

# Campus network of recycling clusters.



- Serviced daily by RFM
- Aim to increase awareness of Zero waste and to improve understanding & participation.
- Utilise the New Zealand recycling symbols

# Green Bike Trust (GBT)

→ Green Hub



- Partnership & synergy with Massey and the PNCC.
- Free bikes / repairs for students
- Employment support.
- Cycle activities.
- Zero Waste R&D

## Bikes boil over



# "World Famous in Palmy" A Brief History and Highlights of Green Bike Trust



- ### Community based
- Many forms of assistance needed
  - Owners of old bikes
  - Other needed support
  - Workshop facilities and storage space
  - Someone with
  - Willing support (financial and personal) and operating support
  - Sponsorship, grants, donations, (public services)



## What is a GREEN BIKE?

A free bike made from recycled materials for community use.

### "10 Years of Community Service"

**Aims to provide:**

- Employment training
- Community based initiatives
- A sustainable source of transport
- Social & Environmental benefits



### Community benefits

- Recreational opportunities for all ages
- Healthy exercise
- Social activities
- A community enhancing initiative
- The more involvement the better it works



*"Over 1000 Bicycles Recycled and Given Away for Free"*

City could get close to zero waste in 10 years

### Employment & Training

- Phoenix Supported Employment Service
- People with disabilities
- Long Term Unemployed
- Work experience
- Ongoing Training



### Successes include:

- Survival and expansion
- People placed in permanent paid employment
- Employment for long term unemployed
- 40,000 of bikes recycled
- Civic pride
- Advocacy for city cyclists
- Creative use of byproducts
- Providing a model for other communities
- Bikes for Good Times

## PEDAL POWER

### Community Service

- Youth of East
- Dike 12 Fellowship Award scheme
- Work Experience for high school students
- Community participation
- Multi bikes for long term use
- Business Events

### An active community

- Encourage people to cycle
- Road to recovery program

Over 1000 Bicycles Recycled and Given Away for Free

### Environmental Responsibility

- More Recycling = Less landfill
- Reducing use of vehicles
- Reduction in carbon emissions
- Improving road safety
- Creating recreational cycle ways



### On your bikes

### Providing sustainable transport alternatives for:

- People with low incomes
- Community groups
- Students
- Self transport
- Community entertainment
- Council staff
- Tourists

Free bikes 'or long term loan



Massey University

### FREE BIKES FOR MASSEY STUDENTS

- Free Bikes
- All repairs, repairs and servicing
- Insurance FREE

*"Community Partnership"*

## The Green Bike Trust is Based @ Massey University

Green bikes a hit in Timor



### MASSEY ENVIRONMENTAL MISSION STATEMENT

Massey University is committed to the principles of environmental responsibility and sustainable resource management at local, national and international levels. It will meet this commitment through community involvement and leadership in education, research and sustainable management practices.



### GREEN BIKE TRUST

The Green Bike Trust is a charitable trust established in 2007 to provide free bicycles to Massey University students and staff. The trust is based at Massey University and is a registered charity in New Zealand.

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### Bike trust makes good move

The Green Bike Trust has made a significant contribution to the Massey University community by providing free bicycles to students and staff. The trust is based at Massey University and is a registered charity in New Zealand.



# THE green HUB

## "Moving into a Sustainable Future"

A Community Enterprise delivering Sustainable Transport, Zero Waste and Environmental Services within our Community

The Green Hub is the brand given to the redeveloped, operational model of the Green Bike Trust (GBT). Green Hub recognizes that our 'Environment' underwrites millions of dollars worth of eco-system services (clean air and water, productive soil systems and a stable climate, etc) which are essential to the regional economy. In contrast 'Waste' unnecessarily drains millions of dollars worth of value from the regional economy.

### PNCC LTCCP Goals:

- Sustainably develop the City's and Region's Major Economic Priorities.
- Support the development of other significant economic sectors to encourage sustainable economic growth.
- Achieve A Well Managed Physical Environment.
- Work alongside and empower groups, neighbourhoods and communities to achieve community wellbeing.

