



Toward Zero Annual Progress Report  
Year 3 – 2009/2010

Prepared by the Sustainability Department  
November 2010



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# What is Toward Zero?

In 2007, Port Phillip City Council introduced a revised environmental agenda and approach for the municipality and council operations through its umbrella environment strategy, *Toward Zero Sustainable Environment Strategy*.

Toward Zero outlines nine key sustainability challenges for the City of Port Phillip, with targets and a 2020 timeline for some key challenges as follows.

## COUNCIL

- o Zero greenhouse gas emissions
- o 70% reduction in potable water use
- o 80% reduction in waste to landfill
- o 70% reduction in the use of unsustainable products.

## COMMUNITY

- o 50% reduction in community greenhouse gas emissions
- o 50% reduction in community potable water use
- o 75% reduction in community waste to landfill.

## What is TZ trying to achieve by 2012?

### COUNCIL

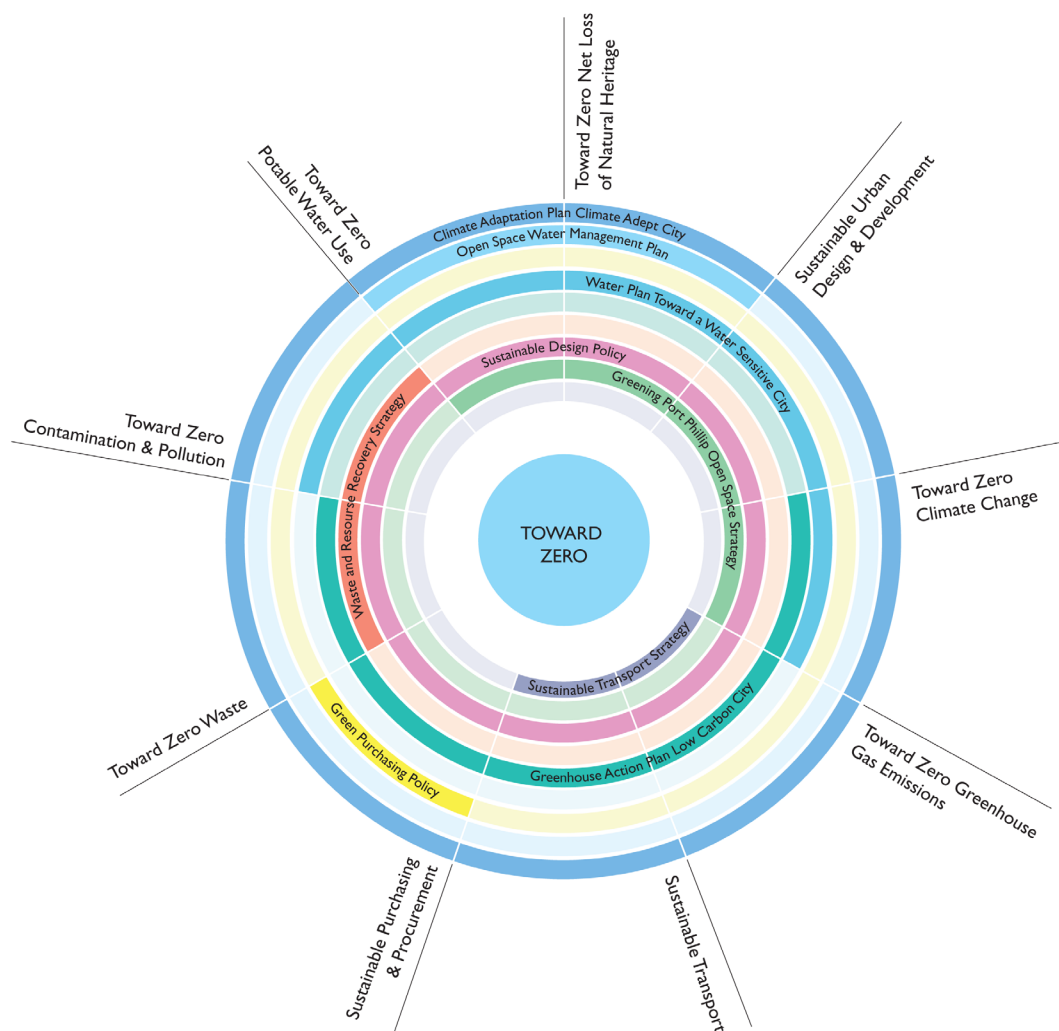
- o Significantly increase energy and water efficiency and reduce waste to landfill through retrofits and behaviour change in key staff, asset managers and contractors
- o Significantly increase sustainable purchasing and procurement through additional/new specifications in key purchasing decisions, contracts and tenders
- o Introduce, pilot and implement key formats for onsite alternative energy and water collection, storage and reuse across key council use areas.

### COMMUNITY

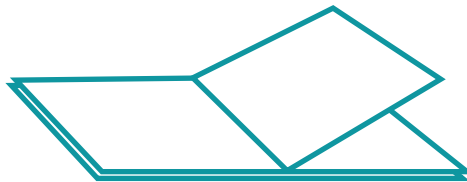
- o Significantly increase the number of local community sustainability actions through –
- o Progressive increase in community participation in local environment programs. For example, Council's community environment programs
- o New formats for engaging community in local action. For example, introducing Local Leaders in Sustainability mentoring program in 2009 and Local Action Planning sessions in 2010 to develop and implement local street/block-based action plans.

## What does this Annual Progress Report aim to provide?

- o At-a-glance progress on key targets since the implementation of Toward Zero three years ago.
- o At-a-glance progress over 2009/10 on key sustainability targets for council operations.
- o An overview of what has influenced reductions and increases against key targets in the last year.
- o At-a-glance progress over 2009/10 on aspirational community targets for emissions, water and waste.



Relationship between 9 sustainability challenges



## How to read this report?

Council's progress to Toward Zero targets, together with the actions that contributed to this progress, are presented under the following key sections:

- o Council Emissions
- o Council Water Management
- o Council Waste
- o Sustainable Transport
- o Community Emissions, Water and Waste.

