

**ENERGY RATING
'SHADOW SHOP'**

**Prepared For: National Appliance & Equipment Energy
Efficiency Committee (NAEEEC)**

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	<u>Page</u>
Background	3
Research Objectives	6
Research Methodology	7
<u>MAIN FINDINGS</u>	12
Total Sample	13
Total Sample by Electrical Appliance	15
Total Sample by City	16
Total Sample by Size of Retail Outlet	17
Clothes Washers	18
Clothes Washers by City	20
Clothes Washers by Size of Retail Outlet	21
Dishwasher	22
Dishwasher by City	24
Dishwasher by Size of Retail Outlet	25

	<u>Page</u>
Air Conditioners	26
Air Conditioners by City	28
Air Conditioners by Size of Retail Outlet	29
Refrigerators or Fridge Freezers	30
Refrigerators or Fridge Freezers by City	32
Refrigerators or Fridge Freezers by Size Of Retail Outlet	33
Clothes Dryers	34
Clothes Dryers by City	36
Clothes Dryers by Size of Retail Outlet	37
Electrical Appliances by Manufacturer	38
Clothes Washing Machines by Manufacturer	39
Dishwashing Machines by Manufacturer	41
Air Conditioning Machines by Manufacturer	43
Refrigerators and Freezers by Manufacturer	45
Clothes Dryers by Manufacturers	47

- ★ In an effort to assist consumers in the purchase of their household goods, legislation has been passed throughout most States and Territories for prescribed domestic electrical appliances to display the Energy Rating label.
- ★ This legislation aims at ensuring consumers are aware of the energy efficient savings some appliances have over their counterparts, thus better facilitating informed decision making.
- ★ The Energy Efficiency Labelling Program applies to the following groups of domestic electrical appliances:-
 - ★ Refrigerators and Freezers
 - ★ Clothes Washers
 - ★ Clothes Dryers
 - ★ Dishwashers
 - ★ Air-Conditioners (up to 7.5 KW output capacity)

- ★ **Victorian legislation requires that proclaimed electrical appliances must not be displayed or sold unless the appliance is marked or labelled in the prescribed manner for energy efficiency.**
- ★ **A slightly different rating scheme operates for gas appliances, which is run on a voluntary basis by the AGA. However, in this case the gas labelling scheme will not be included in the research program.**
- ★ **Each State and Territory is responsible for administering its own legislation and regulations. A model registered in one State/Territory is accepted as registered in all States and Territories.**
- ★ **Previous studies have revealed a high compliance rate amongst the retail sector and an above average awareness of the Energy Rating labelling (over 75%).**
- ★ **At present there isn't a uniformly accepted method of measuring compliance within each of the States and Territories.**

- ★ **The National Appliance and Equipment Energy Efficiency Committee (NAEEEC) is the national co-ordinating (steering) group for the Energy Labelling program.**
- ★ **It is made up of representatives from State, Territory and Federal Government authorities involved with regulating and implementing Energy Rating Labelling for electrical appliances.**
- ★ **This report was commissioned by the NAEEEC as part of a national evaluation of the appliance energy labelling program.**

The broad research objectives are:-

- * To ascertain the proportion of relevant appliances displaying Energy Rating Labels in retail premises throughout Australia.*
- * To determine the proportion of relevant appliances displaying Energy Rating Labels for Australia as a whole and by Capital City, appliance group and store type.*

- * Yann Campbell Hoare Wheeler conducted a 'Shadow Shop' in eight of Australia's largest cities.
- * The 'Shadow Shop' consisted of interviewers within each city anonymously viewing a total of 400 electrical retail sites. They recorded the number, brand and type of appliances which had energy labels correctly displayed in retail outlets and those that did not have a label displayed.
- * Within each site there were five electrical appliance groups. The 'Shadow Shopper' identified which products fell into the specified categories and record its compliance.
- * The field work and data collection for the study was conducted between the dates of 27th June and 3rd August, 1998.
- * A total of 29,024 electrical appliances were included in the study, this included 7,152 clothes washers, 3,645 dishwashers, 1,695 air-conditioners, 13,431 fridge/freezers and 3,101 dryers.

- * The number of retail outlets evaluated within each city was:

<i>City Metro. Area</i>	<i>Number of Outlets Sampled</i>	<i>Estimated Total Outlets Population</i>
Brisbane	53	90
Sydney	108	420
Melbourne	108	345
Canberra	20	20
Adelaide	35	56
Perth	40	79
Darwin	11	11
Hobart	25	26
<i>Total Sample</i>	<i>400</i>	<i>1,047</i>

- ★ Given a total sample of 400 retail outlets surveyed, the specific number of retail outlets researched within each city was determined by:
 - ★ the population size of each city as a proportion of the total population.
 - the total number of retail outlets in the metropolitan area.
 - the statistical significance of the sample size for the city.
- ★ Sample sizes for Canberra & Darwin could not be increased as the sample size was the same as the total population.
- ★ A Superstore/Large Department store was similar to a Myers or Grace Bros., having a comprehensive range of products on display.
- ★ A Medium sized retailer was defined as being similar to a Billy Guyatts, or Retravision, having a chain of stores with a sizeable range.
- ★ A Small or Independent retail outlet had a modest range and was often a privately owned business.

- * The breakdown of these three categories is as follows:

Superstores/Department stores	24%	97
Medium sized retailers	35%	140
Small or Independent retailers	41%	163
Total	100%	400

- * This methodological design was adopted to ensure there is an equal proportion of large, medium and small outlets in the sample, as they fall within the population.
- * With regard to the treatment of Superstores & Large Department store chains, as they often ran independently in relation to stock availability, we allowed the inclusion of multiple sites from the one retailer, with a cap of seven sites per chain in any one city.

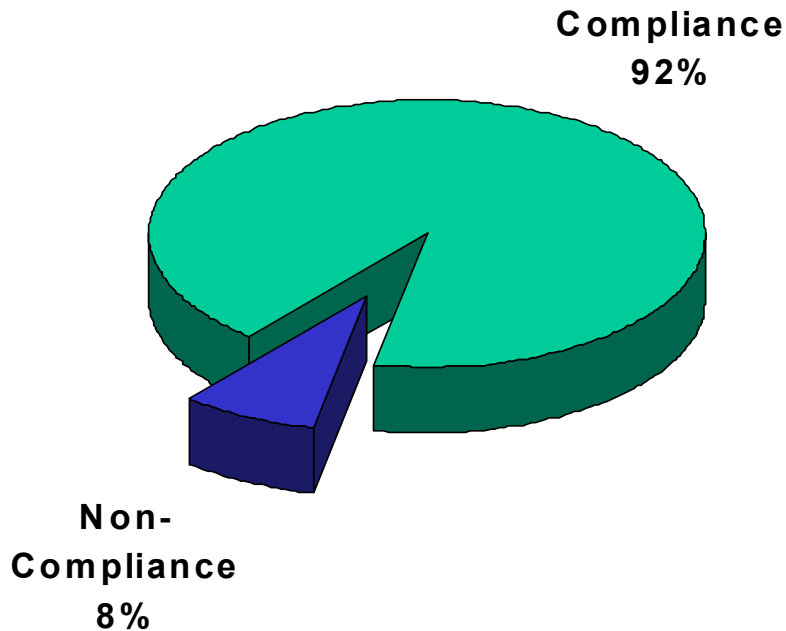
* The breakdown of the 400 retail outlets is as follows:

Name	No.	Name	No.	Name	No.
Retravisision	41	Bulk Store	7	Chen Discounts	3
Betta Elec.	30	Warehouse Sales	6	Harris Scarf	3
Myer	24	RT Edwards	5	Hardware & General	3
Chandlers	22	Fridge&Washer City	5	Just Electrical	3
Harvey Norman	18	Joyce Mayne	4	Other	52
David Jones	16	Winning Appl.	4	Other Elec.	28
Kleenmaid	11	Radio Rentals	4	Other Appl.	26
Grace Bros.	9	Truscott Hi-Fi	4	Other Discounts	20
Archie Martain Vox	9	Good Guys	3	Other Electronics	8
Billy Guyatts	8	Electrical World	3	Other Air Con.	6
Bing Lee	7	Loughrans	3	Other Hardware	5

MAIN FINDINGS

- ★ **Of the 29,024 retail electrical appliances included in the study the overall compliance rate was 92%.**
- ★ **Based on this total sample, the sample error for this result was + or - 0.3%, giving a region of 91.7% and 92.3%.**
- ★ **Air Conditioners were the only category which performed substantially below the other appliance groups with an overall compliance rating of 61%.**
- ★ **From all the eight cities included in the study, Melbourne and Hobart equally achieved the highest level of compliance with 96%, followed closely by Canberra with 95%.**
- ★ **The poorest result was found in Perth with 88% compliance and Sydney with 90%.**
- ★ **Amongst the three size categories the Large Department Stores (94%) were more likely to have appliances on display with the Energy Efficiency labelling.**

