

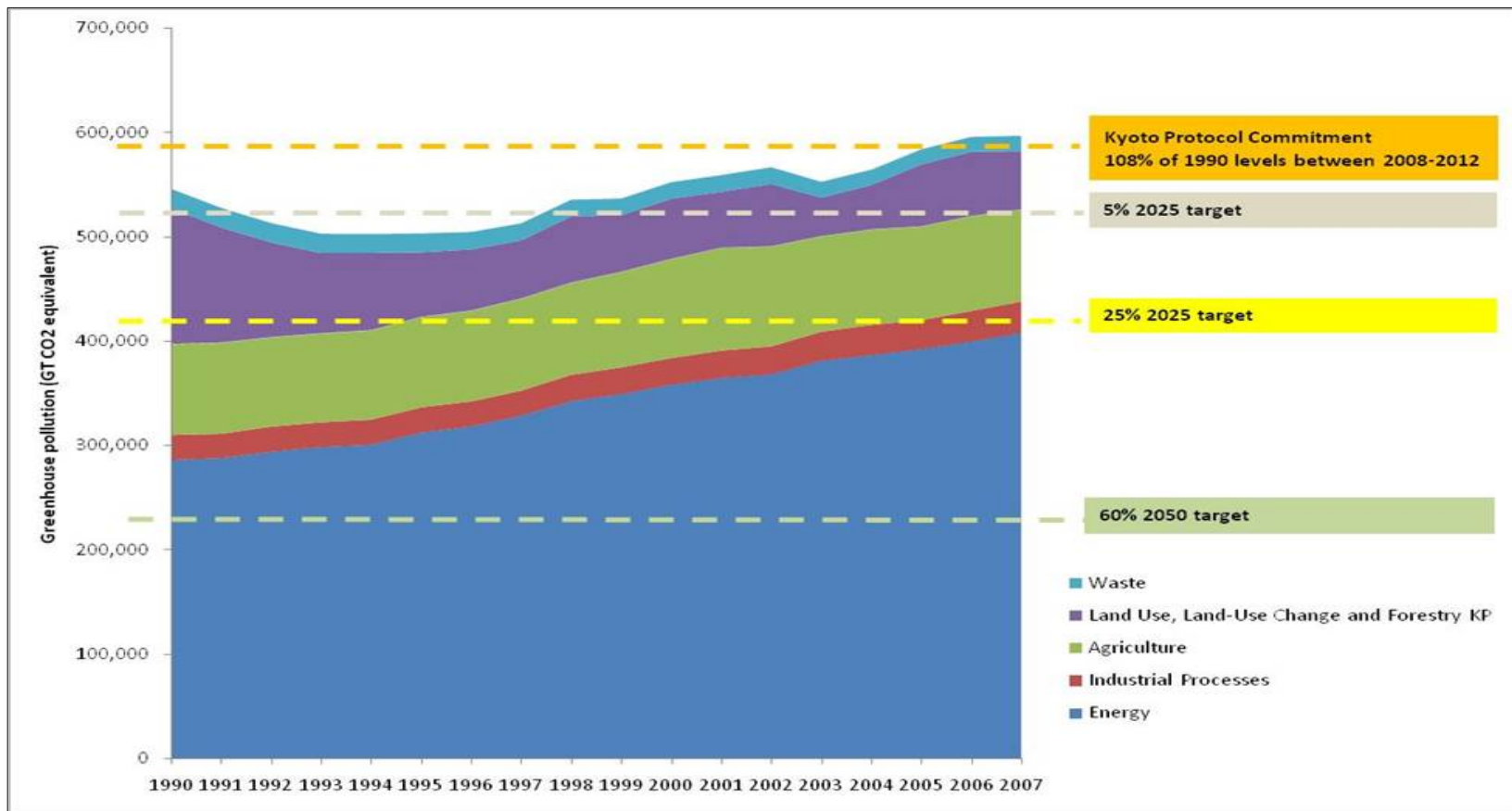
A comprehensive strategy for energy efficiency

