

**INSTALLATION OF RAINWATER TANKS AND GREY WATER  
SYSTEMS BY AUSTRALIAN HOUSEHOLDS, 2006/7**

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*BIS Shrapnel welcomes any feedback concerning the forecasts  
or methodology used in this report as well as any suggestions  
for future improvement.*

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## 1. INTRODUCTION AND METHODOLOGY

This is the inaugural issue of *Installation of Rainwater Tanks and Grey Water Systems by Australian Households, 2006/7*. It complements work we have done on the installation of water saving devices in new dwellings and, more generally, our extensive, ongoing market research of building materials and fittings in Australia.

BIS Shrapnel has been analysing and monitoring building and construction in Australia for over 40 years, through private and multi-client studies.

The primary objectives of *Installation of Rainwater Tanks and Grey Water Systems by Australian Households, 2006/7* are to quantify the rainwater tanks and grey water systems installed in existing dwellings during 2006 and to determine the number of rainwater tanks and grey water systems that households intend to install (in existing dwellings) in 2007.

The source of data provided in this report was a random telephone survey of approximately 10,000 households throughout Australia in fourth quarter 2006.

The survey covered all states except Tasmania and Northern Territory. Interviews were completed in both the capital city and country areas in New South Wales, Victoria and Queensland, but only in the Adelaide metropolitan area in South Australia and Perth metropolitan area in Western Australia.

The sample size by region was set as follows:

Sydney Statistical Division	1,950
New South Wales Rural (including ACT)	1,275
Melbourne Statistical Division	1,775
Victoria Rural	630
Brisbane Statistical Division	1,100
Queensland Rural	1,190
Adelaide Statistical Division	900
Perth Statistical Division	1,180
<b>Total</b>	<b>10,000</b>

In each region the sample was allocated proportionately to each STD code in the region, based on the number of telephone subscribers. A householder was then randomly selected by computer from the telephone lists.

Experienced telephone interviewers conducted interviews using a (computer based) detailed questionnaire with all respondents to determine whether they had installed a rainwater tank or grey water system during the past 12 months, and whether they planned an installation of these water saving devices in the next 12 months.

The survey results from the final national sample of 10,000 were weighted up to the total number of households in 2006. With Adelaide and Perth accounting for approximately three-quarters of the number of households in their respective states, we took results from the sample in these two capital cities to be representative of total South Australia and Western Australia, respectively.

The final sample size and the weighted number of households for each region were as follows:

	Sample Size	Weighted Base No. of Households
Sydney	1,950	1,568,300
New South Wales Rural (incl. ACT)	1,275	1,079,900
<b>Total New South Wales</b>	<b>3,225</b>	<b>2,648,200</b>
Melbourne	1,775	1,420,100
Victoria Rural	630	523,500
<b>Total Victoria</b>	<b>2,405</b>	<b>1,943,600</b>
Brisbane	1,100	699,500
Queensland Rural	1,190	793,500
<b>Total Queensland</b>	<b>2,290</b>	<b>1,493,000</b>
South Australia	900	639,700
Western Australia	1,180	786,600
<b>TOTAL</b>	<b>10,000</b>	<b>7,511,100</b>

Incidence rates and associated confidence intervals of the various projects included in this report are given below:

#### **Rainwater Tanks**

It was estimated that \_\_\_% of households throughout Australia had undertaken a rainwater tank installation, during 2006, which was the equivalent of \_\_\_ households. The 95% confidence interval for this estimated number of jobs was +/- \_\_\_ households (or +/- \_\_\_%).

#### **Grey water systems**

It was estimated that \_\_\_% of households throughout Australia had undertaken a grey water system installation, during 2006, which was the equivalent of \_\_\_ households. The 95% confidence interval for this estimated number of jobs was +/- \_\_\_ households (or +/- \_\_\_%).

