Sustaining Policies

A Case Study Comparison of University Implementation of Sustainability Policies

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Dedication

Dedicated to Pop, who would have read this thesis cover to cover and then discussed it at length.

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Abstract

We are now more than halfway through the UN's "Decade for Education for Sustainability." Universities around the world are working to teach and exemplify sustainable modes of thinking. This thesis is a case study comparison of two universities in Sydney, Australia who have declared a commitment to becoming more sustainable with a view to systemic transformation. The thesis outlines the different implementation paths of the University of Sydney and Macquarie University and concludes with the presentation of a model to explain the differences in implementation. Through inductive research, based on open-ended interviews, it is understood that the universities have achieved different levels of fulfilment in 'groundwork factors' of Vice-Chancellor (VC) support, position in university structure and financial support. These factors are shown to affect the ability of sustainability teams to communicate and promote sustainability 'visibility' on campus. Further analysis uncovers that Macquarie University has entered a 'positive' capacity cycle that requires the sustainability team to be adaptive in their implementation while the University of Sydney is caught in a 'negative' capacity cycle which stalls implementation.

This work is substantially my own, and where any part of this work is not my own, I have indicated this by acknowledging the source of that part or those parts of the work.

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Abbreviations

ACTS – Australasian Campuses Towards Sustainability

COO – Chief Operating Officer

DVC – Deputy Vice Chancellor

SRC – Student Representative Council

VC – Vice Chancellor

VSU – Voluntary Student Unionisation

Macquarie – Macquarie University

MOS – Manager for Operational Sustainability

S.O. – Sustainability Office

SRN – Sustainability Representative Network

STLS – Staff Travel Loan Scheme

SWG – Sustainability Working Group

Sydney – The University of Sydney

CAC – Climate Action Collective

CIS – Campus Infrastructure and Services

CPAS – Captain Planet Appreciation Society

EC – Environment Collective

GOC – Greens on Campus

MCS – Manager for Campus Sustainability

SEAC – Student Environment Action Collective

SWR – Sustainable Workplace Representative

SWP – Sustainable Workplace Program

USISS – University of Sydney Institute for Sustainable Solutions

USU – University of Sydney Union

Chapter One: Framing the Research

"Universities should also be advocates because they have a lot of sway within the community. They should be the ones going to the government and saying climate change really is threatening young peoples' future."[2] Ellen Sandell, National Director of Australian Youth Climate Coalition

Environmental degradation and climate change are of growing concern in the international community. University engagement with sustainability[3] began in the 1970s with the Stockholm Declaration on the Human Environment. Since then, there have been more than twelve Declarations and Charters outlining the role of universities in dealing with sustainability issues. In 1990, the Talloires Declaration outlined the responsibility of university administrators to "provide leadership" in sustainability,[4] while documents such as the 1997 Thessaloniki Declaration highlight the need for sustainability to be an interdisciplinary approach.[5] The importance of sustainable practice within university operations has also been emphasised in the Kyoto Declaration.[6] Recently, the 2001 *Universities of Australia Ecological Development Charter* encouraged social change in universities to address environmental and sustainable development issues across all disciplines. The Charter recognises that universities set an example for the wider community and therefore have a responsibility to educate future generations about sustainable practice as well as incorporate those practices into their operations.[7] The poignancy

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[2] Ellen Sandell, quoted from "A Tom Collins with...Ellen Sandell" *Honi Soit* Edition 12, 31st May 2011

[3] While the researcher does note the multiple uses for these terms, wherever 'sustainable' or 'sustainability' occur throughout this thesis, they refer exclusively to 'environmentally sustainable' or 'environmental sustainability.'

[4] Tarah S. A. Wright, "Definitions and Frameworks for Environmental Sustainability in Higher Education," *Higher Education Policy* 15, no. 2 (2002): 105-

[5] Thessaloniki Declaration, 'Section 12' *International Conference on the Environment and Society: Education and Public Awareness for Sustainability* (8-12 December,1997)

[6] Kyoto Declaration, 'Section 6' 1993, http://www.iisd.org/educate/declarat/kyoto.htm

[7] National Union of Students; *Universities of Australia Ecological Development Charter* (2001) relaunch for Sustainable Universities Campaign, accessed 17/10/10, http://rmit.com/browse;ID=wge5iqekxdr3z

of this research is enhanced by the United Nations designation of 2005-2014 as the 'Decade for Education for Sustainability.'[8]

The Research Topic

Both Macquarie University (Macquarie) and the University of Sydney (Sydney) express an online commitment to environmental sustainability. Sydney declares: "As an institution, we are committed to improving our own environmental performance."[9] Macquarie dedicates a number of web pages inviting visitors "to use this website as a means to find out more about sustainability and what you can do to improve your own and Macquarie's sustainability performance."[10]

Sydney's *Environmental Policy* has been in place since 2002 while Macquarie's *Sustainability Policy* was developed in 2009.[11] Each University has set up a sustainability specific website through their respective master-sites and has established a sustainability team. The presence of policies, online commitments and sustainability teams as specific implementing agents indicate a clear intention that both universities seek to become more sustainable operators. Furthermore, the universities intend to embrace sustainability through systemic transformation. Sydney notes that its *Environmental Policy* "will be applicable to all its activities, and at all its sites"[12] while Macquarie adopts the notion of a 'whole systems approach'[13] to embed sustainability into the University.

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[8] UNESO, *Education for Sustainable Development*, http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/

[9] "Sustainability at Sydney," accessed 12 May 2011, http://sydney.edu.au/about/sustainability/index.shtml

[10] 'Macquarie University Sustainability,' accessed 12 May 2011, http://www.mq.edu.au/sustainability/

[11] See appendix. Despite different nomenclature, when referred to collectively, these two policies will forthwith be known as 'sustainability policies.'

[12] University of Sydney, *Environmental Policy,* approved by Vice Chancellor on 25th September 2002, effective as of 25th September 2002

[13] Macquarie University, *Sustainability Policy,* approved by Deputy Vice Chancellor, Chief Operating Officer on 29 January 2009, effective as of 29 January 2009

Intention to systemically transform the institutions is understandable. It indicates a view to change 'what' people do, 'how' the system is organised and the 'purpose' of the institution to reflect a new mission.[14] The precise definition of 'sustainability' may be contested, but what is not disputed is the encompassing nature of the concept. While aiming for complete environmental sustainability may be unrealistic, managing internal contradictions is paramount. An organisation will struggle to claim sustainability by cutting emissions yet failing to provide recycling bins for paper in the print room. Internal contradictions plague all claims of sustainability and a view to systemic transformation can offer solutions to managing them.

Difficulties of Policy Implementation

All policy implementation is liable to being undermined by a number of factors including: poor policy design,[15] the allocation of ineffective policy tools,[16] inadequate causal theory,[17] and institutional path dependency.[18] Policies seeking systemic transformation are inevitably the hardest to implement simply because the scope of transformation is so great. Senge's assessment of organisational learning is applicable here as systemic transformation for sustainability "requires an unusual degree of commitment, because it insists that large numbers of people change the way they think and act."[19] In effect, a cultural change is being sought.

To illustrate the difficulty of implementing sustainability policies through systemic transformation, consider Mazmanian and Sabatier's framework for policy implementation.[20] Their theory of factors that affect problem tractability can be used to determine the difficulty of

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[14] ROSE Management Group, *Systemic Transformation: Quality Choice within 21st Century American High Schools* (Arizona; RMG, 2009): 9

[15] Thomas Birkland *Policy Process: Theories, Concepts and Models of Public Policy Making*, (New York: M. E. Sharpe Inc, 2001)

[16] Anne Schneider and Helen Ingram; "Behavioural Assumptions of Policy Tools" in *The Journal of Politics* vol 52, no. 2*,* (1990)

[17] Mazmanian and Sabatier

[18] Kenneth Arrow *The Limits of Organisation*, (New York: Norton, 1974): 55

[19] Peter Senge quoted in Fulmer and Bernard "A Conversation with Peter Senge: New Developments in Organisational Learning" *Organisational Dynamics* Autumn (1998): 40

[20] Daniel A. Mazmanian and Paul A. Sabatier, "The Implementation of Public Policy: A Framework of Analysis," in *Effective Policy Implementation* Mazmanian and Sabatier (eds.) (Lexington: Lexington Books, 1981)

the implementation process. There are three key issues that contribute to the tractability of sustainability within universities:

1. The presence of sustainability as a nebulous concept with competing definitions

2. The nature of sustainability as an overarching concept requiring integration in order to be successful

3. Application of this nebulous, overarching concept to a university – a traditionally decentralised institution often lacking coherent internal communications between siloed faculties and departments.

Using Mazmanian and Sabatier's framework, the tractability of the problem can be established. The availability of a valid technical theory as well as the technology for more environmentally friendly ways of operating is growing, though continually contested. The diversity of target group behaviour is varied, with the majority of the target group having to potentially make a large change to their behaviour patterns. The target group for the policy must be 100% of the university community - having a large part of the population comply is beneficial but comprehensive implementation will demand a far-reaching cultural change. Thus this problem has low tractability, posing many and varied complications to the implementation process.

The Research Question

The research has shown different approaches to implementation between Macquarie and Sydney. Macquarie has developed a sustainability team that interacts with many areas of the University community - its scope for implementation is wide. Sydney has undertaken a comparatively smaller scope for implementation, with more limited interaction with the University community. Macquarie is progressing towards systemic transformation, while Sydney is far from achieving it. The research question is: what is the reason for the different paths of implementation between the universities?

The inductive nature of the research points to differing capacities of the two sustainability teams - a result of discrepancies in the fulfilment of common groundwork factors that contribute to capacity for systemic transformation. The 'paths' to implementation are then perpetuated through either a positive capacity cycle that demands adaptation or a negative capacity cycle that stagnates. 'Capacity' is understood to refer to the 'ability' of teams to affect implementation and is contingent on the fulfilment of identified groundwork factors. The thesis will conclude with the presentation of a model, reflecting the inductive nature of the research. The model can be used to trace differing implementation through three initial groundwork factors of Vice-Chancellor (VC) support, positioning within the university structure and financial support. These factors are shown to contribute to efforts to communicate sustainability aims and to create a visible presence on campus. Differing levels of fulfilment in groundwork factors at Sydney and Macquarie can be used to trace the different paths of implementation. These paths are then perpetuated by Macquarie's entry into a 'positive' capacity cycle where legitimacy leads to autonomy in implementation; or Sydney's entry into a 'negative' capacity cycle where the team struggles to achieve legitimacy or autonomy.

Significance of Research

Firstly, it deals with taking the nebulous term 'sustainability,' which requires systemic transformation in order to be successful, and considers its implementation into a traditionally siloed institution. It culminates in the design of a model that can be used to explain differences between Sydney and Macquarie in achieving systemic transformation for sustainability policies.

Most importantly, while much has been written on the topic of sustainable universities in the US and the UK, the literature on Australian universities lags. This case study comparison of two Australian universities not only adds to the body of literature on the topic at large, but offers itself to be contrasted with universities overseas in order to explore differences between

university practices beyond our borders. More in-depth case studies of the Australian situation are needed before we can start to contribute our own findings to the greater theory of implementation.

Unlike past research, interviewees will not necessarily be from a single department or faculty, but rather individuals identified as having involvement in the sustainable policies on campus. These will include staff directly involved in the 'sustainability sector' of their institution who are involved in implementing polices and those knowledgeable about the implementation process at their university. The use of surveys has been the primary method of research into this subject thus far. My alternate choice of interview-based research will mark a difference in methodology and consequently, offer a new and unique data set.

Methodology

Research Design

The descriptive method of research is employed for this study to produce a thesis that is developed inductively. The primary source for data collection in this thesis is open-ended interviews which allows for the collection of first-hand accounts of sustainability policy implementation at Macquarie and Sydney. This method encourages the thought processes and narratives of individuals[21] which are useful in understanding the complexity of policy implementation. Uhl explains that researching sustainability calls for a 'human angle' that is best served through collection of qualitative data, a concept that illuminates my research design. Uhl's perception of sustainability is that: "It is a heartfelt way of looking at the world that encompasses mindfulness of place, respect for natural processes, discernment of true needs,

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[21] Fiona Devine, "Qualitative Methods" in David Marsh and Gerry Stoker (eds) *The Theory and Methods in Political Science* second edition (New York: Palgrave Macmillan, 2002)

honesty and civic responsibility."[22] This view is particularly applicable for the research as it requires the 'story' of sustainability from within the universities. Survey research would not have been suitable in terms of understanding the motives and processes of implementation at each university.

A 'comparative logic' methodology is used for this thesis. The choice of Sydney and Macquarie as case studies follows a 'most similar' design.[23] These two institutions are both located in Sydney, allowing ease of access for the researcher to observe the campuses and to conduct interviews. Their relatively close locality is also a control to ensure enough similarities between the institutions, both being universities located in Sydney.

The University websites are also vital sources of information, particularly Macquarie's separate sustainability website and Sydney's sustainability web pages located within the Campus Infrastructure and Services (CIS) website. Both universities offer an online student enquiry service that is used to conduct a natural experiment to ascertain the ease with which students can gain access to basic sustainability policy information.

First hand observation of physical campuses is also vital. Silverman discusses the importance for researchers to place themselves 'in the field' in order to better understand the 'socially organised character' of organisations.[24] Being on campus offers the opportunity to take photographs to evidence instances of signage used to communicate with the university community. It also provides an opportunity for the researcher to immerse herself into the campuses with a view to witnessing the 'visibility' of sustainability onsite.

Research Setting and Participants

Macquarie University and the University of Sydney were chosen as case studies because they

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[22] Christopher Uhl, "Process and Practice: Creating the Sustainable University," in *Sustainability on Campus* (Massachusetts: MIT Press, 2004): 35

[23] Marsh & Stoker (2002): 254-5

[24] David Silverman, *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction* second edition (California: SAGE Publications Inc., 2004): 286-7

share a similar institutional structure and both had expressed a commitment to initiate a systemic transformation in terms of their environmentally sustainable policies. The choice of two Australian universities is poignant because the thesis aims to lessen a gap in the literature where Australian universities are largely absent in studies conducted about sustainable campuses.

Participants for interviews were selected based on their knowledge of the policy process, and more specifically on their knowledge of the implementation of environmentally sustainable polices. Interviews were conducted on the campus of the relevant university where possible, a setting which I found encouraged interviewees to reference their surroundings as they discussed different elements of the campus. Macquarie's Director of Sustainability (Denby) was attending conferences overseas and therefore a Skype interview was conducted. Lavarack, the immediate past Manager for Campus Sustainability (MCS) at Sydney, was holidaying overseas with limited access to technology. He agreed that I send him ten questions on the topic that he would write replies to and send back. The questions I sent mirrored the open-ended questions I had used with other interviewees, however I did not have the luxury of tailoring further questions based on previous answers as I did in spoken interviews.

Instruments and Procedures[25]

Before interviewing commenced, the researcher ensured familiarity with the relevant policy documents and strategies of each University and an in-depth knowledge of the relevant sustainability websites. This process allowed for some interview questions to deal with specific documents, or statements previously made by the interviewees elsewhere. All interviews began with the participant describing their role at the university and developed based on this information. Participants spoke freely, allowing for the narrative of experience to permeate the data. Questions often progressed from topics that interviewees had mentioned in the public domain or through clarification of something they had flagged earlier in the interview. Questions

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[25] See appendix for research schedule

were also designed to indicate that the researcher had in-depth knowledge of relevant policies, strategies, procedures, events and initiatives so that the interviewee felt comfortable discussing the issues without having to explain basic documents and plans. Even so, the open-ended nature of questions allowed for discussion of documentation and events that the researcher had not yet discovered. Every interview was concluded with an entreaty for final comments that allowed for participants to bring up areas of the interview they wished to clarify or points that they wanted to bring to my attention that had not arisen earlier in the interview. The specific focus on Macquarie and Sydney means that a substantive theory was developed from the data.

It should be noted that the researcher is a student at the University of Sydney. However, it is important to point out that she is not a member of any of the student societies or collectives mentioned throughout the thesis.

Thesis Outline

Thus far, the research question, the significance of the topic and the methodology has been established. Chapter Two provides a review of the literature including policy design, implementation and institutional perspectives. The contested nature of 'sustainability' is explored before a summary of the literature that specifically deals with sustainability within universities.

Chapter Three summarises the history of sustainability at Macquarie and Sydney from 2007 to the conclusion of Semester One 2011. It traces the development of their sustainability teams, their engagement with their respective communities to illustrate the larger scope for implementation at Macquarie when compared to Sydney.

Chapter Four considers the three initial groundwork factors to building capacity for implementation: support from the Vice-Chancellor (VC), position within the university structure and financial support. The chapter outlines the different levels of achievement in these factors at

Macquarie and Sydney, concluding with the importance of these factors to achieving capacity and widening the scope for implementation.

Chapter Five explores the different approaches to communication of sustainability policies and implementation initiatives. It also tests the level of 'sustainability visibility' on the two campuses. Fulfilment of these factors is proven to be dependent on fulfilment of the initial three groundwork factors and together affect the overall capacity for sustainability policy implementation.

Chapter Six draws conclusions about the implications for implementation of sustainability policies. It outlines the concept of a 'capacity cycle' and emphasises Sydney's inability to harness its active student population as a factor in its entry into a negative capacity cycle. Macquarie's shifting focus toward the importance of adaptation as implementation efforts grow, is illustrative of their entry into a positive 'capacity cycle.'

Chapter Two: Policy Complexity: Contesting Sustainability and University Sustainability Policies

Policy literature represents a veritable minefield of empirical research and theory development. For this reason, literature has been broken down into three identifiable areas of consideration for purposes of analysis. These have been labelled the Implementation Perspective, Design Perspective and Institutional Perspective. The review also addresses the contested nature of the term 'sustainability.' The review concludes with a focus on the literature concerning 'sustainability' within universities.

Putting Policies into Practice

A Policy Implementation Perspective

Emerging first was a theory of top-down implementation that focused on the importance of clear policy objectives as defined by the upper levels of the administration and filtered down to implementing agents.[26] A subset within the area of top-down implementation soon eventuated with political scientists determining the characteristics needed for 'Perfect Administration.' Pressman and Wildavsky contributed five prescriptions for perfect implementation including considerations of: the interdependence of policy design and implementation; means used to achieve ends; causal theory; the continuity of leadership; and preference for simplicity in policy articulation.[27] By 1979, Mazmanian and Sabatier had developed an implementation framework that outlined four factors contributing to the tractability of the problem, seven factors that affect the ability of a statute to structure implementation and six factors that influence the non statutory variables affecting implementation.[28] Hilgartner and Bosk discuss theory of implementation;

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[26] Andrew Dunsire, *Implementation in a Bureaucracy* (New York: St. Martin's, 1978)
[27] Jeffery Pressman and Aaron Wildavsky, *Implementation* (Berkeley: University of California Press, 1973)
[28] Mazmanian and Sabatier, *Policy Implementation*

noting that novelty, cultural resonance, political bias, carrying capacity and institutional rhythms affect how target populations will respond to policy.[29] These developments are indicative of an increasing understanding of the scope and complexity of policy implementation.

By the 1980s, implementation literature took a turn towards a theory of bottom-up implementation that focused on the low-level actors and the defining process of bargaining and compromise at this level of implementation. The importance of street-level bureaucrats was first expounded by Lipsky[30] who considered the relative autonomy of these agents in the implementation of policy. A theory of 'implementation structures' was developed by Hull and Porter that accounted for the many and varied actors that implement a policy.[31] More recently, research in this area continues to show the underestimated influence of bureaucrats (street-level or otherwise) in the development and implementation of policy. Examples can be found in Meier and O'Toole[32]; Miller[33]; Fineman[34]; Beem;[35] and Winter and May.[36] The common trend in considering bureaucrat involvement is heavily based on case studies - from environmental agency inspectors (Fineman) to criminal justice agents (Miller) and Danish caseworkers (Winter and May).

The short-comings of both top-down and bottom-up models have led to a third body of literature that seeks to avoid an arbitrary distinction between the two. Sabatier worked towards a

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[29] Stephen Hilgartner and Charles Bosk, "The Rise and Fall of Social Problems: A Public Arenas Model" *American Journal of* Sociology 94 no. 1 (1988): 61-6

[30] Michael Lipsky, *Street-level Bureaucracy: Dilemmas of the Individual in Public Services* (New York: Russell Sage Foundation, 1993)

[31] Benny Hjern and David Porter; "Implementation Structures: A New Unit of Administrative Analysis" in *Organisation Studies* vol 2, no. 3 (1981): 211-27

[32] Kenneth J. Meier and Laurence J. O'Toole Jr.; "Political Control versus Bureaucratic Values: Reframing the Debate" in *Public Administration Review* vol 66, no. 2 (2006)

[33] Lisa L. Miller; "Rethinking Bureaucrats in the Policy Process, Criminal Justice Agents and the National Crime Agenda" in *The Policy Studies Journal* vol 32, no. 4 (2004)

[34] Stephen Fineman; "Street-level Bureaucrats and the Social Construction of Environmental Control" in *Organisation Studies* vol 19, no. 6 (1998)

[35] Betsi Beem; "Leaders in Thinking, Laggards in Attention? Bureacratic Engagement in International Arenas" in *Policy Studies Journal* vol 37, no. 3 (2009)

[36] Peter May and Soren Winter, "Politicians, Mangers and Street-level Bureaucrats: Influences on Policy Implementation" in *Journal of Public Administration Research* vol. 19, no. 3 (2009)

compromise of sorts, producing a synthesis model that considers the strengths of both approaches.[37] The importance of finding balance between the 'responsibility' of policy designers and the placement of 'trust' in policy implementers is discussed by Lane who focuses on how the balance may differ between short-term consolidation policies and long-term innovation policies.[38] Alternatively, Lynn uses a concept of 'nested games' to explain the relationship between deciding to design a policy (high game), determining the direction of a policy (middle game) and implementation (low game).[39]

Thus, the discipline has moved beyond relatively simple conclusions about top-down or bottom-up implementation. These theories have been surpassed by complex notions of the role of both policy designers and implementing agents who work in tandem to achieve effective policy implementation.