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Australia's greenhouse gas emissions

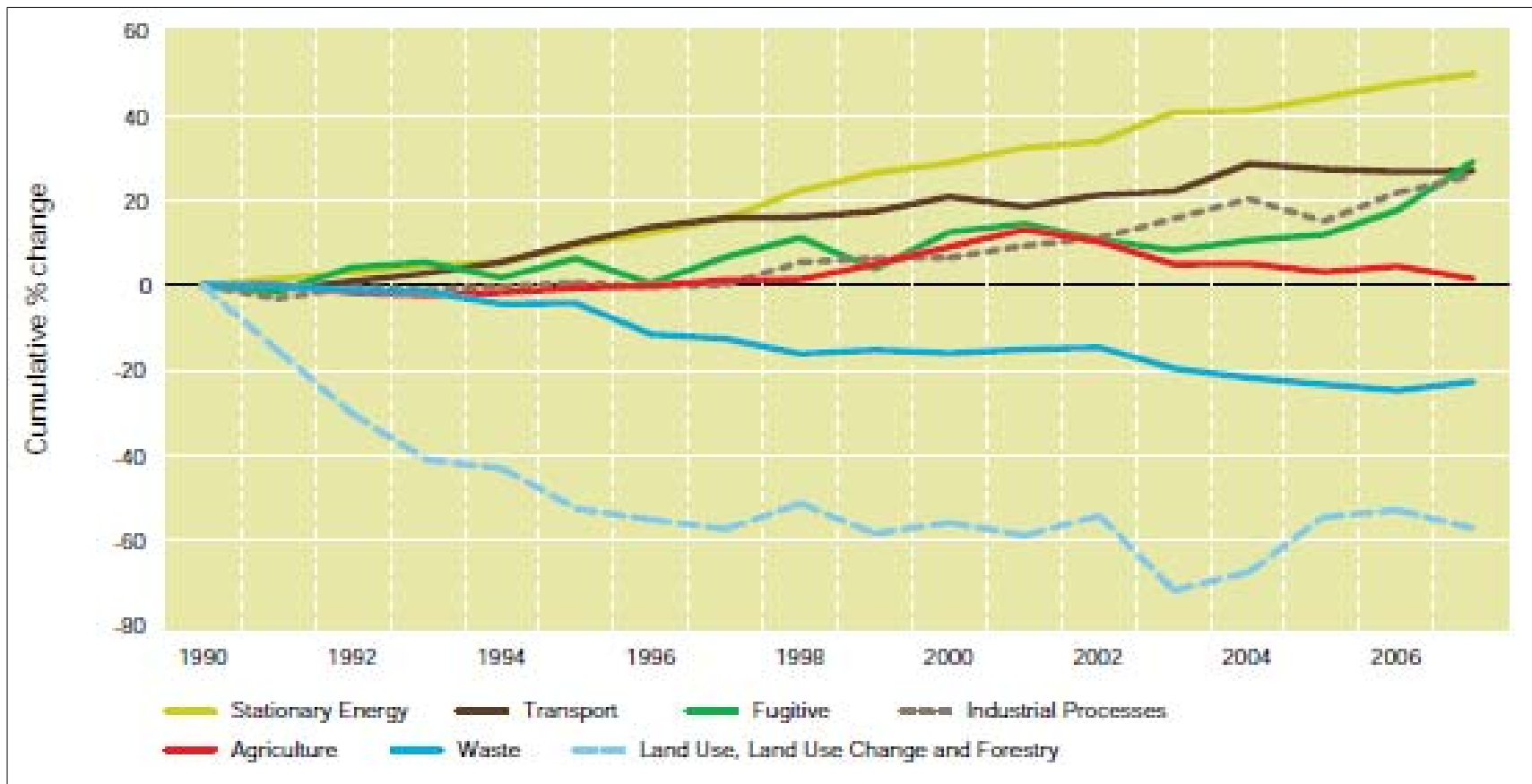


Source: <http://www.ageis.greenhouse.gov.au/>





Trends in CO₂-e emissions by sector



Source: Department of Climate Change 2008, *Australia's national greenhouse accounts National Inventory by Economic Sector 2006*