The indicators provided in each key section demonstrate progress against key targets and action areas to achieve these targets. Depending on the action, indicators carry a negative (-) progress indicator – for instance, progress in reducing emissions uses a negative (-). Generally, they indicate progress since 2006/07 (Year 1 of Toward Zero) and progress in the last year (2009/10).

In addition, a range of case studies are presented throughout to highlight some of the key initiatives that have been delivered over 2009/10.

# Toward Zero – An Overview of Progress in Year 3

In 2009/10, the third year of implementation of Toward Zero, Council continued to reduce its greenhouse gas emissions and water use. Overall municipal waste to landfill remained reasonably static, however we made significant progress in improving our ability to report progress against sustainable transport goals.

Our community participation levels have increased by 489% (to 1,414 participants in 2009/10), the result of a dramatic increase in the range and effect of community environment programs offered by Council.  
(NOTE: Participation in the Showerhead Xchange program over the last 3 years is not included here).

These outcomes are summarised in the table below.

## Progress to Key Toward Zero Targets

### COUNCIL

Total Greenhouse Gas Emissions Reduction (Reduced 10.7% from 2008/09)	-28.2%
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2020 TARGET- Zero net emissions from Council operations

Total Potable Water Use Reduction (Reduced 6% from 2008/2009)	-73.0%
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2020 TARGET- 70% reduction in potable water use

Total Waste Reduction to Landfill	N/A
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2020 TARGET- 80% reduction in waste to landfill

### COMMUNITY

Overall Greenhouse Gas Emissions Reduction	1.0%
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2020 TARGET - 50% reduction in community green house emissions

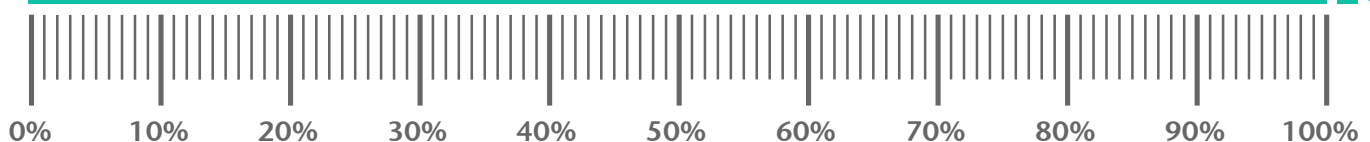
Overall Water Use Reduction	-19.0%
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2020 TARGET - 50% reduction in community water use

Overall Community Waste Reduction to Landfill	-40.5%
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2020 TARGET - 75% reduction in community waste to landfill

Increase in Community Action through Council Programs - (From 240 participants pa to 1,414 pa)	489%
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## Key Toward Zero Policy Initiatives

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Two key policy initiatives undertaken in 2009/10 include the development of, and consultation on, the *Water Plan* and *Climate Adaptation Plan*.

The *Water Plan* includes the development of more specific targets for integrated water management. These targets are presented in this report and will be reported in full in 2011/12.

The *Climate Adaptation Plan* includes the development of actions in five key areas – flood management, beach protection, climate resilient buildings, city climate and access and safety. No targets have been set in this area as yet, with the focus for the next two years on completing mapping & modelling to determine new design specifications and structural/non structural solutions.

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### CASE STUDY

#### ► Council's *Climate Conversations*: a new format for community engagement

In March 2010, Council commenced the delivery of a range of events under the banner of *Climate Conversations*. These events were focused on:

- Consulting with our community on two key Council environment plans: the *Climate Adaptation Plan* and *Water Plan*.
- Facilitating a *Local Action Planning* process to assist enthusiastic community members to develop their own actions to address the impacts of climate change.

Consultation comprised two comprehensive workshops, including:

- A formal consultation event at the St Kilda Town Hall, with approximately 80 attendees
- An informal 'drop-in' style event on a tram on the Middle Park foreshore, with approximately 80 drop in attendees.

The *Local Action Planning* process comprised six local action planning sessions commencing in May and concluding in November 2010.

To date, council has engaged with over 450 community members in preparing for *Climate Conversations*, over 160 participants through the primary consultation, and over 100 participants and 20 groups in the local action planning process.



# Council's Greenhouse Gas Emissions

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In 2009/10 total greenhouse gas emissions for council operations were 11,733 tonnes CO<sub>2</sub>-e, compared to 16,333 tonnes in 1996/97. Council has achieved a 28.2% reduction in total emissions to date, from the baseline year of 1996. In Year 3 of Toward Zero (2009/10), Council achieved a 10.7% reduction in its total emissions from the previous year. This was achieved largely with an increase in GreenPower purchase for both buildings and streetlights to 25%, and the initial rollout of a switchover to more energy efficient streetlights.



## Methodology

Uses Australian Greenhouse Protocol as the standard. Council's data is independently audited and verified; in 2009/10 this was undertaken by Environ Pty Ltd.

### Key Areas for Action in 2009/10



Emissions from building energy use (electricity and gas)

1.9 %

Abate emissions through energy efficiency retrofits (estimated)

-1.0 %

Abate emissions through GreenPower and on-site renewables

-10.8 %



Abate emissions through energy efficiency retrofits

-1.7 %

Abate emissions through GreenPower and on-site renewables

-11.0 %



Reduce emissions from fuel use

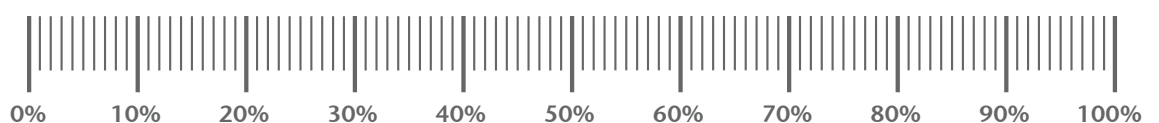
0.1 %

Reduce fleet size

-8.3 %

Take up of non car options (since 2007/08)

33.0 %

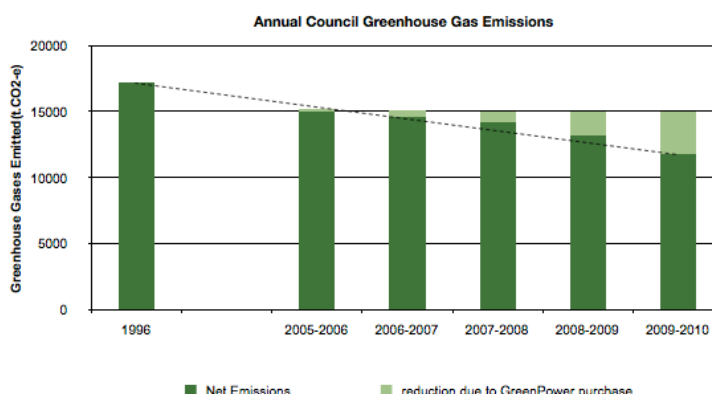


## Analysis of Key Action Areas

In 2009/10, Council's total greenhouse gas emissions rose by 0.3% (from 14,963 to 15,013 t.CO<sub>2</sub>-e).

