



# Review of Rouse Hill Pilot

September 2009

Lillian Barry, Helen Burnie, Brent Powis

University of Western Sydney



## Contents

Foreword .....	3
<b>Part One: Review of Pilot Project</b>	
Executive Summary .....	4
• Project Aims .....	4
• Project Design .....	4
• Methods .....	5
• Conduct of the Project .....	5
• Evaluation Findings .....	5
• Recommendations .....	6
• Conclusion .....	6
Introduction .....	7
• The Project In Rouse Hill .....	7
• Rationale for the Project Model .....	7
The Project Model Design .....	8
• Features .....	8
• Partner Roles .....	9
Evaluation Aims & Objectives .....	10
• Methods .....	10
• Ethics .....	11
• Conduct of the Project Model .....	12
Evaluation Findings .....	13
• Student Group Interviews .....	13
• Partner Interviews .....	15
• Householder Interviews .....	17
Recommendations .....	21
Conclusion .....	21
<b>Part Two: Steplight Community Snapshot Report- Y Green Pilot</b>	
• Community Snapshot Report.....	22
• Community Action Report.....	23
• Additional Commentary.....	24
• Greenhouse Gas Savings.....	25

## Foreword

With growing awareness of climate change and the need to live more sustainable lives, many Australians would like to be doing 'their bit' around the home. While changing light bulbs and fitting low-flow showerheads are solutions that have been well communicated and readily implemented, making Australian homes energy and water smart requires the provision of reliable, professional information and monitoring. Australia's youth are ideally placed to attain these skills and respond to this challenge.

In response to this, Dusseldorp Skills Forum and Steplight Pty Ltd, worked together to develop the Y Green project. Steplight is an exciting new organisation with expertise in developing software that captures residential data and provides targeted advice to the householder regarding energy and water use. Their objective is to effect real change within communities.

Through this unique public/private partnership, a range of key stakeholders were engaged in a residential sustainability project where young people were trained and subsequently employed to conduct home sustainability consultations in their local community.

To ensure the model could be replicated in other communities across Australia an evaluation has been conducted by the University of Western Sydney. The pilot project, a grassroots collaboration between Steplight Pty Ltd, Dusseldorp Skills Forum, TAFE NSW Western Sydney Institute, the Hills Shire Council, the University of Western Sydney and Lend Lease GPT, commenced in 2007. These partners formed the basis of the first Y Green Project that was completed in early 2009. It is very encouraging to read that, on the whole, the partners, students and householders felt that participating in the program was a positive and rewarding experience. Of particular significance was the skill development of the students and the volume of action implemented by the householders.

It should also be noted that all of the recommendations to come out of the report have already been implemented in the project model, making Y Green a more valuable, constructive and effective program.

I look forward to seeing many other communities across Australia take up the Y Green project.



Tjerk (Jack) Dusseldorp  
Dusseldorp Skills Forum

---

Our mission at Steplight is to help communities reduce their ecological footprint by communicating quality and independent information and advice to households and organisations. By monitoring the change in behaviour over time we are also contributing to research in this area. The Y Green program has broadened our focus to also include the opportunity of training young people in this emerging field.

When we were first approached by Dusseldorp Skills Forum our skilled people were being drawn from a local pool of university students and graduates with strong environmental awareness. Dusseldorp Skills Forum convinced us that if we were to roll out our work nationally we would need well-trained people in many local areas.

Dusseldorp Skills Forum has proven to be an innovative and highly motivated partner. Their work brought together a surprisingly diverse group of collaborators and forged a coherent set of objectives for the Y Green pilot program. We have learnt from this collaboration and continue to work with Dusseldorp Skills Forum to devise other concepts that will help communities across Australia reduce their ecological footprint and teach their young people green skills.



Rowan Mitchell  
Steplight

## Executive Summary

The Y Green Project was developed over an eighteen month period from early 2008 to mid 2009 in response to recognition of two identified needs relating to a growing awareness of the impacts of greenhouse gas emissions on climate change.

These were:

1. To educate householders around the impacts of their household energy use on greenhouse gas emissions;
2. To develop pathways for young people to build skills that will equip them for work in related 'green-collar' industries.

At the initiation of **Dusseldorp Skills Forum**, relationships were developed with a number of stakeholders in the Western Sydney region near Rouse Hill in order to facilitate the Y Green Project. This included the delivery of an accredited training program in household sustainability and recruitment of young people in the region by the Western Sydney Institute of TAFE.

**Steplight** provided training for student candidates in the use of its specifically designed household sustainability audit software, and also facilitated students conducting household audits within the Rouse Hill community from September 2008 through to April 2009.

**The Hills Shire Council** added support through its endorsement of the project, while **Lend Lease/The New Rouse Hill** provided marketing expertise and training space for trainees.

**The University of Western Sydney** contributed to the student candidate cohort through its Environmental stream, some mentoring training, as well as funds for the project model evaluation.

### Project Aims

The Evaluation sought to assess the Y Green Project model in terms of its key aims:

- Build pathways – to provide skill development and practical experience for young people in the energy sectors
- Build relationships – to link partners from different sectors in an effort to improve the energy efficiency of households
- Build sustainability – to impact on the energy efficiency of participating households

### Project Design

The Y Green project model targeted 30 students in the Western Sydney area, with 15 students from the TAFE, and 15 students from the university, matched in pairs. It was expected that students from the university would provide leadership and mentoring for TAFE students. On completion of training, student participants were paid to conduct household audits in the Rouse Hill community, with a target of 20 household audits for each pair. Overall target for the project was 280 to 300 household audits over 3 months.

## Methods

Qualitative methods with semi-structured interviews were used to gain insight into the experience of students, partner representatives and householders participating in the project model. Steplight collated quantitative data from the householder audits undertaken throughout the conduct of the project. A total of 9 out of the 16 student participants from both TAFE and the university participated in the interview process. Each of the stakeholder partners provided at least one representative who participated in the interview process. A total of 14 householder respondents participated in post-consultation interviews.

