

# **Less Stick, More Carrot:**

## **Collaborative Targets, Reporting and Incentives for Network Demand Management**

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**Presentation to 2013 Summer Study**

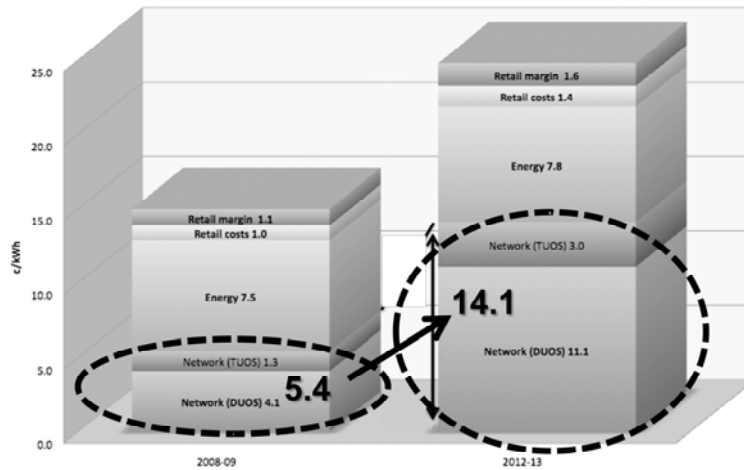
1 March 2013

## **The story so far...**

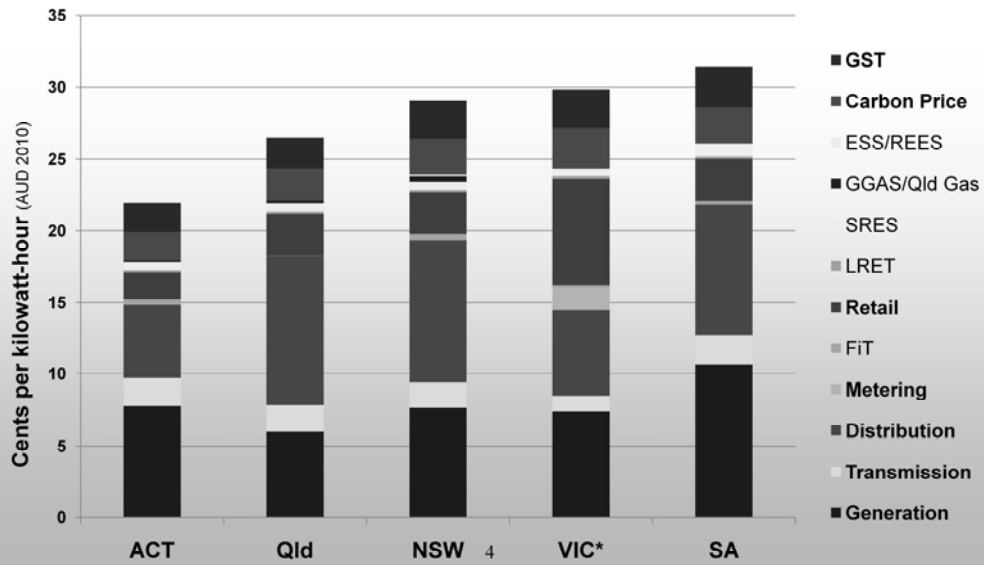
- ⌘ Time running out to address Climate Change threat**
- ✓ Energy Efficiency and Demand Management the best way to cut carbon and energy bills in short term**
- ✓ Australia now has a major Clean Energy policy**
- ✓ Energy issues at the top of the political agenda**
- ⌘ Rapidly rising energy prices and bills**
- ⌘ Clean Energy policy (esp. Carbon price) widely blamed for price increases**
- ⌘ Major risk of Clean Energy policy being stalled and wound back**

