Community Engagement
Alice Solar City

Final report

Community Engagement

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### Acronyms

The following acronyms are used throughout the Alice Solar City reports:

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<thead>
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<th>Acronym</th>
<th>Meaning</th>
<th>Acronym</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
<td>KRR</td>
<td>key results reporting</td>
</tr>
<tr>
<td>ADC</td>
<td>average daily consumption</td>
<td>kW</td>
<td>kilowatt</td>
</tr>
<tr>
<td>AS</td>
<td>Alice Springs</td>
<td>kWh</td>
<td>kilowatt hour</td>
</tr>
<tr>
<td>ASC</td>
<td>Alice Solar City</td>
<td>kWh/yr</td>
<td>kilowatt hour per year</td>
</tr>
<tr>
<td>ASTC</td>
<td>Alice Springs Town Council</td>
<td>LBEA</td>
<td>Large business energy audit</td>
</tr>
<tr>
<td>BMS</td>
<td>building management system</td>
<td>LBEERP</td>
<td>large business energy efficiency program</td>
</tr>
<tr>
<td>BP</td>
<td>BP Solar</td>
<td>LEDs</td>
<td>light emitting diodes</td>
</tr>
<tr>
<td>CAT</td>
<td>Centre for Appropriate Technology</td>
<td>LGA</td>
<td>Local Government</td>
</tr>
<tr>
<td>CEA</td>
<td>commercial energy audit</td>
<td>MER</td>
<td>monitoring, evaluation and reporting</td>
</tr>
<tr>
<td>CEC</td>
<td>Clean Energy Council</td>
<td>MWh</td>
<td>megawatt hour</td>
</tr>
<tr>
<td>CES</td>
<td>commercial energy survey</td>
<td>NB</td>
<td>new build</td>
</tr>
<tr>
<td>CFL</td>
<td>compact fluorescent lamp</td>
<td>NT</td>
<td>Northern Territory</td>
</tr>
<tr>
<td>CG</td>
<td>Control Group</td>
<td>OSB</td>
<td>one shot booster switch</td>
</tr>
<tr>
<td>CO₂</td>
<td>carbon dioxide</td>
<td>OTP</td>
<td>over temperature protection</td>
</tr>
<tr>
<td>CRT</td>
<td>cost reflective trial</td>
<td>PTR</td>
<td>pressure and temperature Relief</td>
</tr>
<tr>
<td>DB</td>
<td>database</td>
<td>PV</td>
<td>photovoltaic</td>
</tr>
<tr>
<td>DCCEE</td>
<td>Department of Climate Change and Energy Efficiency</td>
<td>PWC</td>
<td>Power and Water Corporation</td>
</tr>
<tr>
<td>Deg C</td>
<td>degrees celsius</td>
<td>REC</td>
<td>Renewable Energy Certificate</td>
</tr>
<tr>
<td>EC</td>
<td>electricity consumption</td>
<td>RET</td>
<td>Renewable Energy Target</td>
</tr>
<tr>
<td>EEM</td>
<td>energy efficiency measure</td>
<td>SBEERP</td>
<td>small business energy efficiency program</td>
</tr>
<tr>
<td>EEV</td>
<td>energy efficiency voucher</td>
<td>SD</td>
<td>Sunny Design</td>
</tr>
<tr>
<td>FUS</td>
<td>follow up survey</td>
<td>SHW</td>
<td>solar hot water</td>
</tr>
<tr>
<td>GHG</td>
<td>green house gases</td>
<td>SHWS</td>
<td>solar hot water system</td>
</tr>
<tr>
<td>GIS</td>
<td>geographic information system</td>
<td>SLA</td>
<td>statistical local area</td>
</tr>
<tr>
<td>GSM</td>
<td>global system mobile communication</td>
<td>SLC</td>
<td>Smart Living Centre</td>
</tr>
<tr>
<td>HEA</td>
<td>home energy audit</td>
<td>SMA</td>
<td>SMA Pty LTD</td>
</tr>
<tr>
<td>HES</td>
<td>home energy survey</td>
<td>SME</td>
<td>small to medium enterprise</td>
</tr>
<tr>
<td>HVAC</td>
<td>heating, ventilation and air conditioning</td>
<td>SRES</td>
<td>Small Renewable Energy Scheme</td>
</tr>
<tr>
<td>HW</td>
<td>hot water</td>
<td>STC</td>
<td>Small Scale Technology Certificate</td>
</tr>
<tr>
<td>HWS</td>
<td>hot water system</td>
<td>V</td>
<td>volt</td>
</tr>
<tr>
<td>ID's</td>
<td>Identities</td>
<td>VFD</td>
<td>variable frequency drive</td>
</tr>
<tr>
<td>IGUs</td>
<td>insulated glass units</td>
<td>W</td>
<td>watt</td>
</tr>
<tr>
<td>IHD</td>
<td>in house display</td>
<td>WELS</td>
<td>water efficiency labelling and standards</td>
</tr>
<tr>
<td>KAB</td>
<td>knowledge attitude and behaviour</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Context

This document addresses the key reporting requirements for the community engagement component of the Alice Solar City (ASC) residential program, as specified in the funding agreement with the Australian Government, which was the major ASC sponsor through the national Solar Cities program. These key reporting requirements (see section 1.2 below) are part of the program monitoring and evaluation, are well defined, and encompass fairly narrow aspects of what is generally understood as community engagement in large programs such as Alice Solar City. In this report, the context is provided by a brief overview of the more generic aspects of ASC community engagement (CE), and this is followed by a description of the methods and results of the key ‘community engagement’ reporting requirements of the agreement with the Australian Government. The primary audiences are the program sponsors, and although the report is reasonably detailed, it is not highly technical and is suitable for interested readers. For additional background information on Alice Solar City’s residential program, refer to the range of information and reports available from ASC’s website www.alicesolarcity.com.au

1.1 Community Engagement and the ASC Program

Engagement and interaction with the Alice Spring’s community was an important foundational and ongoing part of the ASC program. A general summary of the avenues of communication and the methods employed during the ASC program is shown in the table below. In some cases, the methods are generic and not necessarily confined to one avenue, e.g. the website includes information/fact sheets available in hard copy from the Smart Living Centre (ASC shopfront).

<table>
<thead>
<tr>
<th>Avenues of communication</th>
<th>Methods of interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASC shopfront (Smart Living Centre)</td>
<td>Computer based sign-up/registration</td>
</tr>
<tr>
<td></td>
<td>Relevant advice/discussion with ASC staff</td>
</tr>
<tr>
<td></td>
<td>Processes for ASC engagement and incentives</td>
</tr>
<tr>
<td></td>
<td>Energy efficiency and technical/behavioural information/fact sheets – print format</td>
</tr>
<tr>
<td></td>
<td>Technical displays and interactive technical activities</td>
</tr>
<tr>
<td></td>
<td>Monetary claims and advice</td>
</tr>
<tr>
<td></td>
<td>Competition entries and prizes</td>
</tr>
<tr>
<td></td>
<td>Promotional information</td>
</tr>
<tr>
<td></td>
<td>Supplier questions, dialogue and invoices</td>
</tr>
</tbody>
</table>

ASC direct communications with customers/suppliers

<table>
<thead>
<tr>
<th>Methods of interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home energy audits</td>
</tr>
<tr>
<td>Provision of vouchers (financial incentives) and supplier details</td>
</tr>
<tr>
<td>Personal phone/email/mail contact for specific purposes</td>
</tr>
<tr>
<td>Email newsletters to customers – residential and commercial</td>
</tr>
<tr>
<td>‘Bulk’ emails for specific customer cohorts or specific information purposes</td>
</tr>
<tr>
<td>Voucher use reminder emails</td>
</tr>
<tr>
<td>Electricity consumption update emails</td>
</tr>
<tr>
<td>Specific contact re acknowledged problems or issues</td>
</tr>
<tr>
<td>Follow-up support engagement options</td>
</tr>
<tr>
<td>Contact as required with energy challenge participants and energy champion households</td>
</tr>
<tr>
<td>Customer surveys and feedback about program and activities</td>
</tr>
<tr>
<td>Information and registration pack for suppliers</td>
</tr>
<tr>
<td>Update emails for suppliers</td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td>Communications strategy, responses and routines</td>
</tr>
<tr>
<td>Advertising</td>
</tr>
<tr>
<td>Media releases and ‘solar spots’</td>
</tr>
<tr>
<td>Community newsletters – print format to all residents</td>
</tr>
<tr>
<td>Promotional items, processes, and activities</td>
</tr>
<tr>
<td>Promotions and discussion panels</td>
</tr>
<tr>
<td>Specific promotional activities, campaigns and events</td>
</tr>
<tr>
<td><strong>Public relations, promotions and media</strong></td>
</tr>
<tr>
<td>Alice Springs Show</td>
</tr>
<tr>
<td>Alice Springs Ecofair and associated educational activities</td>
</tr>
<tr>
<td>Alice Springs community markets</td>
</tr>
<tr>
<td>Desert Festival parade and Bangtail muster</td>
</tr>
<tr>
<td>Business at Sunset, October business month and others</td>
</tr>
<tr>
<td><strong>Participation in community events</strong></td>
</tr>
<tr>
<td>ASC program launches and milestones</td>
</tr>
<tr>
<td>Public open days for iconic projects</td>
</tr>
<tr>
<td>Movie screening</td>
</tr>
<tr>
<td><strong>Specific ASC community events</strong></td>
</tr>
<tr>
<td>Information and social nights for suppliers</td>
</tr>
<tr>
<td>Sponsored specific training programs for local suppliers</td>
</tr>
<tr>
<td>Introductory evening, commercial launch and business at sunset</td>
</tr>
<tr>
<td><strong>Events for suppliers</strong></td>
</tr>
<tr>
<td>Department of Education, Arid Lands Environment Centre, Charles Darwin University, a local rotary club</td>
</tr>
<tr>
<td><strong>Available on the <a href="http://WWW">WWW</a>.</strong></td>
</tr>
<tr>
<td>Website – with all documents, reports, advice, tools, etc</td>
</tr>
<tr>
<td>Customer Portal – for feedback on progress/status and electricity consumption</td>
</tr>
<tr>
<td>Facebook</td>
</tr>
<tr>
<td><strong>Sustainable Living House</strong></td>
</tr>
<tr>
<td>Open house days and house/garden tour information brochure</td>
</tr>
<tr>
<td>Information, brochure and photographs on ASC website</td>
</tr>
<tr>
<td>Virtual tour on ASC website</td>
</tr>
</tbody>
</table>

**Table 1: General avenues and methods of communication during the ASC program**

A media and communications company, Creative Territory, was retained on a part-time basis for the duration of the program. The external staff associated with this company consulted regularly with the ASC manager and collaboratively prepared appropriate documentation, media releases, community newsletters, advertising, graphics and relevant event material to support the aims of the program, and to engage with the local residents and business people. As part of the planning and development for the ASC program, a Community Engagement Plan was prepared. This plan had four components that had, to some extent, a temporal sequence, both within the program itself and for participants after they joined ASC. They components were:

A. Energy Wise  
B. Energy Savvy  
C. Energy Committed
D. Energy Champions

Some details of the Strategic Community Engagement Plan and the results of its implementation are documented in the ASC Community Engagement Report which is available on the ASC website. Details of the Strategic Communication objectives and outcomes are outlined in the Alice Solar City 2008-2013 report.

