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Renewable Energy Consulting

August 11, 2009

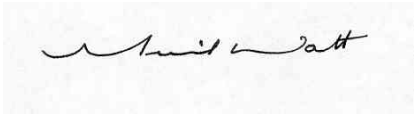
Chair
Senate Economics Legislation Committee
Parliament House
CANBERRA ACT 2600

Dear Chair

RE: Inquiry into the Renewable Energy (Electricity) Amendment Bill 2009 and a related bill – QoN from Senator Xenophon regarding Water Heaters.

Please find attached a list of estimated greenhouse gas emissions from different types of water heater, in different parts of Australia. This is from Energy Strategies (2007), *Review and Update of Residential Hot Water System Greenhouse Gas and Cost* and is available on the government's Your Home website: http://www.yourhome.gov.au/technical/fs65.html. We understand that there has been a 2009 update of this information, based on newer water heaters, but this information has yet to be published by DEWHA.

Yours Sincerely



Muriel Watt
Project Manager
IT Power Australia

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	TONNES OF GREENHOUSE GAS EMISSIONS PER YEAR		
	HOUSEHOLD SIZE (number of people)		
	Small (1-2)	Medium (3-4)	Large (5+)
ADELAIDE (SA) – CLIMATE: TEMPERATE			
Electric Storage (off-peak)	2.7	4.1	5.6
Electric Storage	2.7	4.1	5.9
Electric Heat Pump Storage	0.7	1.1	1.5
Solar (Flat-plate) Electric Boost	0.6	1.3	2.4
Solar (Flat-plate) Gas Boost	0.1	0.3	0.6
Gas 3 Star Storage	1.4	1.8	2.4
Gas 5 Star Storage	1.0	1.5	2.0
Gas 5 Star Instantaneous	0.8	1.3	1.8
ALICE SPRINGS (NT) – CLIMATE: HOT DRY , COLD WINTER			
Electric Storage (off-peak)	NA	NA	NA
Electric Storage	1.5	2.3	3.3
Electric Heat Pump Storage	0.4	0.6	0.8
Solar (Flat-plate) Electric Boost	0.1	0.2	0.5
Solar (Flat-plate) Gas Boost	0.1	0.1	0.1
Gas 3 Star Storage	1.1	1.4	1.8
Gas 5 Star Storage	0.8	1.1	1.5
Gas 5 Star Instantaneous	0.6	0.9	1.3
BRISBANE (QLD) – CLIMATE: WARM HUMID			
Electric Storage (off-peak)	2.7	4.1	5.6
Electric Storage	2.6	4.1	5.9
Electric Heat Pump Storage	0.7	1.1	1.7
Solar (Flat-plate) Electric Boost	0.4	1.1	2.2
Solar (Flat-plate) Gas Boost	0.1	0.2	0.5
Gas 3 Star Storage	1.2	1.6	2.1
Gas 5 Star Storage	0.9	1.3	1.8
Gas 5 Star Instantaneous	0.7	1.2	1.7
CANBERA (ACT) – CLIMATE: TEMPERATE			

Electric Storage (off-peak)	2.9	4.3	5.8
Electric Storage	2.8	4.3	6.2
Electric Heat Pump Storage	0.8	1.2	1.7
Solar (Flat-plate) Electric Boost	0.8	1.6	2.8
Solar (Flat-plate) Gas Boost	0.2	0.3	0.7
Gas 3 Star Storage	1.4	1.8	2.3
Gas 5 Star Storage	1.0	1.4	1.9
Gas 5 Star Instantaneous	0.8	1.2	1.8
DARWIN (NT) – CLIMATE: HIGH HUMID			
Electric Storage (off-peak)	NA	NA	NA
Electric Storage	1.4	2.2	3.2
Electric Heat Pump Storage	0.4	0.5	0.8
Solar (Flat-plate) Electric Boost	0.0	0.1	0.3
Solar (Flat-plate) Gas Boost	0.1	0.1	0.1
Gas 3 Star Storage	1.0	1.3	1.7
Gas 5 Star Storage	0.7	1.0	1.4
Gas 5 Star Instantaneous	0.6	0.9	1.3
HOBART (TAS) – CLIMATE: COOL TEMPERATE			
Electric Storage (off-peak)	0.2	0.2	0.3
Electric Storage	0.2	0.2	0.4
Electric Heat Pump Storage	0.0	0.1	0.1
Solar (Flat-plate) Electric Boost	0.1	0.1	0.2
Solar (Flat-plate) Gas Boost	0.2	0.5	1.0
Gas 3 Star Storage	1.2	1.6	2.2
Gas 5 Star Storage	0.9	1.3	1.9
Gas 5 Star Instantaneous	0.6	1.1	1.7
MELBOURNE (VIC) – CLIMATE: TEMPERATE			
Electric Storage (off-peak)	3.6	5.8	7.4
Electric Storage	3.4	5.8	8.3
Electric Heat Pump Storage	0.9	1.5	2.2
Solar (Flat-plate) Electric Boost	1.4	3.3	4.7
Solar (Flat-plate) Gas	0.2	0.5	0.9

Boost			
Gas 3 Star Storage	1.2	1.7	2.2
Gas 5 Star Storage	0.9	1.4	1.9
Gas 5 Star Instantaneous	0.7	1.2	1.8
PERTH (WA) – CLIMATE: TEMPERATE			
Electric Storage (off-peak)	2.4	3.7	5.0
Electric Storage	2.4	3.7	5.3
Electric Heat Pump Storage	0.6	1.0	1.4
Solar (Flat-plate) Electric Boost	0.4	1.0	1.9
Solar (Flat-plate) Gas Boost	0.1	0.2	0.4
Gas 3 Star Storage	1.1	1.5	1.9
Gas 5 Star Storage	0.8	1.2	1.6
Gas 5 Star Instantaneous	0.6	1.0	1.5
SYDNEY (NSW) – CLIMATE: TEMPERATE			
Electric Storage (off-peak)	2.8	4.2	5.8
Electric Storage	2.7	4.2	6.1
Electric Heat Pump Storage	0.7	1.1	1.6
Solar (Flat-plate) Electric Boost	0.7	1.5	2.8
Solar (Flat-plate) Gas Boost	0.1	0.3	0.6
Gas 3 Star Storage	1.3	1.7	2.3
Gas 5 Star Storage	1.0	1.4	1.9
Gas 5 Star Instantaneous	0.8	1.2	1.8
TOWNSVILLE (QLD) – CLIMATE: TEMPERATE			
Electric Storage (off-peak)	2.2	3.3	4.4
Electric Storage	2.2	3.3	4.7
Electric Heat Pump Storage	0.6	0.8	1.2
Solar (Flat-plate) Electric Boost	0.1	0.4	1.0
Solar (Flat-plate) Gas Boost	0.1	0.1	0.2
Gas 3 Star Storage	1.0	1.4	1.8
Gas 5 Star Storage	0.8	1.1	1.5
Gas 5 Star Instantaneous	0.6	0.9	1.4

Source: Energy Strategies, 2007