## Sydney regulated electricity price

2009/10 & 2012/13

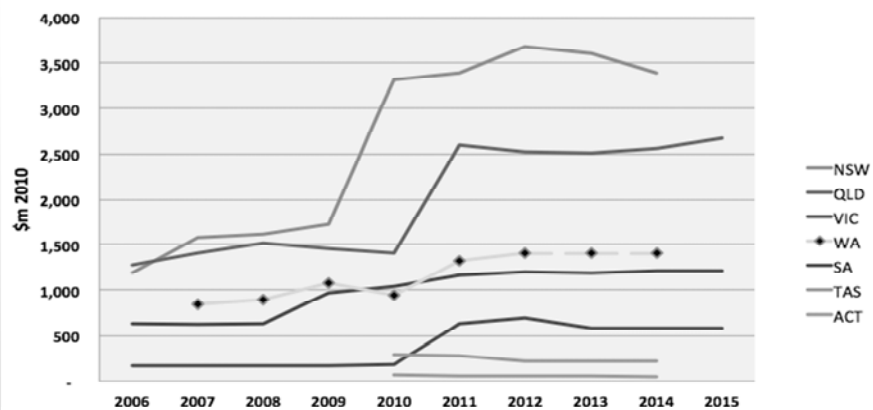


## Comparison of electricity prices by state (2011/12)



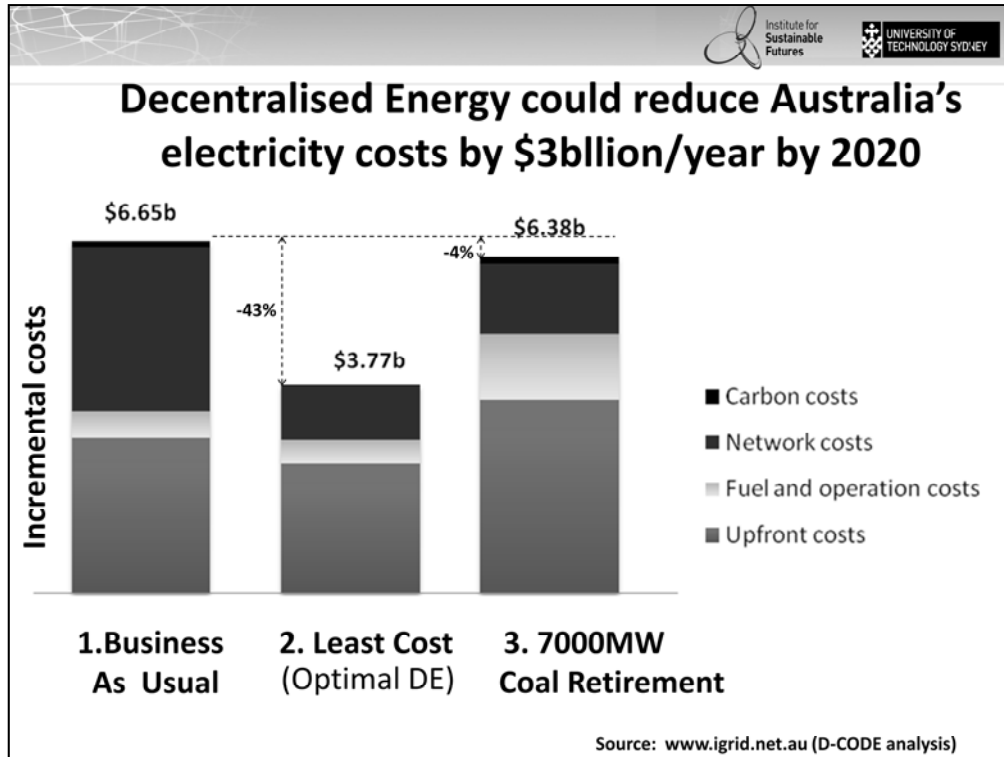
Source: AEMC , Future Possible Retail Electricity Price Movements, 2010; Treasury modelling (\*Vic = 2012)