The nature and content of the ASC program and the range of interactions between customers and ASC staff is documented in the Residential Overview report, which is available on the ASC website. The website itself provides copy of the variety of energy related information available to customers.

Three sections of this report focus on one aspect of ASC’s direct communications with customers, namely the surveys and feedback that were part of the program monitoring and evaluation, and that provide data for the three sections. The fourth component has information about the methods used to maintain customer engagement.

### 1.2 Reporting Structure

The reporting categories of the monitoring and evaluation for CE are shown below.

<table>
<thead>
<tr>
<th>ASC Community Engagement</th>
<th>Community Engagement sub-category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Why households did not engage/register with ASC program</td>
</tr>
<tr>
<td></td>
<td>2. Reasons why registered households did not (fully) utilise services/opportunities offered by the ASC program</td>
</tr>
<tr>
<td></td>
<td>3. Analysis of methods used to maintain engagement of customers</td>
</tr>
<tr>
<td></td>
<td>4. Changes in knowledge, attitudes and behaviours over time of an ASC customer cohort, and if possible in relation to non ASC customers</td>
</tr>
</tbody>
</table>

*Table 2: Community engagement reporting structure*

### 2. Methods of Data Collection

There were three main methods by which data was collected for the CE categories:

1. A knowledge, attitude and behaviour (KAB) print survey
2. A telephone survey
3. Records of customer interactions, events and campaigns.

These are described in appropriate detail below.

#### 2.1 Knowledge, Attitude and Behaviour Survey

The ASC program commenced in March 2008, a Monitoring Evaluation and Reporting (MER) manager commenced in May 2009, and the MER plan was finalised in late 2009. As part of the implementation of the MER plan, some program adjustments and initiatives were undertaken, all of which required significant ASC consultation and database upgrades; these processes took some time. The planning for these changes commenced in mid 2010, their development and testing from the beginning of 2011, and they were implemented sequentially from April 2011. The changes were significant and included:

- Changing the energy/attitude questions asked when customers registered with ASC (normally a computer based sign-up process) – refer to Appendix 1.
- Instituting a Knowledge-Attitude-Behaviour (KAB) survey in paper format that was given to customers when they registered. They were asked to complete it at home and the auditor collected it at the time of the home energy audit – refer to Appendix 2a.
- The KAB registration survey, with some additional questions, was provided to existing customers in November 2011.
- A number of new features were added to the database, some of which enhanced the audit process e.g. the ability to rank the energy use of home services such as hot water, heating/cooling; the possibility to set and record an electricity use target.
Major improvements to the home energy audit report that was provided to customers at the completion of audits.

An upgraded HEA customer feedback survey

Establishing a Follow-up Support consultation (FUS) option for participants with associated database application and records.

The aspects of relevance to this report are the energy/attitude questions at sign-up, and in particular the KAB survey, which for new registrations was considered as a pre-program survey. Its use in the first few months was considered as a testing period to establish if there were significant problems in it use – and it was not modified after this period. As the KAB print survey for new registrations commenced in June 2011, existing customers registered prior to June 2011 had not completed the survey; this was a group of nearly 2000 households. During November 2011, the KAB survey was made available to these (existing) ASC households in two forms: electronically to those with an email address, and in paper format by mail with a reply paid envelope for customers without an email address. This was nominally considered as a pre-program survey (although it was completed after joining ASC, a post-program survey was also conducted). The survey also included two of the new energy/attitude registration questions, and for households that had received and In-house Display (IHD) as part of the Cost Reflective Tariff or BP-PV groups, there were two additional questions about use of the IHD. The KAB survey was made available again in March 2013 to all households that had not terminated and that had not registered during the prior 6 months. This was considered as an end-of-program or post-program survey - two of the original KAB questions were removed as they had limited relevance, three new post program questions added, and two IHD questions were included for the IHD cohort. Both the ‘pre-existing customer’ and ‘post’ surveys included a short final section with relevant demographic data.

The principles and characteristics of the KAB survey were:

- it was designed to be consistent with the objectives of the ASC program
- it incorporated questions about the fundamental key messages of the program
- it was readily understandable and not complex to complete
- it was quite short and could be answered in 5-10 minutes
- it hopefully allowed discrimination between pre and post responses – i.e. it was not so easy that questions could be ‘correctly’ answered with basic general knowledge
- it was provided to the original control group volunteers (see Residential Overview report) as well as to registered customers
- respondents could be identified by their registration id, unless they chose not to be so identified
- there was an ethics explanatory statement with the survey

An overview of the timing and nature of the registration questions and KAB surveys is provided in the table below.

<table>
<thead>
<tr>
<th>Month or Period</th>
<th>Registration Questions</th>
<th>Knowledge, Attitude, Behaviour (KAB) Survey</th>
<th>KAB Elaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2008 – May 2011</td>
<td>6 attitude type questions</td>
<td>New pre-program KAB paper survey given to all new registrations until end of program</td>
<td>10 KAB questions Appendix *</td>
</tr>
<tr>
<td>June 2011</td>
<td>5 new energy/attitude questions - used to end of program</td>
<td>New KAB survey (‘pre-program’) distributed to all existing (pre June 2011) registrations electronically or in paper format</td>
<td>10 KAB questions + 2 (June 2011) sign-up questions +/- 2 IHD questions + demographics Appendix **</td>
</tr>
<tr>
<td>November 2011</td>
<td></td>
<td>Post-program KAB survey distributed to all current registrations electronically or in paper format</td>
<td>8 Original (repeat) KAB questions +/- 3 new post program questions +/- 2 IHD questions + demographics Appendix ***</td>
</tr>
</tbody>
</table>

Table 3: Timing and nature of the registration questions and the KAB surveys
2.2 Telephone Survey

McGregor-Tan Research was commissioned by ASC in May 2012 to undertake a telephone survey of Alice Springs residents to explore a number of pertinent questions about the ASC program. ASC had significant input into the design, wording and sequence of the questions. McGregor-Tan successfully conducted 588 telephone surveys from June 15th to June 25th 2012.

The primary objectives of this study were:
- for non-participating households - to investigate and determine the reasons why households did not register/engage with ASC project
- for participating households with low levels of engagement – identify and explore the various impediments to further participation/engagement after registration and initial engagement with the ASC project
- to investigate and determine levels of public/customer satisfaction with ASC project

The secondary objectives were:
- to determine levels of awareness/knowledge regarding the ASC project
- explore a range of other factors relevant to target groups that will inform ASC project evaluation

Four cohorts for Alice Spring’s households were established and canvassed:
1. Households that had not registered with the ASC program
2. ASC registered household that had not used any incentivised Energy Efficiency Vouchers (EEVs)
3. ASC registered households that had used only one incentivised EEV
4. ASC registered households that had used two or more incentivised EEVs

Telephone question protocols were developed and tested for each of the four groups. ASC provided lists of customers in each of groups 2, 3, and 4 to McGregor-Tan, just prior to the period of the surveys.

2.3 Establishing and Maintaining Customer Engagement

The range of relevant engagement activities (actual or potential) is described in the table below, together with the status of their inclusion in this report. Generally the basic data associated with the types of engagement was collected or recorded as part of the routine ASC operations.

<table>
<thead>
<tr>
<th>Engagement or potential engagement</th>
<th>Comment</th>
<th>In this report</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial awareness of ASC program</td>
<td>Main means by which customers learnt about ASC</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Registration (at Smart Living Centre)</td>
<td>Registered by ASC staff member - refer to Residential Overview report</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Participation in HEA and receive report</td>
<td>Undertake HEA with ASC auditor - refer to Residential Overview report and HEA Customer Feedback report</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Vouchers issued and sent</td>
<td>ASC office process – HEA recommended EEM vouchers printed and posted with supplier list(s) – refer to Residential EEM report</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Voucher reminder email</td>
<td>ASC office process – email or letter sent to remind customers about unused vouchers</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Post HEA vouchers provided</td>
<td>When customers request either new or renewed EEM vouchers at some time after use of the initial HEA-based vouchers</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>ASC responses to customers queries</td>
<td>Phone, email and in person responses to customers questions, issues, feedback</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Follow up support consultation</td>
<td>Option to engage in a follow up consultation</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>E Newsletter</td>
<td>Regular electronic newsletter to current customers with</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Customer Engagement Activities</td>
<td>Inclusion in Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purposeful ‘bulk’ emails</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For specific customer cohorts and/or specific information</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dissemination purposes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity consumption update email</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emails or letters sent with updated electricity consumption record</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer access to web-based portal</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customers using login and password to access web based portal</td>
<td>Some</td>
<td></td>
<td></td>
</tr>
<tr>
<td>reports specific for a registration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Update newsletter</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Print newsletter distributed to all homes in Alice Springs</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASC Website</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of ASC website by customers and other interested persons</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular newspaper column</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solar spot and energy champions</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable Living House</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community open days at the retrofitted sustainable living house</td>
<td>Some</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– refer to Sustainable Living House report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer participation in competitions and public recognition of</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>energy successes</td>
<td>Some</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy challenge and Year of Energy Champions. Also refer to the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASC website</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASC participation in events</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range of community and ASC events</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media items, media releases, advertising</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the local media outlets</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASC Facebook site</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engagement with ASC Facebook site and activities</td>
<td>Some</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Table 4: Customer engagement activities and their inclusion in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>this report</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Respondent Numbers

3.1 Knowledge, Attitude and Behaviour Survey

The numbers of survey responses in the various groups is shown in the tables below:

<table>
<thead>
<tr>
<th>Respondent groups</th>
<th>‘Pre’-Program</th>
<th>Post program</th>
<th>Same household pre and post</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>At registration after June 11</td>
<td>Existing customers before June 11</td>
<td>Total pre program</td>
</tr>
<tr>
<td></td>
<td>Surveys given</td>
<td>Surveys returned</td>
<td>Response rate</td>
</tr>
<tr>
<td>ASC Customers ‘Treatment’</td>
<td>581</td>
<td>239</td>
<td>41%</td>
</tr>
<tr>
<td>ASC Formal Control group</td>
<td>0</td>
<td>0</td>
<td>44%</td>
</tr>
</tbody>
</table>

Table 5: Overall response numbers and response rates to the KAB survey
3.2 Telephone Survey

<table>
<thead>
<tr>
<th>Respondent groups</th>
<th>Number of respondent telephone surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-ASC-participating households</td>
<td>251</td>
</tr>
<tr>
<td>ASC participant households</td>
<td></td>
</tr>
<tr>
<td>Did not use any energy efficiency vouchers</td>
<td>74</td>
</tr>
<tr>
<td>Used only one energy efficiency voucher</td>
<td>113</td>
</tr>
<tr>
<td>Used more than one energy efficiency voucher</td>
<td>150</td>
</tr>
<tr>
<td>Total ASC participant households</td>
<td>337</td>
</tr>
<tr>
<td><strong>Total telephone surveys conducted</strong></td>
<td><strong>588</strong></td>
</tr>
</tbody>
</table>

*Table 6: Response numbers by group for the telephone survey*

3.3 Records of Customer Engagement

Relevant numbers are provided in the results, which follow in section 6.