*The percentage breakdown for various demographic characteristics and dwelling details of both the sample and weighted population for Australia is available on request.*

## **2. EXECUTIVE SUMMARY**



### 3. INSTALLATION OF RAINWATER TANKS AND GREY WATER SYSTEMS IN 2006

#### 3.1 Installations by state

**Table 3.1: Projects undertaken in the past 12 months, by state, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>New South Wales</i>			<i>Victoria</i>		
			<i>Total</i>	<i>Metro</i>	<i>Rural</i>	<i>Total</i>	<i>Metro</i>	<i>Rural</i>
Total houses	'000	7,511	2,648	1,568	1,080	1,943	1,420	523
Rainwater tank	'000							
% of total houses								
Grey water system	'000							
% of total houses								
Total projects	'000							
% of total houses								

<i>Material</i>			<i>Queensland</i>			<i>SA</i>	<i>WA</i>
			<i>Total</i>	<i>Metro</i>	<i>Rural</i>	<i>Total</i>	<i>Total</i>
Total houses	'000		1,493	699	794	640	787
Rainwater tank	'000						
% of total houses							
Grey water system	'000						
% of total houses							
Total projects	'000						
% of total houses							

### 3.2 Installations by age of dwelling

**Table 3.2: Projects undertaken in the past 12 months, by age of dwelling, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>Less than 1 yr</i>	<i>1-3 yrs</i>	<i>4-7 yrs</i>	<i>8-12 yrs</i>	<i>13-20 yrs</i>	<i>21-30 yrs</i>	<i>31-50 yrs</i>	<i>Over 50 yrs</i>
Total houses	'000	7,511	62	310	580	728	1,022	1,271	1,606	1,513
Rainwater tank	'000									
% of total houses										
Grey water system	'000									
% of total houses										
Total projects	'000									
% of total houses										

Note: Don't know/refused age of dwelling is not included

### 3.3 Installations by years in current dwelling

**Table 3.3: Projects undertaken in the past 12 months, by years in current dwelling, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>1 yr</i>	<i>2 yrs</i>	<i>3 yrs</i>	<i>4 yrs</i>	<i>5 yrs</i>	<i>6 yrs</i>
Total houses	'000	7,511	845	563	696	532	525	415
Rainwater tank	'000							
% of total houses								
Grey water system	'000							
% of total houses								
Total projects	'000							
% of total houses								

Note: Don't know/refused years in current dwelling is not included

<i>Material</i>		<i>7 yrs</i>	<i>8-12 yrs</i>	<i>13-20 yrs</i>	<i>21-30 yrs</i>	<i>Over 30 yrs</i>
Total houses	'000	302	1,111	1,069	739	709
Rainwater tank	'000					
% of total houses						
Grey water system	'000					
% of total houses						
Total projects	'000					
% of total houses						

Note: Don't know/refused years in current dwelling is not included

### 3.4 Installations by age group

**Table 3.4: Projects undertaken in the past 12 months, by age group, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>Under 20</i>	<i>20-24</i>	<i>25-29</i>	<i>30-34</i>	<i>35-39</i>
Total houses	'000	7,511	34	255	488	708	839
Rainwater tank	'000						
% of total houses							
Grey water system	'000						
% of total houses							
Total projects	'000						
% of total houses							

<i>Material</i>		<i>40-44</i>	<i>45-49</i>	<i>50-54</i>	<i>55-59</i>	<i>60-64</i>	<i>65 and over</i>
Total houses	'000	789	799	772	722	604	1,433
Rainwater tank	'000						
% of total houses							
Grey water system	'000						
% of total houses							
Total projects	'000						
% of total houses							

Note: Don't know/refused age group is not included

### 3.5 Installations by household income

**Table 3.5: Projects undertaken in the past 12 months, by household income, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>Less than \$15k</i>	<i>\$15k - \$24k</i>	<i>\$25k - \$34k</i>	<i>\$35k - \$44k</i>	<i>\$45k - \$54k</i>
Total houses	'000	7,511	663	747	649	589	643
Rainwater tank	'000						
% of total houses							
Grey water system	'000						
% of total houses							
Total projects	'000						
% of total houses							

