



The Gordon

A Life Cycle Approach
to Sustainable Service

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Executive summary

The Gordon, Victoria's largest regional TAFE and Training Provider of the Year 2010, has been providing progressive and innovative training in Geelong, around Australia and overseas for more than 120 years.

In June 2010, The Gordon Culinary School set out on a journey in partnership with Sustainability Victoria to change the way the education and hospitality industries implement sustainable practices.

The 12 month case study, jointly funded by both partners, was an Australian TAFE-first which saw The Gordon apply a Life Cycle Thinking and Management approach across all of its hospitality and cookery operations to form the foundation of a best-practice sustainability model - a first in this type of service industry.

Through the project, The Gordon Culinary School has applied a range of strategies to not only minimise environmental impacts across their training facilities, but also educate students and the local industry on how to employ sustainability practices for both short and long term benefit.

These initiatives, based on the latest best-practice approaches, broadly fall into the categories of procurement, energy, water, waste, and education,

John Polhill, Project Manager for Business Transformation Sustainability Victoria, says the project is a three-pronged approach to integrate sustainability into this specific sector.

This includes educating and empowering students - the future industry leaders, aligning with The Gordon's strategic plan, and encouraging the uptake of sustainable practices into the region through The Gordon's strong networks.

'The outcomes of the case study will be leveraged to influence the wider hospitality industry in Geelong and across the State, to illustrate the far reaching benefits of the model.'

'This case study and its outcomes certainly showcase The Gordon as the benchmark for excellence in sustainability.'

Background

In early 2010, The Gordon engaged for the first time with Sustainability Victoria at one of their Road Show events in Torquay. It was suggested that staff from The Gordon's Centre for Service Skills and Recreation visit the Sustainability Victoria offices in Melbourne to see their sustainable, purpose- built facilities and explore the concept of Life Cycle Thinking.

The timing was perfect, as The Gordon Culinary School was looking to improve their environmental performance and was motivated by the idea of a systematic approach, which the Life Cycle Thinking approach to business sustainability fulfilled...however daunting it seemed!

It was on this occasion that the idea for a three month Life Cycle Thinking case study across The Gordon Culinary School was born, and which ultimately extended to 15 months due to the enthusiasm and commitment of all parties who could see the significant potential in this project.

THE TEAM

Whilst The Gordon's entire Cookery and Hospitality teams were involved in some way, the core project team consisted of:

Noreen Nicholson	Project Coordinator
Wayne Chrimes	Cookery Program Manager
David Musgrove	Skills Centre Manager for Service Skills and Recreation
David Buckley and Karen Bourke	Cookery teachers and industry specialists
Jo Norbury	Complex Data Sheet specialist
Chrissy Meddings	Marketing and Communication

This team was supported by the expertise of Sustainability Victoria:

John Polhill	Project Manager - Business Transformation
Kel Dummett	Project Manager - Business Transformation

THE DEPARTMENT

The Gordon Culinary School sits within the Centre for Service Skills and Recreation at The Gordon's City Campus in Geelong.

It is a key program area offering a full suite of courses from short courses in specialist culinary skills through to advanced diplomas in commercial cookery, with over 1000 enrolments each year.

The Gordon has two restaurants which serve as hands-on classrooms for both cookery and hospitality students; Cafe on Track (40pax capacity) which is open to the public for lunch and functions and the Davidson Restaurant, (80pax capacity) open to the public for dinner and functions.

In addition there are three back-of-house training kitchens where students learn culinary techniques in their unit classes, prior to being deemed competent to service the two restaurants.

The project would map the activities of the department, taking into consideration all the above areas as well as the Culinary School staff office including 15 work stations.



The Project Begins

CONCEPT AND OBJECTIVES

Life Cycle Thinking and Management is a cutting-edge concept at the forefront of sustainable design and is increasingly becoming a core component of business strategy. It aims to understand all activities and associated environmental impacts during a business' operation, and goes beyond just basic actions by identifying behaviour change across external factors, tracing methods as far back as raw materials.

Applying the Life Cycle approach through this project saw The Gordon assess the environmental impact of all activities related to the operation of The Gordon Culinary School.