A Policy Design Perspective

After expanding literature on the topic of implementation produced little consensus, some focus was redirected towards the importance of well-designed policies. Mayntz addressed this shift in his article *Conditions for Effective Public Policy,* noting that "...the question is now how to fashion a programme as an effective instrument of reaching policy goals."[40] He goes on to discuss the importance of identifying relevant policy tools within policy design to assist the implementation process. Linder and Peters wish to avoid normative assumptions drawn from empirical evidence, instead, they call for an *ex ante* approach that sees the design perspective supplied with "a range of choices over formulation and implementation machines and a set of

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[37] Paul Sabatier; "Top-down and Bottom-up Approaches to Implementation Research: A Critical Analysis and Suggested Synthesis" in *Journal of Public Policy* vol 6, no. 1 (1986): 21-48

[38] Jan-Erik Lane; "Implementation, Accountability and Trust" in *European Journal of Political Research* vol 15 (1987): 527-46

[39] Laurence Lynn, *Managing the Public's Business*, (New York, NY: Free Press, 1981)

[40] Renate Mayntz, "Conditions for Effective Public Policy: A New Challenge for Policy Analysis" in *Policy and Politics* vol.11, no. 2 (1983): 124

plausible environments."[41] Birkland also developed a series of elements to be considered in policy design: the establishment of goals; a sound causal model; appropriate tools for implementation; a range of specified targets; and implementation.[42]

The literature on policy tools is large enough to warrant individual exploration. Lowi began categorising policy instruments as 'distributive,' 'regulatory' and 'redistributive' as early as 1966.[43] Researchers such as Schneider and Ingram have since characterised different types of policy tools as: authority, incentive, capacity, symbolic/hortatory and learning.[44] Howlett and Ramesh adopt a simpler economic or political model division[45] and Hood utilises mnemonics in his NATO categorisation of resources available to policy makers - nodality, authority, treasure and organisation.[46] This trend of general categorisation of tools has since expanded to focus on research into individual policy tools. Carson has studied community consultation[47]; Timmermans and Scholten consider the role of science[48]; Weiss and Tschirhart explore public information campaigns[49]; Alford outlines the importance of client co-production[50]; Baumgartner and Jones the role of lasting institutions[51]; and Head researches community engagement.[52]

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[41] Stephen Linder and Guy Peters, "A Design Perspective on Policy Implementation: The Fallacies of Misplaced Prescription" in *Policy Studies Review* vol 6, no. 3 (1987):471

[42] Birkland, *Policy Process*

[43] Theodore Lowi, "Distribution, regulation and redistribution: The Functions of Government" in *R B Ripley (Ed) , Public Policies and Their Politics: Techniques of government Control* (New York: W W Norton, 1966): 27-40

[44] Schneider and Ingram "Behavioural Assumptions" of Policy Tools"

[45] Michael Howlett et al; *Studying Public Policy: Policy Cycles and Policy,* (Toronto: Oxford University Press, 1995)

[46] Christopher Hood; *The Tools of Government*, (Chatham NJ: Chatham House, 1986): 124-5

[47] Lyn Carson et al.; "Community Consultation in Environmental Policy Making" in *The Drawing Board: An Australian Review of Public Affairs* vol 3, no. 1, (2002)

[48] Arco Timmermans and Peter Scholten; "The political flow of wisdom: science institutions as policy venues in The Netherlands" in *Journal of European Public Policy* vol 13, no. 7 (2006)

[49] Janet A. Weiss and Mary Tschirhart; "Public Information Campaigns as Policy Instruments" in *Journal of Policy Analysis and Management* vol 13, no. 1 (1994)

[50] John Alford; "A Public Management Road Less Travelled: Clients as Co-Producers of public services" in *Australian Journal of Public Administration* vol 57, no. 4 (1998)

[51] Frank R. Baumgartner and Bryan D. Jones; "Two models of issue expansion" in *Agendas and instability in American Politics* (1958)

[52] Brian W. Head; "Community Engagement: Participation on Whose Terms?" in *Australian Journal of Political Science* vol 42, no. 3 (2007)

The shift in the literature indicates a move to reconsider the role of policy design in achieving effective implementation. This has resulted in a focus on the role of policy tools. The categorisation of policy tools points to a need for political scientists to make sense of an ever-increasing amount of complex evidence drawn from studies in policy implementation.

An Institutional Perspective

Related to both the Implementation and Design Perspectives is a literature that considers the position of institutions and organisations within the policy process. Ostrom has classified institutional elements: position, boundary, scope, authority, aggregation, information and pay-off.[53] New Institutionalism has been employed to explain the limited power of leaders, the path-dependency of policies and the maintenance of power asymmetries within institutions.[54]

Implementation of policies within institutions inevitably leads to the discussion of path-dependent institutions and the ramifications for implementation. Mitroff's 'Onion Model' is a means of explaining the importance of understanding the 'culture' of an organisation, the complexity of which is distilled into a model that illustrates the layers that contribute to an organisation's culture.[55] While the model is used to explain crisis-management within organisations, the foundational logic pertaining to the nature of organisations has implications for policy and is supported by Schon and Rein's discussion of the importance of 'meta-cultural frames.'[56] The unchanging nature of institutions is explored in depth by Arrow[57] and David[58] who both emphasis the 'enduring constraints' imposed by the historical context in which institutions are established. From this literature grows the concept of 'punctuated equilibrium'

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[53] Elinor Ostrom, *An Agenda for the Study of Institutions* in Public Choice vol 48 (1986): 3-25

[54] Allan McConnell, (2011 forthcoming), "Institutionalism" in R. Smith, A. Vromen and I. Cook (eds.), *Contemporary Politics in Australia: Theories, Practices and Issues*, (Melbourne: Cambridge University Press)

[55] Ian Mitroff et al; "Do (some) Organisations Cause Their Own Crises? The Culture Profiles of Crisis-prone vs Crisis-prepared Organisations" in *Organisation Environment* vol 3 (1989): 272

[56] Donald Schon and Martin Rein *Frame Reflection: Towards the Resolution of Intractable Policy Controversies* (New York: Basic Books, 1994)

[57] Arrow, *Limit*s, 55

[58] Paul David, "Why are Institutions the 'Carriers of History'? Path Dependence and the Evolution of Conventions, Organisations and Institutions" in *Structural Change and Economic Dynamics* vol 5, no. 2 (1994)

and a number of critiques of path dependency theory. Baumgartner and Jones have written on the constancy of strong institutional structures - borne from spurts of public interest and enthusiasm - which remain until new enthusiasm creates a new institution or criticism leads to the destruction of one.[59] They have also noted the importance of 'positive' and 'negative' feedback.[60] Kay addresses the literature on path dependency to conclude it is useful to account for policy stability but otherwise must be considered in terms of temporality, interpretations of stability and the normative implications of inefficient path-dependent institutions.[61] Carpenter explores the opportunities for bureaucratic autonomy within these institutions, outlining the requirements for autonomy as political differentiation, legitimacy and organisational capacities.[62] In terms of systemic transformation, Senge summarises it as "initiatives aimed at deep change at the personal, interpersonal and systemic levels."[63]

Cerych and Sabatier's framework for policy implementation in the education sector is of particular relevance to this thesis. Their framework outlines the variables for implementation specifically in higher education including: the level of change required, the amount of Vice-Chancellor support, an adequate causal theory, the amount of support for reform and the impact of change from external conditions.[64] This framework has since been developed by Kendal who draws his conclusions from a study into the merging of universities and colleges of advanced education. He adds four new factors of consideration: leadership, political guidance, the role of incentives and organisational culture.[65]

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[59] Baumgartner and Jones "Two models"

[60] Frank Baumgartner and Bryan Jones, (eds.) *Policy Dynamics* (University of Chicago Press, 2002)

[61] Adrian Kay, "A Critique of the Use of Path Dependency in Policy Studies" in *Public Administration* vol 83, no. 3 (2005): 553-71

[62] David Carpenter *The Forging Bureaucratic Autonomy: Reputations, Networks, and Policy Innovation in Executive Agencies 1862-1928* (Princeton University Press, 2001)

[63] Senge, "A Conversation," 39

[64] Ladislav Cerych and Paul Sabatier, *Great Expectations and Mixed Performance – The Implementation of Higher Education Reforms in Europe* (Stoke-on-Trent: Trentham Book, 1986)

[65] Stephen Kendal, *Policy Implementation through Leadership: Success for Implementers*, (Saarbruken, Germany: LAP LAMBERT Academic Publishing, 2010): 148

This institutional perspective is an important step in recognising the effect of the environment in which a policy is designed and implemented. The institutional nature of universities requires an understanding of the unique structure of these institutions and the resultant effect on policy implementation.

The Contested Concept of Sustainability

From the 1970s onwards, the term 'sustainability' was adapted to tackle growing concerns about the environmental effects of the growth of industry and multinational corporations. After the United Nations Conference on the Human Environment in 1972, the definition of the term 'sustainability' was co-opted to suggest that it was possible for economic growth and industrialisation without environmental damage.[66] Definitions of the term continue to evolve and currently are characterised as either: essence-, strategy-, outcome- or movement- based.[67] Increasingly, the emerging realisation is that 'sustainability' is not an end-state but rather a continuing process of change.

Academics have also begun to engage with the definitional problems of the term 'sustainability.' In 1987, the World Commission on the Environment and Development Report delivered the Brundtland definition: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[68] Yet this definition lacks the discriminatory parameters needed to specify exactly what is meant by "needs." This

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[66] W. M. Adams, "The Future of Sustainability: Rethinking Environment and Development in the Twenty-First Century" in *Report of the IUCN Renowned Thinkers Meeting, 29-31 January* Published by the World Conservation Union (2006): 1

[67] Philip Sutton, *A Perspective on Environmental Sustainability? A paper for the Victorian Commissioner for Environmental Sustainability* version 2.b (2004)

[68] Brundtland Commission, "Section IV: Conclusion," in *World Commission on the Environment and Development Report* (1987)

single statement can be continually redefined, resulting in a number of different policy options, from ensuring optimal resource allocation to introducing a system of non-market valuation.[69]

Kate Sherren considers the complications of defining 'sustainability,' and the difficulties of using such a vague term when surveying universities on their practices. Different interpretations of the term means answers were not comparable.[70] Robert Vos also recognises the difficulties and posits that the definition changes to highlight different parts of sustainability as social and environmental conditions evolve.[71]

In the US, where case studies of sustainability in universities have been prevalent, the need for a grounded definition has been essential and some progress has been made. Uhl has identified thirty-three indicators for sustainability, that can be used to 'measure' how sustainable a university is, as part of his work to make Pennsylvania State University more sustainable.[72] Tarah Wright recognises the importance of a workable definition - she completed research in 2002 by breaking down exactly how universities deal with 'sustainability' by focusing on actual practices. These range from having sustainable physical operations, incorporating sustainable research and developing interdisciplinary curricula.[73] Wright has followed this research with a paper on university presidents and their conceptions of 'sustainable development' and 'sustainable universities.'[74]

In sum, the complexity of the term 'sustainability' has led to debate about the meaning of the term. The tendency for the term to be coopted to fit the needs of different sectors has led to some research into the adoption of the term by universities. Approaches to this endeavour have

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[69] Richard B. Howarth, "Defining Sustainability: An Overview," in *Land Economics* 73, no. 4 (1997): 445

[70] Kate Sherren, "Core Issues: Reflections on Sustainability in Australian University Coursework," in *International Journal of Sustainability in Higher Education* 7, no. 4 (2006)

[71] Robert Vos, "Defining Sustainability: A Conceptual Orientation" in *Journal of Chemical Technology and Biotechnology* 82, no. 4 (2007): 334

[72] Penn State Green Destiny Council, *Penn State Indicators Report*, (2000) accessed 9 Feb 2011 http://homes.bio.psu.edu/greendestiny/steps.shtml

[73] Wright "Definitions and Frameworks"

[74] Tarah Wright "University Presidents' Conceptualisations of Sustainability in Higher Education," in *International Journal for Sustainability in Higher Education* 11, no.1 (2010)

varied with the development of sustainability indicators in the US and the collection of data on attitudes towards sustainability here in Australia.

Sustainability in Universities

US researchers have led the way in providing case studies of universities and their approach to the implementation of environmentally sustainable policies. A compilation of research in the US on the topic can be found in *Sustainability on Campus: Stories and Strategies for Change.*[75] The book is diverse in material, offering the work of Uhl who has documented the process of creating the 'green destiny' movement at Penn State University[76] and Delind and Link who studied the success of a course at the University of California, Santa Cruz focused on creating a sustainable future.[77] However, the authoritative voice for information on sustainability in universities is the *International Journal of Sustainability in Higher Education*.

Researchers have also focused their attention on creating broad frameworks for the implementation of sustainability policies in universities. These include Rusinko's 'Generic Matrix'[78] and Sharp's work on 'greening' universities, both of whom contribute to the body of knowledge on systemic transformation.[79] Authors are united in agreeing on common barriers to implementation, including financial constraints and the difficulties of the decentralised nature of a university. Sharp has developed a particularly in-depth study into the nature of the university as an institution and created a list of considerations before implementing systemic change. The generation of these broad frameworks can be useful in coming to conclusions about the nature of implementing sustainable policies in universities.

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[75] Barlett and Chase (eds.) *Sustainability on Campus*
[76] Christopher Uhl, in *Sustainability on Campus*
[77] Laura B. Delind and Terry Link, in *Sustainability on Campus*
[78] Cathy Rusinko; "Integrating Sustainability in Higher Education: A Generic Matrix," in *International Journal of Sustainability in Higher Education* vol 3, no. 2 (2002)

[79] Leith Sharp; "Green Campuses: the Road from Little Victories to Systemic Transformation" in *International Journal of Sustainability in Higher Education* vol 3, no. 2 (2002)

In terms of studies conducted by Australian academics, research has been conducted by Davis et al. at Griffith University who used surveys to ascertain the 'sustainable attitudes' and behaviours of a sample of non-academic staff in the Information and Communication Technology Services Department.[80] Two years later, Maria Dyball also used quantitative methods in order to compare the perceptions of staff in the business faculty of an unnamed university. Academic staff and those involved in maintenance/administration in the faculty were asked to complete an online survey about their attitudes to the feasibility of sustainable practices in two Australian universities.[81] Important research in Australia has also been conducted by Kate Flint at the University of Newcastle.[82] She has conducted the first institutional level Ecological footprint analysis in Australia at the University of Newcastle, a case that illustrates the infant stages of sustainable research in universities here when compared to those completed in the US.

While the US has undertaken individual case studies, Australian research has focused more on collecting general survey data on university implementation.[83] This approach has resulted in very little information about policy implementation in individual universities and thus a limited understanding of the impetuses, developments and experiences of embracing the nebulous notion of 'sustainability.'

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[80] G. Davis et al.; "Sustainable attitudes and behaviours amongst a sample of non-academic staff A case study from an Information Services Department, Griffith University, Brisbane" in *International Journal of Sustainability in Higher Education* vol 10, no. 2 (2008)

[81] Maria Dyball; "Sustainability in an Australian University: Staff Perceptions" (2010), accessed 8 Feb 2011, http://apira2010.econ.usyd.edu.au/conference_proceedings/APIRA-2010-263-Dyball-Sustainability-in-an-Australian-University.pdf

[82] Kate Flint, "Institutional ecological footprint analysis - A case study of the University of Newcastle, Australia", in *International Journal of Sustainability in Higher Education* vol. 2, no. 1 (2001)

[83] Australian Conservation Foundation, "Current Practices and Developments in Australian and International Universities," in *Universities and Sustainability* (Victoria: Australian Conservation Foundation Inc., 2003); Ian Thomas and Jennifer Nicita, "Sustainability Education and Australian Universities," in *Environmental Education Research* 8, no. 4 (2002)

Conclusion

The three perspectives of the policy literature have developed to create an increasingly complex and ever-growing field. While the literature continues to grow in intricacy and volume, more specific approaches are welcome; they provide areas of highly focused literature that may be handpicked by policy designers, implementers and researchers. The contributions of Cerych and Sabatier; and Kendall on implementation within universities are testament to this. Their work provides context for my own research into the even more specific area of 'sustainability within universities.'

The literature raises some questions about sustainability policies implemented in universities. Will the case study universities validate a single top-down or bottom-up model? How relevant will Cerych and Sabatier's; and Kendal's theories on university implementation be to the very specific and low tractability of sustainability policies? How do implementers allocate policy tools and is it at a specific stage in the policy process? Which theories are useful for overcoming institutionalism when implementing these policies? How does 'positive' and 'negative' feedback apply in this case study?

The complexity concerning the definition of 'sustainability' only further complicates efforts to implement sustainability policy. The development of the concept within universities is in early stages, with attempts to appoint sustainability indicators and to ascertain the attitudes of university communities. Consensus in this area is limited, although the overarching nature of the concept and the absence of an end-point provide a couple of points for agreement. It raises the question of how the case study universities overcome difficulties in defining sustainability?

Research on Australian universities is limited and does little to reflect the dynamic nature of environmental concerns. More research is needed to match the US and European development in this area and to provide the knowledge required to better increase the success of sustainability policy within Australian universities.

Chapter Three: Two Histories of Sustainability

The background to the development of sustainability at Macquarie and Sydney must first be established. This chapter is mostly descriptive, tracing the development of sustainability at Macquarie and Sydney from 2007 to the conclusion of Semester One, 2011. Some events prior to 2007 are mentioned in order to offer clarity for subsequent developments that took place within the chosen timeframe. The chapter seeks to outline the very different paths of implementation adopted by the universities, with Macquarie undertaking a comparatively broader scope of sustainability policy implementation than Sydney.

Sustainability at the University of Sydney

A Tale of Changing People and Unchanging Documents

There is no distinguishable definition of sustainability at Sydney. The University's current *Environmental Policy* has been in place since 2002.[84] The barely three-page document remains unreviewed since it was written, while the sustainability team at the University has undergone multiple changes in its structure. The team falls under the remit of Campus Infrastructure and Services (CIS) and the bulk of sustainability web pages are located on CIS's website.

In 2007, sustainability at Sydney was in a state of flux. Circumstances led to changes in the established team, leaving John Lavarack - the Acting Manager of Environmental Strategies - as the sole member. In this same year, the University undertook a significant restructure of staff and governance and thus by 2008, Lavarack took on the new role of Manager for Campus Sustainability (MCS), adding an Environmental Programs Coordinator to his team, the role that

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[84] University of Sydney, *Environmental Policy*

would be taken on by Joel Turner in 2009. Turner overtook the management of the Sustainable Workplace Program (SWP) that had been developed in 2008 and which is still in operation today.

The work of the team leading up to 2007 and beyond was largely defined by the Energy Administration Amendment (Water and Energy Savings) Bill of 2005.[85] The Amendment required *Sydney Water's* major users, including the University of Sydney, to develop a Water Saving Action Plan. The NSW State Government also required the University to develop a four year Energy Savings Action Plan.[86] The development of these plans became the foci for the members of the team, particularly as they worked to implement the plans alongside 'Campus 2010,' a $250 million capital development program. In order to achieve the desired energy and water savings, the team wanted to ensure that the designs of new buildings would support the vision for a sustainable campus that was outlined in the 2002 *Environmental Policy*.

By 2009, a resignation, termination of a grant funded position and an instance of maternity leave, left the team with only a Manager for Campus Sustainability and the Sustainable Workplace Coordinator. Around this time, the MCS took on another role as Interim Manager for the University of Sydney Institute for Sustainable Solutions (USISS) which had been established only the year before. He worked to develop a 'Framework for Integrating Sustainability in Capital Works' in an effort to ensure the sustainability of future buildings.[87] Meanwhile, SWP is an initiative designed to enable staff to "become active contributors to local workplace solutions to pressing global environmental problems."[88] Representatives from faculties and service units joined the program and then became the point of contact between other members of staff about issues of sustainability in the workplace. The SWP is currently composed of 60 staff volunteers.

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[85] NSW State Government *Energy Administration Amendment (Water and Energy Savings) Bill,* (2005) Act 2005 no. 18

[86] Campus Infrastructure and Services website, '*What is Sydney Doing? – Sustainable Campus*' accessed 8 August 2011, http://sydney.edu.au/facilities/sustainable_campus/energy/university.shtml

[87] The framework has since been adapted for the sustainable development of the Centre for Obesity, Diabetes and Cardiovascular Diseases

[88] "*Sustainable Campus*"

The team continued its focus on staff engagement throughout 2010, with the Sustainable Workplace Coordinator undertaking a staff survey to ascertain attitudes towards sustainability. The survey found 62% of respondents had engaged with some type of environmental sustainability issue in the workplace. It also found that the two main issues noted by respondents were: saving energy and reducing waste, followed by an interest in building 'greener' buildings and saving water.[89] At the end of the year, the 2010 SWP Annual Report was published - a comprehensive document outlining the departmental spread of representatives; projects and initiatives developed throughout the year; evaluations from team members; and suggestions for further improvement and development of the program.[90] Case studies of initiatives developed through the program are located in the Appendix and include the introduction of Envirobanks in the Economics and Business Faculty; a shift to 'standby' settings for computers on campus; worm farms in the Law Faculty; and a shift to Multi-Function Devices in Pharmacy.[91]

In early 2011, Lavarack resigned from his position. This development led to a restructure of the team because Turner was its only remaining member. Toward the end of Semester One 2011, the University was in the process of hiring one Manager, two Sustainability Officers and two Engineers, with Turner having already been appointed as one of the new Sustainability Officers.[92]

While this account speaks for the developments in sustainability at Sydney, it is important to note silences where opportunities for development in this area were left unfulfilled. Environmental sustainability is decidedly absent from the 'Objectives' outlined in the 2007-2010 *Strategic Plan* for the University.[93] In fact its appearance in the document under Strategies for

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[89] *Sustainable Campus Staff Survey* (2010) conducted online, results disseminated by Joel Turner – Sustainable Workplace Coordinator

[90] Sustainable Campus Team, *Annual Report: Sustainable Workplace Program,* (2010)

[91] *Annual Report: Sustainable Workplace Program,* 'Appendix B'

[92] Interview with Sustainability Officer at the University of Sydney, 17th June 2011

[93] Office of Strategy Implementation & Sustainability Planning, *Strategic Plan 2007-2010,* (2006)

CIS seems to be merely a token line – "commitment to sustainability and best practice"[94] – as the following Initiatives have nothing to offer in terms of actually achieving a sustainable campus. A similar critique can be made of the *Strategic Directions* paper for 2006-2010. While "continuous improvement in environmental performance and sustainability"[95] is mentioned in passing as a benchmark for Infrastructure and Services, the notion is not developed any further under the accompanying outline of 'Priorities.'