Overall Percentage Compliance and Sample Error



No. on Display **29,024**

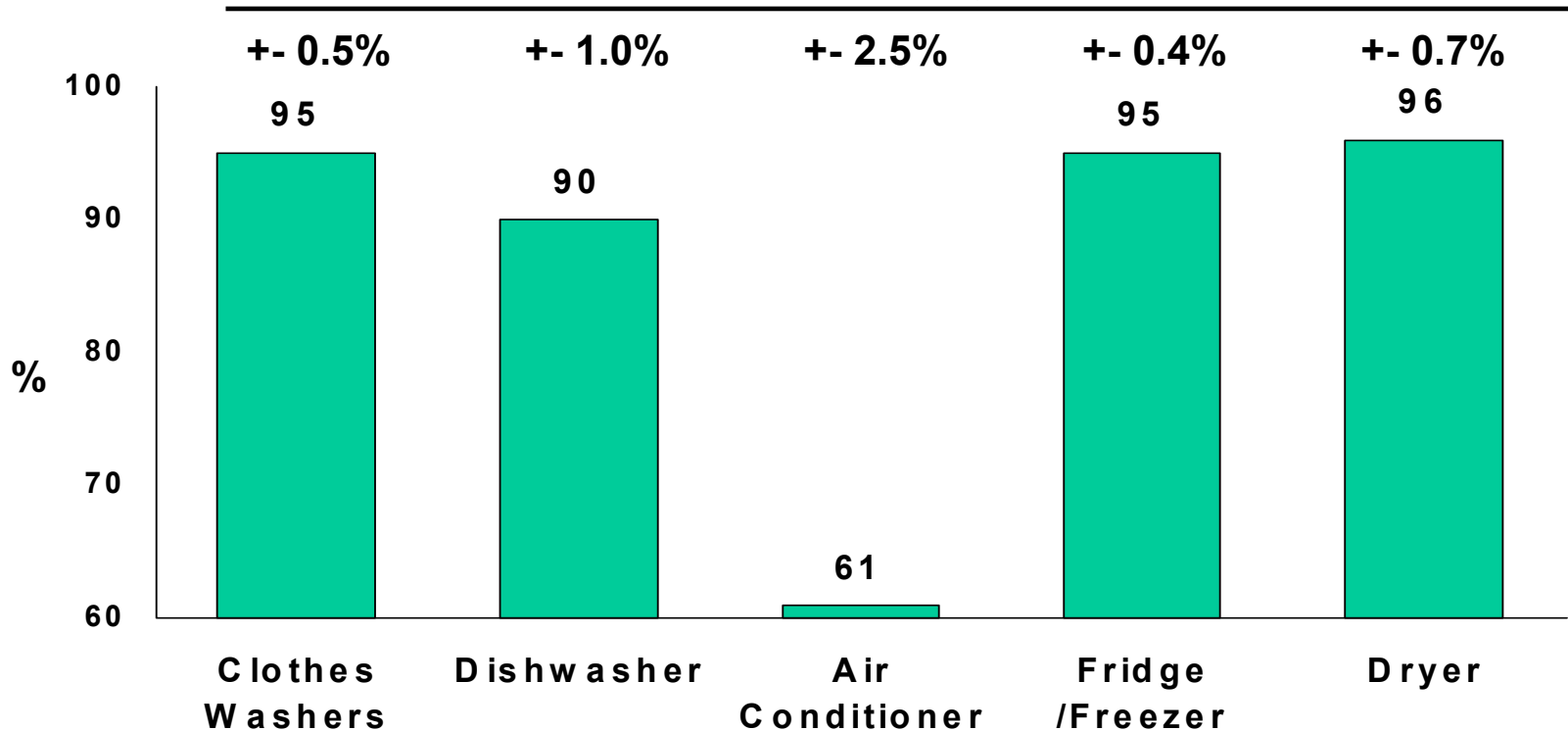
No. with Label **26,788**

% Compliance **92%**

Sample Error **+ - 0.3%**

NAEEEC

Total Sample by Electrical Appliance



No. on Display

7,152

3,645

1,695

13,431

3,101

No. with Label

6,792

3,270

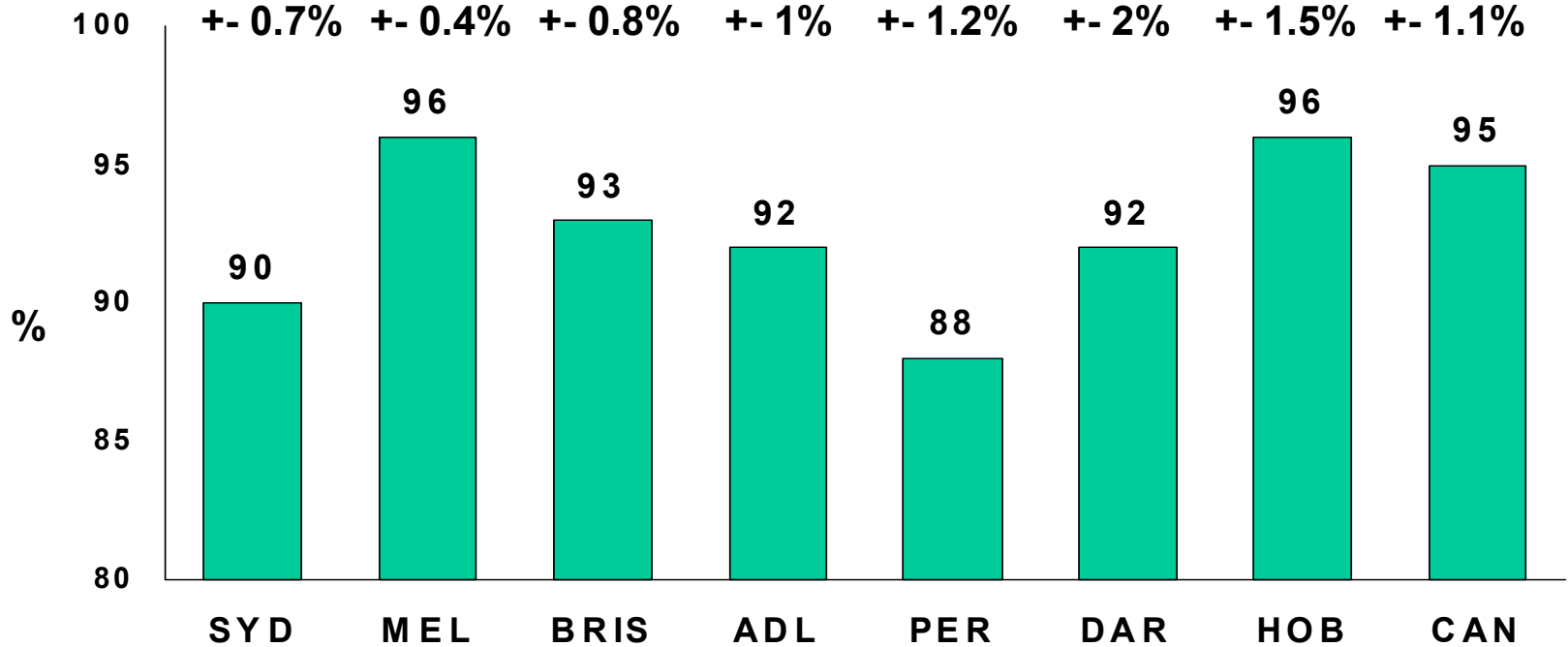
1,030

12,708

2,988

Note: Sample Error listed above

Total Sample by City

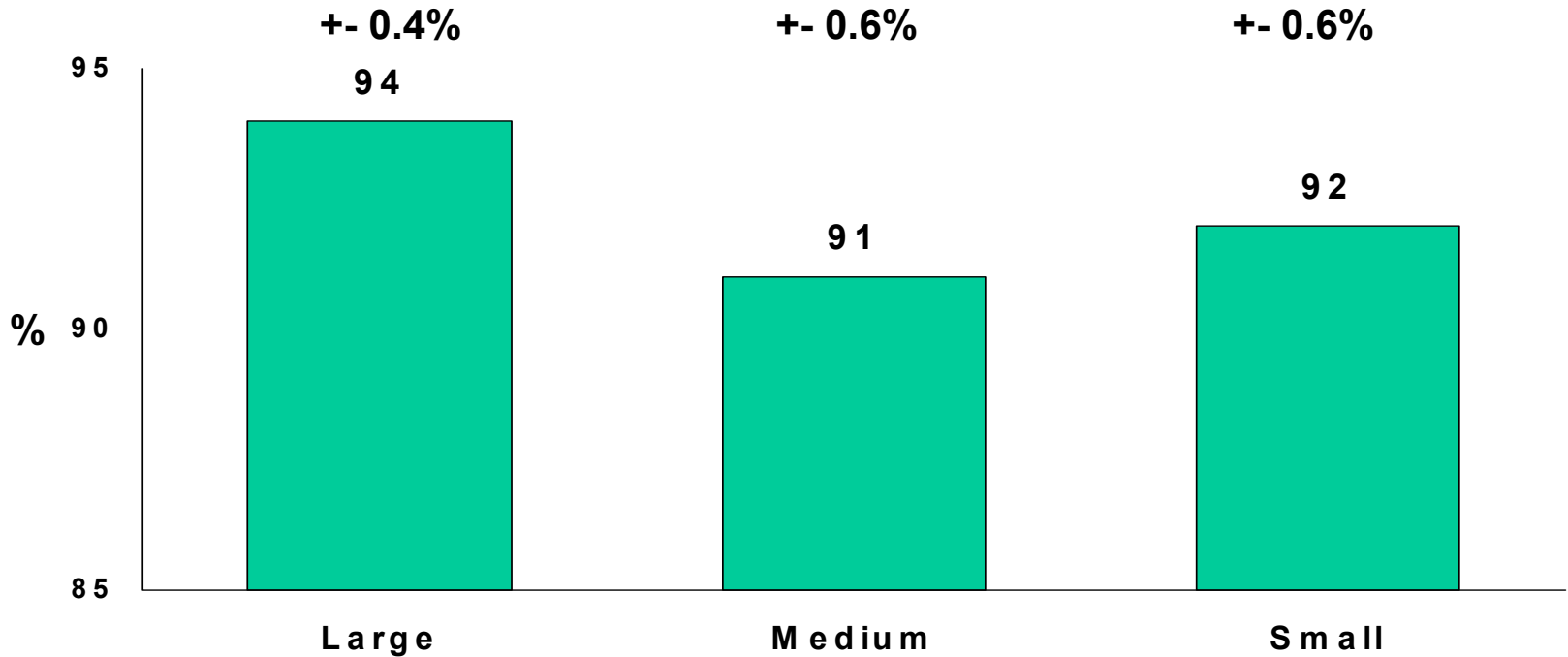


No. on Display	7,884	7,938	3,731	3,024	3,415	752	743	1,537
No. with Label	7,064	7,601	3,453	2,792	3,012	695	711	1,460