THE REACH IS TWO FOLD:

INTERNALLY; the project sets the department as a benchmark for other areas of The Gordon to mirror excellence in sustainability, providing an influential behaviour change model for education in sustainability.

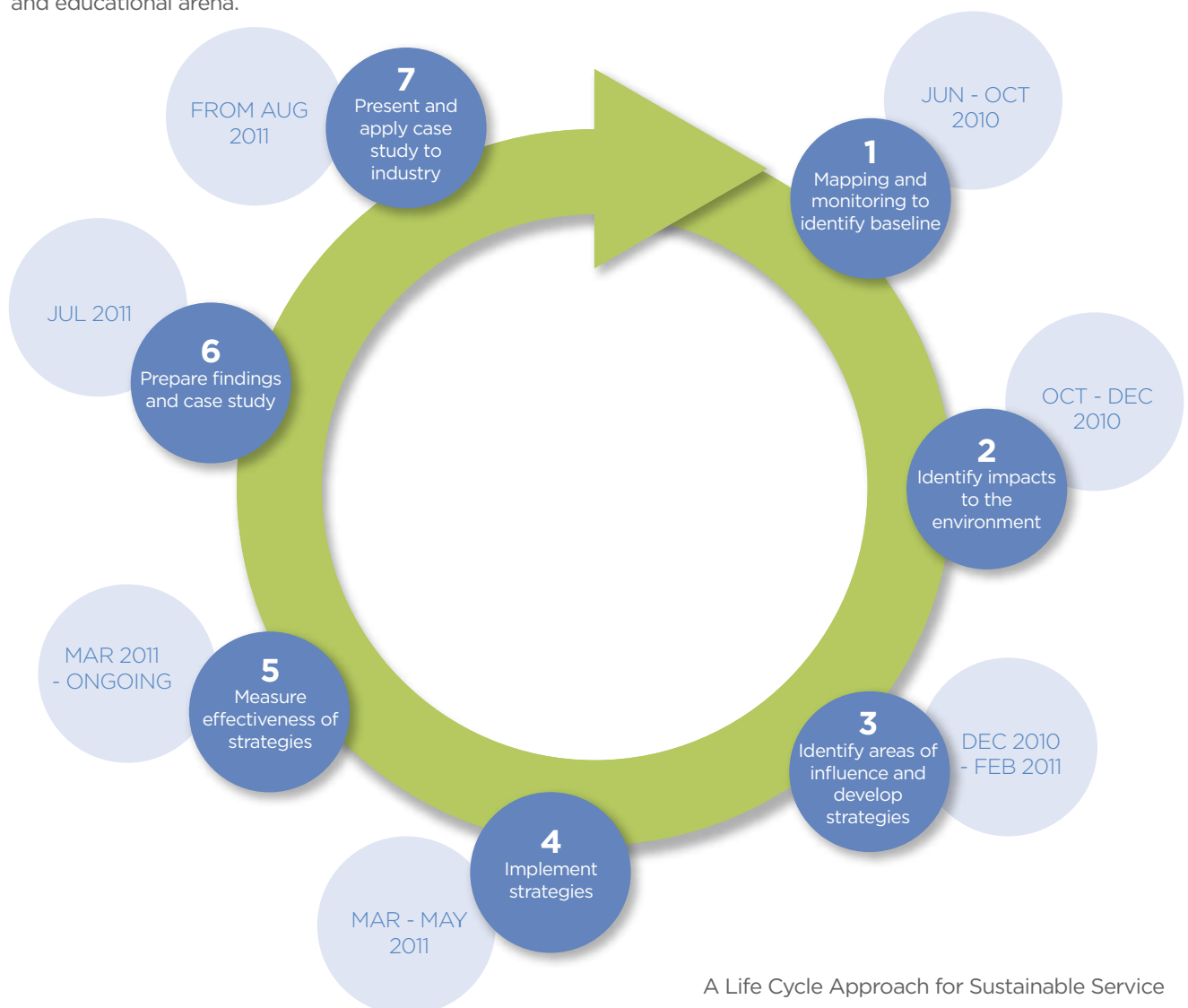
EXTERNALLY, the project and outcomes position The Gordon as a change agent in the regions' hospitality and educational arena.