When considering more recent documents, the situation does not change. The 2011-2015 *Green Paper* and its subsequent *White Paper* give no hint of further development of sustainability on campus. Mentions here are restricted to the state of the USISS, with the *Green Paper* citing the opportunity for it to "provide expertise for the University's own efforts to create an institutional life that is more sustainable."[96] By the time the *Green Paper* had been reviewed in anticipation of the publication of the *White Paper*, there was no further emphasis on the topic. In fact the only mention seemed to concern the future of the USISS, stating that "work is also being undertaken in 2010 on the ongoing viability of the Institute for Sustainable Solutions and a decision needs to be taken in the second half of 2010 as to the best organisational arrangements for the University's work in sustainability."[97] Sustainability as an issue will not be developed as a top priority for the University in the near future, judging by the 2011-2015 *Strategic Plan*, which again only mentions a re-evaluation of the USISS.

The constant shifting of team personnel, a focus on staff (not student) engagement and an absence of sustainability consciousness from major University documents has resulted in little scope of implementation for sustainability policies. This undermines Sydney's commitment to systemic transformation.

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[94] *Strategic Plan 2007-2010*, 'Professional Service Units,' 24-25
[95] *The University of Sydney Strategic Directions 2006-2010,* (2005):11
[96] Michael Spence et al, *The University of Sydney 2011-2015 Green Paper* (March 2010): 96
[97] *The University of Sydney 2011-2015 White Paper* (August 2010): 32

Students Step Up

The University of Sydney is known for its thriving student life, even post-Voluntary Student Unionisation, due in part to the strength of the University of Sydney Union (USU) which currently plays host to more than 200 Clubs and Societies.[98] A thorough consideration of the development of sustainability at the University of Sydney would not be complete without exploring the student sphere.

There are a few student groups on campus that focus on environmental issues: the Environment Collective (EC); Climate Action Collective (CAC) and Student Environment Action Collective (SEAC) fall under the Environment department of the SRC. In addition to these groups, the USU supports Greens On Campus (GOC) and the Captain Planet Appreciation Society (CPAS). The diverging interests within the EC in 2005-06 led to the creation of CAC and SEAC – with the former focusing on effecting change at the Federal level and the latter attracting students who wanted to see action take place on campus. GOC, falls under the remit of the USU as a society, attracting 89 members to its Facebook page.[99] CPAS provides a more social platform for like-minded students to meet and raise money for environmental projects.[100]

With a focus on renewable energy on campus, SEAC launched a Green Campus Now campaign in 2005 to raise awareness and convince the University to purchase 20% renewable energy. Eventually, the collective drew support from sixteen of the University's faculties and 4,500 petition signatures from students.[101] Following this, the group staged a 'camp-out' on University Lawns to protest lack of action at the executive level but were unsuccessful, despite increasing media coverage on the issue.[102] The next phase of the campaign involved a student referendum. 3,000 students voted and:

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[98] USU, "Clubs and Socs" accessed 9 August 2011, http://www.usu.usyd.edu.au
[99] Interview with Donherra Whalmsley, President of the SRC at the University of Sydney, 27th June 2011
[100] "Clubs and Socs"
[101] Anna Rose, 'Campaign Case Study: Sydney Uni Campus Clean Energy' *Power Shifting Towards Tomorrow* (blog) posted March 2011, http://annarose.net.au/2011/03/21/campaign-case-study-sydney-uni-campus-clean-energy/
[102] "Green Campus"

- 90% of students believed that the University has a responsibility to act on climate change

- 93% believed that the University should reduce its energy consumption in order to reduce its impact on climate change

- 90% believed that the University should purchase a minimum of 20% Greenpower

- 81% believe that the University should declare its partnerships with the fossil fuel and nuclear industries.[103]

As a result of the referendum, the University invested $1 million to conduct renewable energy research. In 2010, SEAC relaunched its campaign and now aims to convince the University to switch to 100% renewable energy and achieve a 50% cut of carbon emissions by 2020, ensuring reductions are achieved "through environmentally and socially responsible mechanisms."[104]

Such efforts indicate a strong push from the student population to achieve a more sustainable campus. However, progress in this area has been slow. Sustainability policy implementation has not been systemic and far from being regarded as a priority for the University, resulting in comparatively small scope for the sustainability team to affect implementation.

Sustainability at Macquarie University

Establishing the Team and Creating Policy

Macquarie has undertaken a much larger scope for implementation through the development of a *Sustainability Strategy* and by extending networks from staff to student engagement. In 2007, two separate entities formed on the Macquarie Campus: The Sustainability Working Group (SWG) and the Sustainability Office (S.O.). The SWG was made up of 16 staff and students

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[103] Rose, *Power Shifting*
[104] "Green Campus"

from all areas of the University. The initial task of the newly created S.O. was to prepare a document to ascertain the state of sustainability on campus with the aid of the SWG. Titled '*State of Play at Macquarie University: Sustainability Actions, Plans and Policies,*' the document outlined a vast range of areas within the University in terms of sustainability, from Learning and Teaching; Campus Management and Operations; Human Resources and Personnel.[105] By 2008, the University had employed one of the principle authors of the audit to take on the role of Director of Sustainability – Leanne Denby. The findings of the audit were then developed into a *Sustainability Policy* that was approved by January of 2009 and similar in length to Sydney's *Environmental Policy.*[106] However, unlike Sydney University, the policy was developed in tandem with a *Sustainability Strategy* that outlined sustainability targets to be reached by 2014.[107] Denby developed the Strategy with the assistance of the three other sustainability team members at the time and various specific Action Groups which provided representation from all areas of the University and whom report to the SWG. This structure of governance allowed for a rigorous process of review and refinement to the emerging Strategy.

Since 2009, the S.O. has expanded and now includes:

- Director of Sustainability

- Sustainability Officer

- Sustainability Engagement Officer

- Manager for Operational Sustainability (MOS)

- Sustainable Transport Officer

- Biodiversity Planner

- Multimedia Administrator

- Macquarie University Arboretum Coordinator

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[105] Leanne Denby. et al, *State of Play at Macquarie University: Sustainability Actions, Plans and Policies* (Sydney, Australian Research Institute for Education and Sustainabilty:2007)
[106] Macquarie University *Sustainability Policy*
[107] Leanne Denby, *Macquarie University Sustainability Strategy: Target 2014*, (Macquarie University, Sydney: 2009)

The team originally sat within the office of the Deputy Vice-Chancellor (DVC). They moved to sit directly under the Office of the VC after a restructure of portfolios following the resignation of the DVC. Bekmann (MOS) enjoys a dual reporting line to the Director of 'Property' – the office dealing with facilities management and major projects – which allows for a direct relationship to campus management, as well as retaining a connection to the VC. The growth of the team looks to continue with further inclusion of an Office Administrator and an Executive Assistant in the near future.[108]

Macquarie endeavoured to overcome the difficulty of defining sustainability by drawing on the Brundtland definition, which cites inter and intra-generational equality as its foundation. However, Denby was eager to note that it is a fine line between having a definition that's too rigid and one that's too loose. She explained that what the University really aims for is to:

"...go in with a broad definition but then let people articulate it as they see fit but help them in that process so don't let them just come back saying "it's a balance between environment, society and economics." Actually push them on that a little more and say "but how is that relevant to you and what you're teaching?""[109]

With a broad definition, a *Sustainability Policy* and a 36-page strategy to complement that policy, the S.O. set out to begin engagement with the University community.

Engaging the University Community

Denby originally set out to engage the student population of the University but did not progress very far:

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[108] Interview with Manager for Operation Sustainability at Macquarie University, 29th June 2011
[109] Skype Interview with Leanne Denby, Director for Sustainability at Macquarie University, 21st June 2011

"everybody kept telling me "you need to concentrate on the students, that's the key thing. You need to get them engaged." So we actually did spend quite a bit of time trying to get the students engaged and I thought... it was just insane! We were spending a lot of time and energy and getting nothing back for it."[110]

As a transient population, apathy was offered as the reason for the lack of success with students, the majority of whom found little relevance for sustainability in their own lives,[111] an interesting conclusion considering the experience at Sydney. The team moved on to work with a relatively more permanent population, developing engagement with staff through the Sustainability Representative Network (SRN).

The SRN is made up of staff representatives who act as liaisons between their department and the S.O. on issues of sustainability, providing information and support to their department. All members attend training workshops and meetings hosted by the S.O. They are also given the chance to attend the Australasian Campuses Towards Sustainability conference, with their attendance funded by the University.[112] The work of the SRN is enhanced by the annual Department Challenge, founded in 2009. The Challenge aims to motivate staff - departments win 'stars' based on different sustainability actions, culminating in the award of the 'Most Sustainable Department'. The SO continues to develop the Challenge, adding new, larger initiatives – such as whole energy audits on buildings. Macquarie's Sustainability Officer, Belinda Bean explains the Challenge's utility:

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[110] L. Denby, 21st June 2011
[111] L. Denby, 21st June 2011
[112] Macquarie University Sustainability website, Sustainability Representative Network webpage

"...it's a major tool that Staff Sustainability Representative network because what it does, it gives them a structure of things that can be done, things that can be reported, things that can be measured that they can then get their teams to engage with."[113]

Macquarie University has also worked to ensure new staff members are aware of the sustainable direction of the campus. From 2010, all new staff must undertake two online sustainability induction modules: 'Sustainability Awareness' and 'Resource Efficiency.'[114] The University also seeks to maintain an ongoing interaction with sustainability issues between staff members, though it differs between Faculties. Following discussions throughout 2009 between Denby and Faculty Deans, a decision was reached to establish Sustainability Committees in two of the Faculties, with the remaining two Faculties including sustainability as a standing agenda item for all major committee meetings.[115] Such actions indicate the growing culture change within the University to integrate sustainability across campus.

Macquarie has endeavoured to encourage staff to consider more sustainable transport options through their Staff Travel Loan Scheme (STLS). The University purchases a suite of quarterly and annual travel passes through CityRail upfront and then offers them to staff who pay the pass off fortnightly through small salary deductions.[116] This scheme allows more staff to take advantage of the better value offered by a quarterly or annual pass without having to pay a large sum up front.

With the engagement of staff well under way at the University, the S.O. has returned once again to consider the best way to engage the student population. Macquarie has adopted a "many-pronged attack"[117] in order to capture the attention of students through a mixture of representational positions and sustainability integration into every-day campus life. The Student

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[113] Interview with Sustainability Officer at Macquarie University, 23rd June 2011
[114] "Macquarie University Sustainability"
[115] "Macquarie University Sustainability"
[116] Interview with Sustainable Transport Officer at Macquarie University, 28th June 2011
[117] Interview with Sustainability Officer, 23rd June 2011

Sustainability Network was established following the success of the SRN and aims to provide professional development for students interested in the area of sustainability as well as a platform to develop informal events that work to increase awareness around sustainability.[118] Students are also being given the opportunity to work within the Department Challenge as student liaisons who aid the staff in completing tasks to gain stars. This has the dual benefit of aiding students in developing the soft skills needed in the workforce as well as providing assistance in completing sustainability actions that can often be very time-consuming for staff to take on by themselves.

The SRN and the Challenge Liaisons offer opportunities for individuals who are already identified as 'sustainability champions,' but the wider University community is not necessarily captured within these networks. As a result, Bean adopted an alternate approach to integrate sustainability into campus life. She explains how they realised they needed a new direction:

"...the Sustainability Fair which was a big, big event to try and promote engagement and awareness. However, we found over the years they sort of stopped working, and I think that's down to sustainability saturation. People were either over it, or they see it and they don't really know what it is so therefore they're not going to walk into a room where you're going to talk about sustainability, it's too confronting. So, we're sort of wanting to take the approach now of rather than having these separate sustainability events...why don't we look at the events that already exist within the University and make them inherently sustainable?"[119]

In keeping with their theme of 'Living Classroom,' the University ensures the operations of the University continue to develop sustainably to reflect what is taught in lecture theatres. Macquarie boasts two gas fired generators on campus, the first system in Australia to use

[118] Interview with Sustainability Officer, 23rd June 2011
[119] Interview with Sustainability Officer, 23rd June 2011

combined power, heat and cooling with chilled water storage.[120] It has switched to waterless woks in their food outlets and "about 80% of all Campus Experience packaging is now 100% biodegradable and compostable."[121] Additionally, the new library on campus has "one of the largest green roofs for an education building in Australia, the rainwater harvesting system alone saves over half the required water supply from Sydney Water" and is designed for significant savings in power use.[122]

Finally, Denby has managed to have sustainability named as a 'Graduate Capability' for the University. Consequently the S.O. is currently working on the best way to ensure each Macquarie student fulfils that requirement, turning to the PACE (People and Community Engagement) initiative as a means of reaching this goal. If this idea is to come to fruition, then every graduate of Macquarie University will have completed one People, one Planet and one Participation unit throughout their degree, no matter what they study.[123]

Conclusion

Sydney's 2002 *Environmental Policy* gave them a seven-year head start on Macquarie's 2009 *Sustainability Policy.* Yet, the development at Sydney has lagged behind the achievements at Macquarie, even despite the politically active student population at Sydney. Macquarie's sustainability team is designed to affect many areas of the University with networks now expanding to include students as well as staff. The scope for Macquarie's implementation is large, better allowing for systemic transformation. Sydney's sustainability team has struggled through multiple personnel changes, the history of which is yet to see more than four members in the team. This has led to a focus on the 'greening' of buildings, staff engagement and an inability

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[120]NSW Government Trade and Investment, *Energy Efficiency – Cogeneration*, accessed 8th September, http://www.dtiris.nsw.gov.au/energy/sustainable/efficiency/cogeneration
[121] "Macquarie University Sustainability"
[122]Melbourne Design Awards (2011), *Macquarie University Library*, accessed 8 Sep 2011, http://melbournedesignawards.com.au/mda2011/entry_details.asp?ID=10106&Category_ID=4700
[123] Interview with Sustainability Officer, 23rd June 2011

to harness the potential of the active student population. The scope of Sydney's implementation is smaller as a result, making systemic transformation difficult. The thesis will conclude that the reason for this difference in scope is the 'capacity' of the sustainability teams. Chapter Five will consider the first three factors, found inductively through interviews, which contribute to capacity for sustainability implementation through systemic transformation.

Chapter Four: Exploring the Differences: Hierarchy, Support and Finance

From similar commitments to environmental sustainability, two universities have developed different scopes for implementation. The reasons for this divergence must now be explored. It is argued that part of the reason for the differences in implementation between the universities is contingent on the level of executive and financial support received and the position of the sustainability team within the university structure. These initial groundwork factors will then contribute to efforts to communicate with the university community, in turn affecting opportunities to build capacity for implementation.

Executive Support

Macquarie has had strong executive support. From the beginning, when Denby first compiled the University's *State of Play* document, she was given the freedom to take the holistic approach she believed the process required:

"I was reporting to the DVC – I said to him "this is not just about operations, this is about everything that a university is. Are you ok with that?" He just said "look, you do whatever you think needs to be done.""[124]

This type of support allowed Macquarie's team a certain amount of autonomy that continued even after a restructure within the University following the resignation of the DVC. The restructure placed the S.O. directly under the Office of the VC and allowed the team to establish a direct reporting line to the VC – Steven Schwartz. Macquarie's Sustainability Officer indicates

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[124] Interview L. Denby, 21st June 2011

that while this did mean that the VC had less time than the DVC to engage with the team regularly, support has not waned "because he [the VC] sort of goes "ok run with it, I love what you're doing just keep me posted."[125]

Sustainability has been on the agenda for Schwartz from early on in his tenure. Different facets of sustainability at the University have been the topic of at least five of his online blogs since 2008.[126] In 2009, he was a key note speaker at the Australasian Campuses Towards Sustainability (ACTS) conference where he outlined the sustainable features to be included in the construction of Macquarie's new library.[127] That same year, he opened the Enhanced Sustainability Workshop at Macquarie, speaking of the importance of sustainability as an issue and Macquarie's approach to embed sustainability into practices, buildings, operations and "everything we do."[128] This consciousness and the resultant support for the S.O. at Macquarie can go some way to explaining the overarching and deep implementation approach Macquarie has undertaken.

The importance of executive support is further evidenced as much by its lack as in its presence at Sydney. Lavarack includes the launch of the Sustainable Workplace Initiative as one of three sustainability successes at Sydney. He attributes this success to the early senior executive support it received from the then Chief Operating Officer (COO), primarily because the COO "took charge of a range of University operations that were most usefully included in sustainability strategy: ICT, Human Resources, Finance and Infrastructure."[129] However, the COO left the University and his position was not reappointed. As a result, the Sustainable Workplace Initiative (SWI) was dispersed between a number of individuals and lost momentum in the shift.

[125] Interview with Sustainability Officer, 23rd June 2011
[126] Steven Swartz, *Vice Chancellor Steven Swartz Blog,* accessed 18 Aug 2011, http://www.vc.mq.edu.au/blog/category/sustainability/
[127] Macquarie University Sustainability website, 'ACTS Conference 2009' *Media* webpage, (accessed 06/04/11) available at http://www.mq.edu.au/sustainability/media/video/1009-ACTS-D2.1/StevenSchwartz.html
[128] YouTube, *An Afternoon of Enhanced Sustainability*, posted March 2011, http://www.youtube.com/watch?v=efV3csjWoT4
[129] Interview with John Lavarack, Manager for Campus Sustainability at University of Sydney, 7th August 2011

The importance of support from the VC cannot be overestimated. Lavarack argues that:

"...all the seeds of leadership are in place [at Sydney] *and the planning frameworks, information systems and human resources are ready to go or readily developed. I believe that, in the end, the only person with the authority and remit to activate all of this is the VC (in his or her capacity as CEO)."*[130]

These findings suggest that the sustainability team is not struggling to come up with implementation plans but rather that they are lacking the authority they require to 'activate' implementation. As a result, implementation is being stalled, resulting in limited progress towards the sustainable campus the University claims it wishes to establish. It is a frustration expressed in the 2010 SWP Annual Report:

"This issue of a lack of leadership caused significant initial skepticism (sic) *towards the program and continues to hinder workplace initiatives. Those departments with Deans and school managers who are showing leadership in Sustainability (such as Physics, Law, and Architecture) all have thriving Sustainable Workplace Programs. Those without high level support, find it significantly more challenging to implement worthwhile initiatives as there has not yet been a directive from the leaders of the University supporting these kinds of activities."*[131]

Students are also seeking VC support. In early 2011, the Environment Department had managed to organise a meeting with Vice Chancellor Michael Spence, although this meeting has been deferred a few times. The SRC President puts this down to:

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[130] Interview J. Lavarack, 7th August 2011
[131] Sustainable Campus Team, *Annual Report*, 24-5

"...a case of he's really, really busy – and I've definitely had meetings where it's been an hour late or had to be cancelled or rescheduled, it's just what happens but I think probably, unfortunately they've been bumped down because on the hierarchy of importance the Environmental campaigners have been viewed as less important than some other people within the University."[132]

This sentiment seems to sum up Sydney's position on sustainability and explains the relatively small scope of their policy implementation even with such an active student body and a small but committed sustainability team. The University has limited executive support.

VC support should be viewed as a return to Cerych and Sabatier's model for effective implementation, which originally flagged the support of the VC as crucial to implementation.[133] The framework has since been developed by Kendal who added 'leadership' to the model,[134] although in this case it is VC leadership that is specifically warranted. To turn to Senge's concept of a 'community of leaders,' the sustainability team members may be viewed as the 'local line leaders' in reform, offering guidance and examples of best practice. However, the VC as the 'executive leader' must also play his or her part in the 'community of leaders' in order for systemic transformation to be successful.[135] The issue of sustainability does not apply to any one single area within a university rather, it crosses over teaching and learning, research, procurement, operations, capital works development etc. For this reason, no single specific Committee or Board has the ability to approve changes to each and every one of these areas. Therefore, support from the very top is crucial to ensuring the complete integration of sustainability into the university.

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[132] Interview D. Whalmsley, 27th June
[133] Cerych and Sabatier, *Great Expectations*
[134] Kendal, *Policy Implementation*
[135] Peter Senge, "Communities of Leaders and Learners" *Harvard Business Review* (September-October, 1997)

The difference in the level of executive support between the universities is evident. At Macquarie, we have an example of a Director for Sustainability who was afforded freedom to pursue an all-encompassing approach to sustainability due to continued support from the executive levels of the University. While Macquarie is empowered through their position and the attitude of their VC, Sydney focuses on departmental based initiatives to work towards implementation of their *Environmental Policy*. Expanding the success of the project relies on complete integration into this decentralised institution. This paradox can in part be solved through executive support for campus-wide implementation of the policy. The other crucial factor is an advantageous positioning of the sustainability team within the structure of the university.