## Conduct of the Project

- The number of students from University of Western Sydney and Western Sydney Institute of TAFE who participated in the Y Green project totalled 16.
- Training for student candidates was completed by July 2008.
- First householder consultations commenced in September 2008, to finish after 3 months in November 2008.
- The time-line for completion of consultations extended to January 2009.
- A total of 300 householder audits were completed in February 2009.
- Follow-up telephone calls with householder participants commenced after completion of the householder audits, continuing through to April 2009.
- For the purposes of completing the evaluation, householder interviews with a University of Western Sydney Researcher were completed in July 2009.

## Evaluation Findings

### *Student Participant Interviews*

Motivating factors for student interest in participating in the Y Green project included the development of a career path and work experience; an interest in sustainability and earning money. Students also felt they had gained benefits from their participation in the project.

Benefits identified included engagement with the community; development of a number of skills and an increased knowledge of sustainability issues. Feedback from students on improvements that could be built into the early model included addressing the confusion around initial remuneration rates for different groups of students and if these were allocated hourly or per audit; flexibility in student partnering and the need for targeted training for customer service skills. Each of these areas had been addressed as the model progressed, with students generally reporting they felt they had gained valuable skills and work experience as a result of their participation in the project.

### *Partner Representative Interviews*

Partner representatives identified that a range of specialist knowledge and expertise brought strength to the Y Green Project. This enabled progression for each of the planning, implementation and establishment phases of the Y Green Project. Partner representatives indicated they felt the project model was successful in contributing to each of its main objectives, i.e. building pathways for youth; building relationships between partners in different sectors; building sustainability into a local community in the area of household sustainability. In addition, representatives indicated they felt there had been valuable lessons learnt in the development of partnerships with key stakeholders.

### ***Householder Interviews***

Motivation for householders participating in the audits included learning, wanting to 'do the right thing' and responsibility for the future. Environment-related motivating factors that also emerged included convenience, affordability, saving money and the importance of affiliation with the local council. Householders generally indicated they felt their participation in the project had been worthwhile.

As a result of Y Green, eight respondents stated they now switched off appliances rather than using stand-by mode, two families now ensured they switched off all power if going away for a length of time and two households switched off second fridges. Six people specifically mentioned that they adjusted the temperature settings on their air- conditioners, fridges and/or freezers to reduce energy consumption.

A few householders indicated that improvements could be made in the householder consultation and auditing process, including more knowledge base from students, visual ways of sharing information such as graphs, more targeted information to individual household needs.

However, in line with major motivations for householder participation in the project, such as a desire to gain information, a sense of personal responsibility and prior interest in environmental issues, most householder respondents indicated that the Y Green Project fulfilled their expectations.

### **Recommendations**

Further development of the Y Green Project model to include:

- Improved training for student participants to help ensure a strong knowledge base and effective communication skills for the home audit teams
- A more interactive approach to communicating with householders and a greater responsiveness to their sustainability questions and problems
- A system for following up queries that fall outside the expertise of the home audit team
- Providing householders with contact details for gaining information on rebates
- Working with partner Councils to arrange ways of disseminating information about Council's sustainability-related activities and events

### **Conclusion**

The key findings indicated that overall the Y Green Project in Rouse Hill model had been successful in achieving its key initial aims.



These included establishing pathways to provide skill development and practical experience for young people in the energy sector, building relationships in order to link a variety of sectors with a view to building household sustainability within the local community.



## Introduction

### The Project in Rouse Hill

The public perception of the need to address greenhouse gas emissions in response to climate change is growing. There is also a need to educate individuals at a more local level about the impacts of household energy use on greenhouse gas emissions and the role individual householders can play in reducing this.

Similarly, there is opportunity to up-skill young people post-school and/or post-tertiary education in the growing 'green' job market. Each of these needs provides opportunity to educate householders and increase the skill-set of young people on the brink of entering the job market, while addressing a growing need to address household greenhouse gas emissions.

In recognition of each of these key needs, Dusseldorp Skills Forum, inspired by the Californian Youth Energy Services project, sought to establish a sustainability project providing young people with training and paid work experience through conducting home sustainability consultations. The Y Green Project in Rouse Hill sought to build pathways for young people through skill development and practical experience in the energy, water and waste efficiency sectors, while providing them with paid employment.

In addition, while informing and educating householders at a local level, the project sought to develop relationships between key partners within each of the energy, education, housing and council sectors relevant to the identified local government area targeted. The key partners in the Y Green project were Dusseldorp Skills Forum, Steplight, The Hills Shire Council, Lend Lease/The New Rouse Hill, University of Western Sydney and the Western Sydney Institute of TAFE.

### Rationale for the Project Model

The Y Green Project partners sought to develop a model that enabled young people to access an educational and work experience pathway through a nationally accredited training program in the area of household energy efficiency consultation. At the same time, the model provided opportunity for householders to increase their awareness of managing greenhouse gas emissions beyond changing light bulbs and fitting low-flow showerheads. In addition, the model sought to build collaborative partnerships that would enable the model to be developed and implemented within a local community.

The purpose of The Y Green Project in Rouse Hill was to develop a residential sustainability project where young people, aged 15–25 years of age were provided with targeted training and practical work experience. While students from University of Western Sydney, enrolled in the Environmental stream, had gained education in environmental sustainability, the Western Sydney Institute of TAFE provided targeted training in home sustainability for young people. Steplight provided practical experience and further training in household sustainability consultation for both student groups.

The remaining partners facilitated and supported the project throughout the initiation, implementation and continuance of the project.