Note: Sample Error listed above



Total Sample by Size of Retail Outlet



No. on Display

10,376

11,149

7,499

No. with Label

9,742

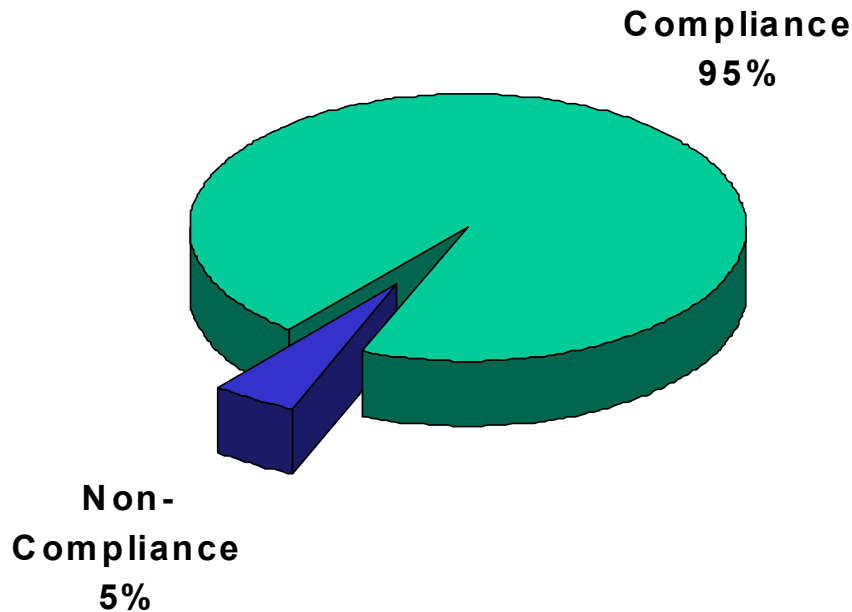
10,146

6,900

Note: Sample Error listed above

- ★ Of the 7,152 clothes washing machines included in the study the overall compliance rate was 95%.
- ★ Based on this total sample, the sample error for this result was + or - 0.5%, giving a region of 94.5% and 95.5%.
- ★ Within the cloths washers, Darwin achieved a compliance rating of (98%), with Melbourne (97%), and Hobart (97%) also having high compliance levels.
- ★ The poorest result was found in Perth with 93%.
- ★ Amongst the three size categories the Large Department Stores (96%) were more likely to have clothes washing machines on display with the Energy Efficiency labelling.

Clothes Washer Percentage Compliance and Sample Error



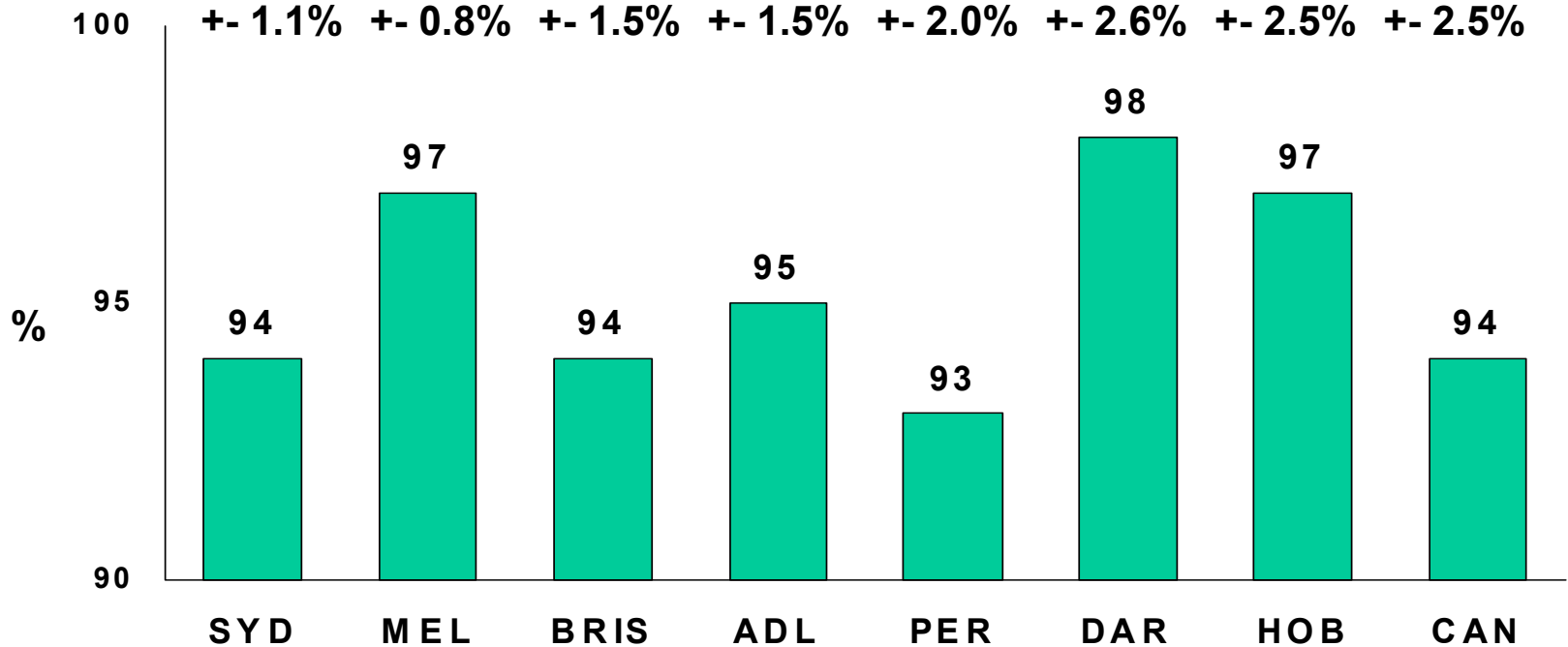
No. on Display **7,152**

No. with Label **6,792**

% Compliance **95%**

Sample Error **+ - 0.5%**

Clothes Washer by City



No. on Display

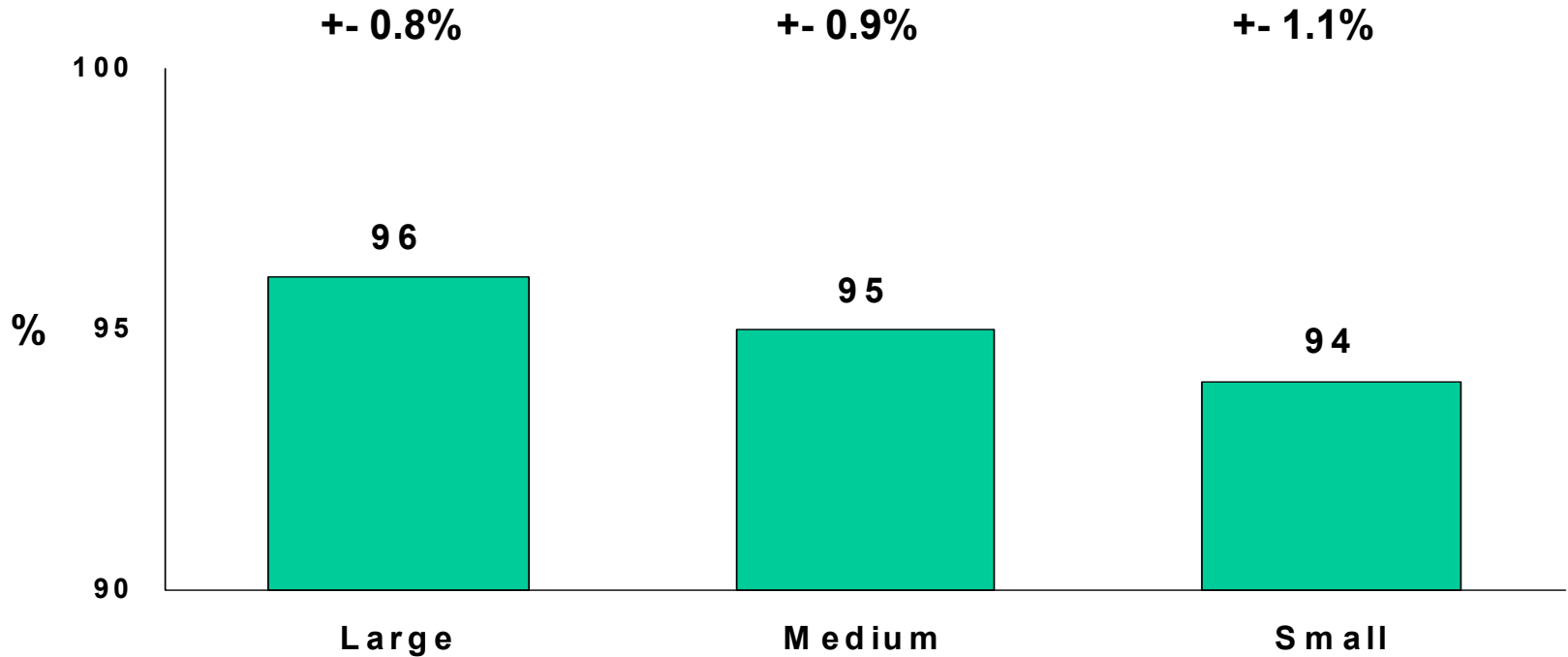
1,833	1,868	938	907	811	139	211	445
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No. with Label