The following actions contributed to council's reductions or increase in emissions over the year.

- Rollout of the first year of a five-year street lighting retrofit with more energy-efficient lights resulted in a 1.7% decrease in total emissions.
- However, these reductions (from street lighting retrofits) were entirely offset by an increase in building emissions equivalent to a 1.9% increase in total emissions. Building emissions increased primarily due to the bringing online of the refurbished Betty Day Centre, ongoing heating and cooling issues at St Kilda Town Hall and a need to hire large numbers of commercial refrigeration units during the construction of the Veggie Lane Roof at South Melbourne Market.
- Council fleet fuel consumption reported an overall increase in 2009/10, due to the incorporation of council truck fuel consumption for the first time.
- As a result, GreenPower purchase accounted for all of the decrease in Council's greenhouse gas emissions for 2009/10.



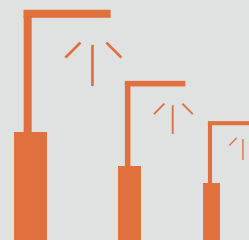
### Buildings Actions

Council initiated the rollout of energy efficiency retrofits in five of its main buildings, aimed to achieve a projected reduction in emissions of 152 t.CO<sub>2</sub>-e, or 2.3% reduction in building emissions (1.15% of total council emissions). However, since the program was only implemented at the end of 2009/10, the anticipated emissions reductions will be realised in the following year.



### Street lighting Actions

Over 1000 (11.25%) of Council's local street lights were retrofitted to energy efficient fluorescent lights, saving 50% of the energy consumed in those lights. Council will continue lighting changeovers over the next three years (a total of 45% of lights) to achieve a 13.6% reduction in total council emissions by 2013/14.



### Fleet Actions

Council's regular vehicle fleet size continues to reduce largely because of an increase in the uptake of non-car options by senior staff eligible for a vehicle in their contract. Furthermore, as cars are rolled over these are replaced with vehicles that are smaller and more fuel efficient.



# Council's Water Management



In 2009/10, total water use for council operations were 141 ML (megalitres) compared to 150 ML in the previous year and 518 ML in 2000/01 (base year). Council has continued to maintain over 70% reduction in total water use from the baseline year of 2000/01. In Year 3 of Toward Zero (2009/10), Council achieved a 6% reduction in its total water use from the previous year. This was achieved largely through ongoing water efficiency actions and alternative water harvesting at some sites. Increased rainfall has also seen less demand for water over the year, and led to an easing of water use restrictions.

Council will focus on implementing alternative water harvesting opportunities in order to maintain its current water use reduction achievements. This will not generally result in a further reduction in potable water use; rather, an increase in alternative water sources to ensure the liveability of open space and that the potable water use reduction target achieved is sustainable in the longer term.

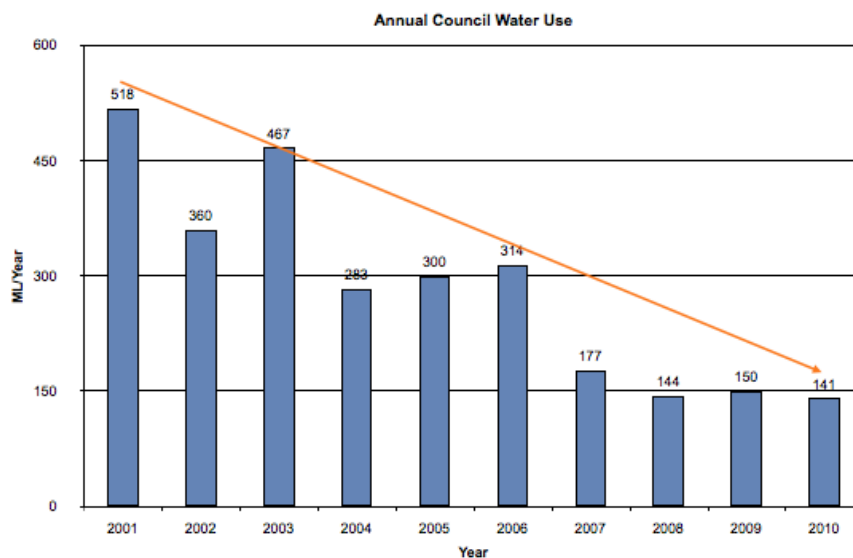
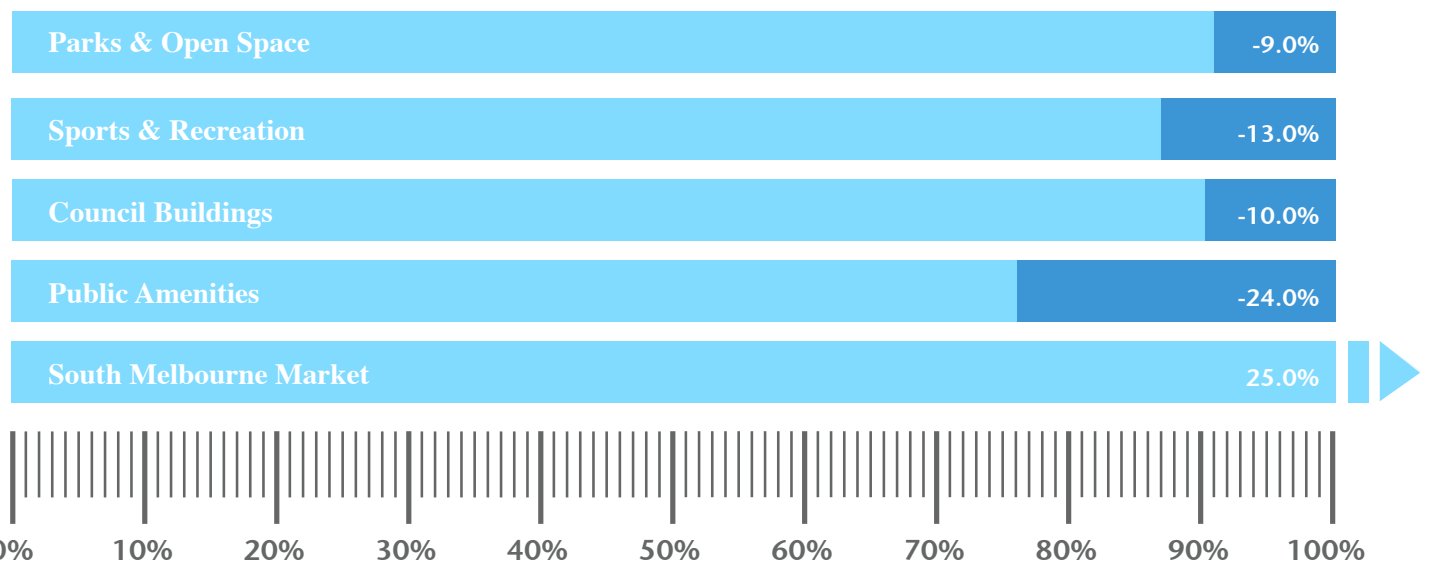
## Methodology