## The Project Model Design

### Features

- Early model design targeted a total of thirty students from both educational institutions to participate in the project, i.e. 15 students from TAFE and 15 students from University. Students would be matched in pairs post-training; one student from TAFE and one from the University, with a mentoring role being ascribed to the University student - up to 15 paired teams post training. University students, as qualified Home Sustainability Advisors, would be paid \$20 per consultation. TAFE students were to be paid \$14 per hour. Each student pair was given a target of completing 20 householder audits.
- Unique training opportunities were offered to students who expressed an interest in participating in the Y Green Project Model. TAFE offered a nationally accredited Home Sustainability Assessment Course, commencing in June 2008. A mentoring program was also offered to University of Western Sydney students studying in their final year in the Environmental Science stream who had expressed an interest in the project. Steplight, through their expertise as sustainability software developers and in photovoltaic engineering, were to provide training in household consultation software and procedures for selected students prior to entering the household consultation phase.
- A vetting procedure of potential students from TAFE and University of Western Sydney was to be conducted by Steplight. Protocols and procedure for this were not formulated in the early model design. As recruitment of students proved more difficult than at first expected, it was decided that all students within the age criteria who expressed an interest in the project would be provided with opportunity for involvement in the program.
- On completion of training, and post-vetting procedures, University students would be assigned mentor roles and matched with TAFE students for the householder consultation phase. It was expected that student pairs would remain constant throughout the project.
- Household consultations were expected to commence in June 2008, after a Y Green Project in Rouse Hill promotional launch. The overall target number of households for the project was 280 to 300, with students conducting consultations over a 3-month period. Early planning anticipated that 5 teams, of two matched students, would operate each Saturday with a target of 20 home sustainability consultations each. Steplight would provide expertise oversight and training for student pairs. Follow-up telephone consultations would be made with participating householders to gather comparative data. It was expected that all household consultations and follow-up data from participating households would be completed by early November 2008.



- The Rouse Hill area was the target local community area for household consultations. Rouse Hill as a newly establish residential area located near Castle Hill, provided a location that was accessible for most students studying in the Western Sydney region.



## Partner Roles

A unique aspect of the Y Green Project was the collaborative partner roles between educational, local government, housing and sustainability sectors.

A summary of partners and their roles in the Y Green Project is provided below:

### Dusseldorp Skills Forum

- Introduced project concept and provided expertise in facilitation and co-ordination of the partner collaboration process.



DusseldorpSkillsForum

### The Hills Shire Council

- Local government provided endorsement of the project by applying their logo to student name badges throughout the householder consultation phase.



### Steplight

- Experience with similar project in 2007 in the Randwick area.
- Expertise in householder sustainability and specialist software.



### University of Western Sydney

- Promotion of the program to students enrolled in the Environmental Science stream.
- Provide support and some mentoring training for university students.
- Facilitate community engagement and provide funding for evaluation of the Y Green model.



### Western Sydney Institute of TAFE

- Promotion of the program.
- Training of students enrolled in their Home Sustainability Assessment course.
- Community engagement and facilitation of student recruitment into the Y Green Project.



### Lend Lease – The New Rouse Hill

- Promotion and marketing of the project to new residents in the Rouse Hill area.
- Facilitate community engagement and on-site training for project participants through their Rouse Hill site.



### Evaluation Aims & Objectives

The scope of the Y Green Evaluation was to assess the Project Model in Rouse Hill, initiated in June 2008, and completed in July 2009.

The Evaluation sought to assess the Y Green Project model in terms of its key aims:

- Build pathways – to provide skill development and practical experience for young people in the energy sectors
- Build relationships – to link partners from different sectors in an effort to improve the energy efficiency of households
- Build sustainability – to impact on the energy efficiency of participating households

### Methods

The evaluation of the Y Green Project in Rouse Hill was conducted in-situ at Rouse Hill and at the University of Western Sydney.

A qualitative approach was used for the evaluation in order to assess the experience of participants from each group in the project model and to reflect key features of the project.

Steplight also collated quantitative data from the householder audits undertaken throughout the conduct of the project.

Semi-structured interviews were designed to collect data reflecting each participant group's role in, and experience of, the Y Green Project. Data was collected in three phases of the Y Green project, post-implementation and throughout conduct of the project for student participants, at varying stages of conducting the project for stakeholder representatives and after the householder consultation and audit phase was completed for householder respondents.

As such, interviews were conducted with representatives from each of three participant groups:

- Student participants from both the Western Sydney Institute of TAFE and the University of Western Sydney;
- Representative/s from each of the stakeholder partners;
- Householder respondents who had participated in the consultation process.

A total of 9 out of the 16 student participants (from both educational institutions) in the Y Green Project participated in the interview process. Other students also agreed to participate in an interview, but at time of contact to arrange an interview, indicated they had other commitments that prevented their participation.



Repeated attempts to follow-up some students were non-productive for various reasons; these included non-response to requests for expressions of interest, non-availability due to undertaking a new job, no-show at point of agreed interview time, or were no longer available as a result of finishing their educational course.

Other students from the initial pool of students from both institutions also indicated a willingness to participate in the interview process but had not been selected to participate in final training stages for the Y Green project. As such, students who did not participate in the final training in householder consultation software by Steplight were not followed up for interviews.

Each of the stakeholder partners provided at least one representative who participated in the interview process. One or two representatives were non-responsive to direct requests for interviews, with one respondent deciding against following through with an interview after an agreed interview time was made. One reason cited was that they had not played a large role in the project and their view would not significantly contribute to the evaluation.

A total of 14 householder respondents participated in the post-consultation interviews.

Almost 300 householders had participated in the householder consultation and auditing processes.

A limited number of householders indicated a willingness to follow up with interviews at 3 months post-consultation.

Qualitative data collected from each of the participant groups were synthesised with some analysis using an emergent thematic process. Major themes that emerged from the collective data reflected participants' experience throughout the initiation, implementation and/or on-going conduct of the project.