1,717	1,808	884	866	757	136	205	419
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Note: Sample Error listed above

Clothes Washer by Size of Retail Outlet



No. on Display

2,541

2,658

1,953

No. with Label

2,445

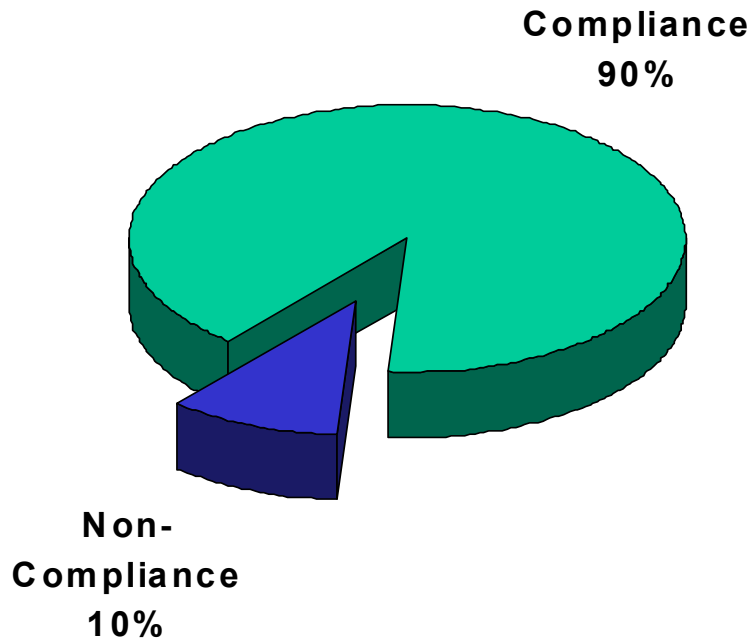
2,513

1,834

Note: Sample Error listed above

- ★ **Of the 3,645 dishwashing machines included in the study the overall compliance rate was 90%.**
- ★ **Based on this total sample, the sample error for this result was + or - 1.0%, giving a region of 89% and 91%.**
- ★ **Within the dishwashing machines Darwin (96%), and Melbourne (96%) have equally highest compliance levels.**
- ★ **The poorest result for dishwashing machines was found in Sydney with 83% and Perth with 86%.**
- ★ **Amongst the three size categories the Large Department Stores (91%) were more likely to have dishwashing machines on display with the Energy Efficiency labelling.**