(bigger and sooner than National Broadband Network)



## **Drivers of network capital spending** (\$~25 million per day)

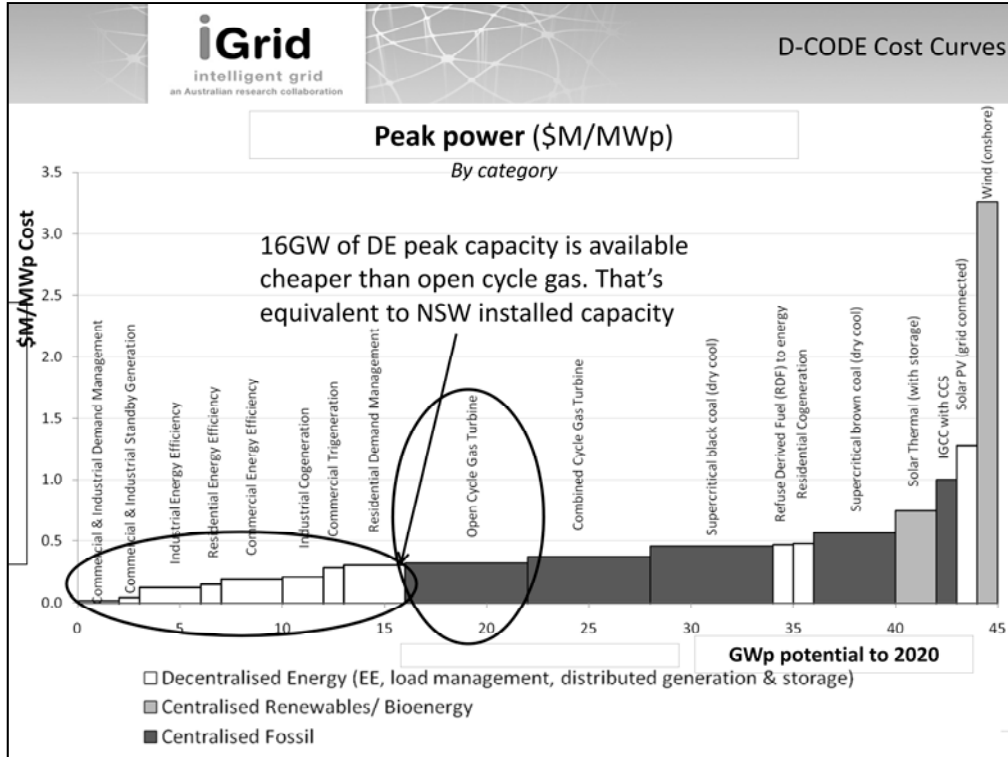
- > Higher reliability standards (NSW and Queensland)
- > Replacing aging infrastructure
- > Rising (forecast) Peak Demand