THE PROJECT SET OUT TO ACHIEVE NUMEROUS OUTCOMES;

- Reducing use of resources
- Lowering the environmental footprint
- Creating reportable achievements
- Strengthening market position as a sustainable department and campus
- Improving social awareness in resource reduction
- Increasing financial savings through effective and correctly placed sustainable actions
- Setting a benchmark for education in sustainability
- Creating regional awareness in the hospitality industry

KEY STAGES

The Life Cycle project included seven key stages, commencing with mapping and monitoring of daily activities to identify environmental impacts and a baseline for change.



MAPPING SOLUTIONS

To begin with, the project team had to identify the key stages and processes in the production of their product/service and record these as a linear life cycle. A map of a single meal produced in one of the kitchens was created, and shows the key processes and impacts of that single product. See appendix 1.

A life cycle matrix and subsequent life cycle impact and mitigating strategies table was completed for the following major products and services; appliances, chemicals, paper, red meat, poultry, fruit and vegetables, seafood and dairy products. This documented the impact to the environment throughout the product life cycle on energy, water, emissions and solid waste, as well as identifying impact reduction strategies that were needed and prioritised.

Other mapping activities were undertaken for:

- Procurement
- Kitchens
- Facilities Management
- Storage
- Food Production (Classes/Restaurants)
- Food and Beverage Service
- Cleaning and Laundry
- Equipment Maintenance and Purchasing
- Energy Use
- Waste
- Packaging
- Teaching Practice
- Student Activities (cookery)
- Sphere of Influence and a Situational Map of The Gordon and the Geelong region was also completed.

CO₂ EMISSIONS

Mapping and impact recording also took into account The Gordon's sources of CO₂ emissions including:

- 'Food miles' from transport, refrigeration etc.
- Non-sustainable farm practices/pesticides
- Beef on menus: 1 kg = 34.6 kg CO₂
- Frozen produce: energy rich to transport and store
- Excess packaging: plastics and non-recyclables
- Toxic methane from green waste in landfill
- Wasting finite resources: energy, water, raw materials



The Baseline

The Gordon Culinary School officially commenced baseline data recording at the end of September 2010, gathering data for a quarterly period (to 22 December 2010), which identified the current environmental impact of all activities.

UTILITIES

In early September ten energy meters were installed to measure electricity usage in Cafe on Track, Davidson Restaurant, the Culinary School office, and Unit Kitchen 3 (along with gas, hot, and cold water in this kitchen). Some teething and training issues were encountered during September to correctly use and read the meters, hence official monitoring commenced at the end of the month.

A unit of measure was required to set reduction targets for 2011. It was decided that the most relevant unit of measure was the **average kWh per cooking class**. This enabled the Culinary School to estimate the average kWh usage for the duration of an average class per venue, accounting for variables such as absent students and preparation of different foods requiring +/- utility usage:

- | | |
|---------------------------------------|---------------------|
| • 52.51 kWh per class hour | Cafe on Track |
| • 71.85 kWh per class hour | Davidson Restaurant |
| • 149.68 kWh per class hour | Unit Kitchen 3 |
| • 2.28 M3 Gas per class hour | Unit Kitchen 3 |
| • 0.1193 M3 Cold water per class hour | Unit Kitchen 3 |
| • 0.8385 M3 Hot water per class hour | Unit Kitchen 3 |

WASTE

LANDFILL

Estimated average waste to landfill per month = 26 cubic metres (approx 2750 Kg).

ORGANIC/POST CONSUMER WASTE

Prior to the project, organic waste was not separated and subsequently all went to landfill. Thus when the training facilities were all operational five days per week, the total organic waste to landfill was estimated to be 350kg per week = 16 tonnes per year.

RECYCLING

Estimated average paper/cardboard waste per month = 9.53 cubic meters (approx 953 Kg).

Estimated average comingle (glass/plastics) waste per month = 2.48 cubic meters (approx 156 Kg).