Water use data is provided quarterly by South East Water, and has been collected since 1998/99. Data for 2010/11 was independently audited and verified by Environ Pty Ltd. Project specific benefits are estimated utilising MUSIC, a specialist software used to model urban stormwater management schemes.

## Key Reductions in 2009/10

(% decrease/increase from previous year)

The following reductions relate to each key water using area within council:



## Key Areas For Action in 2009/10

Actions to reduce water use and improve water quality are tracked against Council's five key strategies for integrated water management as detailed in Council's *Water Plan*.

### Continue to implement water efficiency for parks, gardens and facilities

- o Irrigation Upgrades at Alma Park, Peanut Farm Reserve, Elwood Park, JL Murphy Reserve and St Vincent Gardens
- o Water efficiency retrofits at five council facilities.

GOOD  
PROGRESS

### Increase application of WSUD in roads, drainage and streetscape works

- o Implementation of raingardens at Coventry St and Carlisle St, with the support of Melbourne Water
- o Implementation of passive irrigation systems of nature strips and trees at St Kilda Rd, Lindsay Avenue & Clarke Reserve
- o Anticipated reductions from these projects per year: total suspended solids: 2860 kg, total phosphorous: 4.5 Kg, total nitrogen: 6.9 kg.

SOME  
PROGRESS

### Implement Stormwater harvesting for open space

- o Six stormwater harvesting assessments completed including wetlands for JL Murphy Reserve and Elwood Park/Elsternwick Park, and stormwater treatment and capture at O'Donnell Gardens and St Kilda Botanical Gardens
- o These assessments demonstrate that implementation of the above projects can deliver to council's alternative water source targets for 2020.

GOOD  
PROGRESS

### Facilitate application of WSUD by the community

- o Development of C78 Stormwater Management (WSUD) Local Planning Policy Amendment
- o Delivery of a range of council and stakeholder led community programs addressing water management.

SOME  
PROGRESS

### Institutionalise WSUD within council

- o Development of Council's *Water Plan* and *Open Space Water Management Plan*  
Adoption of Council's WSUD Guidelines
- o Participation in the national research program *Cities as Water Supply Catchments* led by the Centre for Water Sensitive Cities.

GOOD  
PROGRESS

### ► A new stormwater harvesting partnership

In 2009/10, Council completed a concept design in partnership with the City of Bayside for the development of a wetland in Elsternwick Park that could provide a total of 100 ML for irrigation per year of which 30 ML would be made available to Elwood Park. This project has been awarded \$920,000 in funding from the Commonwealth Government through the National Urban Water and Desalination Plan. This project was one of 21 projects funded as part of a joint application put forward by a consortia of 16 eastern and south eastern metropolitan municipalities. The project will be delivered over 2010/11-2012/13.





## Improving Council Water Policy

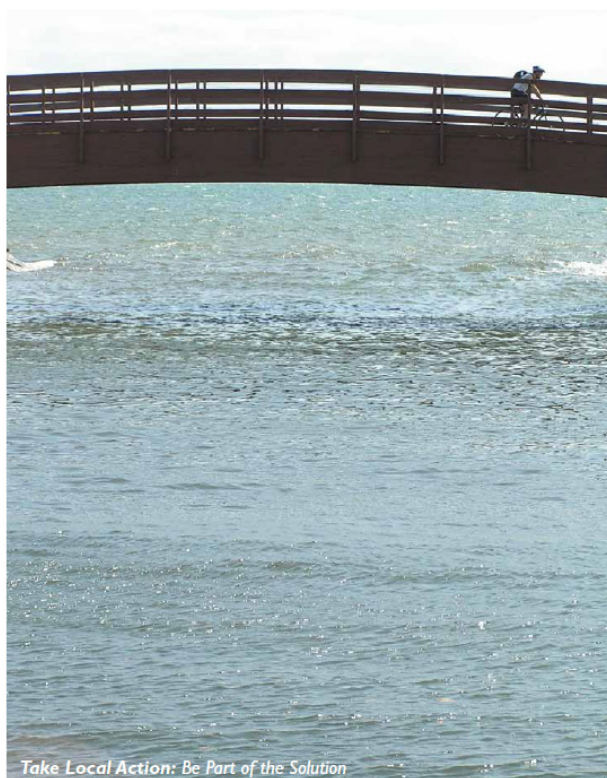
In 2009/10, Council completed its *Water Plan* with new integrated water management targets for 2020 as follows:

- o Supply from alternative water sources: 80 ML or 50% of ideal irrigation demand
- o Stormwater quality reductions in mean annual pollutants generated by the municipality:
  - 19% reduction in total suspended solids
  - 15% reduction in total phosphorous
  - 10% reduction in total nitrogen

The Water Plan was adopted on 27 September 2010. Consequently progress to these targets will be tracked for 2010/11 and will be reported on in the next *Toward Zero* Annual Report as part of Year 1 of the implementation of the Water Plan.

