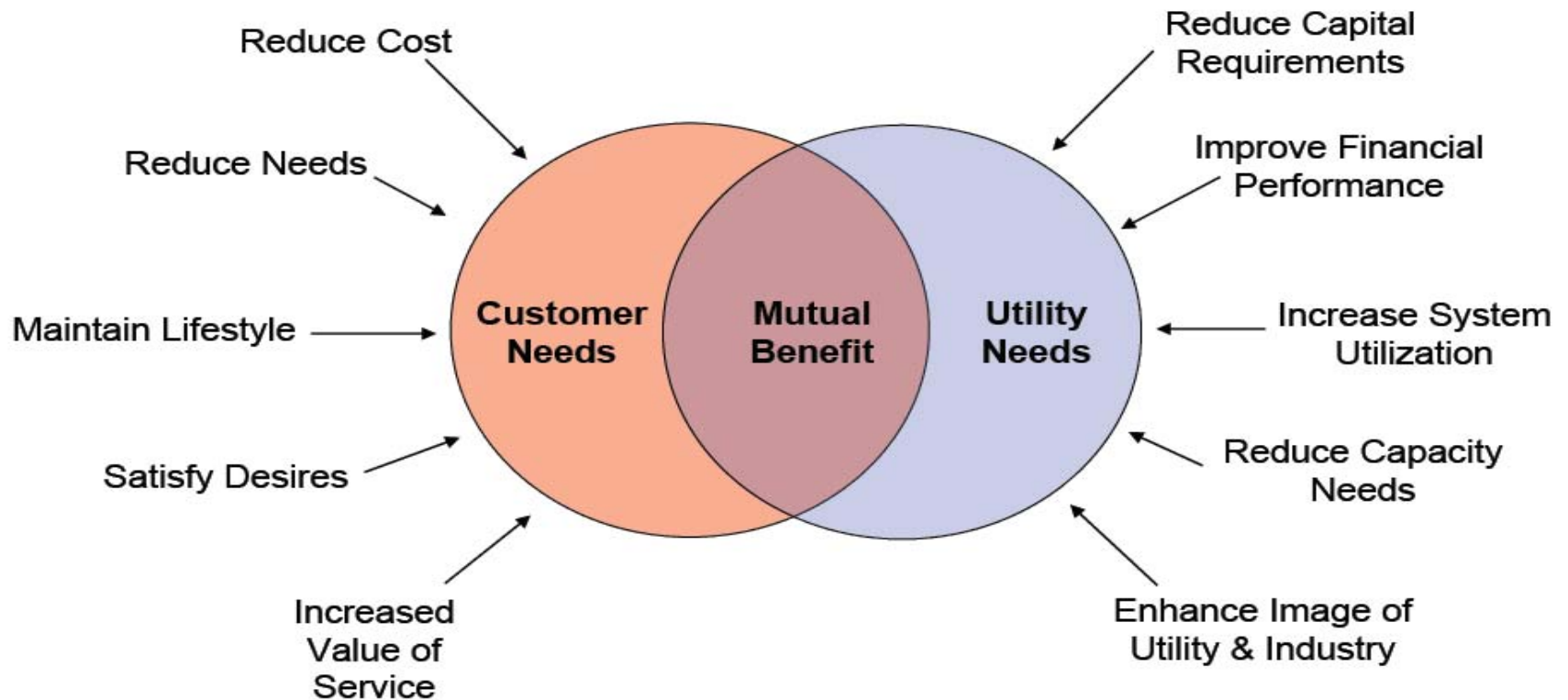
There are many opportunities in various customer groups for both energy conservation and demand management



ENERGEX residential and SME daily load curve on system peak day

Design Program to Meet Customer and Utility Needs

The Right Program Will Have Substantial Mutual Benefit



CWG/9772P

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EC&DM Program in South East Queensland

Commercial and Industry Initiatives

- kVA tariffs – Power Factor Correction from 1 July 2010
- Tri-generation
- Load shifting
- Panel of suppliers for non network solutions

EC&DM Program in South East Queensland

Domestic

- Queensland has a long history of successful demand management programs – ENERGEX and Ergon Energy have over a million customers subscribed to electric hot water demand management programs through Tariff 31 and 33
- For ENERGEX alone, the combination of these two tariffs helps reduce the winter peak load by 450 megawatts.