4. Households that Did Not Register with ASC

The data in this section is from the McGregor Tan telephone survey (June 2012, see section 2.2) in which 251 non-ASC households engaged in the interview about home energy use and programs in Alice Springs. Some of the text is extracted directly from the McGregor Tan report of July 2012.

4.1 Responses to Relevant Survey Questions

Two initial filtering questions were asked: the first about household tenure - public housing residents were thanked and terminated, while homeowners (82.5%) and renters (17.5%) were continued; the second filter was about the period of residency in Alice Springs – respondents with less than 6 months residence were thanked and terminated. The residency periods for respondents is shown below.

<table>
<thead>
<tr>
<th>Period</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 months to 2 years</td>
<td>13</td>
<td>5.2</td>
</tr>
<tr>
<td>3 to 5 years</td>
<td>16</td>
<td>6.4</td>
</tr>
<tr>
<td>6 to 10 years</td>
<td>38</td>
<td>15.1</td>
</tr>
<tr>
<td>11 to 20 years</td>
<td>59</td>
<td>23.5</td>
</tr>
<tr>
<td>More than 20 years</td>
<td>125</td>
<td>49.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>251</td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Table 7: Non-participants - period lived in Alice Springs*

- 88% of respondents had lived in Alice Springs for 6 years or more, i.e. since the commencement of the ASC program. This is a high percentage and this group would have been exposed to the ASC media and promotions.

Survey participants were asked if they could name any programs, currently operating in Alice Springs, which aim to assist households with reducing their electricity consumption.
Q. Can you name any programs currently operating in Alice Springs which aim to assist households with reducing their electricity consumption? (Unprompted multiple response)

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes - Alice Solar City</td>
<td>89</td>
<td>35.5</td>
</tr>
<tr>
<td>Yes - Other</td>
<td>47</td>
<td>18.7</td>
</tr>
<tr>
<td>Yes - Cool Mob</td>
<td>13</td>
<td>5.2</td>
</tr>
<tr>
<td>No</td>
<td>78</td>
<td>31.1</td>
</tr>
<tr>
<td>Don't know/not sure</td>
<td>24</td>
<td>9.6</td>
</tr>
<tr>
<td></td>
<td>251</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Table 8: Non-participants – awareness of local energy efficiency programs**

- Approximately 41% named ASC or Cool Mob with 36% specifically identifying ASC; 19% gave ‘other’ type responses that often included the word solar (eg solar power, solar hot water, solar thing) or alluded to the PWC, but did not specifically name ASC. Almost one third (31%) of respondents, however, could not name any programs and a further 10% did not know or were unsure.
- Only 36% definitely identified and named ASC.

Those who had not named Alice Solar City in the previous question were asked if they have heard of Alice Solar City, and the overall results, including the positive responses to the prior question, are given below.

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes – including 89 from prior question</td>
<td>237</td>
<td>94.4</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>5.6</td>
</tr>
</tbody>
</table>

**Table 9: Non-participants – specific awareness of ASC program**

- Prompting had a positive effect on conscious awareness of ASC.
- Overall awareness of Alice Solar City, including unprompted and prompted awareness stood at 94% of the sample.

Respondents who were aware of the Alice Solar City project (n=237) were asked how they would describe their level of knowledge of the Alice Solar City Project.

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely low level of knowledge</td>
<td>34</td>
<td>14.3</td>
</tr>
<tr>
<td>Low level of knowledge</td>
<td>81</td>
<td>34.2</td>
</tr>
<tr>
<td>Medium level of knowledge</td>
<td>87</td>
<td>36.7</td>
</tr>
<tr>
<td>High level of knowledge</td>
<td>25</td>
<td>10.5</td>
</tr>
<tr>
<td>Very high level of knowledge</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>Don’t know/not sure</td>
<td>4</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>237</td>
<td>100</td>
</tr>
</tbody>
</table>

**Table 10: Non-participants – self assessed level of knowledge of the ASC program**

- Only 13% considered they had a high/very high level of knowledge, while 49% had a low/very low level, with 37% at a self-assessed medium level of knowledge.
- Amongst non-participants, awareness of ASC was high, but levels of knowledge about the program could best be described as low to medium. This should be borne in mind in the following responses about the ASC program.
Those who were aware of the Alice Solar City Project (n=237) were asked what their understanding was of the initiatives that have been put in place by Alice Solar City in the community. Although a few respondents gave more than one categorical response, only the first responses are recorded in the table below.

Q. What is your understanding of the initiatives that have been put in place by Alice Solar City in the community? (Unprompted multiple response)

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Energy Survey (businesses)</td>
<td>5</td>
<td>2.1</td>
</tr>
<tr>
<td>Financial incentives for the installation of EEMs</td>
<td>48</td>
<td>20.3</td>
</tr>
<tr>
<td>Home Energy Survey (residents)</td>
<td>23</td>
<td>9.7</td>
</tr>
<tr>
<td>Provision of information and advice</td>
<td>21</td>
<td>8.9</td>
</tr>
<tr>
<td>Solar panels</td>
<td>17</td>
<td>7.2</td>
</tr>
<tr>
<td>Iconic projects (Airport, Crowne Plaza.)</td>
<td>12</td>
<td>5.1</td>
</tr>
<tr>
<td>Reduce energy consumption</td>
<td>12</td>
<td>5.1</td>
</tr>
<tr>
<td>Follow-up support (second HES)</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Encourages people to be more efficient</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
<td>8.4</td>
</tr>
<tr>
<td>Don't know/not sure</td>
<td>75</td>
<td>31.6</td>
</tr>
<tr>
<td></td>
<td>237</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 11: Non-participants – knowledge of specific initiatives of the ASC program

- Responses in the ‘other’ category were generally not related to the ASC program, so ‘don’t know’ and ‘other’ responses constitute 40%, relatively consistent with the 49% who indicated a low level of knowledge in the previous question.
- Knowledge of financial incentives, home energy surveys and provision of advice/information were the three highest categories of ASC initiatives about which respondents had some knowledge.

Those who were aware of the Alice Solar City Project (n=237) were asked if at any point they had considered registering for participation in the Alice Solar City Project.

Q. At any point over the past four years, did you consider registering for participation in the Alice Solar City Project?

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>110</td>
<td>46.4</td>
</tr>
<tr>
<td>No</td>
<td>119</td>
<td>50.2</td>
</tr>
<tr>
<td>Don’t know/not sure</td>
<td>8</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td>237</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 12: Non-participants – consideration of registering in the ASC program

- At some stage, 46% had considered the possibility of joining ASC, while 50% had not considered this possibility, and 3% didn’t know. The latter two groups (127 respondents) were asked further questions.

Those surveyed who did not consider registering (n=127) were asked why they decided against participating in the Alice Solar City Project. 19 respondents gave two replies (in the categories below) and these are included, making a total of 146.
Q. Why did you decide against participating in the Alice Solar City Project? (Unprompted multiple response)

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost implications</td>
<td>31</td>
<td>21.2%</td>
</tr>
<tr>
<td>Did not believe there would be any benefits</td>
<td>20</td>
<td>13.7%</td>
</tr>
<tr>
<td>Did not have enough information</td>
<td>22</td>
<td>15.1%</td>
</tr>
<tr>
<td>Renting</td>
<td>18</td>
<td>12.3%</td>
</tr>
<tr>
<td>Already doing energy efficiency things</td>
<td>14</td>
<td>9.6%</td>
</tr>
<tr>
<td>Lack of time/too busy</td>
<td>13</td>
<td>8.9%</td>
</tr>
<tr>
<td>Processes were hard to follow</td>
<td>1</td>
<td>0.7%</td>
</tr>
<tr>
<td>Other</td>
<td>22</td>
<td>15.1%</td>
</tr>
<tr>
<td>Don’t know/not sure</td>
<td>5</td>
<td>3.4%</td>
</tr>
<tr>
<td></td>
<td>146</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 13: Non-participants – reasons for non-registration in the ASC program

- Cost implications constitute the most frequent reason at 20%.
- Belief in no benefits (14%) can include an informal cost/benefit analysis, and if linked with cost makes cost related reasons in the order of 30%.
- It is likely that renters were not aware of the options available to tenants through the ASC program.
- The majority of reasons were essentially practical in nature, and did not reflect a negative attitude towards ASC.
- It is also pertinent to note that 50% of respondents to an earlier question indicated they had a low level of knowledge about the ASC program.

Those who did not consider registering for the Alice Solar City Project were asked how satisfied they were with their decision not to register for the Project.

Q. How satisfied are you with your decision not to register for the Alice Solar City Project? (Possible responses read out)

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all satisfied</td>
<td>1</td>
<td>0.8%</td>
</tr>
<tr>
<td>Not satisfied</td>
<td>4</td>
<td>3.1%</td>
</tr>
<tr>
<td>Neutral</td>
<td>46</td>
<td>36.2%</td>
</tr>
<tr>
<td>Quite satisfied</td>
<td>37</td>
<td>29.1%</td>
</tr>
<tr>
<td>Very satisfied</td>
<td>24</td>
<td>18.9%</td>
</tr>
<tr>
<td>Don’t know / not sure</td>
<td>15</td>
<td>11.8%</td>
</tr>
<tr>
<td></td>
<td>127</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 14: Non-participants – satisfaction with decision not to register in the ASC program

- The large majority were indifferent about registering, or satisfied with their decision not to register with ASC.

All those surveyed were asked what Alice Solar City could have done, or improved, that would have prompted them to register and participate in the project.
Q. What could Alice Solar City have done, or improved, that would have prompted you to register and participate in the project? (Unprompted multiple response)

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing</td>
<td>71</td>
<td>28.3</td>
</tr>
<tr>
<td>Too expensive/not cost effective</td>
<td>21</td>
<td>8.4</td>
</tr>
<tr>
<td>More subsidies/incentives/concessions</td>
<td>15</td>
<td>6.0</td>
</tr>
<tr>
<td>More information</td>
<td>33</td>
<td>13.1</td>
</tr>
<tr>
<td>More/better advertising</td>
<td>24</td>
<td>9.6</td>
</tr>
<tr>
<td>Other</td>
<td>61</td>
<td>24.3</td>
</tr>
<tr>
<td>Don't know</td>
<td>26</td>
<td>10.4</td>
</tr>
</tbody>
</table>

Table 15: Non-participants – possible ASC actions to prompt registration in the ASC program

- Nearly 30% considered ASC could nothing more to encourage registration
- Reduction of costs was mentioned by 14% and improved information/advertising by 23%

In response to a question about what actions, if any, their household had undertaken in the past few years to reduce the amount of electricity used in their home, the majority (80%) of those surveyed indicated that they had taken actions, such as: installing energy efficient light globes (31%), turning off the lights (25%), switching off appliances at the power point (20%), being mindful of/conservative in energy use (17%), use of solar hot water (16%), and purchase of more energy efficient appliances (11%).