Another key achievement in the development of council water policy was the completion of the C78 Stormwater Management (WSUD) Local Planning Policy Amendment. The objective of the amendment is to improve the quality of stormwater entering our bays and waterways. This amendment was prepared by the Inner Melbourne Action Plan councils, comprising the cities of Stonnington, Yarra, Melbourne and Port Phillip and was successfully finalised and put on exhibition in 2009/10. This process has now been completed and Council is currently awaiting approval for the Minister to incorporate the Local Planning Policy into the Port Phillip Planning Scheme.

### WATER PLAN TOWARD A WATER SENSITIVE CITY



# Council's Waste



The Auditing of Council's internal waste production has always been a difficult task due to the collection of waste and recycling streams together with residential recycling and litter streams. This system makes it difficult to measure accurate tonnage of waste produced from Council Buildings. The issue of recording accurate weight/volume statistics will be addressed by a new monthly auditing system currently under trial.





## Methodology

Estimated from occasional staff audits. Proposed Methodology for Yr 4 (2010/11) Council waste data will be gathered via two separate monthly auditing processes – waste breakdown audits conducted by cleaning contractors GJK, and volume audits carried out by an independent auditor with key council staff.

## Key Areas for Action in 2009/10

(% decrease/increase from previous year)

Total Waste Reduction to Landfill

N/A

Total Waste (since 2000/01 and includes depot collections)

N/A

Total % Diversion from Landfill (recycling, compost)

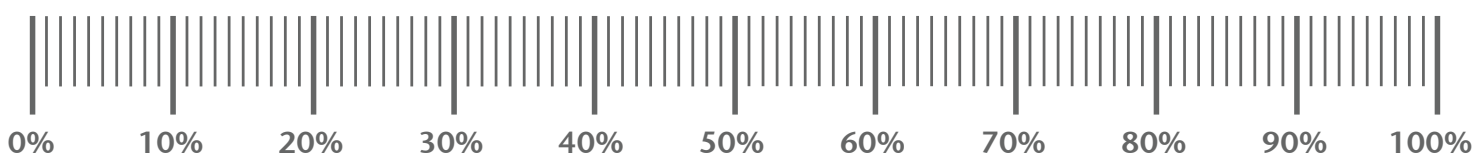
N/A

Reduction in Total Waste

N/A

Increase in Diverted Waste (increase in recycling, compost)

N/A

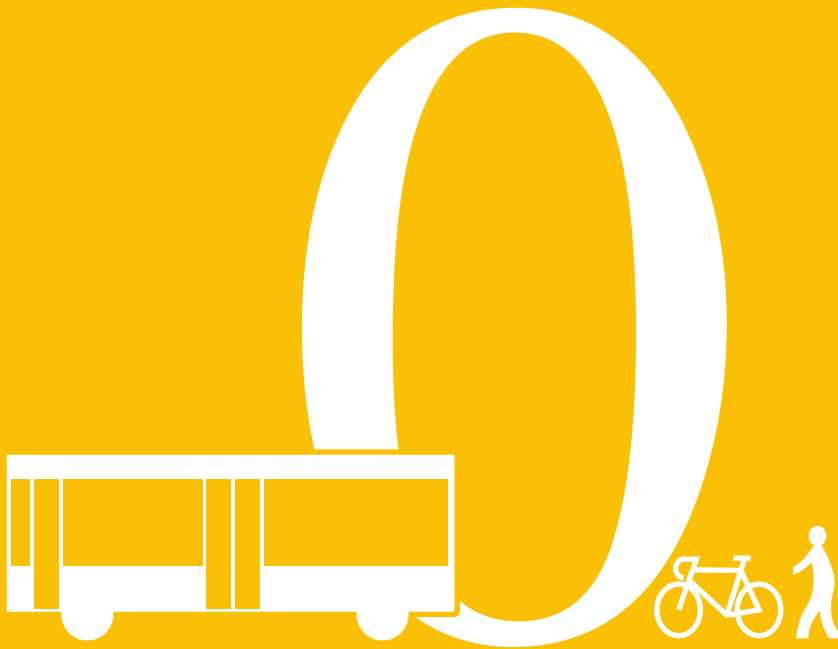


## Analysis of Key Action Areas

Whilst auditing of specific waste tonnage has been an issue in the past, recording the diversion rate, or staff's ability to separate waste correctly, has been well documented. The St Kilda Town Hall is now being audited on a monthly basis with other locations to be audited yearly. Results from the October 2010 audit are very encouraging with 77% of waste material by weight being diverted from landfill. This represent a 31 % increase in waste diverted from landfill and can be attributed primarily to the improvement and increased use of Council's organic recycling system at the St. Kilda Town Hall.

Council will shortly commence trialling a more comprehensive waste auditing system that will consider waste audits for typical building classes across council operations, audits by weight and volume rather than by sight, and support this with an independent audit and verification of Council waste.

# Council's Sustainable Transport Program



The Sustainable Transport program governs Council's approach and actions toward sustainable transport in the municipality, specifically in the following areas: walking, cycling, public transport, parking and road safety.

## Key Areas For Action in 2009/10

In 2009/10, a number of actions have been implemented to deliver priority on sustainable transport modes. Furthermore, data available to support each of these challenges has improved significantly, allowing council to commence regular tracking in each of the following areas:

### Cycling

- o Increased expenditure on cycling infrastructure (\$465,000 in 2009/10) to ensure council is delivering priority on sustainable transport modes.
- o Installation of 1830 metres of new bike lanes/ infrastructure, specifically on Jacka Blvd between Pier Rd, Shakespeare Grove, Marine Pde and Dickens St, to encourage increased cycling in the municipality.

