**Pass the Parcel: a new approach for energy efficiency**

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**Introduction**

Climate change and health research has largely focused on extreme weather events, water security and air-borne disease. There has been less focus in the literature identifying more everyday impacts on human health. According to the World Health Organisation¹, climate change impacts the fundamental requirements for health – clean air, safe drinking water, sufficient food and secure shelter. Furthermore the Victorian Council of Social Service² has identified that the groups most vulnerable to climate change in Australia are likely to include the elderly, chronically ill, the socially and economically disadvantaged and those with poor access to essential services such as good housing and adequate fresh water. It has been largely recognised and documented that health is impacted by social determinants. As a result of these determinants disadvantaged groups report comparatively poorer health when compared to communities of a higher socio-economic status. The ability of climate change to amplify disadvantage through severe weather events such as floods, fire and drought places an increasingly negative impact on the health status of disadvantaged groups throughout Australia. The negative impacts of climate change were further explored in Climate Change Adaptation: A Framework for Local Action by the Southern Grampians and Glenelg Primary Care Partnership (SGGPCP)³. The SGGPCP identified five key issues associated with the direct impacts of climate change as: household energy use, household water use, transport, affordable food supply and community strength and resilience. Rising energy prices and the impact on household energy use and financial strain together with links to heatwave, were the impetus for action and the resulting development of the Pass the Parcel Project.

The SGGPCP works with eighteen partner agencies across the Southern Grampians and Glenelg Shires in South West Victoria, including the two municipalities, large health and small rural health services, community health services including Aboriginal health services, bush nursing centres, community agencies and neighbourhood houses. Since the publication of the Climate Change Adaptation: A Framework for Local Action³ SGGPCP has increased its partnerships, resources, knowledge and leadership around climate change and health.

The SGGPCP recognises that climate change impacts on health and has committed to increase our leadership capacity, however the challenge remains: how do we facilitate building the capacity of both our community and our partner agencies to respond to the climate change impacts on health and wellbeing? A short review of behaviour change literature was conducted and integrated into a health promotion approach. A particular focus on the importance of social learning theory through a review of Bandura’s famous Bobo doll study⁴ highlighted the significance of social relationships on behaviour change. Transtheoretical models of behaviour change are also referred to often in the health literature. Prochaska⁵ in his investigation into smoking cessation recognised that patients moved from pre-contemplation (uninterested, unaware and even unwilling to make change) through contemplation (considering the change) to deciding to prepare and make change (preparation and action). Consideration was also given to concepts of behaviour change including also Ajzen’s Theory of Planned Behaviour whereby, people cannot be expected to engage in a behaviour, or to even form intentions to engage in a behaviour, unless they believe they have the necessary skills and abilities to perform the behaviour. The Ottawa Charter for health promotion⁷ is familiar and creates an ideal framework to plan a behaviour change program.

Considering the behaviour change literature in project design, SGGPCP facilitated a demonstration project in 2009 to investigate strategies to engage a vulnerable rural community to improve energy efficiency. Our project Pass the Parcel expands on the methodology of the demonstration project using a multi-layered action research approach to increase the community’s awareness and actions around energy efficiency, together with increasing our partner agencies’ capacity to respond.
Method
Central to the project was an ibutton: a temperature data logger which records the time and air temperature every 30 minutes. This information can then be downloaded and viewed in graph format. The ibutton was located in the home of each project participant, in a room where they spend most of their time. An ibutton was also placed outside to capture outside air temperature. The inside and outside temperature data was graphed to show a comparison between the two. To add context around comfort, the standard human comfort zone (determined to be between 18 – 26 degrees Celsius for the purposes of this project) were also included on the graph, resulting in the graph including all four sets of data. Figures 1 and 2 depict examples of ibutton graphs.

Figure 1 Sample ibutton graph for an inefficient home

![Weatherboard House](image1)

Figure 2 Sample ibutton graph for an efficient home

![Energy Efficient House](image2)
The ibutton was included in a parcel of project specific details and sustainability literature, including further supportive information for each participant and a small room thermometer.