Dishwasher Percentage Compliance and Sample Error



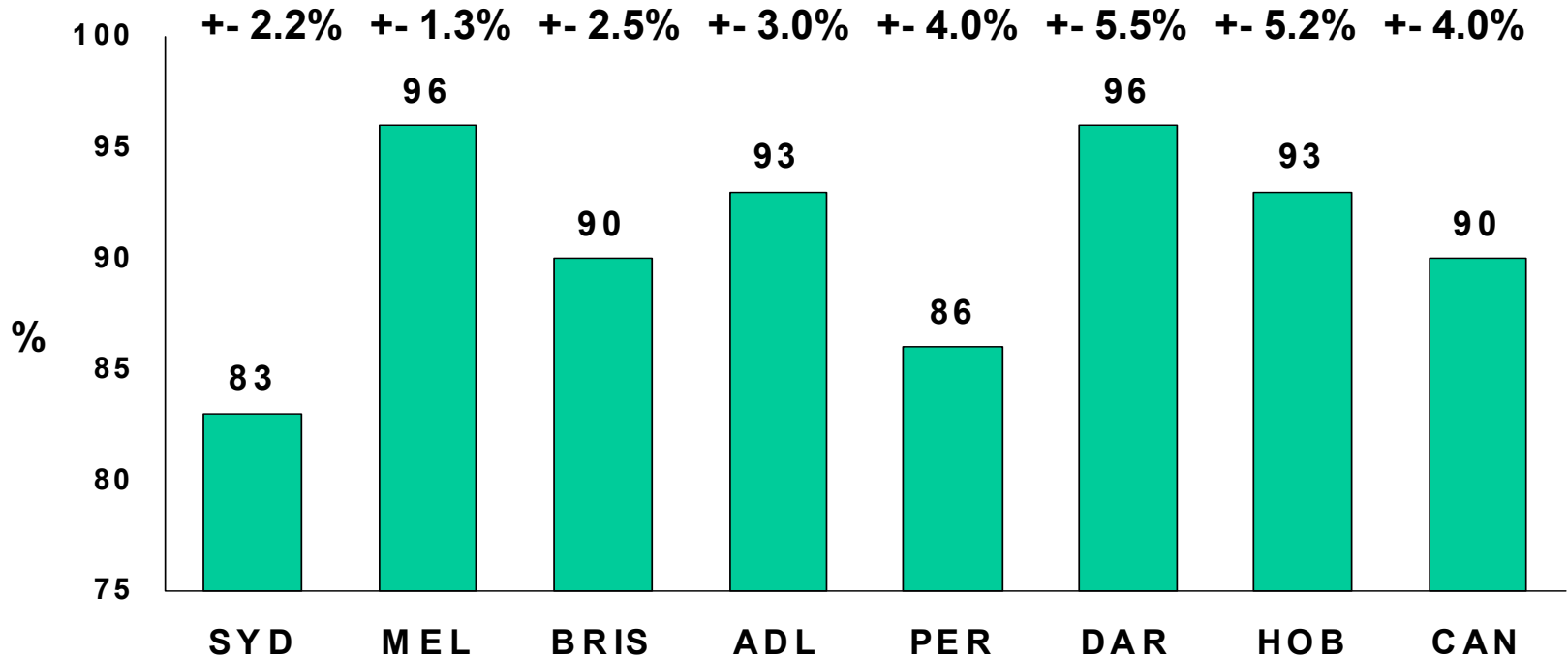
No. on Display **3,645**

No. with Label **3,270**

% Compliance **90%**

Sample Error **+ - 1.0%**

Dishwasher by City



No. on Display

1,056 1,070 513 270 363 50 90 233

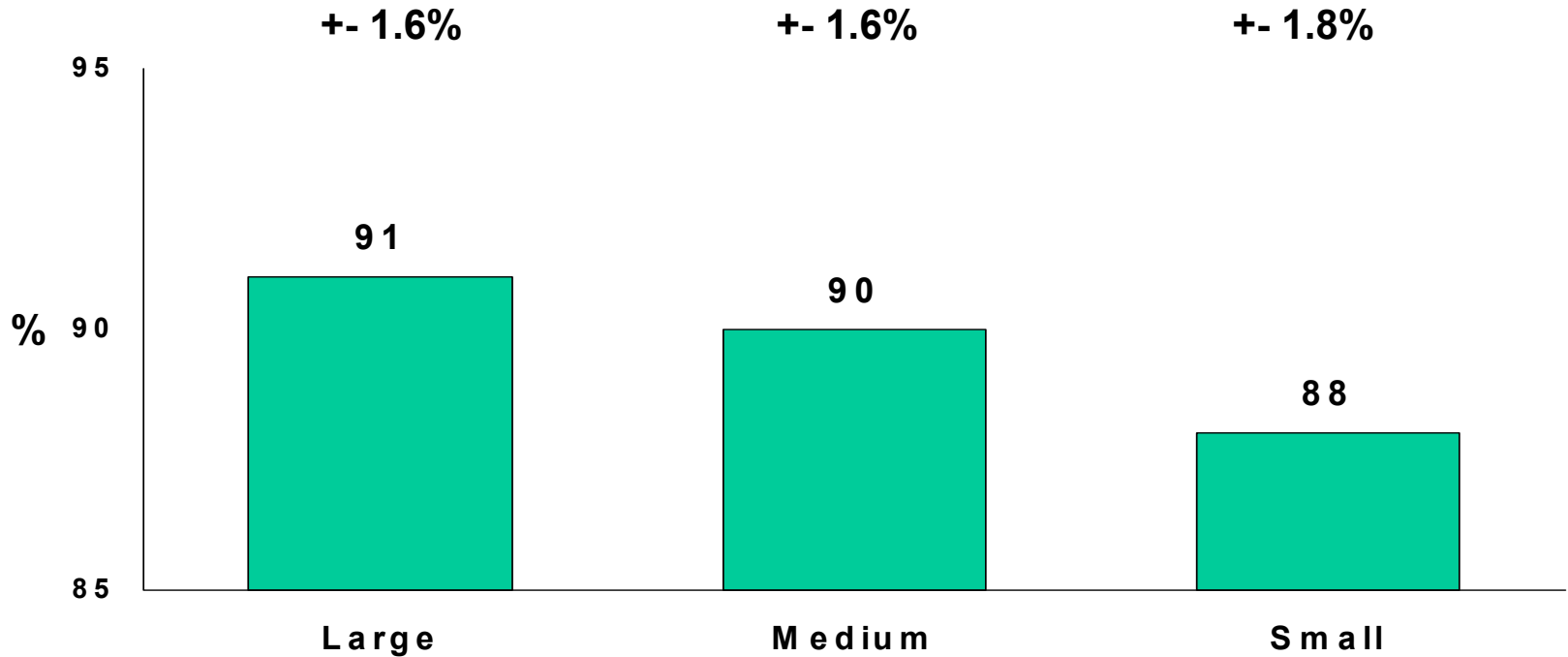
No. with Label

880 1,024 462 251 311 48 84 210

Note: Sample Error listed above



Dishwasher by Size of Retail Outlet



No. on Display

1,317

1,240

1,088

No. with Label

1,205

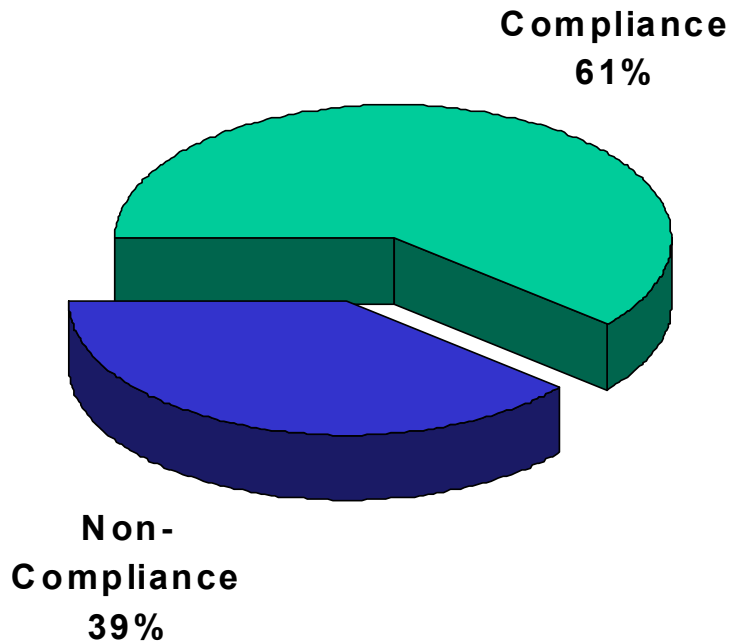
1,110

955

Note: Sample Error listed above

- ★ Of the 1,696 air conditioners included in the study, the overall compliance rate was 61%.
- ★ Based on this total sample, the sample error for this result was + or - 2.5%, giving a region of 58.5% and 63.5%.
- ★ Within the air conditioners evaluated in each city, Melbourne (76%) and Darwin (70%), have the highest compliance levels.
- ★ The poorest result for air conditioners was found in Canberra with 25% and Adelaide with 44%.
- ★ Amongst the three size categories the Large Department Stores (67%) were more likely to have air conditioners on display with the Energy Efficiency labelling.
- ★ It is important to note that the study was carried out in the winter months where there are fewer Air Conditioners on display, thus caution should be taken when interpreting their results.

Air Conditioners Percentage Compliance and Sample Error



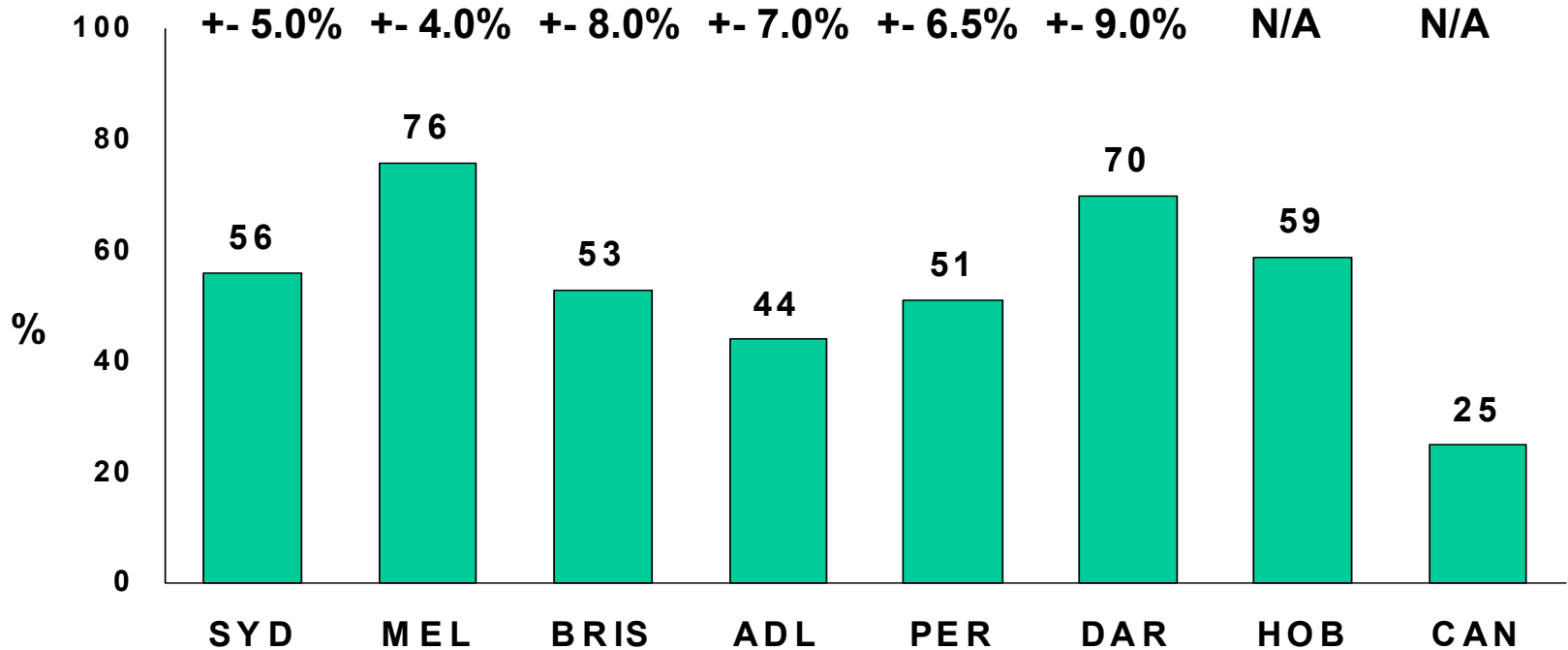
No. on Display **1,696**

No. with Label **1,030**

% Compliance **61%**

Sample Error **+ - 2.5%**

Air Conditioners by City



No. on Display

422

538

144

195

240

123

29

4

No. with Label

235

407

76

86

122

86

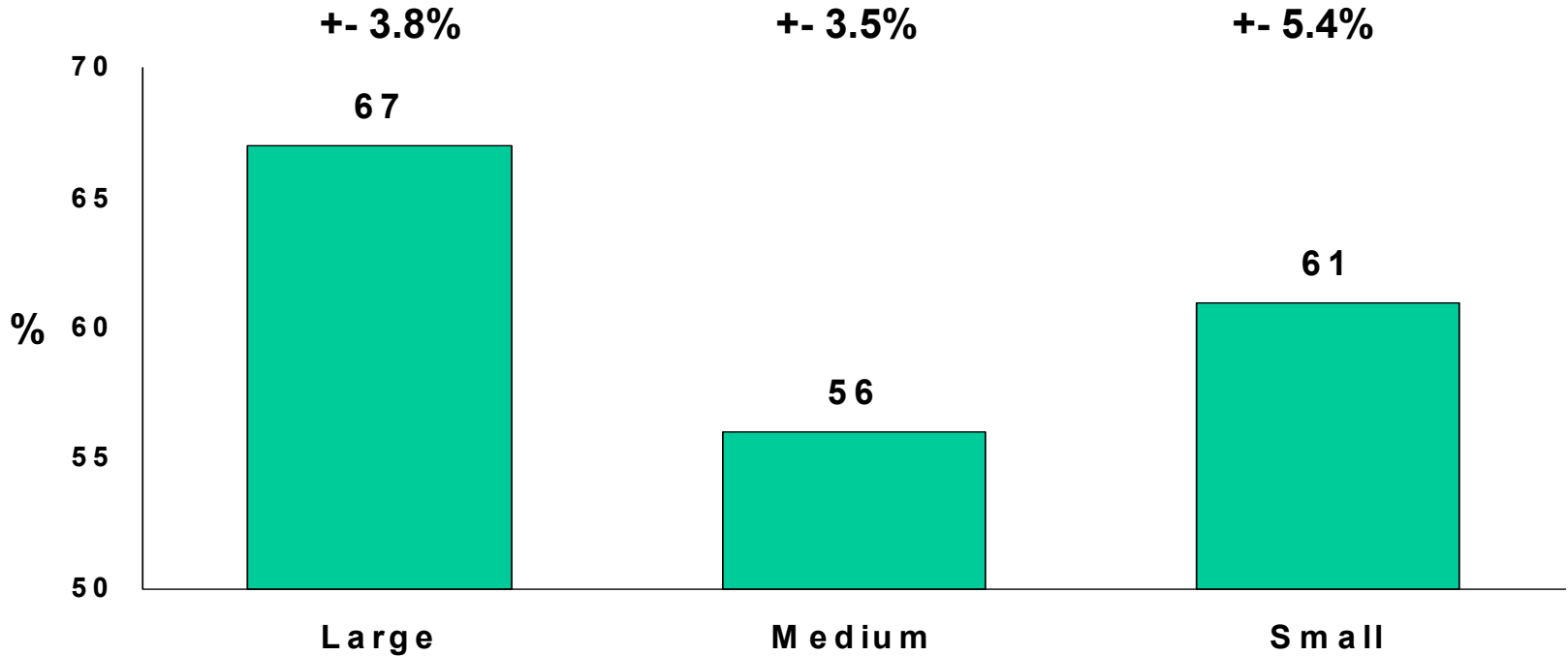
17

1

Note: Sample Error listed above (N/A - sample size is too small)