GOOD  
PROGRESS

### Walking

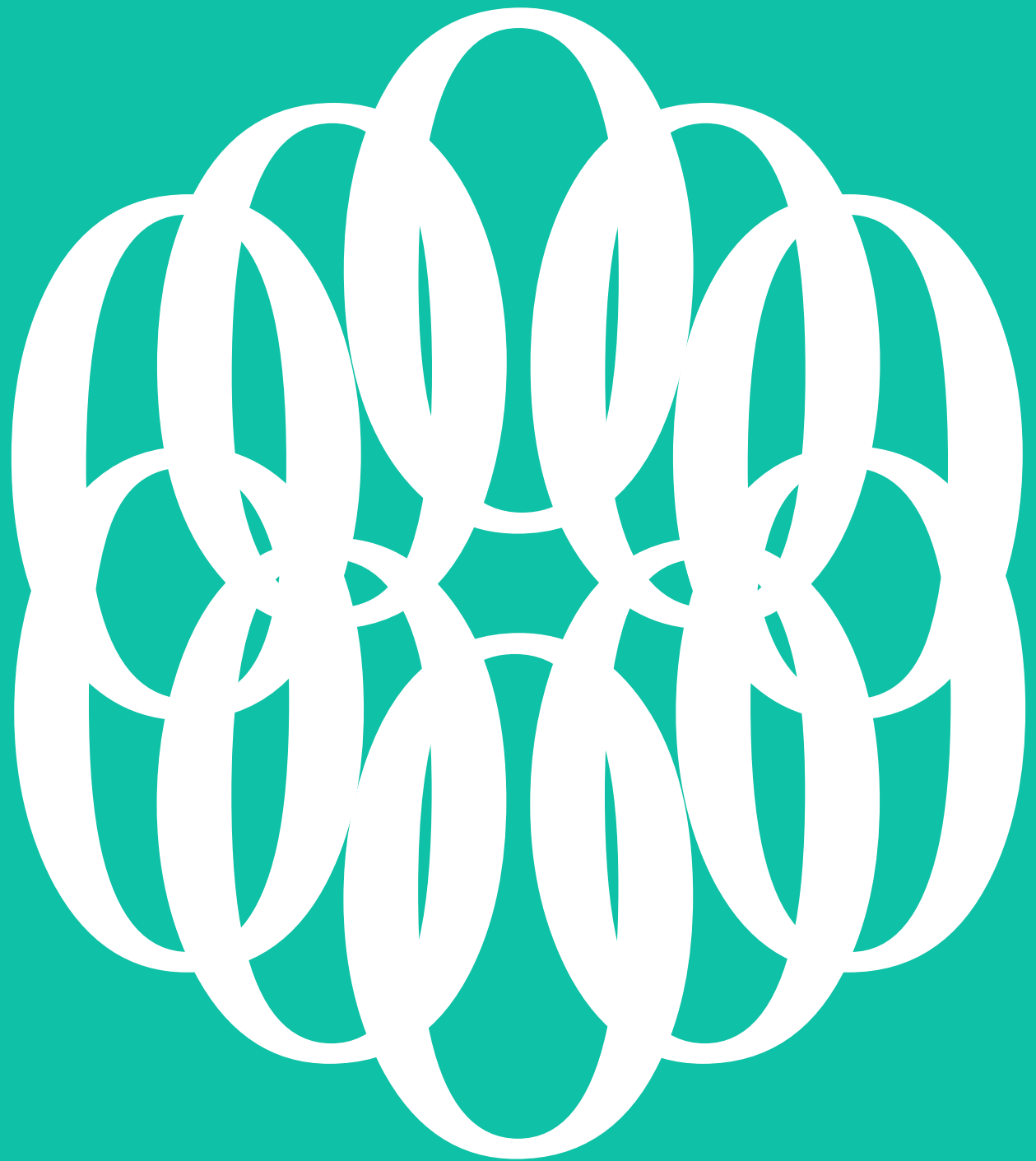
- o Increased expenditure on improving walkability (\$585,000 in 2009/10)
- o Delivering enhanced pedestrian priority at traffic signals: Completion of Greenlight project to provide increased pedestrian 'green man' time at 5 traffic signal sites in Port Phillip
- o Installation of 7 painted raised pavements across side streets and 2 raised pavement zebra crossings to improve safety and walkability.
- o Increase in the number of lower speed limit streets/ local areas to improve safety and walkability. 40kmph speed limit implemented in Carlisle St, Barkly St and Clarendon St

GOOD  
PROGRESS

### Raising the profile of using Public Transport

- o Promotion of events at council and in community such as Walktober, Ride2School day and Ride2Work day.
- o 50% increase in mode shift to bike riding as measured through Super Tuesday counts undertaken in March each year.