Program participants received the parcel, hung the ibutton in their home and retained a participant information pack. After having the ibutton hanging in their home for one week, the ibutton was replaced in the parcel and passed onto the next participant. This cycle continued for up to six weeks (limited by the data storage capability of the ibutton) and therefore each ibutton has the potential to engage with six households. Participants received a graph of their own home temperature after the project.

ibutton recipients, along with the general community, were invited to participate in a workshop focusing on energy efficiency and comfort in the home. The workshops were conducted by local sustainability experts. Workshops were based on a generic presentation developed by Environment Victoria which was adapted to focus on energy efficiency and enable more conversations to encourage participants to share current strategies and ideas. Participants were encouraged to document their intended behaviour change on an “Action Card”. The Action Card was retained by the project and then returned to the individual within three months, together with further information to support the identified change/s. The Action Cards were not an original part of the project but developed after the project was implemented as a way to support action and to identify actions that participants intended to complete.

SGGPPCP partner agencies volunteered to “host” the Pass the Parcel project. Those agencies who work directly with the community were approached to participate and tailor a strategy to implement the project based on their capacity and community need. The role of the host agency varied. Generally it entailed collaboration with SGGPCP to identify an existing group to participate in the project, hosting an information session, encouraging participation, collecting data and tracking the “journey” of the parcel. The parcel could be passed on to anyone in the community and not necessarily remain within the original group to increase the reach of the program. The “host” agency would then use local knowledge to arrange and promote the community workshop. To build capacity of the “host” agency, SGGPCP conducted a short training and information session to increase project knowledge, identify links to the social determinants of health and seek alignment with the agency’s core business. SGGPCP recognised the limited capacity of agencies to participate and supported increased capacity through provision of resources and support to enable participation in the project. Post project, agencies received further support information including a newsletter with links to other programs and general information, a DVD (Green it yourself) and an energy monitor to be shared amongst participants through a lending arrangement. Ongoing communication via email and bulletins continued throughout the project to alert agencies to upcoming funding sources, rebates and programs or project linkages.

The method was adapted for agencies who worked with more vulnerable aged care groups such as Home and Community Care (HACC) and Day Centre Groups (ADASS - Adult Day Activity and Social Support and PAG - Planned Activity Groups). These sessions focused more on increasing capacity of staff who then managed the rotation of the parcel due to limited mobility of their clients.

Results
Between November 2010 and December 2012, fourteen of the eighteen SGGPCP partner agencies hosted the Pass the Parcel Project with two agencies requesting a repeat of the project. In total 503 people participated in the project which includes participation at initial information sessions, having an ibutton or attending a workshop. 236 households had an ibutton in their home and 260 people attended skill development workshops.

Action Cards were collected from 79 participants, with 215 items identified for action. The cards indicated that people were most interested in draught-proofing, solar energy, lighting, window products such as Renshade, lagging of pipes and switching off appliances.
50 participants completed evaluation forms, and of these 80% indicated that the project had a positive impact on their understanding of energy efficiency, and 85% reported that the project had facilitated behaviour change. Respondents’ increase in awareness was also indicated by the activities undertaken after the project. Since taking part in the Pass the Parcel Project, 40% of survey respondents have talked to someone else about energy efficiency with a further 16% looking for further information and 10% using the internet to look for further information. Participants made changes to both their behaviour (93% of respondents) and their environment (93% of respondents) to improve energy efficiency.

Figure 3 Behaviour change reported by participants

Participants listed the behavioural changes and changes to their home environment. The most common behavioural changes (figure 3) reported included switching off appliances at the wall (70%), closing curtains and windows (58%), closing doors to seal off draughts (55%), putting on extra clothes in winter (53%), adjusting heating/cooling temperatures (45%) with others reporting taking shorter showers (30%), reducing use of clothes dryer (40%) and switched off the second fridge (15%). In terms of changes to their home environment, participants sealed gaps and draughts around doors and windows, changed to water saving showerheads, installed blinds and curtains, purchased an energy efficient appliance, installed solar hot water or insulation and insulating exposed water pipes.