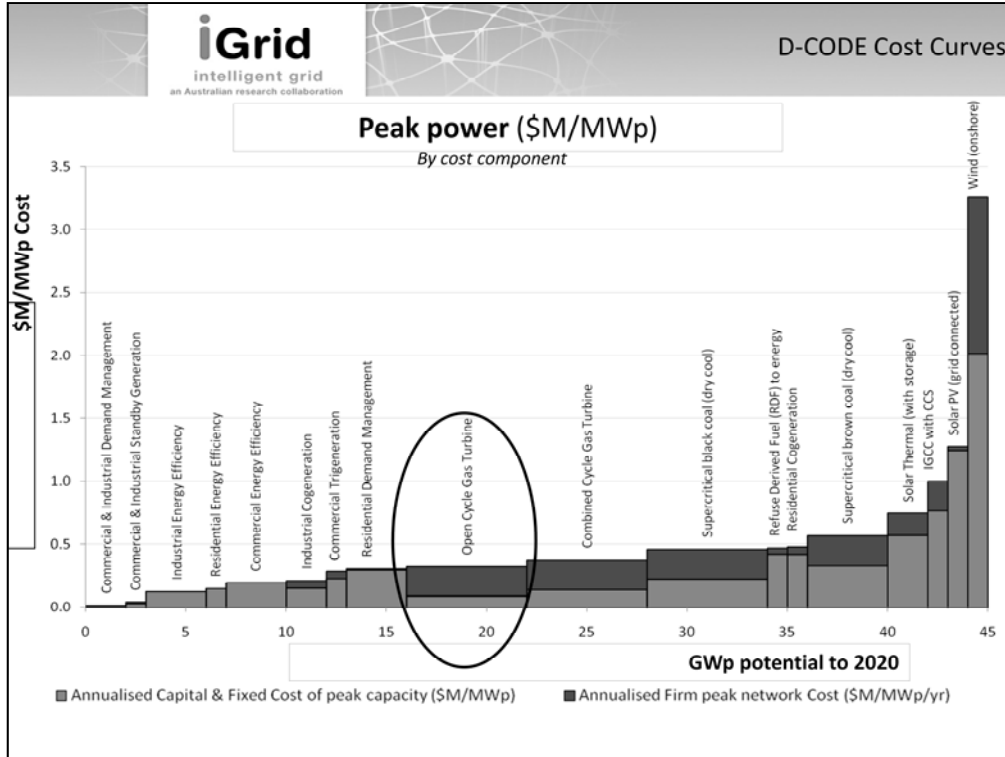
You can see that if we look at the cost of additional generation, Least cost saves almost \$3 billion per year by 2020.


As you can see by comparing the size of the red bars, most of that saving comes from the reduction in network costs compared to BAU.

Equally intriguing is the third column, which shows that we could retire 7000MW of ageing coal generators and actually spend less than business as usual – by avoiding unnecessary network infrastructure costs.















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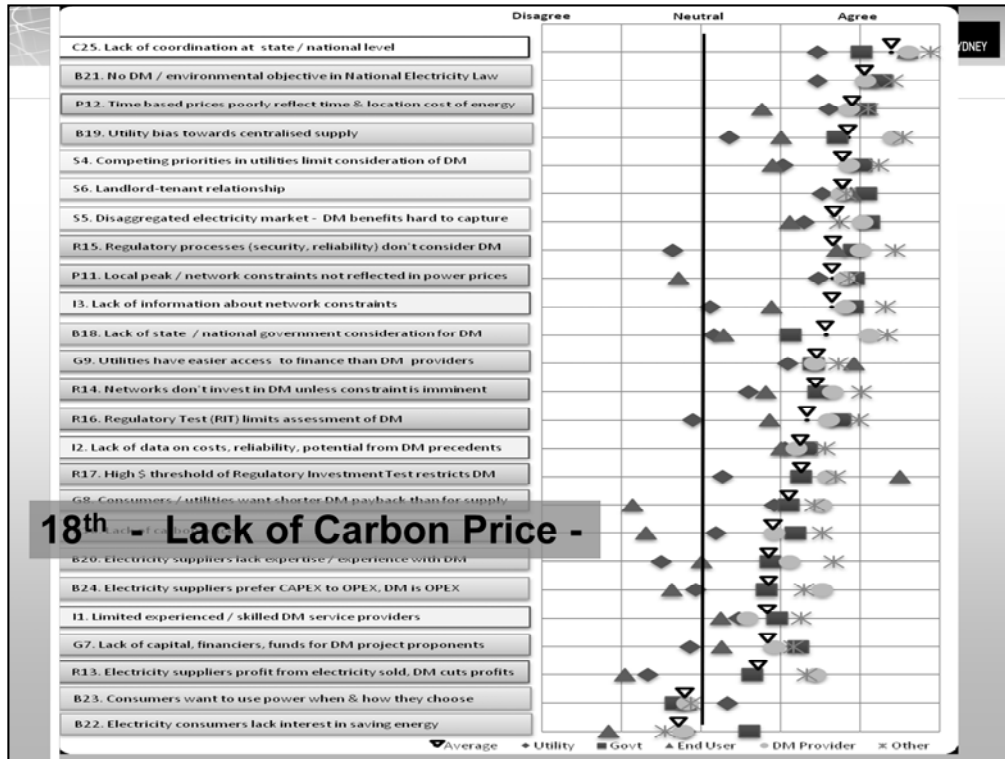
UNIVERSITY OF TECHNOLOGY SYDNEY

