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Final Report: Zero emissions – the new Black

Outcome evaluation of

Bayside City Council's

Residential Energy Assessment Program

Using the Outcome Hierarchy Tool

Submitted to

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1. Executive Summary

1.1. Background

The Residential Energy Assessment Program (REAP) was delivered in the Bayside City Council community, Melbourne, in 2008, with assistance from the Victorian State Government.

The REAP trained voluntary Assessors to carry out on-site assessments and worked with residents in 66 households and personnel in 15 community organisations (eg: sports clubs) to reduce greenhouse gas emission levels.

In December 2008, Twyfords was invited by the National Centre for Sustainability, a partner of the REAP initiative, to demonstrate the use of an evaluation tool, the Outcome Hierarchy. It was used as an end of program evaluation of the REAP.

Bayside City Council organised two focus groups to participate in the evaluation, running on consecutive evenings (December 15th and 16th). One was made up of twelve voluntary Assessors, and the other of eight Residents. The same workshop program was used with each group.

The data that participants generated provided insights into the value of the REAP. As with all focus group data, it is not representative of all participants in the REAP, but is revealing and exploratory of the REAP's strength in capacity building and its potential long-term outcomes. The workshops also generated data about the effectiveness of the Outcome Hierarchy as a qualitative program evaluation tool.

1.2. Built capability and capacity

The evaluation finds that as a result of their participation in the REAP, both the voluntary Assessors and the Residents developed new capacity and capabilities.

The Assessors learned how to:

- Participate in community development
- Learn to learn
- Learn to teach
- Use technical equipment to assess and reduce greenhouse gas emissions

- Change their thinking about community and social change

The new capacity that the Assessors built to support greenhouse gas emission reduction in Bayside City Council is:

- A team of trained, experienced and positive voluntary Assessors
- A group of Assessors, residents and community organisations that have learned about energy saving behaviours and adopted them
- Effective community information systems to support energy reductions

The Residents learned how to:

- Adapt their lifestyles to lower greenhouse gas emissions
- Learn by doing (situated action learning)
- Take up advocacy and demonstration of new lifestyles in social networks (lay social marketing and entrepreneurship)
- Build energy efficiency technologies into houses
- Independently transfer low greenhouse gas emission learning to other aspects of their lives
- Save money through energy reduction behaviours and technologies

The new capacity that the Residents built with the support of the REAP is that of a developing new community, which is built around the values associated with greenhouse emission reduction and subsequent changes in buildings and lifestyles.

The new capabilities and capacity that the Residents identified, independently and freely, is evidence of the effectiveness of the REAP design and its management, and the high quality of the Assessors' delivery of their role.

There was no representation in the workshops from the community organisations that were assessed.

1.3. Visions

The Assessors and the Residents created considered visions of the future as a result of the workshop program.

The Assessors envisioned a future in 2020 when zero emission households were the new norm of how we live. There will be a "sustainable new world order" that produces

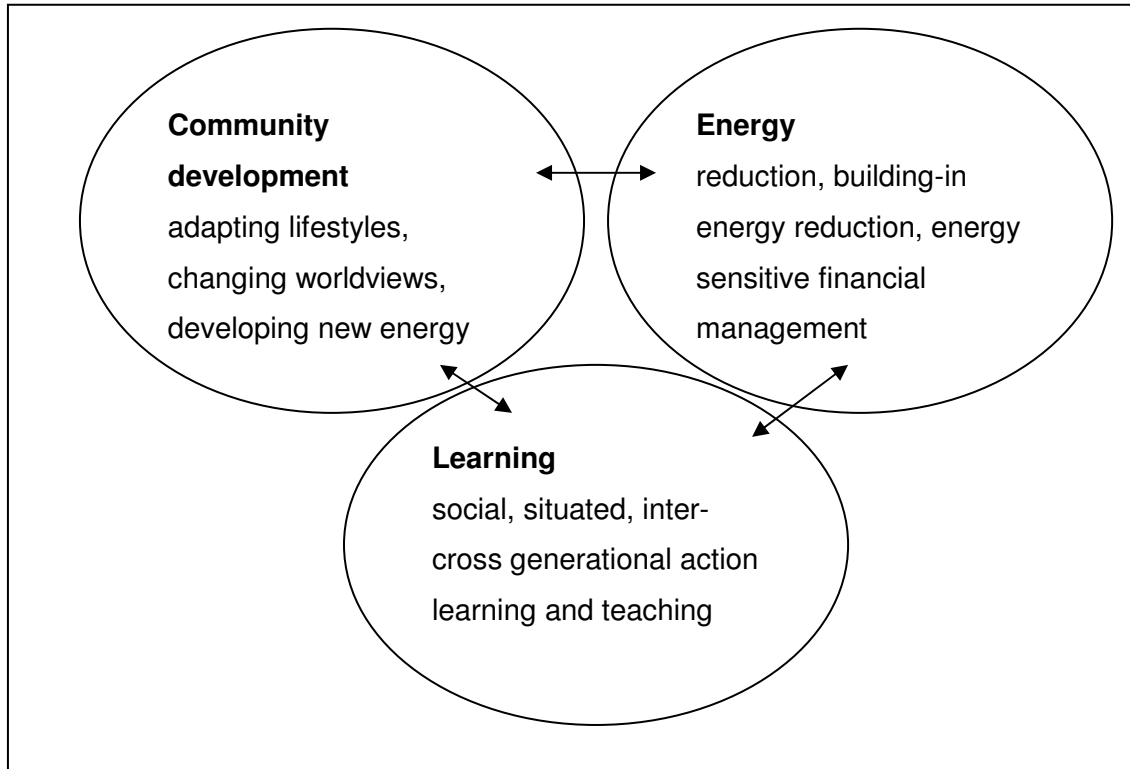
a CO2 reduction, globally, to 350ppm. They saw a global shift towards Buddhism as the most broadly accepted international religion. Our physical urban environment will have changed, with built forms of architecture, urban planning and transport infrastructure, as well as household economies and cultural life reflecting renewable approaches to resource and energy consumption. They envisioned people “yearning” to be a part of the community; that a vibrant community life rather than the more insular life of walls and fences will be how we want to live.

The Residents’ vision went beyond the Assessors’, in terms of time scale, to 2050. They envisioned whole frameworks of global-scale legislation prohibiting exploitation and environmental extinctions, and controlling whole new industries and settlement patterns. We will be living in higher-density, regional, urban communities, using distributed energy, technology and renewable resource infrastructure. The environment will be cleaner; population will be controlled; wars will be taking place along side other ways of achieving full-scale global change. To drive and manage this situation there will be across-the-board commitment to learning and environmental principles in government and industry.

1.4. A community development strategy

Using the participants’ data about their built capacity and capabilities, the Facilitator developed a conceptual map to show the social change dynamic that the REAP has set in place, even if at a microcosmic scale. This scale however, if given the benefit of further investment, can provide an important foundation or “seed” for future development.

Diagram of participants' built capacity and capability as higher order values informing approaches to social change



The map identifies three core themes:

- 1) Community development
- 2) Non-renewable energy reduction and
- 3) Learning.

While there is no one starting place, being a cyclical process of development, the concept map proposes that sustainable change takes place through learning which shifts thinking and actions associated with lifestyles and community life. In turn, community development of this kind supports behaviour change about energy use through consumer action and policy change. Shifts in energy uses and approaches need to be learned about, and also generate new learning beyond technical and behavioural interests. This learning affects community values and views as the participants' data illustrates.

1.5. Recommendations for future programs

The Facilitator has analysed the data in terms of future program design to produce the following recommendations.

It is recommended that future greenhouse gas emission reduction programs:

Recommendation 1: replicate the REAP content and add to such content the following additional content: skill development in the areas of community development, social marketing and entrepreneurship, domestic finance and collaborative action learning

Recommendation 2: establish a co-learning network that enables Assessors and Residents to learn and lead social change together

Recommendation 3: continue to recognise and reward greenhouse gas emission reduction efforts made by residents and community organisations in the Bayside City Council area

Recommendation 4: continue to support the voluntary Assessors' team with ongoing training and team building

Recommendation 5: inquire into the community information systems and networks that the Program has built and deploy them to promote the values and technologies of greenhouse gas emission reduction lifestyles and changes in worldviews

Recommendation 6: engage stakeholders and participants in learning about zero emission lifestyles at individual household and community levels

Recommendation 7: engage participants in dialogue about philosophy, spirituality and religions

Recommendation 8: engage the broader public in strategic dialogue about the new economies associated with prioritising *community* values over current dominant cultural values

Recommendation 9: emphasise lifestyle, learning, leadership, sustainable building, and financial advantages of participating in the Program in marketing to residential and community networks

Recommendation 10: provide opportunities for residents, and staff and networks associated with community organisations, to socialise, and learn about a broad array of issues associated with environmental sustainability at local and global scales. This information should include material about sustainable and unsustainable industries, economic frameworks and legislation, activism, and issues arising from population pressures and population control.