Focus groups were conducted with 21 participants in two rural localities. The focus groups were conducted to add rich data to the information we received from the evaluation forms. The overall feedback was very positive regarding the project. The project served to be an opportunity to reinforce activities that participants were already aware of as well as introduce new ways to improve efficiency. Participants responded that the project provided them with a helpful “tick” reinforcing that they were on the right track. One participant responded that “my family was annoyed at Christmas that I was always nagging them to turn off lights and appliances…..hopefully now they are remembering to save energy for themselves too” – adding to the reach of the project. Focus groups participants responded that the project increased their awareness of in home temperature through the ibutton graphs as well as the room thermometers provided. Participants noted looking more closely at their power bills but some commented that this needs to be done concentrating on usage as well as cost. Often cost is rising but actual energy usage is reducing. Participants thought the workshops and discussion around ibutton graphs generated by the project provided confidence and support to take action. The focus group also generated good discussion about further action and recommendations from workshops to green waste solutions.
A focus group was conducted with partner “host” agencies to ascertain increase in capacity, perception of community involvement and outcomes as well as unexpected benefits or results. Host agencies unable to attend the focus group were surveyed using “surveymonkey”. All host agencies responded that participating in Pass the Parcel project had increased their capacity to respond to energy efficiency in their communities particularly by increasing their knowledge, interest and understanding, as well as providing valuable links to other projects and opportunities to further increase capacity. After participating in Pass the Parcel, agencies linked further with an Energy Efficiency Workshop series conducted by the Glenelg Shire, inviting a local Victorian Energy Efficiency Target (VEET) provider to talk to local households to encourage home audits and implementation of the VEET project (installation of light globes, weather strips, electrical stand by controllers, chimney balloons etc...). One agency worked with SGGPCP to develop a practical workshop program in local hardware stores to demonstrate draught proofing and gap sealing in the hardware store. Agencies noted that there was further opportunity to assist community members purchase items online that are unavailable locally or to assist with bulk buy schemes. Increased capacity of the HACC workforce was another significant outcome of the project. One local government area HACC provider worked with SGGPCP and an external agency to deliver a full day workshop to HACC and other similar staff throughout the shire, focusing on energy efficiency and strategies to engage their client group. Unexpected outcomes reported by two agencies included an increase in social connection as a result of the project. They reported that the nature of the project, passing the parcel and the social interaction enabled participation by any community member particularly those who may be otherwise hard to reach. Agencies also responded that involvement in the project facilitated another interesting way to engage with their community and in fact increase participation with the agency. Agencies who were approached to participate but declined reported staff change, limited capacity, limited correlation with, or lack of understanding of alignment with core business. 

Surveys were administered to the two local energy efficiency experts who presented the community workshops. Both reported positive impacts of the project on their skills and confidence as a presenter, knowledge of the energy efficiency needs of low income households, increased energy efficiency activities in the community while creating partnerships with individual residents both within and outside the local community. Observation of presentations revealed a refinement of community engagement skills from presentation of information from a more technical perspective to facilitating and shared discussion using more accessible language and more value placed on attainable actions and less value on expensive retrofitting options.

**Discussion**

Engaging a community about energy efficiency, particularly those who may have higher priorities, are uninterested or feel disempowered to impact rising energy prices, could be challenging. Pass the Parcel employed a range of techniques with the aim of increasing awareness, motivation to action and behaviour change while increasing capacity of SGGPCP partner agencies. Utilising the button to encourage participation and creating personally relevant data through the ibutton graphs increased participants’ interest in the project. This coupled with supportive relationships by passing the ibutton along, increasing personal skills and knowledge through provision of workshops and providing supporting environments by increasing capacity of SGGPCP partner agencies, combined to influence positive results.

The ibutton was used as a “hook” to entice interest and motivation to participate in the project. 71% of survey respondents replied that the ibutton increased their interest in the project. Creation of graphs for participants was aimed at increasing personal relevance and anecdotal discussions through focus groups described participants sharing information from their graphs with each other and taking graphs to workshops to discuss results with other participants as well as expert presenters. Participants commented that the ibutton data added richness to their energy bills providing a picture of comfort in the home.
In the past, community education around energy efficiency has relied on workshops run by climate action groups and sustainability groups, as well as some audit-based projects. These projects have tended to engage with residents already motivated around energy efficiency. Pass the Parcel was aimed at involving low-income residents and more vulnerable members of the population who may not generally attend workshops or sign up for sustainability groups or government projects. 63% of survey respondents attended a workshop in their area. Further, 236 households hosted an ibutton and 260 people attended skill development workshops throughout the project, pointing to a positive effect of the ibutton in engaging the community. Focus group discussions with host agencies revealed anecdotal data reflecting a reluctance by the target group to participate in some community projects due to lack of understanding, barriers to access, and suspicion of the “cold calling” approach taken by some programs. To overcome these barriers, one agency linked Pass the Parcel participants and other groups with the Victorian Energy Efficiency Target Project (VEET) by introducing a local provider to a Planned Activity Group. Previously, group members had not taken up the VEET projects but after this linkage was created, several group members were confident to participate in the VEET project.