### **Ethics**

Ethics approvals to conduct interviews with student participants from both educational institutions, as well as stakeholder and household representatives, were obtained from the Human Research & Ethics Committee at the University of Western Sydney, and also from the Western Sydney Institute of TAFE.

Information sheets and informed consent forms were issued to each participant in the data collection process.

For students under 18 years of age, parental/guardian approvals to participate in the interview process were also obtained. All data is de-identified, with the exception of stakeholder representatives, where data reflects their organisation's participation in the Y Green Project.

### Conduct of the Y Green Project Model

- After completion of training for student candidates in July 2008, the number of students who participated in the Y Green project totalled 16. Initially, issues arose with paired students being unable to continue conducting audits due to unavailability of their partner. As a result, permanent pairing of students was discontinued, with students subsequently paired on a more flexible 'availability' basis. This meant that flexible time management for students facilitated working arrangements that enabled greater student availability for householder consultations.
- Obtaining householder consultations also proved more time-consuming than anticipated, with less audits achieved against greater time spent door knocking. This was reflected in the extended time-line for completion of householder consultations.
- First householder consultations commenced in September 2008. The number of completed consultations after three months from commencement was less than anticipated. As a result, the time-line for completion of householder audits was extended to January 2009.
- It became evident after initial householder consultations that some students required additional support to complete householder audits. Students who had participated in a similar project conducted in Randwick with Steplight were recruited to the Rouse Hill project to further support completion of householder consultations. A total of 300 householder audits were completed in February 2009.
- Follow-up telephone calls with householder participants commenced after completion of the household consultations, continuing through to April 2009. Steplight were also asked to pass on information to householders regarding opportunities for further participation in interviews for the purpose of the evaluation. Householder contacts for follow-up were passed onto a University of Western Sydney Researcher in May 2009. Householder interviews were completed in July 2009.

## Evaluation Findings

The key findings have been identified for each of the participant groups below:

### Student Group Interviews

#### Key objective - Developing pathways toward skill development for young people

A total of 9 students from a pool of 16 participating students participated in semi-structured interviews. The 9 students included an almost equal-mix of both University and TAFE students.

Three major themes emerged from student interviews –

#### 1 - Motivation for participating in project model

Student desire to participate in the Y Green Project model indicated a range of motivating factors. These included an interest in sustainability, development of a career path post studies, gaining work experience, wanting to join friends who were participating, gaining a certificate for participation, and earning money.

There were three dominant *motivating factors* for student interest in participating in the model. These are ranked in order of importance:

1. Development of a career path and work experience.
2. An interest in sustainability. and
3. Earning money.

Development of a career path and work experience was stated most often by students from TAFE, and slightly less often by University students, as motivating factors for student interest in joining the project.

One student stated that they were doing ‘renewable energy and electrical engineering’ at TAFE and that ‘it’s interesting to see what people in the industry are doing...I’ve done some energy auditing as part of one of my modules’.

Another TAFE student stated that the Y Green Project filled a void for them in terms of work experience,

*‘I needed work experience...I was applying to numerous jobs and I wasn’t getting any of them...they all said if you have a little bit more experience we might be able to employ you...and when I heard about this I thought it was a GREAT OPPORTUNITY (stated loudly) to gain some more experience...it would show that I had some initiative.’*

The second most stated motivating factor from predominantly University students, and slightly less by TAFE students, was an interest in sustainability. One TAFE student indicated they were influenced by a teacher whom they described as a ‘right wing environmentalist’; where-as one university student described themselves as ‘a bit of a tree hugger’ with an interest in ‘reducing our impact on the planet’.

### Key Benefits to Students

1. Engagement with the community - 'a good feeling', 'raising public awareness', 'raising awareness, particularly in my local community', 'It felt good when you left the house to know that people understood a bit more about gas and water use'
2. Specific skill development - Students indicated they had gained specific skills that would assist them in future employment, including - 'confidence in customer service skills', 'gaining skills in communication ...that's been really good', 'working in a team environment', 'the training was really beneficial, doing interviews and putting training into practice'
3. Increased knowledge of sustainability issues - 'became more aware of the environment', 'learnt sustainability terms used that I had not been aware of'.

While student interest in sustainability was one of the two major motivating factors for participation in the Y Green Project, it also fit with student choice of studies, particularly for university students enrolled in the environmental studies stream. An interest in sustainability also links with student motivation of developing a career path in the sustainability industry.

*Earning money* was also identified by some students as a motivating factor for participation in the Y Green Project. This factor was indicated most often by TAFE students. For university students the monetary factor was minimal, with some indicating that the monetary return for the time expended was disproportionate. This difference between both student groups reflected the \$20 per consultation for university students, versus the \$14 per hour for TAFE students.

After remuneration rates had been adjusted to a flat rate for both student groups to \$20 per consultation, some students still indicated the time expended in obtaining consultations was still disproportionate. The unexpected time expended in obtaining consultations appears to explain why some students decided to discontinue their participation in the project, with other students citing a need to obtain full-time work post studies.

The need to pursue fulltime work was most apparent for university students and appeared to be impacted by the extended period of conducting household consultations from November 2008 to January 2009.

### 2 - Benefits to student participants

Students indicated that they had gained tangible benefits as a result of their participation in the project. These included engagement with the community, gaining customer service skills, increased awareness of sustainability issues and some students indicated they enjoyed being part of a team.

When asked if mentoring had been beneficial, most students from each group indicated this had been minimal, stating that each student (from TAFE and university) had equally contributed to the partnership. The most apparent benefits for both student groups were the opportunity to engage with the community and a sense of feeling as though they had contributed to householders' awareness regarding reducing their greenhouse gas emissions.

Skill development in the area of customer service was most apparent for TAFE students, with some indicating they had gained valuable experience in this area.



### 3 - Student perspectives of what could be improved in the model

While students indicated they generally enjoyed the experience and gained some tangible benefits, there were aspects of the model they felt needed to be changed.