Recommendation 11: should work to a 30% greenhouse gas emission reduction target and clarify timelines and sectors to which this target applies

Recommendation 12: use a “whole of community” approach to delivery involving residents, council, business and community organisations

Recommendation 13: run a poll in the Bayside City community to identify the degree of resistance or otherwise to home based assessment

Recommendation 14: pending outcome of poll, continue place-based assessment and learning by doing with due diligence regarding privacy and safety

Recommendation 15: should develop and build into assessment practices and tools an agreed per-capita level of energy use (similar to water-efficiency targets) and take into account social justice, local economy and individual circumstances

Recommendation 16: use participant stories to build local knowledge of programs and have confidence to participate in them

Recommendation 17: include inducements to increase participation rates

Recommendation 18: use ongoing monitoring and evaluation and should make evaluation results public

Recommendation 19: use Outcome Hierarchies as program logic, and impact and outcome evaluation tools, with adequate communication with participants, and a minimum of 3.5 hours' workshop time.

As a consequence of the REAP, a small but positive and active foundation for significant community development towards sustainable greenhouse gas emission reduction is available in the Bayside City Council community for immediate development. A future program, like REAP, has the potential to drive such a

development with the participants' input for program modification in place, as captured in the Facilitator's recommendations.

With some modifications to workshop program marketing and management, the Outcome Hierarchy is a useful evaluation tool for qualitative evaluation. It enables program designers and participants alike, to consider the long-term consequences of the changes that the evaluated program can generate and clearly identify built capacity, vision and strategy. This consideration is a reflection of the impact of a program in strategic rather than behavioural terms.

2. Introduction

2.1. Background

The Residential Energy Assessment Program (REAP) was delivered in the Bayside City Council community, Melbourne in 2008. Residents who are active in climate change action groups and networks approached Council with a proposal to train volunteer Assessors to carry out household audits for local Residents. With assistance from the Victorian State Government, the Council funded the Program to:

- Train a group of local Residents as voluntary Assessors of energy use in residential and community buildings (eg: sports clubs)
- Support the voluntary Assessors to assess local households and community buildings and initiate behavioural change strategies to reduce greenhouse gas emissions in 66 households and 15 community buildings in the Bayside City Council area

The National Centre for Sustainability organised Twyfords to undertake a participatory evaluation of the program with REAP Assessors and a representative group of Residents who had their homes assessed as part of the Victorian Local Sustainability Accord-funded project.

The National Centre for Sustainability's project (as distinct from the Council's education program) seeks to develop a toolbox of methodologies to evaluate behaviour change projects. As Vare and Scott (2007) discuss, sustainability has to come about through the rapid development of critical thinking and life long learning cultures, as there is an inevitable contradiction between current economies and sustainable ones.

For example, reducing energy use in the home will have no benefit to the environment if the larger question of consumption across our economy is not addressed. Instead, reducing household energy consumption may simply become a new recipient of displaced and perhaps increased, energy consumption in other sectors of the economy.

Authentic change must address values and integrated social, economic and environmental systems underpinning threats to sustainability. Ideally, with regard to

problems as embedded and dangerous as climate change, authentic social change needs to work towards step-change transformation of worldviews.

The National Centre for Sustainability brought to the workshops methodological questions about how to evaluate environmental education programs with regard to context and processes of change, and critical and systemic thinking to gear changes in worldview.

Bayside City Council brought questions about the education program's capacity building performance.

Both parties were interested to observe and explore a particular evaluation tool, the Outcome Hierarchy, as used by the Facilitator in evaluating other environmental education programs in Australia.

2.2. Task analysis

The Evaluation Facilitator's (the Facilitator) role was to design a workshop program that was based on participatory evaluation principles and to use the Outcome Hierarchy as an evaluation tool.

Using an Outcome Hierarchy has limited participatory value in that the tool and its use were non-negotiable with the participants. However, and as explained to the participants, the content was entirely of the participants' making.

The Facilitator delivered the evaluation workshop on two consecutive nights: once to a group of twelve Assessors, and once to a group of eight Residents. The Facilitator documented the output and drafted this report. The Facilitator also provided practice modelling and education about participatory evaluation to NCS and Council staff in the interaction.

2.3. Conclusions drawn from workshop data

The following summary briefly presents the participants' data regarding the future of greenhouse emission reduction programs. It underpins the Facilitator's recommendations in the Executive Summary.

2.3.1. Program design

The Assessors wanted many changes to be made to a future program, whereas the Residents were enthusiastic about the Program as it is. There were four areas that were common to both groups' feedback: programming, assessment, assessors and engagement. The following table compares the data.

Table: future REAP design. Assessors and Residents' data

Shared area of feedback	Assessors	Residents
Programming	<ul style="list-style-type: none"> Make programming simpler (so more people can understand it). Deal with the problems associated with achieving the identified objectives. Push hard with program objectives now – the rules are changing and it is hard to really see into the future. Let Residents understand their data by comparing it with other communities. Combine individual results to produce a more comprehensive picture of change. Show the honourable outcomes and tell the story of the Program 	<ul style="list-style-type: none"> Continue on much the same basis (“no change, the Program is brilliant!”). It puts the problem which could otherwise be overwhelming, into perspective – lots of little changes in lots of houses. Emphasise the message that how we live impacts the planet and if you want to change this then participating in this program is how to do it – that being a part of the problem is the best way to create the solution. Continue to raise awareness about the issues. The Program is enough – and not enough to lead on to new lifestyles. It produces an immediate outcome
Assessment	<ul style="list-style-type: none"> Refine auditing tools; no invasive tools like drawing peoples' house plans. Investigate other approaches to assessing [besides one-on-one]. Determine what a fair level of energy usage is for people 	<ul style="list-style-type: none"> Do follow-up reviews of assessed houses periodically. Continue to be positive without being confrontational. Continue as home based, one-on-one service – having advice in the home makes all the difference and far more effective than on web pages etc
Assessors	<ul style="list-style-type: none"> Make better use of the skills of the existing Assessors (“there are very capable people here”). Add promotional skills to the Assessors' groups so more people can know about the Program. Accept error in Assessors' thinking, be prepared to change programs as they are delivered, don't strive for perfection 	<ul style="list-style-type: none"> Enable the Assessors to learn from the Residents as well as Residents learning from the Assessors. Provide professional expertise as well – people who can advise on technical details about buildings etc. Pay people to do the Assessing work
Engagement	<ul style="list-style-type: none"> Engage with the community (in other ways, like markets) as a funnel to the Program. Develop self-managed education and change, and encourage ownership of energy reduction behaviours. Build a sense of community mindedness through the Program and include Council and the Climate Action Groups in this 	<ul style="list-style-type: none"> Continue with the same sense of psychological strength – non-expert, peer learning is adequate without being intimidating. Continue to let the Residents be “drawn along” by the Program

The Assessors recommended that a future program respond to the three following additional areas not covered by the Residents: evaluation, council's position and building materials

1. Evaluation

Assess the implemented program with a meaningful survey and clarify Council's commitment to it. The survey results need to contribute to better approaches, which need to be monitored and reported on over time

2. Council's strategic position

Make more of Council's position as being closest to the community: Council to act as leader in energy reduction behaviours and culture in that relationship of proximity to the community (rates notices used for community education for example).

Alternatively, question whether Council is the right place to hold the Program.

3. Building materials

Factor in much more serious analysis about how to resource changes to building structures to achieve energy efficiencies, including an analysis of access to material resources needed for such changes

2.3.2. The Outcome Hierarchy

With minor modifications to the approach, using the Outcome Hierarchy as a participatory evaluation tool provides rich data (about capacity and capability building) and strategic insight (about future programming). Importantly, the tool enables participants to go beyond assessing "behaviour change" and to consider the social and cultural context and consequences of a programme's impact.

The recommended modifications to the Outcome Hierarchy evaluation workshop, as delivered and described in the Section 2 of this report, include:

- Prepare participants with dialogue and information prior to the event about the Hierarchy and its use as an evaluation tool, to avoid participants' confusion about the idea that evaluation data is necessarily quantitative, generalised and reductive
- Allow for a minimum of 3.5 hours for a workshop so that adequate reflection on experience and story telling can take place

- When participants turn their attention from story telling to the Outcome Hierarchy, provide some reorientation exercise about the relationship between the present and the future. This will help participants understand the value of their thinking
- Encourage the envisioning of both positive and negative outcomes throughout the Outcome Hierarchy exercise to more adequately balance the visioning data against idealism or despair
- Allow for group discussion at the completion of each stage of the Outcome Hierarchy (capacity, need, impact, immediate outcome etc) to afford critical thinking (questioning of assumptions, offering of alternatives) to add value to the data
- Provide some means to return to the present on completion of the whole Hierarchy, to accommodate emotional transition from deep future thinking to the present
- The Facilitator recommends that the Outcome Hierarchy is a valuable evaluation tool for assessing the strategic worth of a program.

The full report follows this Introduction, with the workshop raw data included.

3. A generic evaluation framework

3.1. The Outcome Hierarchy

The Outcome Hierarchy is a well-established tool for determining the program logic, or underpinning rationale, of a program (Owen and Rogers, 1999, p.248).

It works by establishing base-line data and an agreed program goal or target to determine the gap or “need(s)” between the current baseline and intended goal. The Need is then responded to with agreed Actions that would allow the Need to be met and the Goal to be realised.

In program logic uses, the program goal is placed in the “ultimate outcome” line of the tool, so that the program can logically work its way towards meeting this goal at a program’s conclusion. For the Bayside City Council workshops however, the program goal was placed in the “Impact” element of the Hierarchy, as the REAP had already been delivered.

Our interest was to explore the viability of the REAP with regard to its potential long-term outcomes. An outcome is a social change that the realisation of the goal would facilitate in some way. An assessment of outcomes does not have to be positive; risks can be viewed as well.