Emissions from the generation of purchased electricity

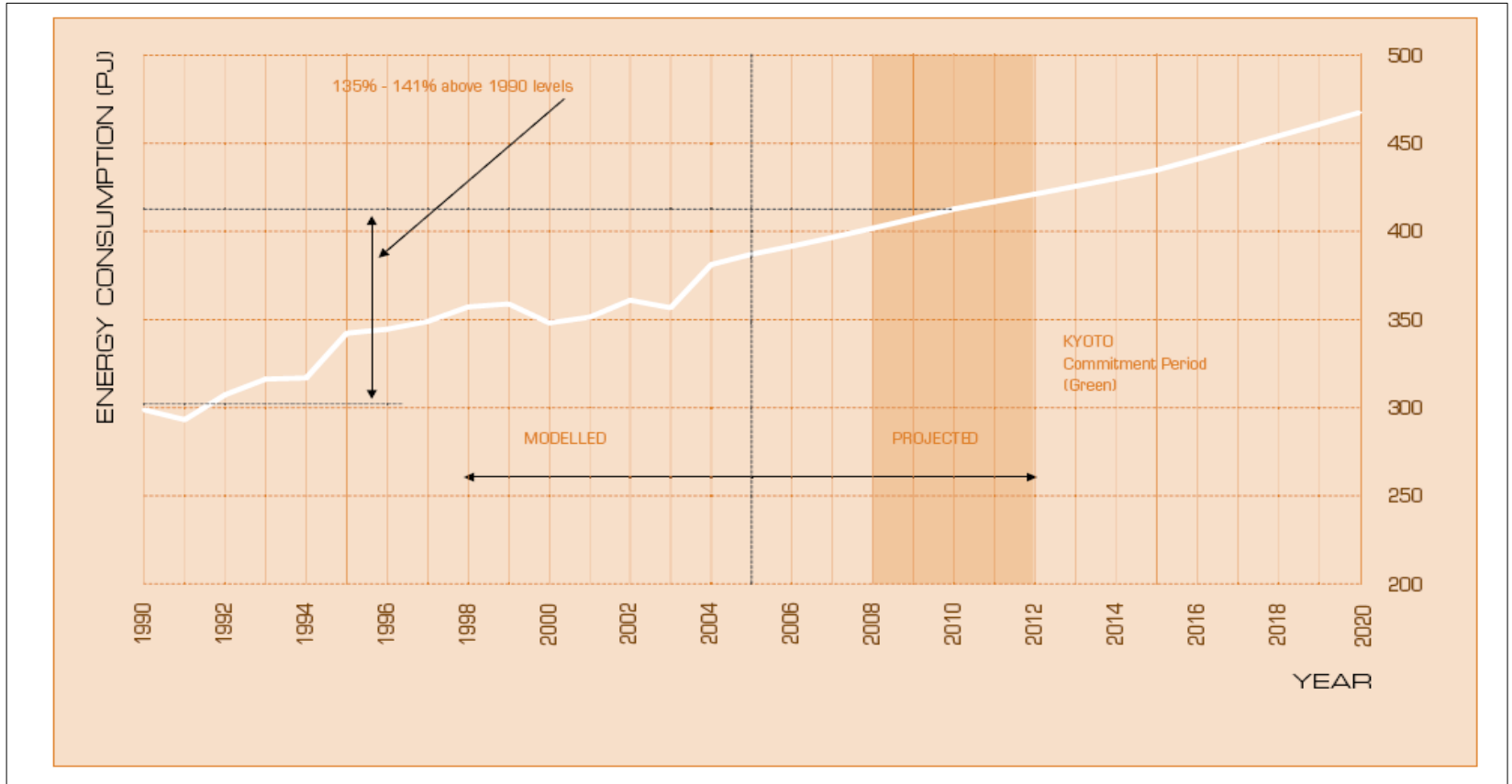
Industry Classification	Emissions (Mt CO ₂ -e)		Change in emissions (%)
	1990	2007	1990 - 2007
All Electricity Generation	129.5	199.5	54.1
Primary Industries	9.2	14.1	52.9
Agriculture, Forestry and Fishing	1.6	1.5	-5.1
Mining	7.7	12.6	64.7
Manufacturing	42.2	61.5	45.7
Services, Construction and Transport	24.6	40.1	63.2
Residential	33.8	51.3	51.7