1. Monetary payment – Confusion for some students about remuneration rates. *'On the sheet it said \$20 an assessment...I got paid \$14 an hour, but I expected to get \$20 for each assessment.'* Time management was an issue, particularly in relation to remuneration, *'Had to spend 4-5 hours just to get 2 or 3 people. Didn't realise when I first started how time consuming it would be'*
2. Student Partnering & Mentoring – Student matching relied on both students being available at the same time. *'When the other person's sick you can't really work without them'*. Regarding mentoring, *'the TAFE students are quite mature people, so they don't really need much guidance'*, *'Taking on the leadership role was talked about as part of the project...but we learnt from each other'*.
3. Customer service training - *'It was really confusing to know what to say when peopled asked where you are from'*, *'Door knocking – a futile experience'*



The flexibility of the initial model allowed recognition of the need for adjustments by Steplight, such as remuneration rates to equal payments for both TAFE and University students, which improved student experience of their participation. However, as previously indicated some students stated the time expended was still disproportionate.

In recognition of this, Steplight made further adjustments to the model where students who felt comfortable door knocking and making appointments with householders, were assigned this role exclusively. This enabled householder consultations to proceed with less time expended on fruitless door knocking. Similarly, after flexible pairing of teams had been introduced students interviewed felt that these changes had enabled them to complete their audit quotas more readily.

#### Partner Interviews

**Key objective - Building relationships through linking partners from different sectors with a view to improving energy efficiency of households.**

A total of 8 interviews were held, representing all of the partners in the Y Green Project. Two further representatives were approached, with one non-responding and another deciding not to go ahead with the interview.

Main themes that emerged from interviews with partners were:

#### *1 – Building strength into the project model through partner synergy*

The partnership enabled a range of specialist knowledge and expertise to be brought to the Y Green Project. In turn, combined expertise brought strength to the partnership, enabling each of the planning, implementation and establishment phases of the Y Green Project – One partner representative indicated that there was, *'good partnership synergy...with opportunity for resolution of issues'*.

Areas of strength identified by partner representatives included –

- Marketing and promotion of Y Green Project.
- Experience and resources for community engagement facilitation.
- Financial support for training, promotion and evaluation.
- Accredited training in the area of household sustainability and environmental science.
- Sustainability software – providing a mechanism to capture householder greenhouse gas emissions data.
- Experience in householder consultation and householder auditing processes.
- Endorsement of the Y Green Project in the Rouse Hill area.

### **2 - Sustainability of the Y Green Project model**

Partner representatives indicated they felt the project model was successful in contributing to each of its main objectives, i.e. *building pathways for youth; building relationships between partners in different sectors; building sustainability into a local community in the area of household sustainability.*

- The current partnership worked well as a localised model, with an appropriate mix of partners.
- Gaining confidence in the model's ability to achieve its aims through working together with partners to overcome obstacles.
- Local business and community groups have indicated their interest in the model, particularly in terms of its environmental awareness and sustainability focus.
- Successfully facilitating relationship building within the local community.
- Flexibility within the partner relationship that enabled adjustments in the model to be made after the implementation phase.
- The development of a pathway for young people to continue paid employment in future rollouts of the model.
- The collaborative model brought benefits to each of the participating partners, such as community engagement, and community awareness of their contribution to the project model.

### **3 – Lessons learnt**

Some partner representatives indicated that despite flexibility built into the model, planning phases of the project needed further development.

Areas identified by representatives included –

- Confusion regarding the target student group – Some representatives stated that this had initially been 'disadvantaged youth', while others stated that 'youth' within the age range of 15 -25 years had been the target group for student involvement. While 'disadvantaged youth' had been a TAFE requirement linked with funding, this had been unclear to some partner representatives.
- Linking recruitment with educational training – These were seen as disparate roles that needed to be undertaken as separate processes by partners with specialist expertise in each of these areas.
- Under-estimating the length of time needed for individual partner processes in the planning and development of the project model.

- An apparent miss-match between initial stated objectives of targeting ‘disadvantaged’ youth and the sustainability model designed for university-trained employees.
- The need for more training in customer service skills and support for students in the consultation phase.
- A need for a deeper sense of shared understanding and commitment across all partners.
- The need to develop a seamless funding stream to enable the model to be replicated.
- The need to prioritise replicability of the model over individual interests.

### Householder Interviews

#### **Key objective - Building sustainability within the local community and impact on the energy efficiency of participating households.**

Householders interviewed lived in the postcode area of 2155, in the adjoining suburbs of Beaumont Hills and Kellyville within The Hills Shire Local Government Area in Sydney’s northwest. Some of those interviewed had participated in the Y Green Project up to one year previously. Others had taken part in the project several weeks before the interview.

Seven women and seven men were interviewed. Ten of the respondents were aged between 46 and 65 years, two were aged between 36 and 45 years and two were older than 66 years. The highest educational qualification held by eight of the respondents was a diploma or a degree. Two held a higher degree, one had a Higher School Certificate, two had trade qualifications and one had the equivalent of a School Certificate, as their highest educational qualifications.

All respondents had children. Six respondents had two children, five respondents had three children, one respondent had five children, one had four children and one had one child. Three respondents also mentioned their grandchildren.

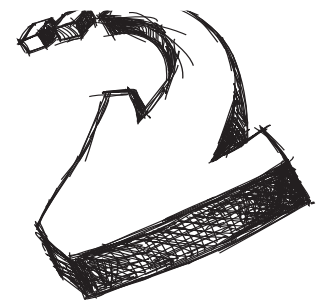
Respondents were asked about their personal income rather than their household income. Three reported earning \$36,000 or less per year, three earned between \$36,000 and \$50,000, three earned between \$50,000 and \$80,000, three earned between \$80,000 and \$100,000 and two earned between \$100,000 and \$140,000 per year.