Those surveyed were asked to rate on a scale of 1 to 5 (where 5 was very important and 1 was not at all important), the importance of two of aspects relating to electricity consumption for their household. The two aspects were (i) the importance of reducing overall household electricity consumption, and (ii) the importance of reducing the yearly cost of household electricity consumption. Both had an average rating of 4.6 indicating a positive attitude to both these related factors.

More than three quarters (78%) of the survey group rated the ASC program as very important/important for the Alice Springs community, and 12% were indifferent. Respondents were asked if they were aware of any family or friends who were involved in the Alice Solar City Project. 50% were not aware, and 48% were aware of family or friends registered with ASC, indicating a significant level of participation throughout the community.

4.2 Summary of Non Participant Responses

The majority of non-participants had lived in Alice Springs for the duration of the ASC program, and half had considered registering with ASC at some stage but had not done so; the other half did not consider registering with ASC and in general were satisfied with this decision. Of the respondents, 36% were able to directly name the ASC program, and with prompting it was evident that 95% were aware of the program. In general respondents self-assessed their level of knowledge of the ASC program as low to medium, but nevertheless displayed a reasonable awareness of the key aspects of the program.

Non-participants had a positive attitude to saving electricity and reducing electricity costs, and the majority indicated that they had taken one or more basic practical steps to reduce electricity consumption. Reduced costs/increased subsidies were also mentioned as ways in which the program could be improved. They generally considered the ASC program as important for the Alice Springs community.

For their non-participation in the ASC program, cost implications was the most common reason given, amongst a number of practical reasons such as lack of information, insufficient time and undertaking actions without ASC support. There were no major reasons that showed antagonism towards, or fundamental disagreement with, the ASC program. Around 30% considered ASC could do nothing more to improve the program. Overall non-participants were favourably disposed towards the nature of the ASC program and their lack of participation related to financial and other pragmatic reasons.
5. Low Utilization of ASC Services

For this section low utilisation of services will be considered to include only those ASC households that did not implement any incentivised EEMs. The table below shows that this is approximately 30% of households when all possible EEMs are considered (including PV, SHW, CRT and 10:10/20:20). Please refer to the EEM report for further information. The households that used one EEV are not included, as this group is the most numerous and represents more the ‘norm’ for the actual number of EEVs used.

<table>
<thead>
<tr>
<th>If EEV issued</th>
<th>Number of EEMs implemented</th>
<th>Percentage of households eligible for EEMs</th>
<th>Grouped percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No EEVs issued</td>
<td>0</td>
<td>13</td>
<td>31.8</td>
</tr>
<tr>
<td>EEVs issued</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>18.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>28.7</td>
<td>28.7</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>16.4</td>
<td>39.5</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>9.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 or more</td>
<td>13.3</td>
<td></td>
</tr>
</tbody>
</table>

*Table 16: Participants – proportions of households that implemented/did not implement EEMs*

The data in this section is from the McGregor Tan telephone survey in which 74 ASC households that used no EEMs participated in the interview about home energy use and their experience with the ASC program. Some of the text is extracted directly from the McGregor Tan report.

5.1 Responses to Relevant Survey Questions

Survey participants were asked if the home energy audit met their expectations.

<table>
<thead>
<tr>
<th>Q. Did the home energy audit (survey) meet your expectations?</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>68</td>
<td>91.9</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>5.4</td>
</tr>
<tr>
<td>Don’t know/not sure</td>
<td>2</td>
<td>2.7</td>
</tr>
</tbody>
</table>

*Table 17: Participants: no-EEMs – did HEA meet expectations?*

Those surveyed were asked what they or their household learnt by participating in the home energy survey. The majority (86%) of respondents indicated that they learnt something, with 41% stating that they learnt ways to reduce energy consumption.

- Overall respondents were happy with their HEA and considered they had learnt something from it.

Those surveyed were asked to rate on a scale of 1 to 5 (where 5 was very important and 1 was not at all important), the importance of two factors (i) the importance of reducing overall household electricity consumption - average rating of 4.7, and (ii) the importance of reducing the yearly cost of household electricity consumption - average rating of 4.6. This indicates a positive attitude to both these related factors.

Respondents were asked what were the impediments or barriers preventing them from using any of the incentives offered specifically to their household. 12 persons identified two barriers, so there are 86 responses.
Q. What were the impediments or barriers preventing you from using any of the incentives offered specifically to your household? (Unprompted multiple response)

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upfront cost of implementing measure</td>
<td>36</td>
<td>41.9</td>
</tr>
<tr>
<td>Process involved (getting quotes, engaging tradesmen, paperwork etc)</td>
<td>12</td>
<td>14.0</td>
</tr>
<tr>
<td>Finding/organising contractors to undertake work</td>
<td>2</td>
<td>2.3</td>
</tr>
<tr>
<td>Time factor/too busy</td>
<td>8</td>
<td>9.3</td>
</tr>
<tr>
<td>Vouchers expired</td>
<td>6</td>
<td>7.0</td>
</tr>
<tr>
<td>Did not think EEM(s) would be effective</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>Other priorities (e.g. housing renovations)</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>Other (not coded)</td>
<td>11</td>
<td>12.8</td>
</tr>
<tr>
<td>Don’t know/not sure</td>
<td>4</td>
<td>4.7</td>
</tr>
<tr>
<td>No barriers</td>
<td>5</td>
<td>5.8</td>
</tr>
<tr>
<td></td>
<td>86</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 18: Participants: no-EEMs – barriers to the implementation of incentivised EEMs

- Upfront cost, i.e. the cash outlay required, was the major impediment, followed by the perceived process factors involved in using an EEV. These reasons are very similar to those listed by non ASC participants for their non-participation.

Participants were asked what ASC could have done to encourage them to implement any of the recommended incentivised EEMs for which they received vouchers.

Q. If anything, what could Alice Solar City have done to encourage you to implement any of the recommended incentivised energy efficiency measures for which you received vouchers? (Open ended)

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing</td>
<td>35</td>
<td>47.3</td>
</tr>
<tr>
<td>Lower the cost/make it cheaper to implement</td>
<td>14</td>
<td>18.9</td>
</tr>
<tr>
<td>More flexibility in retailers / models</td>
<td>3</td>
<td>4.1</td>
</tr>
<tr>
<td>Longer expiry on vouchers</td>
<td>3</td>
<td>4.1</td>
</tr>
<tr>
<td>Other</td>
<td>19</td>
<td>25.7</td>
</tr>
<tr>
<td></td>
<td>74</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 19: Participants: no-EEMs - ASC action to encourage EEM implementation

- Nearly half indicated that nothing further could be done, and 19% considered reducing the upfront cost (increasing the incentive) would have been a useful action on the part of ASC.

Q. What could Alice Solar City do to improve communication with participants? (Open ended)

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing</td>
<td>39</td>
<td>52.7</td>
</tr>
<tr>
<td>Follow up</td>
<td>8</td>
<td>10.8</td>
</tr>
<tr>
<td>Email</td>
<td>3</td>
<td>4.1</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>13.5</td>
</tr>
<tr>
<td>Don't know</td>
<td>14</td>
<td>18.9</td>
</tr>
<tr>
<td></td>
<td>74</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 20: Participants: no-EEMs - possible ASC actions to improve communication with customers

- Just over half indicated that nothing further could be done to improve ASC communication with participants, and 19% didn’t have a view
Survey participants were asked if they were aware of the additional resources provided by ASC. 7 respondents named two types of resources, giving 81 replies.

**Q. Were you aware of the additional resources provided by Alice Solar City?**

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes - Advice/information</td>
<td>13</td>
<td>16.0</td>
</tr>
<tr>
<td>Yes - Online portal</td>
<td>8</td>
<td>9.9</td>
</tr>
<tr>
<td>Yes - Extra vouchers/incentives</td>
<td>7</td>
<td>8.6</td>
</tr>
<tr>
<td>Yes - Brochures/pamphlets</td>
<td>3</td>
<td>3.7</td>
</tr>
<tr>
<td>Yes - Other</td>
<td>15</td>
<td>18.5</td>
</tr>
<tr>
<td>No</td>
<td>28</td>
<td>34.6</td>
</tr>
<tr>
<td>Don't know/not sure</td>
<td>7</td>
<td>8.6</td>
</tr>
</tbody>
</table>

| Total                                 | 81     | 100        |

*Table 21: Participants: no-EEMs – awareness of additional ASC resources*

- More than half of the responses (57%) named additional resources, such as advice/information and the online portal, while 35% were not aware of such additional resources.

Those who were aware of additional resources (n=39) were asked if they accessed any of the additional resources provided by Alice Solar City, including the online portal and brochures. The other two thirds (67%) of those who were aware, did not however access any of the additional ASC resources.

Those who did not access or were not aware of any additional resources (n=61) were asked if they regretted not accessing any of the additional resources offered by Alice Solar City. Well over half (56%) of these respondents indicated that they did not regret not accessing these additional resources, mainly because they could not afford it, lacked time, or had not needed to. Approximately one in five (18%) survey participants, however, stated that they did regret not accessing these additional resources.

More than two in five (43%) respondents indicated that they had undertaken physical EEMs without obtaining a voucher, or done measures not recommended, (including installing energy efficient appliances and light globes), while half (51%) had not undertaken any other physical energy efficiency measures, and 5% were unsure. Those surveyed were asked what the benefits of participating in the Alice Solar City Project had been for their household. 26 respondents named two benefits, as shown in the table below.

**Q. For your household, what have been the benefits of participating in the Alice Solar City Project (Unprompted multiple response).**

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being able to access advice/support to help lower household electricity consumption</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Lower household electricity bills</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>Knowledge on how to reduce energy consumption</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Increased household comfort</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Lower household carbon emissions</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Don't know / not sure</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>None</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

| Total                                                                  | 100    | 100        |

*Table 22: Participants: no-EEMs - benefits of participation in the ASC program*

- The top two benefits named related to being able to access advice/support to help lower household electricity consumption and lower household electricity bills, with a few other benefits named.
Those surveyed were then asked if there have been any negatives in being involved in the Alice Solar City Project. The majority (89%) of respondents indicated that there had been no negatives, while just 9% stated that there were negatives a further 1% did not know. Among the negatives responses were: the cost of installing solar PV, lack of choice/flexibility with expensive contractors, suppliers raising prices in response to ASC subsidies, and not being able to afford measures.

Survey participants were asked how they thought the Alice Solar City Project or its processes could be improved. Many (58%) respondents were unable to name any improvements, as they either did not think it could be improved (27%) or did not know how it could be improved (31%). Among those who did identify improvements their responses included: More incentives/rebates/funding (14%), follow up visit/contact (5%), and more advertising/media coverage (4%).

Respondents were asked how satisfied they were with their involvement in the ASC program.

![Table 23: Participants: no-EEMs - satisfaction with involvement in ASC program](image)

- 80% expressed satisfaction with their involvement, 15% were non-committal and 5% were not satisfied. This is a positive result from customers who had not used any vouchers.