The Green Hub seeks to work with all local stakeholders to encourage and participate in the development of innovative new zero waste and environmental programmes, which will meet the needs and aspirations of today's Community, whilst protecting the interests of future generations.

By this Honourable Check Prime Minister addressing the SERCCE, TN of Dec 2007: "... For New Zealand to remain a viable and prosperous nation in the 21st century, we must be sustainable -- or we will face long term disadvantage in our key sectors and in our key markets. For us sustainability and prosperity will go hand in hand".

- New Zealand Waste Strategy (2002)
- Tairāwhiti Zero Waste and a Sustainable New Zealand
- 1- Lowering the social costs and risks of waste.
  - 2- Reducing the damage to the environment from waste generation and disposal.
  - 3- Increasing economic benefits by more effective use of materials.

# Supporting PNCC in Community engagement & RRC Development



Sept. 2008 - Rynders Perceptives  
Copyright © 2008 (Dun-Architects). All rights reserved. Green RRC Recovery Centre



Sept. 2008 - Rynders Perceptives  
Copyright © 2008 (Dun-Architects). All rights reserved. Green RRC Recovery Centre



Master Plan

- 1 Parking
- 2 Artist-commissioned Sculptures
- 3 Artist-commissioned Entrance Gate
- 4 Bicycle Parking

- Internal Goods Revale Area
- External Goods Revale Area
- Drop-off Assessment
- Scraping Area
- Workshops
- Artist's Studio
- Community Gardens
- Administration
- Public Plaza & Pathways
- Roadway



# Officycle' Paper & Cardboard Recycling

- Recyclable office paper collection boxes, which are emptied by cleaners into a system of recycling frontload bins.
- 'Fullcircle' provides a network of cardboard and paper bins .
- Reuse of envelopes on internal mail system.



# The Development of E-waste Recycling via problem solving R&D

- Collected, dry-stored for recycling service providers.
- Planning for succession to ensure residual value.
- Support for local E-waste business development via R&D and technical support. / Refurbishment programme into community.
- Careful service provider selection / Participation in 'e-Days'.





# Massey University's existing Organic Recycling programme



- Mulch mowing & firewood removal.
- Chipping of residue which return to the gardens as mulch.

# Utilise Biodegradable food packaging in the Student dining area



Spotless Catering Dining Hall manager Alan Shannon with Acting Deputy Vice Chancellor Sandi Shillington.

## Campus catering goes green

New food packaging that is 100 per cent biodegradable has been introduced to the Palmerston North campus in an effort to further reduce waste levels in the environment.

- Produced by KiwiGreenPak, the fibre-based toxin-free product range is made from renewable plant materials and can be composted.
- The packages take about a month to completely decompose to a natural state, causing no harm to the environment.
- Food Services director Alan Shannon, says that approximately 400 units are distributed each day with meals. “We package lunchtime meals with the KiwiGreenPak packaging, and up to a third of students choose a take-away option at dinner-time.”

# Food organics composting project in partnership with PNCC.

- Supporting PNCC Awapuni system and program.
- Key opportunities: New 'student centre' + campus wide network, signage design, collection, handling and transport.



# 'Encore' ink and toner cartridge recycling

- Massey Kids club funding.
- Collection network expanding



# Construction and Demolition (C&D) waste minimisation and recycling

- Contract prescription, Contractor selection & support.
- Concrete, fixtures & fittings, metals and timber, etc.



# Utilise local Reuse and Recycling options for 2nd hand materials

- For example, office furniture, electronic goods, machinery and various items of equipment.
- Option: Web-based resource exchange.