The Strategies

2011 TARGETS

The baseline data from 2010 enabled The Gordon Culinary School to set energy reduction targets for the 2011 academic year, across Cafe on Track, Davidson Restaurant, Office and Unit Kitchen 3:

The utilities reduction target for 2011 is a minimum of 10%.

The waste reduction target for 2011 is a minimum of 50% of waste to landfill.

VALUE VS EFFORT

Following the mapping and data collection, the next step was to plot the mitigating strategies on a value vs effort grid for procurement (red meat), kitchen energy, waste and water. The grid identified which strategies were considered to be:

- Easy Wins- reasonably easy and cost efficient to implement
- Evaluate and Action - requires resources but delivers high returns
- Divide and Conquer - Individually too big, tasks are broken down into manageable actions
- Park - on hold pending future consideration

This process made it clear which strategies were the most appropriate and cost effective for minimising the environmental impact.

RESEARCHING 'BEST-PRACTICE'

As part of the strategic development process, significant research was undertaken into a range of best-practice sustainability initiatives currently being implemented across Victoria and other states to determine what could be adopted at The Gordon. This included visits to:

- Ferguson Plarre; this Greenfield site was planned and developed based on a wide range of sustainability principles.
- Sydney TAFE Loftus Campus; using the Pulpmaster system
- Sydney Nursing Home; using the Pulpmaster system in kitchen
- Toyota Melbourne and Sydney; using the Pulpmaster system in cafeterias
- EP Robinson at Mt Duneed; organic waste composting
- Moonee Valley Council; Meals on Wheels program using the E-Water unit
- Laverton Community Chef program; using the E-Water unit in a manufacturing environment
-

These activities led to the implementation of the following strategies, all commencing between March and May 2011.

PROCUREMENT AND MENU DESIGN

Life Cycle thinking has had a major influence on The Gordon's procurement decision making.

In 2010, the *Geelong Restaurant and Supplier Network* was formed with representatives from local restaurants, hotels, suppliers, and The Gordon. At the first *Supplier Forum* in November 2010, The Gordon Culinary School launched their new Sustainable Purchasing Policy; a public commitment to (preferably) purchase sustainable goods and services where the environmental impact is clear and measurable, and where the cost, although possibly higher, is reasonable.

This policy has flowed through to menu design; where menus and subsequent products for Cafe on Track and the Davidson Restaurant are now sourced predominately in Australia, based on environmental benefits including consideration of CO₂ emissions e.g. using Australian Prawns rather than Thai Prawns.

A sustainability commitment notation is now included on all signage and menus in the training venues, and in mid 2011 the Davidson Restaurant trialled a full sustainable menu with the view to rolling it out on a permanent basis in the future.

The Gordon Culinary School continues to compile a regional produce list to inform them of what 'local' product is available.



ENERGY

As well as the baseline energy monitoring, a further audit was undertaken of all major kitchen equipment to assess energy usage and inform decisions on new equipment requirements.

DESCRIPTION	COST	SAVINGS/BENEFITS
Lighting Over 80 lamps and lamp fittings were replaced with low energy and LED alternatives in Cafe on Track and Davidson Restaurant. Changing behaviours in the use of lighting through education and awareness.	\$9,126 lamps and fittings \$4,129 installation	Over 7,000 kWh per annum saved, equivalent to saving over \$1,200 per year* *based on 18c per kWh 7,000 kWh = 9.45 tonnes of CO ₂ -e/equivalent to 189,000 black balloons Ref: NGERS 2010
Dishwasher and Glass Washer Both replaced in Cafe on Track	\$10,280 inc installation	Previous running costs \$11,758 per annum (water, electricity, detergent, rinse aid). New running costs \$4,669; saving \$7,279 per annum.
HotmixPRO An innovative multifunction machine with special blades and high-speed motor which can chop, puree, liquidise, blend or mix any type of food in reduced time. Includes a heating system that can be used to warm or cook any kind of food at temperatures between 25 and 130°C, while mixing simultaneously.	\$2085.00	<ul style="list-style-type: none"> • Shorter cooking times reduces energy consumption • Less waste • Less packaging • No additives required
Pacojet A revolutionary device which enables chefs to 'micro-puree' deep-frozen foods into an ultra-light mousse, cream or sauce without thawing – capturing the natural flavours and nutrients in individual, ready-to-serve portions.	\$5,965	<ul style="list-style-type: none"> • Shorter cooking and freezing time reduces energy consumption • Less additives required
Induction Cooktop Awaiting supply of the Induction Cooktops	\$530.80 inc new cookware	Shorter heating and cooling time reduces energy consumption.
Energy Meters 14 energy meters installed throughout training facilities	\$219.80	Allows students and staff to monitor equipment, assess energy efficiency and identify wastage.