### 5.2 Summary of Responses from Low Participation Households

Of the surveyed households that had used no EEVs, the large majority were satisfied with their HEA, considered they had learnt something useful from it, and had positive attitudes towards reducing the cost of their electricity bills and saving electricity. Nearly half the households (43%) had undertaken some basic energy saving measures without support from ASC, such as installing low energy light globes and the purchase of energy efficient appliances.

The upfront costs to the customer associated with EEVs was the major impediment to their use; other factors were the perceived complexity of the implementation process involved with the use of EEVs, time factors, and the expiration of vouchers. Nearly half the households indicated that ASC could have done no more to encourage or facilitate implementation, and the major action suggested was to reduce the cost to the customer. Similarly half of the respondents considered ASC could not have done more in improving their communication with customers and one fifth didn’t have an opinion about this factor. There was no evidence of antagonistic attitudes towards ASC.

Approximately three in five customers were aware of the range of ASC resources additional to the HEA and vouchers and of this group about one third had made use of such resources. The large majority of households were able to identify some benefits of their participation in ASC, the main benefits being access to information and advice, and the steps to reduce electricity bills. When asked to name any negatives of the ASC program, 90% indicated there were no negatives. Three in five respondents could not identify possible improvements, and the major suggestion for improvement was in reducing costs to the customer. The large majority expressed satisfaction with their involvement with ASC, despite their lack of use of EEVs.

Overall the households that did not use any EEVs had a positive experience with ASC, were very favourably disposed towards the nature and processes of the ASC program, and their limited participation related to financial impediments and to a lesser extent to other practical reasons.
6. Methods Used to Maintain Customer Engagement

The relevant methods, listed in table 4 above are addressed individually below, with the available data.

6.1 Initial Awareness of ASC Program

As part of the computer based sign up, customers were asked to identify how they heard about ASC. This question was introduced as part of a database upgrade approximately a year after the program commenced. The percentages of the ways of learning about ASC from 2200 responses are given below.

<table>
<thead>
<tr>
<th>How customers learnt about ASC (n=2200)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word of mouth</td>
<td>36.6</td>
</tr>
<tr>
<td>Newspaper</td>
<td>16.7</td>
</tr>
<tr>
<td>Registered Supplier</td>
<td>15.4</td>
</tr>
<tr>
<td>Repeat Customer in other premises</td>
<td>3.7</td>
</tr>
<tr>
<td>DL brochure in the mail</td>
<td>3.6</td>
</tr>
<tr>
<td>Alice Solar City print newsletter</td>
<td>2.1</td>
</tr>
<tr>
<td>Alice Solar City launch campaign</td>
<td>2.8</td>
</tr>
<tr>
<td>Alice Solar City print newsletter</td>
<td>2.1</td>
</tr>
<tr>
<td>Radio</td>
<td>2.8</td>
</tr>
<tr>
<td>Television</td>
<td>2.7</td>
</tr>
<tr>
<td>Alice Solar City website</td>
<td>1.1</td>
</tr>
<tr>
<td>Internet</td>
<td>1.0</td>
</tr>
<tr>
<td>Walked past the SLC</td>
<td>2.2</td>
</tr>
<tr>
<td>Real Estate Agent</td>
<td>2.0</td>
</tr>
<tr>
<td>Alice Springs Public Event (Show, Ecofair etc)</td>
<td>2.5</td>
</tr>
<tr>
<td>ASC Sustainable Living House Open Day</td>
<td>0.4</td>
</tr>
<tr>
<td>Other/other event</td>
<td>4.4</td>
</tr>
</tbody>
</table>

*Table 24: Participants – ways of becoming aware of the ASC program*

- Word of mouth is the stand-out channel by which customers learnt about ASC, followed by newspaper items. Interestingly the trade suppliers were active in informing clients about ASC.
- Word of mouth is acknowledged as an effective means of disseminating information and positive messages, and its prominence reflects both the size and the nature of the Alice Springs community.

6.2 Voucher Reminder Email

During the first year of ASC operations, it became evident that a large number of vouchers were expiring (after their six month valid period) without being used. The value of these vouchers was also a forward financial commitment that had significant budgetary implications for ASC. A voucher reminder email process was specified by ASC and developed by the database provider. It was introduced in mid-2009 and after about nine months use the voucher validity period was reduced from six to four months. The voucher reminder email was sent to all customers about midway through the valid period (initially six months and then four), and listed the outstanding EEMs and the due date of currently open vouchers.

From mid-2009 until late 2010, batches of voucher reminder emails were sent monthly, after which they were dispatched on a fortnightly basis. For those without an email address, corresponding letters were printed and posted.

6.3 Post HEA Vouchers Provided

HEA recommended vouchers were posted to customers from the ASC office in the day or so immediately after the HEA. However, at any time during the program, customers had the opportunity to visit the ASC office, discuss needs, and
request other (new) vouchers. They could also ask for expired vouchers to be reactivated. When such post-HEA vouchers were issued (i.e. in addition to those issued normally in the 1 or 2 days immediately after the HEA) this was recorded as such in the database, and the facility was one of many database improvements specified and developed during the course of the program. The proportion of total vouchers per EEM, issued after the regular HEA recommended vouchers is shown below.

<table>
<thead>
<tr>
<th>Energy Efficiency Measure</th>
<th>Percentage of implemented vouchers that were issued post-audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply and install variable speed pool pump</td>
<td>67</td>
</tr>
<tr>
<td>Install double-glazed windows</td>
<td>67</td>
</tr>
<tr>
<td>Replace old roof with new white roof sheeting</td>
<td>58</td>
</tr>
<tr>
<td>Install or replace ceiling insulation</td>
<td>44</td>
</tr>
<tr>
<td>Install roof ventilation device</td>
<td>39</td>
</tr>
<tr>
<td>Install external shading on walls/windows</td>
<td>34</td>
</tr>
<tr>
<td>Replace 12V Halogen downlight system with low energy option</td>
<td>33</td>
</tr>
<tr>
<td>Install motion sensors on external lighting</td>
<td>30</td>
</tr>
<tr>
<td>Installation of &quot;One-Shot&quot; Relay for solar hot water systems</td>
<td>30</td>
</tr>
<tr>
<td>Replacement of perished fridge/freezer seals</td>
<td>30</td>
</tr>
<tr>
<td>Service of Solar Hot Water system</td>
<td>30</td>
</tr>
<tr>
<td>Tint windows</td>
<td>29</td>
</tr>
<tr>
<td>Purchase swimming pool cover/roller</td>
<td>26</td>
</tr>
<tr>
<td>Paint roof white</td>
<td>25</td>
</tr>
<tr>
<td>Service of evaporative A/C</td>
<td>23</td>
</tr>
<tr>
<td>Install Solar Hot Water or heat pump System</td>
<td>22</td>
</tr>
<tr>
<td>Replace high energy usage lighting with energy efficient lighting</td>
<td>20</td>
</tr>
<tr>
<td>Surrender your old refrigerator or freezer</td>
<td>18</td>
</tr>
<tr>
<td>Replace old refrigerator/freezer with a new, energy efficient model</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 25: Participants – proportions of EEM vouchers issued sometime after the HEA

- The variable speed pool pump was added to the incentivised EEM list in December 2010, so it became a post-audit voucher for many customers.
- Some EEMs with high percentages post audit, had only a small number of vouchers issued in total, e.g. install double glazed windows, replace old roof with new white sheeting.
- For the EEMs/EEM groups listed above the overall percentage of vouchers issued post audit was 27%.

### 6.4 Follow up Support Consultation

As part of a mid-term review and subsequent modification of the ASC program, the opportunity for a follow up support (FUS) consultation was offered to customers. Protocols were established for the FUS and the database, along with other improvements, was significantly upgraded to incorporate the FUS processes. The FUS became available from early 2011 and was promoted through ASC newsletters and the media. 179 FUS engagement were logged and of these 161 were conducted and completed. The primary reasons for seeking a FUS engagement are listed below.

<table>
<thead>
<tr>
<th>Primary reason for requesting FUS</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspection and advice for a key action/EEM</td>
<td>105</td>
</tr>
<tr>
<td>Want to achieve further energy savings</td>
<td>18</td>
</tr>
<tr>
<td>Advice on new appliances/systems</td>
<td>14</td>
</tr>
<tr>
<td>Electricity bills much higher than expected</td>
<td>10</td>
</tr>
<tr>
<td>High consumption flagged by ASC</td>
<td>5</td>
</tr>
<tr>
<td>Not achieved the energy savings expected</td>
<td>5</td>
</tr>
</tbody>
</table>
6.5 E-Newsletters

Email newsletters for residential and commercial customers were prepared on a fairly regular and ‘as-needs’ basis. The record of their dispatch and use is shown below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Month sent</th>
<th>Number sent</th>
<th>Percentage bounced</th>
<th>Percentage opened</th>
<th>Percentage (of opened) that clicked a link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>December</td>
<td>490</td>
<td>4</td>
<td>46</td>
<td>45</td>
</tr>
<tr>
<td>2009</td>
<td>March</td>
<td>653</td>
<td>9</td>
<td>42</td>
<td>37</td>
</tr>
<tr>
<td>2009</td>
<td>September</td>
<td>1105</td>
<td>0.3</td>
<td>39</td>
<td>30</td>
</tr>
<tr>
<td>2009</td>
<td>November</td>
<td>1417</td>
<td>2</td>
<td>42</td>
<td>46</td>
</tr>
<tr>
<td>2010</td>
<td>May</td>
<td>1716</td>
<td>2</td>
<td>34</td>
<td>33</td>
</tr>
<tr>
<td>2011</td>
<td>January</td>
<td>1787</td>
<td>1.4</td>
<td>28</td>
<td>32</td>
</tr>
<tr>
<td>2011</td>
<td>November</td>
<td>1943</td>
<td>4</td>
<td>29</td>
<td>50</td>
</tr>
<tr>
<td>2012</td>
<td>July</td>
<td>1770</td>
<td>1.6</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>2012</td>
<td>November</td>
<td>1790</td>
<td>1.8</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>Commercial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>November</td>
<td>223</td>
<td>5</td>
<td>34</td>
<td>52</td>
</tr>
<tr>
<td>2010</td>
<td>September</td>
<td>256</td>
<td>2</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>2011</td>
<td>October</td>
<td>215</td>
<td>3</td>
<td>27</td>
<td>45</td>
</tr>
<tr>
<td>2012</td>
<td>March</td>
<td>207</td>
<td>4</td>
<td>27</td>
<td>42</td>
</tr>
<tr>
<td>2012</td>
<td>July</td>
<td>207</td>
<td>7</td>
<td>22</td>
<td>30</td>
</tr>
</tbody>
</table>

Table 27: Distributions of E newsletters to participants

6.6 Purposeful ‘Bulk’ Emails

Other bulk emails for specific purposes were prepared and sent to customers – either to identified groups of customers, or to all customers. 64 such specific bulk emails were dispatched over the course of the program. Some examples are

- To applicants for BP-PV to inform them about progress and funding
- To customers who, from audit data, were identified as having a swimming pool, to inform them about the new variable speed pool pump EEM
- To all customers with an email to invite them to the open day for the Uterne solar power station

6.7 Electricity Consumption Update Email and Customer Access to Web-based Portal

The EC update email was sent to customers approximately every six months depending on the upload of consumption data obtained from PWC. It had an attached pdf report that provided a summary of households’ electricity consumption (based on a portal report). Opening of these emails and viewing the attachment were not logged so cannot be reported upon. The EC update email also contained login details for the portal. The customer portal was designed as an integral
part of the ASC database; for further information refer to the Residential Overview report. The availability and utility of the portal was dependent on high quality, accurate and current electricity consumption data, both interval and quarterly, being available in the relevant database tables. Due to problems with obtaining, cleaning and storing such data, it took several years before this capability was realized. In conjunction a customer update email was designed and established as a database function; this email incorporated an electricity consumption graphics record page from the portal, and provided portal login and password. It was hoped that customers would use this information to access the portal for further details. The dates and numbers for the EC update emails are shown in the table below together with the limited data that was available from the database provider about customer access to the portal. Unfortunately the database provider did not have working systems in place to record access data for the first two EC update emails, and the system malfunctioned for the fourth. Overall ASC did not regard the access data with high levels of confidence. Nevertheless it is provided in the table below.