# FLT Recycling initially undertaken on-campus to catalyse service within the City



# Where to From Here?

- Grow the range and volume of recycling options.
- Supporting PNCC Business development initiatives.
- Improved Structures to deliver Environmental Policy Implementation
- via ENVIRONMENTAL MANAGEMENT POLICY STEERING GROUP (EPMG)





# Other Progress Points and Ideas:

- Recycling Envelopes via the Internal Mail System,
- Ensuring 'Fair Trade' products are available as alternatives,
- Participating in National Product Stewardship Schemes



# Organic Waste to Energy R&D projects – Biodiesel from waste fryer vat oils



- Lab-scale to demonstration / pilot production.
- On-campus testing and trial



# Event-Recycling – R&D and Local Programme support.

- The Organic River Festival -10,000 people over three days
- Transport and logistics -Planning, design and reporting.



# Waste Oil and Tyre recycling



[http://www.holcim.co.nz/NZ/EN/id/1610655918/mod/5\\_6/page/editorial.html](http://www.holcim.co.nz/NZ/EN/id/1610655918/mod/5_6/page/editorial.html)

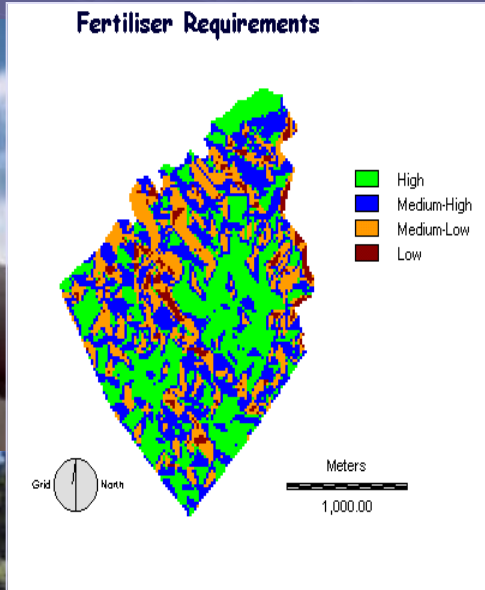


# Other Sustainable Campus programme elements –Free Buses for staff and students / Energy conservation / Art

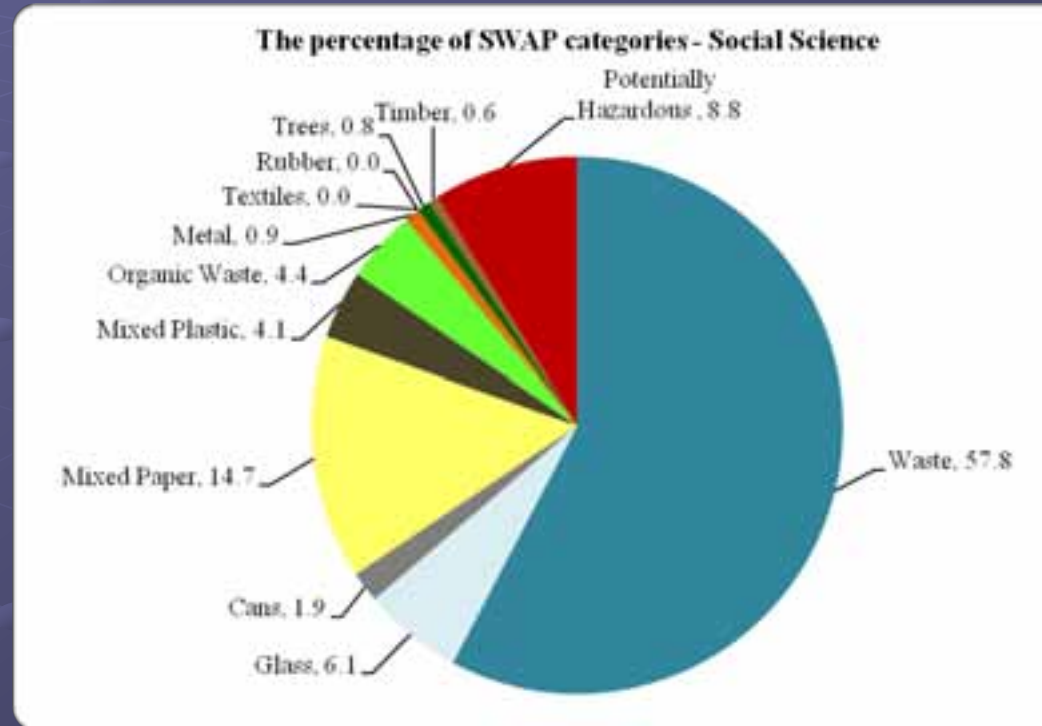


# Sustainable Management of Massey Farms:

Freshwater Ecology - Effluent Management – Pasture Forestry Interactions - Landscape Management Plant Ecology



# Waste and recycling auditing to improve system design



# Confidential document shredding and local recycling / reuse

- Wheelie bin network across the campus.
- Supported employment creation.
- Wheelie bin auto-empty system.





# E-survey waste / recycling system customer satisfaction and effectiveness

- Earlier this year an email was sent to all departments by the Zero Waste Academy requesting feedback about recycling and waste disposal practices. The responses have been grouped on a department basis.
- Each respondent was return emailed an acknowledgement of their initial feedback and this was followed up in person by the PNCC contractor, Helen Mays.
- Findings compiled into a 'Summary of Recommendations'.

# Summary of Recommendations:

- Establish a portal on the Massey website with recycling and environmental information.
- Establish a recycling hotline to arrange specific pick up and or offer personal advice on recycling options.
- Promote the above information to staff and students on a regular basis.