Air Conditioners by Size of Retail Outlet



No. on Display

595

781

319

No. with Label

396

438

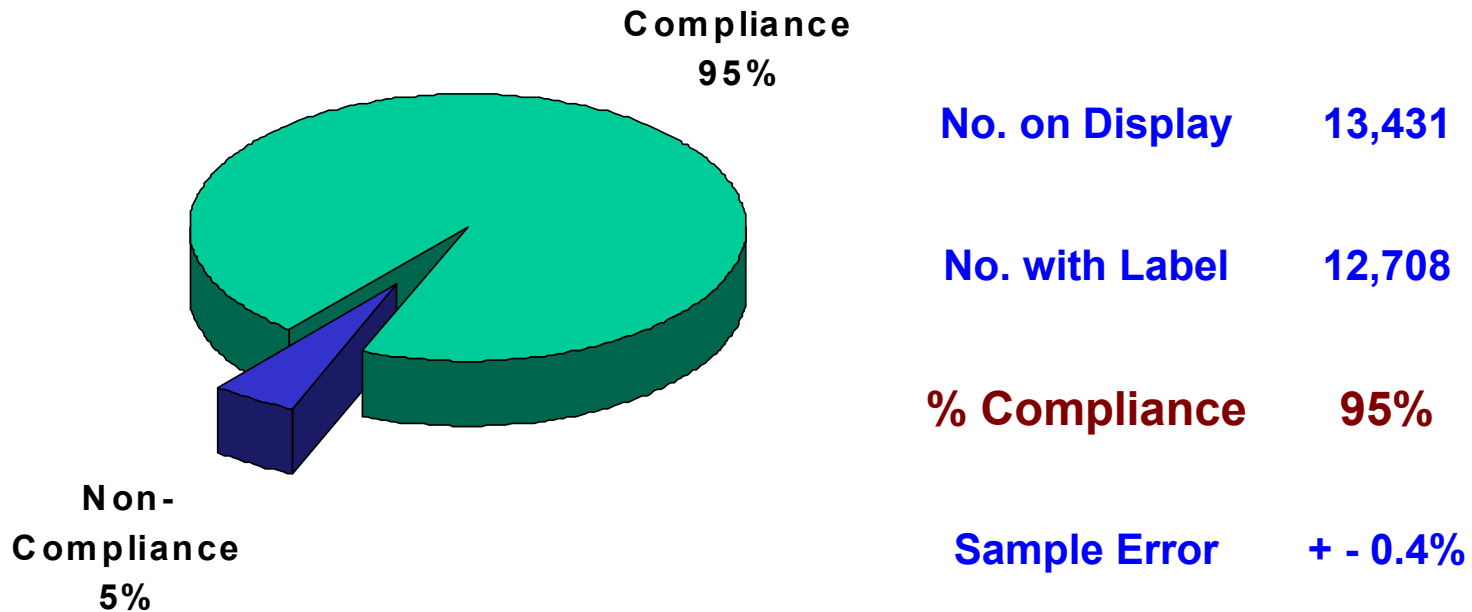
196

Note: Sample Error listed above

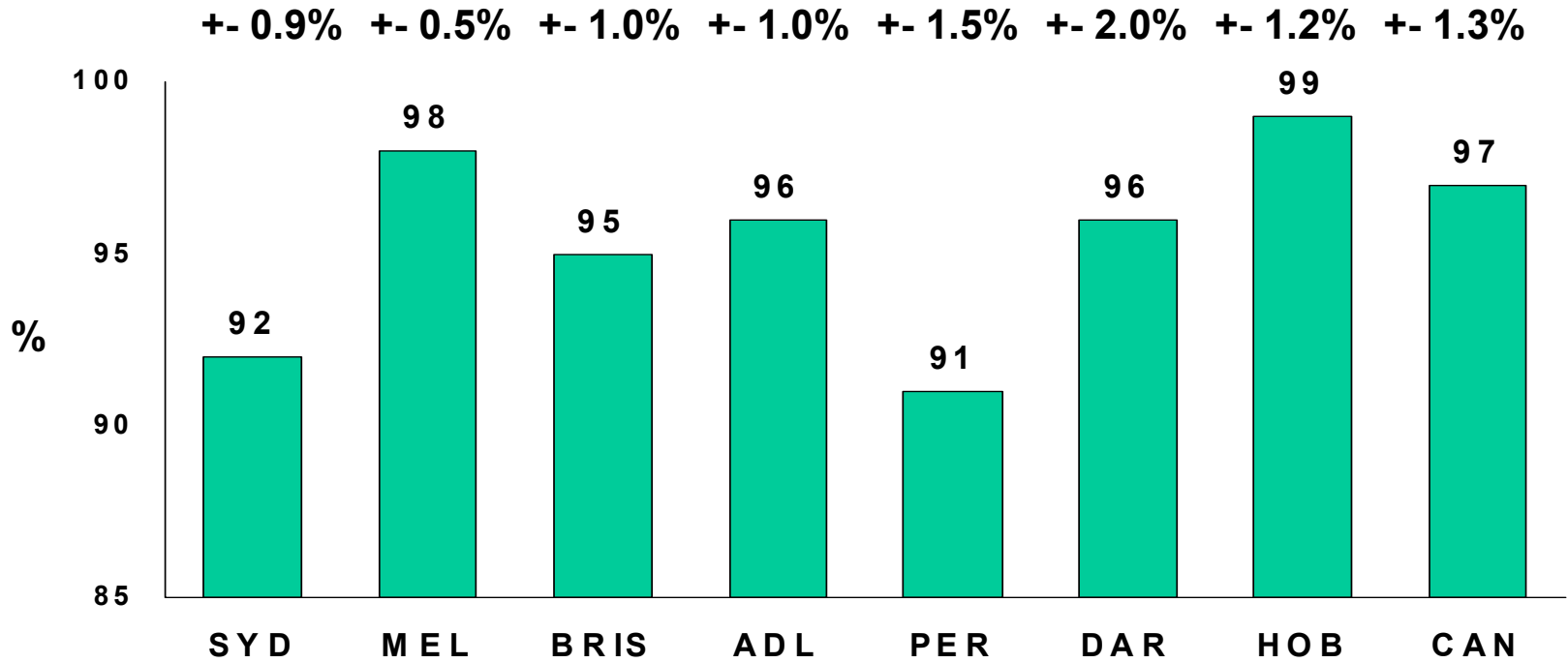
- ★ Of the 13,431 refrigerators and fridge freezers included in the study, the overall compliance rate was 95%.
- ★ Based on this total sample, the sample error for this result was + or - 0.4%, giving a region of 94.6% and 95.4%.
- ★ Within the refrigerators and fridge freezers evaluated in each city, Hobart (99%) and Melbourne (98%), have the highest compliance levels.
- ★ The poorest result for refrigerators and fridge freezers was found in Perth with 91% and Sydney with 92%.
- ★ Amongst the three size categories the Large Department Stores (96%) were more likely to have refrigerators and fridge freezers on display with the Energy Efficiency labelling.