Position in University Structure

The necessity for sustainability to be integrated at all levels within the university means that support from the VC is crucial, but not sufficient on its own. For a sustainability team to be successful it must establish connections within the many different areas it seeks to implement. I suggest that the difference in structural placement of the sustainability teams has contributed to a difference in implementation. Macquarie has made connections with the VC and Property however, Sydney's team has been restricted to CIS.

Macquarie is aware of the importance of positioning sustainability teams within the governance structure. Their Manager for Operational Sustainability (Bekmann) has dual reporting lines to the Director for Sustainability *and* the Director of Property. Such an arrangement allows continued communication between different strata. With the establishment of a sustainability specific implementing agency in the form of a sustainability team, traditional top-down and bottom-up modes of policy implementation are conflated. Macquarie seems determined to follow in both directions at once, as the team's proximity to the VC allows them

access to the policy design stage and their relationship with Property places them in close contact with other implementing agents such as grounds managers. This type of structure has been particularly important for team members, especially Bekmann and the Biodiversity Planner (Macris), both of whom find they need to work closely with grounds keepers, administration staff and capital works developers in order to affect appropriate implementation. The implementation benefits of this position are invaluable, especially in terms of achieving systemic transformation within the university, as the team can establish contact points at many levels within the university structure and therefore increase their capacity for effecting cultural change.

The team at Sydney holds a different position within the University structure. Situated under CIS, the team is well positioned to establish relationships similar to those created between Macquarie's SO and Property, and therefore to be pushing the sustainability angle when dealing with the day-to-day operations of the University. However, because there is no direct connection to the executive levels of the University, its presence is restricted to CIS, and the effect is significant. The absence of sustainability concerns in the University's most recent *Green* and *White Papers* are evidence. Restricted by its position in the structure, Sydney's sustainability scope is limited. While these are obviously useful areas in which to apply a sustainable sensibility, they do not encompass the breadth with which sustainability must be implemented in order to achieve systemic transformation. Additionally, the lack of executive support means that even when the sustainability team does focus on campus operations the results are slow and ad hoc. Evidence of continual delays can be found on the Sustainable Campus website which states:

"In 2009 a new framework to improve integration of environmental sustainability in capital works is being developed. This will consolidate the experience from the Campus 2010 program and inform the next generation of buildings in the Campus 2020 building program."[136]

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[136] http://sydney.edu.au/facilities/sustainable_campus/buildings/university.shtml

The shift in focus from *Campus 2010* to *Campus 2020* indicates the difficulties the sustainability team had in ensuring sustainability consciousness for the former project despite the team working towards this goal since at least 2005. With their *Environmental Policy* in place a full seven years before Macquarie's *Sustainability Policy,* this lag in development indicates extremely slow implementation due to low capacity levels.

The restrictive placement of Sydney's sustainability team also means that they have limited scope to communicate with different levels of the University. While their close proximity to the professional service units within the University is beneficial, without deeper integration into the University structure, the sustainability team relies on creating networks through staff which, while useful, are still contained within individual departments and unable to affect a cohesive, campus-wide movement.

The Departmental Challenge at Macquarie, may be similarly criticised, however Macquarie has also adapted to incorporate student liaisons for the Challenge. In this way, Macquarie continually extends networks and encourages engagement through events such as the Department Challenge awards night. The opportunity to host an awards night leads us to another form of support. Implementation paths at Macquarie and Sydney show signs of differing amounts of financial support.

Financial Support

If support from the VC has been secured, an outward expression of this support is required, in particular, the provision of financial support to enable plans for implementation. This is by no means a new revelation, the provision of financial resources for implementation is uncontested and falls under 'condition two' of Mazmanian and Sabatier's 1979 model.[137] In this study, financial support may take many forms, from the value and quantity of salary allocations

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[137] Mazmanian and Sabatier, *Framework of Analysis*

within sustainability teams; to providing the means for financial incentives intended to encourage policy compliance and continuing growth in the establishment of implementation initiatives.

Macquarie has enjoyed comparatively strong financial support. Bekmann at Macquarie points out: "We're lucky that we do have a reporting line that goes up very high. I mean that's great. And we've got budget, that's crucial."[138] The sentiment is echoed by others in the team. The Sustainable Transport Officer was quick to emphasise just how important it was for the University to willingly put forward money in order for STLS to be successful. Even though all the money would be recouped through the course of the year, he did note that other universities had attempted to implement a similar scheme and had "hit a brick wall."[139] Additionally, Macris had indicated that his role includes the opportunity for budget design for various areas – in particular, he has designed a budget for a watercourse on campus with a view to the improvements that will be made to it over the next five years.

In addition, the priority status of Macquarie's S.O. may be inferred from its composition. At the time of research, the Denby was responsible for a team of seven with the expectation of further expansion. The support of this many salaries for sustainability team positions indicates the level of financial commitment by the University and in turn, allows for specialisation in team roles which contribute to enhanced capacity for change.

Sydney has had comparatively limited financial support. Lack of monetary support can be attributed to the limited success of Sydney's SWI program, even though it was launched with executive support. One of the University's success stories ultimately suffered from being under-resourced and dependent on the voluntary service of participants.[140] Participants of the SWP are well aware of their predicament. One representative from the program pointed out: "I think it's

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[138] Interviews with MOS
[139] Interview Sustainable Transport Officer, 28th June 2011
[140] Interview J. Lavarack, 7th August 2011

wonderful that this program is in place but would be even better if it was more fully funded."[141]
The SWP Annual Report concludes with the suggestion:

"In order to keep motivation levels high and ensure staff remain engaged in the Sustainable Workplace Program it is essential for the Team members to see that the University is also putting effort into developing sustainability. The lack of resources of the Sustainable Campus team has meant that the Sustainable Workplace Coordinator has had to spend much of his time driving other general sustainability initiatives or events such as Ride to Work Day. This means insufficient time is spent facilitating group initiatives."[142]

There are many different ways of considering the constitution of financial support. The allocation of money by a university to pay a certain number of sustainability team employees is one of the more obvious. Macquarie's investment into STLS is another example. Additionally, Macquarie's S.O. has been afforded a budget large enough to offer prize incentives for winners of their Department Challenge, including wine cases and Fair Trade coffee hampers.[143]

For Sydney's part, the provision of small grants[144] for members of the SWP for the development and implementation of sustainability initiatives is another form of financial support which encourages growth in capacity by enabling staff. This has led to growth in departmental implementation that, while positive, remains siloed. Also, Sydney's sustainability team has never reached more than four members and even then, two members were only in part-time positions. Greater financial support for sustainability exemplifies Schneider and Ingram's concept of

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[141] Sustainable Campus Team, *Annual Report, 2*4
[142] ibid
[143] See Appendix
[144] 'Sustainable Campus'

incentivising as a policy tool.[145] It improves capacity to affect change on a grander scale that will work towards greater integration of sustainability throughout campus.

Conclusion

Top-down and bottom-up models of policy implementation are conflated through the establishment of these three initial groundwork factors. Personal and financial support from the VC suggest a top-down mode of policy implementation however, the obvious need for the sustainability team to be advantageously positioned so as to establish connections with the VC *and* ground-level implementers speaks to the advantages of a bottom-up model. In addition, it is concluded that sustainability teams design policy as well as take part in the implementation process, verifying the notion of 'nested games'[146] over discrete policy process stages.

Support from the VC, a favourable position within the university structure and financial support are the first three factors to increasing capacity for implementation. Macquarie's large scope for implementation and Sydney's smaller scope can be attributed in part to different levels of fulfilment of these factors. Macquarie's team has strong executive and financial support and an advantageous position in the University's structure. By comparison, Sydney's team has limited executive and financial support and are restricted within CIS. These factors impact on how the sustainability teams communicate policy objectives and bring about sustainability visibility on campus. The next chapter will explore the mediums and content of communications as well as the establishment of sustainability visibility on campus, concluding with how communication and visibility can exemplify and increase capacity for implementation.

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[145] Schneider and Ingram, *Policy Tools*
[146] Lynn, *Public's Business*

Chapter Five: Exploring the Differences: Communication and Visibility

The level of fulfilment of the initial three groundwork factors leads to differing abilities for sustainability teams to communicate aims and create sustainability visibility. For sustainability policies to be successful, they eventually require staff and students to actively partake in certain activities, and these responsibilities must be clearly communicated. 'Visibility' covers the more implicit forms of communication to a community – namely the awareness raising of policy implementation that may not directly affect the student or staff member within a university and may not require them to actively participate. Regardless, this implementation should still be made 'visible' as part of a greater program to make obvious the cultural shift that is being triggered. Successful communication and high 'visibility' of sustainability on campus work to alter the status quo, increasing capacity required for systemic transformation.

It is concluded that Macquarie has developed its communications to encompass a range of mediums to reach both staff and students. They have also undertaken a 'high visibility' approach to implementation on campus to raise awareness where implementation has taken place. Sydney has focused its communication through staff networks and individual departments, resulting in disjointed communication of policy and initiatives with little capacity to expand the 'visibility' of their implementation.

Strategy Crucial, Definition Optional

Sustainability policies and steps for implementation need to be communicated across the university to faculties, schools, administrative blocks and service providers. Once this is achieved, the process is then further complicated by the fact that a large portion of the population needs to be re-educated every year as new students enrol. The communication between the

sustainability teams and the larger university community is crucial on two levels. Firstly, communication is key to ensuring that the target populations are educated about their responsibilities when it comes to issues such as waste disposal and decreasing energy use. This is explained by Alford as 'social exchange' theory, where compliance by the community is required for successful implementation.[147] Secondly, continued communication of sustainability 'wins' is important in embedding a cultural change. This ensures that the community is more likely to accept the changes that are happening around them as they are increasingly regarded as the new status quo. This visibility is crucial as it helps to permeate the many layers of Mitroff's 'Onion Model,' a model that highlights the multi-layered nature of culture within an organisation. The strength of visibility lies in the way it complements explicit communication through emphasising visible examples of appropriate sustainable action on campus.

Communication for a sustainability team can be particularly difficult due to the nebulous nature of the term 'sustainability.' However, a clear definition of the term is not necessarily needed for effective communication. We have already seen that Macquarie adopts the Bruntland definition of sustainability. Yet this definition is not the foundation of their communication with the University community. Rather, the strength of Macquarie's approach to communication was the creation of a *Strategy* in tandem with their policy that outlined a series of goals and targets to be reached by 2014. The targets were organised in specific areas including but not limited to: transport; planning and development; procurement; and research.[148] This *Strategy* has simplified the communication of the S.O.'s aims and implementation strategies as it breaks down the areas that need to be addressed and the manner in which they will be dealt. Denby pointed out the advantage of having the strategy for both the S.O. and the University at large:

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[147] Alford, *"Clients as Co-Producers,"* 133

[148] Denby, *Macquarie Sustainability Strategy*

"...it holds us accountable as well...it's easier to have the communication with people if you say "well, this is what we're trying to achieve" they can go "alright, we get it a lot better if you've got something you can show us.""[149]

There is evidence that a similar strategy document would be useful at Sydney. The President of the SRC at Sydney draws a direct connection between a lack of definition of sustainability and the resultant generalisation of what can actually be considered as sustainable. However, she does not point to a tighter definition as the solution, instead advocating a series of goals to be articulated in order for successful implementation:

"it's really hard to get anything done without set goals and I think that the problem with the University at the moment, there are no goals and targets and unless the University has goals or targets – nothing will happen."[150]

A definition seems a mere formality on the path to establishing clear goals. This is in response to the fluidity of the term 'sustainability.' Vos suggests our understanding of the term continually evolves to highlight different social and environmental conditions.[151] Indeed, the complications of agreeing on a definition about sustainability at Penn State University were overcome, in part, by Uhl's development of thirty-three sustainability indicators as a means of measuring 'sustainability.'[152] Birkland too expounds the importance of goals and targets in policy design, emphasising they may simply be used as an expression of ends if not means.[153] Taking the overarching concept of sustainability and developing specific policies from this, explains the relatively short length of both universities' sustainability policies. While the policies

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[149] Skype L. Denby, 21st June 2011
[150] Interview D. Whalmsley, 27th June
[151] Vos, "Defining Sustainability," 334
[152] Uhl, *Sustainability on Campus*
[153] Birkland, *Policy Process,* 159

provide a commitment to a loosely defined concept, specification must then ensue. Once goals are set, it becomes easier to see which policies need to be revised or created in order to reach set targets.[154] More than an uncontested definition, it is the development of indicators or goals that is needed to overcome ambiguity about sustainability.

It should be noted that if Sydney's sustainability team lacks a strategy document it is not because they are unaware that it is the key to successful communication. Following internal audits in 2006 and 2008, recommendations were made that performance targets be developed to support implementation of the 2002 *Environmental Policy*. Turner, Sydney's Sustainable Workplace Coordinator, is well aware that simply using the term 'sustainable' when communicating is unsuccessful because the term is meaningless for many people. He is even willing to admit that this is understandable until the term can be "broken down into its really specific categories."[155] Unfortunately, due to low capacity achieved in the first three groundwork factors, the breadth and depth of such a task was not possible. The attention of at least one of the team of two would have to be singly devoted to such a task and the lack of manpower afforded them by the University has meant that this undertaking has been unrealistic. Without these targets, Sydney continues to be disadvantaged in terms of formulating succinct communication of their aims when implementing their policy, undermining their capacity for systemic transformation.

Tailoring the Rhetoric

Using the right rhetoric may be understood through Baumgartner and Jones' notion of 'attention-shifting' in positive feedback. "As a practical matter, most decision makers pay attention only to a few of the underlying dimensions. At times, however, they may be forced to pay greater

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[154] See appendix for example of purchasing policy and checklist
[155] Interview Sustainability Officer, 17th June 2011

attention to one of the elements they had been ignoring, as when these dimensions force themselves up on the agenda...They simply give greater weight to a dimension they had previously been ignoring."[156]

The importance of rhetoric has been mentioned by representatives from both universities. In particular, climate change was an issue brought up by both Universities – albeit with very different attitudes. While discussing the disadvantages of sustainability as a contested term, Turner (Sydney) pointed out that he had used the rhetoric of climate change in the past as an engagement tool because he found that people were more familiar with the concept and its ramifications. In terms of motivating people to change their habits, it was an easier term to use then simply requesting they think in terms of sustainability.[157] The interview with the SRC's President also came around to the topic of climate change, with the President indicating that she believed the student body wanted to see action on climate change. When questioned about whether she thought candidates running for SRC and Union Board elections avoided sustainability as a platform - given the rise in media hype surrounding climate change in 2010 and 2011 - she indicated that campus sustainability was still an issue students were quite concerned with. [158]

A rather different version of events was found at Macquarie. Denby made it clear that her team actively avoided the use of climate change as a term when communicating to the University community:

"*the last 12 months in particular have made it that much more difficult to have discussions about sustainability because the shock-jocks and the naysayers are getting louder about climate change and refuting well...we probably need to step away and use different*

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[156] Baumgartner and Jones, *Policy Dynamics,* 11-12
[157] Interview Sustainability Officer, 17th June 2011
[158] Interview D. Whalmsley, 27th June

language for a while. Which is what we're trying to do at Macquarie...we certainly don't say it's about climate change."[159]

In a similar vein, Macquarie's Sustainable Transport Officer pointed out that his stall at O-Week is a 'Transport Stall' rather than a 'Sustainable Transport Stall,' believing the former title encourages more people to approach him.[160] Macquarie's cautious attitude towards diction in their communication is further illuminated by Sustainability Officer Bean. She sums up the University's approach as a response to finding that students found explicit sustainability events as too "confronting" and that engagement is now based around a concept of "secret sustainability spy stuff."[161] In other words, make the message implicit. Bean recounted a free workshop that the SO arranged at the beginning of 2011 that was marketed as a 'cooking workshop.' They packed out the Atrium with participants and ran a cooking workshop:

"but all the food was sustainable and the chef was talking about all the elements of sustainability from free range eggs, to organic, to waste, to composting, everything she was discussing as she was cooking."[162]

This type of event adds to the 'visibility' of sustainability on campus, even though it is not an overt visibility. An increasingly implicit sustainability culture is being created through continued indirect communication of sustainability principles. This approach puts a twist on the Weiss and Tschirhart's public information campaign as a policy tool. The cooking class fulfils the need to capture attention of the right audience, deliver a credible message that audiences understand, deliver a message that influences the audience, and create social contexts that lead

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[159] Interview L. Denby, 21st June 2011
[160] Interview Sustainable Transport Officer, 28th June 2011
[161] Interview Sustainability Officer, 23rd June 2011
[162] Interview Sustainability Officer, 23rd June 2011

toward desired outcome.[163] However, it does not do so explicitly, indicating that the implicit nature of 'sustainability visibility' can provide an effective public information campaign even when 'issue saturation' becomes a problem.

This difference in engagement speaks to the importance of effectively reaching a target population but reminds us to consider that no single rhetoric is best. The tailoring of the rhetoric to the unique university communities exemplifies Schon and Rein's concept of 'meta-cultural frames' which dictate the way in which we communicate problem definitions based on the cultural milieu in which the policy is being implemented.[164] Macquarie's implementation efforts thrive due to the 'trial and error' period that helped them to shape the best way to communicate sustainability issues, i.e. avoid mentioning the word 'sustainability.' Sydney's population tends to display symptoms of resilience to climate change saturation, most likely owing to the relatively more political active campus culture. Thus, the meta-cultural frames define the different tactics used when communicating the sustainability message.

Mediums of Communication

The larger university community should have access to all relevant documents – including policies, procedures and strategies. University websites are the obvious choice for uploading these documents for public access and both Sydney's and Macquarie's websites designate space for policy documents. Information about sustainability at Sydney is accessible through the Sustainable Campus website however, Macquarie's S.O. benefits from the appointment of a dedicated Multimedia Administrator whose: "tasks involve managing this website and associated online spaces, taking photographs, producing videos and also general technical assistance."[165] The employment of such an individual to the S.O. ensures current and comprehensive online

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163 Weiss and Tschirhart, "Public Information Campaigns," 92
164 Schon and Rein, *Frame Reflection,* 31-2
165 "Macquarie University Sustainability"

communication of sustainability themed events and interviews. The 'Media' link on Macquarie's sustainability websites archives videos and photos from past Sustainability Fairs, speakers from the 2009 ACTS conference and interviews with students and staff about sustainability at Macquarie. With all of this easily accessible, interested students and staff are able to browse through exactly what has been happening on campus in terms of sustainability, supporting the growing integration of the sustainability into the University.

The presence of a Multimedia Administrator within the S.O. indicates a growing recognition that traditional forms of communication such as fliers and posters are not necessarily viable within a University because, as Macquarie's Sustainable Transport Officer points out:

"In a campus environment you've got a huge range of interests across the board in terms of both administrative roles and departments, with health or equity or safety... we've tried to stick things at points of congregation so the coffee shop line and all that sort of thing but again we have restrictions on trying to put content in places because if you let everyone stick a poster up at the coffee shop suddenly there wouldn't be a coffee shop it would just be a pile of posters."

This is a clear recognition of Hilgartner and Bosk's theory of 'finite carrying capacities' in public arenas, where problem definitions compete for public attention.[166] In light of this difficulty, Macquarie's S.O. turned to email as a source of communication. This had limited success due to the fact that an official email needs to meet specific criteria outlined by the university so as to avoid over-cluttering inboxes. Additionally, the Sustainable Transport Officer has pointed out that email has developed into a rather one-way form of communication that can easily be ignored by students who skip over emails whose subject lines don't elicit excitement. With email quickly degenerating into an inadequate technological solution, he has turned to Facebook as a means of communicating with students, citing its advantages as seemingly

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[166]Hilgartner and Bosk, "A Public Arenas Model," 53

'playful' rather than official and as a medium that is relatable to students.[167] Particular success has been found in the creation of a 'Bike Macquarie' Facebook page which hosted a competition that involved students taking photos and 'tagging' themselves. The exercise had viral results – taking the Bike Macquarie fan base from 20 to 115 students.[168]

In addition to the Bike Macquarie Facebook page, Macquarie's SO has established its own Facebook page to keep followers up-to-date with campus events and developments in the Departmental Challenge. Continuing to capture student interest on their own terms, the team has also created a Twitter account[169] to provide updates about sustainability information and events as well as a Flickr page[170] which pictorially recounts campus events such as World Environment Day, Bushcare outings and even a step by step guide to starting your own worm farm. This shift in medium is useful as it infiltrates a permeating culture of social media, engaging students at their own level of communication. This new means of capturing their attention allows the S.O. to tap into two of Hilgartner and Bosk's principles of selection: 'novelty' and 'cultural preoccupations.'[171]

At Sydney, communication is not as widespread. With limited resources, little executive support and the restriction of their position in the University's structure, the development and communication of implementation is largely achieved through the SWP and directed at departments. Reporting on initiatives is available, with public access to the SWP's Annual Report and the results of the 2010 staff survey available for those who seek them out. Communication between staff members, especially those who are Sustainable Workplace Representatives (SWR), is high – with quarterly workshops used for training representatives as well as providing:

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[167] Interview Sustainable Transport Officer, 28th June 2011
[168] Interview Sustainable Transport Officer, 28th June 2011
[169] @MQSustain *twitter.*com, 11 Aug 2011
[170] Macquarie University Sustainability's photostream, *flickr.com*, 11 Aug 2011
[171] Hilgartner and Bosk, "Public Arenas Model," 61-6

"a time for team members to share ideas on new initiatives, to discuss barriers to implementation and successful approaches. Workshops also provide a source of motivation for team members and ensure people feel part of a larger movement within the University."[172]

The focus on communication with staff can be attributed to the limited capacity the team has to instigate a broader, campus wide approach to communication that will reach all populations within the community. This conclusion explains the limited and department-specific approach to implementation as the SWP provides the major network through which staff coordinate and enact implementation. However, until the team is given the capacity to reach the wider student population, the SWP will continue to be limited by the work of time-strapped, albeit enthusiastic, staff.