WATER

DESCRIPTION	COST	SAVINGS/BENEFITS
Dishwasher and glass washer Both replaced in Cafe on Track	As above	Dishwasher 40% reduction in water usage per day Glass Washer 74% reduction in water usage per day
E-Water Unit New cutting-edge technology utilising tap water, table salt and electricity to produce electrolysed water. Microbiology tests have found it to be equally or more effective than chemicals, along with environmental and cost savings.	\$6,300 inc installation	<ul style="list-style-type: none"> A 430-litre reduction in the use and subsequent cost of cleaning and sanitising chemicals per annum. Environmental benefits of reducing chemicals into waterways. Cost saving of \$1350 per year

WASTE

DESCRIPTION	COST	SAVINGS/BENEFITS
Pulpmaster system At the time of installation The Gordon was the first TAFE and only the second facility in Victoria to install this new machine, which processes all food and table waste across the five kitchens and front of house and is taken for composting into high-grade soil conditioner for use in the garden.	\$11,986 inc installation and two years rent	Approx 16 tonnes per year of food waste will be diverted from landfill. 16 tonnes of organic waste = 8.28 tonnes of CO ₂ -e equivalent to 165,600 black balloons Ref: NGA Factors
Waste bins New waste-stream system introduced to separate all food waste and comingle from kitchens and offices.	\$454.53	<ul style="list-style-type: none"> Reduce landfill Reduce purchase of goods: silver landfill bins Eliminate use of plastic bags for comingle and food waste disposal.
Herb Garden Pilot project where Horticulture students plant selection of high usage herbs; parsley, rosemary, sage, thyme for use in kitchens.	Donated by our Horticulture department	<ul style="list-style-type: none"> Reducing current herb purchasing costs; approx \$450 per annum during pilot. Pulpmaster compost to be returned to herb garden.



Pulpmaster system

The Sphere of Influence

One of the reasons The Gordon Culinary School was chosen as the partner for this case study was their 'sphere of influence' both internally and externally (see appendix 2). Education and communication within this sphere was an essential outcome of the project, to ensure the best-practice model and its adoption into industry is far-reaching.

COOKERY STUDENTS

We believe this process needs to start in education, working with the students of today who are the up-and-coming industry leaders of tomorrow to introduce and implement a best practice management approach to sustainability.

- The Gordon Culinary School now delivers a specialised unit on sustainability for all Commercial Cookery students, including elements of the case study research.
- From the first term 2011, second year cookery students also have the option to choose an elective called 'Participate in Environmentally Sustainable Work Practices'.
- Cookery students not only gain experience using best-practice technology and methods, they're also forming new sustainable habits through our new procedures - including the separation and processing of all waste; resulting in transportability of new skills and knowledge back into the commercial hospitality environment.

COOKERY TEACHERS

- Staff development including information sessions and workshops for Hospitality and Cookery staff were held in November and December 2010, in preparation for the implementation phase in 2011.
- Teachers are actively involved in mapping processes, including cookery unit flow charts identifying food waste within their unit classes with the aim of setting reduction targets.
- Teaching staff have also been assigned to oversee implementation of the new resource-efficient equipment, creating a greater sense of ownership.
- Sustainability has been embedded into lessons and teaching resources.
- A number of Culinary School staff have also completed the Diploma of Sustainability as part of their professional development, bringing further skills, knowledge and qualifications to the team.
- As a result of their commitment, five Culinary School staff have installed solar panel systems on their private residences with another three making enquiries about the possibility.