- Complete the planned recycling collection network expansion to campus wide.
- Establish a consistent University wide recycling system across all three campuses.
- Plug the identified gaps (organic waste, other plastics, phone books, used goods, C&D materials, library bags) with new programme developments, where possible which integrate with the local community infrastructure.
- Establish a 'green procurement' policy and programme.
- Undertake a series of periodic waste audits to establish system gaps.
- Publicise the results of this feedback survey and repeat the exercise annually so as to establish circle of programme review and improvement.
- Liaise with and monitor the cleaning contractors to ensure they understand and are adopting environmental best practice. If it is not already written into contracts then identify and stipulate this KPI alongside enforcement protocols.
- The ZWA will continue to lobby for, and participate in, the development of Extended Producer Responsibility (EPR) schemes for non recyclable items such as batteries, etc.

# Key findings of the recent MUSA Environment Officer student survey

<b>Key Findings - MUSA Student Survey</b>	<b>%</b>
Percentage of people rate themselves as either very aware or aware	86.8
Percentage of people rate Massey university's the environmental sustainability as good or better	59.9
The additional percentage of people who rate the MU environmental sustainability as ok	30.9
Percentage of people are aware that you can recycle on campus	97.4
Percentage of people use the recycling facilities	89.5
Percentage of people were happy or very happy with Massey university's recycling facilities	61.2
The additional percentage of people who thought Massey's recycling facilities were ok	30.3

# Name one thing you would like to see Massey do in the future to improve the environmental sustainability of the campus?

battery recycling	1
more recycling bins	39
better bins better ID of recycling	3
carboNZero certification MUSA	1
less paper from lecture printouts student notes	6
eliminate first page printer blank sheets	4
double sided / duplex printing	4
spot prizes (cash) for using recycling bins	1
promote recycling more re sustainable campus and beautification	11
grow more trees	2
do nothing	2
remove all rubbish bins	3
take away the flash campus security who pollute the environment and give parking fine to students	1
add composting bins	11
improve energy conservation	6
double glazing on buildings	1