In Twyfords’ use of the tool, the Outcome Hierarchy exercise tracks through the likely consequences of goal attainment. It carries out this exercise in three stages, each new set of consequences building on an imagined accomplishment of the previous set. The exercise concludes with an “ultimate outcome” and the attribution of indicative timelines for each stage.

The following generic template describes an Outcome Hierarchy. It is read from the baseline upwards to assist with an open ended (or inductive) movement of thought. This compares with setting a future target from an undiscussed present position, and working backwards to the present (a deductive process).

The value of working towards a goal free future from the present is that the future goal is rarely able to be seen without thinking through the consequences of current action.

Ultimate Outcome Time:	What change is likely to happen as a consequence of the intermediate outcome?
Intermediate Outcome Time:	What change is likely to happen as a consequence of the immediate outcome?
Immediate Outcome Time:	What change is likely to happen as a consequence of the impacts?
Immediate Impact Time:	What difference do we see at the time that our goal or target is achieved?
Action	What actions do we need to take to meet the need and realise the goal or target?
Need	What is the gap that currently exists to achieve the goal?
Program goal or target	What is the Program aiming to deliver?
Current State	What is the current situation or capacity?

Once the long-term and ultimate outcomes are envisioned, the completed Outcome Hierarchy can be researched and critiqued to sharpen judgements about program viability. While generally used to design programs or strategies, the Outcome Hierarchy can also be used as a learning tool, as a self-reflective exercise to identify assumptions, and as in the case of Bayside Council, as an evaluation tool.

As an evaluation tool, by defining the capacity that the delivered program created, participants can envision its potential for long-range change and assess the value of the Program and their own participation in it, in light of this projected logic. The information yielded can be used as formative evaluation data for future program design, as well as outcome evaluative data, to show how participation has shifted worldviews in the interests of the Program's intended goals.

In a more detailed version of the Hierarchy, performance indicators and measures can be attributed to the various impacts and outcomes, as well as evaluative questions and sources of data to drive a whole-of-program evaluation in future programs.

3.2. A generic evaluation program using the Outcome Hierarchy tool

Twyfords designed a generic workshop program for the National Centre for Sustainability with input from Bayside City Council. That is, the workshop program was pre-determined and not co-generated with participants at the time of the events in a participatory manner, and the same program was used for both groups of participants. The intention was to provide a generic workshop approach for specific stakeholding groups so that the data could be compared between the groups.

This approach was intended to provide insights about the capability and capacity building that the REAP had achieved not only in terms of the participants' self-described developments, but also in terms of how they saw this capacity being used in the long-term. Their envisioning would indicate the values, confidence and depth of understanding that the experience of the Program had created. By comparing the Outcome Hierarchies completed by different stakeholding groups, the contradictions, gaps and similarities can be identified as a way of assessing the broad value of the Program and what a future development would need to address. In some instances if a strong or concerning finding reveals itself, the Outcome Hierarchy provides the material for more in-depth research, focus group or survey analysis.

3.3. The workshop program

For the pilot version of the evaluation workshop, participants were invited to introduce themselves and offer any information about themselves that they believed to be important for people to know in the context of this exercise.

The Facilitator gave an overview of the evaluation workshop, explaining its purpose, the tools to be used, the limits of participation and the intended audience of the final report. Important to the success of the workshop was that the Facilitator indicated the effect that completing an Outcome Hierarchy can have by projecting people's imaginations into the future and requesting evaluative judgements from this standpoint. This process of evaluation is different to measuring workshop satisfaction

or reductions in emissions, for example. It is focused on ethics and thinking beyond the short term, essential to work involved in sustainability.

The first stage of the workshop developed data for setting the baseline of the Outcome Hierarchy – in this instance, the capacity that each participant built with the support of the REAP. Using reflective-experiential learning practices, participants were invited to think about what differences they have made with the Program's support and to describe a specific event that illustrates this difference being realised in their experience of the Program. The participants used mapping and story boards to assist them to think through their narratives. They worked in partnerships or triads, to help each other tell their story and document it.

The second stage of the workshop allowed participants to share their experiential data and collectively analyse it to identify the built capacity in each person's case. The completed narrative maps and storyboards were placed on a wall and the participants gathered around, listening to each person tell their story. The Facilitator assisted with clearly identifying the built capacity, and paying attention to other aspects of the stories which also implied new capacities which may have gone unnoticed by the participants.

The third stage of the workshop saw the participants gather around a large group map of an empty Outcome Hierarchy. In the instance of this workshop, Twyfords used a "sticky wall" to enable Normative Group Technique to be used. This is a technique that overcomes the difficulty of collusive thinking that can take place in groups. Working through each level of the Hierarchy, one round at a time, participants wrote their thoughts about the questions prompted by the Outcome Hierarchy on individual pieces of paper which are then "stuck" on the adhesive sheet on the wall. The different thoughts were then viewed by all and grouped under common themes to create shared themes or strategies.

For example, when responding to the question: "what new capacity has the REAP helped you to create?" participants quietly discussed the question in pairs or triads, and wrote one or two new capabilities on their pieces of paper which were placed on the wall to review and thematically group. The agreed core capabilities were then stuck on the Outcome Hierarchy in the bottom level of "current state" before participants returned to their chairs to reflect on the next level and its question: "what new goal or target should the Program aim for by using this new capacity?" They

wrote their thoughts down on new sheets of paper and repeated the review and agreement process before moving onto the next level of the hierarchy.

In this exercise, the participants worked in pairs or triads to develop their data. The same pairs were used throughout. In alternative approaches, participants could work individually or in different pairs or triads to give more critical rigour to the data.

The quality of this data depends on the extent to which the participants' stories describe events from their first-hand experiences in the real situation that the work took place (grounded and experiential narratives). The common tendency is to describe experience in abstracted and third person terms. It is important to support participants to speak from the first person ("I") about a specific real event so that the real world and whole system (systemic) influences and evidence of the Program goals being addressed can be identified and used. Without this real world source to the base line data, the information risks loss of essential local context as evidential strength.

Continuing in the third stage of the workshop, once the existing capacity was identified and agreed, the participants discussed the pre-existing program goal or target to arrive at one or more goals that the Program needed to achieve for the issue to be addressed in the future. This goal or target was written on a piece of paper (one piece per goal or target) and placed in the next line of the Outcome Hierarchy.

The participants were invited to consider the gap that exists between the new current capacity and the intended goal, to identify the Need that the Program needed to meet for the goal to be achieved. The ways in which the Needs are met are understood as Actions. Each Need should have at least one Action. As before, each Need was given its own piece of paper and placed in the appropriate location on the Hierarchy as it was tracked upwards towards the Ultimate Outcome.

While the Hierarchy can be worked with a linear manner, each capacity leading to a potential goal, with a need and action to meet it, group discussion following completion of each row can critique the inter-connectedness between items to produce an integrated rather than linear analysis. This however takes significantly more time and is more appropriate for a whole day event rather than a few hours.

Having identified the target, the participants were encouraged to imagine that the actions had been taken, the needs met and the goal attained. They were then asked

to describe what difference would be seen at the time that the goal is met. This is a description of Impact, and if done well can provide good indicator data for evaluation and monitoring.

It is important to move participants' beyond the practical difficulties of goal attainment, which are not the business of this exercise. The purpose here is to think ahead; to consider intended and unintended consequences over time, of the built capacity being used, so that the Program as delivered can be evaluated in the light of this potential impact as can each participant's learning outcome (behaviour change).

Once the Impact was written up, again on individual papers, negotiated for similarities and placed or written on the Outcome Hierarchy, participants were invited to change gears, and enter into an envisioning state of mind.

Participants were invited to imagine what change might come about as a consequence of the Program's agreed impacts. This can be a general discussion about "change" or a more specific discussion about particular aspects of change such as environmental, social, economic, cultural or governance qualities of change for example.

The participants notated their ideas which were placed or written on the Outcome Hierarchy at the Immediate Outcome line. They were then invited to imagine that these outcomes had taken place within an "immediate" time of the Program being completed (say, 3-6 months depending on the scale of the Program), and to then imagine what change would be likely to come about as a consequence of the Immediate Outcomes taking place. Their ideas were placed or written onto the Outcome Hierarchy at the Intermediate Outcome line and an estimated time agreed. If there is a significant variation of the estimated time, an item may be moved up to the Ultimate Outcome line of the Hierarchy.

The process was repeated a final time to reach the Ultimate Outcome line, and a time attributed to it (this can be a year or two up to decades or longer, depending on the focus of the Program).

On completing the Outcome Hierarchy, participants were asked to reflect on their experience of completing the Hierarchy. They can either write this evaluation down or place their comments anonymously for people to read, or have an overt conversation depending on the time and feeling of the event.

This final “evaluation of the evaluation” is a critical review of the quality of the content developed, essential for the final stage of the workshop, which is to reflect on the completed program in terms of its potential Ultimate Outcome. The participants were asked to make recommendations about changing to programming or what worked really well, given the potential of the capacity that it has built for them. The Facilitator supported participants to limit their recommendations to the information they had developed in the Outcome Hierarchy rather than introduce new information of a different nature at this stage. Outcome Hierarchies can assist participants to evaluate the process, impact and outcome of a program, but do so from a particular stance of long-term consequences. Other evaluation processes are needed to provide program evaluations from other stances.

The workshop concluded with the final evaluation of the completed or existing program.

The report goes on to report and discuss the data that this workshop approach delivered from the two workshops conducted at Bayside Council.