OTHER STAFF/DEPARTMENTS AT THE GORDON

- The Gordon's Facilities and Campus Operations department were engaged throughout the project as a key stakeholder, due to the nature of the initiatives implemented. In January 2011 their team also created a new role of Facilities Coordinator - Environment.
- The Gordon Environmental Management Committee (EMC) is provided regular project updates, sending information to wider staff through the EMC newsletter.
- The Project Co-ordinator for this project has been a member of the Gordon Environmental Management Committee for three years, providing a valuable link to this Committee
- The project was presented to The Gordon Leadership Group (approx 90 people) in November 2010.
- For the first time, The Gordon's three-year Strategic Plan (2011-2013) includes a dedicated section on our commitment to Green Initiatives, and our advanced environmental sustainability policy.
- The Gordon's CEO now includes a sustainability piece in his bi-monthly updates sent to all staff.
- The Gordon's Facilities and Finance departments plan to undertake EcoBuy training in 2011, towards green procurement.
- From 2012, The Gordon's program area for Hospitality, Events and Tourism is offering the Diploma of Sustainability as a dual qualification alongside a range of other courses including the Diploma of Events, Diploma of Hospitality, and Advanced Diploma of Tourism.

SUPPLY CHAIN

See Procurement and Menu Design page 6



INDUSTRY CONTACTS AND NETWORKS

- The Gordon Culinary School is the largest provider of cookery training outside of the Melbourne Metropolitan area. With approx 175 apprentices training with us annually, these students provide a direct and ongoing link to the hospitality industry throughout the region.
- A number of Culinary School teachers also work part-time in the local hospitality industry. This increases their sphere of influence beyond the classroom, to peers within industry, with the opportunity to suggest and demonstrate change within individual businesses.
- The Gordon Culinary School established a relationship with Barwon Region Waste Management Group to look at food waste disposal options, and continue to work with SITA, EP Robinson and Green Care in discussions around future food waste composting options.
- The Gordon Culinary School Industry Newsletter now includes a regular sustainability component (distributed to approximately 80 key hospitality industry contacts in the Geelong region).
- In April 2011, Wayne Chrimes presented an overview of the project at the National Sustainable Food Summit in Melbourne.

EDUCATION SECTOR

The Gordon is a proactive member of the Victorian Tourism and Hospitality Educators Network (VTEN), which meets four times per year. This network is a communication forum for practitioners working in the TAFE sector, and the sustainability journey has been regularly shared with peers at these meetings.

Matthew Quick, The Gordon's Facilities Coordinator - Environment also promotes The Gordon's sustainability projects and outcomes amongst a network of Victorian TAFEs.

The case study progress has also been communicated into the sector to the relevant Curriculum Maintenance Manager and Service Skills Victoria.

THE FORUM

On Monday 30 May 2011, The Gordon Culinary School held a Sustainability Forum for industry representatives (hospitality, environment, education) to hear about the case study project and its outcomes.

The Forum was attended by over 70 people; from local restaurants through to other Victorian TAFEs, who also had the chance to see first-hand the range of initiatives in place as well as hear from product experts from Pulpmaster and E-Water.

This was a key strategy within the project, to promote how the Life Cycle approach can be applied to the service industry. Associated tools developed by The Gordon and Sustainability Victoria were converted to a CD for interested stakeholders. The Culinary School will continue to host industry representatives on campus.

PR AND MEDIA

The Gordon's Publications and Media Coordinator worked closely with the project team to further promote the case study and outcomes to people outside the immediate sphere of influence. This included:

- Articles in The Gordon Magazine; October 2010 and May 2011, and The Gordon Annual Report 2010.
- Advertorials placed in two Geelong newspapers in the lead up to the Forum in May 2011.
- Media Releases sent to various local and industry media publications; securing three local press articles and one online article in the Hospitality Magazine e-newsletter (Australia-wide) in the lead up to and post-Forum. The equivalent advertising value of these articles alone is in excess of \$4,000.

Leading the way in sustainability

ELEVEN months ago, The Gordon Culinary School set out on a journey in partnership with Sustainability Victoria to change the way the education and hospitality industries implement sustainable practices.