Macquarie, has experienced similar issues while engaging staff. The Departmental Challenge in 2010 included the use of student liaisons to take on responsibility in auditing and implementing sustainable initiatives. This provided students with soft skills needed for the workplace while lessening the burden on busy staff. In this area, the transience of the student population is a benefit as new students enrol every year and the cycle of the student population means that no student is required to be committed to the program for longer than the length of their degree. This is a crucial consideration given the lack of an 'end-point' in implementing sustainability policies.

The Relationship Between Co-Production and Visibility

Alford argues that a clear and extensive advertising campaign is crucial when implementing policies that require the community to be co-producers in policy implementation.[173] This notion

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[172] Sustainable Campus Team, *Annual Report,* 13

[173]Alford, "Clients as Co-Producers," 130-2

of advertising can be linked to the level of signage on campus informing individuals of their responsibilities in creating a sustainable campus. Signs may instruct people how to dispose of waste, encourage them to turn off lights and computers when not in use, report leaky taps and so on. Both universities employ the use of signage, although with different approaches to the notion of client co-production.

Sydney increases visibility of sustainability through simple examples of client co-production. A number of posters developed by Sustainable Campus announce the use of solar power to heat hot water taps and present phone numbers for CIS inviting students to contact them in the event of leaky taps.[174] Others encourage individuals to turn off lights[175] and air conditioning[176] if they are last to leave a room. These are promising steps and are well positioned to begin a campaign to increase sustainability visibility on campus, given bathrooms and classrooms are indiscriminately visited by all students and staff. However the presence of such signage is not systematic and many bathrooms, lecture theatres or classrooms have one or neither of these signs. The ad hoc implementation undermines the effectiveness of co-production and the general visibility of sustainability on campus.

Other initiatives such as the Keep Cups now available from USU outlets make some headway in increasing student awareness of a shift in campus culture. However, the level of communication about sustainability to students is also dependent on their Faculty. For example, the School of Physics maintains its own sustainability webpage, providing information about what the School has accomplished, including its relationship to the Integrated Sustainability Analysis group that is known for its Triple Bottom Line reporting measures. It also lists the types of measures their own staff and students can take to improve sustainability on campus.[177]

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[174] See Appendix
[175] See Appendix
[176] See Appendix
[177] School of Physics, accessed 8 Aug 2011, http://www.physics.usyd.edu.au/local/sustainability.shtml

This is a positive development however this type of individual departmental approach does not bode well for cohesive systemic transformation.

In its initiatives to conserve water, Macquarie ensured the instalment of signs above every toilet in its new library complex explaining that the "brown water colour is normal."[178] Also, since they have adopted the 'single bin' mode of waste disposal – all bins display stickers reassuring the community that they are recycling no matter what they throw in the bin.[179] This communication is crucial to achieve awareness of implementation strategies across campus, but it does not require individuals to actively contribute. What is interesting about Macquarie, is that they have removed areas of client co-production, such as compliance with recycling instructions, in favour of options that do not require a change in behaviour. Signage is used not to instruct so much as to inform of an underlying cultural change.

Macquarie's Manager for Operational Sustainability is very aware of making sure that students are aware of the changes happening around them. Discussing the placement of solar panels on top of buildings, Bekmann tells me she intends to put some donated touch-screens to use as a way of letting people know they are there – especially because their position on the roof makes them hard to see. Macquarie's Biodiversity Planner is keen to have native vegetation planted close to common foot-traffic corridors so that they can be better appreciated.[180] Also, any hot beverage bought on campus now comes in a cup that proclaims itself "100% biodegradable."[181] These types of actions add to an increasing trend on campus where information is not merely restricted to directions but includes markers of different sustainability initiatives: from the Arboretum guided-walks to geothermal storage. When combined, the signs

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[178] See Appendix
[179] See Appendix
[180] Interview with Biodiversity Planner at Macquarie University, 23rd June 2011
[181] See Appendix

become a "way of raising awareness that things have been done and it's an appropriate action"[182] so that the increased visibility will aid in the effort to affect cultural change.

This is all enacted with a view to embracing client co-production in the future:

"To have multiple bins and to change the way that we did everything and do everything at the same time was going to be a very large leap for the University, and not help to meet our targets. So stage one was "let's just get something where we get our targets," and stage two was really getting that education aspect of it and that will really happen the end of this year."[183]

A Test in Visibility

Measuring the extent of something as intangible as cultural change is complex and many different forms of methodology may be employed. The level of systemic transformation achieved by the universities is difficult to accurately ascertain and beyond the scope of this thesis however, a simple experiment into the ease with which students can attain their university's sustainability policies is a useful measure to begin to understand the prominence of sustainability on the campuses. By using established channels designed to answer all manner of student questions, I wanted to explore how easy it was for the representatives of these channels to locate the sustainability policies at their University. I believe the result of the experiment offers some insight into the 'visibility' of sustainability on the respective campuses.

Both University websites offer online student enquiry mechanisms which promise to answer all questions a student may have about any aspect of the university. I sent the same email to both 'Student Enquiry Service' (Macquarie) and 'Ask Sydney' (Sydney):

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[182] Interview MOS, 29th June 2011
[183] Interview MOS, 29th June 2011

"Hi, I was wondering where I can find the University's environmentally sustainable policy documents? The website indicates a commitment to environmental sustainability but what are the specific policies that apply?"

Within 25 minutes, a representative from Student Enquiry Service had delivered me an answer – sending me a link to Macquarie's *Sustainability Policy* and a second link leading to the appropriate contact information if I had any further questions about policy.

At Sydney, the process was not so simple. A representative from the Student Centre emailed me within 5 minutes of sending the email to inform me that she had forwarded my email to *sustainable@usyd.edu.au* and to the ICT helpdesk because the link to the Sustainable Workplace Report was not functional and a staff directory for the sustainable team had not yet been created. She also invited me to contact her again if I did not receive a reply within 3 working days. After 4 working days and with no reply, I contacted the Student Centre again to have them follow the issue up further. One working day later – exactly a week after sending the initial request – I received a reply from Quality Assurance who emailed me with two attachments: the University's *Environmental Policy* and a link to the 'Sustainable Campus Program.'

The swift and informative reply from Student Enquiry Service suggests a greater permeation of sustainable culture at Macquarie; note the representative who received my email did not need to refer my email to another sector of the University. By contrast, the longer and more complicated line of referral at Ask Sydney not only illustrated a decreased level of 'visibility' concerning sustainable issues, but also uncovered unanticipated problems including a non-functioning link to the 'Sustainable Workplace Report' and the absence of a staff directory for the sustainability team. This lack of 'visibility' inhibits capacity for systemic transformation

based on the assertion that visible examples of culture change increase the capacity for a team to establish a new 'status quo' – one that is seen to provide a sense of consistency and security.[184]

Conclusion

The research reflects the interdependence of design and implementation stages flagged by Pressman and Wildavsky.[185] In terms of policy design, the articulation of goals in the form of a strategy has proven crucial for successful implementation. However, it is not the only important variable because implementation is wedded to the design stage by the nature of sustainability in practice. The designation of policy tools for implementation is somewhat transferred from the design stage and nested in the implementation stages. At Sydney, initiatives are developed through the SWP, which designs policy and then implements within individual departments through SWRs. Implementation of sustainability policies at Macquarie began with instances of community consultation, however the policy tools that are developed for implementation most often come from 'trial-and-error' in practise and evolve organically from a motivated and adaptive team. Space for this adaptation is central to systemic transformation and will be explored in greater detail in the final chapter.

Macquarie and Sydney take different approaches when it comes to the communication of sustainability policies and the establishment of 'sustainability visibility' on campus. This variation can be attributed to discrepancies in the fulfilment of the first three groundwork factors which affect the opportunities and scope with which the sustainability teams can reach the university community and in turn, affect systemic transformation. The creation of a strategy has been established as crucial for effective communication of aims, a conclusion drawn from the presence of one at Macquarie and the lack of one at Sydney. The rhetoric on campus has been

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[184] H. William Dettmer, *Changing the Status Quo* paper for Goal Systems International, p2
[185] Pressman and Wildavsky, *Implementation*

tailored to the universities' meta-cultural frames with different levels of success. The universities also differ in their selection of communication mediums and the use of signage on campus – leading to different levels in sustainability visibility. These factors provide a useful lens through which to understand different capacities of the universities to implement sustainability policies with a view to systemic transformation

Chapter Six: Implications for Implementation – Positive and Negative Capacity Cycles

Let us now return to the research question. What is the reason for the different paths of implementation between the universities? The intent for systemic transformation through sustainability policies has been established at both universities in Chapter One. Yet it is evident that their respective sustainability teams have approached and achieved implementation in different ways, with Macquarie undertaking implementation on a larger scope than Sydney. Different levels of fulfilment in groundwork factors have been established and shown to lead to differing levels of capacity to implement sustainability policies. This chapter will now present a deeper analysis of the case studies through an exploration of the concept of 'capacity cycles' in order to fully comprehend the reason for different implementation at Macquarie and Sydney.

I posit that the difference in scope of implementation is due to discrepancies in the capacity of the teams. The level of capacity has been influenced by the amount of support from the VC; positioning of the team within the university structure; and the level of financial support. In turn, these have affected opportunities for effective communication and the creation of sustainability 'visibility' on campus. Increased capacity for implementation is particularly important for sustainability policies because they require systemic transformation in order to be successful. This relationship is represented in Figure 1 with groundwork factors appearing in purple and the capacity cycle appearing in blue. This chapter will go on to explore the notion of capacity cycles and concludes that the achievement or non-achievement of groundwork factors sets a perpetuating cycle that either continually improves the capacity of those who initially gain some or prevents those who struggle to attain enough.

This is by no means a definitive model. It is developed from the case study of two universities and concluded from research conducted within a relatively short timeframe. Other

groundwork factors may be identified with further case studies, producing a more comprehensive model. The researcher suspects that the model outlined in the thesis would be supported by further case studies of universities, although additions may be made to what is presented here.

Fulfilment of groundwork factors leads to a greater capacity to communicate policy aims and increase sustainability visibility. The level of fulfilment in groundwork factors defines entry into a 'capacity cycle' that will determine whether or not a sustainability team can persistently implement with a view to systemic transformation or continue to be crippled in its efforts.

FIG. 1 – Model for Implementation of Sustainability Policies at Macquarie and Sydney
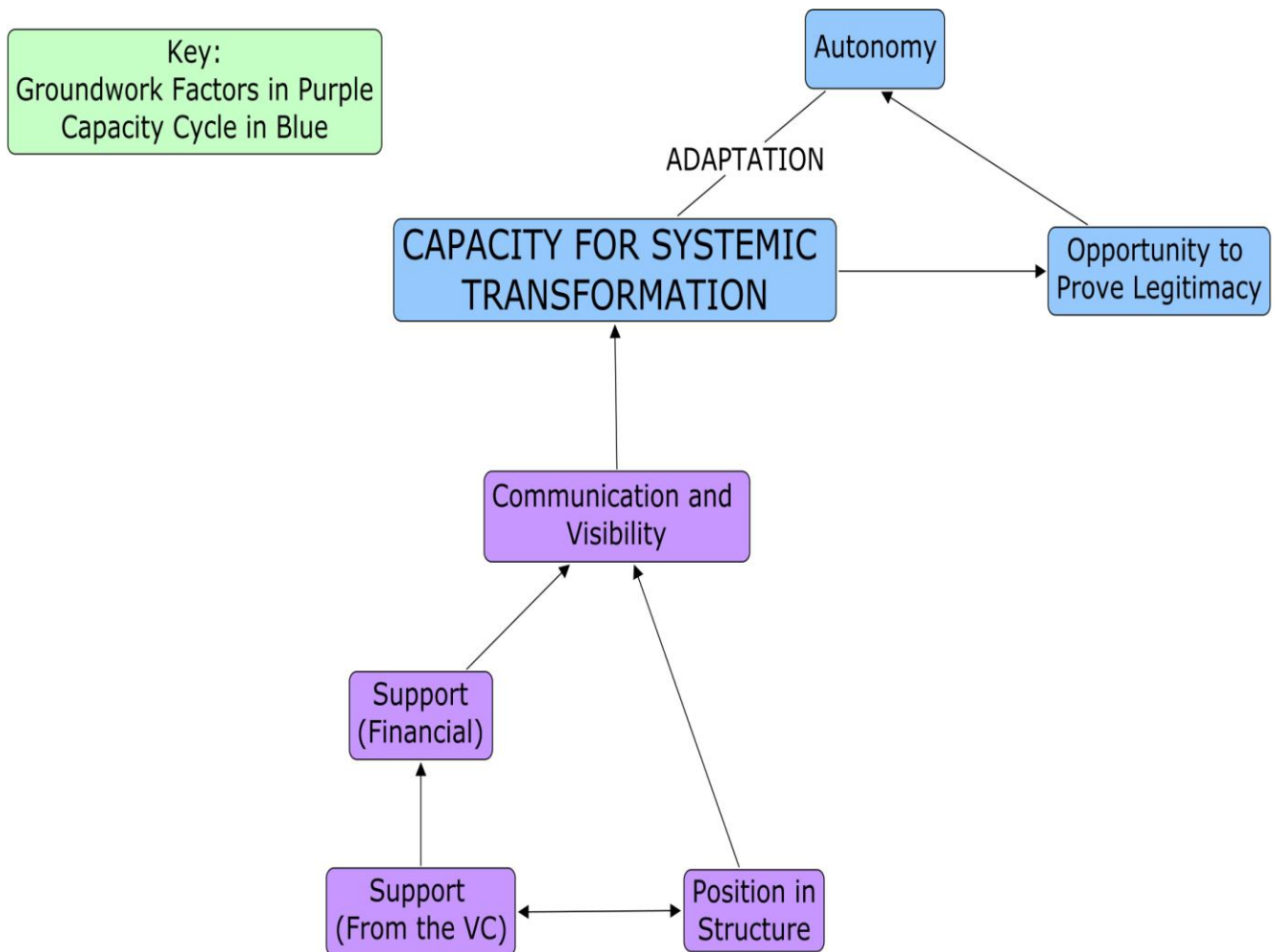
The first two groundwork factors are contingent on each other and thus share the foundational corners of the model.

The Capacity Cycle

The blue boxes in the model represent the capacity cycle. The premise for the cycle is: the sustainability team attains a certain amount of capacity to affect systemic transformation based on whether they had high or low fulfilment of the groundwork factors. This is because the groundwork factors contribute to the sustainability team's capability to affect *what* people do, *how* they do it and to affect the core *purpose* of the institution. Macquarie has attained higher levels of capacity for systemic change than Sydney, resulting in a different path of implementation. See Table 1 for a summary of Macquarie and Sydney's fulfilment of the groundwork factors. Macquarie's higher level of capacity has meant entry into a positive capacity cycle with a larger scope for implementation, while Sydney has entered a negative capacity cycle with a lower scope for implementation.

The capacity cycle is made up of three parts: capacity for systemic transformation, legitimacy and autonomy. This is in part adapted from Carpenter's theory of bureaucratic autonomy, whereby bureaucracies achieve autonomy through three factors, one being 'political legitimacy.'[186] The capacity cycle in the model suggests that capacity gained through fulfilment of groundwork factors leads to opportunities to prove legitimacy which in turn can lead to bureaucratic autonomy. This is supported by the work of Miller who frames the cycle in terms of successful bureaucrats whose influence is legitimised by success, "creating a kind of feedback loop that reinforces the same problem definition over and over."[187]

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[186] Carpenter, *Bureaucratic Autonomy*
[187] Miller, "Rethinking Bureaucrats," 752

Table 1: Sustainability Team Fulfilment of Groundwork Factors

	Vice-Chancellor Support	Position in Structure	Financial Support	Communication	Visibility
Macquarie University	Strong	Connections to VC office and Property	Strong	Extending networks to include students as well as staff	High
University of Sydney	Limited	Restricted to CIS	Limited	Mostly with staff through SWP	Low

I posit that with increasing levels of autonomy, the team's level of capacity increases – perpetuating the cycle and providing enhanced ability to trigger systemic transformation. This is a more specific articulation of Edelstein's theory of sustainability as 'self-fulfilling.'[188] It represents a 'positive' capacity cycle and is desirable in the case of sustainability policies for two reasons. Firstly, systemic transformation is a formidable undertaking that requires commitment on many levels and therefore implementing agents benefit from increased capacity and some level of autonomy. Secondly, achieving sustainability is an ongoing process with no single end-state, so continual growth is desirable – hence the need for a 'cycle.'

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[188] Michael Edelstein, *Sustainability on Campus,* 287-9

Sydney's Negative Capacity Cycle and the Need to Harness Student Potential

At Sydney, the sustainability team has been disadvantaged from the foundational groundwork factors. It achieves narrow scope for implementation through a specific and limited placement in the structure and comparatively low levels of executive and financial support add to a decrease in capacity. This has affected the sustainability team's ability to communicate with the University community and to establish a highly visible presence on campus. As a result, the sustainability team's capacity has restricted engagement efforts to staff – a situation which has led to disparate and ad hoc implementation on campus that mirrors the departmental separation of staff. With a staff focus, and considering the siloed nature of departments, the opportunity for systemic transformation is limited. Considering the initial requirements for systemic transformation outlined in Chapter One, Sydney is attempting to change *what* people do and *how* they do it but is yet to have achieved an integration of sustainability into the '*purpose'* of the University that would allow for comprehensive transformation.

These circumstances result in a 'negative' capacity cycle. This is to be distinguished from Baumgartner and Jones' understanding of 'negative feedback.' They define negative feedback as the phenomenon where: "as pressures grow in one direction, counter-pressures from the other side are predicted to pull the system back to its stable equilibrium."[189] However, since the University has established a commitment to sustainability through systemic transformation, and the student population continues to support this aim, there is no notable 'other-side' which can be attributed to 'pulling the system back.' Rather, through the University's low fulfilment of groundwork factors, it is pulling itself back from the aims it defined for itself. It is caught in a negative capacity cycle with little scope for implementation.

With limited capacity for systemic transformation, Sydney's sustainability team has few opportunities to prove its legitimacy. Thus, the autonomy that would benefit the implementation efforts of the Sydney team is difficult to attain. This is due to limited fulfilment of the

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[189] Baumgartner and Jones, *Policy Dynamics,* 5

groundwork factors that lead to increased capacity and the opportunity to prove legitimacy. This cycle produces a paradox at Sydney. As we have seen in Chapter Two, Sydney's student population has high potential as a resource to be activated by the sustainability team. Turner is aware of this and is keen to incorporate student internships, an initiative that he believes the new proposed team will have better capacity to implement.[190] Lavarack also believes "full commitment to sustainability would involve reactivating the level of student participation in decision making and policy formation that was possible before VSU."[191] There is continuing student interest in the issue each year, evident in SRC and Union election platforms alike. Even Denby recognises the potential for student involvement at Sydney over Macquarie:

"...in general Macquarie's got a fairly disengaged student population. Not like Sydney University which seems to have a far more engaged population, the students actually take notice of what's happening around them. Ours don't tend to."[192]

Despite this, Sydney is far from achieving complete student awareness and support. When contacted about being a possible participant in this research project, the President of the USU replied that the University's sustainability polices "did not really fall under the USU's remit."[193] As a major student body, systemic transformation for sustainability would need to include the members and representatives of the USU – who have the potential to reach and educate the vendors of the many food outlets and service providers with whom they work, as well as the student population.

Considering developments in the US, research has shown that students engage with sustainability on campus because they both study and live there and are therefore more inclined

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[190] Interview Sustainability Officer, 17th June 2011
[191] Interview J. Lavarack, 7th August 2011
[192] Interview L. Denby, 21st June 2011
[193] Email correspondence with President of USU, 5th June 2011

to do something about improving sustainable practice.[194] With the majority of university students in Australia living off campus, their link to university is more tenuous, meaning most universities struggle to engage their student population to adopt the needed changes:

"Especially in Australia, you look at the level of engagement we have at universities here compared to American universities and it's low. It's low, and it's sad, but you can see why it's happened because here we're so geographical disperse that we've created mega-universities...They [Americans] graduate and they move interstate...so because they're away from home, they live there. And when they live there, they want to hang out there. And when they're having football games there they go and just all these things just create that sense of engagement and their classmates become their family. We just don't have that here, students go straight home."[195]

Despite this account, Sydney students continue to be politically active and engaged with their University making them an important resource for getting sustainability on campus off the ground. The inclination to adopt environmental platforms when running for election continues to grow, even with 'low' sustainability visibility on campus. These are students who are ready and willing to affect change and improve how the University operates at a level of engagement that other universities envy.

Sydney's negative capacity cycle undermines the possible use of its politically active student population. A student push for a sustainable campus can be traced back to at least 2005 and demonstrates a wide-spread enthusiasm for change even post-VSU that Macquarie cannot match. An invaluable resource though it is, limited capacity due to low fulfilment of groundwork factors has meant that harnessing the potential of the student population has been a pipe dream. Without the means to harness this resource, Sydney has little hope to break the

[194] Delind and Link, *Sustainability on Campus*
[195] Interview Sustainability Officer, 23rd June 2011

capacity cycle to achieve systemic transformation - placing them in a vicious cycle. The paradox: the student body could be harnessed to increase capacity but low capacity in groundwork factors makes capturing students particularly difficult.