4. Workshop 1: the Assessors' Outcome Hierarchy

4.1. The Assessors' new capacities

The Assessors' critically reflected on their new capacities, resulting from their involvement with the Program. For the purposes of this report the Facilitator has grouped them under thematic headings to enable future programmers to recognise the areas of "people development" that the Program offers Assessors.

Community development	Learning to learn	Learning to teach	Technical capabilities	Change thinking
<ul style="list-style-type: none"> • Networking skills and building networks in the local community • Recognising and working with the varying wills, personalities and capacities to change • Learning about the psychology of households – how people live and relate to each other • Developed a new sense of community with the Bayside community 	<ul style="list-style-type: none"> • Have ability to discuss experience with colleagues • Learned to listen to Residents' stories • We developed our informal peer learning ability • We learned how to adapt what we knew from other aspects of our professional lives to this program • Increased our communication skills 	<ul style="list-style-type: none"> • Have new capability to teach sound home construction in schools • Learned how to communicate data clearly and effectively • Learned how to present/communicate energy data in ways that are meaningful to Residents • We developed ways for people to learn about good and bad levels of energy use 	<ul style="list-style-type: none"> • Learned about energy assessment including how to use tools, statistics and facts (these need improvement) • Learned how to recognise energy issues in homes, how to assess energy use and how to ask questions about energy use • Learned that insulation in the home is a significant energy saving strategy • Learned about widgets and gadgets (energy meter) • Learned how to analyse energy data • Increased project management skills 	<ul style="list-style-type: none"> • Increased awareness of the problem of poor construction of buildings • Threw the book away and simplified paper work so Residents worked with us on basis of trust • Learned to halve our own energy use at home • Recognising community efforts • Learned to see things (eg: a discarded power board) in the everyday of community life to help someone else reduce their energy usage

4.1.1. Summary of Assessors' developed capacities as "higher order" values

The Assessors' self-critical reflections point to five key areas of capacity building in this group. The Facilitator expresses them as "higher order" values meaning they have the generic power of values that can influence the design of a program and guide evaluation into the future. They should not be assumed by program designers to be either complete or necessary. They represent the value that the REAP had for the Assessors in their own self-critical reflections of their experiences.

- Actively developing a sense for human systems of community: psychology, culture and household relationships. The value and practices of **community development** will be important in future programming
- Learning to learn so that they could learn not only to become Assessors but also to continue learning throughout the whole experience. The value and practices of individual and shared **action learning** will be important to future programs
- Learning to educate in the sense of communication, presentation and specific teaching skills. The value and skills of **educational practice** will be important to future programs.
- Learning new technical information and capabilities about energy issues and reduction, the instruments of measurement, how to understand energy data. The **skills of energy reduction technologies** will be important to future programs.
- Changing the basis of understanding energy problems including new ways of seeing the problems, identifying new kinds of resourcefulness, the development of self-confidence in new ways of knowing, and deepened appreciation of trust in assessment relationships. The value and skills of changing **thinking and worldviews** will be important to future programs.

Recommendation 1: future programs that are designed to reduce greenhouse gas emission levels in residential and community networks should replicate the REAP content and add to such content: skill development in the areas of community development, social marketing and entrepreneurship, domestic finance and collaborative action learning

Recommendation 2: future programs should establish a co-learning network that enables Assessors and Residents to learn and lead social change together

Recommendation 3: Council should continue to recognise and reward greenhouse gas emission reduction efforts made by residents and community organisations in the Bayside City Council area

Recommendation 4: Council should continue to support the voluntary Assessors' team with ongoing training and team building

Recommendation 5: Council should inquire into the community information systems and networks that the Program has built, and deploy them to promote the values and technologies of greenhouse gas emission reduction lifestyles and changes in worldviews

The report goes on to record the Assessors' Outcome Hierarchy. It is interesting to read with an eye to these developed new capacities. Where they are absent, future programmers will need to help Assessors become more aware of the importance of these high values and associated skills if programs are to have augmented impact. The Facilitator has indicated the presence of the values in the Outcome Hierarchy's Ultimate Outcomes. It is noted that the only higher value that appears to be missing from the Assessors' completed Hierarchy is that of "educational practice" (pedagogy).

4.2. The Assessors' completed Outcome Hierarchy

Ultimate Outcome
Time: 12 years

- Zero emissions homes (negative footprint)
- Buddhism as international religion
- Changed social environment leading to changed physical structures within Bayside
- Sustainable new world order. CO2 declines to 350ppm
- People are yearning to be a part of the community. Sense of achievement. Lower cost on utility bills for people who have implemented social and physical change. Living more sustainably.



Intermediate Outcome
Time: 8 years

- Higher value: energy reduction
 - People talk to their friends [about energy reduction]. Pride in achievement. Look to the bigger things they can do. Spend more \$s on energy efficiency. When they change their homes they are more aware of energy issues
- Higher value: worldview change
 - Make own environment efficient and look to same level of efficiency in workplace and community facilities and transport systems
- Higher value: social learning
 - Greater awareness of global issues and individual responsibility
- Higher value: community development
 - [Energy reduction] is the accepted norm. Energy wasters viewed with disdain (must sit with smokers). People aspire to be energy savers (a new aristocracy)
- Higher value: worldview change
 - Acceptance of need and ability to act. People would have witnessed that change is possible. Increased social norms. People lean more towards a "conservator society". Energy conservation education is part of everyday learning



Immediate Outcome

Time: 5 years

- People have prioritised ways to save energy. The low hanging fruit are captured, improvements are measured

- People will change their macro thinking – green energy – greener political power and perhaps a green lifestyle (more in tune with the environment)

- A considerable reduction in energy consumption and greenhouse gas emissions

- Local paper has articles, photos. Related business to serve community interests. A frequent topic of conversation. The “new black”. Social momentum develops

- Wider understanding of energy consumption issues. Greater level of social norms and acceptance of need to act. Another avenue of diffusion and dispersion of subject matter. People at community centres become the spokespeople and champions. Increased skills in monitoring and evaluation



Immediate Impact

Time: 5 years

- 30% of Bayside houses with most to gain from auditing are audited

- Household behaviour regarding energy consumption improves

- As many houses as possible reduce energy use as much as they can

- Residents are excited about saving energy – they talk about a new community pride

- Community centres become local institutions of energy reduction excellence



Action

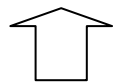
- Show the Program’s honourable outcomes and tell the story of the Program

- Refine auditing tools; no invasive tools like drawing peoples’ house plans

- Offer inducements for people to reduce energy consumption

- Assess the Program with a meaningful survey and clarify Council’s commitment to it

- Investigate other approaches to assessing household energy consumption [besides one on one]



Need

- More Assessors

- Offer audit tools, no strings attached. Self monitoring and voluntary participation

- Communicate clear information about the Program [its performance] and ongoing government support

- Encourage local people who have made changes to tell their story

- Encouraging story telling will lead to community centre involvement

**Program goal
or target**



New Capacity

- Increased home audit target (30%), by increasing numbers of voluntary Assessors and introducing less invasive and more self-managing tools and resources. Develop a new community culture of pride in low emission behaviours, supported by local business and infrastructure, government and publicly communicated evaluation and monitoring.

- We have a team of trained and experienced Assessors with a desire to make a positive difference

- We have achieved education and ownership [of energy saving behaviours]

- We have the ability to change behaviours [our own and others'], we have effective community information systems to support energy reductions

- We have the ability to build community [around energy reduction] and recognise (and reward) effort

- We have the ability to build on existing networks

4.3. Existing program design

Comparing the Assessors' stated built capacity with the ultimate outcome that they envisioned reveals a critique of the REAP design. The critical question is: was the program designed with the content and process to support its potential outcomes?

In a sense this is an unfair question, unless program logic was used to design the original program. It is nevertheless, a valuable question given the urgency of the issues. It has only come about, as an evaluative question, because of the introduction of the Outcome Hierarchy tool, after the fact of the program being delivered.

The Assessors' envisioned a future in 2020 when zero emission households were the new norm of how we live. There will be a "sustainable new world order" that produces a CO₂ reduction, globally, to 350ppm. They saw a global shift towards Buddhism as the most broadly accepted international religion. Our physical urban environment will have changed, with built forms of architecture, urban planning, transport infrastructure, household economies and cultural life reflecting renewable approaches to resource and energy consumption. They envisioned people "yearning" to be a part of the community; that living in community rather than behind walls and fences will be how we live.

This vision reflects the consequences on consequences that the REAP's strength to build particular capacities can yield. The Assessors' built capacity includes their having an experienced and positive educational team, with the ability to build and build onto community networks. The team knows how to use the networks to educate residents about greenhouse gas emission reduction in a way that makes it easy for people to take ownership of the problems and their solutions. The additions to program content and process that their ultimate outcomes imply, are regarding a bigger picture of our future. The following additional aspects may be of value:

- Information about how a **zero emission** household and community would work and how to get there
- Inclusion of **philosophical and spiritual** dialogue and reflection
- Strategic dialogue (i.e. dialogue with the capacity to influence policy and resource distribution through formal channels) about how social, economic,

environmental, cultural and governing impacts and consequences of how life could be in Bayside if “**belonging to community**” was the primary social value

Recommendation 6: future programs should engage stakeholders and participants in learning about zero emission lifestyles at individual household and community levels

Recommendation 7: future programs should engage participants in dialogue about philosophy, spirituality and religions

Recommendation 8: future programs should engage the broader public in strategic dialogue about the new economies associated with prioritising community values

4.4. Assessors’ reflections on the experience of completing the Outcome Hierarchy

There was very mixed feeling about the workshop. This information was invited as a brainstorm on a white board, however little data was gathered at the time of the workshop. The real feelings were expressed *following* the workshop’s conclusion. Thus the data in this report about this matter is not as publicly documented but as noted privately by the Facilitator.

