

# TAKING SUSTAINABILITY TO THE STREETS – SUMMARY

A Brief Outline of the Final Evaluation Report for the Northern Alliance for Greenhouse Action Sustainability Street® Program 2005-2008, Melbourne, Australia

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*The full evaluation report is available on the NAGA website [www.naga.org.au](http://www.naga.org.au)*

## SUSTAINABILITY STREET IN THE NORTHERN SUBURBS

The NAGA Sustainability Street project began in early 2006, aiming to establish sustainable neighbourhoods in at least 18 streets or local areas in Melbourne's northern suburbs, under a three-year, \$500,000 grant from the Victorian Government Community Support Fund.

The new Sustainability Street neighbourhoods were created in four municipalities: Melbourne, Darebin, Moreland and Whittlesea. The Sustainability Street model involves people in a street or neighbourhood planning and putting into practice actions for participating households to reduce their use of energy and water, increase recycling, decrease waste and have a positive impact on native biodiversity. Sustainability Street is a community learning and change program based in local communities, aimed at encouraging households to improve their environmental sustainability efforts, across waste, water, energy and biodiversity.



Bicycle workshop at Merlynston

The project, coordinated by the Northern Alliance for Greenhouse Action, was facilitated by a partnership between environmental educators Vox Bandicoot Inc, and the Moreland Energy Foundation, and supported by Victoria University, Yarra Valley Water, each of the participating municipal councils and the Victorian Government Department of Victorian Communities (now Department of Planning and Community Development) and Department of Sustainability and Environment.

## PROJECT OBJECTIVES and EVALUATION FRAMEWORK

The evaluation for the project centred around exploring the advantages and limitations of linking and integrating community strengthening and connectivity with environmental impact reduction.

***“This is great! I get to meet my neighbours, and learn about how I can help the environment.”***

– Sumner Estate resident at a Darebin Hub

### Key Evaluation Objectives:

- To empower local street-based communities to better understand and take action to protect and enhance their environment and move towards environmental sustainability.
- To build community connections and resilience in local communities using environmental sustainability as a focus for community enhancement.
- To explore and document the relationships between community strengthening and environmental sustainability.
- To develop methods for evaluating community action for environmental sustainability and its relationship with community interaction and connection.
- To use established street-based groups as a basis for influencing the wider communities in which they were located, to learn about and take up actions that foster environmental and social sustainability.

Key elements of the Sustainability St approach map strongly with learning based change models that have identified some of the elements required for long-lasting change, beyond awareness raising, knowledge delivery and technological capacity. Additional elements identified in these models include: active engagement (seeing one's self as capable of making the change), triggering moments (being reminded in personally meaningful contexts to take action on intentions), and social support and expectation (what friends/neighbours/peer group are doing and what they think of an individual's actions). Each of these elements draws on personal relationships with trusted others.

A comprehensive project to develop professional learning for facilitators of community-based sustainability programs in Victoria, through the Victorian Association for Environmental Education has derived a simplified behaviour change model based on the available research, and action learning based in the experiences of over a hundred sustainability facilitators. This model is summarised in the following diagram (Hocking, Ray & Day 2006b):

According to this synthesis of models and ideas, individual and social identity mediate between our technological and social knowledge and capacities, and our tendency for action. Being able to shift our sense of who we are, and what is normalised as acceptable and meaningful behaviour, is what lies at the heart of our propensity for action. In this context, Sustainability St operates at the social and individual level of 'local neighbourhood' membership and identity, to help re-frame what was normal in relation to environmental outlooks and action, and at the same time to provide the knowledge, skills and support that were also needed for change to occur.

How the Sustainability St approach fits with learning-based behaviour change is summarised concisely by Darnton et al. (2006):

*"Behaviours are complex and non-linear ... interventions should combine multiple types of instruments in a 'package' of measures ... Different audiences behave differently, and require targeted and/or tailored interventions ... Devolving responsibility for policy development and delivery to local bodies ... can help ensure their suitability and can also help to build their legitimacy. The audience for change intervention should not be regarded as a passive target whose behaviour is to be changed, but as 'actors' at the heart of the change process ..."*

The NAGA Sustainability St Project presented particular challenges for evaluation because it crossed between major discipline areas, spanning the community-social and the environmental, each of which uses very different measures of success and different pedagogies (processes) for planning and action. In addition, the project aimed to foster integration and synergy between these. The project was also required to report to a range of stakeholders with different primary interests, across a range of sectors and levels.