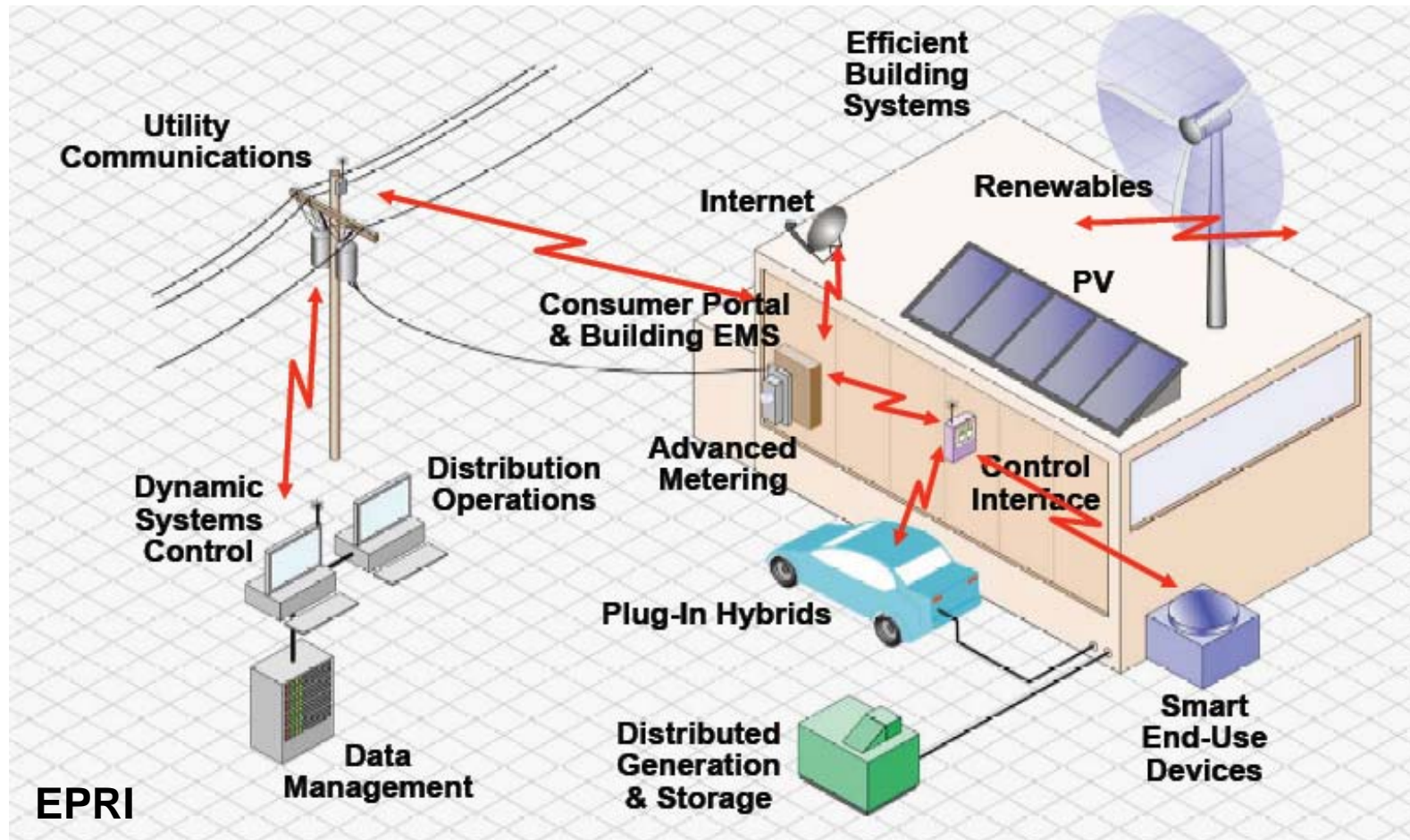


Cool Change air conditioning trial

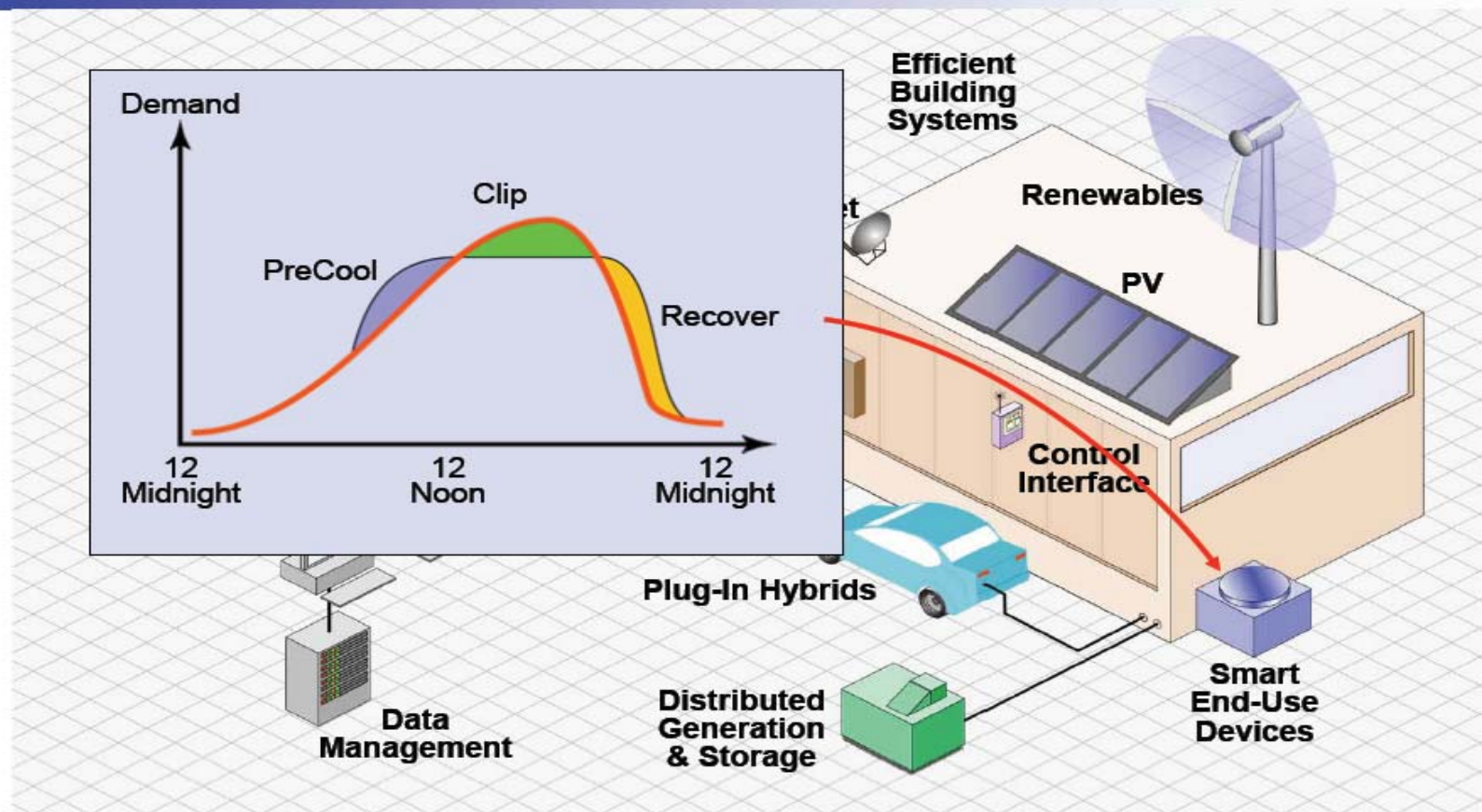
- 2000 customers in inner northern Brisbane suburbs are participating in a three year trial of residential air conditioning demand management cycling technology. Previous trials by ENERGEX and ETSA demonstrate a 17-30 percent reduction in thermal peak load is possible through this initiative.
- 700 swimming pool owners in the SEQ trial group have volunteered to have a new device installed on their swimming pool pumps to demand manage the time the pumps are in use.



One view of the future



Dynamic Systems Infrastructure – Example



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