Refrigerators or Fridge Freezers

Refrigerator or Fridge Freezer Percentage Compliance and Sample Error



Refrigerators or Fridge Freezers by City

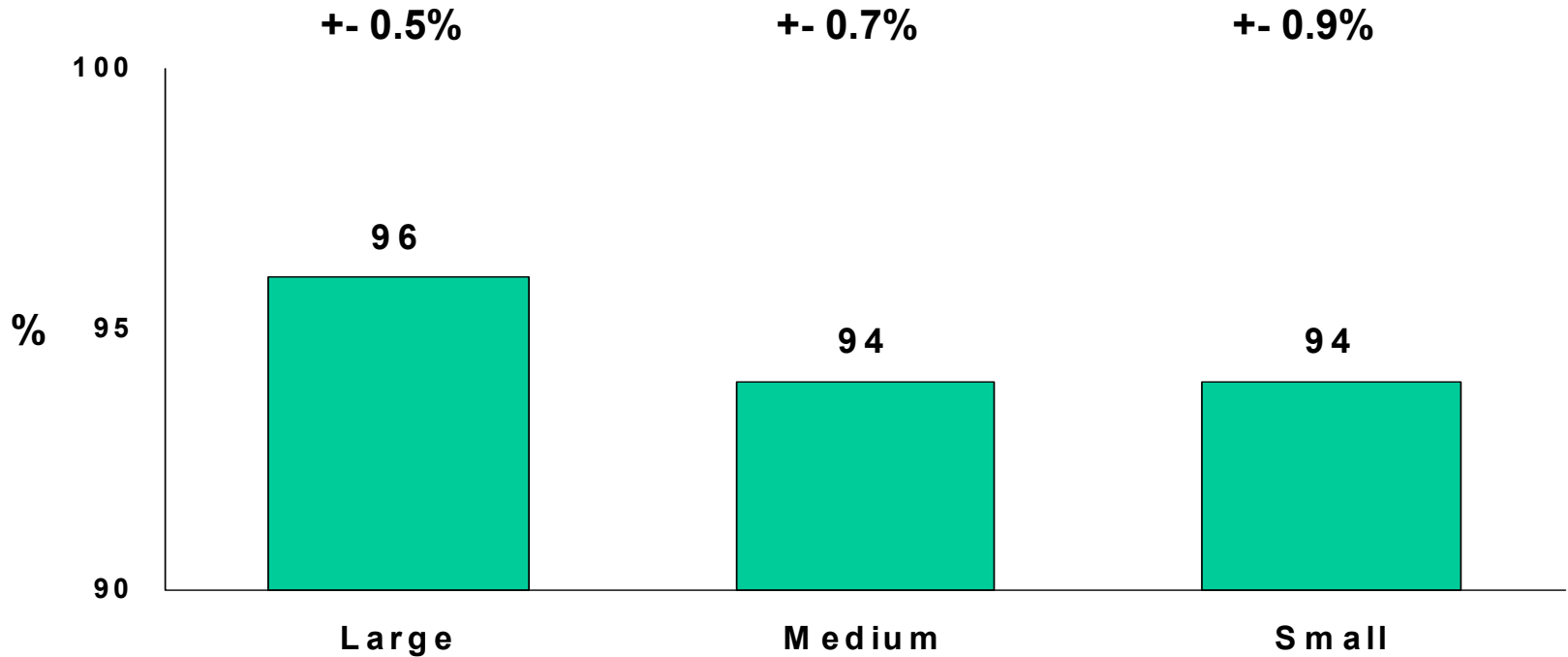


	SYD	MEL	BRIS	ADL	PER	DAR	HOB	CAN
No. on Display	3,605	3,535	1,843	1,388	1,676	393	280	711
No. with Label	3,318	3,450	1,747	1,330	1,518	378	278	689

Note: Sample Error listed above

Refrigerators or Fridge Freezers by Size of Retail Outlet

NAEEEC



No. on Display

4,847

5,339

3,245

No. with Label

4,649

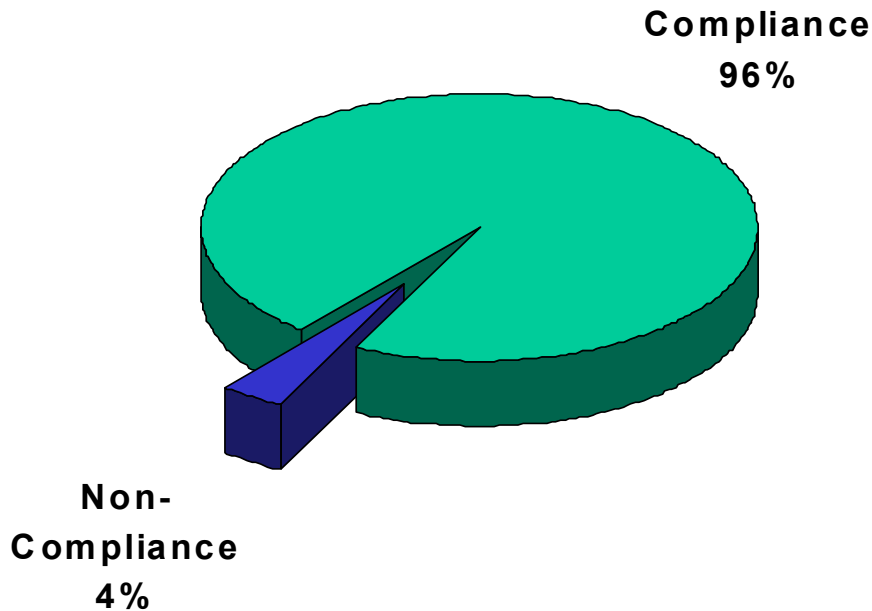
5,002

3,057

Note: Sample Error listed above

- ★ Of the 3,101 clothes dryers included in the study, the overall compliance rate was 96%.
- ★ Based on this total sample, the sample error for this result was + or - 0.7%, giving a region of 95.3% and 96.7%.
- ★ Within the clothes dryers evaluated in each city, Darwin (100%), Melbourne (98%), Adelaide (98%) and Canberra (98%), have the highest compliance levels.
- ★ A comparatively poorer result for clothes dryers was found in Perth with 94% and Sydney with 94%.
- ★ Amongst the three size categories the Large Department Stores (97%) were more likely to have clothes dryers on display with the Energy Efficiency labelling.