To document and probe the connections between environmental action outcomes and community strengthening outcomes, a combination of evaluation methods were used. In each of these methods, participants and groups were asked, in a variety of ways, to comment or reflect on both environmental and community dimensions of the project, and in some instances, what the connections were between these two dimensions. This combination of evaluation tools provided some degree of 'triangulation' between more quantitative 'outcome' oriented approaches and more qualitative interpretive approaches, to ask both what the program outcomes were (for community and environment) and how these outcomes came about. The evaluation methods also made use of available averages from state level and municipal level surveys, for both environmental impact indicators and community strength indicators (see below for descriptions of these).

## MAJOR ENVIRONMENTAL OUTCOMES OF THE PROJECT

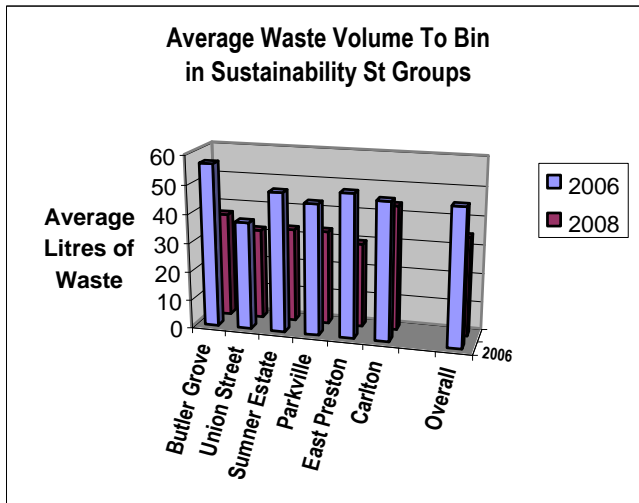
The NAGA Sustainability St project encompassed 19 neighbourhood groups across four municipalities, that were focused on making changes to reduce their environmental impacts at the local level. The project ran in two stages from early 2006 to late 2008. At least 250 people, with at least 100 highly active members, were involved in each stage of the project. Evaluation of the project was through a combination of telephone interviews at start up, individual surveys repeated at least once, in-depth interviews with a representative subset of participants, periodic written reports on the status of each group, and final surveys.

Participants were able to make very significant changes in their patterns of resource use. In overall figures, water use was reduced at least 25% below the municipal average, greenhouse gas emissions were reduced by around 49%, waste was reduced by 15-20% compared with the start of

***"We used to get together in our street because of our kids, now we get together because of our need to protect the environment"***  
- Sustainability Street participant, November 2006

the project (from an already low base) and significant contributions were made to biodiversity, including a three-fold increase in use of local native plants in gardens. 'Small ticket' sustainability actions, encompassing waste, water, energy and biodiversity, increased by more than 70%. 'Big ticket' sustainability actions increased by around 50%, and encompassed purchase of more efficient large appliances, or structural changes in households.

## Waste

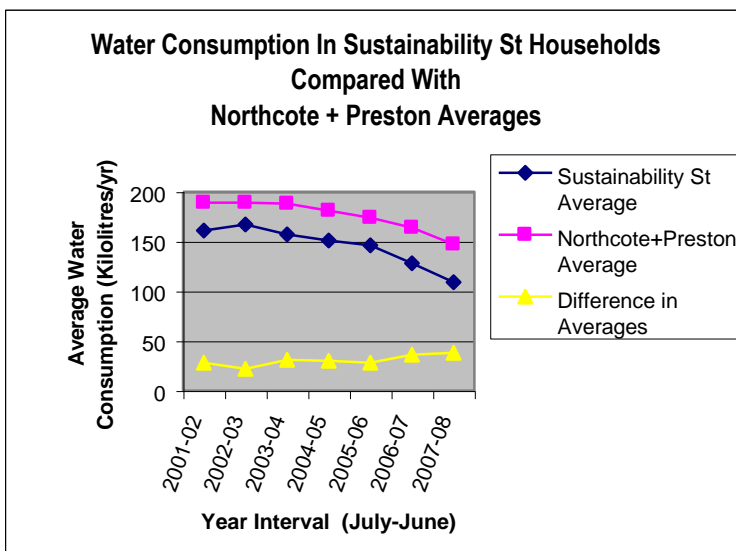


Average waste volumes to bin / landfill decreased for every group over the two years of the project. For most groups, the decrease in waste was between 15% and 20%, a substantial decrease for households that, on average were producing volumes of waste well under full bin capacity.