<b>more rubbish bins</b>	7
<b>promote and encourage public transport</b>	3
<b>more buses at night during the week</b>	1
<b>renewable fuels in buses</b>	1
<b>recycling of clothing</b>	1
<b>more water machines to fill up water bottles</b>	1
<b>online enviro hub for info, engagement and ideas</b>	1
<b>sort out the dinning hall / kitchens</b>	4
<b>intro recycling week</b>	1
<b>ban polystyrene plates and introduce compostable food plates in dinning hall</b>	9
<b>be able to purchase coffee in your own reusable cup</b>	1
<b>onsite waste water treatment and conservation programme</b>	1
<b>floresecent tube recycling</b>	1
<b>print chaff on recycled paper and specific recycling bins for this</b>	1
<b>more support for enviro orgnisations</b>	1
<b>introduce eco purchase options fair trade, recycled paper etc</b>	2
<b>recycle coffee cups</b>	1
<b>make spotless be environmentally friendly</b>	2
<b>solar energy</b>	2
<b>smoke free campus</b>	1
<b>introduce recycling robots</b>	1
<b>more support for MUSA environmental officer</b>	1

# Massey Crèche - Vision for the Future

- Develop a centre wide culture that is focused on recycling / composting
- Key next step issues, Food-waste, Ewaste, Garden maintenance & Nappies!
- Greenhouse for propagation and sensitive plants / vegetables.
- Further develop vegetable gardens and provide more grass areas.
- A gardener, possibly one day a week to maintain gardens and nature corridor. They would be seen as a part of our learning community and children/teachers would be able to work with and alongside this person.

*The above would be included as part of our learning environment. Providing opportunities for children to explore and develop their own working theories about a self-sustaining environment, while gaining an understanding of the important role that they have within it.*

At different times and through various means, new ideas and feedback has been sought to guide the planning and development of Massey University's sustainable campus management programmes. As a result of recent discussions the following list of proposed - priority next steps, for the further development of the Massey University sustainable campus management programmes has been developed. It is hoped that publicising these proposals will encourage further discussion and feedback, which will assist future planning in this sphere.

Here are 14 proposed next steps for Massey University:

- What do you think?
- Now is the great time to have your say!

## 1 UPGRADE EACH CAMPUS RECYCLING NETWORK

**Key Focus** – Examine bin locations and type to increase the number, user-friendliness, visibility and indoor/outdoor access at this system.



## 2 PAPER CONSERVATION

- Establish duplex (double sided) printing as the normal default setting across all university printers

- **Key Focus** – High public use areas in all library printers/computer labs
- Eliminate the automatic front page printing cover sheet and develop another system for checking the student print budgets as this mechanism is not useful.
- Reduce the printing associated with lecture printouts and student notes.



## 3 REDEVELOP AND EXPAND THE PROMOTION AND SOCIAL MARKETING OF ENVIRONMENTAL SUSTAINABILITY FOR THE WHOLE UNIVERSITY COMMUNITY

- Generating leaflets in all forms
- Increasing resource recovery and recycling rates
- Keep promoting sustainable transport options
- Enhance the beauty of the physical environment and the eco-friendliness of campus life



## 4 EXPAND THE FOOD ORGANICS & COMPOSTABLES' COLLECTION AND RECYCLING NETWORK FOR GREATER COVERAGE OF ALL CAMPUSES

**Key Focus** – Staff and student kitchens and lunch areas NB: point 5 - this collection and processing infrastructure needs to be integrated with the introduction of biodegradable food packaging in the dining hall and other food outlets to ensure the composting programme is not hampered by excess contamination.



## 5 ELIMINATE POLYSTYRENE FOOD AND DRINK PACKAGING AND INTRODUCE BIODEGRADABLE/RECYCLABLE OPTIONS IN ALL FOOD SERVICE AND DINING AREAS

**Key Focus** – Linking the use of biodegradable replacement options with specific recycling processes to 'close the loop'. This may require some trials and R&D to ensure the gas flaring programme is tight.

<http://www.watersustainable.com/news-and-events/news-42/energy-library/watersustainable-polystyrene.aspx>  
<http://www.pointtaplet.com/professional>



## 6 REVIEW AND REINVIGORATE THE ENERGY CONSERVATION PROGRAMME

**Key Focus** – For example introduce new technologies and conservation strategies, such as air conditioning, heat pumps, double glazing, computers, automatic controls and monitoring, solar hot water and panels etc.