<i>Material</i>		<i>\$55k - \$64k</i>	<i>\$65k - \$74k</i>	<i>\$75k - \$84k</i>	<i>\$85k - \$99k</i>	<i>\$100k and over</i>
Total houses	'000	588	471	382	438	1,053
Rainwater tank	'000					
% of total houses						
Grey water system	'000					
% of total houses						
Total projects	'000					
% of total houses						

Note: Don't know/refused household income is not included

### 3.6 Installations by dwelling type

**Table 3.6: Projects undertaken in the past 12 months, by dwelling type and rent/own, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>Detached Townhouse</i>				<i>Own</i>	<i>Rent</i>
			<i>house</i>	<i>e/villa</i>	<i>Flat/unit</i>	<i>Other</i>		
Total houses	'000	7,511	5,853	682	920	56	5,251	2,260
Rainwater tank	'000							
% of total houses								
Grey water system	'000							
% of total houses								
Total projects	'000							
% of total houses								

Note: Don't know/refused own/rent is not included

#### 4. INTENDED INSTALLATION OF RAINWATER TANKS AND GREY WATER SYSTEMS IN 2007

##### 4.1 Intended installations by state

**Table 4.1: Projects intended in the next 12 months, by state, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>New South Wales</i>			<i>Victoria</i>		
			<i>Total</i>	<i>Metro</i>	<i>Rural</i>	<i>Total</i>	<i>Metro</i>	<i>Rural</i>
Total houses	'000	7,511	2,648	1,568	1,080	1,943	1,420	523
Rainwater tank	'000							
% of total houses								
Grey water system	'000							
% of total houses								
Total projects	'000							
% of total houses								

<i>Material</i>		<i>Queensland</i>			<i>SA</i>	<i>WA</i>
		<i>Total</i>	<i>Metro</i>	<i>Rural</i>	<i>Total</i>	<i>Total</i>
Total houses	'000	1,493	699	794	640	787
Rainwater tank	'000					
% of total houses						
Grey water system	'000					
% of total houses						
Total projects	'000					
% of total houses						

## 4.2 Intended installations by age of dwelling

**Table 4.2: Projects intended to be undertaken in the next 12 months, by age of dwelling, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>Less than 1 yr</i>	<i>1-3 yrs</i>	<i>4-7 yrs</i>	<i>8-12 yrs</i>	<i>13-20 yrs</i>	<i>21-30 yrs</i>	<i>31-50 yrs</i>	<i>Over 50 yrs</i>
Total houses	'000	7,511	62	310	580	728	1,022	1,271	1,606	1,513
Rainwater tank	'000									
% of total houses										
Grey water system	'000									
% of total houses										
Total projects	'000									
% of total houses										

Note: Don't know/refused age of dwelling is not included

### 4.3 Intended installations by years in current dwelling

**Table 4.3: Projects intended to be undertaken in the next 12 months, by years in current dwelling, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>1 yr</i>	<i>2 yrs</i>	<i>3 yrs</i>	<i>4 yrs</i>	<i>5 yrs</i>	<i>6 yrs</i>
Total houses	'000	7,511	845	563	696	532	525	415
Rainwater tank	'000							
% of total houses								
Grey water system	'000							
% of total houses								
Total projects	'000							
% of total houses								

<i>Material</i>		<i>7 yrs</i>	<i>8-12 yrs</i>	<i>13-20 yrs</i>	<i>21-30 yrs</i>	<i>Over 30 yrs</i>
Total houses	'000	302	1,111	1,069	739	709
Rainwater tank	'000					
% of total houses						
Grey water system	'000					
% of total houses						
Total projects	'000					
% of total houses						