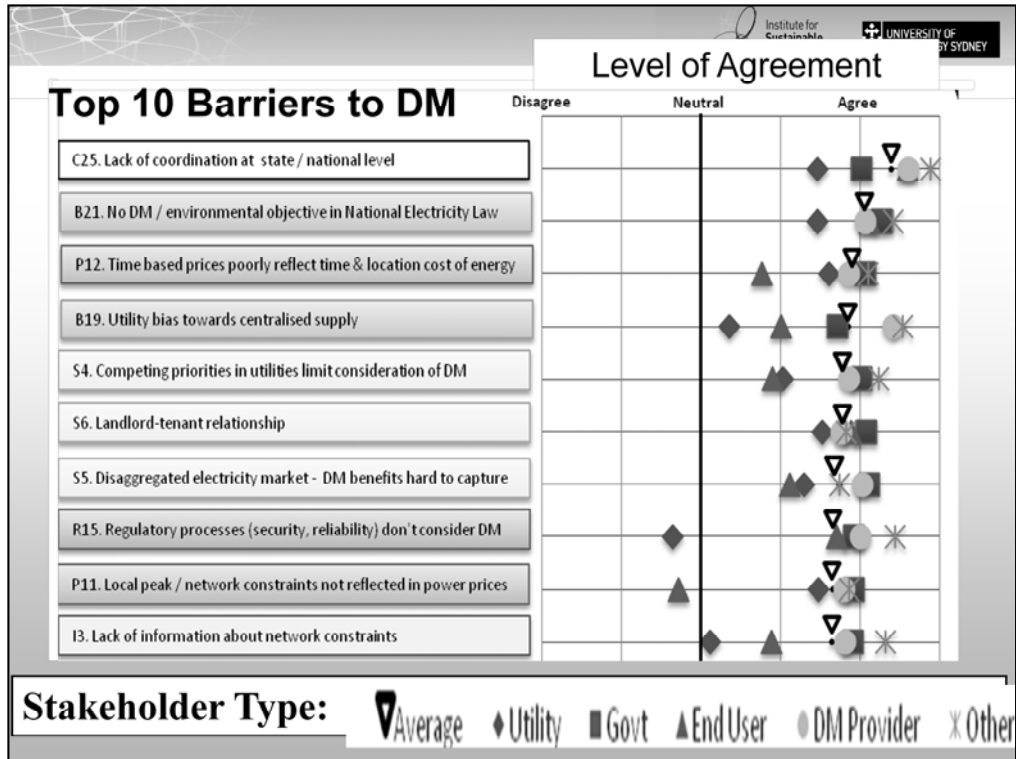
Barriers to Demand Management & DE?

What did the stakeholders tell us?

## 2011 Survey Respondents

Category	Respondents	# Respondents
<b>Utilities</b> 	Energy Utility – Network	29
	Energy Utility – Retailer	5
	Energy Utility – Generator	1
<b>Government</b> 	Government Agency – Federal	2
	Government Agency – State	20
	Government Agency – Local	8
<b>End User</b> 	Energy Consumer – Commercial	12
	Energy Consumer – Industrial	2
<b>DM Provider</b> 	Demand Management Provider	8
	Demand Management Consultancy	17
	Energy Supply Consultancy	14
<b>Other</b> 	Environmental organisation	16
	Consumer organisation	8
	Industry organisation	3
	Regulator	2
	Research Institution	26
	Other	28





## State Responses

### Queensland

- > (Second) Somerville Review – soften reliability standards
- > Capex trimmed ~\$1billion (10%)

### NSW

- > Networks NSW head Vince Graham has flagged \$2billion cut in Capex (detail unclear)
- > Change to NSW reliability standards?