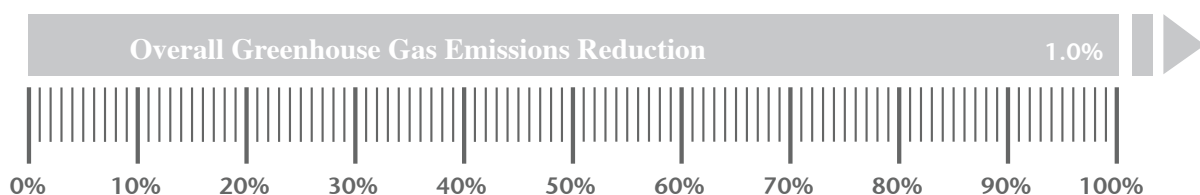
SOME  
PROGRESS



# **Community Greenhouse Gas Emissions, Water Use and Waste**

## Community Greenhouse Gas Emissions 2009/2010:

2020 TARGET - 50% reduction in community greenhouse gas emissions

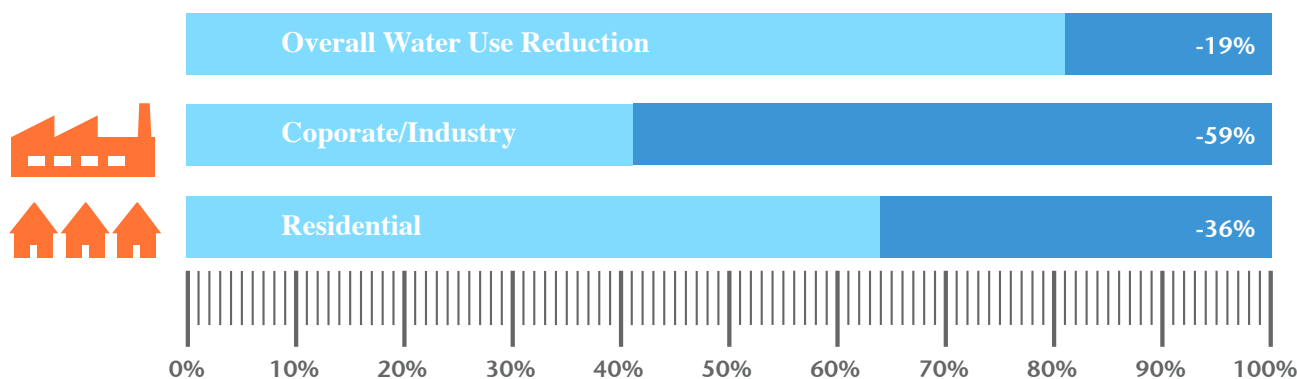


Overall community greenhouse gas emissions from electricity, gas and transport use is estimated to have risen by almost 1% in 2009/10, to 1,929,335 tonnes Co2-e.

No analysis is being provided on this estimate as it is extrapolated from 2006/07 energy data from energy retailers, and ABS-based transport data. Council is exploring approaches to gain a more timely, comprehensive and locally relevant community emissions inventory in the coming year.

## Community Water Use 2009/2010:

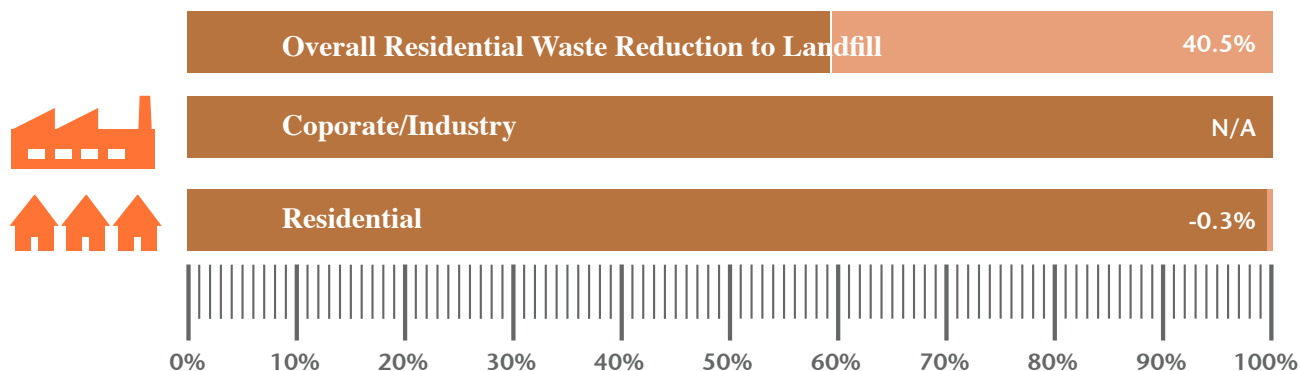
2020 TARGET - 50% reduction in community water use



The community used 8,345 ML of water in 2009/10, an increase of 0.5% on 2008/09. There has been a 36% reduction in water used per household and a 59% on water used per business since 2000/01. Water use has decreased or remained steady across all postcodes except for Southbank and South Melbourne where water use has increased by 21% and 8% respectively. The community has achieved reasonable progress to delivering to the state government's Target 155, with water use down from 231 L/per person/per day in 2000/01 to 175 L/per person/per day in 2009/10, a decrease of 25%.

## Community Waste:

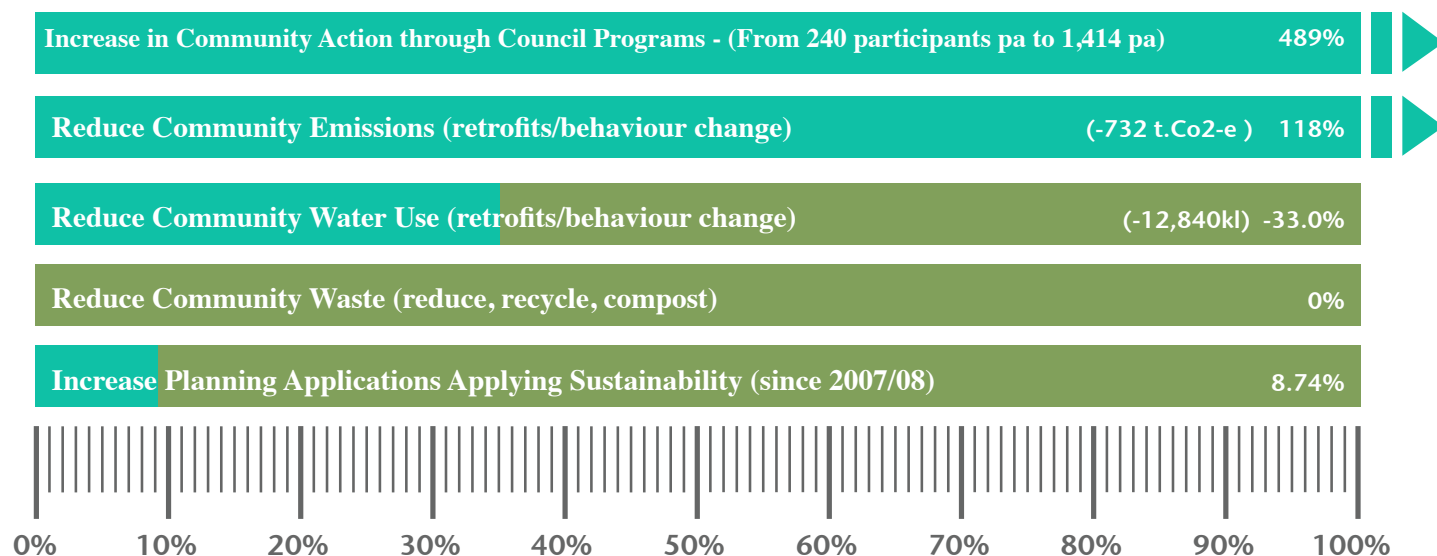
2020 TARGET - 75% community waste diverted from landfill



In 2009/10 Port Phillip disposed of 20,104 tonnes of waste to landfill and recycled over 13,696 tonnes via kerbside recycling and the Resource Recovery Centre. Community Waste diversion levels have remained constant compared to 2008/09, with waste ending up in landfill increasing by 1.73 %. These figures are impacted by the population in Port Phillip increasing at around 2% per annum and the majority of this taking place in multi-unit dwellings, where it is harder to achieve good recycling rates.