Seven of the 14 were born in Australia and English was their first language. Four were born in Britain and one was born in Singapore and English was the first language for each. One was born in Taiwan, with Mandarin as their first language and one was born in Pakistan with Urdu as their first language.

Fourteen is too small a sample for statistically significant comparisons with census data for Kellyville and Beaumont Hills, but this profile of the respondents suggests that it slightly under-represents people of non-English speaking backgrounds. However, this seemed to be due to individual availability when arranging interview times, rather than any problem with Y Green engaging with people of non-English speaking backgrounds.

Younger people also seem under-represented but it is not known whether this under-representation exists only in the interview sample or across the wider Y Green participation group.

The following findings represent a synthesis of the views expressed by the 14 Y Green householders who took part in the interviews.



### ***Motivations and expectations and the level to which these were fulfilled***

*The main motivators –*

#### ***Learning, wanting to ‘do the right thing’ & responsibility for the future***

All 14 respondents explicitly stated that their motivations for participating in the Y Green project included wanting ‘to learn’ or ‘gain information’. Either explicitly or implicitly, all respondents indicated that there was an ethical dimension to their motivation. Ten used the term ‘*doing the right thing*’, referring to participating in the Y Green Project itself and/or referring to their expectation that what they learned from the project would help them to ‘*do the right thing*’.

Most respondents discussed their belief that everyone had a responsibility to reduce their negative impacts on the environment, several indicating that participating in Y Green was part of ‘*doing their bit*’. All respondents indicated a responsibility to the future, in particular to the health and well being of children and future generations. This was most top of mind to those with young children, but it was a recurring theme with all.

Several also indicated the importance of saving other species and their habitats, and our individual and shared responsibilities as environmental stewards.

*Another strong motivator -*

#### ***A level of pre-existing environment-related interest***

Pre-existing concern for the environment clearly links with why respondents thought that participating in the Y Green Project was ‘*doing the right thing*’.

Intuitively, one might expect that those with prior interest in environmental issues would be more likely to participate in the Y Green Project and the interviews demonstrated this to be the case. With one exception, respondents explicitly or implicitly indicated that they had taken steps, prior to their participation in Y Green, to ensure that they either actively cared for the environment and/or actively took steps to improve their environment-related behaviour.

Thirteen indicated that they consciously considered and undertook environmentally friendly activities prior to being approached by Y Green. The one exception was HH5 who stated that he was motivated ‘50- 50’ by ‘*the benefits of reducing power and reducing cost... I don’t like waste and I don’t like wasting money*’. He was the only respondent that did not talk of actions he had earlier undertaken, although like most others he indicated that he was concerned at the level of environmental degradation and felt that we all needed to take responsibility to make improvements.

#### ***Convenience, affordability & the importance of affiliation with the local Council***

All respondents were seeking convenient, cost-effective ways to make their day-to-day activities more environmentally friendly.

Most respondents confirmed that one of the main reasons that they let the Y Green Project staff inside their homes was because of the project’s affiliation with Council. Several mentioned the importance of seeing the Y Green staff identification tags and one mentioned ringing Council to check the bona fides of the Y Green staff.

These factors reassured the householders that their homes were not being 'cased' and that they would not be targeted with 'hard sell' tactics for commercial products. HH1 noted that the Y Green Project showed him that the Council was thinking about sustainability. Council involvement and support for the scheme was important to him.

### ***Saving money***

Saving money on power and water bills was a definite motivator for respondents in each of the motivation groups and several were looking forward to seeing their next bills to monitor reductions.

### ***Meeting householder expectations***

*All respondents reported that it was worthwhile participating in Y Green*

Without exception, all respondents found participating in Y Green worthwhile. All respondents expected to gain information from the Y Green Project – this was the main motivation.

Other factors in meeting expectations included -

- *The importance of personalising the issues to get people thinking and to help solve specific problems*
- *People took action where: they believed it would make a difference, it suited them, other family members were agreeable and the action was affordable for them*

All respondents sought easy, simple methods of improving their sustainability practices and these expectations were fulfilled.

As a result of Y Green, eight respondents stated they now switched off appliances rather than using stand-by mode, two families now ensured they switched off all power if going away for a length of time and two households switched off second fridges.

Six people specifically mentioned that they adjusted the temperature settings on their air- conditioners, fridges and/or freezers to reduce energy consumption.

While some reported that they insulated hot water pipes and used tape to seal windows to reduce drafts in response to Y Green, others were skeptical that it would make any difference and so they did not undertake these actions.

### ***Expectations unfulfilled – room for improvement and future opportunities***

#### ***Training and communication***

One of the 14 respondents was disappointed with the level of professionalism of the Y Green Project audit team, especially at the start of their visit to her and stated, *'when the fellows arrived and they had the laptop... it was out of power, so we had to get a cord, so there was a lot of mucking around... I got a bit annoyed about that because I thought that was unprofessional and inefficient..'*





This respondent also expressed some disappointment with the knowledge level and communication style of the Y Green staff. *'I didn't feel confident in their knowledge... I had the feeling that they had been employed but did not really understand the subject... I'm not a fool... but this is out of my subject area so I need information that is really clear and really simple.'*

#### *Visual ways to share information*

Another respondent stated that she would have liked a visual display. While the Y Green Project staff looked at the laptop screen during the visit to her, she did not. *'I'm visual and I would have responded to looking at graphs...'* Using the laptops in such a way as to share information visually through graphs may be a good tool for engaging with householders.

#### *Opportunity to pass on specific local information*

Two householders stated they would have liked the Y Green Project to include a broader range of information. One said that they would have liked more specific, local information. *'The way I was told, it was a Council initiative... It's an opportunity for the Council to sell itself a bit'*.

Another suggested that it would have been good for the Y Green Project to give further information, such as the most appropriate way of disposing of spent batteries and that Council could have supplied the project and participating householders with examples of local sustainability success stories, such as re-vegetation projects.