Source: Department of Climate Change 2009, *Australia's national greenhouse accounts National Inventory by Economic Sector 2007*





Trends in residential energy consumption

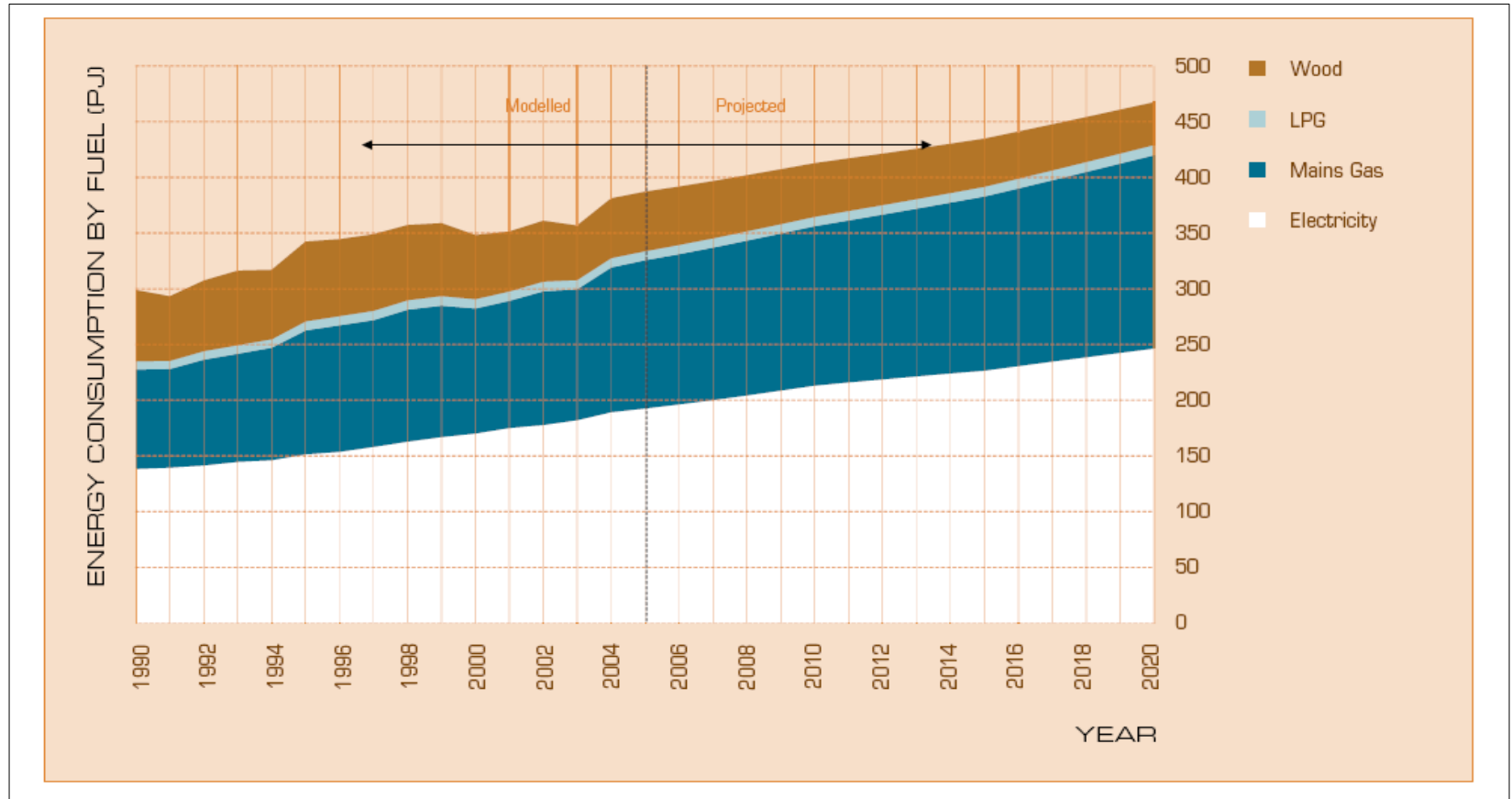


Source: Department of Environment, Water, Heritage and the Arts 2008, *Energy Use in the Australian Residential Sector 1986-2020*