The year-long case study, an Australian TAFE-first, has seen The Gordon apply a Life Cycle

training facilities, but also educate students and the industry on how to employ sustainability practices for both short and long term benefit.

Seven key initiatives from behaviour change actions through to exciting new technology are now underway within the culinary school, based on the latest best-practice approaches and extensive

Thinking and Management approach across all of its hospitality and cookery operations, tracing its methods as far back as raw materials, to form the foundation of a best practice sustainability model.

Through this process, The Gordon Culinary School has applied a range of strategies to not only minimise environmental impacts across their

consultation with industry. The case study is expected to be finalised and published next month, with comprehensive information and findings from the project creating a sustainability benchmark for the Australian hospitality industry.

For more information, phone The Gordon on 5225 0730 or email ssr@gordontafe.edu.au



The Conclusion

Since the sustainability initiatives have been in place, initial environmental measurements indicate The Gordon Culinary School is on track to meet expected targets.

Across May and June 2011 alone, waste to landfill decreased by 40% compared to the same time in 2010 and comingle (glass and plastics) increased by 82%, demonstrating a significant shift in waste disposal behaviour across the Culinary School in a short period of time.

Full year data for the 2011 academic year will provide a greater measurement of results against targets, which will also be compared to the 2010 baseline data. It is recognised that long term behavioural change and subsequent reduction of environmental impacts will require longer-term measurement and trend analysis.

However, the objectives of the project were to not only lower the environmental footprint, but to set a benchmark for education in sustainability, create a regional awareness in the hospitality industry, and strengthen The Gordon Culinary School's market position as a sustainable department and campus. All of these factors were certainly achieved, and will continue into the future.

THE FUTURE

'For long term behavioural change, sustainability practices need to be integrated into a strategic plan and viewed as integral as finance or marketing. This holistic approach ensures environmental sustainability forms part of standard day-to-day behaviour well into the future.

The Gordon Culinary School has achieved this by adopting a Life Cycle systems approach to sustainability management. By considering the impacts across all activities of the department from raw material to end-of-life, The Gordon is well positioned in a leadership role for other educational, industry and service based organisations to model themselves on'.

John Polhill, Sustainability Victoria



THE GORDON

The Gordon Culinary School is committed to continuing their work in applying innovative, best-practice sustainability practices across all their facilities, to maintain their position as a leading sustainable educator in the industry.

At a wider organisational level, The Gordon is committed to taking the project learnings and applying them to other program areas. Sustainability now sits as a key deliverable within all Annual Operational Plans across The Gordon ensuring all staff are accountable for implementing elements into their work areas.

The Life Cycle approach is also being applied to the construction plan for the new \$26m redevelopment at The Gordon's East Geelong Campus. Due to start in 2012/2013, this new space will house a number of areas including The Gordon's Centre for Sustainability, along with a new training patisserie kitchen which will incorporate key initiatives from the case study to make it a best-practice sustainable kitchen.

THE SECTOR

Within the new version of the Hospitality Training package, assessment requires demonstrated application of Sustainability practices in many of the competencies. Practices and principles applied in this project will now provide other RTO's with solutions to a number of assessment requirements.

The Gordon Culinary School Staff have also recently participated in a forum to explore the embedding of sustainability into baking qualifications (alternative training package), and remain as part of a working party to develop some baking industry-specific sustainability resources.

The case study and its outcomes will be presented at the upcoming ATTHEA conference (Australian TAFE Tourism and Hospitality Educators Association) in Adelaide in October 2011, and the ongoing progress shared again in 2012 when The Gordon hosts the bi-annual VTHEN conference.

THE REGION

Initial case study work suggested that there has been little demand by industry for sustainability skills and knowledge in the past, except for some innovative market leaders.