#### *Strengthen the personalised advice & offer information on relevant rebates*

A number of respondents implied that Y Green could be even more effective by strengthening its responsiveness to individual householder situations.

The findings from householder interviews show that the major sustainability outcomes of the Y Green Project were energy-reducing actions such as more habitual turning off of appliances, adjustment of fridges, freezers and air conditioners, insulation of hot water pipes, reduction of drafts, more sustainability consideration when purchasing new appliances and consideration of solar hot water systems – with two of the 14 householders purchasing solar hot water systems.

The Y Green Project fulfilled most expectations of the 14 interview respondents and assisted most to improve their sustainability-related behaviour. The following factors were key to this success: approaching people at their homes to offer a personalised service, affiliation with the local Council and quick follow-up with a list of recommended actions.

The major motivations for people to participate in Y Green were a desire to gain information, a sense of personal responsibility and prior interest in environmental issues.





## Recommendations

- Improved training for student participants to help ensure a strong knowledge base and effective communication skills for the home audit teams
- A more interactive approach to communicating with householders and a greater responsiveness to their sustainability questions and problems
- A system for following up queries that fall outside the expertise of the home audit team
- Providing householders with contact details for gaining information on rebates
- Working with partner Councils to arrange ways of disseminating information about Council's sustainability-related activities and events
- An ongoing email system for sharing sustainability-related information
- Carrying spare laptop batteries and power cords
- Using the laptop computers to visually share information with householders

## Conclusion

The key findings indicated that overall the Y Green Project in Rouse Hill had been successful in achieving its key initial aims. These included establishing pathways to provide skill development and practical experience for young people in the energy sector and building relationships in order to link a variety of sectors with a view to building household sustainability within the local community.

Student impacts of the project included gaining experience within the sustainability sector that linked with their studies for both university and TAFE student groups. After implementation of the Y Green project adjustments to the model in the area of remuneration and partnering procedures were made. This meant that payment for both groups was more equitable and partnering for work in the field was more flexible.

However, further need for changes to the model have become evident and include more targeted training in the area of customer service skills, development of criteria in screening and interview procedures for potential students, and greater support in the field for students throughout the initial stages of the householder consultation process.

Partners also indicated that the collaborative process had achieved many of its targeted aims. Success in enabling implementation of the project was seen as a key achievement.

However, adjustments to the model needed further development in the areas of planning, with more time needed for planning and design phases and clearer protocols in the interview process for student candidates.

Householder respondents also indicated they had gained benefits from their participation in the Y Green project. Amongst these were the opportunity to gain information regarding sustainability practices that could easily be assimilated into their household activities and the ease of access to the information through personal contact.

Further improvements suggested by householders included improved training for student consultants in the areas of knowledge and customer service, and on-going contact procedures for follow-up.

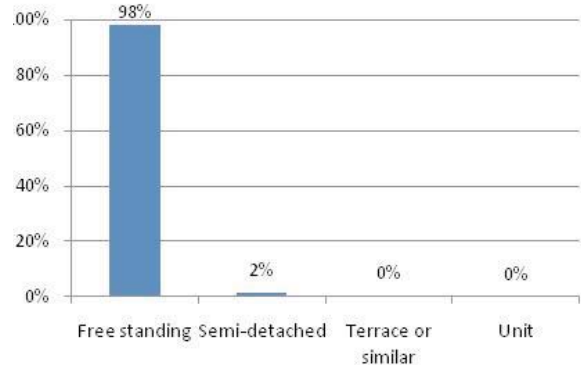
## Community Snapshot Report

### Participating Households

Total number of participating households = **259**  
 Assessments conducted between Aug 08 & Feb 09

<i>Representation by locality</i>		<i>Households</i>
<i>Suburb:</i>	<i>Kellyville</i>	<i>176</i>
	<i>Beaumont Hills</i>	<i>76</i>
	<i>Other suburbs</i>	<i>7</i>
<i>Postcode:</i>	<i>2155</i>	<i>255</i>
	<i>Other postcodes</i>	<i>4</i>
<i>LGA:</i>	<i>The Hills Shire</i>	<i>259</i>

### Type of Dwellings



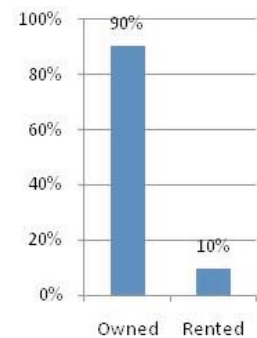
### Average Energy & Water Usage

Electricity and gas usage = **51.6 MJ/person/day**  
 (NSW average = 44.2 MJ/person/day, including electricity, natural gas and LPG, 2006-2007)\*

Mains potable water usage = **153 litres/person/day**  
 (NSW average = 221 litres/person/day, distributed water usage, 2004-2005)~

Household size = **3.2 people/household**  
 (Australian average = 2.5)^

### Occupancy status

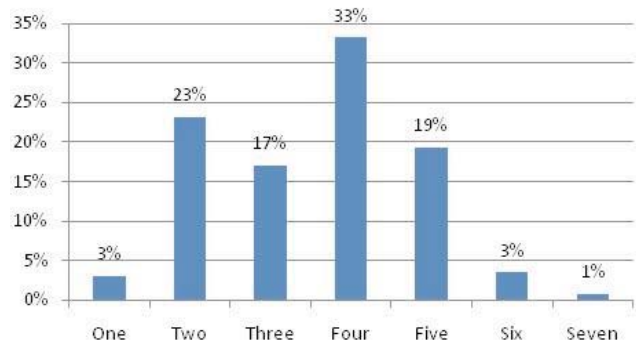


### NABERS rating

Median energy rating  
**1.5 Stars (below average performer)\*\***

Median water rating  
**4 Stars (strong performer)\*\***

### Household size (number of people)



\*abare energy update 2008, and ABS Australian Demographic Statistics (doc: 3101.0)

~ABS Water Account, Australia (doc: 4610.0)

^ABS Year Book Australia, 2008

\*\* in some cases the NABERS and raw energy and water statistics may not correlate to each other as the NABERS rating is weighted against greenhouse emissions, household size and other factors

## Community Action Report

### Household Review Summary

**162 households** have participated in the review survey to-date.

This represents **63% coverage** of participating households.