## **Council of Australian Governments Response to network over-investment (December 2012)**

- 1. Strengthen Regulator:** more funding; new consumer challenge panel; review appeals process
- 2. Empower consumers:** Improve access to data; choice re smart metering and time of use pricing; new DM bidding directly into energy market
- 3. Enhancing competition and innovation:** remove retail price regulation; fair and reasonable Feed in Tariffs for DG
- 4. Ensuring balanced network investment:** reform reliability standards; protect consumers from forecasting errors

## Is this enough?

- > Strongly regulatory approach
- > Unlikely to have impact until at least 2015
- > Meanwhile >\$20 million/day in network capex
- > Significant Risks
  - Sudden cut in capex in next regulatory period
  - Lost opportunities: capacity overhang limiting future Decentralised Energy (DE = EE, DM & DG)
  - Potential for stranded network assets if Decentralised Energy technology develops quickly



## Options for quicker DM action- The Stick?

### 1. Regulatory obligation to cut peak demand or support EE, DM, DG?

- National Energy Savings Initiative
- National Peak DM target

Could any regulation happen quicker than 2015?  
Is *any* price uplift politically viable?

## An alternative: Collaboration and Incentives

Government sets an substantial “aspirational” DM goal

e.g. \$1billion p.a. in avoided capex & consumers savings by 2016

Gov’t asks the network business (but does not oblige):

- to cut expenditure and pass savings on to customer
- to undertake all cost effective DM
- to report current activity and outcomes on DM and savings
- to set public targets for improving DM and delivering savings to customers (peak demand **and** energy efficiency)

Gov’t provides regular consolidated **performance reporting**

Gov’t offers financial incentives actions (say, \$300m p.a.)

- c.f. UK £500 Low Carbon Networks Fund

> Any unallocated funds offered to other DM service providers

> Build into “business as usual” via economic regulation (AER)

## Source of funds?

- Clean Energy Finance Corporation?
  - \$2 billion p.a.
  - Opportunity to invest in measures that reduce energy bills
  - Would require assurance/engagement of AER re recovery of (prudent) investment in next regulatory period
- Avoided Capex spending? (Qld, NSW)
- Consolidated Revenue?

## Precedent #1: Ontario Electricity Conservation & Demand Management Program



“Ontario **invested** about **\$1.7 billion** in conservation programs from 2006 to 2010.

This will **save** ratepayers **\$3.8 billion** in avoided costs.”

“new conservation programs ... will require an **investment** of about **\$3 billion** over the next five years.

The results will be ... an avoided lifetime supply cost of **\$10 billion**”



**LDC CDM Targets**

## DE targets & incentives in Ontario

Energy Saving Targets for Local Distribution Companies (LDCs) in Ontario

**Total Targets 2010-14:**  
1,330 MW peak  
6,000 GWh

LDCs received incentive payments for achieving over 80% of their targets.