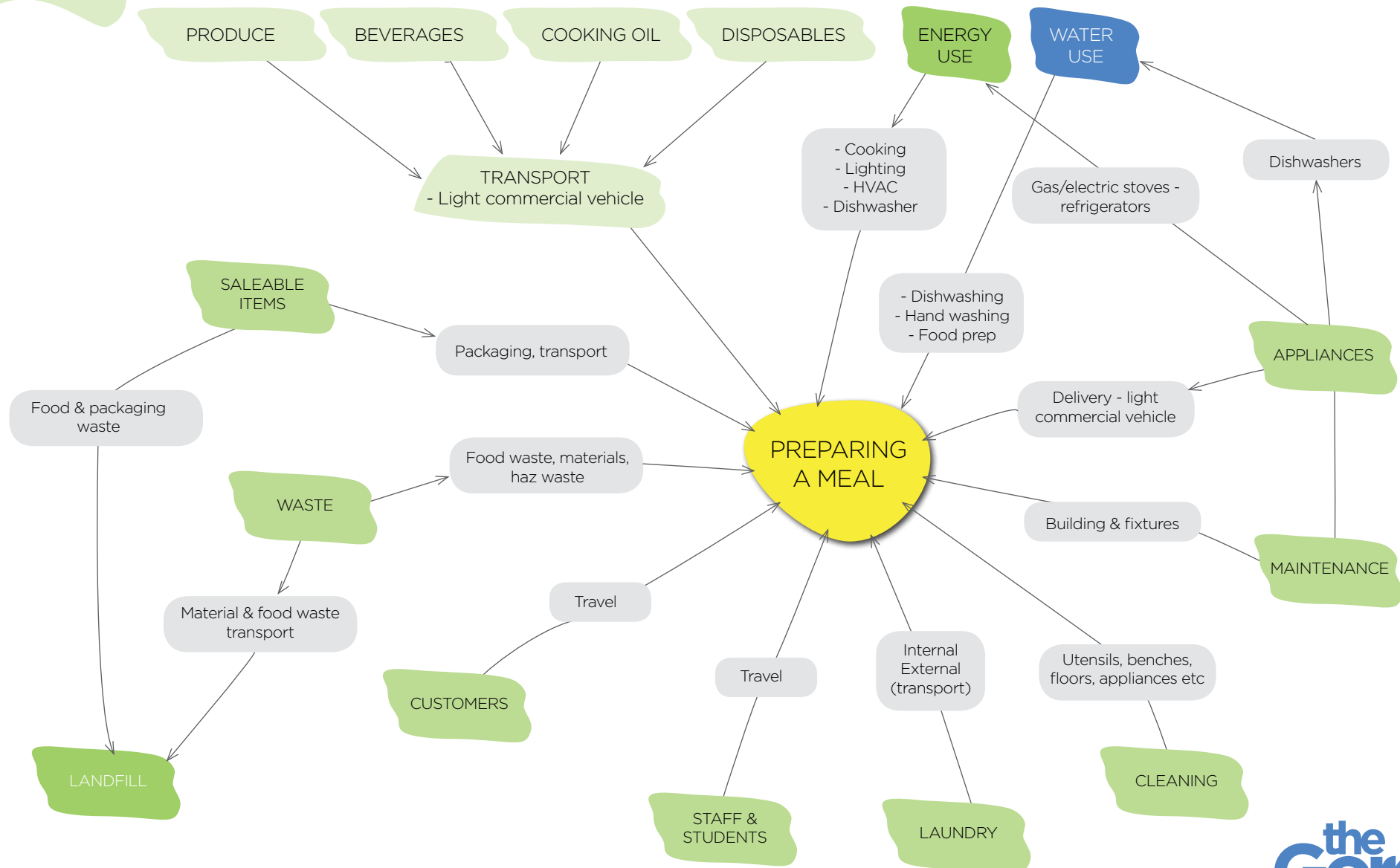
Through this project, further development and engagement of the Geelong Restaurant and Suppliers Network will also continue in the Geelong region. It is envisaged that sustainability will remain as one of the pillars of this network, with the intention to assist business to embed sustainability principles within their own operations.

The longer term vision, after educating newcomers to the industry, is the flow-on effect of sustainability awareness being well embedded into the thinking and practices of our future industry leaders.




Life cycle map

Preparation of a meal in The Gordon's commercial kitchen



Using Life Cycle approaches to maximise sustainability in the service industry





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the
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