<table>
<thead>
<tr>
<th>EC update email</th>
<th>ASC electricity consumption portal information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of EC update email</td>
<td>Number of customers sent email</td>
</tr>
<tr>
<td>24/02/2012</td>
<td>1321</td>
</tr>
<tr>
<td>20/06/2012</td>
<td>547</td>
</tr>
<tr>
<td>21/08/2012</td>
<td>1057</td>
</tr>
<tr>
<td>4/10/2012</td>
<td>1014</td>
</tr>
<tr>
<td>14/02/2013</td>
<td>1239</td>
</tr>
<tr>
<td>22/03/2013</td>
<td>304</td>
</tr>
<tr>
<td>27/03/2013</td>
<td>104</td>
</tr>
</tbody>
</table>

* Data not reliable

Table 28: Electricity consumption update emails and portal use

6.8 Community Update Newsletter

These were single page double sided A4 print newsletters folded to DL size. Typically 10,500 were printed and distributed by Australia Post to the mailboxes of all Alice Springs postal addresses, except letter boxes with “no junk mail” advice. Nine were published and distributed during the program as shown below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>December</td>
</tr>
<tr>
<td>2009</td>
<td>March</td>
</tr>
<tr>
<td>2009</td>
<td>September</td>
</tr>
<tr>
<td>2010</td>
<td>May</td>
</tr>
<tr>
<td>2011</td>
<td>January</td>
</tr>
<tr>
<td>2011</td>
<td>July</td>
</tr>
<tr>
<td>2012</td>
<td>March</td>
</tr>
<tr>
<td>2012</td>
<td>August</td>
</tr>
<tr>
<td>2013</td>
<td>May</td>
</tr>
</tbody>
</table>

Table 29: Timing of Community Update newsletters

6.9 ASC Website

The ASC website was established for the commencement of the program. It was maintained and updated as part of the routine ASC operations. The basic analytical data from the website designer/host is provided below.
**Community Engagement**

### Website Traffic - Visits per month over the course of the Alice Solar City Project

<table>
<thead>
<tr>
<th>Period</th>
<th>Metric</th>
<th>Traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2008 to June 2013</td>
<td>Visits</td>
<td>77,464</td>
</tr>
<tr>
<td></td>
<td>Page views</td>
<td>244,374</td>
</tr>
<tr>
<td></td>
<td>Unique visitors</td>
<td>54,179</td>
</tr>
<tr>
<td></td>
<td>Average pages per visit</td>
<td>3.15</td>
</tr>
<tr>
<td></td>
<td>Average visit duration</td>
<td>3 minutes</td>
</tr>
<tr>
<td></td>
<td>% new visits</td>
<td>70%</td>
</tr>
</tbody>
</table>

**Table 30: ASC website traffic**

<table>
<thead>
<tr>
<th>Year</th>
<th>Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>3985</td>
</tr>
<tr>
<td>2009</td>
<td>17552</td>
</tr>
<tr>
<td>2010</td>
<td>16800</td>
</tr>
<tr>
<td>2011</td>
<td>16418</td>
</tr>
<tr>
<td>2012</td>
<td>16456</td>
</tr>
<tr>
<td>2013</td>
<td>6253</td>
</tr>
</tbody>
</table>

**Table 31: Key periods for ASC website use**

<table>
<thead>
<tr>
<th>Period</th>
<th>Date</th>
<th>Traffic</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>2009</td>
<td>17552</td>
<td>Major initiatives launched throughout the year</td>
</tr>
<tr>
<td>Month</td>
<td>September 2009</td>
<td>3275</td>
<td>Sustainable Living House launch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>First online commercial newsletter</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 months into 100 days of solar</td>
</tr>
<tr>
<td>Day</td>
<td>Monday March 15th 2010</td>
<td>793</td>
<td>Bulk Solar PV launched (58% of visits related to bulk purchase scheme)</td>
</tr>
</tbody>
</table>

**Figure 32: ASC website visits over the course of the program**
6.10 Regular Newspaper Column

Commencing in 2009, ASC established a regular weekly column in the local Alice Springs newspaper. It was titled ‘Solar Spots’, and the number of published Solar Spot columns per year is shown below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of ‘Solar Spots’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Residential</td>
</tr>
<tr>
<td>2009</td>
<td>17</td>
</tr>
<tr>
<td>2010</td>
<td>16</td>
</tr>
<tr>
<td>2011</td>
<td>15</td>
</tr>
<tr>
<td>2012 to February</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>51</td>
</tr>
</tbody>
</table>

*Table 33: ASC ‘Solar Spots’ in the local newspaper*

In March 2012 the Solar Spot was replaced by a short case study column of one of the households that had displayed the characteristics of an ‘Energy Champion’. These generally appeared weekly throughout 2012.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of ‘Energy Champion’ Columns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Residential</td>
</tr>
<tr>
<td>March 2012 to February</td>
<td>26</td>
</tr>
</tbody>
</table>

*Table 34: ASC ‘Energy Champion’ columns in the local newspaper*

6.11 Sustainable Living House Open Days

For details about this project, please refer to the Sustainable Living House Project report on the ASC website: [www.alicesolarcity.com.au](http://www.alicesolarcity.com.au). There was an agreement with the owner to conduct a fixed number of public open days, which were planned and conducted between September 2009 and September 2011.

A summary of the open days is provided below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Open Days</th>
<th>Number of Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>2</td>
<td>326</td>
</tr>
<tr>
<td>2010</td>
<td>6</td>
<td>471</td>
</tr>
<tr>
<td>2011</td>
<td>5</td>
<td>495</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>1292</td>
</tr>
</tbody>
</table>

*Table 35: ASC Sustainable Living House open days*

6.12 ASC Competitions

ASC organized and conducted a range of competitions with prizes to raise awareness and to promote engagement with the ASC program. Some competitions were conducted in association with community events, and others were competitions specifically related to key aspects of the ASC program. They are outlined in the table below.
ASC Participation in Events

ASC participated in a broad range of community events, some of which have been mentioned previously. Participation ranged from print, web and online promotion of events to the establishment of stall with displays and a staff presence. The major ones have been:

- Earth Hour
- World Environment Day
- The Alice Springs annual Show
- The Alice Springs annual Ecofair
- Alice Springs Bangtail Muster
- Alice Desert Festival
- Alice Springs markets – specific occasions
- Periodic ASC ‘slots’ on ABC local radio and several on local commercial radio
- ASC representation on ‘Friday Wrap’ a panel discussion with high profile local identities on ABC local radio.

Media, Communications and Advertising

Over the course of the program 111 media releases were prepared and provided to the media. The media was also monitored for each time ASC or an ASC project was mentioned in the range of media – the counts for these media items do not include any paid advertising or media releases. ASC had a significant number of national media mentions and a small number of international items. The numbers by year for media items (in all media channels) and formal ASC media releases are shown in the table below.
### Table 37: Media items that mentioned ASC, and ASC media releases per year

Advertisements were prepared regularly throughout the program, generally to promote ASC involvement in specific events or to support ASC campaigns. Such advertisements incurred a cost for both preparation and for their use in print, radio or TV. The table below shows only the numbers of advertisements prepared, not the number of occasions on which they were printed or aired, nor the costs associated with their use.

<table>
<thead>
<tr>
<th>Year</th>
<th>Count of Media Items</th>
<th>Number of ASC Media Releases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Local (NT)</td>
<td>National</td>
</tr>
<tr>
<td>2008</td>
<td>135</td>
<td>41</td>
</tr>
<tr>
<td>2009</td>
<td>137</td>
<td>34</td>
</tr>
<tr>
<td>2010</td>
<td>129</td>
<td>52</td>
</tr>
<tr>
<td>2011</td>
<td>129</td>
<td>42</td>
</tr>
<tr>
<td>2012</td>
<td>116</td>
<td>21</td>
</tr>
<tr>
<td>2013</td>
<td>32</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>678</td>
<td>191</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Campaign/Event</th>
<th>Print</th>
<th>Radio</th>
<th>TV</th>
<th>Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>Launch</td>
<td>8</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smart Living Centre</td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Commercial program</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Show</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Azri fun day</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Earth Hour</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>October Business Month</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sunchase</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sustainable House Day</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>World Environment Day</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL for 2008</td>
<td>20</td>
<td>6</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>100 Days of solar</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Commercial PV</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar hot water</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>First Anniversary</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bangtail Muster</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DKA Solar Centre open day</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sustainability feature</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Age of Stupid</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Desert Festival</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sustainability Fair</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sustainable Living House</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Earth Hour</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Show</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>World Environment Day</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Uterne -- call for proposals</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar Spots</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL for 2009</td>
<td>57</td>
<td>6</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>100 Roofs/ Bulk Purchase</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cool summer</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Media Channel</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
<td>2013</td>
<td>TOTAL</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>NT Business exchange</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Reptile Centre b'day feature</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Show</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Sustainable Living House</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Earth Hour</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Airport solar open day</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Solar spots</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td>27</td>
</tr>
<tr>
<td>TOTAL for 2010</td>
<td>47</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>51</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facebook your fridge</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Uterne open day</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Sustainable Living House</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>World Environment Day</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Fridge disposal</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Solar Spots</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>TOTAL for 2011</td>
<td>36</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>48</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End of incentives</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Post incentives</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Solar hot water</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Year of Energy Champions</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Arid Zone Solutions feature</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Show</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>World Environment Day</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Solar Spots</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Energy Champions launch</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Energy Champions</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td>23</td>
</tr>
<tr>
<td>TOTAL for 2012</td>
<td>38</td>
<td>0</td>
<td>4</td>
<td>11</td>
<td>53</td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End of ASC</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>5th Birthday</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Energy Champions</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Thank you Alice</td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>TOTAL for 2013</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>204</td>
<td>16</td>
<td>17</td>
<td>20</td>
<td>267</td>
</tr>
</tbody>
</table>

Table 38: Numbers of prepared advertisements by media channel per year

6.15 ASC Facebook Page

The ASC Facebook page was established in December 2010 and maintained by the media and communications consultant from 'Creative Territory'. From its inception to June 2013 there were 191 ‘likes’ logged of which 63% were female (37% male) and 110 of these were from Alice Spring. The four metrics are explained below and shown in the table.