*(Review target is a minimum coverage of 70%)*

### What was implemented?

Of the actions recommended, participating households report to have

**Implemented 58%** of the actions

**Investigated 11%** of the actions

**Not Implemented 27%** of the actions

With the remaining 4% of actions deemed 'Not Relevant' for their household

#### Stand-by Power

**73%** of households have taken action to reduce stand-by loads

#### Ceiling Insulation

**33%** of households without ceiling insulation have now installed it

#### Lighting

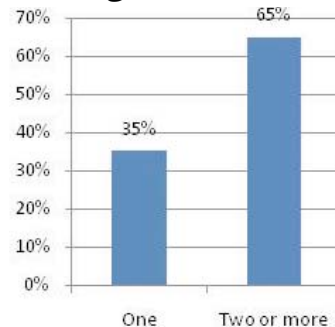
**81%** of households with incandescent globes have upgraded to CFL's

**36%** of households with halogen globes have upgraded to more efficient units

#### Air Conditioning

Of the **98%** of household with air conditioners installed, **over two-thirds** have adjusted the temperature set point. A smaller number of households have also implemented measures such as using the AC with fans and adjusting duct work.

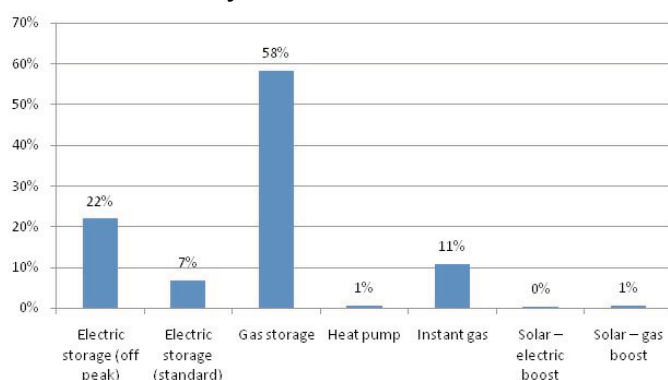
#### Refrigeration



**81%** of households have taken simple action (inspect fridge seals, adjust temperature etc)

**38%** of households with two or more refrigerators have consolidated units

#### Hot Water Systems



**15%** of households with electric hot water systems have upgraded to more efficient units (solar etc).

## Additional Commentary

### Summary of 'baseline' performance

#### WATER:

Per-capita potable water consumption in this area is significantly lower than the state average.

This is the result of a range of factors, including:

- The homes in the area have higher than average occupancy rates (number of people per dwelling).
- Many homes in these suburbs have mains recycled water (which is not included in potable water consumption).
- The newer homes tend to have newer appliances and more water efficient fixtures than older housing stock.

#### ENERGY:

The region where the assessments were conducted is typified by large, relatively new, family homes.

Despite the fact that most of the homes often incorporated 'efficient' systems (such as insulation confirmed in 84% of dwellings), the overall energy efficiency of the area was well below the state average.

This can be attributed to a range of factors, including:

- The square metre-age of the households (almost all being two-storey and free standing) leading to increased heating and cooling demand.
- The relative affluence of the area (more electronic appliances in each home, more houses with pools, etc).

### Key opportunities identified

A number of opportunities were identified for each household to improve their overall sustainability.

Listed below are some the key opportunities and outcomes:

- 62% of households had four or more low-voltage halogen lights  
(36% of these households have upgraded to lower energy alternatives).
- 29% of households had electric hot water systems so we recommended upgrading to solar  
(15% of these households have since upgraded). (It should be noted that the new federal rebate was not available when we issued the reports - something we updated residents on during the telephone review.)
- 28% of households had a pool or spa so we have recommended reducing the run time of the pump  
(72% of these households report to have implemented this action).

### Key opportunities... continued

- 65% of households had two or more fridges so we have recommended consolidating the units where possible, or at least adjusting temperature settings and making other behavioural changes (see page 22 for outcomes).
- 16% of households had no insulation or did not know, so we recommended 1) checking and 2) installing ceiling insulation if none was present.
- The vast majority of household had air conditioning so we recommended adjusting temperature set points to more appropriate levels (see page 22 for outcomes).
- With the advent of ever-larger televisions and increased gadgetry we recommended most households to start combating stand-by power usage in their homes.

**In summary, despite being a relatively new area there were still plenty of opportunities for residents to improve their energy and water performance. The uptake of these measures has been significant, with further savings likely to continue after discussions during the telephone review process.**

### Greenhouse gas savings

The following is an estimate of greenhouse gas emissions savings achieved by participants in this program (using results from both the initial assessments and the review surveys).

Steplight provides no warranty on the accuracy of this information as it is based on numerous estimates and assumptions (for an overview and explanation of the assumptions used please contact Steplight).

Ultimately this analysis will be most appropriately completed by a review of actual consumption data with participating households. This is likely to be done within the next two years with a suitable program (where there already exists a utility partner).

#### Total GHG savings from the program

= **492,000 kg CO<sub>2</sub>-e per year\***

#### Total GHG savings per household

= **1,900 kg CO<sub>2</sub>-e per year\***

#### Average percentage reduction in GHG emissions

= **approx 15%**

\*We have used the full fuel cycle emissions factors for NSW natural gas and electricity. Refer to tables 2, 37 and 39 in the *National Greenhouse Accounts (NGA) Factors* (Australian Government Department of Climate Change, June 2009).