Macquarie's Positive Capacity Cycle and the Need for Adaptation

On the other hand, Macquarie has fulfilled the groundwork factors to a greater extent than Sydney and as such, has entered the capacity cycle with positive results. Their enhanced capacity has allowed them to engage a larger portion of the University community and to demonstrate great breadth in affecting different areas of the University. The growth in the number of sustainability team members is testament to their increased capacity, which in turn requires the S.O. continues to grow and extend their implementation in a bid for systemic transformation. Furthermore, the roles in the team include responsibilities as diverse as Biodiversity Officer, Transport Officer and Manager for Operational Sustainability. While the team originally were forced to focus on staff engagement as student engagement failed, they now have the capacity to return to student engagement and sustain a systemic transformation that has already been initiated. To return to the requirements for systemic transformation, Macquarie is changing *what* people do, *how* they do it and incorporating this new culture into their '*purpose*' – the very core of the organisation. This may better linked to Baumgartner and Jones' notion of 'positive feedback' than the negative capacity cycle could be linked to negative feedback. This is because positive feedback is understood to be: "going along with and reinforcing a trend,"[196] it is achieving a new status quo through systemic transformation.

With its increase in capacity, Macquarie's implementation process faces a different set of problems to Sydney - the need for adaptation increases as the goals of the S.O. expand to affect more change. This is an example of the 'highly organic' growth patterns that Leith defines as

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[196] Baumgartner and Jones, *Policy Dynamics,* 8-9

necessary for sustainability systemic transformation within universities.[197] Evidence of this adaptation can be seen in the fluidity of responsibilities for members of the team since 2007. Bean (Sustainability Officer) recounts:

"I guess as our team got bigger and we got more staff doing more specific roles, that sort of took elements of my role away which was great because then I could focus on aspects that needed more attention. So basically Leanne was saying "just find a gap and fill it" and that gap has ended up coincidently being what my background is in, which is marketing."[198]

The freedom with which Bean could redefine her role indicates the flexibility of the team and recognition of the need for adaptation. The evolution of roles was something that was commented on by every interviewee at Macquarie. Bekmann noted her increasing involvement with the planning and development of the University.[199] Macris has moved from developing strategies for green space on campus and encouraging best practice with grounds management, to building a relationship with Facilities and managing a Project Management Portfolio.[200] The Sustainable Transport Officer describes his job as split between: campus planning concerning transport modes, and 'behaviour change' to promote a shift towards sustainable transport modes.[201] This last example in particular, points to the underlying cultural change taking place at Macquarie that evolves in line with increasing capacity on the part of the team members.

Growth in capacity demands the scope of their implementation grows in tandem to justify the legitimacy of the team. Failing to evolve in this area would undermine success in the dynamic arena of sustainability policy implementation. This illustrates the distinction Sharpe makes between the desirable 'institution transformation' and the simplified notion of 'project

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[197] Sharpe, "Green Campuses," 9-10
[198] Interview Sustainability Officer, 23rd June 2011
[199] Interview MOS, 29th June 2011
[200] Interview Biodiversity Planner, 23rd June 2011
[201] Interview Sustainable Transport Officer, 28th June 2011

success.'[202] Goals and targets developed in the strategy may outline individual end-points, however 'sustainability' as a concept has no definable end, meaning that an un-dynamic sustainability team will be disadvantaged. With no end-point in sight, teams must continually increase capacity to affect more areas, embed a culture change and thereby justify their existence as a sustainability team.

Bean refers to the cultural change at Macquarie several times during our interview. In terms of staff engagement, she notes that many of the S.O.'s programs are now "quite well-ingrained in to the culture of the university."[203] The team is still in the process of achieving a similar result with students where they are "trying to change the culture from the inside."[204] Ultimately, this adaptation illustrates notions of 'organisational learning' that is expounded generally by Senge[205] and specifically by Edelstein's experience of implementing sustainability at Ramapo College.[206] With implementation now stretching over several facets of Macquarie and communication techniques being used to capture the whole University community, Macquarie's SO continues to build capacity through a cycle of legitimacy and autonomy. This is the best situation in which to trigger systemic transformation. As Bean notes:

"we try and focus on every element of sustainability in an equal and holistic way. So coming at it from all those different angles means that that culture and that mind-set is changing and people are learning and changing with it."[207]

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[202] Sharpe, "Green Campuses," 4
[203] Interview Sustainability Officer, 23rd June 2011
[204] Interview Sustainability Officer, 23rd June 2011
[205] Senge, "Leaders and Learners"
[206] Edelstein, *Sustainability on Campus,* 289-91
[207] Interview Sustainability Officer, 23rd June 2011

Top Down or Bottom Up Implementation?

As was concluded in Chapter Four, the model presented in this thesis does not advocate a top-down or bottom-up approach to implementation but rather favours an amalgamation of the two. The initial three groundwork factors favour connections to the VC as well as to ground-level implementers. The policy design and implementation stages are also conflated through a 'trial-and-error' period of identifying appropriate policy tools, concluding that a range of tools can be utilised at different points of implementation.

The institutional perspective of these case studies concludes that universities can overcome opposition to systemic transformation such as path dependency[208] and the decentralised nature of universities.[209] Systemic transformation can be achieved with fulfilment of the three initial groundwork factors which lead to strong communication and sustainability visibility. Adaptation is required by sustainability teams who enter a positive capacity cycle and progress towards sustainability continues indefinitely. This builds on the work of Cerych and Sabatier; and Kendal who explore implementation within the education sector. However, it provides a more nuanced approach to the subject of sustainability implementation within universities which is important given the three key aspects of the project flagged in the introduction:

1. The presence of sustainability as a nebulous concept

2. The nature of sustainability as an overarching concept

3. Application of this nebulous, overarching concept to a traditionally decentralised institution

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[208] Arrow, *Limits*
[209] Sharp, "Green Campuses"

Tendencies for path dependency in institutions can be overcome in three different ways that have been identified throughout the thesis. Firstly, Mitroff's 'Onion Model' was used to remind us that cultural change must be 'visible' at all layers of an institution in order to achieve systemic change. Secondly, positive feedback is needed through tailoring the rhetoric within 'meta-cultural' frames so as to shift attention to a new status quo. Thirdly, Carpenter's understanding of bureaucratic autonomy requiring 'legitimacy,' informs the capacity cycle in the model presented in this thesis, increasing chances to overcome hesitancy about the changes being made.

What is perhaps most interesting is that the contested nature of sustainability does not necessarily have to be resolved in order to achieve change within an institution. Progress can be made in the absence of an authoritative definition.

Conclusion

Systemic transformation is demanding. It requires change on every level and in terms of sustainability, has no conceivable end-point. This makes for difficult policy design and complex policy implementation. This thesis has used 'most similar' comparative logic to identify two case study universities with similar intentions to achieve sustainability through systemic transformation. The research has shown differing approaches to implementation. From this, groundwork factors that affect sustainability policy implementation have been identified in the form of VC support, positioning in university structure and financial support. Differences between the universities on these points have also led to differences in approach to the communication of policy aims and implementation initiatives as well as the prevalence of 'visibility' of sustainability on the campuses. Each of these factors lead to differences in capacity of sustainability teams and determine whether the university has entered a positive or negative capacity cycle.

The difference in implementation from similar intentions can thus be summarised. The University of Sydney fails to adequately fulfil the groundwork factors that lead to capacity for systemic transformation and thus is caught in a vicious negative capacity cycle from which it struggles to break free. As a result, implementation is on a small scope. It is caught in a paradox, where engagement with the student population has the potential to provide greater capacity, but low capacity means that capturing the student population is exceedingly difficult.

Macquarie University on the other hand, has better fulfilled groundwork factors, resulting in increased capacity for systemic transformation. Its scope for implementation is comparatively larger. It has entered a positive capacity cycle that allows the team to grow while the scope of their implementation expands. As a result, Macquarie focuses on *adaptation* to accommodate the dynamic nature of sustainability policy implementation – a goal they are well positioned to reach because of high capacity and installation in a positive capacity cycle.

Bibliography

Adams, William "The Future of Sustainability: Rethinking Environment and Development in the Twenty-First Century" in *Report of the IUCN Renowned Thinkers Meeting, 29-31* January published by the World Conservation Union (2006): 1

Alford, John "A Public Management Road Less Travelled: Clients as Co-Producers of public services" in *Australian Journal of Public Administration* vol 57, no. 4 (1998)

Arrow, Kenneth *The Limits of Organisation*, (New York: Norton, 1974)

@MQSustain, *twitter*.com, 11 Aug 2011

Australian Conservation Foundation, "Current Practices and Developments in Australian and International Universities," in *Universities and Sustainability* (Victoria: Australian Conservation Foundation Inc., 2003)

Bartlett, Peggy F. and Chase, Geoffrey (eds.) *Sustainability on Campus* (Massachusetts: MIT Press, 2004)

Baumgartner, Frank and Jones, Bryan "Two models of issue expansion" in *Agendas and instability in American Politics* (1958)

Baumgartner, Frank and Jones, Bryan (eds.) *Policy Dynamics* (University of Chicago Press, 2002)

Beem, Betsi "Leaders in Thinking, Laggards in Attention? Bureacratic Engagement in International Arenas" in *Policy Studies Journal* vol 37, no. 3 (2009)

Birkland, Thomas *Policy Process: Theories, Concepts and Models of Public Policy Making*, (New York: M. E. Sharpe Inc, 2001)

Brundtland Commission, "Section IV: Conclusion," in *World Commission on the Environment and Development Report* (1987)

Campus Infrastructure and Services website, '*What is Sydney Doing? – Sustainable Campus*' accessed 8 August 2011,

http://sydney.edu.au/facilities/sustainable_campus/energy/university.shtml

Carpenter, David, *The Forging Bureaucratic Autonomy: Reputations, Networks, and Policy Innovation in Executive Agencies 1862-1928* (Princeton University Press, 2001)

Carson, Lyn et al.; "Community Consultation in Environmental Policy Making" in *The Drawing Board: An Australian Review of Public Affairs* vol 3, no. 1, (2002)

Cerych, Ladislav and Sabatier, Paul *Great Expectations and Mixed Performance – The Implementation of Higher Education Reforms in Europe* (Stoke-on-Trent: Trentham Book, 1986)

Coffey, Amanda and Atkinson, Paul *Making Sense of Qualitative Data* (California: SAGE Publications Inc., 1996)

David, Paul "Why are Institutions the 'Carriers of History'? Path Dependence and the Evolution of Conventions, Organisations and Institutions" in *Structural Change and Economic Dynamics* vol 5, no. 2 (1994)

Davis, G. et al.; "Sustainable attitudes and behaviours amongst a sample of non-academic staff A case study from an Information Services Department, Griffith University, Brisbane" in *International Journal of Sustainability in Higher Education* vol 10, no. 2 (2008)

Denby, Leanne et al, *State of Play at Macquarie University: Sustainability Actions, Plans and Policies* (Sydney, Australian Research Institute for Education and Sustainability: 2007)

Denby, Leanne *Macquarie University Sustainability Strategy: Target 2014*, (Macquarie University, Sydney: 2009)

Dettmer, H. William, *Changing the Status Quo,* paper for Goal Systems International, p2

Dunsire, Andrew *Implementation in a Bureaucracy* (New York: St. Martin's, 1978)

Dyball, Maria "Sustainability in an Australian University: Staff Perceptions" (2010) accessed 8 Feb 2011, http://apira2010.econ.usyd.edu.au/conference_proceedings/APIRA-2010-263-Dyball-Sustainability-in-an-Australian-University.pdf

Fineman, Stephen "Street-level Bureaucrats and the Social Construction of Environmental Control" in *Organisation Studies* vol 19, no. 6 (1998)

Flint, Kate "Institutional ecological footprint analysis - A case study of the University of Newcastle, Australia", in *International Journal of Sustainability in Higher Education* vol. 2, no. 1 (2001)

Fulmer, Robert and Keys, Bernard, "A Conversation with Peter Senge: New Developments in Organisational Learning" *Organisational Dynamics* Autumn (1998): 33-42

Head, Brian "Community Engagement: Participation on Whose Terms?" in *Australian Journal of Political Science* vol 42, no. 3 (2007)

Hilgartner, Stephen and Bosk, Charles "The Rise and Fall of Social Problems: A Public Arenas Model" *American Journal of* Sociology 94 no. 1 (1988): 53-78

Hjern, Benny and Porter, David "Implementation Structures: A New Unit of Administrative Analysis" in *Organisation Studies* vol 2, no. 3 (1981): 211-27

Hood, Christopher *The Tools of Government*, (Chatham NJ: Chatham House, 1986): 124-5

Howarth, Richard "Defining Sustainability: An Overview," in *Land Economics* 73, no. 4 (1997)

Howlett, Michael et al; *Studying Public Policy: Policy Cycles and Policy,* (Toronto: Oxford University Press, 1995)

Kay, Adrian "A Critique of the Use of Path Dependency in Policy Studies" in *Public Administration* vol 83, no. 3 (2005): 553-71

Kendal, Stephen *Policy Implementation through Leadership: Success for Implementers*, (Saarbruken, Germany: LAP LAMBERT Academic Publishing, 2010)

Kyoto Declaration, 'Section 6' (1993) http://www.iisd.org/educate/declarat/kyoto.htm

Lane, Jan-Erik "Implementation, Accountability and Trust" in *European Journal of Political Research* vol 15 (1987): 527-46

Linder, Stephen and Peters, Guy "A Design Perspective on Policy Implementation: The Fallacies of Misplaced Prescription" in *Policy Studies Review* vol 6, no. 3 (1987):459-475

Lipsky, Michael *Street-level Bureaucracy: Dilemmas of the Individual in Public Services* (New York: Russell Sage Foundation, 1993)

Lowi, Theodore "Distribution, regulation and redistribution: The Functions of Government" in *R B Ripley (Ed) , Public Policies and Their Politics: Techniques of government Control* (New York: W W Norton, 1966): 27-40

Lynn, Laurence *Managing the Public's Business*, (New York, NY: Free Press, 1981)

Macquarie University, *Sustainability Policy,* approved by Deputy Vice Chancellor, Chief Operating Officer on 29 January 2009, effective as of 29 January 2009

"Macquarie University Sustainability", accessed 12 May 2011, http://www.mq.edu.au/sustainability/

Macquarie University Sustainability's photostream, *flickr.com*, 11 Aug 2011

Marsh, David and Stoker, Gerry (eds) *The Theory and Methods in Political Science* second edition (New York: Palgrave Macmillan, 2002)

May, Peter and Winter, Soren "Politicians, Mangers and Street-level Bureaucrats: Influences on Policy Implementation" in *Journal of Public Administration Research* vol. 19, no. 3 (2009)

Mayntz, Renate "Conditions for Effective Public Policy: A New Challenge for Policy Analysis" in *Policy and Politics* vol.11, no. 2 (1983): 123-143

Mazmanian, Daniel A and Sabatier, Paul A. "The Implementation of Public Policy: A Framework of Analysis," in *Effective Policy Implementation* Mazmanian and Sabatier (eds.) (Lexington: Lexington Books, 1981)

McConnell, Allan (2011 forthcoming), "Institutionalism" in R. Smith, A. Vromen and I. Cook (eds.), *Contemporary Politics in Australia: Theories, Practices and Issues*, (Melbourne: Cambridge University Press)

Meier, Kenneth and O'Toole, Laurence Jr. "Political Control versus Bureaucratic Values: Reframing the Debate" in *Public Administration Review* vol 66, no. 2 (2006)

Melbourne Design Awards (2011), *Macquarie University Library*, accessed 08/09/11
http://melbournedesignawards.com.au/mda2011/entry_details.asp?ID=10106&Category_ID=
4700

Miller, Lisa "Rethinking Bureaucrats in the Policy Process, Criminal Justice Agents and the
National Crime Agenda" in *The Policy Studies Journal* vol 32, no. 4 (2004)

Mitroff, Ian et al; "Do (some) Organisations Cause Their Own Crises? The Culture Profiles of
Crisis-prone vs Crisis-prepared Organisations" in *Organisation Environment* vol 3 (1989):
269-83

National Union of Students; *Universities of Australia Ecological Development Charter* (2001)
relaunch for Sustainable Universities Campaign, accessed 17/10/10,
http://rmit.com/browse;ID=wge5iqekxdr3z

NSW State Government *Energy Administration Amendment (Water and Energy Savings) Bill,*
(2005) Act 2005 no. 18

NSW Government Trade and Investment, *Energy Efficiency – Cogeneration*, accessed 8th
September, http://www.dtiris.nsw.gov.au/energy/sustainable/efficiency/cogeneration

Office of Strategy Implementation & Sustainability Planning (Sydney University), *Strategic
Plan 2007-2010*, (2006)

Ostrom, Elinor *An Agenda for the Study of Institutions* in Public Choice vol 48 (1986): 3-25

Penn State Green Destiny Council, *Penn State Indicators Report*, (2000) accessed 9 Feb 2011, http://homes.bio.psu.edu/greendestiny/steps.shtml

Pressman, Jeffery and Wildavsky, Aaron *Implementation* (Berkeley: University of California Press, 1973)

Rose, Anna 'Campaign Case Study: Sydney Uni Campus Clean Energy' *Power Shifting Towards Tomorrow* (blog) posted March 2011, http://annarose.net.au/2011/03/21/campaign-case-study-sydney-uni-campus-clean-energy/

ROSE Management Group, *Systemic Transformation: Quality Choice within 21st Century American High Schools* (Arizona; RMG, 2009)

Rusinko, Cathy "Integrating Sustainability in Higher Education: A Generic Matrix," in *International Journal of Sustainability in Higher Education* vol 3, no. 2 (2002)

Sabatier, Paul "Top-down and Bottom-up Approaches to Implementation Research: A Critical Analysis and Suggested Synthesis" in *Journal of Public Policy* vol 6, no. 1 (1986): 21-48

Sandell, Ellen quoted by Michael Koziol "A Tom Collins with...Ellen Sandell" *Honi Soit* Edition 12, 31st May 2011

Schneider, Anne and Ingram, Helen "Behavioural Assumptions of Policy Tools" in *The Journal of Politics* vol 52, no. 2, (1990)

Schon, Donald and Rein, Martin *Frame Reflection: Towards the Resolution of Intractable Policy Controversies* (New York: Basic Books, 1994)

School of Physics, accessed 8 Aug 2011,

http://www.physics.usyd.edu.au/local/sustainability.shtml

Senge, Peter "Communities of Leaders and Learners" *Harvard Business Review* (September-October, 1997)

Silverman, David *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction* second edition (California: SAGE Publications Inc., 2004)

Sharp, Leith "Green Campuses: the Road from Little Victories to Systemic Transformation" in *International Journal of Sustainability in Higher Education* vol 3, no. 2 (2002)

Sherren, Kate "Core Issues: Reflections on Sustainability in Australian University Coursework," in *International Journal of Sustainability in Higher Education* 7, no. 4 (2006)

Spence, Michael et al, *The University of Sydney 2011-2015 Green Paper* (March 2010)

Student Environment Action Collective, "Green Campus", accessed 27th July, http://www.sydneyunienviro.org/green-campus.html

"Sustainability at Sydney," accessed 12 May 2011, http://sydney.edu.au/about/sustainability/index.shtml

Sustainable Campus Team, *Annual Report: Sustainable Workplace Program,* (2010)

Sutton, Philip *A Perspective on Environmental Sustainability? A paper for the Victorian Commissioner for Environmental Sustainability* version 2.b (2004)

Swartz, Steven *Vice Chancellor Steven Swartz Blog,* accessed 18 Aug 2011, http://www.vc.mq.edu.au/blog/category/sustainability/

Thessaloniki Declaration, 'Section 12' *International Conference on the Environment and Society: Education and Public Awareness for Sustainability* (8-12 December, 1997)

Thomas, Ian and Nicita, Jennifer, "Sustainability Education and Australian Universities," in *Environmental Education Research* 8, no. 4 (2002)

Timmermans, Arco and Scholten, Peter "The political flow of wisdom: science institutions as policy venues in The Netherlands" in *Journal of European Public Policy* vol 13, no. 7 (2006)

UNESO, *Education for Sustainable Development*, http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/

University of Sydney, *Environmental Policy,* approved by Vice Chancellor on 25th September 2002, effective as of 25th September 2002

University of Sydney 2011-2015 White Paper (August 2010)

University of Sydney Strategic Directions 2006-2010, (2005)

University of Sydney, *Sustainable Campus Staff Survey* (2010) conducted online, results disseminated by Joel Turner – Sustainable Workplace Coordinator

University of Sydney Union website, accessed 9 Aug 2011, www.usu.usyd.edu.au

Vos, Robert "Defining Sustainability: A Conceptual Orientation" in *Journal of Chemical Technology and Biotechnology* 82, no. 4 (2007): 334

Weiss, Janet and Tschirhart, Mary "Public Information Campaigns as Policy Instruments" in *Journal of Policy Analysis and Management* vol 13, no. 1 (1994)

Wright, Tarah S. A. "Definitions and Frameworks for Environmental Sustainability in Higher Education," *Higher Education Policy* 15, no. 2 (2002): 203-220

Wright, Tarah "University Presidents' Conceptualisations of Sustainability in Higher Education," in *International Journal for Sustainability in Higher Education* 11, no.1 (2010)

YouTube, *An Afternoon of Enhanced Sustainability*, posted March 2011, http://www.youtube.com/watch?v=efV3csjWoT4

Appendix

Part A – University of Sydney Documents

- Environmental Policy

- Sustainable Campus Poster: Water

- Sustainable Campus Poster: Lights

- Sustainable Campus Poster: Air Conditioning

- Case Study: Envirobanks located in Economics and Business Faculty

- Case Study: 'Standby' settings for computers on campus

- Case Study: Worm farms in the Law Faculty

- Case Study: Multi-Function Devices in Pharmacy

The University of Sydney

Environmental Policy

Approved By: Vice-Chancellor on 25 September 2002
Date of Effect: 25 September 2002
Contact: Assistant Director - Environment and Heritage

In this document, the term 'the environment' includes the natural, built and social environment of the University of Sydney.