Note: Don't know/refused years in current dwelling is not included

#### 4.4 Intended installations by age group

**Table 4.4: Projects intended to be undertaken in the next 12 months, by age group, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>Under 20</i>	<i>20-24</i>	<i>25-29</i>	<i>30-34</i>	<i>35-39</i>
Total houses	'000	7,511	34	255	488	708	839
Rainwater tank	'000						
% of total houses							
Grey water system	'000						
% of total houses							
Total projects	'000						
% of total houses							

<i>Material</i>		<i>40-44</i>	<i>45-49</i>	<i>50-54</i>	<i>55-59</i>	<i>60-64</i>	<i>65 and over</i>
Total houses	'000	789	799	772	722	604	1,433
Rainwater tank	'000						
% of total houses							
Grey water system	'000						
% of total houses							
Total projects	'000						
% of total houses							

Note: Don't know/refused age group is not included

#### 4.5 Intended installations by household income

**Table 4.5: Projects intended to be undertaken in the next 12 months, by household income, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>Less than \$15k</i>	<i>\$15k - \$25k</i>	<i>\$25k - \$35k</i>	<i>\$35k - \$45k</i>	<i>\$45k - \$55k</i>
Total houses	'000	7,511	663	747	649	589	643
Rainwater tank	'000						
% of total houses							
Grey water system	'000						
% of total houses							
Total projects	'000						
% of total houses							

<i>Material</i>		<i>\$55k - \$65k</i>	<i>\$65k - \$75k</i>	<i>\$75k - \$85k</i>	<i>\$85k - \$100k</i>	<i>\$100k and over</i>
Total houses	'000	588	471	382	438	1,053
Rainwater tank	'000					
% of total houses						
Grey water system	'000					
% of total houses						
Total projects	'000					
% of total houses						

Note: Don't know/refused household income is not included

#### 4.6 Intended installations by dwelling type

**Table 4.6: Projects intended to be undertaken in the next 12 months, by dwelling type and rent/own, 2006**

<i>Material</i>		<i>Total Australia</i>	<i>Detached house</i>	<i>Townhous e/villa</i>	<i>Flat/unit</i>	<i>Other</i>	<i>Own</i>	<i>Rent</i>
Total houses	'000	7,511	5,853	682	920	56	5,251	2,260
Rainwater tank	'000							
% of total houses								
Grey water system	'000							
% of total houses								
Total projects	'000							
% of total houses								

Note: Don't know/refused own/rent is not included

## 5. RAINWATER TANK PURCHASES IN 2006

### 5.1 Number of rainwater tanks installed

**Table 5.1: Number of rainwater tanks installed, by state, 2006**

<i>Material</i>	<i>Total Australia</i>	<i>New South Wales</i>			<i>Victoria</i>		
		<i>Total</i>	<i>Metro</i>	<i>Rural</i>	<i>Total</i>	<i>Metro</i>	<i>Rural</i>
Total rainwater tank projects '000							
	%	%	%	%	%	%	%
One							
Two							
Three							
Four or more							
Total	100	100	100	100	100	100	100
Mean installations per dwelling							
Total rainwater tanks installed '000							

<i>Material</i>	<i>Queensland</i>			<i>SA</i>	<i>WA</i>
	<i>Total</i>	<i>Metro</i>	<i>Rural</i>	<i>Total</i>	<i>Total</i>
Total rainwater tank projects '000					
	%	%	%	%	%
One					
Two					
Three					
Four or more					
Total	100	100	100	100	100
Mean installations per dwelling					
Total rainwater tanks installed '000					

## 5.2 Material of rainwater tanks installed

**Table 5.2: Material of rainwater tank, by state, 2006**

<i>Material</i>	<i>Total Australia</i>	<i>New South Wales</i>			<i>Victoria</i>		
		<i>Total</i>	<i>Metro</i>	<i>Rural</i>	<i>Total</i>	<i>Metro</i>	<i>Rural</i>
Respondents							
Know material of rainwater tank	%	%	%	%	%	%	%
Don't know material							
Total rainwater tanks installed '000							
Polyethylene	%	%	%	%	%	%	%
Fibre reinforced plastic							
Steel							
Other							
Total	100	100	100	100	100	100	100