There were two exceptions to the major reductions in average waste to bins/landfill. These were the Union St group and the Carlton group. The Union St group already had the lowest waste average weekly production at the start of the project. This was the level to which some of the other groups were able to reduce their average waste volume – presumably for

these types of households, reducing waste volume below these levels may have required an additional type of effort. The Carlton group started with one of the highest average waste volumes, and was only able to reduce this by about 10%. The Carlton group was quite diverse in composition, with many renters in high-rise flats and professionals in terraced or semi-detached houses. This group did not have a high level of continuity and focus on specific actions such as waste minimisation. The Carlton group also showed lower levels of sustainability performance on other measured parameters, such as small and big ticket sustainability items (see above).

## Water



Sustainability St household participant data for each year was compared with the average for owner dwellings across Northcote and Preston. These were the groups that had confirmed in large numbers their agreement to having their water data accessed by the relevant water company, Yarra Valley Water. The data was aggregated for two reasons: because some of the streets or inhabitants were in one of the two suburbs other than where the primary location of the group was; and because the numbers of households in each of Northcote and Preston were considered too small to be meaningful for a stand-alone comparison.

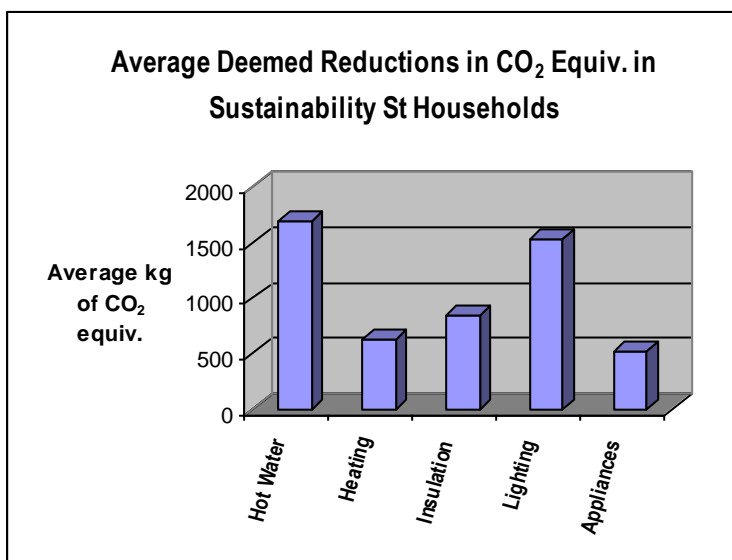
Average owner dwelling water consumption data for Northcote+Preston owner dwellings declines steadily from 2003 onward. This trend is in line with the overall declining trend in domestic water consumption across Melbourne for this time period. Increasing water use restrictions were imposed in Melbourne over this period, in part because of the continuation of the longest drought in European history in Victoria, and the growing awareness and action in communities in the face of decreasing water availability. Average water consumption for participating Sustainability St households was consistently lower by about 30 kilolitres/yr or 16% than the equivalent municipal averages between the period 2001 – 2006, suggesting that Sustainability St households

were already taking action in the early years of the century to reduce their water consumption below that of the local suburb average. For the years 2006-07 and 2007-08, average Sustainability St household water consumption declined faster than the average for the overall suburban average. So even though Sustainability St households were acting to reduce water consumption well below the average reductions, they were able to reduce their water consumption even further in response to the Sustainability St project.

*Water Actions:* There was a seven-fold increase in households reporting water-wise design into their gardens, and a parallel four-fold increase in use of grey-water funnels, presumably to divert water to gardens. Overall, there was a very major increase in most types of water re-use, minimisation of water use in households and capture of water – with an increase from 0% to 24% of participants with small water tanks, a two-fold increase in large water tanks, and a two-fold increase in tank-to-toilet systems, although the total numbers for this latter technology was small. To some extent these actions reflected the swap over from short-term water saving measures, towards the installation of infrastructure to capture and re-use water. However bucketing of water also increased, although a significant proportion of households were already using buckets in showers at the start of the project. These water-wise actions were no doubt due to a multiplicity of factors in addition to the Sustainability St project, including the extended dry conditions in Melbourne over the previous decade (since 1996), and the various state and local government level initiatives to encourage households to use water wisely.