Clothes Dryers Percentage Compliance and Sample Error



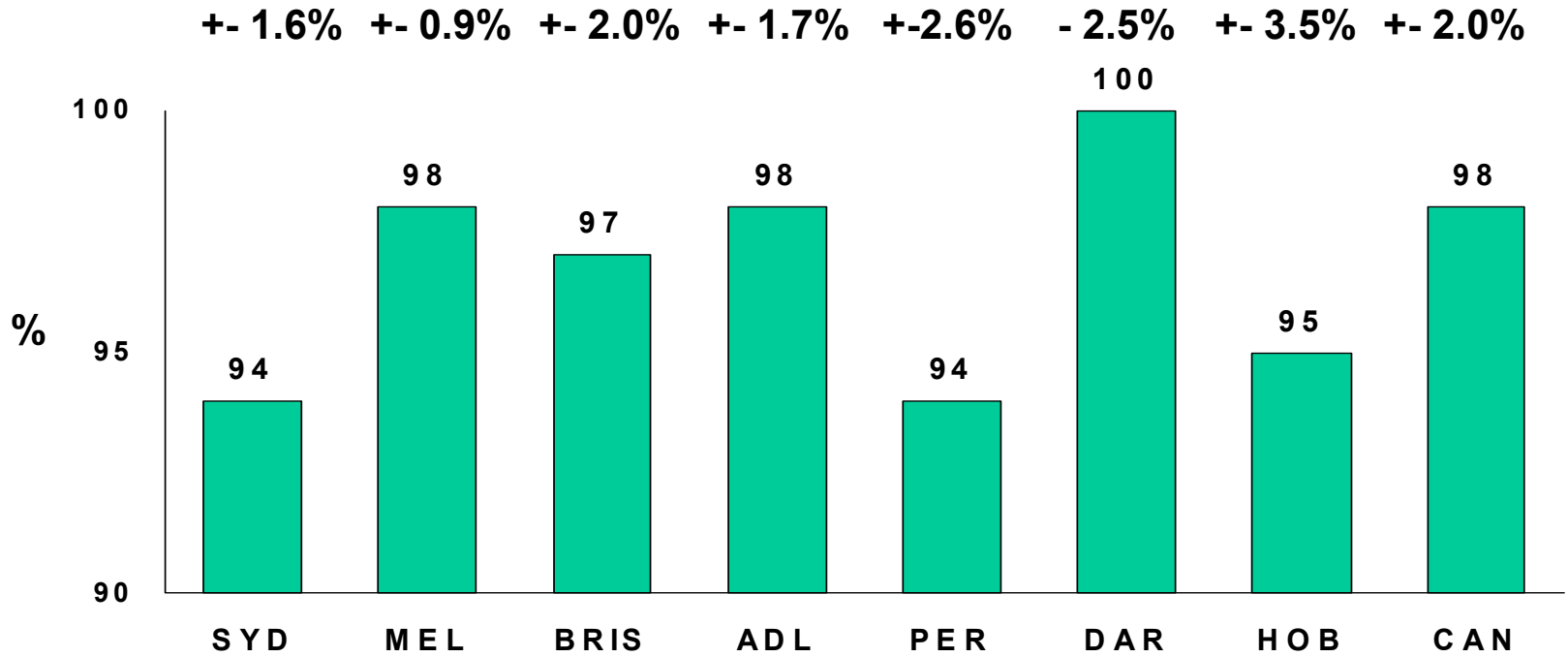
No. on Display **3,101**

No. with Label **2,988**

% Compliance **96%**

Sample Error **+ - 0.7%**

Clothes Dryers by City

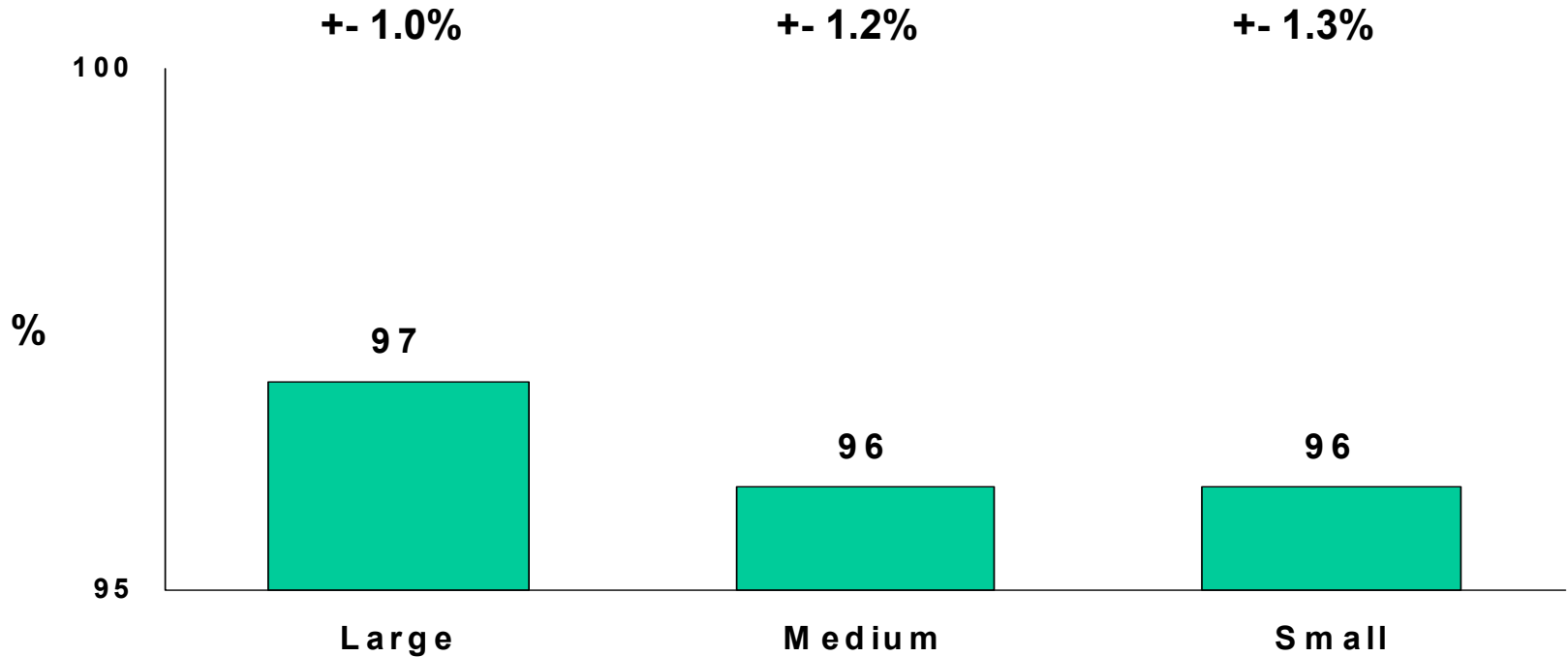


	SYD	MEL	BRIS	ADL	PER	DAR	HOB	CAN
No. on Display	968	927	293	264	325	47	133	144
No. with Label	914	912	284	259	304	47	127	141

Note: Sample Error listed above



Clothes Dryers by Size of Retail Outlet



No. on Display

1,076

1,131

894

No. with Label

1,047

1,083

858

Note: Sample Error listed above

Electrical Appliances by Manufacturer

- ★ The manufacturers of clothes washing machines which had noticeably poor compliance rating were; Sanyo (68%), Maytag (83%) and Admiral (86%).
- ★ The manufacturers of dishwashing machines which had noticeably poor compliance rating were; Thor (63%), Blanco (68%), Smeg (79%) and St. George (83%).
- ★ The manufacturers of air conditioning machines which had noticeably poor compliance rating compared to other manufacturers were; Delonghi (50%), Carrier (52%), Panasonic (56%) and Mitsubishi (56%).
- ★ The manufacturers of refrigerators & freezers which had noticeably poor compliance rating compared to other manufacturers were; Maytag (80%), Lemair (81%), Hitachi (82%) and Amana (83%).
- ★ The manufacturers of clothes dryers which had noticeably poor compliance rating compared to other manufacturers were; Maytag (74%), AEG (89%), and Admiral (89%).

Clothes Washing Machines by Manufacturer

Name	No. on Display	%	Name	No. on Display	%
Simpson	1,506	97	General Electric	114	94
Hoover	1,357	97	Omega	112	96
Fisher & Paykel	1,063	97	Kleenmaid	94	93
Whirlpool	851	97	Bosch	92	98
Hitachi	250	90	Westinghouse	81	95
GE	247	90	Thor	79	96
Sanyo	192	68	Samsung	70	99
Asko	188	99	Eurotech	64	97
Maytag	166	83	Ariston	52	98
Bendix	159	94	AEG	49	92
Miele	136	91	Admiral	44	86

Clothes Washing Machines by Manufacturer

Name	No. on Display	%	Name	No. on Display	%
Kelvinator	23	96	Sharp	7	86
Candy	18	78	Speed Queen	7	14
Technika Ardo	17	94	Gemini	6	100
Tecnogas	16	100	Zanussi	5	20
Roper	14	93	Galaxy	4	100
Blanco	14	71	Frigidaire	3	100
Homecraft	12	100	Daewoo	2	100
Other	12	83	Electrolux	1	100
Boss	9	100	Gorenje Pacific	1	100
Norge	7	100	Jenn-Air	1	100
Zerowatt	7	100	Panasonic	1	100

Dishwashing Machines by Manufacturer

Name	No. on Display	%	Name	No. on Display	%
Dishlex	514	92	Kleenmaid	78	87
Fisher & Paykel	497	94	AEG	56	84
Westinghouse	392	89	Ariston	54	91
Asko	377	94	Bendix	50	98
Simpson	371	93	Dishlex Electronic	35	89
Miele	214	89	Omega	35	80
Chef	210	92	Thor	32	63
Bosch	167	90	General Electric	31	84
Smeg	131	79	Hoover	28	96
Whirlpool	115	93	St. George	23	83
Blanco	84	68	Technika	21	86

Dishwashing Machines by Manufacturer

Name	No. on Display	%	Name	No. on Display	%
Electrolux	17	82	Malleys	3	100
Vulcan	17	100	Florence	2	100
Zanussi	17	29			
Eurotech	13	92			
Kitchenmaid	13	85			
Scholtes	12	67			
Gaggenau	9	44			
Other	8	63			
Vulcan Dishlex	7	71			
Candy	6	100			
Vulcan Electronic	6	83			

Air Conditioning Machines by Manufacturer

Name	No. on Display	%	Name	No. on Display	%
Kelvinator	274	59	Whirlpool	42	55
Panasonic	248	56	Delonghi	36	50
Fujitsu	195	75	Hitachi	28	64
Mitsubishi	178	56	Dimplex	23	35
LG	123	76	Other	20	40
Sharp	86	58	Gold Star	20	60
Carrier	83	52	Electra	20	70
NEC	65	78	Convair	16	25
Sanyo	55	89	Blueway	15	20
Teco	49	49	GE	14	50
Samsung	46	70	Calibra	12	8

Air Conditioning Machines by Manufacturer

Name	No. on Display	%	Name	No. on Display	%
Oasis	11	36	Simpson	1	100
Toshiba	7	86	Westinghouse	1	100
Crafft	6	33			
Glenair	6	67			
AEA	4	75			
Bannaire	4	0			
Lemair	2	50			
Mitsuco	2	50			
Daikin	1	100			
Econ	1	0			
Keeprite	1	0			

Refrigerators & Freezers by Manufacturer

Name	No. on Display	%	Name	No. on Display	%
Westinghouse	3,455	95	Daewoo	195	99
Fisher & Paykel	2,652	95	Kleenmaid	181	92
Kelvinator	2,221	95	Lemair	164	81
Hoover	1,193	97	Panasonic	127	97
Whirlpool	703	97	Maytag	104	80
GE	605	87	Sanyo	86	90
Sharp	469	97	Jenn-Air	80	83
Samsung	323	96	Amana	54	83
NEC	291	98	Other	35	66
LG	215	100	GEC	15	93
General Electric	202	93	Hitachi	11	82

Refrigerators & Freezers by Manufacturer

Name	No. on Display	%	Name	No. on Display	%
Admiral	10	60	Homemaker	1	100
Frigidaire	8	88			
Goldstar	5	100			
Norge	5	100			
Philips	5	100			
Fujitsu	4	100			
Malleys	4	75			
Liebherr	3	67			
GAC	2	100			
Ignis	2	100			
Gorenje Pacific	1	100			

Clothes Dryers by Manufacturer

Name	No. on Display	%	Name	No. on Display	%
Simpson	825	98	Thor	41	93
Hoover	711	97	Omega	37	92
Fisher & Paykel	602	99	Admiral	35	89
Whirlpool	159	99	Kleenmaid	32	100
Miele	147	90	Maytag	27	74
Asko	89	99	Technika	21	100
Boshe	74	93	Ariston	20	100
Bendix	67	93	Tecnogas	17	100
General Electric	59	92	Westinghouse	13	69
AEG	45	89	Blanco	11	91
Eurotech	41	100	Zanussi	11	9

Clothes Dryers by Manufacturer

Name	No. on Display	%
Other	7	86
Hotpoint	5	100
Electrolux	2	100
Kelvinator	2	100
Gorenje Pacific	1	100