#	License Name	2014 Net Annual Peak Demand Savings Target (MW)	2011-2014 Net Cumulative Energy Savings Target (GWh)
1	Algoma Power Inc.	1,280	7,370
2	Atikokan Hydro Inc.	0,200	1,160
3	Attawapiskat Power Corporation	0,070	0,290
4	Bluewater Power Distribution Corporation	10,650	53,730
5	Brant County Power Inc.	3,300	9,850
6	Brantford Power Inc.	11,380	48,920
7	Burlington Hydro Inc.	21,950	82,370
8	COLLUS Power Corporation	3,140	14,970
9	Cambridge and North Dumfries Hydro Inc.	17,680	73,660
10	Canadian Niagara Power Inc.	4,070	15,810
11	Centre Wellington Hydro Ltd.	1,640	7,810
12	Chapleau Public Utilities Corporation	0,170	1,210
13	Chatham-Kent Hydro Inc.	9,670	37,280
14	Clinton Power Corporation	0,320	1,380
15	Cooperative Hydro Embarras Inc.	0,340	1,120
16	E.L.K. Energy Inc.	2,690	8,250
17	ENWIN Utilities Ltd.	26,810	117,890
18	Enersource Hydro Mississauga Inc.	92,980	417,220
19	Erie Thames Powerlines Corporation	4,280	18,600
20	Espanola Regional Hydro Distribution Corporation	0,520	2,760
21	Essex Powerlines Corporation	7,190	21,540
22	Festival Hydro Inc.	6,230	29,250
23	Fort Albany Power Corporation	0,050	0,240
24	Fort Frances Power Corporation	0,610	3,640
25	Greater Sudbury Hydro Inc.	8,220	43,710
26	Grimsby Power Inc.	2,060	7,760
27	Guelph Hydro Electric Systems Inc.	16,710	79,530
28	Haldimand County Hydro Inc.	2,850	13,300
29	Halton Hills Hydro Inc.	6,150	22,480
30	Hearst Power Distribution Company Limited	0,680	3,910
31	Horizon Utilities Corporation	60,360	281,420
32	Hydro 2000 Inc.	0,190	1,040
33	Hydro Hawkesbury Inc.	1,820	9,280
34	Hydro One Brampton Networks Inc.	45,610	189,540
35	Hydro One Networks Inc.	213,660	1,130,210
36	Hydro Ottawa Limited	85,260	374,730

[http://www.oeb.gov.on.ca/OEB/\\_Documents/EB-2010-0215/Conservation%20and%20Demand%20Management%20%28CDM%29\\_Code.pdf](http://www.oeb.gov.on.ca/OEB/_Documents/EB-2010-0215/Conservation%20and%20Demand%20Management%20%28CDM%29_Code.pdf)

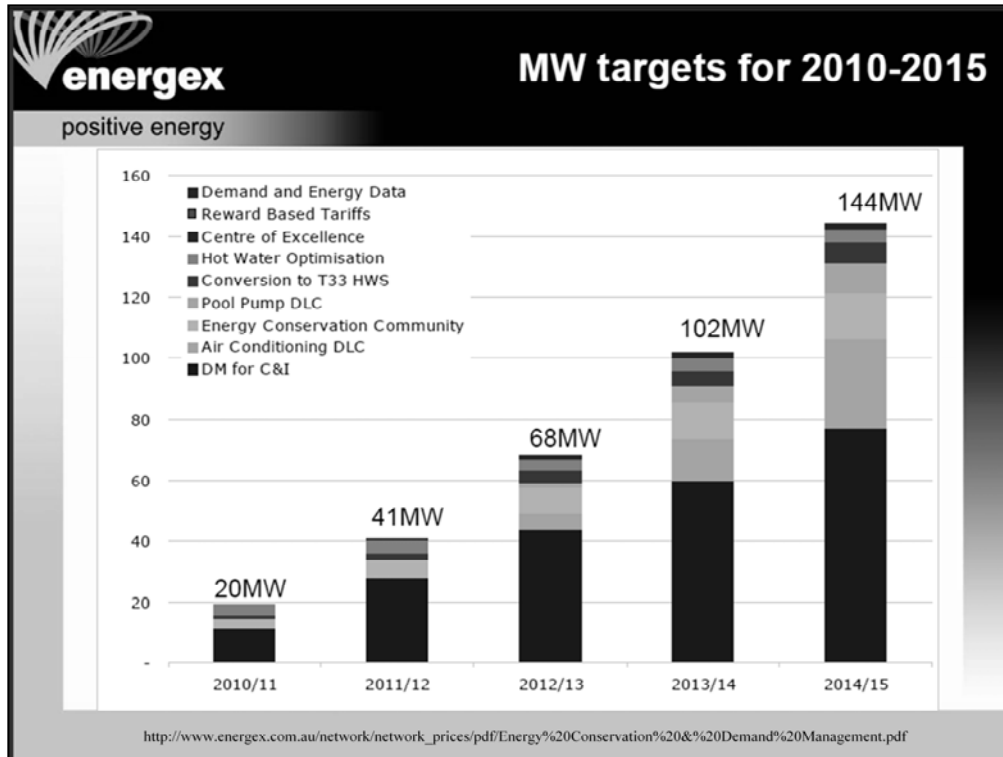
[http://www.oeb.gov.on.ca/OEB/\\_Documents/EB-2010-0215/Conservation%20and%20Demand%20Management%20%28CDM%29\\_Code.pdf](http://www.oeb.gov.on.ca/OEB/_Documents/EB-2010-0215/Conservation%20and%20Demand%20Management%20%28CDM%29_Code.pdf)