1. Policy Statement

The University of Sydney is committed to environmental best practice, and to the continual improvement of its environmental performance, recognising its obligations both locally and globally, to the present and succeeding generations. The University aims to lead in defining best environmental practice, and will set its own demanding standards where none exist.

The University is committed to implementing the requirements of all applicable Commonwealth, State and local environmental legislation and regulations and, where possible, exceeding any relevant minimum requirements.

The University will manage the activities over which it has control and which impact upon the environment in accordance with the principles of ecological sustainability.

The University aims to raise the environmental awareness of the public, governments, industry, the University community and the general community by promoting the concept of ecological sustainability and by openly recognising the ongoing need to move toward an ecologically sustainable future.

The University will monitor its use of natural resources, both renewable and non-renewable, and maximise the efficiency and effectiveness with which they are used, with a view to minimising environmental impacts.

The University, through its academic structures, will foster and promote research and teaching in environmental units of study, will promote environmental awareness and education within its communities, and provide opportunities for the study of environmental issues through award and non-award courses as well as by conferences, seminars and workshops. The University will provide appropriate environmental training for its staff and students, and will encourage them to apply sound environmental practices at work, at home, and within the wider community.

The University is committed to transparency in, and public access to, the formulation and implementation of its environmental policies and objectives. The University will formulate, publish, implement and monitor objectives set out in this Policy, and will periodically review their efficacy and promote their continued development. Interested individuals or parties are encouraged to comment on the Policy, goals and objectives, and their implementation.

The environmental policy of The University of Sydney will be applicable to all its activities, and at all its sites.

2. Policy Implementation

The University commits itself to establishing and maintaining a formal environmental management system in accordance with this Policy. This will involve the participation of all functional units in working towards the development of strategic goals at local levels.

There are five key areas which focus on the achievement of these goals.

2.1 Intellectual leadership

The University is committed to the promotion of awareness of environmental issues, and to the promotion of ecological sustainability, recognising its position as a major contributor to the opinions and ideas, cultures and lifestyles of the many communities it serves, locally, nationally, and internationally (University of Sydney Strategic Plan, 1999-2004, Goal 7).

The University is committed to providing integrated teaching on, and encouraging research into, environmental issues (University of Sydney Strategic Plan, 1999-2004, Goals 6 & 7).

The University is committed to acting in an environmentally responsible and ethical manner as a member of the Australian community (University of Sydney Strategic Plan, 1999-2004, Goal 7).

The University is committed to working in co-operation with government, industry and the community at large to address environmental issues in general, as well as to improve the environs of the University (University of Sydney Strategic Plan, 1999-2004, Goal 7).

2.2 Pollution and waste

The University is committed to waste avoidance, waste reduction, re-use and recycling.

The University aims to reduce its consumption of materials and energy and to implement environmentally sound waste management practices. This includes eliminating unnecessary energy use, pursuing a programme of energy conservation, and reviewing water usage. The University is committed to the long-range goal of maximum use of renewable energy sources.

The University is committed to re-use of materials wherever practicable.

The University will promote schemes for the collection of materials appropriate for recycling.

The University will seek ways of disposing of waste in environmentally acceptable ways, and will use any funds thereby generated to support environmental research.

The University will distribute information in the most environmentally-friendly manner possible.

2.3 Procurement

The University will regularly monitor, and review wherever practicable, its acquisition of materials and energy and its disposal of waste. When services, materials, equipment, food or energy are purchased, preference will be given to items produced in ways which cause least harm to the environment, and which generate fewest waste materials. Equipment designed for 'repairability' rather than planned obsolescence will be favoured. Other things being equal, preference will be given to local suppliers or sub-contractors so as to promote links with the community and to reduce transport needs.

2.4 The University Estate

The University will ensure that the stewardship of its estate maintains and enhances the high quality of its architecture and the landscape of which it is a part.

The University is committed to sustainable design principles in land-use, transportation, landscape and building planning and construction (University of Sydney Strategic Plan, 1999-2004, Goal 6).

The University aims to minimise adverse environmental impacts of University buildings, landscaping and developments over the whole of their lifespan.

The University is committed to landscaping and grounds maintenance practices which minimise water and energy use and promote integrated pest management. The use of fertilisers, soil conditioners and pesticides will be minimised.

The University is committed to the retention and enhancement of its heritage plantings, and to landscaping and grounds maintenance practices which use native vegetation wherever practicable, and create habitat niches for native fauna wherever practicable.

The University aims to ensure that all materials used in the University will be as harmless to the environment as is practicable.

2.5 Transport
The University aims to reduce the environmental impacts associated with transport to and from, and within, the University by encouraging staff, students and visitors to use environmentally-friendly means of transport, on and off campus.

water
Do your bit...

Leaky taps or loos?

Let the Service desk know. Call 9351 7838

A tap dripping once a second adds up to 15 bathtubs of water wasted a month. Please do your bit and save water.

The University of Sydney

SUSTAINABLE CAMPUS

www.usyd.edu.au/sustainable

lights
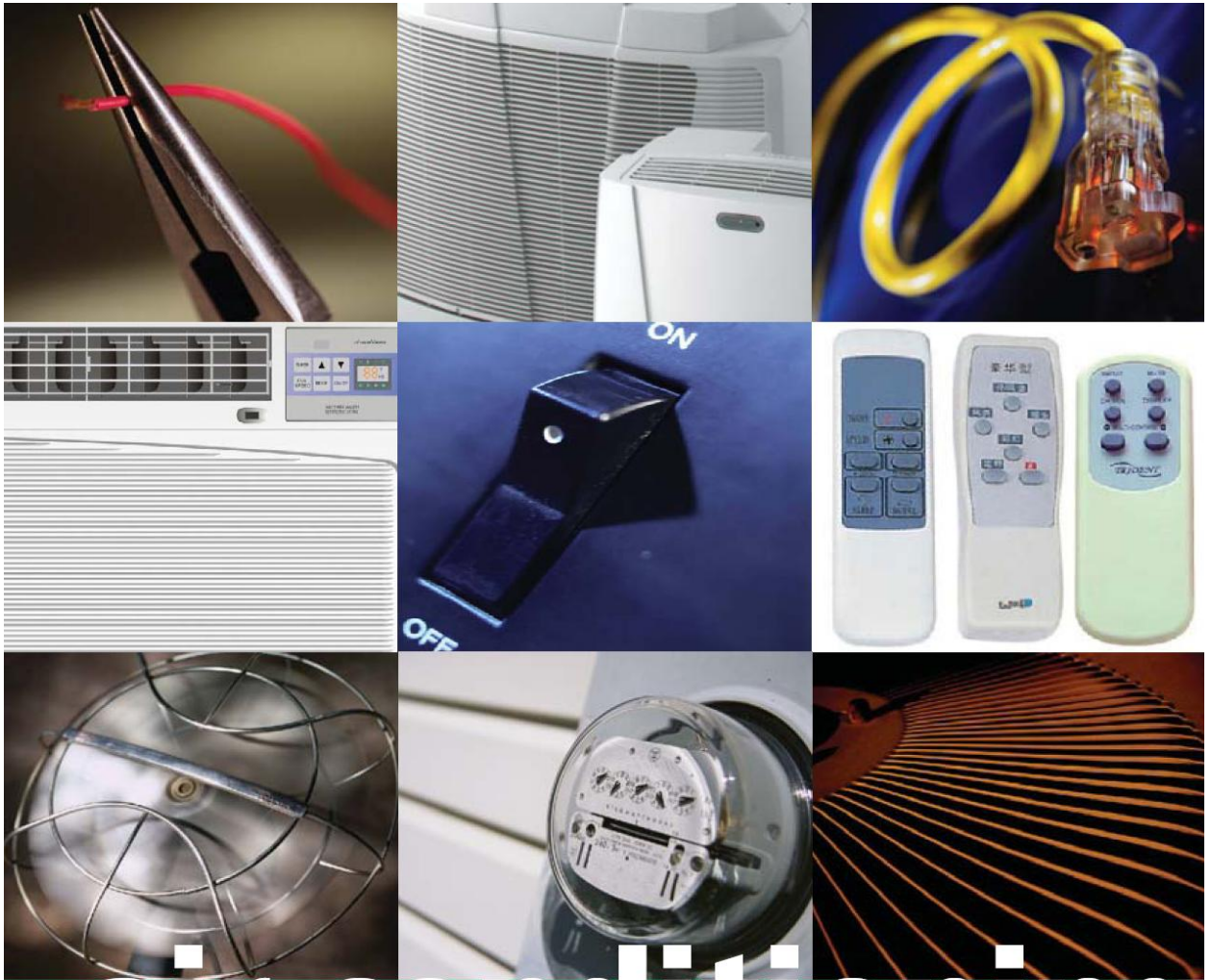## Do your bit...

Last to Leave?

The electricity used by a 60W light every night of the year produces the same volume of greenhouse gas as a 900km car trip. Please turn off lights when you leave.

The University of Sydney

SUSTAINABLE CAMPUS

www.usyd.edu.au/sustainable

air conditioning

Do your bit...

Last to leave?

The electricity used by a 1.5 kW window air conditioning unit left on for 24 hours a day for a week, produces the same volume of greenhouse gas emissions as a car travelling from Sydney to Byron Bay. Please turn off air conditioning when you leave.

The University of Sydney

SUSTAINABLE CAMPUS

www.usyd.edu.au/sustainable

Appendix B: Case Studies

Case Study: Envirobank recycling

Team members:

Ruth Williams, Jen Chambers, Karen Treacy

Faculty:

Faculty of Economics & Business

Sustainability Drivers:

Due to the University's current waste contract arrangement there is no recycling of any plastics or aluminum cans within the waste disposal cycle. This has been a significant concern for many staff volunteering on the Sustainable Workplace Team with recycling seen as simple and effective way to limit our collective impact on the environment. This inspired Ruth to research alternative recycling options which would be suitable for incorporation into the university environment, considering the current waste contractual arrangements.

Envirobanks are reverse vending recycling machines. This means instead of dispensing of food or beverages, they accept cans and PET bottles which are then crushed and stockpiled ready for collection. This new technology aims to incorporate public place recycling, with visual imagery in an incentive based approach. Prizes and discounts are given to people using the machine, along with video information on the environmental benefits of recycling.

Achievements and Savings:

Aluminum cans are a valuable resource which can be recycled over 100 times without lose of quality. Each time they are recycled, they use 96% less energy than those cans made from raw material, and also save valuable forests from being cleared to make way for new Bauxite (aluminum ore) mines.

Waste	To date the two machines located in the Faculty of Economics & Business have recycled 3362 PET bottles and 2583 aluminum cans which would otherwise have been sent to landfill.
Energy	The recycling of the aluminum cans alone equates to a saving of 4890 litres of petrol. The combined energy saved by recycling the PET bottles and cans is equivalent to the electricity needed to power a 60Watt light globe for over 4 years.

Steps

1. **Planning:** Initially there was a significant amount of research done into alternative waste recovery systems and particularly in finding a suitable option which could be operated inside the current University waste contract. Once Envirobank machines were decided upon, suitable locations for the

machines were chosen so that they would be in high traffic areas, and also in close proximity to other vending machines. Details surrounding the emptying of machines and storing of recyclates for collection were discussed with precinct officers to ensure the successful ongoing operation of the machines.

2. **Implementation**: The two Envirobank machines were installed and tested for 1 month before they were actively promoted to staff and students. Posters and online communications were displayed through a variety of sources promoting the initiative. Numerous different prizes and incentives have been trialed since the project inception.

3. **Consultation**: The team members started by consulting with the Faculty management and working with Sustainable Campus to build a business case for the machines. Precinct officers were also actively consulted to ensure the daily maintenance and recyclate collection would operate efficiently.

Outcomes:

Currently the machines are receiving good quantities of PET bottles and aluminum cans. Ensuring the benefits for students are well targeted will increase patronage and the long term viability of the machines. The through put of materials from machines are monitored on a bi monthly basis with reports from the Envirobank owners.

The precinct officers have been a crucial part of the success of the Evirobank program. They are responsible for ensuring that the daily maintenance of the machines is undertaken, that the machines are keep clean and presentable.

Next Steps:

Since the initial installation of 2 Envirobank machines in Economics, there have been 3 more machines installed in high traffic areas, with another 3 machines to be installed in early 2011. Ensuring the promotion and visibility of the machines increased will ultimately add to the benefits and overall success of the initiative.

Case Study: Putting Computers into standby

Team member:

Jai Honeybrook-Carter

Department:

ICT - Information and Communications Technology

Sustainability Drivers:

The University runs a significant fleet of computers that are used for teaching, research and administration. It is estimated that there is over 18,000 personal computers across our campuses. This fleet consumes a considerable amount of energy, much of which can be controlled and limited.

For numerous reasons many computers across campus are often left on overnight and during weekends consuming unnecessary electricity. Most of our computers are able to go into standby mode automatically after the computer has been left idle for a specified time.

After extensive analysis, Jai has been able to initiate a significant reduction in electricity consumed by these computers by ensuring that standby mode is being activated wherever possible on university computers. This is an ongoing initiative aiming to reach as many computers across our campuses as possible.

Achievements and Savings:

Jai analysed the potential savings in terms of dollars, energy usage and associated CO_2 emissions that can be made at the University if computers adopt the recommended standby settings. The analysis indicates that savings can be achieved as follows:

Energy	Each computer adopting standby—compared to running 24 hours/7 days—results in a 72% annual reduction in the energy consumed to power it, equating to a potential saving of around 1,200 kWh per year in energy.
Costs	The average desktop computer and monitor adopting standby—compared to running 24 hours/7 days—results in almost a 60% annual reduction in the associated running costs. This would equate to a saving of roughly $90.00 per year (for each computer and monitor set-up) based on current energy costs.
GHG emissions	Calculations indicate that for roughly every three computers that adopt the new 'greener' standby settings, and that were previously left running 24 hours/7 days, will reduce the University's emissions by the equivalent emission generated by an average motor car per year.

Steps

1. **Planning**: Extensive analysis was undertaken by Jai with support from the Sustainable Workplace Coordinator. This analysis focused on the potential direct power consumption reductions that could be obtained by using the standby mode on computers and monitors.

   This involved using existing research figures and our own ad-hoc measurements to verify the accuracy of the obtained figures. In order to ensure the analysis was appropriate and accurate it was also checked by engineering intern staff working within ICT.

2. **Consultation**: Suitable default standby settings were established by conducting a trial of proposed settings amongst a select group of ICT and CIS staff. All staff involved gave favourable feedback on the test settings used commenting that the settings did not adversely affect their productivity in any way. These were then adopted as the ICT recommended default standby settings.

3. **Implementation**: These new recommended standby settings are now being included as part of the standard set up on all new computers across campus that are set up by ICT staff.

   During onsite service calls ICT staff are also asking users if they would like to have the recommended standby settings applied to their current computer

   These standby settings are currently being rolled out to the ICT controlled computer labs after a successful test pilot program.

Outcomes:

For the last 12 months all new computers set up by ICT have been seamlessly deployed across campus with these new standby settings installed as default. This has occurred whenever a new computer is set up by ICT including when an older model is being replaced.

There has not been a single negative comment received by ICT from any user since this initiative was undertaken almost 12 months ago.

This will see a consistently gradual increase in the amount of computers that are now going into standby mode when not in use if the user does not switch these computers off manually.

On average staff computers are replaced once every three and a quarter years, therefore almost one third of staff computers have been deployed in the last twelve months with the new 'greener' standby settings installed as standard.

During onsite service calls ICT staff are also asking users if they would like to have the recommended standby settings applied to their current computer. Feedback indicates that most users are happy to have these changes applied.

Indirect savings:

Reducing the time a computer is powered on will also indirectly influence the air conditioning required to cool the resulting heat generated by computers and monitors when running. With computers now going into standby mode the heat generated by them will also be reduced. This will provide a reduction in the power consumption required for the air conditioners.

These further reductions are NOT included in our calculations and as such the actual savings in energy consumed and therefore in the associated power costs and CO_2 emissions should be even larger than stated.

Next Steps:

These 'greener' standby settings are currently being rolled out to all computers in the ICT controlled computer labs after a recent successful test pilot program.

For operational patching reasons, the computers in these labs have historically been left running 24 hours/7days. A solution has recently become available which allows updates to occur even when the computer is in standby mode by 'waking it up' for the patch updates.

Adopting these standby settings in computer labs will have a significant reduction in the power consumed in these spaces. The savings are estimated to be approximately the same as the reduction achieved on a staff computer which is just over 70%. It will also indirectly influence the air conditioning in these spaces providing a further reduction in power consumption and costs as detailed above.

As older model staff computers are replaced, the new computers staff receive, if set up by ICT, are now coming standard with the new recommended standby settings. This should see the percentage of computers going into sleep mode increase over time.

This is an ongoing initiative with the goal of reaching as many computers across our campuses as possible.

Case Study: Worms in the New Law building

Team members:

Gordon Hodges, Amber Colhoun & James Fletcher

Faculty:

Faculty of Law

Sustainability Drivers:

The Law faculty has recently moved from its city location to a new building located on University's main Campus. Three members of the Sustainable workplace team located in the faculty's new building were keen to use this fresh start as a catalyst for developing a good environmental culture in the offices.   Amongst other initiatives the Sustainable workplace team members have set up 2 trial worm farms to handle the buildings food waste. Food waste produces methane gas (a potent GHG) which can be avoided and food waste turning into rich composting materials by the help of a farm of friendly worms.

Achievements and Savings:

The two worm farms which have been installed in the worm farm are capable of taking up to 2kgs of food waste each day. The team members in the Law faculty are looking at installing another 2 farms to collect food waste from the upper levels of the building. For the 12 months these worm farms have been operational they have already converted around 480 kgs (2kgs on each working day) of food waste into usable plant composting material. The casings and liquid are put into jars and given out to staff for manure.

Waste	Approximately 2 kgs of food waste is feed to the worms each day. With 2 farms currently in the building and another 2 to be installed in the next month, the worm farms will have the potential to divert 160kgs of food waste each month, 1.9 tonnes per year.

Steps

1. **Planning:** The School manager was approached firstly to gain approval for the initiative. Staff were then consulted on their views
2. **Implementation:** Locating the farms close to the waste source, whilst managing the potential odours and vinegar flies was the challenge during the implementation phase. These issues were managed through some careful application of lime, and insect traps.
3. **Consultation:** Staff were introduced to the worm farm at a morning tea and via staff emails. Signage and educational information was used to inform staff as to what food scraps the worm farms are able to take, and what can not be disposed of in the farm.

Outcomes:

The initiative has been warmly welcomed by staff, many people being able to identify with the worm farms, having similar alternative waste systems in their own homes. This initiative has been instrumental in initiating a culture of responsibility in the workplace in regards to sustainability issues. It has given staff a practical example of how the workplace is similar to the household environment, and that it needs to be dealt with a similar amount of ownership.

General waste levels in the locality of the two worm farms have been monitored with a reduction observed.

Next Steps:

Since the success of the first 2 worm farms over a 12 month trial, the law team members will be looking at introducing another two worm farms to service the upper levels of the Law building.

Case Study: Printing in Pharmacy

Team member:

Jane Mourao

Faculty:

Faculty of Pharmacy

Sustainability Drivers:

As the faculty operations manager Jane was interested in increasing the efficiency of the printing fleet in the faculty, and particularly in reducing the ongoing expenses associated with the large fleet of small desktop printers. Jane also saw a potential saving in energy as a result of centralizing the printing fleet as well as the potential to increase electronic filing by increasing scanning and doing away with faculty fax machines.

Achievements and Savings:

By centralizing the printing fleet in the faculty and replacing over 40 desk printers with 3 large Multi-function Printer/Copiers significant savings in energy, cost and paper usage have been realized.

Energy	Significant savings in energy usage. (MFDs use approximately 40% of the energy of desktop printers per page printer)
Waste	Reduction in paper use. New MFDs are set to default double sided, eliminate the number of uncollected jobs (by requiring a pin to activate jobs at the machine) and also increase the amount of electronic filing (replacing 2 faculty fax machines)
Cost	Multi function printers cost less than half the price of small desktop printers per page and black and white printing costs 1/10 the price of a colour print.

Steps

1. **Planning**: A printer audit was conducted by Kyocera (one of the university's preferred suppliers) in order to understand how many printers were located in the Faculty and which ones could be replaced by centrally located multi-function machines. The Dean was approached and told of the initiative and the potential cost and paper/toner savings. Staff were consulted about the changes at a staff meeting and told which printers would no longer be 'supported' under the new printing arrangement. Staff were told that they could keep personal printers, but if they were not part of the new printer plan then paper and toner would not be paid for by the school.
2. **Implementation**: The new centralized machines were installed, pin codes distributed to staff and instructions on using the new machine. Redundant printers were recycled under the University E-waste Scheme.
3. **Consultation**: Consultation with the Dean, Faculty IT staff, building attendant and all Faculty staff was key to the successful implementation of the new centralized printing system. Staff were notified of the changes and asked to comment prior to the roll-out of machines.

Outcomes:

The new printing system at the Faculty of Pharmacy is a great initiative which has environmental benefits, reduces costs and also promotes staff to move around the faculty a little more. Environmental benefits include reduced energy use, savings in paper and toner and a decrease in consumption (new personal printers).Cost savings have resulted from the changes with estimates that the Faulty has cut its overall printing bill in half.

Next Steps:

Since the centralizing of printers was completed in February 2010 Jane has focused efforts on reducing paper use and moving the faculty offices towards paperless office practices.