Daily total reach - Number of unique users who have seen any content associated with ASC page;
Daily viral reach - Number of unique users who saw ASC Page or one of its posts from a story shared by a friend;
Daily total impressions - Number of impressions seen of any content associated with ASC page;
Daily viral impressions - Number of impressions of a story published by a friend about ASC page.
7. Changes in Knowledge, Attitude and Behaviour

The responses to a limited set of questions from the KAB surveys are used in this section. Further more detailed analysis of the survey data is warranted.

As explained in section 2.1 (and table 3), there were two cohorts that undertook the ‘pre’ survey: new households that registered after June 2011, and existing households that had registered prior to June 2011, and had various levels of engagement with ASC prior to completing the ‘pre’ survey. All responses to the post survey were in March 2013. The T-test for all pre and post respondents was for independent samples. Additionally it was possible, where registration ids were available, to match a group of respondent who had completed both the pre and post surveys; the T-test for this group was for matched pairs.

Thus there are three pre and post groups for which question (and where appropriate total) mean scores are calculated, and T-tests conducted. These three groups with the maximum possible number of respondents are described below. There were a small number of members of the formal control group who completed surveys and these responses were not included with those of ASC participants. The very low numbers in the control group (26 and 19) compared to the numbers of customer responses (250 to 700) preclude their use in a pre-post/treatment-control analysis. The analyses will therefore be based on pre and post comparisons of ASC customers who responded to the surveys.

The most ‘valid’ group is group 2 as all the pre-program responses were completed at or soon after registration and prior to the HEA. In groups 1 and 3 significant numbers of the ‘pre-program’ responses were from households that had been involved in the program for various lengths of time (as well as those at registration) – refer to sections 2.1 and 3.1 for full details.

<table>
<thead>
<tr>
<th>Group</th>
<th>Description</th>
<th>Maximum number of responses</th>
<th>Statistical T-test based on</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All Pre</td>
<td>748</td>
<td>Independent samples</td>
</tr>
<tr>
<td></td>
<td>All Post</td>
<td>478</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Reg Pre</td>
<td>239</td>
<td>Independent samples</td>
</tr>
<tr>
<td></td>
<td>All Post</td>
<td>478</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Matched from All Pre and All Post</td>
<td>245</td>
<td>Matched pairs</td>
</tr>
</tbody>
</table>

Table 40: Groups for the analyses of knowledge, attitudes and behaviours
7.1 Knowledge

The responses to two knowledge questions are considered: pre and post program assessment of energy statements, and post program self-reported levels of knowledge improvement.

7.1.1 Assessment of statements that reflect knowledge of household energy efficiency

Ten statements, considered quite definitive, were created that reflected the key knowledge-based messages of the ASC program, and these were part of both the ‘pre’ and ‘post’ KAB surveys, with the same question format. Rather than a dichotomous true or false answer, respondents were asked to assess if each statement was definitely or probably true or false – i.e. there were four choices. The full surveys are available in the appendices, and as examples, two of the knowledge questions follow; in answering, respondents were asked to circle one number.

Please indicate your assessment of each of the following statements about household energy:

<table>
<thead>
<tr>
<th>Statements</th>
<th>Definitely False</th>
<th>Probably False</th>
<th>Probably True</th>
<th>Definitely True</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Insulation creates a barrier to heat/cold transfer between the outside and the inside of a house</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>b. When a closed room in not occupied, leaving a fan on will cool the room</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

The actual response (1-4) was recorded in the database together with a score of 1 (correct) or 0 (incorrect). The correct answer was either definitely true or definitely false, i.e. in scoring, only one of the four possible responses was considered to be correct. There were ten questions, and each respondent was given a score out of ten, the maximum score being 10. Mean scores for each question were then calculated for each question for both pre and post surveys. As the scores were either 0 or 1, the mean scores are less than 1 or 1. Pre and post mean scores were compared and a statistical T-test for the significance of the differences between the means was run.

The results for the three groups are provided in the table below. Differences in the pre and post means that are significant at the 0.05 probability level are shown with *. This indicates that the differences between the pre and post mean scores are attributable to a factor(s) other than chance (with a probability of 95%).
g. Appliances/entertainment devices that are on stand-by don’t consume any electricity

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>.86</th>
<th>.84</th>
<th>.88</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post</td>
<td>.87</td>
<td>.87</td>
<td>.90</td>
</tr>
</tbody>
</table>

h. When a closed room in not occupied, leaving a fan on will cool the room

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>.45</th>
<th>.43</th>
<th>.49</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post</td>
<td>.49</td>
<td>.49</td>
<td>.50</td>
</tr>
</tbody>
</table>

i. In helping to keep a house cool in summer, an unpainted (silver) metal roof is more effective than a roof painted in white gloss

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>.73</th>
<th>.71</th>
<th>.71</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post</td>
<td>.73</td>
<td>.73</td>
<td>.75</td>
</tr>
</tbody>
</table>

j. Ceiling fans are much cheaper to operate than air conditioning (of any type)

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>.59</th>
<th>.54</th>
<th>.63</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post</td>
<td>.72 *</td>
<td>.72 *</td>
<td>.77 *</td>
</tr>
</tbody>
</table>

Total Score

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>6.20</th>
<th>5.88</th>
<th>6.45</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post</td>
<td>6.62 *</td>
<td>6.62 *</td>
<td>6.80 *</td>
</tr>
</tbody>
</table>

Table 41: Pre and post mean scores for knowledge questions by groups

- Apart from one (highlighted and minor), scores for all questions in all groups show a pre-post increase or in a few cases no change
- The lower scores indicate higher proportions of incorrect answers, which in some cases can be due to responses that included ‘probably’ rather than definitely, and in such cases may reflect an element of uncertainty, or a belief that there may be situations in which ‘probably’ is considered realistic. Frequency statistics are not provided here
- Some level of confidence in the scores is provided by comparing the total scores for groups 1, 2 and 3: the total pre-score for group 2 (5.88 from genuine ‘pre’ responses at registration) is notably less than that for group 1 (6.20 and including 68% of pre-existing customers); group 3 respondents (who answered both the pre and post surveys and included a large proportion of pre-existing customers) are likely to be households that have made some level of commitment to the program, and perhaps be slightly more knowledgeable than other groups (of which they are part) - this is reflected in the somewhat higher pre and post total scores
- There were some statements (c, e and j) that showed pre-post gain scores that were statistically significant
- The pre-post gains for the total knowledge scores of each group were statistically significant (at the 95% level) indicating that the improvement was due to factors other than chance. It could be attributable to involvement in the ASC program and/or the ASC community engagement activities
- The one proviso is that there is no data from a large comparably sized control group. However analysis of the small number of control group responses, indicates a total gain score comparable to that of group 2; due to the low numbers it is not significant, although it may indicate the effectiveness of the ASC community engagement program.

7.1.2 Self-reported levels of improvement in household knowledge

In the post-survey a new question was introduced, asking respondents to indicate on a 5-point scale the extent of improvement of their households’ knowledge of energy consumption and energy efficiency. The question and the results are given in the table below.

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>5</td>
<td>1.0</td>
</tr>
<tr>
<td>To some extent</td>
<td>98</td>
<td>20.5</td>
</tr>
<tr>
<td>To a fair extent</td>
<td>135</td>
<td>28.3</td>
</tr>
<tr>
<td>To a large extent</td>
<td>148</td>
<td>31.0</td>
</tr>
<tr>
<td>To a very large extent</td>
<td>91</td>
<td>19.1</td>
</tr>
<tr>
<td></td>
<td>477</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 42: Post program self-reported improvements in household knowledge
Overall respondents considered that there had been moderate to large improvements in the level of relevant knowledge in their households. This result is consistent with the increases in the knowledge scores documented above.

### 7.2 Behaviours

#### 7.2.1 Changes in self-reported household energy efficiency behaviours

Fifteen behavioural statements that reflected the key behavioural messages of the ASC program, were incorporated in a question that was part of both the ‘pre’ and ‘post’ KAB surveys. Respondents were asked to rate the frequency of each behavior during the previous six months. The full surveys are available in the appendices, and an example of a question with the responses follows; in answering, respondents were asked to circle one number.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Always</th>
<th>Almost Always</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Not relevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>During the previous six months, indicate how often the following behaviours were carried out in your household:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Switch off lights when not needed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>4.16</td>
<td>4.01</td>
<td>4.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>4.24 *</td>
<td>4.24 *</td>
<td>4.27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Use cold water in washing machine instead of hot water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>4.24</td>
<td>4.15</td>
<td>4.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>4.38 *</td>
<td>4.38 *</td>
<td>4.37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. At the powerpoint, switch off appliances/ electronics that operate on stand-by</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>3.21</td>
<td>2.91</td>
<td>3.33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>3.32</td>
<td>3.32 *</td>
<td>3.33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Dry clothes on an outside line in preference to a clothes dryer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>4.69</td>
<td>4.55</td>
<td>4.81</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>4.81 *</td>
<td>4.81 *</td>
<td>4.83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. If you have a SHW, use booster only when needed operate on stand-by</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>4.58</td>
<td>4.12</td>
<td>4.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>4.79 *</td>
<td>4.79 *</td>
<td>4.81</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. In hot weather whenever possible, use fans as first option rather than air con</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>4.01</td>
<td>3.70</td>
<td>4.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>4.04</td>
<td>4.04 *</td>
<td>4.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. If you use a refrigerative air con (eg split system), operate during summer in a temperature range of 24-26 degrees celsius</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>4.06</td>
<td>3.78</td>
<td>4.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>4.40 *</td>
<td>4.40 *</td>
<td>4.34 *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. If refrigerative air con is in use, keep the nearby doors/windows closed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>4.70</td>
<td>4.57</td>
<td>4.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>4.82 *</td>
<td>4.82 *</td>
<td>4.82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. If evaporative air con (swampy) in use, operate with low fan speed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>4.13</td>
<td>3.85</td>
<td>4.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td>4.23</td>
<td>4.23 *</td>
<td>4.20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A mean rating for each question was calculated from all respondents, excluding the ‘not relevant’ category. Nine questions that were generally applicable were aggregated to give a total score, the maximum of which was 45. The other six questions were not relevant to all respondents as they related to specific household appliances (e.g. solar hot water, swimming pool). Analyses were undertaken for each of the three groups described previously, and the results are in the table below. Pre-post changes that are statistically significant are marked with a *. This indicates that the differences between the pre and post mean scores are attributable to a factor(s) other than chance (with a probability of 95%).
k. Turn off air con when house not occupied for lengthy periods #

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.68</td>
<td>4.76 *</td>
</tr>
<tr>
<td></td>
<td>4.57</td>
<td>4.76 *</td>
</tr>
<tr>
<td></td>
<td>4.70</td>
<td>4.74</td>
</tr>
</tbody>
</table>

l. During hot days/cold nights, close curtains/blinds to reduce heat transfer #

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.40</td>
<td>4.48 *</td>
</tr>
<tr>
<td></td>
<td>4.31</td>
<td>4.48 *</td>
</tr>
<tr>
<td></td>
<td>4.43</td>
<td>4.43</td>
</tr>
</tbody>
</table>

m. If use external window shading, regularly close in summer to reduce heat input #