One person noted how using the Outcome Hierarchy had made him realise how difficult it is to see accurately into the future, particularly beyond his own expected life span. He found it hard to care about what would happen if he was not going to be around to see it. He suggested that the resulting implication is to put more energy (“drive hard”) into what current programming can do, as the situation is changing rapidly and it is harder to commit to a future which is so unknowable.

Another person felt in strong disagreement with the premise of the whole exercise, needing program evaluation results to hand in order to make determinations such as program targets or goals. This person was uncomfortable with the process of envisioning the future through the Outcome Hierarchy tool as it had no basis in fact for them. The use of self reflective, experiential knowledge also had little value.

Another person realised how backward the vision was, once articulated. It was to them like the kind of thinking that had taken place in Germany and Canada 25 years ago. It raised the question of whether Australia will go through the same time-wasting steps as other countries had done regarding greenhouse gas emission reduction, or whether local communities would be able to speed up the process and aim for more sooner.

Another person felt it had been a productive exercise, providing a very different perspective on what they had done and where it could lead to. It raised new questions and areas that needed attention which an evaluation, that was limited to program effectiveness and efficiency, would not.

The evening was given an additional sense of futility with the Federal Government's introduction of the Emissions Trading Scheme which Assessors felt would make any local efforts redundant as they would simply provide an industrial polluter the means to go on or increase pollution. As well, there was discussion about the Federal Government requiring certification of professional Assessors, which would make voluntary Assessors redundant.

Finally there was some annoyance about being informed that the evening was an evaluation of the Program they had delivered, and that what they had just experienced was not a program evaluation in their understanding of the term. The officers present explained the need to broaden the ways we do evaluation to develop understanding about how participants see capacity that is built by programs as a way of understanding behavioural change. However, this discussion while convincing for some, left others preferring quantitative performance information such as how many houses were audited and what the level of emission reduction had been. This preference for evaluating the Program is despite the fact, as discussed with participants, that quantitative information risks giving false impressions and is unhelpful in informing us of how to go about changing behaviour and culture.

Evaluation has been used to measure performance and impact in quantitative terms. However this is not its only use. As its name suggests, it is actually about attributing value, which is only a quantitative matter if value is assumed to mean amount, scale, recurrence and numerical relationships of quantifiable items such as time and money. Unless the actual social value of what the time and money is being invested into is understood, the real value of a program cannot be known. Evaluation needs to generate qualitative information so that the quantitative measures are meaningful.

The other complication that this discussion was referring to, was that a quantitative evaluation of the Program had taken place some months previously, but the Assessors had not as yet seen the results. For some, their frustrations with this workshop were a reflection of other matters, external to this event, or indeed the possible use of this evaluation tool.

The Facilitator agreed that there could have been a better explanation of the workshop in the introductory phase, which had been foreshortened by a late start.

4.5. Assessors' recommendations for future programming

In the light of the Outcome Hierarchy the Assessors recommended that a future energy reduction program in Bayside will need to:

1. Deal with the problems associated with achieving the identified actions:-
 - Show the honourable outcomes and tell the story of the Program
 - Refine auditing tools; no invasive tools like drawing peoples' house plans
 - Offer inducements
 - Investigate other approaches to assessing [besides one-on-one]
 - Determine what a fair level of energy usage is for people
2. Assess the implemented program with a meaningful survey and clarify Council's commitment to it
3. Make more of Council's position as being closest to the community: Council to act as leader in energy reduction behaviours and culture in that relationship of proximity to the community (rates notices used for community education for example)
4. Factor in much more serious analysis about how to resource changes to building structures to achieve energy efficiencies, including *an analysis of access to material resources needed for such changes*
5. Add the development of promotional skills to the Assessors' team so more people can know about the Program
6. Make better use of the skills of the existing Assessors ("there are very capable people here")
7. Engage with the community (in other ways, like markets) as a funnel to the Program
8. Develop incentives for residents to reduce energy consumption
9. Develop self-managed education and change, and encourage ownership of energy reduction behaviours

10. Build a sense of community-mindedness through the Program and include Council and the Climate Action Groups in this
11. Question whether Council is the right place to hold the Program. Are there other possibilities - like community centres?
12. Step back from monitoring households so that high emitters are comfortable about joining (respect the privacy of the house)
13. Make programming simpler (so more people can understand it)
14. Accept error in our thinking, be prepared to change programs as they are delivered, don't strive for perfection
15. Push hard with program objectives now – the rules are changing and it is hard to really see into the future
16. Let residents understand their data by comparing it with other communities
17. Combine individual results to produce a more comprehensive picture of change
18. Survey results need to contribute to better approaches, which need to be monitored and reported on over time

5. Workshop 2: The Residents' Outcome Hierarchy

5.1. The Residents' new capacities

As with the Assessors, the Residents critically reflected on their first hand experiences of the Program and defined their new capacities. The following table lists them.

Adapting lifestyles	Situated Action Learning	Lay social marketing and entrepreneurship	Building-in energy efficiency	Independent learning transfer	Low emission residential finances
<ul style="list-style-type: none"> • “Can do” stuff – I can make a difference at a household level, lots of household improvements • I now know how not to waste • I am changing my domestic routines so as not to waste water and energy 	<ul style="list-style-type: none"> • Learning together and having fun • Knew it before but doing it now • I had an awakening • I feel responsible, ownership and motivation • I am finding different ways around energy reduction obstacles – using lateral thinking • Forced change produces loss of control, need for new skills, to make a new decision and take a new direction 	<ul style="list-style-type: none"> • The children have learned about energy reduction • I was considered a “whacko” before, now I am not alone • I am spreading the word 	<ul style="list-style-type: none"> • The renovation included low energy solutions and how they work • My house now has a physical capacity not to waste energy 	<ul style="list-style-type: none"> • I now notice my guests' behaviours when they are not aware • I had an awakening: I can do millions of small things that make [millions of] small changes 	<ul style="list-style-type: none"> • My electricity bills are going down • Saving 30% off energy bills

5.1.1. Summary of Residents' developed capacities as higher order values

The Residents' built capacity can be expressed as six "higher order values":

Making many small-scale changes in how everyday activity uses energy. The Residents' stories are full of details about changing washing routines, using patch boards to turn off many white goods at the wall, and learning to live without little luxuries such as fluffy towels, which are minor shifts in the face of the urgency of climate change. It is very likely that much more significant lifestyle changes will take place in the future, but this early first step in relative comfort is a crucially important value to embed in community and household culture to support future change. The value and skills associated with **adapting lifestyles** will be important to a new Program.

The Residents repeated many times the value of having Assessors come to their homes to point out what can be done, and how this motivated Residents to go out immediately and buy energy-saving bulbs, for example. The value of "**situated**" **Action Learning** (action learning in the actual location of the problem being addressed) will be important to future programs.

While only one person at the workshop had children, the effect of including children in the Program was significant as was the sense of safety in knowing that the children now knew about how to save energy – a life skill. This same feeling was expressed by another who was able to have conversations with like-minded work mates in an environment which would otherwise be hostile to "greenie" values. Much more needs to be done in this area but the value of informal and **lay social marketing and entrepreneurship** will be important to future Programs.

The ability to physically change houses so they have the built capacity to reduce energy use was well illustrated by the Residents' stories. This can be in small adaptive ways or in whole renovations and new buildings. The value of **building-in energy efficiency** will be important to future Programs.



Many Residents reported noticing new things about everyday life, without the input of Assessors, which led to changes in technology, lifestyles, habits and built form. The value of **independently transferring learning** to other aspects of their lives will be important to new Programs.





Many Residents reported investing and reaping the rewards of energy efficiency. The suggestion of financial incentives and rebates added to this advantage. The value of **emission reduction domestic finances** will be important to future Programs.

Recommendation 9: future programs should emphasise lifestyle, learning, leadership, sustainable building, and financial advantages of participating in the Program in marketing to residential and community networks

As in the previous section, the report goes on to describe the Residents' Outcome Hierarchy, and as before, the presence or otherwise of the higher values is tracked. It is interesting to note that the value of Situated Learning, which was powerful for the participants, has not translated into the Ultimate Outcome. Instead participants are of the view that the whole economic, governance and social infrastructure will shift to accommodate low energy consumption, making ongoing formal and situated learning unnecessary – as the education will be everywhere. It is open to question as to whether this will be the case.