Part B – Macquarie University Documents

- Sustainability Policy

- Department Challenge Flyer

- Photos of coffee cup, bin and bathroom sign

- Purchasing Policy

- Purchasing Checklist

POLICY	
MACQUARIE UNIVERSITY	**Sustainability Policy**
Contact Officer	Deputy Vice-Chancellor, Chief Operating Officer

Purpose	To outline Macquarie University's commitment to embedding sustainability into its practices.
Overview	Macquarie University is committed to incorporating sustainability into its actions and practices as part of its responsibility to the community and the environment, as well as promoting a healthy workplace and campus for staff and students. This means promoting connections to the global community and environment through knowledge gained from research, utilising creative approaches to learning and teaching and modeling sustainability in its campus operations. The University takes the approach that sustainability is an ongoing effort to improve the quality of people's lives and surroundings. This approach is targeted towards ensuring prosperity, whilst maintaining the life supporting systems that current and future generations depend on.
Scope	The policy applies to the activities of the University and people associated with it such as staff, students, visitors and contractors.
The Policy	Sustainability aims for a balance between the principles of: • Environmental protection; • Social justice; • Economic well-being; and • Diversity The University is committed to embedding sustainability across the institution through: 1. ***Global social and community awareness:*** The University recognises connections to the local and global community and acknowledges that its actions and decisions have the ability to affect others beyond the immediate community. To this end sustainability will be incorporated into research as well as learning and teaching, and our reach to the local and global community will be extended through active partnerships and participation. 2. ***Participation***: Staff, student and community participation in decision-making about the University's activities is valued and will be sought whenever possible in the development and implementation of the University's sustainability agenda. A range of mechanisms will be established for this purpose inclusive of joint working parties and local sustainability committees. 3. ***Shared responsibility***: All members of the University community are responsible for our sustainability performance and as such will be

made aware of their role through induction, professional development, the provision of necessary educational and material resources and ongoing training and awareness.

4. **Demonstrating best practice:** The University will integrate sustainability into all its aspects and functions. It will be embedded into all operational policies and procedures; considered in all strategic and operational planning; and enabled through sustainable practices. Research into sustainability best practice in the higher education sector and other sectors of the economy will also be undertaken to ensure the University maintains best practice where possible.

5. **Leadership:** Educational, research and resource management activities will be utilised to profile sustainable practices amongst staff, students and the communities served by Macquarie University

6. **Openness and transparency:** Actions and processes will be transparent and progress will be reported fully to staff, students and the wider community

7. **Precautionary principle:** Caution and prudence will guide decisions and the absence of full scientific certainty shall not be used as a reason for postponing measures in the context of uncertain environmental or social effects.

8. **Innovation and creativity:** Creative and innovative approaches will be employed to find solutions to and eliminate unsustainable practices.

9. **Self-sufficiency:** Where possible, the University will utilise resources generated on campus, with residual needs met using a sustainable procurement policy.

10. **Whole systems approach:** A whole-systems approach will be implemented to create successful change towards sustainability.

Sustainability is the responsibility of all staff and students and will form an important part of key performance indicators as a matter of process over time.

The University will monitor and report on progress against identified indicators and targets on a regular basis. These reports will be made publicly available and will be discussed regularly with staff and students.

The Sustainability Strategy is a foundation document and key to the development of this Policy. Both the Strategy and the Policy are working documents and therefore require regular review and evaluation.

Keywords	Policy, Sustainability, Sustainable Development, Sustainable performance

Date Approved	29 January 2009
Approval Authority	Deputy Vice-Chancellor, Chief Operating Officer
Date of Commencement	29 January 2009
Amendment Dates	New
Date for Next Review	January 2010

Related Policies, Procedures and Guidelines	All Macquarie University policies will be read in conjunction with this Policy Sustainability Strategy Sustainability Procedure
Policies Superseded by this Policy	Nil

Sustainability 2009 CHALLENGE

Thanks for joining in!

We hope your challenge is enjoyable. Some tips for progressing forward and winning some of the great prizes on offer: -

1. Utilise the Challenge Scorecard excel spreadsheet to keep track of your progress to date. Use the Comments column to write how your department has completed the action.

2. Save your spreadsheet as '[insert department name] Challenge Scorecard [dd/mm/yy]' and email to Sustainability@mq.edu.au fortnightly

3. Visit the Department Sustainability Challenge website regularly for challenge updates and leaderboard status

4. Have the Department Sustainability Challenge co-ordinator keep Sustainability@MQ up-to-date with your progress fortnightly regardless of whether you have reached a certain prize level or not

5. Have fun!!!

Prizes...

15 1kg Fair Trade Coffee or Hot Chocolate

30 Tribes and Nations East Timor Hamper (Containing: 1 x packet of Dark Roast Ground Organic Coffee 250g;1 x 100g block of Organic Fair Trade Milk Chocolate;1 x box of English Breakfast Tea Bags x 25)
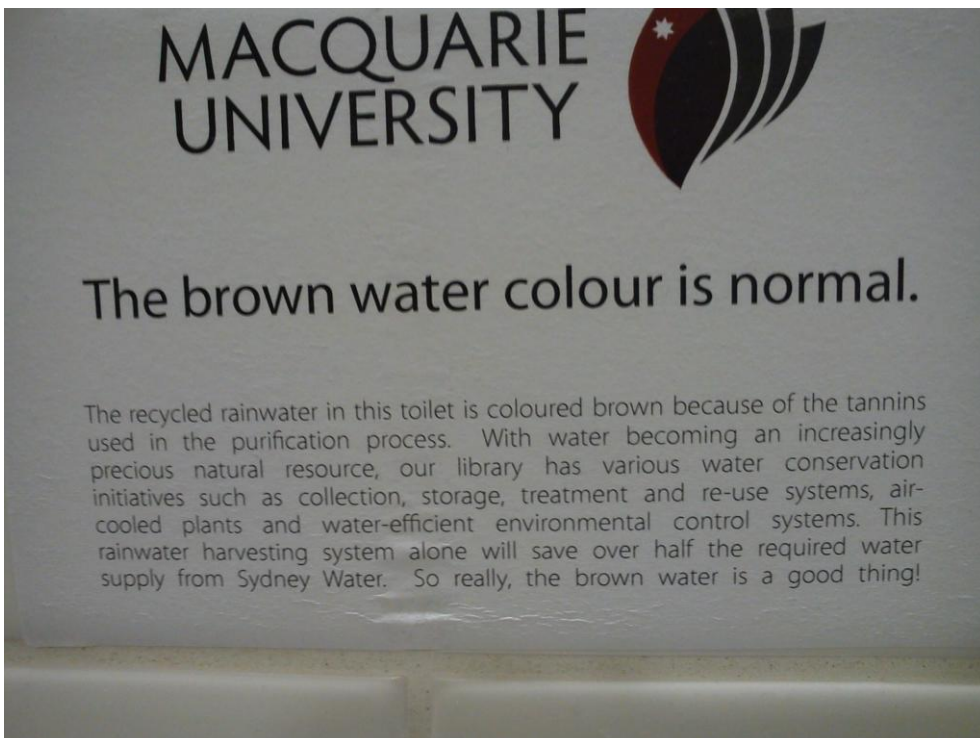
45 Beautiful native Australian pot plants for your office space

Runners up
Nature Conservation Council Mixed Dozen Wine Case; and a Fair Trade Coffee Hamper

1st
Nature Conservation Council Mixed Dozen Wine Case; a Fair Trade Coffee Hamper; Native Australian pot plants; and a Red Balloon Days Voucher: either Corporate Holistic Relaxation Package – 1 Hour; or Two Hour Massage – the masseuse divides their time between the number of staff members!

MACQUARIE UNIVERSITY

The brown water colour is normal.

The recycled rainwater in this toilet is coloured brown because of the tannins used in the purification process. With water becoming an increasingly precious natural resource, our library has various water conservation initiatives such as collection, storage, treatment and re-use systems, air-cooled plants and water-efficient environmental control systems. This rainwater harvesting system alone will save over half the required water supply from Sydney Water. So really, the brown water is a good thing!

Top Left: Photo A – "This cup is 100% biodegradable"

Top Right: Photo B – Bin Sticker

Left: Photo C – Located in bathrooms

POLICY	
MACQUARIE UNIVERSITY	# Purchasing Policy

Purpose	This policy both outlines obligations to ensure consistent purchasing practices across Macquarie University and defines our approach to purchasing.
Overview	The procurement of goods, services and capital projects accounts for a significant percentage of Macquarie University's total expenditure. Macquarie University recognises the impact its purchasing activities have on the financial, social and environmental health of the University and the broader community. To meet the University's corporate responsibilities, where appropriate all purchasing will support the strategic aims of the University, demonstrating value for money and high levels of probity, whilst applying principles of life cycle costing and minimising adverse environmental and social impacts through the selection of sustainably preferred goods and services.
Scope	This Policy applies to the acquisition of all goods and services made by Macquarie University (including controlled entities) staff, students or contractors, either purchased or leased from suppliers external to the University for and on behalf of the University. The acquisition of goods and services includes but is not limited to: • consumables, including office supplies • office, teaching and research equipment • facilities management and construction • information and communications technology • contractors and consultants • motor vehicles
Policy	Purchasing activities for and within Macquarie University include ethical, compliance and fiscal obligations, as well as opportunities for financial savings, improved sustainability, service and quality outcomes. All persons making purchases for the University will: • Maintain comprehensive and well documented records; • Adopt strategies to avoid unnecessary consumption and manage demand through following the Purchasing Checklist; • In the context of whole-of-life value for money, select products and services which have lower environmental and social impacts across their life cycle compared with competing products and services; • Meet public accountability requirements by ensuring that records are maintained; • Comply with any and all directions regarding the use of University Preferred Supplier arrangements e.g. travel, paper suppliers etc; • Ensure that quotation and tender requirements are followed to maintain equity in decision making processes;

- Ensure transparency in sustainable procurement practices and decision making to limit the scope for unethical conduct (e.g. bribery, corruption, deception, intimidation, fraud);
- Maintain a reputation for fair dealing by employing open communication with potential suppliers at all times;
- Declare and effectively manage conflicts of interest to maintain the integrity of the University.

- Comply with all local, state and federal laws that govern the University's purchasing activities;
- Encourage open and effective competition.

The University will establish purchasing processes to:
- Incorporate carbon costing considerations in line with Emissions Trading Schemes;
- Focus on leveraging the University's buying power to reduce overall costs to the University and improve sustainability, service and quality outcomes;
- Reduce consumption of unnecessary and unwarranted goods;
- Support businesses and industry groups that demonstrate innovation in sustainability;
- Support suppliers who are socially responsible and adopt ethical practices;
- Use secondary materials where possible by maximising the recycled content of purchases, minimising packaging and designing products that can either be reused or recycled;
- Ensure that negative environmental impacts embodied in the manufacturing and distribution process are minimised by the supplier through resource- and energy- efficient techniques;
- Manage and minimise risk by ensuring non-polluting/non-toxic materials and substances are used;
- Reduce unnecessary waste at the source to mitigate the inefficient use of natural resources and benefit economically from decreased handling and disposal costs;
- Drive efficiency throughout the supply chain by working with the University's suppliers.

All purchasing of goods and services will be subject to the Purchasing Checklist.

There must be sufficient justification to demonstrate that there is a need for the goods and services to be provided and that economical and sustainability considerations have been fully considered prior to the purchase of any goods and/or services.

The University recognises it has a role to play in providing support for the development of awareness, understanding and competency in relation to sustainable procurement.

| Contact Officer | Purchasing and Asset Manager, Office of Financial Services |
| Date Approved | 24 November 2009 |

Approval Authority	Deputy Vice-Chancellor and Chief Operating Officer
Date of Commencement	24 November 2009
Amendment Dates	February 2011 – change of Contact Officer
Date for Next Review	November 2012
Related Policies, Procedures, Guidelines, Forms and Templates	Credit Card Policy Delegation of Authority Entertainment Policy Purchasing Procedures / Guidelines / Checklist Sustainability Policy / Procedure
Policies Superseded by this Policy	Purchasing Policy dated 21 June 2004
Keywords	Purchasing, Procurement, Acquisition, Goods

MACQUARIE UNIVERSITY

PURCHASING CHECKLIST

Instructions

When reviewing proposals or quotations and making recommendations the following checklist must be referred to. The declaration made on the Purchase Order serves as evidence that this review has been conducted. All figures are in Australian Dollars.

	Principle	Guidance notes
1	**Assess product need**	Prior to purchasing, assess whether your situation warrants the purchase of new goods or services. A situation where a new product is not required is when an old product already owned by the University will fulfill your need in its current form or after repair. If a new product or service is required, sufficient documentary evidence is to be obtained to demonstrate the need for the goods or services. This should include a purchase requisition approved within appropriate delegation together with details as to why the particular supplier was chosen. In some cases a business case may have been prepared explaining the reasons for initiating the project or task. This detail should also include or explain the need for the good or service and the proposed purchasing process. You must also complete the checklist as part of the purchasing process. *Documentation: Purchase Requisition, Business Case or equivalent to demonstrate approval to purchase.*

2	**Quotation and Tender Requirements**	Consider purchases of: $5000 and under require one verbal quotation. $5001 to $10,000 require one written quotation. $10,001 to $30,000 require at least three verbal quotations with the selected supplier providing written confirmation of the quotation. $30,001 to $100,000 require at least three written quotations. Over $100,000 Tenders must be called. Where quotations and tenders are necessary, ensure that adequate advertising has occurred and the selection process is fair and equitable. Has there been open communication with potential suppliers and have new suppliers been encouraged to enter the field? Has the reputation of the University as a fair dealer been upheld? Can the goods to be purchased be supplied by an established University supplier or through Government Contracts? If the purchase is outside a State Government contract, ensure that it is supported by an appropriate number of competitive quotes. Where the requirement for requesting quotations is waived, ensure that the relevant file contains the documentation which demonstrates this decision. This should be in accordance with the 'Circumstances where the calling of quotations or tenders may be waived' section of the Procedure. Exemptions to the mandatory quotation requirements are subject to the approval of the Chief Financial Officer. Consideration should be given to whether the particular circumstances make it impractical to devote the time or other resources to the calling of tenders or quotations. *Documentation: If quoting is not pursued, ensure appropriate documentation is maintained to reflect the rationale and approval of such a decision – e.g. memorandum signed by the relevant authority which outlines the reasons for not pursuing tendering option.*
3	**Achieve "Whole of life Value for Money"**	Consider the total cost of the product or service over the life of its requirement including transport costs, manufacturing processes, fitness for purpose, timely delivery, efficiency of the product and local support. Consider: • how readily available spare parts and servicing support is; • about reliable warranty service; • energy and water efficiency of the product; convenience of communications for contract administration; does the company have a good record of industrial relations and sustainability principles in practice (such as sustainability policy, green products); is there a benefit to the University and the environment from the transactions occurring within the local area i.e. support local employment created and reduce greenhouse gas emissions

4	Consider product manufacture processes	Recycled content and recyclability: Products with recycled content are preferred. Consider also the recyclability of the product at end of life - are take back schemes an option and can the product be recycled? Manufacturer: Look for manufacturers that have sound Corporate Social Responsibility and/or Sustainability principles and can demonstrate a commitment to sustainability (e.g. sustainability policy). People: Consider the quality of life of all the people involved or affected by the supply chain. Opt for products and services that improve their conditions - ask where the product was manufactured. Is an accredited "Fair Trade" product available?
5	Packaging, transport, use and disposal	Packaging: Suppliers that use the minimum amount of required packaging and offer packaging take-back services are preferable. If necessary request less packaging, ask the supplier to take the packaging back, or recycle the packaging correctly. Transport: Consider sourcing from more local sources to minimise the negative impacts associated with transportation. In use: Opt for energy and water efficient products and products free of toxic substances and chemicals. Suppliers that offer servicing and updates throughout the lifecycle of the product to reduce the need for purchasing another new product are preferred. Look for suppliers that offer lengthy warrantees and guarantees. Disposal: Check what happens to the product when it no longer has value to you. Preferable products can be reused, recycled, or disposed of in an environmentally and socially responsible manner.
6	Satisfy accountability requirements	Has all documentation been presented for authorisation and filed according to the University procedures. Only approved requisition forms and purchase orders and contracts are used. Effective 1 July 2003, the University as a principal contractor, is required to check that subcontractors have the proper workers' compensation insurance, have paid all workers' compensation premiums associated with that work, and are up to date with their premium payment. Legislation requires that the University must obtain: • A copy of the contractor's Certificate of Currency; • A signed copy of the Subcontractor's Statement regarding Workers' Compensation Payroll Tax and Remuneration. The University has implemented the following procedures: • For all new work, the contractor must provide these two certificates at the time of quote given (either written or verbal) • For work in progress, the certificates are required before payment will be made. Also, the principal contractor should check that their subcontractors are classified in the correct industry, have declared an appropriate amount of wages for their insurance cover and have signed a statement that all workers' compensation premiums applicable for that work have been paid.

7	Ensure that impartiality is preserved in assessing suppliers proposals	Has information about potential suppliers been sought from third parties? Have checks been made for potential conflicts of interest, whether vested or perceived?
8	Ensure that opportunities for corrupt conduct are absent	Has there been sufficient review of processes to ensure that there is no opportunity for fraud or corruption? Are all University parties to this purchase aware of their obligations to prevent or report any instances of fraud or corrupt conduct?
9	Ensure that all expenditure is within the delegated authority	Refer to the University's Delegation of Authority. Is the purchase and process in line with limits and authority delegated by the University Council and the quotation requirements of the University Purchasing policy?

Part C – Interview Schedule

C. 1 List of Interviewees

<u>Macquarie University</u>

Leanne Denby – Director of Sustainability

Belinda Bean – Sustainability Officer

Hilary Bekmann - Manager for Operational Sustainability

John Macris – Biodiversity Planner

Sustainable Transport Officer

<u>University of Sydney</u>

John Lavarack – Immediate past Manager for Campus Sustainability

Joel Turner – Sustainable Workplace Coordinator/Sustainability Officer

Donherra Whamsley – President of the SRC

Experienced Academic

C. 2 Interview Schedule

C. 2.1 General Questions

Can you give me a description of your role and how it has evolved since you started?

How does the University define 'sustainability?'

What type of role, if any, have you had in the policy making process, in the creation of sustainable policies on campus?

Can anyone bring a policy idea to the University? Do you have to be at a certain level or in a certain role?

What is the process to get a policy passed and accepted at the Vice Chancellor level?

If you had to name the biggest success for sustainability on campus, what would you say it was?

If we think about where you've come on the road so far and what you've got to go: what do you think has been the biggest challenge to date and what will turn out to be the biggest challenge in the future?

Do you think universities are the right place to be getting the message across?

Do you think that maybe, particularly in the last 12 months, the Climate Change discussion has been difficult because of a clash with people saying "This is just about Climate Change" and it goes into this arena of politics where people get a bit more cynical. Do you find that connection between sustainability as a word and what's happening with Climate Change?

Before I let you go, are there any final comments, anything you'd have me know about sustainability on campus?

C. 2.2 Macquarie University Questions

I've had a look at your policy and strategy targets. Which came first, the strategy or the policy?

How important was it to make sure you set the target years by which you wanted to accomplish certain goals?

Do you find it's quite well-known on campus that you have a strategy and policy available?

So the audits you mention in the 'Exploring Sustainability' DVD, were they conducted for the 'State of Play' document?

I noticed in the DVD interview you were talking about the fact you didn't just look at waste, water and energy but you also looked at a couple of the lesser-known facets such as Human Resources and procurement. How were you able to look at everything?

You mentioned the level of staff involvement also in the DVD, as compared with the students who are a bit harder to communicate to, a bit harder to reach especially on such a large campus. Is that something you're working on now, the key to reaching that large student population?

What's the nature of your relationship with ARIES?

I've watched the 'Sustainability Snapshots' on the website and you were discussing the formation of the Transport Action Group. How does something like that come about?

The Staff Travel Loan Scheme. Can you walk me through the details of that?

I've watched the 'Sustainability Snapshots' on the website and you've mentioned strategies and projects to protect native habitats. How do you find that has progressed?

Do you find educating the students on appreciation of biodiversity as whole – is it better to go through the Learning and Teaching area or more the out-door classroom focus with things like the Arboretum walks?

I was looking through the Sustainability Strategy Target 2014 document, under the Biodiversity section it mentioned you guys were aiming to reduce inorganic fertilisers and pesticides by 60% on campus and to return 15% of the managed green space back to natural management. What's the process of meeting those targets?

You talk a lot about strategies and designs more than in terms of policy, is there a reason?

How much do you think the staff and students are aware of what's going on with on-the-ground changes that you make?

The team as a whole seems to be very conscious of using 'incentives' rather than disincentives – one of the documents uses the term discouragement incentive – is that something you are conscious of?

C. 2.3 University of Sydney Questions

How do you view the *Environmental Policy* from 2002 – was that a document that you engaged with on a daily basis or something that you felt needed renewing?

What was your relationship to the Institute of Sustainable Solutions on campus?

What do you think is needed in order to achieve greater success for environmental sustainability on campus?

Can you tell me about the Sustainability Program?

In terms of cross-disciplinary work, is it particularly difficult to achieve in the University structure?

Do you view the student population as a useful collective to engage on the issue?

Do you think it best to start through the Clubs and Societies or through their learning – as part of their subjects, having assignments directed towards sustainability on campus?

Have you seen student support for this issue wax and wane?

Do you find you get a lot of the support you're looking for across the University in terms of what you want to implement? Things like the competition for the Enviro-Banks...

Considering the most recent Green and White Papers which focus on financial sustainability – do you see space for environmental sustainability somewhere in the near future?

So there's the Environmental Collective and the Climate Action Collective and Greens on campus etc. Do you find they work together on this issue or they work in separate groups because they are really different?

Do you find the SRC and Union Board elections are still using sustainability platforms for votes? Or is it complicated by the politics of Climate Change that dominates at the moment?

NB: Interviews were developed from these questions, with some tailored to the interviewee and many of them leading to further discussion in other areas.