## Key Areas for Action in 2009/10

(% decrease/increase from previous year)



Our community environment programs are designed to engage the community to take action on climate change. The programs provide a mix of both direct reduction in environmental impact and building community resilience.

In 2009/10, Council has grown the number of program participants by a further 668 (to 1,414 participants) targeting householders and businesses with direct retrofit or behaviour change action. This has resulted in greater measurable reductions attributable to our *Toward Zero* community targets. NOTE: This year's community participation rates do not include Active Transport participants (for instance, Walking Schoolbus) or Showerhead Xchange participants, due to a lack of data availability.

We have also increased the number of participants in our programs building skills in the community to adapt to climate change, to develop new community projects and grow long-term engagement on sustainability.

## Increase in Community Action

Participation in our community programs has increased from 240 in 2008/09 to 1,414 in the past year. The 'Climate Challenge 1000' program has retrofitted 346 households with energy and saving fittings. Our 'SoCS & Blocks' program has also provided sustainability audits to 10 apartment blocks with 282 apartments.

Individual actions to reduce greenhouse emissions, water and waste have increased by 34%.



## Reduction in Community Emissions and Water Use

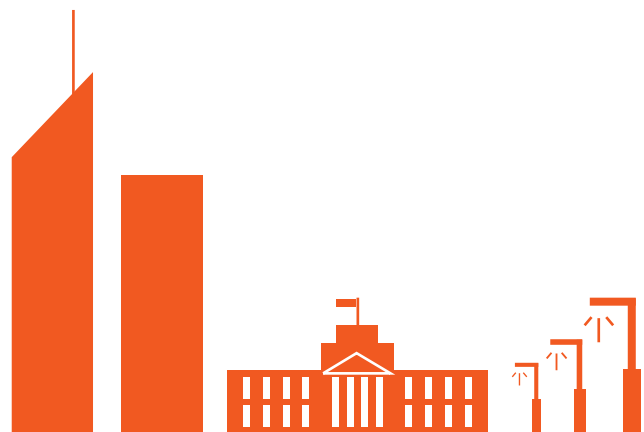
The focus on energy saving retrofit actions, which deliver direct and measurable greenhouse reductions, has reduced community emissions from programs by 118% (732tCo<sub>2</sub>-e from 336tCo<sub>2</sub>-e in 08/09) from the previous year. However, water reductions from our programs have been 33% less than the previous year (12,840kl in 09/10, 19,279kl in 08/09). This is shown by a decrease in the Showerhead Exchange program, with 598 installations, down from 885 in 2008/09. Our work has been supported by delivery of programs such as 'Carbon Cut' delivered by Port Phillip EcoCentre.

## Reduction in Community Waste

Our programs have not targeted waste reduction as the former 'Sustainable Living At Home' program delivered in previous years.

## Increase in Planning applications

Requirements for ESD in planning are currently voluntary but are strongly encouraged by council. The Sustainable Design Assessment in the Planning Process (SDAPP) has been in place at the City of Port Phillip since 2003. Participation in the SDAPP process has risen gradually from 7.95% in 2003 to 47.6% in 2010 for building related planning applications, with an increase of 8.74% in 2009/10.



## *Methodology*

Community water data is provided annually by South East Water and assessed by type (residential, business) and postcode.

Community greenhouse gas emissions and water use reductions achieved through retrofits are calculated on the basis of conservative estimates of likely reductions achieved, utilising a range of assumptions. These calculations are undertaken using best available carbon accounting methodology and assumptions consistent with Victorian Government programs.

## CASE STUDY

### ► SOC's and Blocks

The SOCS & Blocks program (Sustainable Owner's Corporations and Apartment Blocks) commenced in 2009/10 as a pilot program to assist the owners corporations of apartment blocks reduce the environmental impacts associated with the common services in the block. Ten apartment blocks participated in this pilot, with each participating block committed to implementing the major recommendations of a professional sustainability audit of the block, and to sharing with others the lessons they have learned. The audits found that compared to a house, the average apartment block uses 30% more energy to maintain common area facilities and services.

The key recommendations of the audits related to reducing energy consumption for common area lighting and central hot water, as well as increasing levels of recycling and the take-up of sustainable transport modes. The audits identified energy saving opportunities that could reduce common area energy consumption by 15-65% across each of the participating blocks, consequently reducing GHG emissions by a similar amount.

SOCs and Blocks is being delivered to 20 buildings in 2010/11, with the learnings of the pilot phase used to refine program delivery and identify key areas of focus.





## ► Climate Challenge 1000



Climate Challenge 1000 (CC1000) is an energy and water saving retrofit program that targets householders. CC1000 invites local residents to become one of 1000 Port Phillip homes to be retrofitted with simple energy and water saving fixtures to the value of between \$150-200. In return, participant households commit to demonstrable purchase of accredited GreenPower.

This year, CC1000 has resulted in 612 tonnes of direct carbon reduction - an average of 1.8 tonnes per household. Additionally 2,743 kilolitres of water saving action has resulted from the 346 participating households.

CC1000 includes the capacity to retrofit 150 elderly or low income homes (with no requirement for GreenPower purchase) as a social equity component of our program. In 2010/11, this program will aim to retrofit a further 500 households, nearing the target of 1000 in total by June 2011.

## ► Community Leadership Training

Council is building community resilience by developing leaders in our community. Our Community Leadership Training program focuses on developing the capacities of residents to foster and implement further measurable local sustainability actions. In Spring 2009, 20 local participants learnt skills to help engage others in active community projects that inspire and generate further change.

It was developed in response to the need for more drivers of community led sustainability projects, as opposed to more education and information. Council recognises that to achieve our Toward Zero Community Emissions targets for addressing climate change, we need to engage the community effectively to develop new community projects and grow long-term engagement on sustainability.



*Designed by*