5.2. The Residents' completed Outcome Hierarchy

<p>Ultimate Outcome Time: 40 years</p>	<ul style="list-style-type: none"> • New sustainable industries, different work, major growth in regional centres, global change (if not aggression and likely wars), population control <p>Higher order value: low emission residential finances; adapting lifestyles; lay social marketing and entrepreneurship</p>	<ul style="list-style-type: none"> • Legislation: global enforcement, prohibit importation of rainforest timber, no more exploitation “the sky’s the limit” <p>Higher order value: adapting lifestyles; lay social marketing and entrepreneurship</p>	<ul style="list-style-type: none"> • Off grid power generation, technology will exist, improved public transport and cycling, no waste (three Rs), stormwater harvest and rainwater tanks everywhere, efficient new buildings, retrofits, education re low energy living will be taught, higher density living, government commitment at all levels, cleaner environment, sustaining the positive momentum, learning from past mistakes <p>Higher order value: built-in energy efficiency; independent leaning transfer</p>
 <p>Intermediate Outcome Time: 12 years</p>	<ul style="list-style-type: none"> • Social change, significant cultural change, growing sense of community, more creative environment, more caring society, cleaner air, greater political awareness, new modes of transport 	<ul style="list-style-type: none"> • New culture of community, plus acceptance, low energy living is an accepted part of life, this is the norm, (from today, now it seems too good to be true), sense of hope, converts, competition to be the most efficient 	<ul style="list-style-type: none"> • No graffiti, no crime, change in focus: less stress, slowing down, greater well being “time to smell the roses”, job changes and losses (economic restructure), shift in economy
 <p>Immediate Outcome Time: 2 years</p>	<ul style="list-style-type: none"> • Less power needed, less coal dug up, less carbon emissions, less coal burnt, money saved, mental approach changed, lifestyle change, wider environmental impact of emissions reduced, motivated to go further (dawning, awakening) 	<ul style="list-style-type: none"> • Satisfaction, savings, target success, new mentality giving rise to new and other actions, transport and shopping locally, sense of community in the “local “ 	<ul style="list-style-type: none"> • Real feeling of community and belonging, more pride and caring

 <p>Immediate Impact Time: 2 years</p>	<ul style="list-style-type: none"> • 20% reduction in household energy usage 	<ul style="list-style-type: none"> • Personal energy usage target reached 	<ul style="list-style-type: none"> • Being a part of a process that involves us all
 <p>Action</p>	<ul style="list-style-type: none"> • Meaningful rebates 	<ul style="list-style-type: none"> • Personal involvement and ongoing peer review of energy reductions 	<ul style="list-style-type: none"> • Local stories, teaching, marketing, demonstration projects, speaking into those yet to be awakened.
 <p>Need</p>	<ul style="list-style-type: none"> • Financial assistance 	<ul style="list-style-type: none"> • Structured voluntary ground swell 	<ul style="list-style-type: none"> • Inform more people about the Program, a sense of urgency
<p>Program goal or target</p>	<ul style="list-style-type: none"> • A personal energy usage level, specific to community economies and personal situations, is reached by all Residents participating in a process [like this program] that involves everyone 		
 <p>New Capacity</p>	<ul style="list-style-type: none"> • Accountability and personal power 	<ul style="list-style-type: none"> • Small but significant changes without compromising lifestyle 	<ul style="list-style-type: none"> • Having new knowledge and acting on it, confidence to keep going, no longer being alone

5.3. Existing program design

As with the Assessors' Outcome Hierarchy, we can compare the capacity that the Residents' considered they had built with the assistance of the REAP against their ultimate outcome, to make a judgement about the viability of program content against its potential impact and outcome.

The Residents' vision went beyond the Assessors', in terms of time scale, to 2050. They envisioned whole frameworks of global-scale legislation prohibiting exploitation and environmental extinctions, controlling whole new industries and settlement patterns. We will be living in higher density, regional, urban communities, using distributed energy, technology and renewable resource infrastructure. The environment will be cleaner; population will be controlled; wars will be taking place along side other ways of achieving full-scale global change. To drive and manage this situation there will be across the board commitment to learning and environmental principles in government and industry.

The REAP built new capacities of social accountability and personal power, the ability to carry out small but significant changes without compromising lifestyles, and a sense of a community of like-minded people around them, learning the same information and how to act differently because of it, with them. Such collective action learning produces sustainable social change.

The Residents' vision is a likely consequence of the environmental and social pressures being understood as high imperatives, and being met with social learning across the board. Such learning both leads and responds to new legislation and shifts in policy. A future program could include the following additional elements:

- Opportunities for residents and community organisations to interact socially, and in organised learning environments, in the interests of greenhouse gas emission reduction
- Information about industries that are exploitative, that threaten species extinction, and others that are sustainable, which Australia supplies or consumes
- Information, practical learning about and social support for activism about exploitative, ecologically threatening and sustainable industries
- Information about the issue of population, population control and future sustainability

- Information and practical learning about a broader array of renewable energy and resource technologies, adaptation and lifestyles

Recommendation 10: future programs should provide opportunities for residents, and staff and networks associated with community organisations, to socialise, and learn about a broad array of issues associated with environmental sustainability at local and global scales. This information should include material about sustainable and unsustainable industries, economic frameworks and legislation, activism, and issues arising from population pressures and population control.

5.4. Residents' reflections on their experience of completing the Outcome Hierarchy

The Residents also had mixed feelings about the workshop. Some of their comments confused feedback about the overall REAP with the request to give feedback about the evaluation workshop. The comments were contributed anonymously by each person writing their thoughts on a piece of paper and attaching it to the sticky wall while the project team, including the workshop Facilitator, was out of the room. This meant that the confusion could not be addressed. Here are their comments:

- Challenging, intriguing, thought provoking, I want to read the evaluation. Some prior reading about tonight would have been helpful
- Perhaps, despite all my efforts, nothing will change. The change required by other parties is too radical and unlikely to happen in my lifetime. I can hope and “do my bit” – sorry to be gloomy
- Very good meeting other participants, uncertain about the usefulness of targets and future outcomes
- Positive change must start at grass roots – keep it going
- It has been important to work with like-minded people: it gives impetus to continue; fun, learn from others, always interesting (activities and discussion), structure thought provoking, facilitation easy and relaxed
- Initial first steps not perfect, but just the start; the audits resulted in actions being taken by a few, but it is the “seed” to something bigger. Tonight resulted in a feeling of optimism, I think some participants were initially very gloomy and pessimistic. This is a program that needs to be expanded
- Well worth the effort, keep going

- It was difficult, confronting, more comfortable talking about me than “global everyone else”; for me not useful at all – but probably useful in the long-term

5.5. Residents’ recommendations for future programming

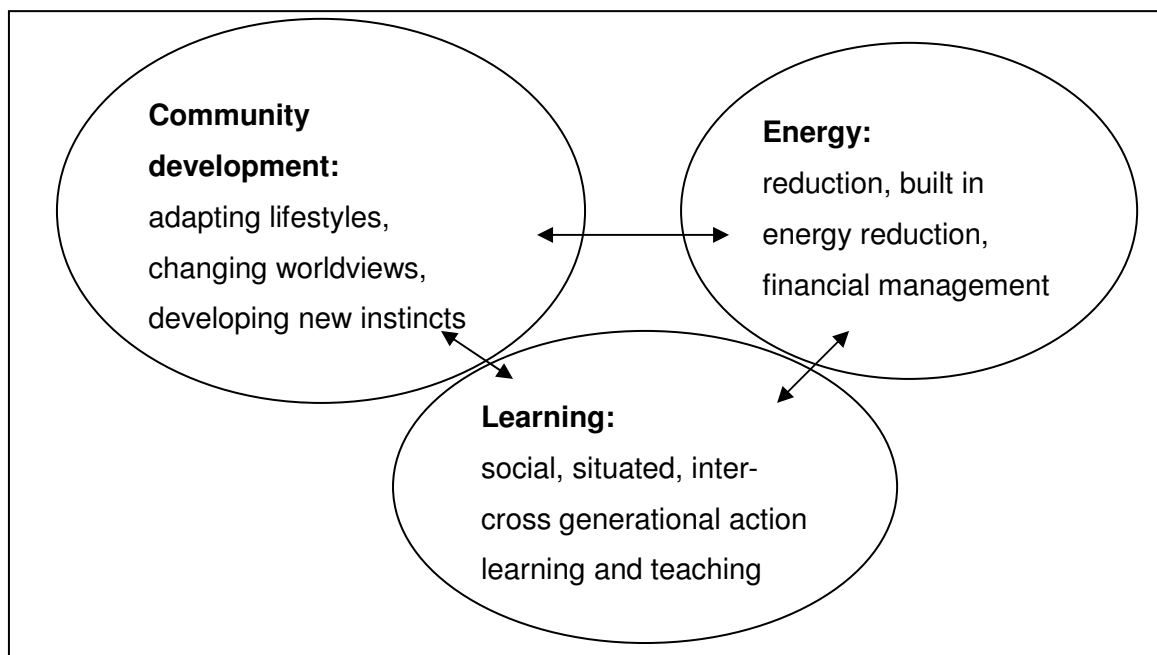
In the light of the Outcome Hierarchy, the Residents recommended that any future energy reduction program in Bayside would need to:

- Continue on much the same basis as the REAP (“no change, the Program is brilliant!”)
- Do follow up reviews of assessed houses periodically
- Emphasise the message that how we live impacts the planet and if you want to change this then participating in this program is how to do it – that being a part of the problem is the best way to create the solution
- Enable the volunteer Assessors to learn from the Residents as well as Residents learning from volunteer Assessors
- Provide professional expertise as well – people who can advise on technical details about buildings etc
- Pay people to do the Assessing work
- Continue to raise awareness about the issues
- Continue with the same sense of psychological strength – non-expert, peer learning is adequate without being intimidating
- Continue to let the Residents be “drawn along” by the Program
- Continue to be positive without being confrontational
- Continue as home based, one-on-one service – having advice in the home makes all the difference and far more effective than on web pages etc
- It puts the problem which could otherwise be overwhelming, into perspective – lots of little changes in lots of houses
- Introduce incentives
- The Program is enough – and not enough to lead on to new lifestyles
- It produces an immediate outcome

6. Comparisons and implications

6.1. Capacity building

When the two workshop results regarding capacity building are compared we can see powerful and complementary clusters of higher order values in three interacting thematic arenas. The following map, as devised by the Facilitator for this report, proposes the inter-relationships.