## 7 ESTABLISH AN ENVIRONMENTAL - SUSTAINABILITY PORTAL ON THE FRONT PAGE OF THE MASSEY WEBSITE

**Key Focus** – This would provide a high profile - unified/coordinated - multi-campus approach to environmental communication, engagement and act as a gateway to, for example, the following features:

- Latest News
- Ideas/Feedbacks - reporting issues
- Environmental and sustainability-related teaching programme information and links
- A profile of all elements of Massey's coordinated multi-campus sustainable management programmes
- A Green Hub page
- Access to Massey's environmental policies, organisational diagram and key contacts
- Profiles of relevant University partnerships and research centres.



## 8 ESTABLISH SOME FORM OF HOLISTIC MASSEY UNIVERSITY SUSTAINABILITY CENTRE - FACILITATION ROLE

**Key Focus** – To liaise and coordinate the different elements of the whole Massey University community, for example see the following diagram. To coordinate research, planning, testing, programme implementation and also to, where possible, coordinate external R&D into programme development.



## 9 UTILISE 'GREEN' BUILDING DESIGN AND RATING SYSTEM FOR NEW CONSTRUCTION ON ALL CAMPUSES

**Key Focus** – Hand in the new College of Education facility is developed at Taiteme campus. Visit <http://www.nzbc.org.nz>



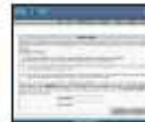
## 10 ESTABLISH AN INDEPENDENT ENVIRONMENTAL ACCREDITATION PROGRAMME

**Key Focus** – For example ISO, CarbonZero or the 'EnviroMetric' accreditation schemes and use this framework to assure regular waste and energy auditing, transparent reporting and planning and also to recruit and monitor 'on-campus contractor services provision'.



## 11 INTRODUCE AND PROMOTE 'FAIR TRADE', 'ORGANIC' AND 'GREEN PROCUREMENT' OPTIONS

**Key Focus** – Mass E-mail and Purchasing Office policies, for example coffee, tea and sugar for staffroom and student facilities, recyclable content in paper used for printing, paper generated from renewable sources.



## 12 ESTABLISH LOCAL REVEGETATION PROGRAMMES TO ENHANCE BIO-DIVERSITY AND CARBON SEQUESTRATION

**Key Focus** – Working with Massey Farms and Local and Regional Councils. Another possibility is to develop a 'Community Gardening' option, which would allow students to grow fruit and vegetables, etc. NB: Potentially this could be undertaken in conjunction with the Massey Glacier - Learning Environment programme.



## 13 EXPAND AND ENHANCE THE SECOND-HAND GOODS RESOURCE RECOVERY AND RECYCLING FUNCTION

**Key Focus** – Working with the respective Local Councils and community NGOs to ensure these resources can get another life either in another part of Massey or in the city's student flats.



## 14 BUILD ENGAGEMENT WITH THE CAMPUSES HOST CITIES IN THE EXTENSION OF KNOWLEDGE AND R&D TO ENHANCE THE SUSTAINABILITY AND RESILIENCE OF THE LOCAL COMMUNITIES

**Key Focus** – Integrated planning to support sustainable economic development and the strengthening of social and cultural capitals in light of the challenges created by climate change.



Further consultative feedback is welcome PLEASE COMMENT!

- Would you like to be more closely involved in planning future developments?
- Are there some other potential next steps which are missing off this list?
- Are these actions in a correct order of priority?
- Do you agree or disagree with any of these proposed next steps?

All feedback welcome - please utilise any of the following contacts:

MUSA Environment Officer  
 Kurt Geary wtn 81154 [environment@masu.org.nz](mailto:environment@masu.org.nz)  
 RFM  
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<http://environment.massey.ac.nz/>