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.36</td>
<td>4.53 *</td>
</tr>
<tr>
<td></td>
<td>4.00</td>
<td>4.53 *</td>
</tr>
<tr>
<td></td>
<td>4.63</td>
<td>4.71</td>
</tr>
</tbody>
</table>

n. Operate winter heating in a temperature range of 18 - 20 degrees Celsius #

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.67</td>
<td>4.04 *</td>
</tr>
<tr>
<td></td>
<td>3.29</td>
<td>4.04 *</td>
</tr>
<tr>
<td></td>
<td>3.77</td>
<td>4.00 *</td>
</tr>
</tbody>
</table>

o. If you have a swimming pool, in cooler months reduce hours of pool pump use

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.52</td>
<td>4.42</td>
</tr>
<tr>
<td></td>
<td>4.27</td>
<td>4.42</td>
</tr>
<tr>
<td></td>
<td>4.52</td>
<td>4.50</td>
</tr>
</tbody>
</table>

p. If you have a swimming pool, regularly use a swimming pool cover

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.24</td>
<td>3.52 *</td>
</tr>
<tr>
<td></td>
<td>2.77</td>
<td>3.52 *</td>
</tr>
<tr>
<td></td>
<td>3.47</td>
<td>3.45</td>
</tr>
</tbody>
</table>

TOTAL SCORE – 9 items marked above with #

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>32.99</td>
<td>35.01 *</td>
</tr>
<tr>
<td></td>
<td>31.25</td>
<td>35.01 *</td>
</tr>
<tr>
<td></td>
<td>34.27</td>
<td>35.08 *</td>
</tr>
</tbody>
</table>

Table 43: Self-reported rated changes in household behaviours

- Apart from three instances in the matched pairs data (highlighted and minor), scores for all questions in all groups show a pre-post increase or in some cases no change.
- The higher the score the more frequently/regularly the behavior is reported as being done. Frequency statistics for the 5 to 1 ratings are not provided here.
- Some level of confidence in the scores is provided by comparing the total scores for groups 1, 2 and 3: the total pre-score for group 2 (31.45 from genuine ‘pre’ responses at registration) is less than that for group 1 (32.99 and including 68% of pre-existing customers); group 3 respondents (who answered both the pre and post surveys and included a large proportion of pre-existing customers) are likely to be households that have made some level of commitment to the program, and perhaps be slightly more knowledgeable than other groups (of which they are part) - this is reflected in the somewhat higher pre total score and comparable post score.
- There were many behaviours that showed pre-post gain scores that were statistically significant, especially in group 2.
- The pre-post gains for the total general (nine item) behaviour scores of each group were statistically significant (at the 95% level) indicating that the improvement was due to factors other than chance. It could be attributable to involvement in the ASC program and/or the ASC community engagement activities.
- The one proviso is that there is no data from a large comparably sized control group. Analysis of the small number of control group responses indicate negative gain scores for many of the individual behaviours, and a gain score for the nine-item total of 0.65 which is much less than that for groups 1 or 2.

7.3 Attitudes

7.3.1 General attitudes

For the survey and analyses, an attitude is regarded as a disposition towards a factor, action or circumstance, that can be rated across a spectrum from one extreme to its opposite (e.g. good-bad, very important-not important, strongly agree-strongly disagree).

In both pre and post surveys, the same generic attitudinal question was asked; it had two components – reducing overall household electricity consumption and reducing annual cost of electricity consumption. An example of one question follows.
For my household I think that:

<table>
<thead>
<tr>
<th></th>
<th>Very Important</th>
<th>Important</th>
<th>Neither</th>
<th>Not Important</th>
<th>Not at All Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Reducing my overall electricity consumption is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The mean pre and post responses for each group were calculated. The lower the score the more positive the general attitude. The results are shown in the table below. Pre-post changes that are statistically significant are marked with a *. This indicates that the differences between the pre and post mean scores are attributable to a factor(s) other than chance (with a probability of 95%).

<table>
<thead>
<tr>
<th>For my household I think that:</th>
<th>Time</th>
<th>1. All Pre-All Post</th>
<th>2. Reg Pre-All Post</th>
<th>3. Matched All Pre-All Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Reducing my overall electricity consumption is</td>
<td>Pre</td>
<td>1.32</td>
<td>1.31</td>
<td>1.37</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>1.47 *</td>
<td>1.47 *</td>
<td>1.53 *</td>
</tr>
<tr>
<td>b. Reducing the yearly cost of electricity consumption is</td>
<td>Pre</td>
<td>1.35</td>
<td>1.31</td>
<td>1.38</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>1.45 *</td>
<td>1.45 *</td>
<td>1.47 *</td>
</tr>
</tbody>
</table>

Table 44: Changes in general attitude towards electricity consumption and cost

- The general attitudinal pre-post gain scores were statistically significant, indicating some shift in attitudes during the course of the program
- Attribution of changes in attitudes solely to the ASC program is not possible, as there were very significant increases in the cost of electricity from March 2008 to March 2013
- The small numbers of control group members show comparable (but slightly lower) changes in attitude scores
- However the influence of the ASC program cannot be discounted especially as the previous data indicates some improvements in knowledge and behaviours, and these can contribute to attitudinal change.

### 7.3.2 Effectiveness of possible actions

An attitude type question that addressed the perceived effectiveness of a range of household actions was asked in the pre survey. It was framed in terms of future or ongoing actions and so was not included in the post survey. An example followed by the results are below.

<table>
<thead>
<tr>
<th>How effective would the following actions be in helping your household to reduce its electricity consumption?</th>
<th>Extremely Effective</th>
<th>Very Effective</th>
<th>Somewhat Effective</th>
<th>Not Very Effective</th>
<th>Not at All Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Learning about ways to reduce household electricity consumption by reading information or discussing advice</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How effective would the following actions be in helping your household to reduce its electricity consumption?</th>
<th>All Pre-All Post</th>
<th>Reg Pre-All Post</th>
<th>Matched All Pre-All Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Learning about ways to reduce household electricity consumption by reading information or discussing advice</td>
<td>3.77</td>
<td>3.89</td>
<td>3.77</td>
</tr>
<tr>
<td>b. Making and committing to an action plan (developed with the help of Alice Solar City) to reduce household electricity consumption</td>
<td>3.61</td>
<td>3.79</td>
<td>3.56</td>
</tr>
<tr>
<td>c. Setting a target for household electricity consumption that is lower than your present average electricity consumption</td>
<td>3.52</td>
<td>3.76</td>
<td>3.40</td>
</tr>
<tr>
<td>d. Making physical changes to your home for improving energy efficiency</td>
<td>4.22</td>
<td>4.21</td>
<td>4.31</td>
</tr>
<tr>
<td>e. Modifying personal actions around the house in ways that are known to reduce electricity consumption</td>
<td>4.03</td>
<td>3.98</td>
<td>4.11</td>
</tr>
</tbody>
</table>

Table 45: Pre-program attitudes towards household actions that can influence electricity consumption
Physical changes are regarded as the most effective household actions, followed by behavioural changes. These are the key elements of the ASC program. Setting targets and action plans are considered less effective and learnings are intermediate.

Learnings, plans and targets may have been considered as possible precursors to the more significant physical and behavioural changes, and/or as parallel but less effective options.

7.3.3 Other possible influences

A group of pre and post questions included three items that can be considered as possible influences on behavioural intentions: the perceived views of important others, confidence in the ability to undertake actions, and perceived social norms. An example and results are shown below. Pre-post changes that are statistically significant are marked with a *.

Please indicate your level of agreement with the following statements:

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I think people who are important to our household (e.g. family or friends) want us to reduce electricity consumption</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Please indicate your level of agreement with the following statements:</th>
<th>Mean Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time</strong></td>
<td>All Pre-All Post</td>
</tr>
</tbody>
</table>
| a. I think people who are important to our household (e.g. family or friends) want us to reduce electricity consumption | Pre 1.98 2.03 2.04  
Post 2.30 * 2.30 * 2.37 * |
| b. I am confident our household can reduce its electricity consumption if we want to | Pre 1.72 1.65 1.81  
Post 2.14 * 2.14 * 2.22 * |
| c. Residents of Alice Springs make positive efforts to reduce electricity consumption | Pre 2.42 2.39 2.44  
Post 2.49 2.49 2.51 |

Table 46: Other factors that may influence intentions to reduce electricity consumption

- Interestingly the data indicates that there was a decrease of confidence in the ability of households to reduce electricity consumption, from an initial optimism, over the course of the program. This could be related to experience of trying to make reductions, or to a range of other possible factors (e.g. related to comfort and convenience).
- Similarly the influence of the perceived views of relevant other people (friends, family) also decreased.

7.4 Knowledge, Attitude and Behaviour Change

The main limitations to the interpreting the data from the KAB surveys (see section 2.1) are as follows:

- There was no substantial control group from which data could be regarded with the same level of confidence as the data from ASC households. The analyses are thus based on pre and post results of the ‘treatment’ group. The available data from the very small number of control group members cannot be regarded with confidence, but can be noted in the context of the program and its community engagement; in fact a ‘true’ control group is a problematic concept for this program and its context, as outlined in the next point.

- The community engagement component of the ASC program was very significant across the Alice Springs population of approximately 28,000 individuals and 8,500 households. It is cannot be separated from the formal program components as described in the Residential Overview report, and it is likely to have influenced non-ASC households as well as households registered with ASC as evidenced in section 4 above. Thus a ‘control group’ could not be considered isolated from such media and communications, nor the extensive information provided on the ASC website.
There were some methodological limitations as explained in section 2.1, mainly in relation to the administration of the ‘pre’ to customers who had been registered in the program from a few months to three years. The analyses by groups (1 and 2) aimed to address this factor.

As with most behavioural and attitudinal questions the responses are self-assessments/reports by the respondents, and in the above analyses other data (such as electricity consumption records) has not been used in an attempt to validate such self-assessments.

The surveys were administered as part of the practical ongoing ASC program whose main focus was on customer engagement and implementation of measures. There was little scope for a rigorous controlled ‘scientific’ trial, and in these circumstances a useful set of data was obtained.

The PWC electricity consumption tariffs increased significantly over the five years of the program: the flat rate tariff moved from 15.1 to 25.8 cents per kWh, and increase of 70%. This was a substantial intervening variable external to the ASC program, and a factor that was acting in the same direction as the aims of ASC.

There is scope for both wider and deeper analyses of both KAB and other ASC data (especially electricity consumption), which are not in the scope of this report.

Nevertheless within the limitations described above, and during the period of its operation, the ASC program was associated with modest but measurable and often significant improvements in knowledge, attitudes and behaviours of household members; such knowledge, attitudes and behaviours were those fostered and encouraged by the ASC program. Self-reported behaviours showed gratifying improvements especially as improvements in attitudes are not always associated with behavioural change. Although in this context there was generally some financial savings linked with significant behaviour change.