To some extent the output shows a complementary relationship between the Assessors' and the Residents' capacities.

The Assessors' focus is on education and learning, content about energy reduction, and shifting worldviews; and the Residents' focus is on applying the learning in changing lifestyles, taking that learning into community and future generations. However it should be remembered that learning of this kind is not a one-way flow from expert to the "empty bottle" of the Resident. Assessors were learning with Residents, and Residents once they had the sense of "awakening" that their narratives described, could see the issues everywhere in their domestic environments and community networks. The Assessors commented on seeing the psychology of household lifestyles and how different personalities and levels of commitment make different demands on the Assessors' skills. This same sense of appreciation of psychological difference and appreciation of how to work with it needs

to be included in the Residents' learning so they can be more effective in advocating for energy reduction values and actions with those who have not yet realised the reality and urgency of the carbon issue.

As the momentum grows so will the building in to infrastructure, both hard and soft, industrial, economic and governing take place. It is to be hoped that this systemic interaction of learning, community development and energy reduction continues in a balanced flow so that democracy and wisdom govern the transition to low energy living.

6.2. Program target

The “targets” of each program are repeated here from the Outcome Hierarchies:

Assessors: Increased home audit target (30%), by increasing numbers of voluntary Assessors and introducing less invasive and more self-managing tools and resources. Develop a new community culture of pride in low emission behaviours, supported by local business and infrastructure, government and publicly communicated evaluation and monitoring

Recommendation 11: future programs should work to a 30% greenhouse gas emission reduction target and clarify timelines and sectors to which this target applies

Residents: A personal energy usage level, specific to community economies and personal situations, is reached by all Residents participating in a process [like this program] that involves everyone

There was much discussion about how to phrase a new target for a new Program. Some participants were happy to stay with the existing 20% reduction, even if what it actually means is vague, largely inaccurate and hard to measure. Others however were dissatisfied with this target and wanted to express a target in qualitative and quantitative terms.

There are two comparative points of particular interest.

First, the Assessors were concerned about the invasive nature of the home assessment approach whereas the Residents who attended the workshop were most enthusiastic about the home-based location of the learning opportunity. They were clearly not intimidated nor had any sense of invasion of personal privacy. Rather than feeling dependent on the Assessor, the home visit contextualises abstract

technical information so that they were compelled to act and learned to make future changes for themselves. However, those who participated in the workshop may not represent the larger community who may hold the Assessors' reservations.

As it is so crucial to the effectiveness of the Program and to the style of education that future Assessors would employ, it may be of value to run a local poll on the question of whether Residents would object to home-based assessments.

Second, there was shared concern about the lack of a clear and socially equitable level of energy consumption per head of population. It was felt by both groups that a household level was inaccurate as power bills are estimates, and that as each community had different shares of polluting industry, and individuals faced different situations (such as sickness for example) it seemed reasonable for there to be a generic consumption rate per head which could be justifiably modified to suit each person. As this too is a crucially important aspect to the success of the Program, in terms of justice and carbon emission reduction within the larger context of emission trading systems, it would be of value to explore this matter and produce the measurement that participants are recommending as well as the Assessor skills to modify the measurement per community and individual.

It is also interesting to note that both approaches to the REAP target included the need for a program to be a "whole of community" effort. This augmentation into a greater network of community stakeholder groups would shift the focus of a future program, and depending how it was done, produce more time saving and economy building synergy.

6.3. Future programs

The main difference between the Assessors' and the Residents' view of REAP is that the Assessors wanted many and significant changes to be considered whereas the Residents were adamant that the Program should not be tampered with.

Both groups wanted **ongoing household reviews and program evaluation**. They both want public access to evaluation results. By evaluation they are referring to the success rates regarding the reduction of energy consumption once a fair per capita level is identified and accurate monitoring possible.

Both groups want **stories** about individual experiences of the Program to be told throughout the community, at individual and public media levels. They agree that this

strategy is the most effective way to build awareness of the issues and the Program, confidence in the possibilities of change and the development of a new community culture of low carbon emission.

Both groups also recommended **incentives** be offered to encourage those with less awareness, means or enthusiasm for change: this is an aspect of a whole of community approach. Both recommended a continuation of the non-intimidating ethos of the delivered program.

The Assessors want the following changes to be considered:

Changes to Council's approaches

- Make more of Council's position as being closest to the community: Council to act as leader in energy reduction behaviours and culture in that relationship of proximity to the community (rates notices used for community education for example)
- Question whether Council is the right place to hold the Program. Are there other possibilities - like community centres?
- Engage with the community (in other ways, like markets) as a funnel to the Program
- Build a sense of community mindedness through the Program and include Council and the Climate Action Groups in this

Changes to Assessors' roles

- Make better use of the skills of the existing Assessors ("there are very capable people here")
- Add promotional skills to the Assessors' groups so more people can know about the Program

Changes to Assessment approach

- Refine auditing tools; no invasive tools like drawing peoples' house plans
Investigate other approaches to assessing [besides one-on-one]
- Factor in much more serious analysis about how to resource changes to building structures to achieve energy efficiencies, including an analysis of access to material resources needed for such changes

Changes to monitoring and evaluation

- Step back from monitoring households so that high emitters are comfortable about joining (respect the privacy of the house)
- Survey results need to contribute to better approaches, which need to be monitored and reported on over time
- Combine individual results to produce a more comprehensive picture of change

Changes to educational approach

- Develop self managed education and change, and encourage ownership of energy reduction behaviours
- Make programming simpler (so more people can understand it)
- Let Residents understand their data by comparing it with other communities
- Push hard with program objectives now – the rules are changing and it is hard to really see into the future
- Accept error in our thinking, be prepared to change programs as they are delivered, don't strive for perfection

The Residents suggested the following enhancements rather than changes:

Enhance the messages

- Emphasise the message that how we live impacts the planet and if you want to change this then participating in this program is how to do it – that being a part of the problem is the best way to create the solution
- Continue to let the Residents be “drawn along” by the Program
- Continue as home based, one-on-one service – having advice in the home makes all the difference and far more effective than on web pages etc

Build the learning relationships

- Enable the volunteer Assessors to learn from the Residents as well as Residents learning from volunteer Assessors
- Provide professional expertise as well – people who can advise on technical details about buildings etc
- Pay people to do the Assessing work

- Continue with the same sense of psychological strength – non-expert, peer learning is adequate without being intimidating

Recommendation 11: future programs should continue place-based assessment and learning by doing with due diligence regarding privacy and safety

Recommendation 12: future programs should use a “whole of community” approach to delivery involving residents, council, business and community organisations

Recommendation 13: Council to run a poll in the Bayside City community to identify degree of resistance to home-based assessment

Recommendation 14: pending outcome of poll, future programs should continue place-based assessment and learning by doing with due diligence regarding privacy and safety

Recommendation 15: future programs should develop and build into assessment practices and tools an agreed per-capita level of energy use (similar to water-efficiency targets) and take into account social justice, local economy and individual circumstances

Recommendation 16: future programs should use participant stories to build local knowledge of programs and confidence to participate in them

Recommendation 17: future programs should include inducements to increase participation rates

Recommendation 18: future programs should use ongoing monitoring and evaluation and should make evaluation results public

7. Facilitator's reflections on the Outcome Hierarchy Workshop Program



The Residents' workshop, showing the use of the sticky wall as the Outcome Hierarchy template

7.1. The value of the Outcome Hierarchy

While not an easy process, using the Outcome Hierarchy as an impact and outcome evaluation tool with focus group participation has produced insights into the Program that would not be realised by participant satisfaction surveys or measuring energy reduction levels alone. The Outcome Hierarchy process closes the loop between policy and programming and the actual impact of implementation. It provides strong strategic information and also builds collaboration between the key actors in the program for future activity. In this sense, it is a capacity building as well as an evaluation process.

The workshop program allowed participants to generate narrative data about their experience of the program, the details of which inform program designers about context and the actual processes of implementing educational principles and

practices to produce social change. As well, they worked together; learning together and building shared understanding and new knowledge about what had happened and what *could* happen. This is the nature of participatory knowledge, which does not only exist in backwards looking written accounts, but also exists in forward looking, everyday lives and culture. It is this form of knowledge that holds within it insight as well as solutions about crucial sustainability problems. When lay, practitioner, scientific and management expertise are brought together into inquiry environments, the quality of knowledge that is generated is robust and rounded, so that it fits into many different contexts (corporate, community and academic for example) while still maintaining its complete form.