Participation in Pass the Parcel increased the capacity of agencies to further participate in energy efficiency or sustainability projects. One agency sought further funding to facilitate practical workshops entitled Filling the Gaps in partnership with a builder and local hardware store to demonstrate gap sealing and draught proofing. Another agency thought more about other impacts of climate change and created shared vegetable garden beds at the community centre. A women’s night facilitated by a small rural hospital included energy efficiency workshops and demonstrations. A local HACC program recognised the impact of their significant role to engage their clients on energy efficiency and implemented a further training program in partnership with SGGPCP.

Working with host agencies to increase participation in Pass the Parcel, as well as an increased capacity of the host agency, was a significant factor in the project success. Host agencies have an established relationship with their community and are a trusted and credible community resource and were therefore an important element in the project’s implementation and success. Groups associated with the host agency were the original volunteers to begin passing the parcel providing a link back to the agency. Agencies reflected that including the Pass the Parcel project within their group activities created something different for the group and increased motivation for the group to attend. Participation rates increased when the “host” agency increased their commitment to the project. For example, two host agencies in the same community were given six parcels each to engage with their community. Host agency A was able to involve 30 households in the project over the six weeks and was disappointed that they were unable to attain optimum participation (36 households). In direct comparison, agency B was only able to involve six households in the same timeframe. Further investigation demonstrates a difference in not only capacity to commit to the project but also enthusiasm and motivation to encourage commitment, possibly demonstrating the significant role of the host agency. The role of the host agency as a “champion” became more obvious through the project as the increased enthusiasm and motivation of the champion translated directly into the level of participation of the community.

Two local “experts” shared their knowledge with the advisory group as well as presenting community workshops. The workshops were refined over the life of the project and this reflected the evolving community presentation skills of the presenters. Translating expert knowledge into language easily understood and useful for the community can be challenging. The initial workshop presented during the trial was very technical and complex and although workshop participants were interested, few felt able to make change in their own homes. Presenters then refined their style and utilised a generic presentation used by Environment Victoria which used photographs and prompt questions. Further development was demonstrated by adapting this presentation to obtain maximum community engagement centring the presentation around the participants shared learning and experience.

The capacity of SGGPCP to lead health promotion projects with a focus on climate change has increased with an increase in knowledge, partnerships and partners’ confidence to work with other partner agencies. SGGPCP has extended networks with universities, government and non-government
agencies and community groups to build on our capacity to continue to work in this space and advocate on behalf of our partners and community.

**Recommendations**

The Pass the Parcel Project revealed a number of recommendations to assist future work around energy efficiency projects that reflect robust community development and behaviour change principles. These include:

- **The importance of a “hook”:** The use of a catchy or interesting tool, such as the ibutton, to engage community interest, should be considered in program design.

- **Personal relevance:** Collection of data that involves the individual, and the creation of personal data that is easy to read (the ibutton graphs) creates relevance and interest at an individual level.

- **Community Partnerships:** Building existing and creating new partnerships that are trusted and credible in the community. This approach allows for ongoing support and sustainability of the project within the community, while increasing participation in the project.

- **Build Local Capacity:** Utilising local experts to conduct the workshops builds relationships in the community and increases community capacity by developing and refining the skills and confidence of the local presenters.

- **Flexibility:** The ability to adapt a project to meet the needs of the engaged agencies has significant positive outcomes for projects.

The Pass the Parcel project, whilst expanding on a pilot project, provided the SGGPCP with great opportunities to work with partners agencies, and build both the relationship between the SGGPCP and the partner agency, and between the agency and their community. This relationship building is a catalyst for project success. The result is an increase in energy efficiency for low income households as well as capacity to respond for our partner agencies.

**References**