## **Precedent #2: Queensland Energy Conservation & Demand Management Program**

- > In 2009/10, Qld Govt allocated \$47 million for demonstration projects
- > In 2010, Energex and Ergon sought and were allocated ~\$220 million for Demand Management programs from the Australian Energy Regulator
- > Energex and Ergon now have extensive plans, teams, budgets and targets in place to reduce demand growth and support DE.

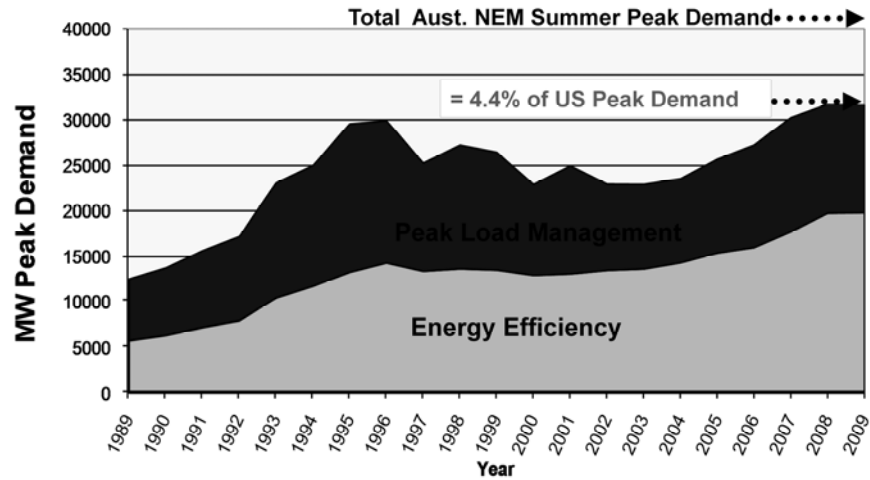
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<http://www.climatechange.qld.gov.au/pdf/factsheets/1energy-b1.pdf>



[http://www.energex.com.au/network/network\\_prices/pdf/Energy%20Conservation%20&%20Demand%20Management.pdf](http://www.energex.com.au/network/network_prices/pdf/Energy%20Conservation%20&%20Demand%20Management.pdf)

## US Utility Demand Management (DM) - Actual Peak Load Reductions



(Sources: US Energy Information Administration & AEMO)



## **Advantages of this Collaborative approach**

- > Can happen immediately
- > Consistent with existing reform proposals
- > Delivers cost effective DM
- > Provides transition to ramp up DM in next regulatory period

## Questions for discussion

- > National coordination/ agreement?
- > Recovery of investment?
- > Responsiveness of network business?
- > Ownership status and capital constraints?
- > Sunset clause?

# Thank you

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