Residential energy consumption by fuel

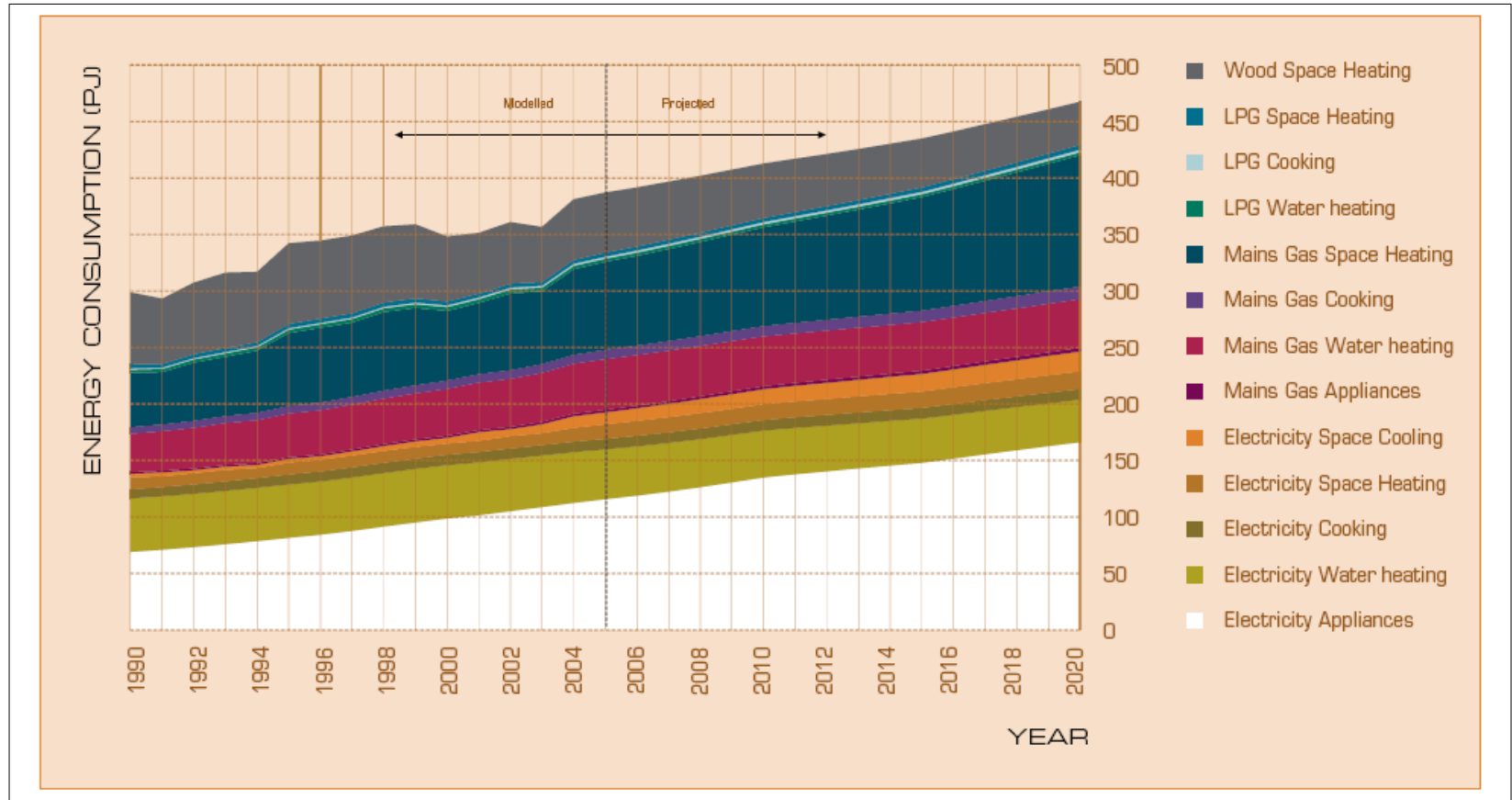


Source: Department of Environment, Water, Heritage and the Arts 2008, *Energy Use in the Australian Residential Sector 1986-2020*





Residential energy consumption by end use



Source: Department of Environment, Water, Heritage and the Arts 2008, *Energy Use in the Australian Residential Sector 1986-2020*





More needs to be done

while existing and proposed energy programs are holding the line in terms of energy use at a household level, it is the significant increase in household numbers (61% from 1990 – 2020) that is driving the rapid growth of energy consumption in this sector (62% from 1990 – 2020). In the absence of substantial new policy measures, energy consumption from the residential sector will continue to rise at a significant rate.

Source: Department of Environment, Water ,Heritage, and the Arts, *Energy Use in the Australian Residential Sector 1986-2020*





Energy use in the commercial sector

	End use purpose	Coal PJ	Petroleum PJ	Gas PJ	Biomass PJ	Electricity PJ	Total PJ	Share of total
Air Handling	HVAC					40.2	40.2	15.3%
Cooling	HVAC					46.9	46.9	17.8%
Pumping	HVAC					7.2	7.2	2.7%
Heating (heat pump)	HVAC					5.2	5.2	2.0%
Heating (thermal)	HVAC	2.78	18.05	38.22	0.42	2.2	61.7	23.4%
Lighting	Lighting					49.1	49.1	18.6%
General	General	1.09	3.77	4.12	0.00	41.5	50.5	19.2%
Cogen, Mobile	Special		0.50	2.00			2.5	0.9%
Total		3.87	22.32	44.34	0.42	192.3	263.2	100.0%
Share of total		1.5%	8.5%	16.8%	0.2%	73.0%	100.0%	

Source: Department of Climate Change 2008, *Australia's national greenhouse accounts National Inventory by Economic Sector 2006*