<i>Material</i>	<i>Queensland</i>			<i>SA</i>	<i>WA</i>
	<i>Total</i>	<i>Metro</i>	<i>Rural</i>	<i>Total</i>	<i>Total</i>
Respondents					
Know material of rainwater tank	%	%	%	%	%
Don't know material					
Total rainwater tanks installed '000					
Polyethylene	%	%	%	%	%
Fibre reinforced plastic					
Steel					
Other					
Total	100	100	100	100	100

### 5.3 Type of rainwater tanks installed

**Table 5.3: Type of rainwater tank, by state, 2006**

<i>Material</i>	<i>Total Australia</i>	<i>New South Wales</i>			<i>Victoria</i>		
		<i>Total</i>	<i>Metro</i>	<i>Rural</i>	<i>Total</i>	<i>Metro</i>	<i>Rural</i>
Respondents							
Above ground	%	%	%	%	%	%	%
Below ground							
Total	100	100	100	100	100	100	100

<i>Material</i>	<i>Queensland</i>			<i>SA</i>	<i>WA</i>
	<i>Total</i>	<i>Metro</i>	<i>Rural</i>	<i>Total</i>	<i>Total</i>
Respondents					
Above ground	%	%	%	%	%
Below ground					
Total	100	100	100	100	100

**Table 5.4: Capacity of rainwater tank, by state, 2006**

Material	Total Australia	New South Wales			Victoria			Queensland			SA Total	WA Total
		Total	Metro	Rural	Total	Metro	Rural	Total	Metro	Rural		
Respondents	%	%	%	%	%	%	%	%	%	%	%	%
Less than 1,000 litres												
1,000 to 1,999 litres												
2,000 to 2,999 litres												
3,000 to 3,999 litres												
4,000 to 4,999 litres												
5,000 to 5,999 litres												
6,000 to 6,999 litres												
7,000 to 7,999 litres												
8,000 to 8,999 litres												
9,000 to 9,999 litres												
10,000 litres or more												
Total	100	100	100	100	100	100	100	100	100	100	100	100
Mean litres per tank												
Total rainwater tanks installed '000												
Total capacity of installed tanks ML												

## **5.4 Capacity of rainwater tanks installed**

**Table 5.5: Reasons for installing a rainwater tank, by state, 2006**

Material	Total Australia		New South Wales		Victoria		Queensland		SA		WA	
	Total	%	Total	Rural	Total	Rural	Total	Rural	Total	Rural	Total	Rural
Respondents												
To save water		%		%		%		%		%		%
Wanted for garden use												
Better for the environment												
Due to dwelling location (no town water)												
Government rebates												
Part of other renovation												
Plumber specified												
To meet the 5 star standard												
Part of a grey water system												
Architect specified												
Other												

\*) less than 0.5%

Note: totals add to over 100% due to multiple response

## **5.5 Reasons for the installation of a rainwater tank**

**Table 5.6: Most important reasons for installing a rainwater tank, by state, 2006**

Material	Total Australia		New South Wales		Victoria		Queensland		SA		WA	
	Total	Rural	Total	Rural	Total	Rural	Total	Rural	Total	Rural	Total	Rural
Respondents												
To save water	%	%	%	%	%	%	%	%	%	%	%	%
Wanted for garden use												
Due to dwelling location (no town water)												
Better for the environment												
Part of other renovation												
To meet the 5 star standard												
Government rebates												
Part of a grey water system												
Other												
Total	100	100	100	100	100	100	100	100	100	100	100	100

\*) less than 0.5%

## **5.6 Most important reason for the installation of a rainwater tank**