## Energy



Due to difficulties in accessing energy data for households from energy companies, or accurately calculating greenhouse gas emissions from household energy bill data, a methodology was developed to estimate greenhouse gas emission reductions associated with actions undertaken in households, using a deeming system. In this methodology, a small number of households were surveyed for any major actions that would lead to reduce greenhouse gas emissions, and these actions were assigned a greenhouse gas emissions reduction figure calculated using the federal government's *National Greenhouse Factors*<sup>1</sup>

For the 19 households completing the survey, CO<sub>2</sub> equivalents per year were deemed to have been reduced by an average of 5,226 kg of CO<sub>2</sub> (e) per year per household. This does not include reductions resulting from households signing up to Green Power, which (depending on percentage Green Power agreed to) can reduce CO<sub>2</sub> (e) from electricity usage to zero. The average CO<sub>2</sub> (e) production per household in Victoria has recently been estimated to be 10.6 tonne (based on the NAGA TZNE report)<sup>2</sup>. As a consequence, the reduction in CO<sub>2</sub> (e) by these households equates to a saving of 49% per year, or 39% per cent more than the 10% reduction target for households in Victoria by 2010.

<sup>1</sup> <http://www.climatechange.gov.au/publications/greenhouse-actg/national-greenhouse-factors.aspx>

<sup>2</sup> <http://www.naga.org.au/naga/project/151/>

**Energy Actions:** There were major changes in behaviour related to reducing energy consumption and greenhouse gas emissions during the project. The most significant change was the uptake of green power (for a small additional cost to households, electricity is produced from renewable resources). The proportion of households signing up to green power more than doubled, increasing from 21% to 57%. The majority of these (80%) signed up to 100% green power. At the start of the project, 79% of households had at least one low wattage light bulb in their house, and by the end of the project all households had installed some. In addition, the overall number of low watt light bulbs in households increased; the average number of low watt globes increased from 4.6 to 7.2. Households turning off stand-by power almost doubled (to 71%) and additions to hot water pipe insulation more than doubled to 50%. There were major increases in households installing solar hot water systems (28%) and solar electricity (37%) – these increases were from a low initial base. There were also major increases in household insulation (68%). For some communities in the mid-northern street groups, the biggest nominated increase was in the 'efficient car/no car' category. It is possible, even likely, that fuel prices, construction of bicycle paths to and in the northern suburbs, the introduction of a Flexi Car service to the area, and the considerable publicity given in the past two years to transport issues and options in Melbourne, may have contributed to lower car use decisions in these households.

### Biodiversity and Home Gardening

There was an increase of 320% in households that included local native plants in their gardens. Some street groups were also involved in major native vegetation plantings and/or restorations in their region. There was also a major increase in the percentage of households with a vegetable garden (75%). Also, worm farm use increased in a major way (135%). Another cross-over action households took was to install water-wise gardens (an increase of 240%) although this may have been prompted in part by the ongoing drought and water restrictions.