7.2. Workshop tools

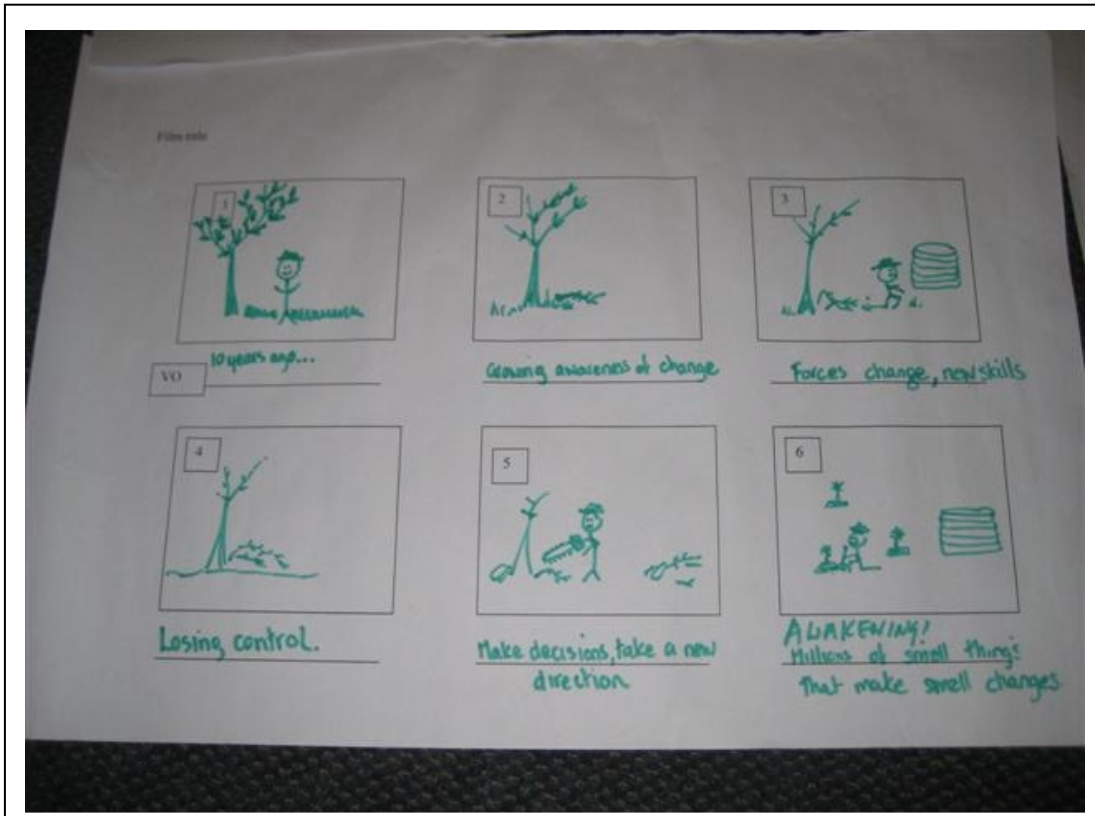
Many of the narrative details were captured in the story maps and boards, which, when given the benefit of analysis, would generate significant insights into learning theory and its viability on the ground. This is not an academic question when new concepts of social change, dependent upon the quality of learning theory and how it is used in educational and learning practice, are at stake.

The following two photographs show the benefit of narrative data.

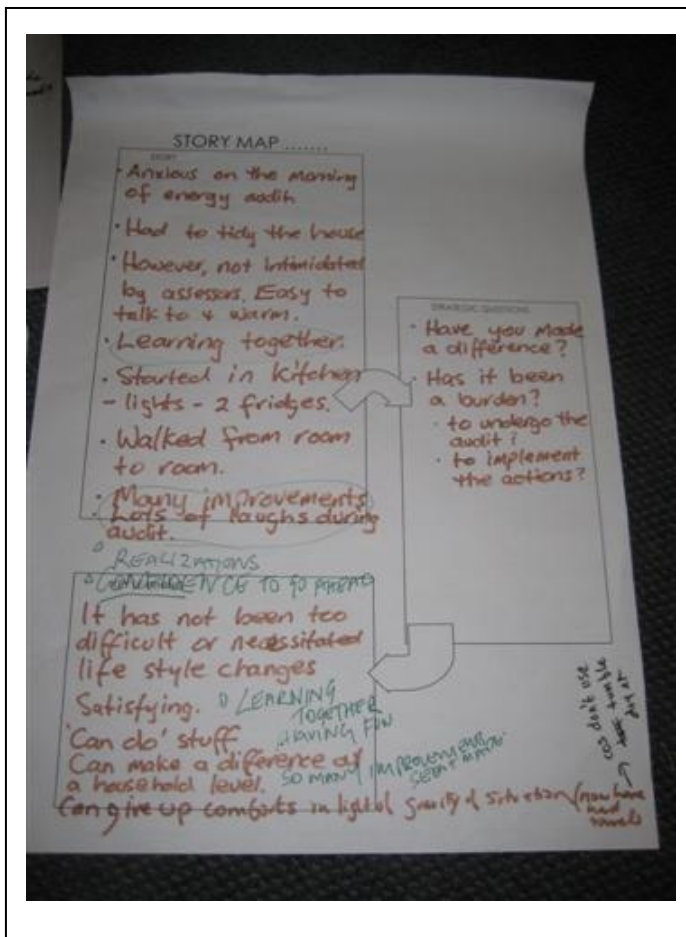
The first photograph tracks a resident's story as a gardener, responding to climate change. To complete the board he had to decide for himself the important turning points in his learning trajectory.

He shows how the first three steps were about identifying the problem of water shortage and reacting to it with common sense solutions. However at frame 4 he notes that this did not work: he "lost control". At this point he cut down the dying European trees and replanted with native trees, learning an entirely new paradigm of gardening, affecting his business and general sense of what he does in the world.

This storyboard in effect, tracks social change at first, second and third order levels (Bateson, 1972; Argyris and Schon, 1978) – from skills, to strategy, to worldview – which reinforced skills and strategy. When lay and professional educators "learn about learning" they are learning about such concepts of learning as first, second and third orders, which require specific teaching practices and program design and implementation approaches. The story map details a Resident's experience of learning about making household changes, and lists the strategic questions that prompted this learning.



Above, a completed storyboard illustrates a participant's experience of learning at first, second and third orders of change. Below, a story map identifies the value of small-scale change carried out within households.



7.3. Data and validity

The workshops allowed those who engaged subjectively with REAP from both educator and learning points of view, to self-identify their capacity and capability development. This approach, which purposefully avoided prompting participants with programmers' expectations of program goal attainment, meant that the information that the participants produced was genuinely drawn from their critical and collaborative consideration of the differences REAP made.

Once this qualitative information is identified it can be used in surveys to generate a quantitative measure of the extent to which these areas of new capacity were understood or established as a result of the REAP. Working this way means that the right questions are asked: from insider perspectives and not only external interests. What is yielded is information about the actual difference that the funding body made which can be more significant and reaching than that which is identified through non-local and non-participatory policy and planning.

The workshops enabled participants to clearly identify the new current state and to discuss at depth a new target for a new program, making use of this current state. This approach safeguards the new built capacity, so that it is used rather than left as a successful impact at the conclusion of a funded strategy. Capturing and using built capacity and capability is another form of resource regeneration and conservation. It not only conserves the expenditure of energies in existing but also in future program deliveries. In the same way that being listened to tends to produce more thoughtful speech, knowing that the capacity and capability that a program builds will actually be used for future developmental work brings a new focus of attention program design and implementation.

7.4. Strategic value

The workshops enabled participants to think through the consequences of their learning being activated in the community. This exercise allows everyone to understand social change and how what they are doing as participants does matter and is about more than self-interest (saving money, for example). It builds broad public and inter-generational value, a moral clarity that is also crucial to the sustainability of programs and social change. It is a risk management practice in this sense, as well as opening imagination and strategic thinking to get the most out of funding, design and action.

As participants track through the outcome levels, the data yields important information about the way social change happens in participant networks. The Assessors' identification of information networks in the community as a new and important resource for future work, which was independently confirmed by the Residents stating that they now have a sense of learning with a community that is focussed on greenhouse gas emission reduction (and information network) is indicative of this type of data.

It is also reflective of the un-stated assumptions, which underpin social change dynamics. The vision statements are particularly valuable for this information.

7.5. Facilitator's recommendations for future Outcome Hierarchy workshop delivery

Finally, and as a consequence of the delivering the evaluation program, the Facilitator suggests the following changes to workshop programming and marketing should the Outcome Hierarchy tool be used again for similar purposes:

- Prepare participants with dialogue and information prior to the event about the Outcome Hierarchy and its use as an evaluation tool. Participants were confused and in some cases unable to see the connection between the tool and evaluation because of their assumptions about evaluation
- Allow for a minimum of 3.5 hours so that adequate reflection on experience and story telling can take place. This process is time-expensive but essential to allow participants to self-determine their capacity building
- When participants turn their attention from the narratives to the Outcome Hierarchy, provide some reorientation exercise. For example, a dialogue (or enactment, or silent reflection) about the relationship between the present and the future. This will help participants understand the value of their thinking
- Encourage positive and negative outcomes throughout the Outcome Hierarchy exercise to more adequately balance the data against idealism (or despair, as is sometimes the case)
- Allow for group discussion about each stage of Outcome Hierarchy completion to also afford more critical thinking (questioning of assumptions, offering of alternatives)

- Provide some means to return to the present on completion of the whole Hierarchy, to accommodate emotional transition (for example, psycho drama, group reflection)

Recommendation 19: future programs may use Outcome Hierarchies as program logic, and impact and outcome evaluation tools, with adequate communication with participants, and a minimum of 3.5 hours' workshop time.



Residents consider the future in triads.

This analysis of the workshop program concludes the report.

The Facilitator strongly recommends that the participants are given the opportunity to read this report so that they appreciate the value of their generous and trusting input.

8. References

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