Energy use in the manufacturing sector

End use	Fuels PJ	Electricity PJ	Total PJ	Share of total
Mobile	175.9		175.9	14.4%
Cogeneration plant	190.6		190.6	15.7%
Boilers	185.4	0.8	186.2	15.3%
Kilns	200.7	0.2	200.9	16.5%
Dryers	38.0		38.0	3.1%
Metallurgical plant	99.0	17.1	116.1	9.5%
Electrolytic plant		127.6	127.6	10.5%
General use	0.9	181.2	182.2	15.0%
Total	890.5	326.9	1217.5	100.0%
Energy share	73.1%	26.9%	100.0%	

Source: Department of Climate Change 2008, *Australia's national greenhouse accounts National Inventory by Economic Sector 2006*



Towards a comprehensive energy saving strategy

- Current policy framework a complicated mix of federal and state initiatives with no clear view as to the role of energy efficiency and demand side measures.
- Government should take forward the development of a comprehensive energy efficiency and demand side strategy. This should be framed around two main aims:
 - To reduce demand for use of energy and
 - To increase efficiency of energy use.
- The strategy should:
 - bring together all the existing measures and quantify their expected impact (energy saved and/or emissions reduced)
 - develop a coherent vision for energy efficiency and demand side response going forward, including an indication of the future level of savings expected from energy efficiency and demand side response measures up to 2030 and beyond
 - determine policy positions to realise the possible vision for energy efficiency and
 - demand side response and identify the measures needed to deliver the level of savings expected including
 - consideration of the development of a nationally consistent energy efficiency market that creates a value for energy efficiency.