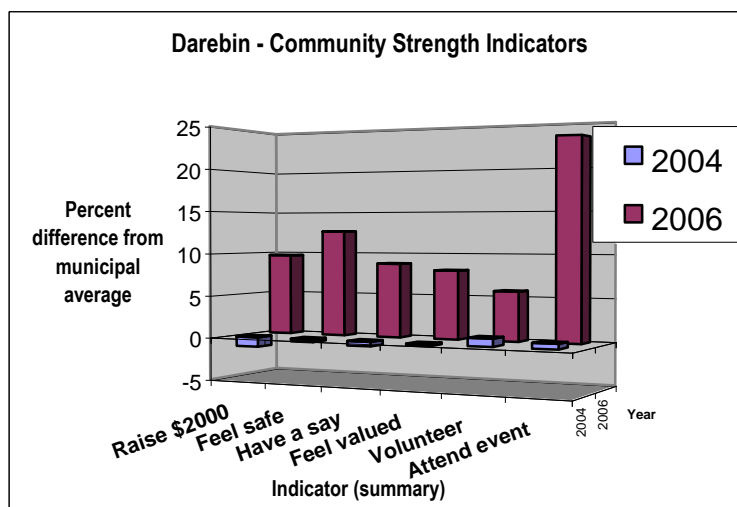


### Community Strengthening Can Enhance Environmental Outcomes – And Visa-Versa

Taken together, the changes described above constituted major and pervasive reductions in environmental impacts, and demonstrate that community action for sustainability based at the street level is feasible and effective. In addition, the Sustainability St project was able to reach a proportion of people who might not otherwise become involved in community action for sustainability. In parallel with changes to environmental behaviour, Sustainability St groups reported major changes in their sense of community connection and community strength.

In the years immediately preceding the NAGA Sustainability Street project, the Department of Victorian Communities set up a process to monitor and report on the strength of community confidence, resilience and action, across each of the municipalities in the State of Victoria. The definition of 'community strength' and indicators to report on this were outlined in principle in DVC (2005a). Briefly, a strong community was defined as:

*“one constituted by people that understand its social, economic and environmental assets and are working towards sustainability.”*



For Sustainability St groups, selected state government community strength indicators increased by 5-10% above the municipal average. Participants also reported that their sense of community connectedness increased by 15-20% over the life of the project. Both environmental and social changes were due to multiplicity of factors, but project participants consistently reported that at least half of change was attributable to the Sustainability St project, working in combination with other influences.

Community connectedness and environmental action through Sustainability St are closely intertwined. Sustainability St draws on and enacts the combination of factors identified by learning and behaviour change research that go beyond public relations, or attempts at manipulative, market-based approaches, to effectively build capacity for, and trigger voluntary, long-lasting and on-going change. Elements of this approach include: accessible information, trusted sources, easy/convenient to implement actions, encouragement and positive feedback from others, building identity through peer recognition, and ongoing practical and emotional support for further change. To some extent the Sustainability St approach draws on existing capacity for social connections in local communities.



Butler Grove residents at their first formal meeting – this group has agreed to assist the evaluation team pilot and test evaluation tools

At base, this intertwining of environmental outcomes and community strengthening is not surprising, because the purpose of sustainability is to foster environmental and community action at a local street and neighbourhood level. But the extent of the mutuality between these two has become clearer as a result of the evaluation processes, and in comparing successes and limitations across streets.

Some of the intertwining between community and environment comes from a shared interest in the street and what street and neighbourhood relations provide. Some of these are already well known from the discipline of community development: e.g. safety, health (mental and physical), knowledge resource sharing, reciprocal gifting (materials & time) enjoyment of company, reducing conflict at times of disagreement, etc. Some are adaptations of these to the contexts of environmental resource management: e.g. learning about practical environmental solutions, getting assistance from those who have the necessary skills, or being directed to those who do, financial advantages of group buying or mounting a case for neighbourhood action to the local council, etc. Others are more specific to development of community sustainability capacities and actions. These include:

1. encouragement and optimism to offset the feelings of being swamped by the magnitude of the problem;
2. encouragement to contribute towards making a difference – including triggers and reminders to actually make the change;
3. overcoming barriers to technical knowledge and practical expertise, in ways that are supportive, and within the language and prior knowledge of those seeking the change;
4. continuing on to the next step, after some initial level of change has been achieved, through example, encouragement and ongoing reminders built into social interactions and enjoyment;

To expand the scope and influence of programs like Sustainability St requires finding ways to connect groups, and draw on their expertise, in ways that do not require big increases in participant time or effort. This project has made advances in ways to evaluate community sustainability programs, and how to document the interactions between community connection and achievement of environmental outcomes. Evaluation of energy usage and greenhouse gas emissions used a deeming approach. Issues of how best to measure, document and understand domestic changes in water and energy are ongoing, as is the question of how best to tease out the various influences that lead to learning and change, and the contribution of any individual project or other significant influence.

There is power in the collaborative and transformative approaches of Sustainability St. These draw on the meaningful and motivational relationships that come through people making human connections with others in their local neighbourhood, to find or realize shared values, to exchange expertise and support, and to be inspirational and encouraging towards one another ... and to embody the notion that acting for the environment is a normal part of community.